



## **AMK**

### **Diagnostic Messages**

Version: 2013/36

Part-no.: 25786

Translation of the "Original Beschreibung"

# **AMK**

## Notes on this document

**Name:** PDK\_025786\_Diagnose

| <b>Version</b> | <b>Change</b>                      | <b>Letter symbol</b> |
|----------------|------------------------------------|----------------------|
| 2013/36        | iX V1.03 2013/18: 1115, 1454, 2365 | HeF                  |

**previous version:** 2013/17

| <b>Product</b>             | <b>Firmware Version (AMK part-no.)</b> | <b>Hardware Version</b> |
|----------------------------|--|-------------------------|
| iC<br>iX<br>i3X<br>iDT5    | V1.03 2013/18 (204515)                 |                         |
| KW-R03<br>KU-R03<br>KW-R04 | AE-R03 V3.21 2011/49 (204379)          |                         |
| KW-R03P<br>KU-R03P         | AE-R03P V5.21 2011/49 (204380)         |                         |
| KW-R05<br>KW-R06<br>KW-R16 | AE-R05/06 V1.10 2012/51 (204395)       |                         |
| AE-SF1                     | AE-SF1 V1.03 2013/11 (204434)          |                         |
| MCE-R06<br>(KW-R06)        | MCE V1.09 2012/42 (204237)             |                         |
| KWZ (-EC)                  | KWZ V1.06 2010/30 (203167)             |                         |
| KE, KEN,<br>KES            | KE-E03 V3.04 2013/03 (204405)          |                         |
| KEx-0EU                    | KE-E10 V4.00 2012/17 (204105)          |                         |
| IDT4                       | IDT V2.07 2011/35 (203697)             | IDT-R1 / -R2            |
| A5S<br>A5D                 | A5 V4.10 2013/06 (204418)              |                         |
| A4S<br>A4D                 | A4 V4.10 2013/06 (204417)              |                         |
| AS-C<br>AS-PL15<br>AS-P    | AS V3.16 2013/05 (204420)              |                         |
| AZ                         | AZ V3.13 06/20 /201362)                | AZ-R02                  |
| AW                         | AW V2.13 07/07 (201657)                | AE-VE01 / -VE02         |

**Copyright notice:** © AMK GmbH & Co. KG  
Any transfer or reproduction of this document, as well as utilisation or communication of its contents, requires express consent. Offenders are liable to the payment of damages. All rights are reserved in the event of the grant of a patent or the registration of a utility model or design.

**Reservation:** We reserve the right to modify the content of the documentation as well as to the delivery options for the product.

**Publisher:** AMK Arnold Müller Antriebs- und Steuerungstechnik GmbH & Co. KG  
Gaußstraße 37 – 39,  
73230 Kirchheim/Teck  
Tel: 07021/5005-0,  
Fax: 07021/5005-176  
E-Mail: info@amk-antriebe.de  
Dr.h.c. Arnold Müller, Eberhard A.Müller, Dr. Günther Vogt  
Registration court Stuttgart HRB 231283; HRA 230681

**Service:**

Tel. no. +49/(0)7021 / 5005-191, Fax -193

Office hours: Mo-Fr 7.30 - 16.30, on weekends and holidays, we provide you with our Emergency Support team telephone number on our answering machine.

For fast and reliable troubleshooting, you can help us by informing our Customer Service about the following:

- Type plate data for each unit
- Software version
- Device configuration and application
- Type of fault/problem and suspected cause
- Diagnostic messages (error messages)

**Internet address:**

[www.amk-antriebe.de](http://www.amk-antriebe.de)

## Content

|  |           |
|--|-----------|
| <b>1 Abbreviations</b> .....                           | <b>16</b> |
| <b>2 Overview</b> .....                                | <b>18</b> |
| <b>3 Meaning of the diagnostic messages</b> .....      | <b>19</b> |
| <b>4 Diagnostic Messages (Numeric Order)</b> .....     | <b>20</b> |
| 4.1 No. 257 ... 260 Control Panel .....                | 20        |
| 257 System diagnostics .....                           | 20        |
| 258 Leave RF active .....                              | 20        |
| 259 System diagnostics .....                           | 20        |
| 4.2 No. 512 ... 525 Monitor .....                      | 20        |
| 514 System diagnostics .....                           | 20        |
| 515 System diagnostics .....                           | 21        |
| 516 System diagnostics .....                           | 21        |
| 517 System diagnostics .....                           | 21        |
| 518 System diagnostics .....                           | 21        |
| 519 System diagnostics .....                           | 22        |
| 520 System diagnostics .....                           | 22        |
| 521 System diagnostics .....                           | 22        |
| 4.3 No. 768 ... 799 Database .....                     | 22        |
| 770 System diagnostics .....                           | 22        |
| 771 System diagnostics .....                           | 23        |
| 772 System diagnostics .....                           | 23        |
| 773 System diagnostics .....                           | 23        |
| 774 System diagnostics .....                           | 23        |
| 775 System diagnostics .....                           | 24        |
| 776 System diagnostics .....                           | 24        |
| 777 System diagnostics .....                           | 24        |
| 778 System diagnostics .....                           | 24        |
| 779 System diagnostics .....                           | 25        |
| 780 System diagnostics .....                           | 25        |
| 781 System diagnostics .....                           | 25        |
| 4.4 No. 1024 ... 1119 Central Computer, Hardware ..... | 25        |
| 1024 System diagnostics .....                          | 25        |
| 1025 System diagnostics .....                          | 26        |
| 1026 System diagnostics .....                          | 26        |
| 1027 System diagnostics .....                          | 26        |
| 1028 System diagnostics .....                          | 27        |
| 1029 System diagnostics .....                          | 27        |
| 1030 System diagnostics .....                          | 27        |
| 1031 System diagnostics .....                          | 27        |
| 1032 System diagnostics .....                          | 28        |
| 1033 System diagnostics .....                          | 28        |
| 1034 System diagnostics .....                          | 28        |
| 1035 System diagnostics .....                          | 28        |
| 1036 System diagnostics .....                          | 29        |
| 1037 System diagnostics .....                          | 29        |
| 1038 System diagnostics .....                          | 29        |
| 1039 System diagnostics .....                          | 29        |
| 1041 External Line Over Temperature .....              | 30        |
| 1042 'Mains phase fault' .....                         | 30        |
| 1043 Line Voltage Error .....                          | 31        |
| 1044 No SBM .....                                      | 32        |
| 1045 'Mains overvoltage' .....                         | 32        |
| 1046 'Mains undervoltage' .....                        | 33        |
| 1047 Inhibit time for UE .....                         | 33        |

|  |    |
|--|----|
| 1048 UE switching frequency too high             | 34 |
| 1049 'DC bus'                                    | 34 |
| 1050 Phase error L1                              | 35 |
| 1051 Phase error L2                              | 35 |
| 1052 Phase error L3                              | 35 |
| 1053 Phase sequence L1/L2                        | 36 |
| 1054 Phase sequence L1/L3                        | 36 |
| 1055 Phase sequence L2/L3                        | 36 |
| 1056 'Mains phase sequence L1, L2 , L3'          | 37 |
| 1057 Fault +12 V                                 | 37 |
| 1058 Fault -12 V                                 | 38 |
| 1059 'DC bus overvoltage'                        | 38 |
| 1060 Regeneration fault                          | 39 |
| 1061 Braking transistor fault                    | 39 |
| 1062 System diagnostics                          | 40 |
| 1063 Encoder Signal                              | 40 |
| 1064 System diagnostics                          | 41 |
| 1065 System diagnostics                          | 41 |
| 1066 System diagnostics                          | 42 |
| 1067 System diagnostics                          | 42 |
| 1068 System diagnostics                          | 43 |
| 1069 System diagnostics                          | 43 |
| 1070 System diagnostics                          | 43 |
| 1071 System diagnostics                          | 44 |
| 1072 System diagnostics                          | 44 |
| 1073 Cooling Air Temperature Warning             | 44 |
| 1074 External line component temperature warning | 44 |
| 1075 Power supply unit temperature warning       | 45 |
| 1076 Feed / Regeneration Temperature Warning     | 45 |
| 1077 Line Voltage Warning                        | 45 |
| 1078 Line undervoltage warning                   | 46 |
| 1079 System diagnostics                          | 46 |
| 1080 OPTION 1 cf. description                    | 46 |
| 1081 OPTION 1 cf. description                    | 46 |
| 1082 OPTION 1 cf. description                    | 47 |
| 1083 OPTION 1 cf. description                    | 47 |
| 1084 OPTION 2 cf. description                    | 47 |
| 1085 OPTION 2 cf. description                    | 47 |
| 1086 OPTION 2 cf. description                    | 48 |
| 1087 OPTION 2 cf. description                    | 48 |
| 1088 OPTION 3 cf. description                    | 48 |
| 1089 OPTION 3 cf. description                    | 48 |
| 1090 OPTION 3 cf. description                    | 48 |
| 1091 OPTION 3 cf. description                    | 49 |
| 1092 OPTION 4 cf. description                    | 49 |
| 1093 OPTION 4 cf. description                    | 49 |
| 1094 OPTION 4 cf. description                    | 49 |
| 1095 OPTION 4 cf. description                    | 50 |
| 1096 OPTION 1 cf description                     | 50 |
| 1097 OPTION 2 cf. description                    | 50 |
| 1098 OPTION 3 cf. description                    | 50 |
| 1099 OPTION 4 cf. description                    | 51 |
| 1100 System diagnostics                          | 51 |
| 1101 'Logic voltage error'                       | 51 |
| 1102 Line voltage limit                          | 52 |
| 1103 Field bus warning                           | 52 |
| 1104 No FL with RF active                        | 52 |

|  |    |
|--|----|
| 1105 Reserved .....  | 53 |
| 1106 System diagnostic .....                                       | 53 |
| 1107 'System diagnostics: Short circuit DC bus voltage' .....      | 53 |
| 1108 'System diagnostics: Main contactor' .....                    | 54 |
| 1109 System diagnostics .....                                      | 54 |
| 1110 Warning brake transistor .....                                | 55 |
| 1111 'Warning external component' .....                            | 55 |
| 1112 'Overload error external component' .....                     | 56 |
| 1115 'Communication monitoring' .....                              | 56 |
| 4.5 No. 1280 ... 1459 Operation Mode / Parameter Calculation ..... | 57 |
| 1281 System diagnostics .....                                      | 57 |
| 1282 ID 32777, 111, 32769 .....                                    | 57 |
| 1283 ID 111, 32769 .....   | 57 |
| 1284 ID 111, 32769 .....   | 58 |
| 1285 ID32772 wrong .....   | 58 |
| 1286 ID 82 or ID 83 too large .....                                | 58 |
| 1287 ID 32890: 1, 2, 5, 10 .....                                   | 59 |
| 1288 ID 110, 111, 32769 .....                                      | 59 |
| 1289 ID 83 too small .....   | 59 |
| 1290 ID 82 too large .....   | 60 |
| 1291 ID 32774 faulty .....   | 60 |
| 1292 SEEP checksum .....   | 60 |
| 1293 Boot strap EEPROM .....                                       | 61 |
| 1294 EEPROM defective .....  | 61 |
| 1295 ID100 / ID101 .....   | 61 |
| 1296 ID211 / ID209 / ID210 .....                                   | 62 |
| 1297 ID 212 / ID209 / ID210 .....                                  | 62 |
| 1298 ID 100 faulty .....   | 62 |
| 1299 ID32775: even .....   | 63 |
| 1300 Error in Temporary Parameters .....                           | 63 |
| 1301 ID32778 faulty .....  | 63 |
| 1302 System diagnostics .....                                      | 63 |
| 1303 System diagnostics .....                                      | 64 |
| 1304 System diagnostics .....                                      | 64 |
| 1305 System diagnostics .....                                      | 64 |
| 1306 System diagnostics .....                                      | 64 |
| 1307 System diagnostics .....                                      | 65 |
| 1308 System diagnostics .....                                      | 65 |
| 1309 System diagnostics .....                                      | 65 |
| 1310 System diagnostics .....                                      | 66 |
| 1311 System diagnostics .....                                      | 66 |
| 1312 System diagnostics .....                                      | 66 |
| 1313 ID82 or ID83 too large .....                                  | 67 |
| 1314 System diagnostics .....                                      | 67 |
| 1315 System diagnostics .....                                      | 67 |
| 1316 ID32769/ID100 too large .....                                 | 67 |
| 1317 ID32770/ID110 too large .....                                 | 68 |
| 1318 ID32774 faulty .....  | 68 |
| 1319 System diagnostics .....                                      | 68 |
| 1320 System diagnostics .....                                      | 68 |
| 1321 System diagnostics .....                                      | 69 |
| 1322 System diagnostics .....                                      | 69 |
| 1323 ID32769 IM < ID111 IN .....                                   | 69 |
| 1324 ID32772 nN too large .....                                    | 69 |
| 1325 ID32772 P1 reference .....                                    | 70 |
| 1326 System diagnostics .....                                      | 70 |
| 1327 ID104 kv factor .....   | 71 |



|  |    |
|--|----|
| 1328 System diagnostics .....                        | 71 |
| 1329 ID111/ID110 > 80% .....                         | 71 |
| 1330 ID32772 > ID113 .....                           | 72 |
| 1331 ID209 > ID113 .....                             | 72 |
| 1332 ID210 > ID113 .....                             | 72 |
| 1333 System diagnostics .....                        | 73 |
| 1334 ID38 > ID113 .....                              | 73 |
| 1335  ID39  > ID113 .....                            | 73 |
| 1336 ID32778 > ID113 .....                           | 74 |
| 1337 ID32783 > ID113 .....                           | 74 |
| 1338 ID157 > ID113 .....                             | 74 |
| 1339 ID125 > ID113 .....                             | 74 |
| 1340 ID124 > ID113 .....                             | 75 |
| 1341 AW-lmax wrong (SEEP) .....                      | 75 |
| 1342 System diagnostics .....                        | 75 |
| 1343 System diagnostics .....                        | 75 |
| 1344 System diagnostics .....                        | 76 |
| 1345 System diagnostics .....                        | 76 |
| 1346 System diagnostics .....                        | 76 |
| 1347 System diagnostics .....                        | 76 |
| 1348 System diagnostics .....                        | 77 |
| 1349 System diagnostics .....                        | 77 |
| 1350 AW not present .....                            | 77 |
| 1351 AW not active .....                             | 78 |
| 1352 Can be changed only offline .....               | 78 |
| 1353 Parameter Set change wrong .....                | 78 |
| 1354 Im < Im1 .....                                  | 79 |
| 1355 Datum ID32785 .....                             | 79 |
| 1356 Datum ID32785, ID32786 .....                    | 79 |
| 1357 AWNR ID32787, ID32789, ID32791, ID32793 .....   | 80 |
| 1358 Source ID32787, ID32789, ID32791; ID32793 ..... | 80 |
| 1359 ID32873, ID32968, ID32977 .....                 | 80 |
| 1360 Opt.1 ID32846, ID32855, ID32864 .....           | 81 |
| 1361 Opt.2 ID32846, ID32855, ID32864 .....           | 81 |
| 1362 Opt.3 ID32846, ID32855, ID32864 .....           | 81 |
| 1363 Opt.4 ID32846, ID32855, ID32864 .....           | 82 |
| 1364 Definition of output bits .....                 | 82 |
| 1365 AWNR output bit .....                           | 82 |
| 1366 Definition of input bits .....                  | 83 |
| 1367 ID32883 Opt.place 1 .....                       | 83 |
| 1368 ID32885 Opt.place2 .....                        | 83 |
| 1369 ID32885 Opt.place 3 .....                       | 83 |
| 1370 ID32886 Opt.place 4 .....                       | 84 |
| 1371 ID32799 Standard Periphery .....                | 84 |
| 1372 Optional place 1 card defect .....              | 84 |
| 1373 Optional place 2 card defect .....              | 84 |
| 1374 Optional place 3 card defect .....              | 85 |
| 1375 Optional place 4 card defect .....              | 85 |
| 1376 ID32882 Optional place 1 .....                  | 85 |
| 1377 ID32882 Optional place 2 .....                  | 86 |
| 1378 ID32882 Optional place 3 .....                  | 86 |
| 1379 ID32882 Optional place 4 .....                  | 86 |
| 1380 ID110, ID111, ID32769 .....                     | 87 |
| 1381 LIW source calculation .....                    | 87 |
| 1382 System diagnostics .....                        | 87 |
| 1383 2PI value wrong .....                           | 88 |
| 1384 2PI value calculation .....                     | 88 |

|   |     |
|---|-----|
| 1385 ID116, ID32776 ratio .....   | 89  |
| 1386 Output DA1 ... DA4 .....   | 89  |
| 1387 ID32846 wrong .....  | 89  |
| 1388 ID32855 wrong .....  | 90  |
| 1389 ID32864 wrong .....  | 90  |
| 1390 System diagnostics .....   | 90  |
| 1391 ID32772 wrong .....  | 90  |
| 1392 ID158, ID32771, ID32772 .....  | 91  |
| 1393 AW not AZ-compatible .....   | 91  |
| 1394 ID32892: x times 2 to the power 16 .....                                     | 91  |
| 1395 No Main Operation Mode .....   | 92  |
| 1396 Operation mode not defined .....   | 92  |
| 1397 Operation mode not impl. ....  | 92  |
| 1398 Setpoint source undefined .....  | 93  |
| 1399 Setpoint Source (SQ) is Not Admissible in this Operation Mode (BA) .....     | 93  |
| 1400 Option Card for Setpoint Source (SQ) .....                                   | 93  |
| 1401 MGQ not selected .....   | 94  |
| 1402 Source of Torque Limit (MGQ) inadmissible for this Operation Mode (BA) ..... | 94  |
| 1403 Source of Torque Limit (MGQ) not implemented .....                           | 94  |
| 1404 Source of Torque Limit (MGQ) AW-analog assigned .....                        | 95  |
| 1405 Speed Ramp (DZLRMP) function missing .....                                   | 95  |
| 1406 Speed Filter (DZLFLT) function missing .....                                 | 95  |
| 1407 Selected Operation Mode (BA) not configured .....                            | 96  |
| 1408 Change of Operation Mode (BA) not executable .....                           | 96  |
| 1409 Selected AW No. not active .....   | 96  |
| 1410 Selected Parameter Set .....   | 96  |
| 1411 Type of Position Controller is Inadmissible .....                            | 97  |
| 1412 Type of External Encoder inadmissible .....                                  | 97  |
| 1413 Missing option card .....  | 97  |
| 1414 Unknown AW type .....  | 98  |
| 1415 Wrong AW type .....  | 98  |
| 1416 Change of Operation Mode inadmissible .....                                  | 98  |
| 1417 System diagnostics .....   | 98  |
| 1418 System diagnostics .....   | 99  |
| 1419 System diagnostics .....   | 99  |
| 1420 System diagnostics .....   | 99  |
| 1421 System diagnostics .....   | 100 |
| 1422 System diagnostics .....   | 100 |
| 1423 Inadmissible Setpoint Source .....   | 100 |
| 1424 Inadmissible Setpoint Source .....   | 101 |
| 1425 ID55 only 0, 5, 9 .....  | 101 |
| 1426 ID121/122 wrong .....  | 101 |
| 1427 ID44 inadmissible .....  | 101 |
| 1428 ID86 inadmissible .....  | 102 |
| 1429 ID160 inadmissible .....   | 102 |
| 1430 Position scaling .....   | 102 |
| 1431 Velocity scaling .....   | 103 |
| 1432 Velocity scaling IPO .....   | 103 |
| 1433 Torque scaling .....   | 103 |
| 1434 Acceleration scaling .....   | 104 |
| 1435 ID76 inadmissible .....  | 104 |
| 1436 Decade switch .....  | 104 |
| 1437 Configuration of Software Pulse Transmission (SIWL) .....                    | 105 |
| 1438 Band width barrier .....   | 107 |
| 1440 Data record changed .....  | 108 |
| 1441 Clock synchronization .....  | 108 |
| 1442 SEEP configuration .....   | 108 |



|   |     |
|---|-----|
| 1443 Test generator .....                         | 109 |
| 1444 PWM frequency .....                          | 109 |
| 1445 Current controller .....                     | 110 |
| 1446 EF can not be activated .....                | 110 |
| 1447 Motor encoder gear .....                     | 110 |
| 1448 ID113 > ID34153 .....                        | 111 |
| 1451 Configuration temperature sensor .....       | 111 |
| 1454 'Error initialisation angle observer' .....  | 111 |
| 4.6 No. 1536 ... 1559 Serial EEPROM .....         | 112 |
| 1537 System diagnostics .....                     | 112 |
| 1538 System diagnostics .....                     | 112 |
| 1539 SEEP 1st checksum .....                      | 112 |
| 1540 SEEP 2nd checksum .....                      | 113 |
| 1541 Commanded AW missing .....                   | 113 |
| 1542 System diagnostics .....                     | 113 |
| 1543 System diagnostics .....                     | 114 |
| 1544 ID32953 no adjustment permissible .....      | 114 |
| 1545 System diagnostics .....                     | 114 |
| 1546 System diagnostics .....                     | 114 |
| 1547 System diagnostics .....                     | 115 |
| 1548 System diagnostics .....                     | 115 |
| 1549 System diagnostics .....                     | 115 |
| 1550 System diagnostics .....                     | 115 |
| 1551 Encoder track failed .....                   | 116 |
| 1552 Encoder adjustment abort .....               | 116 |
| 1553 Encoder adjustment timeout .....             | 117 |
| 1554 ID32776 Sinus Encoder Period is faulty ..... | 117 |
| 1555 Reference pulse .....                        | 118 |
| 1556 Reference Pulse - Encoder Input .....        | 118 |
| 1557 Turn axis .....                              | 118 |
| 1558 System diagnostics .....                     | 118 |
| 4.7 No. 1792 ... 1849 Drive Commanding .....      | 119 |
| 1794 System diagnostics .....                     | 119 |
| 1795 System diagnostics .....                     | 119 |
| 1796 System diagnostics .....                     | 119 |
| 1797 System diagnostics .....                     | 120 |
| 1798 System diagnostics .....                     | 120 |
| 1799 System diagnostics .....                     | 120 |
| 1800 System diagnostics .....                     | 121 |
| 1801 System diagnostics .....                     | 121 |
| 1802 System diagnostics .....                     | 121 |
| 1803 System diagnostics .....                     | 122 |
| 1804 System diagnostics .....                     | 122 |
| 1805 System diagnostics .....                     | 122 |
| 1806 System diagnostics .....                     | 123 |
| 1807 System diagnostics .....                     | 123 |
| 1808 System diagnostics .....                     | 123 |
| 1809 System diagnostics .....                     | 123 |
| 1810 System diagnostics .....                     | 124 |
| 1811 System diagnostics .....                     | 124 |
| 1812 System diagnostics .....                     | 124 |
| 1813 KMD user error .....                         | 124 |
| 1814 System diagnostics .....                     | 125 |
| 1815 Controller enable missing .....              | 125 |
| 1816 Not homed .....                              | 125 |
| 1817 System diagnostics .....                     | 125 |
| 1818 System diagnostics .....                     | 126 |

|   |     |
|---|-----|
| 1819 System diagnostics .....                         | 126 |
| 1820 System diagnostics .....                         | 126 |
| 1821 System diagnostics .....                         | 126 |
| 1822 System diagnostics .....                         | 127 |
| 1823 System diagnostics .....                         | 127 |
| 1824 System diagnostics .....                         | 127 |
| 1825 System diagnostics .....                         | 127 |
| 1826 System diagnostics .....                         | 128 |
| 1827 System diagnostics .....                         | 128 |
| 1828 System diagnostics .....                         | 128 |
| 1829 System diagnostics .....                         | 128 |
| 1830 System diagnostics .....                         | 129 |
| 1831 System diagnostics .....                         | 129 |
| 1832 System diagnostics .....                         | 129 |
| 1833 System diagnostics .....                         | 129 |
| 1834 System diagnostics .....                         | 130 |
| 1835 System diagnostics .....                         | 130 |
| 1836 System diagnostics .....                         | 130 |
| 1837 System diagnostics .....                         | 130 |
| 1838 System diagnostics .....                         | 131 |
| 1839 System diagnostics .....                         | 131 |
| 1840 System diagnostics .....                         | 131 |
| 1841 System diagnostics .....                         | 131 |
| 1842 System diagnostics .....                         | 132 |
| 1843 System diagnostics .....                         | 132 |
| 4.8 No. 2048 ... 2079 Logical Subscriber, S-BUS ..... | 132 |
| 2049 System diagnostics .....                         | 132 |
| 2050 System diagnostics .....                         | 132 |
| 2051 System diagnostics .....                         | 133 |
| 2052 System diagnostics .....                         | 133 |
| 2053 System diagnostics .....                         | 133 |
| 2054 System diagnostics .....                         | 133 |
| 2055 System diagnostics .....                         | 134 |
| 2056 System diagnostics .....                         | 134 |
| 2057 System diagnostics .....                         | 134 |
| 2058 System diagnostics .....                         | 134 |
| 2059 System diagnostics .....                         | 135 |
| 2060 System diagnostics .....                         | 135 |
| 2061 System diagnostics .....                         | 135 |
| 2062 System diagnostics .....                         | 135 |
| 2063 System diagnostics .....                         | 136 |
| 2064 System diagnostics .....                         | 136 |
| 2065 System diagnostics .....                         | 136 |
| 2066 System diagnostics .....                         | 136 |
| 2067 System diagnostics .....                         | 137 |
| 2068 System diagnostics .....                         | 137 |
| 2069 System diagnostics .....                         | 137 |
| 2070 System diagnostics .....                         | 137 |
| 2071 System diagnostics .....                         | 138 |
| 2072 System diagnostics .....                         | 138 |
| 2073 System diagnostics .....                         | 139 |
| 2074 System diagnostics .....                         | 139 |
| 4.9 No. 2304 ... 2369 Inverter Hardware .....         | 140 |
| 2305 Phase U Short Circuit .....                      | 140 |
| 2306 Phase V Short Circuit .....                      | 140 |
| 2307 Phase W Short Circuit .....                      | 140 |
| 2308 Supply +12 V .....                               | 140 |

|   |     |
|---|-----|
| 2309 Supply .....                                 | 141 |
| 2310 Encoder communication .....                  | 142 |
| 2311 Encoder signal .....                         | 145 |
| 2312 Output Terminal Ground Fault .....           | 145 |
| 2313 Synchronous running error .....              | 146 |
| 2314 Master Synchronous Telegram AW .....         | 146 |
| 2315 AW controller clock error .....              | 146 |
| 2316 Motor direction of rotation .....            | 146 |
| 2317 External encoder direction of rotation ..... | 147 |
| 2318 Control deviation .....                      | 147 |
| 2319 $n > n_{max}$ .....                          | 147 |
| 2320 EF inactive .....                            | 148 |
| 2321 System diagnostics .....                     | 148 |
| 2322 System diagnostics .....                     | 148 |
| 2323 System diagnostics .....                     | 149 |
| 2324 System diagnostics .....                     | 149 |
| 2325 System diagnostics .....                     | 149 |
| 2326 System diagnostics .....                     | 149 |
| 2327 Plausibility of the External Encoder .....   | 150 |
| 2328 System diagnostics .....                     | 150 |
| 2329 System diagnostics .....                     | 150 |
| 2330 System diagnostics .....                     | 150 |
| 2331 System diagnostics .....                     | 151 |
| 2332 System diagnostics .....                     | 151 |
| 2333 Position growth too large .....              | 151 |
| 2334 System diagnostics .....                     | 151 |
| 2335 Error reference pulse .....                  | 152 |
| 2336 System diagnostics .....                     | 152 |
| 2337 No clock enable acknowledgement .....        | 152 |
| 2338 Magnetizing timeout .....                    | 152 |
| 2339 Ramp down error .....                        | 153 |
| 2340 Communication on AW .....                    | 153 |
| 2341 Communication on AZ .....                    | 153 |
| 2342 System diagnostics .....                     | 153 |
| 2343 System diagnostics .....                     | 154 |
| 2344 Monitoring actual position .....             | 154 |
| 2345 'Inverter overload error' .....              | 154 |
| 2346 'Converter temperature error' .....          | 155 |
| 2347 Motor temperature error .....                | 155 |
| 2348 System diagnostics .....                     | 156 |
| 2349 Inverter overload warning .....              | 156 |
| 2350 Device over temperature warning .....        | 156 |
| 2351 Motor temperature warning .....              | 157 |
| 2352 Motor overload warning .....                 | 157 |
| 2353 Motor overload error .....                   | 157 |
| 2354 Handshake brake .....                        | 157 |
| 2356 Setpoint stop active .....                   | 158 |
| 2357 Device overload warning .....                | 158 |
| 2358 Device overload error .....                  | 158 |
| 2359 Motor overload warning .....                 | 159 |
| 2360 Motor overload error .....                   | 159 |
| 2361 EF Logic .....                               | 159 |
| 2362 Error Commutation Motor .....                | 159 |
| 2365 'Error angle observer' .....                 | 160 |
| 4.10 No. 2560 ... 2599 SERCOS / EtherCAT .....    | 161 |
| 2561 System diagnostics .....                     | 161 |
| 2562 System diagnostics .....                     | 161 |

|  |     |
|--|-----|
| 2563 System diagnostics .....              | 162 |
| 2564 System diagnostics .....              | 162 |
| 2565 System diagnostics .....              | 163 |
| 2566 System diagnostics .....              | 163 |
| 2569 System diagnostics .....              | 163 |
| 2570 System diagnostics .....              | 163 |
| 2571 System diagnostics .....              | 164 |
| 2572 System diagnostics .....              | 164 |
| 2573 System diagnostics .....              | 166 |
| 2574 System diagnostics .....              | 166 |
| 2575 System diagnostics .....              | 167 |
| 2576 System diagnostics .....              | 167 |
| 2577 System diagnostics .....              | 168 |
| 2578 System diagnostics .....              | 168 |
| 2579 System diagnostics .....              | 168 |
| 2581 System diagnostics .....              | 169 |
| 2582 System diagnostics .....              | 169 |
| 2583 System diagnostics .....              | 170 |
| 2584 System diagnostics .....              | 172 |
| 2585 System diagnostics .....              | 174 |
| 2586 System diagnostics .....              | 175 |
| 2587 System diagnostics .....              | 175 |
| 2588 System diagnostics .....              | 176 |
| 2589 System diagnostics .....              | 176 |
| 2590 System diagnostics .....              | 176 |
| 2591 System diagnostics .....              | 176 |
| 2592 System diagnostics .....              | 177 |
| 2593 System diagnostics .....              | 177 |
| 2594 System diagnostics .....              | 177 |
| 2595 System diagnostics .....              | 177 |
| 2596 System diagnostics .....              | 178 |
| 2597 System diagnostics .....              | 178 |
| 2598 System diagnostics Warning .....      | 179 |
| 4.11 No. 2600 ... 2609 Profibus (PB) ..... | 179 |
| 2600 System diagnostics .....              | 179 |
| 2601 System diagnostics .....              | 180 |
| 2602 System diagnostics .....              | 180 |
| 2603 System diagnostics .....              | 180 |
| 2604 System diagnostics .....              | 180 |
| 2605 System diagnostics .....              | 181 |
| 2606 System diagnostics .....              | 181 |
| 2607 System diagnostics .....              | 182 |
| 2608 System diagnostics .....              | 182 |
| 2609 System diagnostics .....              | 184 |
| 4.12 No. 2620 ... 2629 ARCNET (ARC) .....  | 184 |
| 2620 System diagnostics .....              | 184 |
| 2621 System diagnostics .....              | 184 |
| 2622 System diagnostics .....              | 185 |
| 2623 System diagnostics .....              | 185 |
| 2624 System diagnostics .....              | 185 |
| 2625 System diagnostics .....              | 185 |
| 2626 System diagnostics .....              | 185 |
| 2628 System diagnostics .....              | 186 |
| 4.13 No. 2640 ... 2649 LON .....           | 186 |
| 2640 LON failure .....                     | 186 |
| 2641 LON timeout IN .....                  | 186 |
| 2642 LON timeout OUT .....                 | 187 |

|   |     |
|---|-----|
| 2643 LON timeout appl. ....                               | 187 |
| 2644 System diagnostics .....                             | 187 |
| 2645 System diagnostics .....                             | 187 |
| 4.14 No. 2660 ... 2669 INTERBUS (IB) .....                | 188 |
| 2660 System diagnostics .....                             | 188 |
| 2661 System diagnostics .....                             | 188 |
| 2663 System diagnostics .....                             | 188 |
| 2664 System diagnostics .....                             | 188 |
| 2665 System diagnostics .....                             | 189 |
| 4.15 No. 2680 ... 2699 CAN .....                          | 189 |
| 2680 System diagnostics .....                             | 189 |
| 2681 System diagnostics .....                             | 189 |
| 2682 System diagnostics .....                             | 189 |
| 2683 System diagnostics .....                             | 190 |
| 2684 System diagnostics .....                             | 190 |
| 2685 System diagnostics .....                             | 190 |
| 2686 System diagnostics .....                             | 192 |
| 2687 System diagnostics .....                             | 192 |
| 2688 System diagnostics .....                             | 192 |
| 2689 System diagnostics .....                             | 193 |
| 2690 System diagnostics .....                             | 193 |
| 2691 System diagnostics .....                             | 194 |
| 2692 System diagnostics .....                             | 195 |
| 2693 System diagnostics .....                             | 195 |
| 2694 System diagnostics .....                             | 195 |
| 2695 System diagnostics .....                             | 196 |
| 2696 System diagnostics .....                             | 196 |
| 2697 System diagnostics .....                             | 196 |
| 2698 System diagnostics .....                             | 196 |
| 2699 System diagnostics .....                             | 197 |
| 4.16 No. 2720 ... 2739 EtherCAT .....                     | 198 |
| 2721 System diagnostics .....                             | 198 |
| 2722 System diagnostics .....                             | 198 |
| 2723 System Diagnostics .....                             | 199 |
| 2724 System diagnostics .....                             | 199 |
| 2725 System diagnostics .....                             | 200 |
| 2726 System diagnostics .....                             | 201 |
| 2727 System diagnostics .....                             | 202 |
| 2728 System diagnostics .....                             | 205 |
| 2729 System diagnostics .....                             | 205 |
| 2730 System diagnostics .....                             | 207 |
| 2731 System diagnostics .....                             | 208 |
| 2732 System diagnostics .....                             | 208 |
| 4.17 No. 2740 ... 2749 Modbus .....                       | 209 |
| 2741 Modbus configuration .....                           | 209 |
| 2742 MODBUS communication .....                           | 209 |
| 2743 MODBUS protocol .....                                | 209 |
| 2744 MODBUS command .....                                 | 210 |
| 4.18 No. 2816 ... 2819 AZ/Kx Option PS .....              | 210 |
| 2816 PS option .....                                      | 210 |
| 4.19 No. 3071 ... 3079 AZ Option SERCOS .....             | 211 |
| 3072 Error option SERCOS .....                            | 211 |
| 4.20 No. 3228 AZ Option NC .....                          | 211 |
| 3228 NC option error .....                                | 211 |
| 4.21 No. 3584 ... 3603 Special Functions .....            | 212 |
| 3584 'System diagnostics: Special software message' ..... | 212 |
| 3585 'System diagnostics: Special software message' ..... | 212 |



|   |            |
|---|------------|
| 3586 'System diagnostics: Special software message' | 213        |
| 3587 'System diagnostics: Special software message' | 214        |
| 3588 'System diagnostics: Special software message' | 214        |
| 3589 'System diagnostics: Special software message' | 214        |
| 3590 'System diagnostics: Special software message' | 215        |
| 3591 'System diagnostics: Special software message' | 215        |
| 3592 'System diagnostics: Special software message' | 215        |
| 3593 'System diagnostics: Special software message' | 215        |
| 3594 'System diagnostics: Special software message' | 216        |
| 3595 'System diagnostics: Special software message' | 216        |
| 3596 'System diagnostics: Special software message' | 216        |
| 3597 'System diagnostics: Special software message' | 216        |
| 3598 'System diagnostics: Special software message' | 217        |
| 3599 'System diagnostics: Special software message' | 217        |
| 3600 'System diagnostics: Special software message' | 217        |
| 3601 'System diagnostics: Special software message' | 217        |
| 3602 'System diagnostics: Special software message' | 218        |
| 3603 'System diagnostics: AFP-PLC error'            | 218        |
| 4.22 No. 3605 ... 3610 Safety Functions             | 218        |
| 3605 Safety - Invalid Parameterisation              | 218        |
| 3606 Safety - Error During Operation                | 236        |
| 3607 Safety - Internal System Error                 | 247        |
| 3609 Safety - Faulty Parameter Transfer             | 255        |
| 3610 Safety - Warning During Operation              | 261        |
| 4.23 No. 3840 ... 3869 Operating System             | 266        |
| 3840 File access                                    | 266        |
| 3841 System diagnostics                             | 267        |
| 3842 System diagnostics                             | 267        |
| 3843 System diagnostics                             | 267        |
| 3844 System diagnostics                             | 267        |
| 3845 System diagnostics                             | 268        |
| 3846 System diagnostics                             | 268        |
| 3847 System diagnostics                             | 268        |
| 3848 System diagnostics                             | 268        |
| 3849 System diagnostics                             | 269        |
| 3850 System diagnostics                             | 269        |
| 3851 System diagnostics                             | 269        |
| 3852 System diagnostics                             | 269        |
| 3853 System diagnostics                             | 270        |
| 3854 System diagnostics                             | 270        |
| 3855 System diagnostics                             | 270        |
| 3860 ADB-File access                                | 270        |
| 3861 System update                                  | 271        |
| 3862 System diagnostics                             | 272        |
| 3863 System diagnostics                             | 273        |
| 3864 Bus Configuration                              | 274        |
| 3865 Software version option                        | 275        |
| 3867 System Diagnostics                             | 276        |
| 3868 System Diagnostics                             | 277        |
| 3869 I/O Optional Card                              | 278        |
| <b>5 AW/AZ/KU internal bit blocks</b>               | <b>278</b> |
| 5.1 Bit block AZ_ERR_1                              | 278        |
| 5.2 Bit block AZ_ERR_2                              | 278        |
| 5.3 Bit block AZ_ERR_3                              | 279        |
| 5.4 Bit block AZ_ERR_4                              | 279        |
| 5.5 Bit block AW_ERR_1                              | 279        |
| 5.6 Bit block SYS_ERR (SERCOS)                      | 279        |



|   |            |
|---|------------|
| 5.7 Bit block AW_STÖR .....                                   | 280        |
| 5.8 Bit block SYS_ERR .....                                   | 280        |
| 5.9 Real time bit block AW_MESSAGE .....                      | 280        |
| 5.10 System bit blocks .....                                  | 281        |
| <b>6 KE messages via LED-block .....</b>                      | <b>282</b> |
| 6.1 LED status display .....                                  | 282        |
| 6.2 LED diagnostic display .....                              | 282        |
| <b>7 Messages of AZ 05 through LED block .....</b>            | <b>285</b> |
| <b>8 Messages AZ 20 ... AZ 60 through LED block .....</b>     | <b>285</b> |
| <b>9 Messages through control panel, error deletion .....</b> | <b>288</b> |
| <b>10 Non-volatile saved events .....</b>                     | <b>291</b> |
| <b>11 Clocking the diagnostic message (only AZ) .....</b>     | <b>292</b> |
| <b>12 AMK service info .....</b>                              | <b>293</b> |
| <b>13 Your opinion is important! .....</b>                    | <b>296</b> |

## 1 Abbreviations

|                |  |
|----------------|--|
| AFP            | AMK field bus protocol   |
| AIPAR          | AMKASYN startup parameterizing software                            |
| AW             | AMKASYN inverter   |
| AZ             | AZ computer (central drive computer)                               |
| AZ-EA24        | EA24 option card (binary input/output card)                        |
| AZ-EA8         | EA8 option card (binary input/output card)                         |
| AZ-MC1         | NC option card   |
| AZ-PSx         | Programmable control option card                                   |
| AZ-R01         | AZ computer (board designation)                                    |
| AZB            | AZ control panel   |
| AZSSINT        | AZ system-internal interface for users such as AZ-PSx, AZ-MC1, ... |
| BA             | Operation mode   |
| BAV            | Operation mode management  |
| DA             | Digital output   |
| DEALLOC        | Memory enable  |
| DTH            | Database   |
| DZR            | Speed control  |
| ES1, ES2       | Main contactor interruption  |
| FL             | Delete error   |
| HW             | Hardware   |
| $I_M$          | Magnetizing current  |
| $I_{MAX}$      | Inverter maximum current   |
| $I_N$          | Nominal current  |
| IPO            | Interpolator   |
| KE             | Compact power supply Series KE/KW                                  |
| KMD            | Commanding   |
| KMD-SS         | Commanding interface   |
| KU             | Compact inverter   |
| KW             | Compact inverter series KE/KW                                      |
| LIW            | Feedback position value  |
| LT             | Logical participant  |
| MNU            | Menu on AZ control panel   |
| MON            | Monitor (AW or KU)   |
| n              | Speed  |
| $n_{feedback}$ | Feedback speed   |
| NMT            | Network management   |
| $n_N$          | Nominal speed  |
| $n_{command}$  | Command speed  |
| OPT            | Option slot  |
| OWG            | Optical waveguide  |
| PEEP           | Parallel EEPROM  |
| PDO            | Process data object  |
| PS             | Programmable control unit  |
| PTC            | PTC resistor   |
| QRF            | Controller enable acknowledgement                                  |
| QUE            | Inverter on acknowledgement  |
| RF             | Controller enable  |
| RM             | Motor with integrated frequency inverter                           |
| RPDO           | Remote process data object   |

---

|           |  |
|-----------|--|
| SBM/SBT   | Group ready message  |
| SBUS      | AMK-specific protocol for serial interfaces                              |
| SDO       | Service data object  |
| SEEP      | Serial EEPROM  |
| T         | Temperature or time period   |
| t         | Time   |
| UA1       | Analog command value voltage for AW analog input A1                      |
| ub_basync | Bit block for controlling the command value synchronization in the drive |
| UE        | Inverter On  |
| UZN       | DC bus voltage pole negative   |
| UZP       | DC bus voltage pole positive   |
| VA        | Volt ampere  |
| $x_s$     | Position command value   |
| ZWR       | Central inverter   |
| 03h       | 3 hexadecimal  |

## 2 Overview

### Operating faults are reported in the following ways:

- Group ready message signal (SBM, SBT) is withdrawn, no operational readiness
- Diagnostic message on the control panel
- Diagnostic message by PC program through serial interface (SBUS protocol)
- Internal diagnostic message with access possibility through e.g. AZ-PSx or AZ-MCx, AFP
- Output of bit information through binary outputs (e.g. SBM or warning bit)

### Further diagnostic information can be read in different ways:

- Plain language message on the control panel after calling up the DIAGNOSTICS menu item
- Contents of the internal diagnostic stack are displayed on the control panel
- Request of the diagnostic stack by PC through serial interface (SBUS protocol)
- "Clocking out" the diagnostic code through binary outputs DA1 ... DA4 by a higher-level control system (only for AZ)

### System initialization, error deletion, display of messages

The following events lead to basic initialization of the converter system:

- First energization of the converter
- Error deletion on lack of group ready message
- Permanent data change with following activation of the controller enable

After each system initialization the intact converter system goes into the "Operational readiness" state. Starting from this state, all system functions can be used without restriction.

Messages with error character are displayed immediately on the control panel with the information for diagnosis. The characteristic of the drive can differ very much in this regard and one must refer to the following table for the concrete case. If the same messages with different diagnostic numbers arise, then the cause must be found in different sources. Messages with information character or warnings are not displayed automatically on the control panel. But these can be selected through the DIAGNOSTICS menu item on the control panel and can be deleted only by "Error deletion".

#### "See description" or "System diagnostics" message

The drive system reports internal states which cannot be influenced parametrically by the user with a number and the above text.

If this message appears in operation, please inform the AMK service (telephone: +49 (0) 70 21/50 05 - 191) and notify the associated number and the additional information which appears on pressing the F2 key on the control panel. For further information see "Clocking out the diagnostic message".

If parameters are referred to in this description (e.g. see ID 110), then for information refer to the AMKASYN Parameter Documentation.

#### "NO COMMUNICATION" message

If the physical connection between the unit and control panel is disturbed, this message is generated autonomously by the control panel (check cable or control panel).

### 3 Meaning of the diagnostic messages

#### Message classes:

- Warning message  
Warning messages do not influence the drive behaviour.
- Warning message with following reaction  
After the warning time is over (4 seconds after the warning message was generated) the drive generates e.g. an error message and withdrawal SBM.
- Error

#### Drive Behaviour:

- Coasting  
Drive runs down
- Braking  
Controlled braking of all drives with ramp down time according to ID 32782.

#### Device Behaviour:

- System run-up aborted  
The system run-up could not be finished successfully. The "system ready message" is not set. Please check the wiring and the parameter setting.
- Disconnection from the power net  
The KE stops the excitation of the main contactor. Then the main contactor opens and disconnects the KE from the power supply. Depending on the device the main contactor is integrated into the KE or connected as a external component.
- Single treatment (only for AN/AZ/AW system)  
Single treatment of the faulty drive is possible according to "ID32796 Source RF".
- Automatic error reset and switch back on  
Behaviour of central inverter; see document 'PDK\_203346\_ZWR'

## 4 Diagnostic Messages (Numeric Order)

### 4.1 No. 257 ... 260 Control Panel

#### 257 System diagnostics

|  |                          |  |                |
|--|--------------------------|--|----------------|
| <ul style="list-style-type: none"> <li>SBM withdrawal</li> </ul> |                          |  |                |
| Device   |                          |  |                |
| Description  |                          |  |                |
| Class  | Warning                  |  |                |
| Drive Behaviour  |                          |  |                |
| Device Behaviour   |                          |  |                |
| <b>Additional Error Information (AMK Service)</b>                |                          |  |                |
|  |                          |  | Default in MNU |
| Error removal  | System OFF/ON (HW reset) |  |                |

#### 258 Leave RF active

|  |   |  |  |
|--|---|--|--|
| <ul style="list-style-type: none"> <li>The controller enable was withdrawn, (e.g. RF withdrawal during inching mode of an axis)</li> </ul> |   |  |  |
| Device   |   |  |  |
| Description  |   |  |  |
| Class  | Warning   |  |  |
| Drive Behaviour  |   |  |  |
| Device Behaviour   |   |  |  |
| <b>Additional Error Information (AMK Service)</b>  |   |  |  |
|  |   |  |  |
| Error removal  | RF must remain absolutely set at the commanded function |  |  |

#### 259 System diagnostics

|  |                          |  |                                     |
|--|--------------------------|--|-------------------------------------|
| <ul style="list-style-type: none"> <li>SBM withdrawal</li> </ul> |                          |  |                                     |
| Device   |                          |  |                                     |
| Description  |                          |  |                                     |
| Class  | Warning                  |  |                                     |
| Drive Behaviour  |                          |  |                                     |
| Device Behaviour   |                          |  |                                     |
| <b>Additional Error Information (AMK Service)</b>                |                          |  |                                     |
|  |                          |  | Deallocation of MNU out of function |
| Error removal  | System OFF/ON (HW reset) |  |                                     |

### 4.2 No. 512 ... 525 Monitor

#### 514 System diagnostics

|  |                       |  |                  |
|--|-----------------------|--|------------------|
| <ul style="list-style-type: none"> <li>Check parallel EEPROM on the control board</li> </ul> |                       |  |                  |
| Device   |                       |  |                  |
| Description  |                       |  |                  |
| Class  |                       |  |                  |
| Drive Behaviour  |                       |  |                  |
| Device Behaviour   | System run-up aborted |  |                  |
| <b>Additional Error Information (AMK Service)</b>  |                       |  |                  |
|  |                       |  | Timeout MON PEEP |
| Error removal  |                       |  |                  |



### 515 System diagnostics

|  |                       |
|--|-----------------------|
| <ul style="list-style-type: none"> <li>• Check parallel EEPROM on the control board</li> </ul> |                       |
| Device   |                       |
| Description  |                       |
| Class  |                       |
| Drive Behaviour  |                       |
| Device Behaviour   | System run-up aborted |
| <b>Additional Error Information (AMK Service)</b>  |                       |
|  | PEEP handshake        |
| Error removal  |                       |

### 516 System diagnostics

|   |                                       |
|---|---------------------------------------|
| <ul style="list-style-type: none"> <li>• Check AZ(X27)-AW(X57)-BUS</li> </ul> |                                       |
| Device  |                                       |
| Description   |                                       |
| Class   |                                       |
| Drive Behaviour   |                                       |
| Device Behaviour  | System run-up aborted                 |
| <b>Additional Error Information (AMK Service)</b>                             |                                       |
|   | Timeout AW MON                        |
| Error removal   | Is the AW module connected correctly? |

### 517 System diagnostics

|   |                                       |
|---|---------------------------------------|
| <ul style="list-style-type: none"> <li>• Check AZ(X27)-AW(X57)-BUS</li> </ul> |                                       |
| Device  |                                       |
| Description   |                                       |
| Class   |                                       |
| Drive Behaviour   |                                       |
| Device Behaviour  | System run-up aborted                 |
| <b>Additional Error Information (AMK Service)</b>                             |                                       |
|   | AW-MON handshake                      |
| Error removal   | Is the AW module connected correctly? |

### 518 System diagnostics

|   |                            |
|---|----------------------------|
|   |                            |
| Device  |                            |
| Description                                       |                            |
| Class   |                            |
| Drive Behaviour                                   |                            |
| Device Behaviour                                  | System run-up aborted      |
| <b>Additional Error Information (AMK Service)</b> |                            |
|   | Inadmissible monitor order |
| Error removal                                     |                            |

## 519 System diagnostics

|   |                       |
|---|-----------------------|
| • SEEP in the inverter cannot be addressed        |                       |
| Device  |                       |
| Description                                       |                       |
| Class   |                       |
| Drive Behaviour                                   |                       |
| Device Behaviour                                  | System run-up aborted |
| <b>Additional Error Information (AMK Service)</b> |                       |
|   | Timeout MON SEEPDRV   |
| Error removal                                     |                       |

## 520 System diagnostics

|   |                       |
|---|-----------------------|
| • SEEP in the inverter cannot be addressed        |                       |
| Device  |                       |
| Description                                       |                       |
| Class   |                       |
| Drive Behaviour                                   |                       |
| Device Behaviour                                  | System run-up aborted |
| <b>Additional Error Information (AMK Service)</b> |                       |
|   | SEEP DRV handshake    |
| Error removal                                     |                       |

## 521 System diagnostics

|   |                       |
|---|-----------------------|
|   |                       |
| Device  |                       |
| Description                                       |                       |
| Class   |                       |
| Drive Behaviour                                   |                       |
| Device Behaviour                                  | System run-up aborted |
| <b>Additional Error Information (AMK Service)</b> |                       |
|   | RESERVE               |
| Error removal                                     |                       |

## 4.3 No. 768 ... 799 Database

### 770 System diagnostics

|   |                        |
|---|------------------------|
|   |                        |
| Device  |                        |
| Description                                       |                        |
| Class   |                        |
| Drive Behaviour                                   |                        |
| Device Behaviour                                  | System run-up aborted  |
| <b>Additional Error Information (AMK Service)</b> |                        |
|   | Inadmissible state DTH |
| Error removal                                     |                        |

### 771 System diagnostics

|  |                       |  |              |
|--|-----------------------|--|--------------|
| <ul style="list-style-type: none"> <li>Check parallel EEPROM on the control board</li> </ul> |                       |  |              |
| Device   |                       |  |              |
| Description  |                       |  |              |
| Class  |                       |  |              |
| Drive Behaviour  |                       |  |              |
| Device Behaviour   | System run-up aborted |  |              |
| <b>Additional Error Information (AMK Service)</b>  |                       |  |              |
|  |                       |  | Timeout PEEP |
| Error removal  |                       |  |              |

### 772 System diagnostics

|  |                       |  |                |
|--|-----------------------|--|----------------|
| <ul style="list-style-type: none"> <li>Check parallel EEPROM on the control board</li> </ul> |                       |  |                |
| Device   |                       |  |                |
| Description  |                       |  |                |
| Class  |                       |  |                |
| Drive Behaviour  |                       |  |                |
| Device Behaviour   | System run-up aborted |  |                |
| <b>Additional Error Information (AMK Service)</b>  |                       |  |                |
|  |                       |  | Handshake PEEP |
| Error removal  |                       |  |                |

### 773 System diagnostics

|   |                       |  |  |
|---|-----------------------|--|--|
| <ul style="list-style-type: none"> <li>Inadmissible database order</li> </ul> |                       |  |  |
| Device  |                       |  |  |
| Description   |                       |  |  |
| Class   |                       |  |  |
| Drive Behaviour   |                       |  |  |
| Device Behaviour  | System run-up aborted |  |  |
| <b>Additional Error Information (AMK Service)</b>                             |                       |  |  |
|   |                       |  |  |
| Error removal   |                       |  |  |

### 774 System diagnostics

|   |                           |  |                |
|---|---------------------------|--|----------------|
|   |                           |  |                |
| Device  |                           |  |                |
| Description                                       |                           |  |                |
| Class   |                           |  |                |
| Drive Behaviour                                   |                           |  |                |
| Device Behaviour                                  | System run-up aborted     |  |                |
| <b>Additional Error Information (AMK Service)</b> |                           |  |                |
|   |                           |  | DEALLOC faulty |
| Error removal                                     | System OFF/ON, (HW reset) |  |                |

## 775 System diagnostics

|  |                       |
|--|-----------------------|
| <ul style="list-style-type: none"> <li>ID not supported</li> </ul>                           |                       |
| Device   | KE                    |
| <ul style="list-style-type: none"> <li>Warning: ID access faulty on read or write</li> </ul> |                       |
| Description  |                       |
| Class  |                       |
| Drive Behaviour  |                       |
| Device Behaviour   | System run-up aborted |
| <b>Additional Error Information (AMK Service)</b>  |                       |
|  |                       |
| Error removal  |                       |

## 776 System diagnostics

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>It was attempted to use a parameter set which was not reserved for the inverter.</li> </ul> |   |
| Device   |   |
| Description  |   |
| Class  |   |
| Drive Behaviour  |   |
| Device Behaviour   | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>  |   |
|  |   |
| Error removal  | Recheck parameters: <ul style="list-style-type: none"> <li>ID32813 ... ID32820 Parameterser assignment 1 ... 8</li> </ul> |

## 777 System diagnostics

|  |                       |
|--|-----------------------|
| <ul style="list-style-type: none"> <li>Check parallel EEPROM on the control board</li> </ul> |                       |
| Device   |                       |
| Description  |                       |
| Class  |                       |
| Drive Behaviour  |                       |
| Device Behaviour   | System run-up aborted |
| <b>Additional Error Information (AMK Service)</b>  |                       |
|  | Overflow PEEP         |
| Error removal  |                       |

## 778 System diagnostics

|   |                       |
|---|-----------------------|
| <ul style="list-style-type: none"> <li>The attribute of the selected data block is wrong</li> </ul> |                       |
| Device  |                       |
| Description   |                       |
| Class   |                       |
| Drive Behaviour   |                       |
| Device Behaviour  | System run-up aborted |
| <b>Additional Error Information (AMK Service)</b>   |                       |
|   |                       |
| Error removal   |                       |

### 779 System diagnostics

|  |                       |
|--|-----------------------|
| <ul style="list-style-type: none"> <li>The maximum value of the last changed parameter was exceeded</li> </ul>                                       |                       |
| Device   | KE                    |
| <ul style="list-style-type: none"> <li>Maximum value was exceeded<br/>Value of ID34170, 'Setpoint DC bus voltage', is higher than 720 VDC</li> </ul> |                       |
| Description  |                       |
| Class  |                       |
| Drive Behaviour  |                       |
| Device Behaviour   | System run-up aborted |
| <b>Additional Error Information (AMK Service)</b>  |                       |
|  |                       |
| Error removal  |                       |

### 780 System diagnostics

|   |                       |
|---|-----------------------|
| <ul style="list-style-type: none"> <li>The minimum value of the last changed parameter was not reached</li> </ul> |                       |
| Device  |                       |
| Description   |                       |
| Class   |                       |
| Drive Behaviour   |                       |
| Device Behaviour  | System run-up aborted |
| <b>Additional Error Information (AMK Service)</b>   |                       |
|   |                       |
| Error removal   |                       |

### 781 System diagnostics

|   |                       |
|---|-----------------------|
| <ul style="list-style-type: none"> <li>It was attempted to write a list which can only be read</li> </ul> |                       |
| Device  |                       |
| Description   |                       |
| Class   |                       |
| Drive Behaviour   |                       |
| Device Behaviour  | System run-up aborted |
| <b>Additional Error Information (AMK Service)</b>   |                       |
|   |                       |
| Error removal   |                       |

## 4.4 No. 1024 ... 1119 Central Computer, Hardware

### 1024 System diagnostics

|  |                                |
|--|--------------------------------|
| <ul style="list-style-type: none"> <li>System fault in the control board area</li> </ul> |                                |
| Device   |                                |
| Description  |                                |
| Class  |                                |
| Drive Behaviour  |                                |
| Device Behaviour   | System run-up aborted          |
| <b>Additional Error Information (AMK Service)</b>  |                                |
|  | Inadmissible state in AZ graph |
| Error removal  |                                |

## 1025 System diagnostics

|   |  |
|---|--|
| <b>Device</b>                                     |  |
| <b>Description</b>                                |  |
| <b>Class</b>                                      |  |
| <b>Drive Behaviour</b>                            |  |
| <b>Device Behaviour</b>                           | System run-up aborted  |
| <b>Additional Error Information (AMK Service)</b> |  |
|   | Default in MNUData error in the serial EEPROM of the control board (only AZ SEEP).<br>The checksum is checked during system initialization (configurable through ID 32901) |
| <b>Error removal</b>                              | Recheck parameter: <ul style="list-style-type: none"> <li>• ID32901 Global service bits</li> </ul>   |

## 1026 System diagnostics

|  |                       |
|--|-----------------------|
| <ul style="list-style-type: none"> <li>• Error on writing the serial EEPROM</li> </ul> |                       |
| <b>Device</b>  |                       |
| <b>Description</b>   |                       |
| <b>Class</b>   |                       |
| <b>Drive Behaviour</b>   |                       |
| <b>Device Behaviour</b>  | System run-up aborted |
| <b>Additional Error Information (AMK Service)</b>                                      |                       |
|  |                       |
| <b>Error removal</b>   |                       |

## 1027 System diagnostics

|   |                       |
|---|-----------------------|
| <ul style="list-style-type: none"> <li>• Data error in the EPROM</li> <li>• The checksum is checked during system initialization</li> </ul> |                       |
| <b>Device</b>   | KE                    |
| <ul style="list-style-type: none"> <li>• Checksum flash memory</li> </ul>   |                       |
| <b>Description</b>  |                       |
| <b>Class</b>  |                       |
| <b>Drive Behaviour</b>  |                       |
| <b>Device Behaviour</b>   | System run-up aborted |
| <b>Additional Error Information (AMK Service)</b>   |                       |
|   |                       |
| <b>Error removal</b>  |                       |



## 1028 System diagnostics

|   |                       |
|---|-----------------------|
| <ul style="list-style-type: none"> <li>RAM memory error, is checked during system initialization</li> </ul>         |                       |
| <b>Device</b>   | <b>Controller AS</b>  |
| <ul style="list-style-type: none"> <li>RAM memory error option module (Info: option place 1 or instance)</li> </ul> |                       |
| <b>Device</b>   | <b>KE</b>             |
| <ul style="list-style-type: none"> <li>RAM memory error</li> </ul>  |                       |
| <b>Description</b>  |                       |
| <b>Class</b>  |                       |
| <b>Drive Behaviour</b>  |                       |
| <b>Device Behaviour</b>   | System run-up aborted |
| <b>Additional Error Information (AMK Service)</b>   |                       |
|   |                       |
| <b>Error removal</b>  |                       |

## 1029 System diagnostics

|   |                       |
|---|-----------------------|
| <ul style="list-style-type: none"> <li>Data error in the parallel EEPROM</li> <li>The checksum is checked during system initialization</li> </ul> |                       |
| <b>Device</b>   | <b>AZ</b>             |
| <ul style="list-style-type: none"> <li>Check can be switched on/off through ID 32901</li> </ul>   |                       |
| <b>Description</b>  |                       |
| <b>Class</b>  |                       |
| <b>Drive Behaviour</b>  |                       |
| <b>Device Behaviour</b>   | System run-up aborted |
| <b>Additional Error Information (AMK Service)</b>   |                       |
|   |                       |
| <b>Error removal</b>  |                       |

## 1030 System diagnostics

|  |                       |
|--|-----------------------|
| <ul style="list-style-type: none"> <li>Error on writing the parallel EEPROM</li> </ul> |                       |
| <b>Device</b>  |                       |
| <b>Description</b>   |                       |
| <b>Class</b>   |                       |
| <b>Drive Behaviour</b>   |                       |
| <b>Device Behaviour</b>  | System run-up aborted |
| <b>Additional Error Information (AMK Service)</b>                                      |                       |
|  |                       |
| <b>Error removal</b>   |                       |

## 1031 System diagnostics

|   |  |
|---|--|
| <ul style="list-style-type: none"> <li>Control panel does not report on initialization</li> </ul> |  |
| <b>Device</b>   |  |
| <b>Description</b>  |  |
| <b>Class</b>  |  |
| <b>Drive Behaviour</b>  |  |
| <b>Device Behaviour</b>   | <ul style="list-style-type: none"> <li>System run-up aborted</li> <li>The serial interface to the control panel is switched over automatically to SBUS protocol</li> </ul> |
| <b>Additional Error Information (AMK Service)</b>   |  |
|   |  |
| <b>Error removal</b>  |  |

### 1032 System diagnostics

|  |                       |  |  |
|--|-----------------------|--|--|
| • Reception error from the serial interface 1      |                       |  |  |
| <b>Device</b>                                      | <b>AZ</b>             |  |  |
| • Overrun, parity, see AZ-R01 serial interface X77 |                       |  |  |
| <b>Description</b>                                 |                       |  |  |
| <b>Class</b>                                       |                       |  |  |
| <b>Drive Behaviour</b>                             |                       |  |  |
| <b>Device Behaviour</b>                            | System run-up aborted |  |  |
| <b>Additional Error Information (AMK Service)</b>  |                       |  |  |
|  |                       |  |  |
| <b>Error removal</b>                               |                       |  |  |

### 1033 System diagnostics

|  |                       |  |  |
|--|-----------------------|--|--|
| • Reception error from the serial interface 2      |                       |  |  |
| <b>Device</b>                                      | <b>AZ</b>             |  |  |
| • Overrun, parity, see AZ-R01 serial interface X77 |                       |  |  |
| <b>Description</b>                                 |                       |  |  |
| <b>Class</b>                                       |                       |  |  |
| <b>Drive Behaviour</b>                             |                       |  |  |
| <b>Device Behaviour</b>                            | System run-up aborted |  |  |
| <b>Additional Error Information (AMK Service)</b>  |                       |  |  |
|  |                       |  |  |
| <b>Error removal</b>                               |                       |  |  |

### 1034 System diagnostics

|   |   |   |                             |
|---|---|---|-----------------------------|
| • Time level overflow                             |   |   |                             |
| <b>Device</b>                                     | KE  |   |                             |
| <b>Description</b>                                |   |   |                             |
| <b>Class</b>                                      |   |   |                             |
| <b>Drive Behaviour</b>                            | Drive runs down                             |   |                             |
| <b>Device Behaviour</b>                           |   |   |                             |
| <b>Additional Error Information (AMK Service)</b> |   |   |                             |
|   | Info1                                       | 1 | Watchdog reset              |
|   |   | 2 | Time level overflow 62,5 µs |
|   |   | 3 | Time level overflow 250 µs  |
|   |   | 4 | Time level overflow 500 µs  |
|   |   | 5 | Time level overflow 1 ms    |
|   |   | 6 | Time level overflow 10 ms   |
| <b>Error removal</b>                              | • External fault, system OFF/ON, (HW reset) |   |                             |

### 1035 System diagnostics

|   |                           |  |  |
|---|---------------------------|--|--|
| • Faulty system initialization, possible external fault |                           |  |  |
| <b>Device</b>   |                           |  |  |
| <b>Description</b>                                      |                           |  |  |
| <b>Class</b>  |                           |  |  |
| <b>Drive Behaviour</b>                                  | Drive runs down           |  |  |
| <b>Device Behaviour</b>                                 |                           |  |  |
| <b>Additional Error Information (AMK Service)</b>       |                           |  |  |
|   |                           |  | Timeout BAV, no acknowledgement after 60 s |
| <b>Error removal</b>                                    | System OFF/ON, (HW reset) |  |  |

### 1036 System diagnostics

|   |                             |  |                        |
|---|-----------------------------|--|------------------------|
| • Fault   |                             |  |                        |
| Device  | KE                          |  |                        |
| Description                                       | Program stack overflow      |  |                        |
| Class   |                             |  |                        |
| Drive Behaviour                                   | Drive runs down             |  |                        |
| Device Behaviour                                  |                             |  |                        |
| <b>Additional Error Information (AMK Service)</b> |                             |  |                        |
|   |                             |  | Program stack overflow |
| Error removal                                     | • System OFF/ON, (HW reset) |  |                        |

### 1037 System diagnostics

|   |                           |  |                       |
|---|---------------------------|--|-----------------------|
| • Fault   |                           |  |                       |
| Device  |                           |  |                       |
| Description                                       |                           |  |                       |
| Class   |                           |  |                       |
| Drive Behaviour                                   | Drive runs down           |  |                       |
| Device Behaviour                                  |                           |  |                       |
| <b>Additional Error Information (AMK Service)</b> |                           |  |                       |
|   |                           |  | System stack overflow |
| Error removal                                     | System OFF/ON, (HW reset) |  |                       |

### 1038 System diagnostics

|   |                           |  |                        |
|---|---------------------------|--|------------------------|
| • Fault   |                           |  |                        |
| Device  |                           |  |                        |
| Description                                       |                           |  |                        |
| Class   |                           |  |                        |
| Drive Behaviour                                   | Drive runs down           |  |                        |
| Device Behaviour                                  |                           |  |                        |
| <b>Additional Error Information (AMK Service)</b> |                           |  |                        |
|   |                           |  | System stack underflow |
| Error removal                                     | System OFF/ON, (HW reset) |  |                        |

### 1039 System diagnostics

|  |                           |  |  |
|--|---------------------------|--|--|
| • Faulty memory access of the processor. Software reset is triggered. The error is displayed in the following initialization |                           |  |  |
| Device   |                           |  |  |
| Description  |                           |  |  |
| Class  |                           |  |  |
| Drive Behaviour  | Drive runs down           |  |  |
| Device Behaviour   |                           |  |  |
| <b>Additional Error Information (AMK Service)</b>  |                           |  |  |
|  |                           |  |  |
| Error removal  | System OFF/ON, (HW reset) |  |  |

## 1041 External Line Over Temperature

|   |  |   |   |
|---|--|---|---|
| <ul style="list-style-type: none"> <li>Occurs after end of a warning time as consequence of the warning 1074</li> <li>The fan still runs on for 60 s after withdrawing the controller enable</li> </ul> |  |   |   |
| <b>Device</b>   | <b>AZ</b>  |   |   |
| <ul style="list-style-type: none"> <li>Temperature error AZ</li> <li>Occurs after end of the warning time as consequence of the 4 warnings 1073, 1074, 1075, 1076</li> </ul>                            |  |   |   |
| <b>Description</b>  |  |   |   |
| <b>Class</b>  | Error  |   |   |
| <b>Drive Behaviour</b>  | Controlled braking   |   |   |
| <b>Device Behaviour</b>   |  |   |   |
| <b>Additional Error Information (AMK Service)</b>   |  |   |   |
|   |  |   |   |
| <b>Error removal</b>  |  |   |   |
| <b>Device</b>   | <b>KE</b>  |   |   |
| <b>Description</b>  |  |   |   |
| <b>Class</b>  | Error  |   |   |
| <b>Drive Behaviour</b>  | Controlled braking   |   |   |
| <b>Device Behaviour</b>   |  |   |   |
| <b>Additional Error Information (AMK Service)</b>   |  |   |   |
|   | Info1  | 0 | Over-temperature braking resistor<br>ITE intern > 1.7 V, ITE (analogue, HW) |
| <b>Error removal</b>  |  |   |   |
| <ul style="list-style-type: none"> <li>Over temperature mains filter / transformer inverter (n)</li> </ul>  |  |   |   |
| <b>Device</b>   | <b>ZWR</b>   |   |   |
| <b>Description</b>  | Over temperature mains filter -Y1 or / and transformer -T1   |   |   |
| <b>Class</b>  | Error  |   |   |
| <b>Device Behaviour</b>   | Automatic error reset and switch back on   |   |   |
| <b>Additional Error Information (AMK Service)</b>   |  |   |   |
|   |  |   |   |
| <b>Error Removal</b>  | <ul style="list-style-type: none"> <li>Check mains filter -Y1</li> <li>Check transformer -T1</li> <li>Check cooling system</li> <li>Check fan of mains filter</li> <li>Check wiring</li> </ul> |   |   |

## 1042 'Mains phase fault'

|  |  |  |  |
|--|--|--|--|
| <ul style="list-style-type: none"> <li>Mains failure of one or several phases (external fuse)</li> <li>External fuse defective (failure &gt;= 100 ms)</li> </ul> |  |  |  |
| <b>Device</b>  | <b>AZ</b>  |  |  |
| <b>Description</b>   |  |  |  |
| <b>Class</b>   | Error  |  |  |
| <b>Drive Behaviour</b>   | Controlled braking   |  |  |
| <b>Device Behaviour</b>  |  |  |  |
| <b>Additional Error Information (AMK Service)</b>  |  |  |  |
|  |  |  |  |
| <b>Error removal</b>   | <ul style="list-style-type: none"> <li>E loop ES1-ES2 separated (possibly EMERGENCY OFF)</li> <li>Fuse F7 or F8 defective (new mains modules)</li> <li>Check terminals X1, X6, X25, X26</li> </ul> |  |  |

|  |   |   |  |
|--|---|---|--|
| <b>Device</b>  | <b>KE</b>   |   |  |
| <b>Description</b>   |   |   |  |
| <b>Class</b>   | Error   |   |  |
| <b>Drive Behaviour</b>   | Controlled braking  |   |  |
| <b>Device Behaviour</b>  |   |   |  |
| <b>Additional Error Information (AMK Service)</b>                              |   |   |  |
|  | Info1   | 1 | Voltage before main contactor < 75 % of the line voltage (BNX1) or within 23 ms no other switching status (i.e. three-phase mains failure) (Filtered 100 ms past UE = 1) |
|  |   | 2 | Voltage before main contactor < 75 % of the line voltage (BNX2) (Filtered 100 ms past UE = 1)  |
|  |   | 3 | Error in detection of phase-sequency   |
|  |   | 4 | Error mains frequency  |
|  |   | 5 | default  |
| <b>Error removal</b>   | <ul style="list-style-type: none"> <li>• Check terminals X01 and X20 and external wiring</li> </ul>                       |   |  |
| <ul style="list-style-type: none"> <li>• Phase failure inverter (n)</li> </ul> |   |   |  |
| <b>Device</b>  | <b>ZWR</b>  |   |  |
| <b>Description</b>   | Phase failure single-phase or multi-phase in the charging circuit   |   |  |
| <b>Class</b>   | Error   |   |  |
| <b>Device Behaviour</b>  | Automatic error reset and switch back on  |   |  |
| <b>Additional Error Information (AMK Service)</b>                              |   |   |  |
|  |   |   |  |
| <b>Error Removal</b>   | <ul style="list-style-type: none"> <li>• Check charging circuit fuses -F7 / -F8</li> <li>• Check main fuse -F1</li> </ul> |   |  |

### 1043 Line Voltage Error

|  |  |  |  |
|--|--|--|--|
| <ul style="list-style-type: none"> <li>• Line voltage dependent on unit<sup>1)</sup> outside the tolerance range</li> </ul>                              |  |  |  |
| <b>Device</b>  | <b>AZ</b>  |  |  |
| <ul style="list-style-type: none"> <li>• Occurs after the end of the warning time (currently 4 s) as consequence of the 2 warnings 1077, 1078</li> </ul> |  |  |  |
| <b>Description</b>   |  |  |  |
| <b>Class</b>   | Warning message, reaction of drive after 4 seconds |  |  |
| <b>Drive Behaviour</b>   | Controlled braking                                 |  |  |
| <b>Device Behaviour</b>  |  |  |  |
| <b>Additional Error Information (AMK Service)</b>  |  |  |  |
|  |  |  |  |
| <b>Error removal</b>   |  |  |  |

|   |            |  |  |
|---|------------|--|--|
| <ul style="list-style-type: none"> <li>• USV voltage &gt; 30 v</li> </ul> |            |  |  |
| <b>Device</b>   | <b>IDT</b> |  |  |
| <b>Description</b>  |            |  |  |
| <b>Class</b>  |            |  |  |
| <b>Drive Behaviour</b>  |            |  |  |
| <b>Device Behaviour</b>   |            |  |  |
| <b>Additional Error Information (AMK Service)</b>                         |            |  |  |
|   |            |  |  |
| <b>Error removal</b>  |            |  |  |

## 1044 No SBM

|  |  |   |  |
|--|--|---|--|
| <ul style="list-style-type: none"> <li>Occurs if a system initialization was started and no group ready message was present</li> </ul> |  |   |  |
| Device   |  |   |  |
| Description  |  |   |  |
| Class  |  |   |  |
| Drive Behaviour  |  |   |  |
| Device Behaviour   | System run-up aborted  |   |  |
| <b>Additional Error Information (AMK Service)</b>  |  |   |  |
|  |  |   |  |
| Error removal  | <ul style="list-style-type: none"> <li>Possible causes are configuration errors or hardware errors</li> <li>Evaluate and remove current error through Diagnostics</li> <li>Reset system with "Delete error"</li> </ul> |   |  |
| Device   | <b>KE</b>  |   |  |
| Description  |  |   |  |
| Class  |  |   |  |
| Drive Behaviour  |  |   |  |
| Device Behaviour   | System run-up aborted  |   |  |
| <b>Additional Error Information (AMK Service)</b>  |  |   |  |
|  | Info1  | 0 | Hardware Error<br>KES module without adequate KE-E0x |
| Error removal  |  |   |  |

## 1045 'Mains overvoltage'

|   |  |  |  |
|---|--|--|--|
| <ul style="list-style-type: none"> <li>Mean value of the line voltage is above 530 V (smoothing approx. 6.4 s)</li> </ul> |  |  |  |
| Device  | <b>KE</b>  |  |  |
| Description   |  |  |  |
| Class   | Error  |  |  |
| Drive Behaviour   |  |  |  |
| Device Behaviour  | <ul style="list-style-type: none"> <li>Reset of SBM System Ready</li> <li>Main contactor is de-energized</li> </ul>                    |  |  |
| <b>Additional Error Information (AMK Service)</b>   |  |  |  |
|   |  |  |  |
| Error removal   |  |  |  |
| <ul style="list-style-type: none"> <li>Mains overvoltage inverter (n)</li> </ul>  |  |  |  |
| Device  | <b>ZWR</b>   |  |  |
| Description   | (Mains voltage + 10 %) > ID34270 'Net voltage'   |  |  |
| Class   | Error  |  |  |
| Device Behaviour  | Automatic error reset and switch back on   |  |  |
| <b>Additional Error Information (AMK Service)</b>   |  |  |  |
|   |  |  |  |
| Error Removal   | <ul style="list-style-type: none"> <li>Check mains voltage</li> <li>Check transformer -T1</li> <li>Check main contactor -K1</li> </ul> |  |  |



### 1046 'Mains undervoltage'

|   |  |
|---|--|
| <ul style="list-style-type: none"> <li>Mean value of the line voltage is below 350 V (smoothing approx. 6.4 s)</li> </ul> |  |
| <b>Device</b>   | <b>KE</b>  |
| <b>Description</b>  |  |
| <b>Class</b>  | Error  |
| <b>Drive Behaviour</b>  | <ul style="list-style-type: none"> <li>Reset SBM System Ready</li> <li>Main contactor is de-energized</li> </ul>                       |
| <b>Device Behaviour</b>   |  |
| <b>Additional Error Information (AMK Service)</b>   |  |
|   |  |
| <b>Error removal</b>  | Message can be deactivated by ID32901, 'Global service bits'   |
| <ul style="list-style-type: none"> <li>Mains undervoltage inverter (n)</li> </ul>   |  |
| <b>Device</b>   | <b>ZWR</b>   |
| <b>Description</b>  | (Mains voltage - 10%) < ID34270 'Net voltage'  |
| <b>Class</b>  | Error  |
| <b>Device Behaviour</b>   | Automatic error reset and switch back on   |
| <b>Additional Error Information (AMK Service)</b>   |  |
|   |  |
| <b>Error Removal</b>  | <ul style="list-style-type: none"> <li>Check mains voltage</li> <li>Check transformer -T1</li> <li>Check main contactor -K1</li> </ul> |

### 1047 Inhibit time for UE

|  |  |
|--|--|
| <ul style="list-style-type: none"> <li>The prescribed off time (see converter) for renewed switching on of the converter was not complied with. Successful "Delete error" is possible at once, inverter on (UE = 1) only after the end of the stated time</li> </ul> |  |
| <b>Device</b>  |  |
| <b>Description</b>   |  |
| <b>Class</b>   |  |
| <b>Drive Behaviour</b>   |  |
| <b>Device Behaviour</b>  | System run-up aborted  |
| <b>Additional Error Information (AMK Service)</b>  |  |
|  |  |
| <b>Error removal</b>   |  |
| <ul style="list-style-type: none"> <li>Switching frequency for converter on (UE) is too high</li> </ul>  |  |
| <b>Device</b>  | <b>KE</b>  |
| <b>Description</b>   | Twice positive edge of UE within off time<br>(Off time depends on DC bus capacity)   |
| <b>Class</b>   |  |
| <b>Drive Behaviour</b>   |  |
| <b>Device Behaviour</b>  | System run-up aborted  |
| <b>Additional Error Information (AMK Service)</b>  |  |
|  |  |
| <b>Error removal</b>   |  |
| <ul style="list-style-type: none"> <li>Twice ON during blocking-time inverter (n)</li> </ul>   |  |
| <b>Device</b>  | <b>ZWR</b>   |
| <b>Description</b>   |  |
| <b>Class</b>   | Error  |
| <b>Device Behaviour</b>  | Automatic error reset and switch back on   |
| <b>Additional Error Information (AMK Service)</b>  |  |
|  |  |
| <b>Error Removal</b>   | <ul style="list-style-type: none"> <li>Observe at least 30 s of blocking-time before switching inverter back on</li> </ul> |

## 1048 UE switching frequency too high

|   |  |
|---|--|
| <ul style="list-style-type: none"> <li>The permissible number of maximum 10 UE switch-on processes within 10 min. was exceeded</li> </ul> |  |
| Device  |  |
| Description   | Since firmware KE-E03 V2.01 2002/25 the off-time is monitored. Diagnostic message 1048 does not appear any longer. |
| Class   |  |
| Drive Behaviour   |  |
| Device Behaviour  | System run-up aborted  |
| <b>Additional Error Information (AMK Service)</b>   |  |
|   |  |
| Error removal   |  |

## 1049 'DC bus'

|  |  |  |
|--|--|--|
| <ul style="list-style-type: none"> <li>DC bus error</li> </ul> |  |  |
| Device   | KE   |  |
| Description  | The charging process for the DC bus does not run correctly                           |  |
| Class  |  |  |
| Drive Behaviour  |  |  |
| Device Behaviour   | RF setting aborted   |  |
| <b>Additional Error Information (AMK Service)</b>              |  |  |
|  | Info1  |  |
|  | 1  | 1.8 s past ELS1: UZ < 60 % (UE = 1)          |
|  | 2  | 1.5 s past ELS2: UZ < 85 % (UE = 1)          |
|  | 3  | 3 min past UE = 0: UZ > 50 V                 |
|  | 4, 5   | $\Delta U/\Delta t$ too small while charging |
| Error Removal  | <ul style="list-style-type: none"> <li>Check device</li> <li>Check wiring</li> </ul> |  |

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>DC bus error</li> </ul> |   |
| Device   | KU  |
| Description  | <ul style="list-style-type: none"> <li>At switching-on of the DC bus, voltage <math>U_Z</math> is not reached within time out</li> </ul>  |
| Device   | KU, KW, AZ/AW   |
| Description  | <ul style="list-style-type: none"> <li><math>U_Z &lt; U_{Z,threshold}</math> during RF active or RF setting</li> </ul>  |
| Class  |   |
| Drive Behaviour  | Motor brake control becomes active immediately. The brake will close independent if the motor is stopped.   |
| Device Behaviour   | RF withdrawal   |
| <b>Additional Error Information (AMK Service)</b>              |   |
|  |   |
| Error Removal  | <ul style="list-style-type: none"> <li>Check parameter: <ul style="list-style-type: none"> <li>ID32837 'DC bus voltage monitoring'</li> </ul> </li> <li>Check device</li> <li>Check wiring</li> </ul> |

|  |  |
|--|--|
| <ul style="list-style-type: none"> <li>Fault charging DC bus inverter (n)</li> </ul> |  |
| Device   | ZWR  |
| Description  | DC bus is not charged correctly, $\Delta U/\Delta t$ is too small                          |
| Class  | Error  |
| Device Behaviour   | Automatic error reset and switch back on   |
| <b>Additional Error Information (AMK Service)</b>                                    |  |
|  |  |
| Error Removal  | <ul style="list-style-type: none"> <li>Check inverter -U1, replace if necessary</li> </ul> |

### 1050 Phase error L1

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>There is an error in the AZ power feed because of a faulty connection or fuse defect</li> </ul> |   |
| <b>Device</b>  |   |
| <b>Description</b>   |   |
| <b>Class</b>   |   |
| <b>Drive Behaviour</b>   | Motor brake control becomes active immediately. The brake will close independent if the motor is stopped.   |
| <b>Device Behaviour</b>  | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>  |   |
|  |   |
| <b>Error removal</b>   | <ul style="list-style-type: none"> <li>Line connection L1, L2 or L3 at X01 not correct</li> <li>Connection L1.2, L2.2 or L3.2 at X06 or X26 not correct</li> <li>Check fuse F1, F2, F3 or F4, F5, F6</li> </ul> |

### 1051 Phase error L2

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>There is an error in the AZ power feed because of a faulty connection or fuse defect</li> </ul> |   |
| <b>Device</b>  |   |
| <b>Description</b>   |   |
| <b>Class</b>   |   |
| <b>Drive Behaviour</b>   | Motor brake control becomes active immediately. The brake will close independent if the motor is stopped.   |
| <b>Device Behaviour</b>  | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>  |   |
|  |   |
| <b>Error removal</b>   | <ul style="list-style-type: none"> <li>Line connection L1, L2 or L3 at X01 not correct</li> <li>Connection L1.2, L2.2 or L3.2 at X06 or X26 not correct</li> <li>Check fuse F1, F2, F3 or F4, F5, F6</li> </ul> |

### 1052 Phase error L3

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>There is an error in the AZ power feed because of a faulty connection or fuse defect</li> </ul> |   |
| <b>Device</b>  |   |
| <b>Description</b>   |   |
| <b>Class</b>   |   |
| <b>Drive Behaviour</b>   | Motor brake control becomes active immediately. The brake will close independent if the motor is stopped.   |
| <b>Device Behaviour</b>  | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>  |   |
|  |   |
| <b>Error removal</b>   | <ul style="list-style-type: none"> <li>Line connection L1, L2 or L3 at X01 not correct</li> <li>Connection L1.2, L2.2 or L3.2 at X06 or X26 not correct</li> <li>Check fuse F1, F2, F3 or F4, F5, F6</li> </ul> |

### 1053 Phase sequence L1/L2

|   |  |
|---|--|
| • Connections of the corresponding phases are confused at the terminals |  |
| <b>Device</b>   | <b>AZ</b>  |
| <b>Description</b>  |  |
| <b>Class</b>  |  |
| <b>Drive Behaviour</b>  |  |
| <b>Device Behaviour</b>   | System run-up aborted  |
| <b>Additional Error Information (AMK Service)</b>                       |  |
|   |  |
| <b>Error removal</b>  | <ul style="list-style-type: none"> <li>• E loop ES1-ES2 is open</li> <li>• Fuse F4, F5, F6 defective</li> <li>• Fuse F1, F2, F3 defective</li> <li>• No connection at X03, fan bus</li> <li>• Fuse F7, F8</li> </ul> |

### 1054 Phase sequence L1/L3

|   |  |
|---|--|
| • Connections of the corresponding phases are confused at the terminals |  |
| <b>Device</b>   | <b>AZ</b>  |
| <b>Description</b>  |  |
| <b>Class</b>  |  |
| <b>Drive Behaviour</b>  |  |
| <b>Device Behaviour</b>   | System run-up aborted  |
| <b>Additional Error Information (AMK Service)</b>                       |  |
|   |  |
| <b>Error removal</b>  | <ul style="list-style-type: none"> <li>• E loop ES1-ES2 is open</li> <li>• Fuse F4, F5, F6 defective</li> <li>• Fuse F1, F2, F3 defective</li> <li>• No connection at X03, fan bus</li> <li>• Fuse F7, F8</li> </ul> |

### 1055 Phase sequence L2/L3

|   |  |
|---|--|
| • Connections of the corresponding phases are confused at the terminals |  |
| <b>Device</b>   | <b>AZ</b>  |
| <b>Description</b>  |  |
| <b>Class</b>  |  |
| <b>Drive Behaviour</b>  |  |
| <b>Device Behaviour</b>   | System run-up aborted  |
| <b>Additional Error Information (AMK Service)</b>                       |  |
|   |  |
| <b>Error removal</b>  | <ul style="list-style-type: none"> <li>• E loop ES1-ES2 is open</li> <li>• Fuse F4, F5, F6 defective</li> <li>• Fuse F1, F2, F3 defective</li> <li>• No connection at X03, fan bus</li> <li>• Fuse F7, F8</li> </ul> |

### 1056 'Mains phase sequence L1, L2 , L3'

|   |  |
|---|--|
| <ul style="list-style-type: none"> <li>• Connections of the corresponding phases are confused at the terminals</li> </ul> |  |
| <b>Device</b>   | <b>AZ</b>  |
| <b>Description</b>  |  |
| <b>Class</b>  |  |
| <b>Drive Behaviour</b>  |  |
| <b>Device Behaviour</b>   | System run-up aborted  |
| <b>Additional Error Information (AMK Service)</b>   |  |
|   |  |
| <b>Error removal</b>  | <ul style="list-style-type: none"> <li>• E loop ES1-ES2 is open</li> <li>• Fuse F4, F5, F6 defective</li> <li>• Fuse F1, F2, F3 defective</li> <li>• No connection at X03, fan bus</li> <li>• Fuse F7, F8</li> </ul> |

|   |                       |
|---|-----------------------|
| <ul style="list-style-type: none"> <li>• Voltages in front and behind the main contactor are different</li> <li>• Phase is missing behind main contactor</li> </ul> |                       |
| <b>Device</b>   | <b>KE</b>             |
| <b>Description</b>  |                       |
| <b>Class</b>  |                       |
| <b>Drive Behaviour</b>  |                       |
| <b>Device Behaviour</b>   | System run-up aborted |
| <b>Additional Error Information (AMK Service)</b>   |                       |
|   |                       |
| <b>Error removal</b>  |                       |

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>• Fault main contactor inverter (n)</li> </ul> |   |
| <b>Device</b>   | <b>ZWR</b>  |
| <b>Description</b>  | Phase sequence at the terminals -U1.X01:L1.1/L2.1/L3.1 is faulty after main contactor ON  |
| <b>Class</b>  | Error   |
| <b>Device Behaviour</b>   | Automatic error reset and switch back on  |
| <b>Additional Error Information (AMK Service)</b>                                     |   |
|   |   |
| <b>Error Removal</b>  | <ul style="list-style-type: none"> <li>• Check main contactor -K2</li> <li>• Check mains filter -Y1</li> <li>• Check mains choke -L2</li> <li>• Check upstream mains choke -L1</li> <li>• Check wiring</li> </ul> |

### 1057 Fault +12 V

|  |                 |
|--|-----------------|
| <ul style="list-style-type: none"> <li>• Internal supply voltage +12 V is outside the permitted limit</li> </ul> |                 |
| <b>Device</b>  |                 |
| <b>Description</b>   |                 |
| <b>Class</b>   |                 |
| <b>Drive Behaviour</b>   | Drive runs down |
| <b>Device Behaviour</b>  |                 |
| <b>Additional Error Information (AMK Service)</b>  |                 |
|  |                 |
| <b>Error removal</b>   |                 |

**1058 Fault -12 V**

|  |                 |
|--|-----------------|
| <ul style="list-style-type: none"> <li>Internal supply voltage -12 V is outside the permitted limit</li> </ul> |                 |
| Device   |                 |
| Description  |                 |
| Class  |                 |
| Drive Behaviour  | Drive runs down |
| Device Behaviour   |                 |
| <b>Additional Error Information (AMK Service)</b>  |                 |
|  |                 |
| Error removal  |                 |

**1059 'DC bus overvoltage'**

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>DC bus exceeds permissible maximum value. Regenerative overload</li> <li>Generatoric overload</li> </ul> |   |
| Device  |   |
| Description   |   |
| Class   | Error   |
| Drive Behaviour   | Drive runs down   |
| Device Behaviour  |   |
| <b>Additional Error Information (AMK Service)</b>   |   |
|   |   |
| Error removal   | <ul style="list-style-type: none"> <li>Check motor parameterization</li> <li>Check connection at external braking resistor</li> </ul> |

|   |  |
|---|--|
| Device  | <b>KE</b>  |
| Description                                       |  |
| Class   | Error  |
| Drive Behaviour                                   | Drive runs down  |
| Device Behaviour                                  |  |
| <b>Additional Error Information (AMK Service)</b> |  |
|   | BZO (HW)<br>from version 206 2004/37<br>recognition by IUZ |
| Error removal                                     |  |

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>DC bus overvoltage inverter (n)</li> </ul> |   |
| Device  | <b>ZWR</b>  |
| Description   | UZ > 900 V  |
| Class   | Error   |
| Device Behaviour  | Automatic error reset and switch back on                                    |
| <b>Additional Error Information (AMK Service)</b>                                 |   |
|   |   |
| Error Removal   | <ul style="list-style-type: none"> <li>Check voltage of PV field</li> </ul> |



## 1060 Regeneration fault

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>Multiple inadmissibly high currents in the regeneration branch</li> </ul> |   |
| Device   |   |
| Description  |   |
| Class  | Error   |
| Drive Behaviour  |   |
| Device Behaviour   |   |
| <b>Additional Error Information (AMK Service)</b>  |   |
|  |   |
| Error removal  | <ul style="list-style-type: none"> <li>Loose power terminals</li> <li>Power defect, check line voltage system</li> <li>Read out additional info with F2 key</li> <li>The diagnostic message can only be reset by power supply OFF/ON</li> </ul> |

|   |   |   |   |
|---|---|---|---|
| Device  | KE  |   |   |
| Description                                       |   |   |   |
| Class   | Error   |   |   |
| Drive Behaviour                                   |   |   |   |
| Device Behaviour                                  |   |   |   |
| <b>Additional Error Information (AMK Service)</b> |   |   |   |
|   | Info 1  | 1 | Short-circuit of the mains inverter BPH (HW)<br>Interrupt (< 10 $\mu$ s) regeneration is stopped and after min. 10 ms new start attempted |
|   |   | 3 | Wrong state of switching pattern of IGBT (SW)   |
|   |   | 5 | Switching pattern of IGBT longer than 8 ms (SW)<br>Regeneration is stopped and after min. 10 ms new start attempted                       |
|   |   | 9 | New start of regeneration impossible<br>Error message after 3 s   |
| Error removal                                     | <ul style="list-style-type: none"> <li>Error can be cleared once</li> </ul> |   |   |

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>Fault line regeneration inverter (n)</li> </ul> |   |
| Device   | ZWR   |
| Description  | Inadmissible high current in the regeneration path  |
| Class  | Error   |
| Device Behaviour   | Automatic error reset and switch back on  |
| <b>Additional Error Information (AMK Service)</b>                                      |   |
|  |   |
| Error Removal  | <ul style="list-style-type: none"> <li>Check inverter -U1</li> <li>Retighten terminal clamps -U1.X01:L1.1/L2.1/L3.1 if necessary</li> </ul> |

## 1061 Braking transistor fault

|   |  |
|---|--|
| <ul style="list-style-type: none"> <li>Inadmissibly high current in the braking transistor</li> </ul> |  |
| Device  |  |
| Description   |  |
| Class   | Warning  |
| Drive Behaviour   |  |
| Device Behaviour  |  |
| <b>Additional Error Information (AMK Service)</b>   |  |
|   |  |
| Error removal   | <ul style="list-style-type: none"> <li>Wrong braking resistor value</li> </ul> |
| Device  | KE   |
| Description   |  |

|   |   |   |   |
|---|---|---|---|
| <b>Class</b>                                      | Error   |   |   |
| <b>Drive Behaviour</b>                            |   |   |   |
| <b>Device Behaviour</b>                           |   |   |   |
| <b>Additional Error Information (AMK Service)</b> |   |   |   |
|   | Info 1  | 1 | Reset by RBR pulse not successful (system run-up) |
|   |   | 2 | Short circuit braking chopper, BBR (HW) (62.5 µs) |
|   |   | 3 | Braking transistor does not switch off (62.5 µs)  |
| <b>Error removal</b>                              | <ul style="list-style-type: none"> <li>Error can be cleared once</li> </ul> |   |   |

## 1062 System diagnostics

|   |                       |  |   |
|---|-----------------------|--|---|
| <b>Device</b>                                     |                       |  |   |
| <b>Description</b>                                |                       |  |   |
| <b>Class</b>                                      |                       |  |   |
| <b>Drive Behaviour</b>                            | Controlled braking    |  |   |
| <b>Device Behaviour</b>                           | System run-up aborted |  |   |
| <b>Additional Error Information (AMK Service)</b> |                       |  |   |
|   |                       |  | Consequential error, DRV -> GRF at BAV faulty |
| <b>Error removal</b>                              |                       |  |   |

## 1063 Encoder Signal

|  |  |    |   |
|--|--|----|---|
| <ul style="list-style-type: none"> <li>Encoder monitoring has responded</li> </ul> |  |    |   |
| <b>Device</b>  |  |    |   |
| <b>Description</b>   | <ul style="list-style-type: none"> <li>The signals of the connected encoder are not correct</li> <li>Power supply of the motor will be disconnected</li> </ul> |    |   |
| <b>Class</b>   |  |    |   |
| <b>Drive Behaviour</b>   |  |    |   |
| <b>Device Behaviour</b>  | System run-up aborted  |    |   |
| <b>Additional Error Information (AMK Service)</b>                                  |  |    |   |
|  |  |    | Consequential error, Err Sgrf, system graph   |
|  | Info 1   | 8  | IDT-B-encoder - Timeout for the command "Enter deep low power mode" Faulty activating "sleep mode"                |
| <b>Error removal</b>   |  |    |   |
| <b>Device</b>  | KW-R03<br>IDT4   |    |   |
| <b>Description</b>   |  |    |   |
| <b>Class</b>   |  |    |   |
| <b>Drive Behaviour</b>   |  |    |   |
| <b>Device Behaviour</b>  | System run-up aborted  |    |   |
| <b>Additional Error Information (AMK Service)</b>                                  |  |    |   |
|  | Info 1   | 12 | Info 12: Timeout SGRF → ACC-BUS can not be switched to "operational mode" (Master not available or BUS disturbed) |
| <b>Error removal</b>   |  |    |   |
| <b>Device</b>  | KW-R05, -R06, -R07<br>IDT5<br>KE10-VARAN   |    |   |
| <b>Description</b>   |  |    |   |
| <b>Class</b>   |  |    |   |
| <b>Drive Behaviour</b>   |  |    |   |
| <b>Device Behaviour</b>  | System run-up aborted  |    |   |
| <b>Additional Error Information (AMK Service)</b>                                  |  |    |   |
|  | Info 1   | 13 | IDT-C-encoder cannot be initialised   |
| <b>Error removal</b>   |  |    |   |

|   |                       |    |  |
|---|-----------------------|----|--|
| <b>Device</b>                                     | <b>KE</b>             |    |  |
| <b>Description</b>                                |                       |    |  |
| <b>Class</b>                                      |                       |    |  |
| <b>Drive Behaviour</b>                            |                       |    |  |
| <b>Device Behaviour</b>                           | System run-up aborted |    |  |
| <b>Additional Error Information (AMK Service)</b> |                       |    |  |
|   | Info 1                | 0  | Wrong state S-graph  |
|   |                       | 1  | Timeout 2 s checksum   |
|   |                       | 2  | Wrong state checksum   |
|   |                       | 3  | Timeout 2 s wait   |
|   |                       | 4  | Wrong state wait   |
|   |                       | 5  | Timeout 2 s Set_Bus  |
|   |                       | 6  | Timeout 2 s SetIDParam   |
|   |                       | 8  | Timeout 2 s SetSEEP1Param  |
|   |                       | 9  | Timeout 2 s SetCountParam  |
|   |                       | 17 | Error in diagnostics (subsequent error)  |
|   |                       | 18 | No acknowledgement from diagnosis 1 ms task and 10 ms task after 2 s (timeout) |
| <b>Error removal</b>                              |                       |    |  |

### 1064 System diagnostics

|   |  |  |  |
|---|--|--|--|
| <b>Device</b>                                     |  |  |  |
| <b>Description</b>                                |  |  |  |
| <b>Class</b>                                      |  |  |  |
| <b>Drive Behaviour</b>                            | Controlled Braking   |  |  |
| <b>Device Behaviour</b>                           | System run-up aborted  |  |  |
| <b>Additional Error Information (AMK Service)</b> |  |  |  |
|   |  |  | Consequential error, Err Rgrf, controller enable graph |
| <b>Error removal</b>                              | <ul style="list-style-type: none"> <li>In KW modules with internal overvoltage protection and brake device test the wiring between X133 and X19</li> </ul> |  |  |

### 1065 System diagnostics

|  |  |  |  |
|--|--|--|--|
| <ul style="list-style-type: none"> <li>QUE missing on RF activation</li> </ul> |  |  |  |
| <b>Device</b>  |  |  |  |
| <b>Description</b>   |  |  |  |
| <b>Class</b>   |  |  |  |
| <b>Drive Behaviour</b>   | Motor brake control becomes active immediately. The brake will close independent if the motor is stopped   |  |  |
| <b>Device Behaviour</b>  | System run-up aborted  |  |  |
| <b>Additional Error Information (AMK Service)</b>                              |  |  |  |
|  |  |  |  |
| <b>Error removal</b>   | <ul style="list-style-type: none"> <li>Check main contactor activation</li> <li>Recheck parameter:                             <ul style="list-style-type: none"> <li>ID32837 DC-bus monitoring</li> </ul> </li> </ul> |  |  |

## 1066 System diagnostics

|   |  |   |   |
|---|--|---|---|
| <b>Device</b>                                     | <b>KU, KW, RM</b>  |   |   |
|   | <ul style="list-style-type: none"> <li>Motor energization not possible</li> </ul>      |   |   |
| <b>Device</b>                                     | <b>AZ, KE</b>  |   |   |
|   | <ul style="list-style-type: none"> <li>DC bus undervoltage</li> </ul>                  |   |   |
| <b>Description</b>                                |  |   |   |
| <b>Class</b>                                      |  |   |   |
| <b>Drive Behaviour</b>                            | Controlled braking   |   |   |
| <b>Device Behaviour</b>                           | System run-up aborted  |   |   |
| <b>Additional Error Information (AMK Service)</b> |  |   |   |
|   |  |   | Consequential error, DRV -> AW module faulty, BES missing   |
| <b>Error removal</b>                              |  |   |   |
| <b>Device</b>                                     | <b>KE</b>  |   |   |
| <b>Description</b>                                |  |   |   |
| <b>Class</b>                                      |  |   |   |
| <b>Drive Behaviour</b>                            |  |   |   |
| <b>Device Behaviour</b>                           | System run-up aborted  |   |   |
| <b>Additional Error Information (AMK Service)</b> |  |   |   |
|   | Info 1   | 0 | DC bus voltage about 13 % of max. mains voltage (62.5 $\mu$ s)<br>(Function active up to SW KER3_205_0406_200417)                       |
|   |  | 1 | Comparison between DC bus voltage and ID32837, 'DC bus voltage monitoring'<br>Probe value of DC bus voltage is filtered by PT1 (100 ms) |
| <b>Error removal</b>                              | Info1 = 0: Error can be cleared once   |   |   |
|   | <ul style="list-style-type: none"> <li>DC bus undervoltage inverter (n)</li> </ul>     |   |   |
| <b>Device</b>                                     | <b>ZWR</b>   |   |   |
| <b>Description</b>                                | DC bus voltage about 13 % of max. mains voltage  |   |   |
| <b>Class</b>                                      | Warning  |   |   |
| <b>Device Behaviour</b>                           | Automatic error reset and switch back on   |   |   |
| <b>Additional Error Information (AMK Service)</b> |  |   |   |
|   |  |   |   |
| <b>Error Removal</b>                              | <ul style="list-style-type: none"> <li>Check DC bus</li> <li>Check PV field</li> </ul> |   |   |

## 1067 System diagnostics

|   |   |  |   |
|---|---|--|---|
|   | <ul style="list-style-type: none"> <li>Fault DC bus</li> </ul>  |  |   |
| <b>Device</b>                                     | <b>KU</b>   |  |   |
|   | <ul style="list-style-type: none"> <li>BES missing in KU 14</li> <li>External DC bus choke missing</li> </ul> |  |   |
| <b>Description</b>                                |   |  |   |
| <b>Class</b>                                      |   |  |   |
| <b>Drive Behaviour</b>                            | Controlled braking  |  |   |
| <b>Device Behaviour</b>                           | System run-up aborted   |  |   |
| <b>Additional Error Information (AMK Service)</b> |   |  |   |
|   |   |  | Consequential error, DRV -> AW module faulty, BES missing |
| <b>Error removal</b>                              |   |  |   |

### 1068 System diagnostics

|   |                       |  |                                       |
|---|-----------------------|--|---------------------------------------|
|   |                       |  |                                       |
| <b>Device</b>                                     |                       |  |                                       |
| <b>Description</b>                                |                       |  |                                       |
| <b>Class</b>                                      |                       |  |                                       |
| <b>Drive Behaviour</b>                            | Controlled braking    |  |                                       |
| <b>Device Behaviour</b>                           | System run-up aborted |  |                                       |
| <b>Additional Error Information (AMK Service)</b> |                       |  |                                       |
|   |                       |  | Consequential error, Timeout Err Bgrf |
| <b>Error removal</b>                              |                       |  |                                       |

|   |                       |   |                     |
|---|-----------------------|---|---------------------|
| <b>Device</b>                                     | <b>KE</b>             |   |                     |
| <b>Description</b>                                |                       |   |                     |
| <b>Class</b>                                      |                       |   |                     |
| <b>Drive Behaviour</b>                            | Controlled braking    |   |                     |
| <b>Device Behaviour</b>                           | System run-up aborted |   |                     |
| <b>Additional Error Information (AMK Service)</b> |                       |   |                     |
|   | Info 1                | 0 | Wrong state U-graph |
| <b>Error removal</b>                              |                       |   |                     |

### 1069 System diagnostics

|   |                       |  |                                       |
|---|-----------------------|--|---------------------------------------|
|   |                       |  |                                       |
| <b>Device</b>                                     |                       |  |                                       |
| <b>Description</b>                                |                       |  |                                       |
| <b>Class</b>                                      |                       |  |                                       |
| <b>Drive Behaviour</b>                            | Controlled braking    |  |                                       |
| <b>Device Behaviour</b>                           | System run-up aborted |  |                                       |
| <b>Additional Error Information (AMK Service)</b> |                       |  |                                       |
|   |                       |  | Consequential error, Timeout-Err Rgrf |
| <b>Error removal</b>                              |                       |  |                                       |

### 1070 System diagnostics

|  |                       |  |  |
|--|-----------------------|--|--|
| <ul style="list-style-type: none"> <li>• FL not possible (timeout 20 s)</li> </ul> |                       |  |  |
| <b>Device</b>  |                       |  |  |
| <b>Description</b>   |                       |  |  |
| <b>Class</b>   |                       |  |  |
| <b>Drive Behaviour</b>   | Controlled braking    |  |  |
| <b>Device Behaviour</b>  | System run-up aborted |  |  |
| <b>Additional Error Information (AMK Service)</b>                                  |                       |  |  |
|  |                       |  |  |
| <b>Error removal</b>   |                       |  |  |

## 1071 System diagnostics

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>• Brake acknowledgement does not correspond to the expected value</li> <li>• Plausibility monitoring ID 32773. 13=1 is active</li> </ul> |   |
| <b>Device</b>   |   |
| <b>Description</b>  |   |
| <b>Class</b>  |   |
| <b>Drive Behaviour</b>  | Controlled braking  |
| <b>Device Behaviour</b>   |   |
| <b>Additional Error Information (AMK Service)</b>   |   |
|   | Special lift function "ID32955 Delay time"  |
| <b>Error removal</b>  | <ul style="list-style-type: none"> <li>• Wire break Inverter / Brake</li> <li>• Brake defect</li> <li>• Recheck parameters: <ul style="list-style-type: none"> <li>• ID206 Drive on delay time</li> <li>• ID207 Drive off delay time</li> </ul> </li> </ul> |

## 1072 System diagnostics

|   |   |
|---|---|
|   |   |
| <b>Device</b>                                     |   |
| <b>Description</b>                                |   |
| <b>Class</b>                                      |   |
| <b>Drive Behaviour</b>                            | Controlled braking                                      |
| <b>Device Behaviour</b>                           |   |
| <b>Additional Error Information (AMK Service)</b> |   |
|   | Contactors shutdown monitoring in special lift function |
| <b>Error removal</b>                              |   |

## 1073 Cooling Air Temperature Warning

|  |  |
|--|--|
| <ul style="list-style-type: none"> <li>• The air inlet temperature is more than 45 °C</li> </ul> |  |
| <b>Device</b>  | <b>AZ</b>  |
| <b>Description</b>   | The drive withdraws SBM and switches off after 4 s and shows message "1041 External Line Over Temperature" |
| <b>Class</b>   | Warning message, reaction of the drive after 4 seconds   |
| <b>Drive Behaviour</b>   |  |
| <b>Device Behaviour</b>  |  |
| <b>Additional Error Information (AMK Service)</b>  |  |
|  |  |
| <b>Error removal</b>   |  |

## 1074 External line component temperature warning

|   |  |
|---|--|
| <ul style="list-style-type: none"> <li>• The temperature acquisition at the braking resistor has responded (PTC resistor &gt; 600 ohms).</li> </ul> |  |
| <b>Device</b>   |  |
| <b>Description</b>  | The system is transferred after 4 s into error "1041 External Line Over Temperature" after the end of the warning time |
| <b>Class</b>  | Warning message, reaction of the drive after 4 seconds   |
| <b>Drive Behaviour</b>  |  |
| <b>Device Behaviour</b>   |  |
| <b>Additional Error Information (AMK Service)</b>   |  |
|   |  |
| <b>Error removal</b>  |  |
| <b>Device</b>   | <b>KE</b>  |



|   |        |   |                              |
|---|--------|---|------------------------------|
| <b>Description</b>                                |        |   |                              |
| <b>Class</b>                                      |        |   |                              |
| <b>Drive Behaviour</b>                            |        |   |                              |
| <b>Device Behaviour</b>                           |        |   |                              |
| <b>Additional Error Information (AMK Service)</b> |        |   |                              |
|   | Info 1 | 0 | ITE (HW), ITE intern > 1.7 V |
| <b>Error removal</b>                              |        |   |                              |

### 1075 Power supply unit temperature warning

|  |  |  |  |
|--|--|--|--|
| <ul style="list-style-type: none"> <li>AZ switching power supply unit thermally overloaded (<math>T_{\text{cooling circuit}} &gt; 70\text{ °C}</math>)</li> <li>Fan on the AZ module does not run</li> </ul> |  |  |  |
| <b>Device</b>  |  |  |  |
| <b>Description</b>   |  |  |  |
| <b>Class</b>   | Warning message, reaction of the drive after 4 seconds |  |  |
| <b>Drive Behaviour</b>   |  |  |  |
| <b>Device Behaviour</b>  |  |  |  |
| <b>Additional Error Information (AMK Service)</b>  |  |  |  |
|  |  |  |  |
| <b>Error removal</b>   |  |  |  |

### 1076 Feed / Regeneration Temperature Warning

|   |  |  |  |
|---|--|--|--|
| <ul style="list-style-type: none"> <li>AZ module thermal overload (<math>T_{\text{cooling circuit}} &gt; 70\text{ °C}</math>)</li> <li>Fan on the AZ module does not run</li> </ul> |  |  |  |
| <b>Device</b>   |  |  |  |
| <b>Description</b>  |  |  |  |
| <b>Class</b>  | Warning message, reaction of the drive after 4 seconds |  |  |
| <b>Drive Behaviour</b>  |  |  |  |
| <b>Device Behaviour</b>   |  |  |  |
| <b>Additional Error Information (AMK Service)</b>   |  |  |  |
|   |  |  |  |
| <b>Error removal</b>  |  |  |  |

### 1077 Line Voltage Warning

|   |  |  |  |
|---|--|--|--|
| <b>Device</b>                                     |  |  |  |
| <b>Description</b>                                | The system is transferred after 4 s into error "1043 Line Voltage Error" after the end of the warning time |  |  |
| <b>Class</b>                                      | Warning message, reaction of the drive after 4 seconds   |  |  |
| <b>Drive Behaviour</b>                            |  |  |  |
| <b>Device Behaviour</b>                           | System run-up aborted  |  |  |
| <b>Additional Error Information (AMK Service)</b> |  |  |  |
|   |  |  |  |
| <b>Error removal</b>                              |  |  |  |

## 1078 Line undervoltage warning

|   |  |
|---|--|
| <b>Device</b>                                     |  |
| <b>Description</b>                                | The system is transferred after 4 s into error "1043 Line Voltage Error" after the end of the warning time |
| <b>Class</b>                                      | Warning message, reaction of the drive after 4 seconds   |
| <b>Drive Behaviour</b>                            |  |
| <b>Device Behaviour</b>                           | SBM is withdrawn   |
| <b>Additional Error Information (AMK Service)</b> |  |
|   |  |
| <b>Error removal</b>                              |  |

## 1079 System diagnostics

|  |                    |
|--|--------------------|
| <ul style="list-style-type: none"> <li>All square wave encoder breakage messages are displayed only with active encoder breaking monitoring</li> </ul>   |                    |
| <b>Device</b>  | <b>AZ</b>          |
| <ul style="list-style-type: none"> <li>"ID32773 Service bits": bit 0</li> <li>"ID32901 Global Service bits": bit 4</li> </ul>  |                    |
| <b>Device</b>  | <b>KU, KW</b>      |
| <ul style="list-style-type: none"> <li>"ID32773 Service bits": bit 0 and bit 12</li> <li>The message is displayed only in an operation mode with activated external source of the actual position value ("ID32800 AMK main operating mode": bit 14 / 15 = 0!)</li> </ul> |                    |
| <b>Description</b>   |                    |
| <b>Class</b>   |                    |
| <b>Drive Behaviour</b>   | Controlled braking |
| <b>Device Behaviour</b>  |                    |
| <b>Additional Error Information (AMK Service)</b>  |                    |
|  |                    |
| <b>Error removal</b>   |                    |

## 1080 OPTION 1 cf. description

|  |                    |
|--|--------------------|
| <ul style="list-style-type: none"> <li>Encoder line break analysis on option card, input 1 slot 1</li> </ul> |                    |
| <b>Device</b>  |                    |
| <b>Description</b>   |                    |
| <b>Class</b>   |                    |
| <b>Drive Behaviour</b>   | Controlled braking |
| <b>Device Behaviour</b>  |                    |
| <b>Additional Error Information (AMK Service)</b>  |                    |
|  |                    |
| <b>Error removal</b>   |                    |

## 1081 OPTION 1 cf. description

|  |                    |
|--|--------------------|
| <ul style="list-style-type: none"> <li>Encoder line break analysis on option card, input 2 slot 1</li> </ul> |                    |
| <b>Device</b>  |                    |
| <b>Description</b>   |                    |
| <b>Class</b>   |                    |
| <b>Drive Behaviour</b>   | Controlled braking |
| <b>Device Behaviour</b>  |                    |
| <b>Additional Error Information (AMK Service)</b>  |                    |
|  |                    |
| <b>Error removal</b>   |                    |

**1082 OPTION 1 cf. description**

|  |                    |
|--|--------------------|
| • Encoder line break analysis on option card, input 3 slot 1 |                    |
| <b>Device</b>  |                    |
| <b>Description</b>   |                    |
| <b>Class</b>   |                    |
| <b>Drive Behaviour</b>                                       | Controlled braking |
| <b>Device Behaviour</b>                                      |                    |
| <b>Additional Error Information (AMK Service)</b>            |                    |
|  |                    |
| <b>Error removal</b>   |                    |

**1083 OPTION 1 cf. description**

|  |                    |
|--|--------------------|
| • Encoder line break analysis on option card, input 4 slot 1 |                    |
| <b>Device</b>  |                    |
| <b>Description</b>   |                    |
| <b>Class</b>   |                    |
| <b>Drive Behaviour</b>                                       | Controlled braking |
| <b>Device Behaviour</b>                                      |                    |
| <b>Additional Error Information (AMK Service)</b>            |                    |
|  |                    |
| <b>Error removal</b>   |                    |

**1084 OPTION 2 cf. description**

|  |                    |
|--|--------------------|
| • Encoder line break analysis on option card, input 1 slot 2 |                    |
| <b>Device</b>  |                    |
| <b>Description</b>   |                    |
| <b>Class</b>   |                    |
| <b>Drive Behaviour</b>                                       | Controlled braking |
| <b>Device Behaviour</b>                                      |                    |
| <b>Additional Error Information (AMK Service)</b>            |                    |
|  |                    |
| <b>Error removal</b>   |                    |

**1085 OPTION 2 cf. description**

|  |                    |
|--|--------------------|
| • Encoder line break analysis on option card, input 2 slot 2 |                    |
| <b>Device</b>  |                    |
| <b>Description</b>   |                    |
| <b>Class</b>   |                    |
| <b>Drive Behaviour</b>                                       | Controlled braking |
| <b>Device Behaviour</b>                                      |                    |
| <b>Additional Error Information (AMK Service)</b>            |                    |
|  |                    |
| <b>Error removal</b>   |                    |

**1086 OPTION 2 cf. description**

|  |                    |  |  |
|--|--------------------|--|--|
| • Encoder line break analysis on option card, input 3 slot 2 |                    |  |  |
| <b>Device</b>  |                    |  |  |
| <b>Description</b>   |                    |  |  |
| <b>Class</b>   |                    |  |  |
| <b>Drive Behaviour</b>                                       | Controlled braking |  |  |
| <b>Device Behaviour</b>                                      |                    |  |  |
| <b>Additional Error Information (AMK Service)</b>            |                    |  |  |
|  |                    |  |  |
| <b>Error removal</b>   |                    |  |  |

**1087 OPTION 2 cf. description**

|  |                    |  |  |
|--|--------------------|--|--|
| • Encoder line break analysis on option card, input 4 slot 2 |                    |  |  |
| <b>Device</b>  |                    |  |  |
| <b>Description</b>   |                    |  |  |
| <b>Class</b>   |                    |  |  |
| <b>Drive Behaviour</b>                                       | Controlled braking |  |  |
| <b>Device Behaviour</b>                                      |                    |  |  |
| <b>Additional Error Information (AMK Service)</b>            |                    |  |  |
|  |                    |  |  |
| <b>Error removal</b>   |                    |  |  |

**1088 OPTION 3 cf. description**

|  |                    |  |  |
|--|--------------------|--|--|
| • Encoder line break analysis on option card, input 1 slot 3 |                    |  |  |
| <b>Device</b>  |                    |  |  |
| <b>Description</b>   |                    |  |  |
| <b>Class</b>   |                    |  |  |
| <b>Drive Behaviour</b>                                       | Controlled braking |  |  |
| <b>Device Behaviour</b>                                      |                    |  |  |
| <b>Additional Error Information (AMK Service)</b>            |                    |  |  |
|  |                    |  |  |
| <b>Error removal</b>   |                    |  |  |

**1089 OPTION 3 cf. description**

|  |                    |  |  |
|--|--------------------|--|--|
| • Encoder line break analysis on option card, input 2 slot 3 |                    |  |  |
| <b>Device</b>  |                    |  |  |
| <b>Description</b>   |                    |  |  |
| <b>Class</b>   |                    |  |  |
| <b>Drive Behaviour</b>                                       | Controlled braking |  |  |
| <b>Device Behaviour</b>                                      |                    |  |  |
| <b>Additional Error Information (AMK Service)</b>            |                    |  |  |
|  |                    |  |  |
| <b>Error removal</b>   |                    |  |  |

**1090 OPTION 3 cf. description**

|  |                    |  |  |
|--|--------------------|--|--|
| • Encoder line break analysis on option card, input 3 slot 3 |                    |  |  |
| <b>Device</b>  |                    |  |  |
| <b>Description</b>   |                    |  |  |
| <b>Class</b>   |                    |  |  |
| <b>Drive Behaviour</b>                                       | Controlled braking |  |  |

|   |  |  |  |
|---|--|--|--|
| <b>Device Behaviour</b>                           |  |  |  |
| <b>Additional Error Information (AMK Service)</b> |  |  |  |
|   |  |  |  |
| <b>Error removal</b>                              |  |  |  |

### 1091 OPTION 3 cf. description

|  |                    |  |  |
|--|--------------------|--|--|
| <ul style="list-style-type: none"> <li>Encoder line break analysis on option card, input 4 slot 3</li> </ul> |                    |  |  |
| <b>Device</b>  |                    |  |  |
| <b>Description</b>   |                    |  |  |
| <b>Class</b>   |                    |  |  |
| <b>Drive Behaviour</b>   | Controlled braking |  |  |
| <b>Device Behaviour</b>  |                    |  |  |
| <b>Additional Error Information (AMK Service)</b>  |                    |  |  |
|  |                    |  |  |
| <b>Error removal</b>   |                    |  |  |

### 1092 OPTION 4 cf. description

|  |                    |  |  |
|--|--------------------|--|--|
| <ul style="list-style-type: none"> <li>Encoder line break analysis on option card, input 1 slot 4</li> </ul> |                    |  |  |
| <b>Device</b>  |                    |  |  |
| <b>Description</b>   |                    |  |  |
| <b>Class</b>   |                    |  |  |
| <b>Drive Behaviour</b>   | Controlled braking |  |  |
| <b>Device Behaviour</b>  |                    |  |  |
| <b>Additional Error Information (AMK Service)</b>  |                    |  |  |
|  |                    |  |  |
| <b>Error removal</b>   |                    |  |  |

### 1093 OPTION 4 cf. description

|  |                    |  |  |
|--|--------------------|--|--|
| <ul style="list-style-type: none"> <li>Encoder line break analysis on option card, input 2 slot 4</li> </ul> |                    |  |  |
| <b>Device</b>  |                    |  |  |
| <b>Description</b>   |                    |  |  |
| <b>Class</b>   |                    |  |  |
| <b>Drive Behaviour</b>   | Controlled braking |  |  |
| <b>Device Behaviour</b>  |                    |  |  |
| <b>Additional Error Information (AMK Service)</b>  |                    |  |  |
|  |                    |  |  |
| <b>Error removal</b>   |                    |  |  |

### 1094 OPTION 4 cf. description

|  |                    |  |  |
|--|--------------------|--|--|
| <ul style="list-style-type: none"> <li>Encoder line break analysis on option card, input 3 slot 4</li> </ul> |                    |  |  |
| <b>Device</b>  |                    |  |  |
| <b>Description</b>   |                    |  |  |
| <b>Class</b>   |                    |  |  |
| <b>Drive Behaviour</b>   | Controlled braking |  |  |
| <b>Device Behaviour</b>  |                    |  |  |
| <b>Additional Error Information (AMK Service)</b>  |                    |  |  |
|  |                    |  |  |
| <b>Error removal</b>   |                    |  |  |

**1095 OPTION 4 cf. description**

|  |                    |
|--|--------------------|
| <ul style="list-style-type: none"> <li>Encoder line break analysis on option card, input 4 slot 4</li> </ul> |                    |
| <b>Device</b>  |                    |
| <b>Description</b>   |                    |
| <b>Class</b>   |                    |
| <b>Drive Behaviour</b>   | Controlled braking |
| <b>Device Behaviour</b>  |                    |
| <b>Additional Error Information (AMK Service)</b>  |                    |
|  |                    |
| <b>Error removal</b>   |                    |

**1096 OPTION 1 cf description**

|   |                    |
|---|--------------------|
| <ul style="list-style-type: none"> <li>Short-circuit/overload of the outputs option card, slot 1 (e.g. AZ-EA8 or AZ-EA24)</li> <li>Watchdog option error</li> </ul> |                    |
| <b>Device</b>   |                    |
| <b>Description</b>  |                    |
| <b>Class</b>  |                    |
| <b>Drive Behaviour</b>  | Controlled braking |
| <b>Device Behaviour</b>   |                    |
| <b>Additional Error Information (AMK Service)</b>   |                    |
|   |                    |
| <b>Error removal</b>  |                    |

**1097 OPTION 2 cf. description**

|   |                    |
|---|--------------------|
| <ul style="list-style-type: none"> <li>Short-circuit / overload of the outputs option card, slot 2 (e.g. AZ-EA8 or AZ-EA24)</li> <li>Active option card error (HS), see ID 32901</li> </ul> |                    |
| <b>Device</b>   |                    |
| <b>Description</b>  |                    |
| <b>Class</b>  |                    |
| <b>Drive Behaviour</b>  | Controlled braking |
| <b>Device Behaviour</b>   |                    |
| <b>Additional Error Information (AMK Service)</b>   |                    |
|   |                    |
| <b>Error removal</b>  |                    |

**1098 OPTION 3 cf. description**

|   |                    |
|---|--------------------|
| <ul style="list-style-type: none"> <li>Short-circuit/overload of the outputs option card, slot 3 (e.g. AZ-EA8 or AZ-EA24)</li> <li>Active option card error (HS), see ID 32901</li> </ul> |                    |
| <b>Device</b>   |                    |
| <b>Description</b>  |                    |
| <b>Class</b>  |                    |
| <b>Drive Behaviour</b>  | Controlled braking |
| <b>Device Behaviour</b>   |                    |
| <b>Additional Error Information (AMK Service)</b>   |                    |
|   |                    |
| <b>Error removal</b>  |                    |



### 1099 OPTION 4 cf. description

|   |                    |  |  |
|---|--------------------|--|--|
| <ul style="list-style-type: none"> <li>Short-circuit/overload of the outputs option card, slot 4 (e.g. AZ-EA8 or AZ-EA24)</li> <li>Active option card error (HS), see ID 32901</li> </ul> |                    |  |  |
| <b>Device</b>   |                    |  |  |
| <b>Description</b>  |                    |  |  |
| <b>Class</b>  |                    |  |  |
| <b>Drive Behaviour</b>  | Controlled braking |  |  |
| <b>Device Behaviour</b>   |                    |  |  |
| <b>Additional Error Information (AMK Service)</b>   |                    |  |  |
|   |                    |  |  |
| <b>Error removal</b>  |                    |  |  |

### 1100 System diagnostics

|  |                              |  |  |
|--|------------------------------|--|--|
| <ul style="list-style-type: none"> <li>Short-circuit / overload digital outputs</li> </ul> |                              |  |  |
| <b>Device</b>  | iX, iC, iDT5, iDP7           |  |  |
| <b>Description</b>   |                              |  |  |
| <b>Class</b>   | Error                        |  |  |
| <b>Drive Behaviour</b>   | Drive runs down              |  |  |
| <b>Device Behaviour</b>  |                              |  |  |
| <b>Error removal</b>   | Fix short-circuit / overload |  |  |

### 1101 'Logic voltage error'

|   |                    |   |                                  |
|---|--------------------|---|----------------------------------|
| <ul style="list-style-type: none"> <li>Internal supply voltage +/-12 V is outside the permissible limit</li> <li>Undervoltage of the 24 V power supply (&lt; 20 V)</li> </ul> |                    |   |                                  |
| <b>Device</b>   |                    |   |                                  |
| <b>Description</b>  |                    |   |                                  |
| <b>Class</b>  | Warning            |   |                                  |
| <b>Drive Behaviour</b>  | Controlled braking |   |                                  |
| <b>Device Behaviour</b>   |                    |   |                                  |
| <b>Additional Error Information (AMK Service)</b>   |                    |   |                                  |
|   |                    |   |                                  |
| <b>Error removal</b>  |                    |   |                                  |
| <b>Device</b>   | <b>KE</b>          |   |                                  |
| <b>Description</b>  |                    |   |                                  |
| <b>Class</b>  | Warning            |   |                                  |
| <b>Drive Behaviour</b>  | Controlled braking |   |                                  |
| <b>Device Behaviour</b>   |                    |   |                                  |
| <b>Additional Error Information (AMK Service)</b>   |                    |   |                                  |
|   | Info 1             | 0 | Intern or extern (system run-up) |
|   |                    | 1 | Extern +24 V, BNS (HW) (62.5 µs) |
|   |                    | 2 | Intern +12 V, BVS (HW) (10 ms)   |
| <b>Error removal</b>  |                    |   |                                  |

|  |  |
|--|--|
| <ul style="list-style-type: none"> <li>Fault 24 VDC supply inverter (n)</li> </ul> |  |
| <b>Device</b>  | ZWR  |
| <b>Description</b>   | 24 VDC supply of inverter (-U1.X08:1/2) < 20 V   |
| <b>Class</b>   | Error  |
| <b>Device Behaviour</b>  | Automatic error reset and switch back on   |
| <b>Additional Error Information (AMK Service)</b>                                  |  |
|  |  |
| <b>Error Removal</b>   | <ul style="list-style-type: none"> <li>Check 24 VDC supply -G1</li> <li>Check fuse -F12</li> <li>Check wiring</li> </ul> |

### 1102 Line voltage limit

|   |                    |
|---|--------------------|
| <ul style="list-style-type: none"> <li>Line overvoltage 460 V + 15% or line undervoltage 380 V - 20% present longer than 1 sec.</li> <li>Undervoltage of the 24 V power supply (&lt; 20 V)</li> </ul> |                    |
| <b>Device</b>   |                    |
| <b>Description</b>  |                    |
| <b>Class</b>  |                    |
| <b>Drive Behaviour</b>  | Controlled braking |
| <b>Device Behaviour</b>   |                    |
| <b>Additional Error Information (AMK Service)</b>   |                    |
|   |                    |
| <b>Error removal</b>  |                    |

### 1103 Field bus warning

|  |         |
|--|---------|
| <ul style="list-style-type: none"> <li>ERROR bit comes back from the drive in AFP status</li> <li>User has sent invalid command</li> <li>Running command was not ended by error event (e.g. encoder fault in positioning)</li> <li>User has sent permissible command at wrong time (e.g. reading database within active positioning)</li> <li>The ERROR bit can be deleted by means of delete error or with every new valid AFP command</li> </ul> |         |
| <b>Device</b>  |         |
| <b>Description</b>   |         |
| <b>Class</b>   | Warning |
| <b>Drive Behaviour</b>   |         |
| <b>Device Behaviour</b>  |         |
| <b>Additional Error Information (AMK Service)</b>  |         |
|  |         |
| <b>Error removal</b>   |         |

### 1104 No FL with RF active

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>The user attempts to delete error without withdrawing the controller enable control signal</li> </ul> |   |
| <b>Device</b>  |   |
| <b>Description</b>   |   |
| <b>Class</b>   |   |
| <b>Drive Behaviour</b>   |   |
| <b>Device Behaviour</b>  | System run-up aborted                                       |
| <b>Additional Error Information (AMK Service)</b>  |   |
|  |   |
| <b>Error removal</b>   | For safety reasons RF must always be 0 in the case of error |

### 1105 Reserved

|   |  |
|---|--|
| <b>Device</b>                                     |  |
| <b>Description</b>                                |  |
| <b>Class</b>                                      |  |
| <b>Drive Behaviour</b>                            |  |
| <b>Device Behaviour</b>                           |  |
| <b>Additional Error Information (AMK Service)</b> |  |
|   |  |
| <b>Error removal</b>                              |  |

### 1106 System diagnostic

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>• Watchdog option</li> </ul> |   |
| <b>Device</b>   |   |
| <b>Description</b>  | No communication between an option card and base system after 0,2 sec.<br>(AMKAMAC: Info: Option slot 1 resp. Instance) |
| <b>Class</b>  |   |
| <b>Drive Behaviour</b>  | Controlled braking  |
| <b>Device Behaviour</b>   | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>                   |   |
|   |   |
| <b>Error removal</b>  | Option card failure   |

### 1107 'System diagnostics: Short circuit DC bus voltage'

|   |  |
|---|--|
| <ul style="list-style-type: none"> <li>• Short circuit DC bus voltage</li> </ul>  |  |
| <b>Device</b>   | <b>KE</b>  |
| <b>Description</b>  |  |
| <b>Class</b>  | Warning  |
| <b>Drive Behaviour</b>  |  |
| <b>Device Behaviour</b>   | System run-up aborted  |
| <b>Additional Error Information (AMK Service)</b>                                 |  |
|   | Info 1    0    300 ms past ELS1: UZ < 10 %                               |
| <b>Error removal</b>  | 'Clear error' inadmissible, first clear cause of fault                   |
| <ul style="list-style-type: none"> <li>• Short circuit DC bus inverter</li> </ul> |  |
| <b>Device</b>   | <b>ZWR</b>   |
| <b>Description</b>  | Short circuit in the DC bus of the inverter -U1                          |
| <b>Class</b>  | Error  |
| <b>Device Behaviour</b>   | Central inverter is disconnected from the mains                          |
| <b>Additional Error Information (AMK Service)</b>                                 |  |
|   |  |
| <b>Error Removal</b>  | <ul style="list-style-type: none"> <li>• Replace inverter -U1</li> </ul> |

## 1108 'System diagnostics: Main contactor'

|   |   |
|---|---|
| <b>Device</b>                                     |   |
| <b>Description</b>                                |   |
| <b>Class</b>                                      |   |
| <b>Drive Behaviour</b>                            |   |
| <b>Device Behaviour</b>                           |   |
| <b>Additional Error Information (AMK Service)</b> |   |
|   | Info 1    0    Main contactor does not drop. The system must be shut down by the higher ranking controller. |
|   | Error removal    'Clear error' permissible only after fault fixing  |
|   | Info 1    1    Voltage already at X01 when UE is set.   |
|   | Error removal    Check main contactor wiring  |
| <b>Error removal</b>                              |   |

|   |   |
|---|---|
| <b>Device</b>                                     | <b>KE</b>   |
| <b>Description</b>                                |   |
| <b>Class</b>                                      |   |
| <b>Drive Behaviour</b>                            |   |
| <b>Device Behaviour</b>                           |   |
| <b>Additional Error Information (AMK Service)</b> |   |
|   | Info 1    0    Main contactor does not drop.<br>10 s after EHS off: Mains voltage > 75 % of amplitude |
|   | 1    Voltage at X01 when UE is set.   |
| <b>Error removal</b>                              |   |

- Fault main contactor inverter (n)

|   |  |
|---|--|
| <b>Device</b>                                     | <b>ZWR</b>   |
| <b>Description</b>                                | see additional information   |
| <b>Class</b>                                      | Error  |
| <b>Device Behaviour</b>                           | Automatic error reset and switch back on   |
| <b>Additional Error Information (AMK Service)</b> |  |
|   | Info 1    1    Main contactor does not drop out.<br>10 s after inverter OFF, there is still voltage<br>at the terminals -U1.X01:L1.1/L2.1/L3.1 |
|   | 2    With setting of UE, the voltage is applied to -U1.X01:L1.1/L2.1/L3.1<br>immediately   |
| <b>Error Removal</b>                              | <ul style="list-style-type: none"> <li>• Check main contactor -K2</li> </ul>   |

## 1109 System diagnostics

- Shifting of Y-point

|   |  |
|---|--|
| <b>Device</b>                                     |  |
| <b>Description</b>                                |  |
| <b>Class</b>                                      | Warning  |
| <b>Drive Behaviour</b>                            |  |
| <b>Device Behaviour</b>                           |  |
| <b>Additional Error Information (AMK Service)</b> |  |
|   |  |
| <b>Error removal</b>                              | Error reset inadmissible, first clear cause of fault |

### 1110 Warning brake transistor

|  |   |   |   |
|--|---|---|---|
| <ul style="list-style-type: none"> <li>Warning brake transistor</li> </ul> |   |   |   |
| <b>Device</b>  | <b>KE</b>   |   |   |
| <b>Description</b>   | The function of the brake transistor is not ensured any more                                |   |   |
| <b>Class</b>   | Warning message, reaction of the drive after 4 seconds                                      |   |   |
| <b>Drive Behaviour</b>   |   |   |   |
| <b>Device Behaviour</b>  |   |   |   |
| <b>Additional Error Information (AMK Service)</b>                          |   |   |   |
|  | Info 1  | 0 | The brake transistor does not switch on   |
|  |   | 1 | The brake transistor does not switch off<br>After 4 s error 1061, 'Braking transistor fault', Info 1 = 3, will be generated (SBM is withdrawn and power supply is disconnected) |
| <b>Error removal</b>   | <ul style="list-style-type: none"> <li>Internal KE error</li> <li>Replace device</li> </ul> |   |   |

### 1111 'Warning external component'

|  |  |  |  |
|--|--|--|--|
| <ul style="list-style-type: none"> <li>Warning external component</li> </ul> |  |  |  |
| <b>Device</b>  | <b>KE, KW</b>  |  |  |
| <b>Description</b>   | Actual current values violate the I <sup>2</sup> t calculation, overload of the external elements e.g. at the line input: line filter, commutation choke etc, at the inverter e.g. motor cable<br>The overload has reached the value according ID34196 'Treshold external component'   |  |  |
| <b>Class</b>   | Warning  |  |  |
| <b>Drive Behaviour</b>   |  |  |  |
| <b>Device Behaviour</b>  |  |  |  |
| <b>Additional Error Information (AMK Service)</b>                            |  |  |  |
|  |  |  |  |
| <b>Error removal</b>   | <ul style="list-style-type: none"> <li>Check application</li> <li>Calculation check for dimensioning the rated power of the device</li> <li>Recheck parameters:                             <ul style="list-style-type: none"> <li>ID34193 Nominal current</li> <li>ID34194 Peak current</li> <li>ID34195 Peak current time</li> <li>ID34196 Threshold external component</li> </ul> </li> </ul> |  |  |

### 1112 'Overload error external component'

|  |  |   |                            |
|--|--|---|----------------------------|
| <ul style="list-style-type: none"> <li>Overload error external element line</li> </ul> |  |   |                            |
| <b>Device</b>  | <b>KE, KW</b>  |   |                            |
| <b>Description</b>   | <ul style="list-style-type: none"> <li>Is triggered after the expiration of the warning interval.</li> <li>Actual current values violate the <math>I^2t</math> calculation, overload of the external elements e.g. at the line input: line filter, commutation choke etc, at the inverter e.g. motor cable</li> </ul>  |   |                            |
| <b>Class</b>   | Error  |   |                            |
| <b>Drive Behaviour</b>   | Inverter: controlled braking of the motor  |   |                            |
| <b>Device Behaviour</b>  | Supply: line separation  |   |                            |
| <b>Additional Error Information (AMK Service)</b>                                      |  |   |                            |
|  | Info1  | 1 | $I_{max} < I_n$            |
|  |  | 2 | Overload has reached 100 % |
| <b>Error removal</b>   | <ul style="list-style-type: none"> <li>Check application</li> <li>Calculation check for dimensioning the rated power of the device</li> <li>Recheck parameters:                             <ul style="list-style-type: none"> <li>ID34193 'Nominal current external component'</li> <li>ID34194 'Peak current external component'</li> <li>ID34195 'Peak current time external component'</li> <li>ID34196 'Treshold external component'</li> </ul> </li> </ul> |   |                            |
| <ul style="list-style-type: none"> <li>Overload mains filter converter (n)</li> </ul>  |  |   |                            |
| <b>Device</b>  | <b>ZWR</b>   |   |                            |
| <b>Description</b>   | Overload mains filter -Y1  |   |                            |
| <b>Class</b>   | Error  |   |                            |
| <b>Device Behaviour</b>  | Automatic error reset and switch back on   |   |                            |
| <b>Additional Error Information (AMK Service)</b>                                      |  |   |                            |
|  |  |   |                            |
| <b>Error Removal</b>   | <ul style="list-style-type: none"> <li>Check mains filter -Y1, replace if necessary</li> </ul>   |   |                            |

### 1115 'Communication monitoring'

|  |  |  |  |
|--|--|--|--|
| <ul style="list-style-type: none"> <li>Communication monitoring</li> </ul> |  |  |  |
| <b>Device</b>  | KW-R06<br>iDT5<br>iX / i3X<br>iC   |  |  |
| <b>Description</b>   | In operation mode 'Setup', time exceeded for increasing ID33143 'Communication monitoring'                                 |  |  |
| <b>Class</b>   | Error  |  |  |
| <b>Drive Behaviour</b>   | Controlled braking   |  |  |
| <b>Device Behaviour</b>  |  |  |  |
| <b>Additional Error Information (AMK Service)</b>                          |  |  |  |
|  |  |  |  |
| <b>Error Reaction</b>  |  |  |  |
| <b>Error Removal</b>   | <ul style="list-style-type: none"> <li>Check master - slave communication</li> <li>If necessary, replace wiring</li> </ul> |  |  |



## 4.5 No. 1280 ... 1459 Operation Mode / Parameter Calculation

### 1281 System diagnostics

|   |  |
|---|--|
| <b>Device</b>                                     |  |
| <b>Description</b>                                |  |
| <b>Class</b>                                      |  |
| <b>Drive Behaviour</b>                            |  |
| <b>Device Behaviour</b>                           | System run-up aborted  |
| <b>Additional Error Information (AMK Service)</b> |  |
|   | Inadmissible status BAV  |
| <b>Error removal</b>                              | Power must be switched OFF/ON after loading a parameter set from the PC into the target system |

### 1282 ID 32777, 111, 32769

|   |  |
|---|--|
|   | <ul style="list-style-type: none"> <li>Standardization factor of torque-generating current, analog input</li> </ul>  |
| <b>Device</b>                                     |  |
| <b>Description</b>                                |  |
| <b>Class</b>                                      |  |
| <b>Drive Behaviour</b>                            |  |
| <b>Device Behaviour</b>                           | System run-up aborted  |
| <b>Additional Error Information (AMK Service)</b> |  |
|   | KSQA   |
| <b>Error removal</b>                              | Recheck parameters: <ul style="list-style-type: none"> <li>ID32777 Torque relative to 10 V at A1</li> <li>ID110 Inverter peak current</li> <li>ID111 Motor nominal current <math>I_N</math></li> <li>ID32769 Magnetising current <math>I_M</math></li> </ul> |

### 1283 ID 111, 32769

|   |   |
|---|---|
|   | <ul style="list-style-type: none"> <li>Standardization factor of torque-generating current, communication</li> </ul>  |
| <b>Device</b>                                     |   |
| <b>Description</b>                                |   |
| <b>Class</b>                                      |   |
| <b>Drive Behaviour</b>                            |   |
| <b>Device Behaviour</b>                           | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b> |   |
|   | KSQK  |
| <b>Error removal</b>                              | Recheck parameters: <ul style="list-style-type: none"> <li>ID110 Inverter peak current</li> <li>ID111 Motor nominal current <math>I_N</math></li> <li>ID32769 Magnetising current <math>I_M</math></li> </ul> |

### 1284 ID 111, 32769

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>Standardization factor of actual torque values</li> </ul> |   |
| Device   |   |
| Description  |   |
| Class  |   |
| Drive Behaviour  |   |
| Device Behaviour   | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>  |   |
|  | KIQR  |
| Error removal  | Recheck parameters: <ul style="list-style-type: none"> <li>ID110 Inverter peak current</li> <li>ID111 Motor nominal current <math>I_N</math></li> <li>ID32769 Magnetising current <math>I_M</math></li> </ul> |

### 1285 ID32772 wrong

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>Slope standardization factor</li> </ul> |   |
| Device   |   |
| Description  |   |
| Class  |   |
| Drive Behaviour  |   |
| Device Behaviour   | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>                              |   |
|  | KPSI  |
| Error removal  | Recheck parameters: <ul style="list-style-type: none"> <li>ID32769 Magnetising current <math>I_M</math></li> <li>ID32770 Magnetising current <math>I_{M1}</math></li> <li>ID32772 Nominal velocity <math>n_N</math></li> <li>ID110 Inverter peak current</li> </ul> |

### 1286 ID 82 or ID 83 too large

|  |  |
|--|--|
| <ul style="list-style-type: none"> <li>Torque limit factor of the analog input A2</li> </ul> |  |
| Device   |  |
| Description  |  |
| Class  |  |
| Drive Behaviour  |  |
| Device Behaviour   | System run-up aborted  |
| <b>Additional Error Information (AMK Service)</b>  |  |
|  | KMGA   |
| Error removal  | Recheck parameters: <ul style="list-style-type: none"> <li>ID82 Positive torque limit</li> <li>ID83 Negative torque limit</li> </ul> |

**1287 ID 32890: 1, 2, 5, 10**

|   |   |
|---|---|
| • Pulse multiplication                            |   |
| <b>Device</b>                                     |   |
| <b>Description</b>                                |   |
| <b>Class</b>                                      |   |
| <b>Drive Behaviour</b>                            |   |
| <b>Device Behaviour</b>                           | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b> |   |
|   |   |
| <b>Error removal</b>                              | Recheck parameters: <ul style="list-style-type: none"> <li>• ID32890 AWIW pulse multiplier</li> </ul> |

**1288 ID 110, 111, 32769**

|   |   |
|---|---|
| • $(I_N^2 - I_M^2) > I_{\max}^2$ (inverter module maximum current, specified as ID 110) |   |
| <b>Device</b>   |   |
| <b>Description</b>  |   |
| <b>Class</b>  |   |
| <b>Drive Behaviour</b>  |   |
| <b>Device Behaviour</b>   | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>                                       |   |
|   | ISQNENN   |
| <b>Error removal</b>  | Recheck parameters: <ul style="list-style-type: none"> <li>• ID110 Inverter peak current</li> <li>• ID111 Motor nominal current <math>I_N</math></li> <li>• ID32769 Magnetising current <math>I_M</math></li> </ul> |

**1289 ID 83 too small**

|   |   |
|---|---|
| • "ID83 Negative torque limit" too small negative value |   |
| <b>Device</b>   |   |
| <b>Description</b>                                      |   |
| <b>Class</b>  |   |
| <b>Drive Behaviour</b>                                  |   |
| <b>Device Behaviour</b>                                 | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>       |   |
|   | ISQGRN  |
| <b>Error removal</b>                                    | Recheck parameters: <ul style="list-style-type: none"> <li>• ID110 Inverter peak current</li> <li>• ID111 Motor nominal current <math>I_N</math></li> <li>• ID32769 Magnetising current <math>I_M</math></li> </ul> |

### 1290 ID 82 too large

|  |   |  |        |
|--|---|--|--------|
| <ul style="list-style-type: none"> <li>• "ID82 Positive torque limit" too large</li> <li>• Relevant parameters (ID110, ID111, ID32769) in the combination outside the permissible range</li> </ul> |   |  |        |
| <b>Device</b>  |   |  |        |
| <b>Description</b>   |   |  |        |
| <b>Class</b>   |   |  |        |
| <b>Drive Behaviour</b>   |   |  |        |
| <b>Device Behaviour</b>  | System run-up aborted   |  |        |
| <b>Additional Error Information (AMK Service)</b>  |   |  |        |
|  |   |  | ISQGRP |
| <b>Error removal</b>   | Recheck parameters: <ul style="list-style-type: none"> <li>• ID110 Inverter peak current</li> <li>• ID111 Motor nominal current <math>I_N</math></li> <li>• ID32769 Magnetising current <math>I_M</math></li> </ul> |  |        |

### 1291 ID 32774 faulty

|  |                       |  |      |
|--|-----------------------|--|------|
| <ul style="list-style-type: none"> <li>• Standardized "ID32774 Rotor time constant"</li> </ul> |                       |  |      |
| <b>Device</b>  |                       |  |      |
| <b>Description</b>   |                       |  |      |
| <b>Class</b>   |                       |  |      |
| <b>Drive Behaviour</b>   |                       |  |      |
| <b>Device Behaviour</b>  | System run-up aborted |  |      |
| <b>Additional Error Information (AMK Service)</b>  |                       |  |      |
|  |                       |  | KROT |
| <b>Error removal</b>   |                       |  |      |

### 1292 SEEP checksum

|   |  |   |  |        |  |
|---|--|---|--|--------|--|
| <ul style="list-style-type: none"> <li>• Checksum error in the device specific serial EEPROM. The check takes place in the system initialization</li> </ul> |  |   |  |        |  |
| <b>Device</b>   |  |   |  |        |  |
| <b>Description</b>  |  |   |  |        |  |
| <b>Class</b>  |  |   |  |        |  |
| <b>Drive Behaviour</b>  |  |   |  |        |  |
| <b>Device Behaviour</b>   | System run-up aborted                                    |   |  |        |  |
| <b>Additional Error Information (AMK Service)</b>   |  |   |  |        |  |
|   | Info 2   | 1 | Faulty SEEP order  |        |  |
|   |  | 2 | Checksum error in SEEP in AMK Info area ("34060 List SEEP 1)   |        |  |
|   |  | 3 | Checksum error in database (DTH)   |        |  |
|   |  |   | <table border="1"> <tr> <td>Info 3</td> <td>Number of faulty checksum (EEPROM page number)</td> </tr> </table> | Info 3 | Number of faulty checksum (EEPROM page number) |
| Info 3  | Number of faulty checksum (EEPROM page number)           |   |  |        |  |
| <b>Error removal</b>  | Check AZ-SEEP with monitor AW0 M2001C, ffff inadmissible |   |  |        |  |

### 1293 Boot strap EEPROM

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>The software has been replaced and is no longer address-compatible with the data of the parameter memory (e.g. EEPROM) in which all current drive and system data are filed</li> </ul> |   |
| <b>Device</b>   |   |
| <b>Description</b>  |   |
| <b>Class</b>  |   |
| <b>Drive Behaviour</b>  |   |
| <b>Device Behaviour</b>   | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>   |   |
|   |   |
| <b>Error removal</b>  | <ul style="list-style-type: none"> <li>The BOOT STRAP menu item must be initialized through the control panel or the S-BUS interface</li> <li>After "Boot strapping" the user parameters must be reloaded (manually or by means of PC program)</li> </ul> |

### 1294 EEPROM defective

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>Checksum error of parameter memory for application data</li> <li>The parallel EEPROM can no longer be written or read</li> </ul> |   |
| <b>Device</b>   |   |
| <b>Description</b>  |   |
| <b>Class</b>  |   |
| <b>Drive Behaviour</b>  |   |
| <b>Device Behaviour</b>   | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>   |   |
|   |   |
| <b>Error removal</b>  | <ul style="list-style-type: none"> <li>The BOOT STRAP menu item must be initialized through the control panel or the S-BUS interface</li> <li>After "Boot strapping" the user parameters must be reloaded (manually or by means of PC program)</li> </ul> |

### 1295 ID100 / ID101

|  |  |
|--|--|
| <ul style="list-style-type: none"> <li>Speed controller integral component factor</li> </ul> |  |
| <b>Device</b>  |  |
| <b>Description</b>   |  |
| <b>Class</b>   |  |
| <b>Drive Behaviour</b>   |  |
| <b>Device Behaviour</b>  | System run-up aborted  |
| <b>Additional Error Information (AMK Service)</b>  |  |
| KIDZL  |  |
| <b>Error removal</b>   | <ul style="list-style-type: none"> <li>"ID100 Proportional gain speed control <math>K_p</math>" and "ID101 Integrating time speed control <math>T_N</math>" must be in a suitable ratio to one another<sup>p</sup></li> <li>Recheck parameters: <ul style="list-style-type: none"> <li>ID100 Proportional gain speed control <math>K_p</math></li> <li>ID101 Integrating time speed control <math>T_N</math></li> <li>ID110 Inverter peak current</li> <li>ID111 Motor nominal current <math>I_N</math></li> <li>ID32769 Magnetising current <math>I_M</math></li> </ul> </li> </ul> |

**1296 ID211 / ID209 / ID210**

|  |  |
|--|--|
| <ul style="list-style-type: none"> <li>The DZR adaptation P component slope factor could not be calculated correctly in the drive</li> </ul> |  |
| Device   |  |
| Description  |  |
| Class  |  |
| Drive Behaviour  |  |
| Device Behaviour   | System run-up aborted  |
| <b>Additional Error Information (AMK Service)</b>  |  |
|  | KPS  |
| Error removal  | Recheck parameters: <ul style="list-style-type: none"> <li>ID100 Proportional gain speed control <math>K_p</math></li> <li>ID110 Integrating tim speed control <math>T_N</math></li> <li>ID209 Lower adaption limit</li> <li>ID210 Upper adaption limit</li> <li>ID211 Proportional gain adaption</li> </ul> |

**1297 ID 212 / ID209 / ID210**

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>The DZR adaptation I component slope factor could not be calculated correctly in the drive</li> </ul> |   |
| Device   |   |
| Description  |   |
| Class  |   |
| Drive Behaviour  |   |
| Device Behaviour   | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>  |   |
|  | KIS   |
| Error removal  | Recheck parameters: <ul style="list-style-type: none"> <li>ID100 Proportional gain speed control <math>K_p</math></li> <li>ID110 Integrating tim speed control <math>T_N</math></li> <li>ID110 Inverter peak current</li> <li>ID209 Lower adaption limit</li> <li>ID210 Upper adaption limit</li> <li>ID211 Proportional gain adaption</li> </ul> |

**1298 ID 100 faulty**

|  |  |
|--|--|
| <ul style="list-style-type: none"> <li><math>1 \leq \text{"ID100 Proportional gain speed control } K_p \text{"} \leq 32767</math></li> </ul> |  |
| Device   |  |
| Description  |  |
| Class  |  |
| Drive Behaviour  |  |
| Device Behaviour   | System run-up aborted  |
| <b>Additional Error Information (AMK Service)</b>  |  |
|  | KPDZL  |
| Error removal  | Recheck parameters: <ul style="list-style-type: none"> <li>ID100 Proportional gain speed control <math>K_p</math></li> <li>ID110 Integrating tim speed control <math>T_N</math></li> <li>ID111 Motor nominal current <math>I_N</math></li> <li>ID32769 Magnetising current <math>I_M</math></li> </ul> |



**1299 ID32775: even**

|  |                       |
|--|-----------------------|
| <ul style="list-style-type: none"> <li>An uneven pole number was entered in "ID32775 Pole number motor"</li> </ul> |                       |
| Device   |                       |
| Description  |                       |
| Class  |                       |
| Drive Behaviour  |                       |
| Device Behaviour   | System run-up aborted |
| <b>Additional Error Information (AMK Service)</b>  |                       |
|  |                       |
| Error removal  |                       |

**1300 Error in Temporary Parameters**

|  |                       |
|--|-----------------------|
| <ul style="list-style-type: none"> <li>An error in the standardization calculation occurred on entry of a temporary parameter</li> <li>The entered parameter ID is not part of the "ID270 Temporary parameter list"</li> </ul> |                       |
| Device   |                       |
| Description  |                       |
| Class  | Warning               |
| Drive Behaviour  |                       |
| Device Behaviour   | System run-up aborted |
| <b>Additional Error Information (AMK Service)</b>  |                       |
|  |                       |
| Error removal  |                       |

**1301 ID32778 faulty**

|   |                       |
|---|-----------------------|
| <ul style="list-style-type: none"> <li><math>0 \leq \text{"ID32778 Speed relative to 10 V at A1"} \leq 100\,000 \text{ rpm}</math></li> </ul> |                       |
| Device  |                       |
| Description   |                       |
| Class   |                       |
| Drive Behaviour   |                       |
| Device Behaviour  | System run-up aborted |
| <b>Additional Error Information (AMK Service)</b>   |                       |
|   |                       |
| Error removal   |                       |

**1302 System diagnostics**

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>Operating mode incomplete, see "ID32800 AMK main operating mode" et seq.</li> </ul> |   |
| Device   |   |
| Description  |   |
| Class  |   |
| Drive Behaviour  |   |
| Device Behaviour   | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>  |   |
|  | BA error decoupling   |
| Error removal  | Recheck parameters: <ul style="list-style-type: none"> <li>ID32800 AMK main operating mode</li> <li>ID32800 ... ID32806 AMK secondary operating mode 1 ... 6</li> </ul> |

### 1303 System diagnostics

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>Operating mode incomplete, see "ID32800 AMK main operating mode" et seq.</li> </ul> |   |
| <b>Device</b>  |   |
| <b>Description</b>   |   |
| <b>Class</b>   |   |
| <b>Drive Behaviour</b>   |   |
| <b>Device Behaviour</b>  | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>  |   |
|  | BA error DZR  |
| <b>Error removal</b>   | Recheck parameters: <ul style="list-style-type: none"> <li>ID32800 AMK main operating mode</li> <li>ID32800 ... ID32806 AMK secondary operating mode 1 ... 6</li> </ul> |

### 1304 System diagnostics

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>Operating mode incomplete, see "ID32800 AMK main operating mode" et seq.</li> </ul> |   |
| <b>Device</b>  |   |
| <b>Description</b>   |   |
| <b>Class</b>   |   |
| <b>Drive Behaviour</b>   |   |
| <b>Device Behaviour</b>  | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>  |   |
|  | BA error position control   |
| <b>Error removal</b>   | Recheck parameters: <ul style="list-style-type: none"> <li>ID32800 AMK main operating mode</li> <li>ID32800 ... ID32806 AMK secondary operating mode 1 ... 6</li> </ul> |

### 1305 System diagnostics

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>Operating mode incomplete, see "ID32800 AMK main operating mode" et seq.</li> </ul> |   |
| <b>Device</b>  |   |
| <b>Description</b>   |   |
| <b>Class</b>   |   |
| <b>Drive Behaviour</b>   |   |
| <b>Device Behaviour</b>  | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>  |   |
|  | BA error flux cond  |
| <b>Error removal</b>   | Recheck parameters: <ul style="list-style-type: none"> <li>ID32800 AMK main operating mode</li> <li>ID32800 ... ID32806 AMK secondary operating mode 1 ... 6</li> </ul> |

### 1306 System diagnostics

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>Operating mode incomplete, see "ID32800 AMK main operating mode" et seq.</li> </ul> |   |
| <b>Device</b>  |   |
| <b>Description</b>   |   |
| <b>Class</b>   |   |
| <b>Drive Behaviour</b>   |   |
| <b>Device Behaviour</b>  | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>  |   |
|  | Level BA error  |
| <b>Error removal</b>   | Recheck parameters: <ul style="list-style-type: none"> <li>ID32800 AMK main operating mode</li> <li>ID32800 ... ID32806 AMK secondary operating mode 1 ... 6</li> </ul> |

### 1307 System diagnostics

|  |  |
|--|--|
| <ul style="list-style-type: none"> <li>Position resolution not realizable</li> </ul> |  |
| <b>Device</b>  |  |
| <b>Description</b>   |  |
| <b>Class</b>   |  |
| <b>Drive Behaviour</b>   |  |
| <b>Device Behaviour</b>  | System run-up aborted  |
| <b>Additional Error Information (AMK Service)</b>                                    |  |
|  | IQLAGE_WRONG   |
| <b>Error removal</b>   | Recheck parameters: <ul style="list-style-type: none"> <li>ID116 Resolution motor encoder</li> <li>ID117 Resolution external encoder</li> <li>ID118 Resolution linear encoder</li> </ul> |

### 1308 System diagnostics

|   |  |
|---|--|
| <ul style="list-style-type: none"> <li>Resolution of the "Speed source pulses" source not realizable</li> </ul> |  |
| <b>Device</b>   |  |
| <b>Description</b>  |  |
| <b>Class</b>  |  |
| <b>Drive Behaviour</b>  |  |
| <b>Device Behaviour</b>   | System run-up aborted  |
| <b>Additional Error Information (AMK Service)</b>   |  |
|   | RDB3C_AKTGEBER   |
| <b>Error removal</b>  | Recheck parameters: <ul style="list-style-type: none"> <li>ID116 Resolution motor encoder</li> <li>ID117 Resolution external encoder</li> <li>ID121 Load gear input revolution</li> <li>ID122 Load gear output revolution</li> </ul> |

### 1309 System diagnostics

|   |                       |
|---|-----------------------|
| <ul style="list-style-type: none"> <li>Speed window larger than 107372.5 rpm</li> </ul> |                       |
| <b>Device</b>   |                       |
| <b>Description</b>  |                       |
| <b>Class</b>  |                       |
| <b>Drive Behaviour</b>  |                       |
| <b>Device Behaviour</b>   | System run-up aborted |
| <b>Additional Error Information (AMK Service)</b>                                       |                       |
|   | DZLFENST              |
| <b>Error removal</b>  |                       |

### 1310 System diagnostics

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>• "Pole factor POLF" calculation out of tolerance</li> <li>• <math>POLF = (115200 * ZP * EIN) / (GPZ * AUS)</math></li> <li>• <math>0010h \leq POLF \leq 7fffh</math></li> </ul> |   |
| <b>Device</b>   |   |
| <b>Description</b>  |   |
| <b>Class</b>  |   |
| <b>Drive Behaviour</b>  |   |
| <b>Device Behaviour</b>   | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>   |   |
|   |   |
| <b>Error removal</b>  | Recheck parameters: <ul style="list-style-type: none"> <li>• ID32775 Pole number motor (ZP)</li> <li>• ID32776 Sinus encoder period (GPZ)</li> <li>• ID32960 Input Motor encoder gear (EIN)</li> <li>• ID32961 Output Motor encoder gear (AUS)</li> </ul> |

### 1311 System diagnostics

|  |                       |
|--|-----------------------|
| <ul style="list-style-type: none"> <li>• 4 GPZ calculation inconclusive</li> </ul> |                       |
| <b>Device</b>  |                       |
| <b>Description</b>   |                       |
| <b>Class</b>   |                       |
| <b>Drive Behaviour</b>   |                       |
| <b>Device Behaviour</b>  | System run-up aborted |
| <b>Additional Error Information (AMK Service)</b>                                  |                       |
|  |                       |
| <b>Error removal</b>   |                       |

### 1312 System diagnostics

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>• Negated direction of rotation permissible only for A and I encoders</li> </ul> |   |
| <b>Device</b>   |   |
| <b>Description</b>  |   |
| <b>Class</b>  |   |
| <b>Drive Behaviour</b>  |   |
| <b>Device Behaviour</b>   | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>   |   |
|   |   |
| <b>Error removal</b>  | Recheck parameter: <ul style="list-style-type: none"> <li>• ID32773 Service bits: bit 16 = 1</li> </ul> |

### 1313 ID82 or ID83 too large

|   |  |
|---|--|
| <b>Device</b>                                     |  |
| <b>Description</b>                                |  |
| <b>Class</b>                                      |  |
| <b>Drive Behaviour</b>                            |  |
| <b>Device Behaviour</b>                           | System run-up aborted  |
| <b>Additional Error Information (AMK Service)</b> |  |
|   | MDGRENZ  |
| <b>Error removal</b>                              | Recheck parameters: <ul style="list-style-type: none"> <li>• ID82 Positive torque limit</li> <li>• ID83 Negative torque limit</li> </ul> |

### 1314 System diagnostics

|   |  |
|---|--|
| <b>Device</b>                                     |  |
| <b>Description</b>                                |  |
| <b>Class</b>                                      |  |
| <b>Drive Behaviour</b>                            |  |
| <b>Device Behaviour</b>                           | System run-up aborted  |
| <b>Additional Error Information (AMK Service)</b> |  |
|   |  |
| <b>Error removal</b>                              | Recheck parameter: <ul style="list-style-type: none"> <li>• ID32990 NK-shift"</li> </ul> |

### 1315 System diagnostics

|   |  |
|---|--|
|   | <ul style="list-style-type: none"> <li>• Resolver 0 point shift inadmissible</li> </ul>        |
| <b>Device</b>                                     |  |
| <b>Description</b>                                |  |
| <b>Class</b>                                      |  |
| <b>Drive Behaviour</b>                            |  |
| <b>Device Behaviour</b>                           | System run-up aborted  |
| <b>Additional Error Information (AMK Service)</b> |  |
|   |  |
| <b>Error removal</b>                              | Recheck parameter: <ul style="list-style-type: none"> <li>• ID32959 Offset resolver</li> </ul> |

### 1316 ID32769/ID100 too large

|   |   |
|---|---|
|   | <ul style="list-style-type: none"> <li>• "ID32769 Magnetising current <math>I_M</math>" / "ID110 Inverter peak current" ratio too large</li> </ul>          |
| <b>Device</b>                                     |   |
| <b>Description</b>                                |   |
| <b>Class</b>                                      |   |
| <b>Drive Behaviour</b>                            |   |
| <b>Device Behaviour</b>                           | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b> |   |
|   | ISDNENN   |
| <b>Error removal</b>                              | Recheck parameters: <ul style="list-style-type: none"> <li>• ID110 Inverter peak current</li> <li>• ID32769 Magnetising current <math>I_M</math></li> </ul> |

**1317 ID32770/ID110 too large**

|   |  |
|---|--|
| <ul style="list-style-type: none"> <li>"ID32770 Magnetising current <math>I_{M1}</math>" / "ID110 Inverter peak current" ratio too large</li> </ul> |  |
| Device  |  |
| Description   |  |
| Class   |  |
| Drive Behaviour   |  |
| Device Behaviour  | System run-up aborted  |
| <b>Additional Error Information (AMK Service)</b>   |  |
|   | ISDNENN1   |
| Error removal   | Recheck parameters: <ul style="list-style-type: none"> <li>ID110 Inverter peak current</li> <li>ID32770 Magnetising current <math>I_{M1}</math></li> </ul> |

**1318 ID32774 faulty**

|  |                       |
|--|-----------------------|
| <ul style="list-style-type: none"> <li>I component flux conduction factor</li> </ul> |                       |
| Device   |                       |
| Description  |                       |
| Class  |                       |
| Drive Behaviour  |                       |
| Device Behaviour   | System run-up aborted |
| <b>Additional Error Information (AMK Service)</b>                                    |                       |
|  | KIFL                  |
| Error removal  |                       |

**1319 System diagnostics**

|  |                       |
|--|-----------------------|
| <ul style="list-style-type: none"> <li>Configuration of "Strobe" binary input wrong</li> </ul> |                       |
| Device   |                       |
| Description  |                       |
| Class  |                       |
| Drive Behaviour  |                       |
| Device Behaviour   | System run-up aborted |
| <b>Additional Error Information (AMK Service)</b>  |                       |
|  |                       |
| Error removal  |                       |

**1320 System diagnostics**

|   |                       |
|---|-----------------------|
|   |                       |
| Device  |                       |
| Description                                       |                       |
| Class   |                       |
| Drive Behaviour                                   |                       |
| Device Behaviour                                  | System run-up aborted |
| <b>Additional Error Information (AMK Service)</b> |                       |
|   | RESERVE               |
| Error removal                                     |                       |



### 1321 System diagnostics

|   |                       |
|---|-----------------------|
| <b>Device</b>                                     |                       |
| <b>Description</b>                                |                       |
| <b>Class</b>                                      |                       |
| <b>Drive Behaviour</b>                            |                       |
| <b>Device Behaviour</b>                           | System run-up aborted |
| <b>Additional Error Information (AMK Service)</b> |                       |
|   | RESERVE               |
| <b>Error removal</b>                              |                       |

### 1322 System diagnostics

|   |                       |
|---|-----------------------|
| <b>Device</b>                                     |                       |
| <b>Description</b>                                |                       |
| <b>Class</b>                                      |                       |
| <b>Drive Behaviour</b>                            |                       |
| <b>Device Behaviour</b>                           | System run-up aborted |
| <b>Additional Error Information (AMK Service)</b> |                       |
|   | RESERVE               |
| <b>Error removal</b>                              |                       |

### 1323 ID32769 IM < ID111 IN

|   |   |
|---|---|
| <b>Device</b>                                     |   |
| <b>Description</b>                                |   |
| <b>Class</b>                                      |   |
| <b>Drive Behaviour</b>                            |   |
| <b>Device Behaviour</b>                           | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b> |   |
|   | IROOT   |
| <b>Error removal</b>                              | Recheck parameters:<br>ID111 Motor nominal current $I_N$<br>ID32769 Magnetising current $I_M$ |

### 1324 ID32772 nN too large

|   |  |
|---|--|
| <b>Device</b>                                     |  |
| <b>Description</b>                                |  |
| <b>Class</b>                                      |  |
| <b>Drive Behaviour</b>                            |  |
| <b>Device Behaviour</b>                           | System run-up aborted                                |
| <b>Additional Error Information (AMK Service)</b> |  |
|   | DZLNENN  |
| <b>Error removal</b>                              | Recheck parameter:<br>ID32772 Nominal velocity $n_N$ |

## 1325 ID32772 P1 reference

|   |  |
|---|--|
| • $n_N$ too large                                 |  |
| Device  |  |
| Description                                       |  |
| Class   |  |
| Drive Behaviour                                   |  |
| Device Behaviour                                  | System run-up aborted                                |
| <b>Additional Error Information (AMK Service)</b> |  |
|   | DZLNENN1   |
| Error removal                                     | Recheck parameter:<br>ID32772 Nominal velocity $n_N$ |

## 1326 System diagnostics

|   |  |
|---|--|
| • Source converter/on (UE) incorrect              |  |
| Device  |  |
| Description                                       |  |
| Class   |  |
| Drive Behaviour                                   |  |
| Device Behaviour                                  | System run-up aborted  |
| <b>Additional Error Information (AMK Service)</b> |  |
|   |  |
| Error removal                                     | <ul style="list-style-type: none"> <li>• Check ACC Bus</li> <li>• Recheck parameter: <ul style="list-style-type: none"> <li>• ID32795 Source UE</li> </ul> </li> </ul>   |
| Device  | <b>KE</b>  |
| Description                                       | ACC configured as source of 'DC bus on' but no ACC bus is connected  |
| Class   |  |
| Drive Behaviour                                   |  |
| Device Behaviour                                  | System run-up aborted  |
| <b>Additional Error Information (AMK Service)</b> |  |
|   |  |
| Error removal                                     | <ul style="list-style-type: none"> <li>• Check ACC Bus</li> <li>• Recheck parameter: <ul style="list-style-type: none"> <li>• ID32795 'Source UE'</li> </ul> </li> </ul> |

### 1327 ID104 kv factor

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>• <math>1 \leq K_v \leq 30000</math></li> </ul> |   |
| <b>Device</b>  |   |
| <b>Description</b>   |   |
| <b>Class</b>   |   |
| <b>Drive Behaviour</b>   |   |
| <b>Device Behaviour</b>  | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>                                      |   |
|  | KLAGE   |
| <b>Error removal</b>   | Recheck parameters: <ul style="list-style-type: none"> <li>• ID104 Position loop <math>K_v</math>-factor</li> <li>• ID115 Position feedback type</li> <li>• ID116 Resolution motor encoder</li> <li>• ID117 Resolution external encoder</li> <li>• ID118 Resolution linear encoder</li> <li>• ID121 Load gear input revolution</li> <li>• ID122 Load gear output revolution</li> <li>• ID123 Feed constant</li> <li>• ID32776 Sinus encoder period</li> </ul> |

### 1328 System diagnostics

|   |                       |
|---|-----------------------|
|   |                       |
| <b>Device</b>                                     |                       |
| <b>Description</b>                                |                       |
| <b>Class</b>                                      |                       |
| <b>Drive Behaviour</b>                            |                       |
| <b>Device Behaviour</b>                           | System run-up aborted |
| <b>Additional Error Information (AMK Service)</b> |                       |
|   | RESERVE               |
| <b>Error removal</b>                              |                       |

### 1329 ID111/ID110 > 80%

|  |  |
|--|--|
| <ul style="list-style-type: none"> <li>• "ID111 Motor nominal current" may be maximum 80 % of "ID110 Inverter peak current"</li> </ul> |  |
| <b>Device</b>  |  |
| <b>Description</b>   |  |
| <b>Class</b>   |  |
| <b>Drive Behaviour</b>   |  |
| <b>Device Behaviour</b>  | System run-up aborted  |
| <b>Additional Error Information (AMK Service)</b>  |  |
|  | KSQA   |
| <b>Error removal</b>   | Recheck parameters: <ul style="list-style-type: none"> <li>• ID110 Inverter peak current</li> <li>• ID111 Motor nominal current</li> </ul> |

**1330 ID32772 > ID113**

|  |   |
|--|---|
| • "ID32772 Nominal velocity" is greater than "ID113 Maximum speed" |   |
| <b>Device</b>  |   |
| <b>Description</b>   |   |
| <b>Class</b>   |   |
| <b>Drive Behaviour</b>   |   |
| <b>Device Behaviour</b>  | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>                  |   |
|  | N_NENN  |
| <b>Error removal</b>   | Recheck parameters: <ul style="list-style-type: none"> <li>• ID113 Maximum speed</li> <li>• ID32772 Nominal velocity</li> </ul> |

**1331 ID209 > ID113**

|  |   |
|--|---|
| • "ID209 Lower adaption limit" is greater than "ID113 Maximum speed" |   |
| <b>Device</b>  |   |
| <b>Description</b>   |   |
| <b>Class</b>   |   |
| <b>Drive Behaviour</b>   |   |
| <b>Device Behaviour</b>  | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>                    |   |
|  |   |
| <b>Error removal</b>   | Recheck parameters: <ul style="list-style-type: none"> <li>• ID113 Maximum speed</li> <li>• ID209 Lower adaption limit</li> </ul> |

**1332 ID210 > ID113**

|  |   |
|--|---|
| • "ID210 Upper adaption limit" is greater than "ID113 Maximum speed" |   |
| <b>Device</b>  |   |
| <b>Description</b>   |   |
| <b>Class</b>   |   |
| <b>Drive Behaviour</b>   |   |
| <b>Device Behaviour</b>  | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>                    |   |
|  | KSQA  |
| <b>Error removal</b>   | Recheck parameters: <ul style="list-style-type: none"> <li>• ID113 Maximum speed</li> <li>• ID209 Upper adaption limit</li> </ul> |

### 1333 System diagnostics

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>"ID32780 Acceleration ramp" resp. "ID32781 Deceleration ramp" are too large in reference to "ID113 Maximum speed"</li> </ul> |   |
| <b>Device</b>   |   |
| <b>Description</b>  |   |
| <b>Class</b>  |   |
| <b>Drive Behaviour</b>  |   |
| <b>Device Behaviour</b>   | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>   |   |
|   |   |
| <b>Error removal</b>  | Recheck parameters: <ul style="list-style-type: none"> <li>ID113 Maximum speed</li> <li>ID32780 Acceleration ramp</li> <li>ID32781 Deceleration ramp</li> </ul> |

### 1334 ID38 > ID113

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>"ID38 Positive velocity limit" is greater than "ID113 Maximum speed"</li> </ul> |   |
| <b>Device</b>  |   |
| <b>Description</b>   |   |
| <b>Class</b>   |   |
| <b>Drive Behaviour</b>   |   |
| <b>Device Behaviour</b>  | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>  |   |
|  |   |
| <b>Error removal</b>   | Recheck parameters: <ul style="list-style-type: none"> <li>ID38 Positive velocity limit</li> <li>ID113 Maximum speed</li> </ul> |

### 1335 |ID39| > ID113

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>The absolute amount of "ID39 Negative velocity limit" is greater than "ID113 Maximum speed"</li> </ul> |   |
| <b>Device</b>   |   |
| <b>Description</b>  |   |
| <b>Class</b>  |   |
| <b>Drive Behaviour</b>  |   |
| <b>Device Behaviour</b>   | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>   |   |
|   |   |
| <b>Error removal</b>  | Recheck parameters: <ul style="list-style-type: none"> <li>ID39 Negative velocity limit</li> <li>ID113 Maximum speed</li> </ul> |

## 1336 ID32778 &gt; ID113

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>"ID32778 Speed relative to 10 Vat A1" is greater than "ID113 Maximum speed"</li> </ul> |   |
| Device  |   |
| Description   |   |
| Class   |   |
| Drive Behaviour   |   |
| Device Behaviour  | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>   |   |
|   |   |
| Error removal   | Recheck parameters: <ul style="list-style-type: none"> <li>ID113 Maximum speed</li> <li>ID32778 Speed relative to 10 V at A1</li> </ul> |

## 1337 ID32783 &gt; ID113

|   |                       |
|---|-----------------------|
|   |                       |
| Device  |                       |
| Description                                       |                       |
| Class   |                       |
| Drive Behaviour                                   |                       |
| Device Behaviour                                  | System run-up aborted |
| <b>Additional Error Information (AMK Service)</b> |                       |
|   |                       |
| RESERVE   |                       |
| Error removal                                     |                       |

## 1338 ID157 &gt; ID113

|   |  |
|---|--|
| <ul style="list-style-type: none"> <li>"ID157 Velocity window" is greater than "ID113 Maximum speed"</li> </ul> |  |
| Device  |  |
| Description   |  |
| Class   |  |
| Drive Behaviour   |  |
| Device Behaviour  | System run-up aborted  |
| <b>Additional Error Information (AMK Service)</b>   |  |
|   |  |
| Error removal   | Recheck parameters: <ul style="list-style-type: none"> <li>ID113 Maximum speed</li> <li>ID157 Velocity window</li> </ul> |

## 1339 ID125 &gt; ID113

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>"ID125 Velocity Threshold N<sub>x</sub>" is greater than "ID113 Maximum speed"</li> </ul> |   |
| Device   |   |
| Description  |   |
| Class  |   |
| Drive Behaviour  |   |
| Device Behaviour   | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>  |   |
|  |   |
| Error removal  | Recheck parameters: <ul style="list-style-type: none"> <li>ID113 Maximum speed</li> <li>ID125 Velocity Threshold N<sub>x</sub></li> </ul> |



### 1340 ID124 > ID113

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>"ID124 Zero velocity window" is greater than "ID113 Maximum speed"</li> </ul> |   |
| <b>Device</b>  |   |
| <b>Description</b>   |   |
| <b>Class</b>   |   |
| <b>Drive Behaviour</b>   |   |
| <b>Device Behaviour</b>  | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>  |   |
|  |   |
| <b>Error removal</b>   | Recheck parameters: <ul style="list-style-type: none"> <li>ID113 Maximum speed</li> <li>ID124 Zero velocity window</li> </ul> |

### 1341 AW-lmax wrong (SEEP)

|  |                       |
|--|-----------------------|
| <ul style="list-style-type: none"> <li>Inverter module maximum current = 0 is inadmissible.<br/>This value was read from the serial EEPROM of the inverter, possibly there is a defect at the serial EEPROM</li> </ul> |                       |
| <b>Device</b>  |                       |
| <b>Description</b>   |                       |
| <b>Class</b>   |                       |
| <b>Drive Behaviour</b>   |                       |
| <b>Device Behaviour</b>  | System run-up aborted |
| <b>Additional Error Information (AMK Service)</b>  |                       |
|  |                       |
| <b>Error removal</b>   |                       |

### 1342 System diagnostics

|   |                          |
|---|--------------------------|
| <ul style="list-style-type: none"> <li>External error</li> <li>Indicated at following system run-up</li> <li>Timeout</li> </ul> |                          |
| <b>Device</b>   |                          |
| <b>Description</b>  |                          |
| <b>Class</b>  |                          |
| <b>Drive Behaviour</b>  |                          |
| <b>Device Behaviour</b>   | System run-up aborted    |
| <b>Additional Error Information (AMK Service)</b>   |                          |
|   | PEEP Timeout             |
| <b>Error removal</b>  | System OFF/ON (HW reset) |

### 1343 System diagnostics

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>Internal fault or component failure</li> </ul> |   |
| <b>Device</b>   |   |
| <b>Description</b>  |   |
| <b>Class</b>  |   |
| <b>Drive Behaviour</b>  |   |
| <b>Device Behaviour</b>   | System run-up aborted                               |
| <b>Additional Error Information (AMK Service)</b>                                     |   |
|   | DTH Timeout<br>see Comm. Error AZ-M881C..., AW-M200 |
| <b>Error removal</b>  |   |

### 1344 System diagnostics

|   |                       |  |   |
|---|-----------------------|--|---|
| <ul style="list-style-type: none"> <li>Internal fault or component failure (AWMON)</li> </ul> |                       |  |   |
| Device  |                       |  |   |
| Description   |                       |  |   |
| Class   |                       |  |   |
| Drive Behaviour   |                       |  |   |
| Device Behaviour  | System run-up aborted |  |   |
| <b>Additional Error Information (AMK Service)</b>   |                       |  |   |
|   |                       |  | DTH Timeout<br>see Comm. Error AZ-M881C..., AW-M200 |
| Error removal   |                       |  |   |

### 1345 System diagnostics

|   |                       |  |   |
|---|-----------------------|--|---|
| <ul style="list-style-type: none"> <li>Internal fault or component failure (wrong BAV order)</li> </ul> |                       |  |   |
| Device  |                       |  |   |
| Description   |                       |  |   |
| Class   |                       |  |   |
| Drive Behaviour   |                       |  |   |
| Device Behaviour  | System run-up aborted |  |   |
| <b>Additional Error Information (AMK Service)</b>   |                       |  |   |
|   |                       |  | DTH Timeout<br>see Comm. Error AZ-M881C..., AW-M200 |
| Error removal   |                       |  |   |

### 1346 System diagnostics

|   |                       |  |   |
|---|-----------------------|--|---|
| <ul style="list-style-type: none"> <li>Internal fault or component failure (Handshake BAV/DTH)</li> </ul> |                       |  |   |
| Device  |                       |  |   |
| Description   |                       |  |   |
| Class   |                       |  |   |
| Drive Behaviour   |                       |  |   |
| Device Behaviour  | System run-up aborted |  |   |
| <b>Additional Error Information (AMK Service)</b>   |                       |  |   |
|   |                       |  | DTH Timeout<br>see Comm. Error AZ-M881C..., AW-M200 |
| Error removal   |                       |  |   |

### 1347 System diagnostics

|  |                       |  |   |
|--|-----------------------|--|---|
| <ul style="list-style-type: none"> <li>Internal fault or component failure (Handshake BAV/PEEP)</li> </ul> |                       |  |   |
| Device   |                       |  |   |
| Description  |                       |  |   |
| Class  |                       |  |   |
| Drive Behaviour  |                       |  |   |
| Device Behaviour   | System run-up aborted |  |   |
| <b>Additional Error Information (AMK Service)</b>  |                       |  |   |
|  |                       |  | DTH Timeout<br>see Comm. Error AZ-M881C..., AW-M200 |
| Error removal  |                       |  |   |

### 1348 System diagnostics

|   |                       |  |   |
|---|-----------------------|--|---|
| <ul style="list-style-type: none"> <li>Internal fault or component failure (Handshake BAV/AWMON)</li> </ul> |                       |  |   |
| <b>Device</b>   |                       |  |   |
| <b>Description</b>  |                       |  |   |
| <b>Class</b>  |                       |  |   |
| <b>Drive Behaviour</b>  |                       |  |   |
| <b>Device Behaviour</b>   | System run-up aborted |  |   |
| <b>Additional Error Information (AMK Service)</b>   |                       |  |   |
|   |                       |  | DTH Timeout<br>see Comm. Error AZ-M881C..., AW-M200 |
| <b>Error removal</b>  |                       |  |   |

### 1349 System diagnostics

|   |                       |  |  |
|---|-----------------------|--|--|
| <ul style="list-style-type: none"> <li>Internal fault or component failure</li> </ul>                             |                       |  |  |
| <b>Device</b>   | <b>AW</b>             |  |  |
| <ul style="list-style-type: none"> <li>Same AW numbers set at different AWs (rotary switch for AW No.)</li> </ul> |                       |  |  |
| <b>Description</b>  |                       |  |  |
| <b>Class</b>  |                       |  |  |
| <b>Drive Behaviour</b>  |                       |  |  |
| <b>Device Behaviour</b>   | System run-up aborted |  |  |
| <b>Additional Error Information (AMK Service)</b>   |                       |  |  |
|   |                       |  |  |
| <b>Error removal</b>  |                       |  |  |

### 1350 AW not present

|   |  |  |   |
|---|--|--|---|
| <ul style="list-style-type: none"> <li>Internal fault, AW/AZ communication</li> </ul> |  |  |   |
| <b>Device</b>   | <b>AZ</b><br><b>AW</b>   |  |   |
| <b>Description</b>  |  |  |   |
| <b>Class</b>  |  |  |   |
| <b>Drive Behaviour</b>  |  |  |   |
| <b>Device Behaviour</b>   | System run-up aborted  |  |   |
| <b>Additional Error Information (AMK Service)</b>                                     |  |  |   |
|   |  |  | Test comm. Error cells AZ-M881C..., AW-M200 |
| <b>Error removal</b>  | <ul style="list-style-type: none"> <li>AW not present or does not report</li> <li>AW was stated in ID32812 (active AW), but is actually not present</li> <li>AW is defective</li> <li>AW processor receives system reset</li> <li>Check ID32812 • Check bus lines for correct contacting</li> <li>An AW disturbs the entire bus</li> <li>Activate AZ without Aws (pull off plug X27, ID32812 = 0)</li> <li>Same AW numbers set at different Aws (rotary switch for AW No.)</li> <li>Recheck parameter: <ul style="list-style-type: none"> <li>ID32812 Active drives</li> </ul> </li> </ul> |  |   |

**1351 AW not active**

|  |  |  |            |
|--|--|--|------------|
| <ul style="list-style-type: none"> <li>The operation mode defined for an operation mode change is not defined</li> <li>The selected AW is not active.</li> </ul> |  |  |            |
| <b>Device</b>  | <b>AZ<br/>AW</b>   |  |            |
| <b>Description</b>   |  |  |            |
| <b>Class</b>   |  |  |            |
| <b>Drive Behaviour</b>   |  |  |            |
| <b>Device Behaviour</b>  | System run-up aborted  |  |            |
| <b>Additional Error Information (AMK Service)</b>  |  |  |            |
|  |  |  | Ba_wechs() |
| <b>Error removal</b>   | Recheck parameter: <ul style="list-style-type: none"> <li>ID32812 Active drives</li> </ul> |  |            |

**1352 Can be changed only offline**

|   |                       |  |                                |
|---|-----------------------|--|--------------------------------|
| <ul style="list-style-type: none"> <li>ID cannot be changed online</li> </ul> |                       |  |                                |
| <b>Device</b>   |                       |  |                                |
| <b>Description</b>  |                       |  |                                |
| <b>Class</b>  |                       |  |                                |
| <b>Drive Behaviour</b>  |                       |  |                                |
| <b>Device Behaviour</b>   | System run-up aborted |  |                                |
| <b>Additional Error Information (AMK Service)</b>                             |                       |  |                                |
|   |                       |  | Par_wechs(), temp. data change |
| <b>Error removal</b>  |                       |  |                                |

**1353 Parameter Set change wrong**

|  |   |  |               |
|--|---|--|---------------|
| <ul style="list-style-type: none"> <li>Faulty commanding in the parameter set change</li> <li>Parameter set not defined ID32813</li> </ul> |   |  |               |
| <b>Device</b>  |   |  |               |
| <ul style="list-style-type: none"> <li>ID32813 ... ID32820 (depending upon AW No.) AW not active</li> </ul>                                |   |  |               |
| <b>Description</b>   |   |  |               |
| <b>Class</b>   |   |  |               |
| <b>Drive Behaviour</b>   |   |  |               |
| <b>Device Behaviour</b>  | System run-up aborted   |  |               |
| <b>Additional Error Information (AMK Service)</b>  |   |  |               |
|  |   |  | Pars_wechs( ) |
| <b>Error removal</b>   | Recheck parameters:<br>ID32800 AMK main operation mode<br>ID32801 ... ID32805 AMK secondary operation mode 1 ... 5<br>ID32813 ...ID32820 Parameter set assignment 1 ... 8 |  |               |

**1354 Im < Im1**

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>"ID32769 Magnetising current <math>I_M</math>" &lt; "ID32770 Magnetising current <math>I_{M1}</math>" at the point P1</li> </ul> |   |
| <b>Device</b>   |   |
| <b>Description</b>  |   |
| <b>Class</b>  |   |
| <b>Drive Behaviour</b>  |   |
| <b>Device Behaviour</b>   | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>   |   |
|   |   |
| <b>Error removal</b>  | Recheck parameters: <ul style="list-style-type: none"> <li>ID32769 Magnetising current <math>I_M</math></li> <li>ID32770 Magnetising current <math>I_{M1}</math></li> </ul> |

**1355 Datum ID32785**

|   |                       |
|---|-----------------------|
|   |                       |
| <b>Device</b>                                     |                       |
| <b>Description</b>                                |                       |
| <b>Class</b>                                      |                       |
| <b>Drive Behaviour</b>                            |                       |
| <b>Device Behaviour</b>                           | System run-up aborted |
| <b>Additional Error Information (AMK Service)</b> |                       |
|   | RESERVE               |
| <b>Error removal</b>                              |                       |

**1356 Datum ID32785, ID32786**

|  |  |
|--|--|
| <ul style="list-style-type: none"> <li>Contents of "ID32785 Message 16" inadmissible</li> <li>Contents of "ID32786 Message 32" inadmissible</li> </ul> |  |
| <b>Device</b>  |  |
| <b>Description</b>   |  |
| <b>Class</b>   |  |
| <b>Drive Behaviour</b>   |  |
| <b>Device Behaviour</b>  | System run-up aborted  |
| <b>Additional Error Information (AMK Service)</b>  |  |
|  |  |
| <b>Error removal</b>   | Recheck parameters: <ul style="list-style-type: none"> <li>ID32785 Message 16</li> <li>ID32786 Message 32</li> </ul> |

**1357 AWRN ID32787, ID32789, ID32791, ID32793**

|   |  |
|---|--|
| <b>Device</b>                                     |  |
| <b>Description</b>                                |  |
| <b>Class</b>                                      |  |
| <b>Drive Behaviour</b>                            |  |
| <b>Device Behaviour</b>                           | System run-up aborted  |
| <b>Additional Error Information (AMK Service)</b> |  |
|   | Filter_dac()   |
| <b>Error removal</b>                              | Recheck parameters: <ul style="list-style-type: none"> <li>• ID32787 Source analogue channel 1</li> <li>• ID32789 Source analogue channel 2</li> <li>• ID32791 Source analogue channel 3</li> <li>• ID32793 Source analogue channel 4</li> </ul> Check AW-No., permissible 0 ... 8 |

**1358 Source ID32787, ID32789, ID32791; ID32793**

|   |  |
|---|--|
| <b>Device</b>                                     |  |
| <b>Description</b>                                |  |
| <b>Class</b>                                      |  |
| <b>Drive Behaviour</b>                            |  |
| <b>Device Behaviour</b>                           | System run-up aborted  |
| <b>Additional Error Information (AMK Service)</b> |  |
|   |  |
| <b>Error removal</b>                              | Recheck parameters: <ul style="list-style-type: none"> <li>• ID32787 Source analogue channel 1</li> <li>• ID32789 Source analogue channel 2</li> <li>• ID32791 Source analogue channel 3</li> <li>• ID32793 Source analogue channel 4</li> </ul> |

**1359 ID32873, ID32968, ID32977**

|   |  |
|---|--|
| <ul style="list-style-type: none"> <li>• Binary input port address is not permitted.</li> </ul> |  |
| <b>Device</b>   |  |
| <b>Description</b>  |  |
| <b>Class</b>  |  |
| <b>Drive Behaviour</b>  |  |
| <b>Device Behaviour</b>   | System run-up aborted  |
| <b>Additional Error Information (AMK Service)</b>   |  |
|   | Cfg_azea( ), option place analysis, AZ-EA  |
| <b>Error removal</b>  | Recheck parameters: <ul style="list-style-type: none"> <li>• ID32873 Input port 1</li> <li>• ID32968 Input port 2</li> <li>• ID32977 Input port 3</li> </ul> |



**1360 Opt.1 ID32846, ID32855, ID32864**

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>The output port 512 ... 519 is configured several times</li> </ul> |   |
| <b>Device</b>   |   |
| <b>Description</b>  |   |
| <b>Class</b>  |   |
| <b>Drive Behaviour</b>  |   |
| <b>Device Behaviour</b>   | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>   |   |
|   |   |
| <b>Error removal</b>  | Recheck parameters: <ul style="list-style-type: none"> <li>ID32846 Output port 1</li> <li>ID32855 Output port 2</li> <li>ID32864 Output port 3</li> </ul> |

**1361 Opt.2 ID32846, ID32855, ID32864**

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>The output port 520 ... 527 is configured several times</li> </ul> |   |
| <b>Device</b>   |   |
| <b>Description</b>  |   |
| <b>Class</b>  |   |
| <b>Drive Behaviour</b>  |   |
| <b>Device Behaviour</b>   | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>   |   |
|   |   |
| <b>Error removal</b>  | Recheck parameters: <ul style="list-style-type: none"> <li>ID32846 Output port 1</li> <li>ID32855 Output port 2</li> <li>ID32864 Output port 3</li> </ul> |

**1362 Opt.3 ID32846, ID32855, ID32864**

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>The output port 528 ... 535 is configured several times</li> </ul> |   |
| <b>Device</b>   |   |
| <b>Description</b>  |   |
| <b>Class</b>  |   |
| <b>Drive Behaviour</b>  |   |
| <b>Device Behaviour</b>   | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>   |   |
|   |   |
| <b>Error removal</b>  | Recheck parameters: <ul style="list-style-type: none"> <li>ID32846 Output port 1</li> <li>ID32855 Output port 2</li> <li>ID32864 Output port 3</li> </ul> |

### 1363 Opt.4 ID32846, ID32855, ID32864

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>The output port 536 ... 543 is configured several times</li> </ul> |   |
| <b>Device</b>   |   |
| <b>Description</b>  |   |
| <b>Class</b>  |   |
| <b>Drive Behaviour</b>  |   |
| <b>Device Behaviour</b>   | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>   |   |
|   |   |
| <b>Error removal</b>  | Recheck parameters: <ul style="list-style-type: none"> <li>ID32846 Output port 1</li> <li>ID32855 Output port 2</li> <li>ID32864 Output port 3</li> </ul> |

### 1364 Definition of output bits

|   |   |
|---|---|
|   |   |
| <b>Device</b>                                     |   |
| <b>Description</b>                                |   |
| <b>Class</b>                                      |   |
| <b>Drive Behaviour</b>                            |   |
| <b>Device Behaviour</b>                           | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b> |   |
|   | Info 1      25      Recheck ID32847 ... ID32872   |
|   | 41      Recheck ID26, ID34029   |
|   | 42      Recheck ID301, ID303, ID305, ID307  |
| <b>Error removal</b>                              | <ul style="list-style-type: none"> <li>Check codes for binary outputs, invalid entry</li> </ul> |

### 1365 AWRN output bit

|   |  |
|---|--|
| <ul style="list-style-type: none"> <li>The entered AW number is inadmissible. (Bin. Outputs)</li> </ul> |  |
| <b>Device</b>   |  |
| <b>Description</b>  |  |
| <b>Class</b>  |  |
| <b>Drive Behaviour</b>  |  |
| <b>Device Behaviour</b>   | System run-up aborted  |
| <b>Additional Error Information (AMK Service)</b>   |  |
|   |  |
| <b>Error removal</b>  | Recheck parameters: <ul style="list-style-type: none"> <li>ID32847 ... ID32854 Output port 1, bit 0 ... bit 7</li> <li>ID32856 ... ID32863 Output port 3, bit 0 ... bit 7</li> <li>ID32865 ... ID32872 Output port 3, bit 0 ... bit 7</li> </ul> |

### 1366 Definition of input bits

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>The entered code is inadmissible. (Bin. Inputs)</li> <li>Parameterization is not plausible:<br/>ID32948 calls a function which requires further parameter setting on binary input assignment (e.g. measuring function ID32948 = 24 hex regards BE3 ID32980 = 401 hex)</li> </ul> |   |
| <b>Device</b>   |   |
| <b>Description</b>  |   |
| <b>Class</b>  |   |
| <b>Drive Behaviour</b>  |   |
| <b>Device Behaviour</b>   | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>   |   |
|   |   |
| <b>Error removal</b>  | Recheck parameters: <ul style="list-style-type: none"> <li>ID32874 ... ID32881 Input port 1, bit 0 ... 7</li> <li>ID32969 ... ID32876 Input port 2, bit 0 ... 7</li> <li>ID32978 ... ID32985 Input port 3, bit 0 ... 7</li> <li>ID32948 Message 4x32</li> </ul> |

### 1367 ID32883 Opt.place 1

|  |                       |
|--|-----------------------|
| <ul style="list-style-type: none"> <li>The ID for option place 1 was wrongly configured</li> </ul> |                       |
| <b>Device</b>  |                       |
| <b>Description</b>   |                       |
| <b>Class</b>   |                       |
| <b>Drive Behaviour</b>   |                       |
| <b>Device Behaviour</b>  | System run-up aborted |
| <b>Additional Error Information (AMK Service)</b>  |                       |
|  |                       |
| <b>Error removal</b>   |                       |

### 1368 ID32885 Opt.place2

|  |                       |
|--|-----------------------|
| <ul style="list-style-type: none"> <li>The ID for option place 2 was wrongly configured</li> </ul> |                       |
| <b>Device</b>  |                       |
| <b>Description</b>   |                       |
| <b>Class</b>   |                       |
| <b>Drive Behaviour</b>   |                       |
| <b>Device Behaviour</b>  | System run-up aborted |
| <b>Additional Error Information (AMK Service)</b>  |                       |
|  |                       |
| <b>Error removal</b>   |                       |

### 1369 ID32885 Opt.place 3

|  |                       |
|--|-----------------------|
| <ul style="list-style-type: none"> <li>The ID for option place 3 was wrongly configured</li> </ul> |                       |
| <b>Device</b>  |                       |
| <b>Description</b>   |                       |
| <b>Class</b>   |                       |
| <b>Drive Behaviour</b>   |                       |
| <b>Device Behaviour</b>  | System run-up aborted |
| <b>Additional Error Information (AMK Service)</b>  |                       |
|  |                       |
| <b>Error removal</b>   |                       |

**1370 ID32886 Opt.place 4**

|  |                       |
|--|-----------------------|
| <ul style="list-style-type: none"> <li>The ID for option place 4 was wrongly configured</li> </ul> |                       |
| <b>Device</b>  |                       |
| <b>Description</b>   |                       |
| <b>Class</b>   |                       |
| <b>Drive Behaviour</b>   |                       |
| <b>Device Behaviour</b>  | System run-up aborted |
| <b>Additional Error Information (AMK Service)</b>  |                       |
|  |                       |
| <b>Error removal</b>   |                       |

**1371 ID32799 Standard Periphery**

|   |                       |
|---|-----------------------|
| <ul style="list-style-type: none"> <li>"ID32799 Configuration Standard periphery" was wrongly configured</li> </ul> |                       |
| <b>Device</b>   |                       |
| <b>Description</b>  |                       |
| <b>Class</b>  |                       |
| <b>Drive Behaviour</b>  |                       |
| <b>Device Behaviour</b>   | System run-up aborted |
| <b>Additional Error Information (AMK Service)</b>   |                       |
|   |                       |
| <b>Error removal</b>  |                       |

**1372 Optional place 1 card defect**

|   |  |
|---|--|
| <ul style="list-style-type: none"> <li>Option card reports defect</li> </ul>                      |  |
| <b>Device</b>   | <b>AS-PL</b>   |
| <ul style="list-style-type: none"> <li>Ethernet may be configured only in one instance</li> </ul> |  |
| <b>Description</b>  |  |
| <b>Class</b>  |  |
| <b>Drive Behaviour</b>  | Drive runs down  |
| <b>Device Behaviour</b>   |  |
| <b>Additional Error Information (AMK Service)</b>   |  |
|   | Program stack overflow   |
| <b>Error removal</b>  | <ul style="list-style-type: none"> <li>Check Ethernet parameterization</li> <li>Check serial interface parameterization</li> </ul> |

**1373 Optional place 2 card defect**

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>Option card reports defect</li> </ul>                      |   |
| <b>Device</b>   | <b>AS-PL</b>  |
| <ul style="list-style-type: none"> <li>Ethernet may be configured only in one instance</li> </ul> |   |
| <b>Description</b>  |   |
| <b>Class</b>  |   |
| <b>Drive Behaviour</b>  |   |
| <b>Device Behaviour</b>   | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>   |   |
|   |   |
| <b>Error removal</b>  | <ul style="list-style-type: none"> <li>Check Ethernet parameterization.</li> <li>Check serial interface parameterization</li> </ul> |

### 1374 Optional place 3 card defect

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>Option card reports defect</li> </ul>                      |   |
| <b>Device</b>   | <b>AS-PL</b>  |
| <ul style="list-style-type: none"> <li>Ethernet may be configured only in one instance</li> </ul> |   |
| <b>Description</b>  |   |
| <b>Class</b>  |   |
| <b>Drive Behaviour</b>  |   |
| <b>Device Behaviour</b>   | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>   |   |
|   |   |
| <b>Error removal</b>  | <ul style="list-style-type: none"> <li>Check Ethernet parameterization.</li> <li>Check serial interface parameterization</li> </ul> |

### 1375 Optional place 4 card defect

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>Option card reports defect</li> </ul>                      |   |
| <b>Device</b>   | <b>AS-PL</b>  |
| <ul style="list-style-type: none"> <li>Ethernet may be configured only in one instance</li> </ul> |   |
| <b>Description</b>  |   |
| <b>Class</b>  |   |
| <b>Drive Behaviour</b>  |   |
| <b>Device Behaviour</b>   | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>   |   |
|   |   |
| <b>Error removal</b>  | <ul style="list-style-type: none"> <li>Check Ethernet parameterization.</li> <li>Check serial interface parameterization</li> </ul> |

### 1376 ID32882 Optional place 1

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>ID32882 or ID32799 wrongly configured</li> </ul> |   |
| <b>Device</b>   |   |
| <b>Description</b>  |   |
| <b>Class</b>  |   |
| <b>Drive Behaviour</b>  |   |
| <b>Device Behaviour</b>   | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>                                       |   |
|   |   |
| <b>Error removal</b>  | Recheck parameters: <ul style="list-style-type: none"> <li>ID32799 Configuration standard periphery</li> <li>ID32882 Slot assignment</li> </ul> |

**1377 ID32882 Optional place 2**

|   |   |
|---|---|
| • ID32882 or ID32799 wrongly configured           |   |
| <b>Device</b>                                     |   |
| <b>Description</b>                                |   |
| <b>Class</b>                                      |   |
| <b>Drive Behaviour</b>                            |   |
| <b>Device Behaviour</b>                           | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b> |   |
|   |   |
| <b>Error removal</b>                              | Recheck parameters: <ul style="list-style-type: none"> <li>• ID32799 Configuration standard periphery</li> <li>• ID32882 Slot assignment</li> </ul> |

**1378 ID32882 Optional place 3**

|   |   |
|---|---|
| • ID32882 or ID32799 wrongly configured           |   |
| <b>Device</b>                                     |   |
| <b>Description</b>                                |   |
| <b>Class</b>                                      |   |
| <b>Drive Behaviour</b>                            |   |
| <b>Device Behaviour</b>                           | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b> |   |
|   |   |
| <b>Error removal</b>                              | Recheck parameters: <ul style="list-style-type: none"> <li>• ID32799 Configuration standard periphery</li> <li>• ID32882 Slot assignment</li> </ul> |

**1379 ID32882 Optional place 4**

|   |   |
|---|---|
| • ID32882 or ID32799 wrongly configured           |   |
| <b>Device</b>                                     |   |
| <b>Description</b>                                |   |
| <b>Class</b>                                      |   |
| <b>Drive Behaviour</b>                            |   |
| <b>Device Behaviour</b>                           | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b> |   |
|   |   |
| <b>Error removal</b>                              | Recheck parameters: <ul style="list-style-type: none"> <li>• ID32799 Configuration standard periphery</li> <li>• ID32882 Slot assignment</li> </ul> |

**1380 ID110, ID111, ID32769**

|  |  |
|--|--|
| <ul style="list-style-type: none"> <li>Wrong torque display standardization</li> </ul> |  |
| <b>Device</b>  |  |
| <b>Description</b>   |  |
| <b>Class</b>   |  |
| <b>Drive Behaviour</b>   |  |
| <b>Device Behaviour</b>  | System run-up aborted  |
| <b>Additional Error Information (AMK Service)</b>                                      |  |
|  | KM_WRONG   |
| <b>Error removal</b>   | Recheck parameters: <ul style="list-style-type: none"> <li>ID110 Inverter peak current</li> <li>ID111 Motor nominal current</li> <li>ID32769 Magnetising current <math>I_M</math></li> </ul> |

**1381 LIW source calculation**

|  |  |
|--|--|
| Resolution of actual position value is outside the permissible range |  |
| <b>Device</b>  |  |
| <b>Description</b>   |  |
| <b>Class</b>   |  |
| <b>Drive Behaviour</b>   |  |
| <b>Device Behaviour</b>  | System run-up aborted  |
| <b>Additional Error Information (AMK Service)</b>                    |  |
|  | LAM_WRONG  |
| <b>Error removal</b>   | Recheck parameters: <ul style="list-style-type: none"> <li>ID104 Position loop KV-factor</li> <li>ID115 Position feedback type</li> <li>ID116 Resolution motor encoder</li> <li>ID117 Resolution external position feedback</li> <li>ID118 Resolution linear encoder feedback</li> <li>ID121 Load gear input revolution</li> <li>ID122 Load gear output revolution</li> <li>ID123 Feed constant</li> <li>ID32776 Sinus encoder period</li> </ul> |

**1382 System diagnostics**

|   |   |
|---|---|
|   |   |
| <b>Device</b>                                     |   |
| <b>Description</b>                                |   |
| <b>Class</b>                                      |   |
| <b>Drive Behaviour</b>                            |   |
| <b>Device Behaviour</b>                           | System run-up aborted                                 |
| <b>Additional Error Information (AMK Service)</b> |   |
|   | Info 1    0    "ID32953 encoder type" defined wrongly |
|   | 7    HW revision status ≤ 1.03                        |
| <b>Error removal</b>                              |   |



**1383 2PI value wrong**

|   |  |
|---|--|
| <ul style="list-style-type: none"> <li>• <math>2\pi</math> value not defined</li> </ul> |  |
| <b>Device</b>   |  |
| <b>Description</b>  |  |
| <b>Class</b>  |  |
| <b>Drive Behaviour</b>  |  |
| <b>Device Behaviour</b>   | System run-up aborted  |
| <b>Additional Error Information (AMK Service)</b>                                       |  |
|   | PI_IQEA_WRONG  |
| <b>Error removal</b>  | Recheck parameters: <ul style="list-style-type: none"> <li>• ID115 Position feedback type</li> <li>• ID116 Resolution motor encoder</li> <li>• ID117 Resolution external position feedback</li> <li>• ID118 Resolution linear encoder feedback</li> <li>• ID123 Feed constant</li> <li>• ID32776 Sinus encoder period</li> </ul> |

**1384 2PI value calculation**

|  |  |
|--|--|
| <ul style="list-style-type: none"> <li>• <math>2\pi</math> value cannot be calculated</li> </ul> |  |
| <b>Device</b>  |  |
| <b>Description</b>   |  |
| <b>Class</b>   |  |
| <b>Drive Behaviour</b>   |  |
| <b>Device Behaviour</b>  | System run-up aborted  |
| <b>Additional Error Information (AMK Service)</b>  |  |
|  | PI_WRONG   |
| <b>Error removal</b>   | Recheck parameters: <ul style="list-style-type: none"> <li>• ID115 Position feedback type</li> <li>• ID116 Resolution motor encoder</li> <li>• ID117 Resolution external position feedback</li> <li>• ID118 Resolution linear encoder feedback</li> <li>• ID123 Feed constant</li> <li>• ID32776 Sinus encoder period</li> </ul> |

### 1385 ID116, ID32776 ratio

|   |  |
|---|--|
|   |  |
| <b>Device</b>   | <b>AZ/AW</b>   |
| <ul style="list-style-type: none"> <li>• Resolver use: ID 32953 = 3 =&gt; ID32776 = 128</li> <li>• Mandatory use of AW software ≥ 0210</li> </ul> |  |
| <b>Device</b>   | <b>KE/KW</b>   |
| <ul style="list-style-type: none"> <li>• Resolver use: ID 32953 = 8 =&gt; ID32776 = 128</li> </ul>  |  |
| <b>Description</b>  |  |
| <b>Class</b>  |  |
| <b>Drive Behaviour</b>  |  |
| <b>Device Behaviour</b>   | System run-up aborted  |
| <b>Additional Error Information (AMK Service)</b>   |  |
|   | KLIW_WRONG   |
| <b>Error removal</b>  | Recheck parameters connected with encoder resolution corresponding to operation mode: <ul style="list-style-type: none"> <li>• ID116 Resolution motor encoder</li> <li>• ID118 Resolution linear encoder feedback</li> <li>• ID32776 Sinus encoder period</li> <li>• ID32934 Pulse encoder period</li> <li>• ID32800 AMK main operation mode</li> <li>• ID32801 ... ID32806 AMK second operation mode 1 ... 6</li> </ul> |

### 1386 Output DA1 ... DA4

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>• The output port 544 for DA1 ... DA4 is configured several times</li> </ul> |   |
| <b>Device</b>   |   |
| <b>Description</b>  |   |
| <b>Class</b>  |   |
| <b>Drive Behaviour</b>  |   |
| <b>Device Behaviour</b>   | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>   |   |
|   |   |
| <b>Error removal</b>  | Recheck parameters: <ul style="list-style-type: none"> <li>• ID32846 Output port 1</li> <li>• ID32855 Output port 2</li> <li>• ID32864 Output port 3</li> </ul> |

### 1387 ID32846 wrong

|   |  |
|---|--|
|   |  |
| <b>Device</b>                                     |  |
| <b>Description</b>                                |  |
| <b>Class</b>                                      |  |
| <b>Drive Behaviour</b>                            |  |
| <b>Device Behaviour</b>                           | System run-up aborted  |
| <b>Additional Error Information (AMK Service)</b> |  |
|   |  |
| <b>Error removal</b>                              | Recheck parameter: <ul style="list-style-type: none"> <li>• ID32846 Output port 1</li> </ul> |

**1388 ID32855 wrong**

|   |  |
|---|--|
| <b>Device</b>                                     |  |
| <b>Description</b>                                |  |
| <b>Class</b>                                      |  |
| <b>Drive Behaviour</b>                            |  |
| <b>Device Behaviour</b>                           | System run-up aborted  |
| <b>Additional Error Information (AMK Service)</b> |  |
|   |  |
| <b>Error removal</b>                              | Recheck parameter: <ul style="list-style-type: none"> <li>• ID32855 Output port 2</li> </ul> |

**1389 ID32864 wrong**

|   |  |
|---|--|
| <b>Device</b>                                     |  |
| <b>Description</b>                                |  |
| <b>Class</b>                                      |  |
| <b>Drive Behaviour</b>                            |  |
| <b>Device Behaviour</b>                           | System run-up aborted  |
| <b>Additional Error Information (AMK Service)</b> |  |
|   |  |
| <b>Error removal</b>                              | Recheck parameter: <ul style="list-style-type: none"> <li>• ID32846 Output port 3</li> </ul> |

**1390 System diagnostics**

|   |  |
|---|--|
|   | <ul style="list-style-type: none"> <li>• NC/LR time not integral.</li> </ul>   |
| <b>Device</b>                                     |  |
| <b>Description</b>                                |  |
| <b>Class</b>                                      |  |
| <b>Drive Behaviour</b>                            |  |
| <b>Device Behaviour</b>                           | System run-up aborted  |
| <b>Additional Error Information (AMK Service)</b> |  |
|   |  |
| <b>Error removal</b>                              | Recheck parameters: <ul style="list-style-type: none"> <li>• ID1 NC cycle time</li> <li>• ID32958 Command value 1 cycle</li> </ul> |

**1391 ID32772 wrong**

|   |   |
|---|---|
| <b>Device</b>                                     |   |
| <b>Description</b>                                |   |
| <b>Class</b>                                      |   |
| <b>Drive Behaviour</b>                            |   |
| <b>Device Behaviour</b>                           | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b> |   |
|   |   |
| <b>Error removal</b>                              | Recheck parameter: <ul style="list-style-type: none"> <li>• ID32772 Nominal velocity</li> </ul> |

### 1392 ID158, ID32771, ID32772

|   |  |
|---|--|
| <ul style="list-style-type: none"> <li>Wrong standardization of comparative power Px</li> </ul> |  |
| <b>Device</b>   |  |
| <b>Description</b>  |  |
| <b>Class</b>  |  |
| <b>Drive Behaviour</b>  |  |
| <b>Device Behaviour</b>   | System run-up aborted  |
| <b>Additional Error Information (AMK Service)</b>   |  |
|   | KPX_WRONG, PX_WRONG  |
| <b>Error removal</b>  | Recheck parameters: <ul style="list-style-type: none"> <li>ID158 Power threshold Px</li> <li>ID32771 Nominal torque</li> <li>ID32772 Nominal velocity</li> </ul> |

### 1393 AW not AZ-compatible

|  |                       |
|--|-----------------------|
| <ul style="list-style-type: none"> <li>Software levels AW, AZ are not compatible</li> <li>The AZ and AW software level is compared in the system initialization and incompatibility displayed (e.g.: AZ x1xx does not suit AW x2xx)</li> </ul> |                       |
| <b>Device</b>  |                       |
| <b>Description</b>   |                       |
| <b>Class</b>   |                       |
| <b>Drive Behaviour</b>   |                       |
| <b>Device Behaviour</b>  | System run-up aborted |
| <b>Additional Error Information (AMK Service)</b>  |                       |
|  |                       |
| <b>Error removal</b>   |                       |

### 1394 ID32892: x times 2 to the power 16

|   |  |
|---|--|
| <ul style="list-style-type: none"> <li>The numerical value in ID32892 does not correspond to an integral multiple of <math>2^{16}</math></li> </ul> |  |
| <b>Device</b>   |  |
| <b>Description</b>  |  |
| <b>Class</b>  |  |
| <b>Drive Behaviour</b>  |  |
| <b>Device Behaviour</b>   | System run-up aborted  |
| <b>Additional Error Information (AMK Service)</b>   |  |
|   |  |
| <b>Error removal</b>  | Recheck parameter: <ul style="list-style-type: none"> <li>ID32892 Synchronous setpoint pulses divider</li> </ul> |

### 1395 No Main Operation Mode

|   |  |
|---|--|
| <ul style="list-style-type: none"> <li>This message is generated on system initialization if the main operation mode(BA) has been stated with 0, i.e. NO BA or BA NOT ACTIVATED. The main operation mode must always be assigned with a valid operation mode code. Solely the secondary operation modes may also be assigned with 0 (BA NOT ACTIVATED)</li> </ul> |  |
| <b>Device</b>   |  |
| <b>Description</b>  |  |
| <b>Class</b>  |  |
| <b>Drive Behaviour</b>  |  |
| <b>Device Behaviour</b>   | System run-up aborted  |
| <b>Additional Error Information (AMK Service)</b>   |  |
|   |  |
| <b>Error removal</b>  | Recheck parameter: <ul style="list-style-type: none"> <li>ID32800 AMK main operation mode</li> </ul> |

### 1396 Operation mode not defined

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>This message is generated on system initialization if a not defined operation mode code was entered for the basic operation mode and / or for one of the secondary operation modes</li> </ul> |   |
| <b>Device</b>  |   |
| <b>Description</b>   |   |
| <b>Class</b>   |   |
| <b>Drive Behaviour</b>   |   |
| <b>Device Behaviour</b>  | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>  |   |
|  |   |
| <b>Error removal</b>   | Recheck parameters: <ul style="list-style-type: none"> <li>ID32800 AMK main operation mode</li> <li>ID32801 ... ID32806 AMK secondary operation mode 1 ... 6</li> </ul> |

### 1397 Operation mode not impl.

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>This message is generated on system initialization if an operation mode code was entered for the basic operation mode and/or for one of the secondary operation modes which indeed is permissible, but is not yet supported in the existing version</li> </ul> |   |
| <b>Device</b>   |   |
| <b>Description</b>  |   |
| <b>Class</b>  |   |
| <b>Drive Behaviour</b>  |   |
| <b>Device Behaviour</b>   | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>   |   |
|   |   |
| <b>Error removal</b>  | Recheck parameters: <ul style="list-style-type: none"> <li>ID32800 AMK main operation mode</li> <li>ID32801 ... ID32806 AMK secondary operation mode 1 ... 6</li> </ul> |

### 1398 Setpoint source undefined

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>This message is generated on system initialization if a code for the setpoint source was entered in one of the ID32800 ... 32809 which is not defined or if a setpoint source was preset which momentarily is not yet available. The code for the setpoint source is only checked if a sensible operation mode code has also been entered</li> </ul> |   |
| <b>Device</b>   |   |
| <b>Description</b>  |   |
| <b>Class</b>  |   |
| <b>Drive Behaviour</b>  |   |
| <b>Device Behaviour</b>   | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>   |   |
|   |   |
| <b>Error removal</b>  | Recheck parameters: <ul style="list-style-type: none"> <li>ID32800 AMK main operation mode</li> <li>ID32801 ... ID32806 AMK secondary operation mode 1 ... 6</li> <li>ID32807 AMK secondary operation mode 7</li> <li>ID32808 AMK secondary operation mode 8</li> <li>ID32909 AMK secondary operation mode 9</li> </ul> |

### 1399 Setpoint Source (SQ) is Not Admissible in this Operation Mode (BA)

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>This message is generated on system initialization if a code for the setpoint source has been entered in one of the ID32800 ... 32809 which represents a not permissible combination in conjunction with the also entered code for the operation mode (e.g. position control with analog command value setting)</li> </ul> |   |
| <b>Device</b>   |   |
| <b>Description</b>  |   |
| <b>Class</b>  |   |
| <b>Drive Behaviour</b>  |   |
| <b>Device Behaviour</b>   | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>   |   |
|   |   |
| <b>Error removal</b>  | Recheck parameters: <ul style="list-style-type: none"> <li>ID32800 AMK main operation mode</li> <li>ID32801 ... ID32806 AMK secondary operation mode 1 ... 6</li> <li>ID32807 AMK secondary operation mode 7</li> <li>ID32808 AMK secondary operation mode 8</li> <li>ID32909 AMK secondary operation mode 9</li> </ul> |

### 1400 Option Card for Setpoint Source (SQ)

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>This message is generated on system initialization if a code for a setpoint source was selected on an option card in one of the ID32800 ... ID32809 but the option card is not present</li> </ul> |   |
| <b>Device</b>  | <b>AZ</b>   |
| <ul style="list-style-type: none"> <li>Option card is not present</li> </ul>   |   |
| <b>Description</b>   |   |
| <b>Class</b>   |   |
| <b>Drive Behaviour</b>   |   |
| <b>Device Behaviour</b>  | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>  |   |
|  |   |
| <b>Error removal</b>   | Recheck parameters: <ul style="list-style-type: none"> <li>ID32800 AMK main operation mode</li> <li>ID32801 ... ID32806 AMK secondary operation mode 1 ... 6</li> <li>ID32807 AMK secondary operation mode 7</li> <li>ID32808 AMK secondary operation mode 8</li> <li>ID32909 AMK secondary operation mode 9</li> </ul> |



### 1401 MGQ not selected

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>This message is generated on system initialization if no valid code for the source of the torque limit was stated in one of the ID32800 ... 32809</li> </ul> |   |
| <b>Device</b>   |   |
| <b>Description</b>  |   |
| <b>Class</b>  |   |
| <b>Drive Behaviour</b>  |   |
| <b>Device Behaviour</b>   | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>   |   |
|   |   |
| <b>Error removal</b>  | Recheck parameters: <ul style="list-style-type: none"> <li>ID32800 AMK main operation mode</li> <li>ID32801 ... ID32806 AMK secondary operation mode 1 ... 6</li> <li>ID32807 AMK secondary operation mode 7</li> <li>ID32808 AMK secondary operation mode 8</li> <li>ID32909 AMK secondary operation mode 9</li> </ul> |

### 1402 Source of Torque Limit (MGQ) inadmissible for this Operation Mode (BA)

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>This message is generated on system initialization if a source for the torque limit was stated in one of the ID32800 ... 32809 which is inadmissible in combination with the selected operation mode</li> </ul> |   |
| <b>Device</b>  |   |
| <b>Description</b>   |   |
| <b>Class</b>   |   |
| <b>Drive Behaviour</b>   |   |
| <b>Device Behaviour</b>  | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>  |   |
|  |   |
| <b>Error removal</b>   | Recheck parameters: <ul style="list-style-type: none"> <li>ID32800 AMK main operation mode</li> <li>ID32801 ... ID32806 AMK secondary operation mode 1 ... 6</li> <li>ID32807 AMK secondary operation mode 7</li> <li>ID32808 AMK secondary operation mode 8</li> <li>ID32909 AMK secondary operation mode 9</li> </ul> |

### 1403 Source of Torque Limit (MGQ) not implemented

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>This message is generated on system initialization if a source for the torque limit was stated in one of the ID 32800 ... ID32809 which is not present in the existing system</li> </ul> |   |
| <b>Device</b>   |   |
| <b>Description</b>  |   |
| <b>Class</b>  |   |
| <b>Drive Behaviour</b>  |   |
| <b>Device Behaviour</b>   | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>   |   |
|   |   |
| <b>Error removal</b>  | Recheck parameters: <ul style="list-style-type: none"> <li>ID32800 AMK main operation mode</li> <li>ID32801 ... ID32806 AMK secondary operation mode 1 ... 6</li> <li>ID32807 AMK secondary operation mode 7</li> <li>ID32808 AMK secondary operation mode 8</li> <li>ID32909 AMK secondary operation mode 9</li> </ul> |



### 1404 Source of Torque Limit (MGQ) AW-analog assigned

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>This message is generated on system initialization if an analog input was stated as source for the torque limit in one of the ID32800 ... 32809, but this analog input is already assigned with another source</li> </ul> |   |
| <b>Device</b>  |   |
| <b>Description</b>   |   |
| <b>Class</b>   |   |
| <b>Drive Behaviour</b>   |   |
| <b>Device Behaviour</b>  | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>  |   |
|  |   |
| <b>Error removal</b>   | Recheck parameters: <ul style="list-style-type: none"> <li>ID32800 AMK main operation mode</li> <li>ID32801 ... ID32806 AMK secondary operation mode 1 ... 6</li> <li>ID32807 AMK secondary operation mode 7</li> <li>ID32808 AMK secondary operation mode 8</li> <li>ID32909 AMK secondary operation mode 9</li> </ul> |

### 1405 Speed Ramp (DZLRMP) function missing

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>This message is generated on system initialization if a speed ramp function was stated in one of the ID32800 ... ID32809 which is not implemented in the existing system</li> </ul> |   |
| <b>Device</b>  |   |
| <b>Description</b>   |   |
| <b>Class</b>   |   |
| <b>Drive Behaviour</b>   |   |
| <b>Device Behaviour</b>  | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>  |   |
|  |   |
| <b>Error removal</b>   | Recheck parameters: <ul style="list-style-type: none"> <li>ID32800 AMK main operation mode</li> <li>ID32801 ... ID32806 AMK secondary operation mode 1 ... 6</li> <li>ID32807 AMK secondary operation mode 7</li> <li>ID32808 AMK secondary operation mode 8</li> <li>ID32909 AMK secondary operation mode 9</li> </ul> |

### 1406 Speed Filter (DZLFLT) function missing

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>This message is generated on system initialization if a speed filter function was stated in one of the ID32800 ... ID32809 which is not implemented in the existing system</li> </ul> |   |
| <b>Device</b>  |   |
| <b>Description</b>   |   |
| <b>Class</b>   |   |
| <b>Drive Behaviour</b>   |   |
| <b>Device Behaviour</b>  | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>  |   |
|  |   |
| <b>Error removal</b>   | Recheck parameters: <ul style="list-style-type: none"> <li>ID32800 AMK main operation mode</li> <li>ID32801 ... ID32806 AMK secondary operation mode 1 ... 6</li> <li>ID32807 AMK secondary operation mode 7</li> <li>ID32808 AMK secondary operation mode 8</li> <li>ID32909 AMK secondary operation mode 9</li> </ul> |

### 1407 Selected Operation Mode (BA) not configured

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>This message is generated on an operation mode change if the selected operation mode number was not yet configured.</li> </ul> |   |
| <b>Device</b>   |   |
| <b>Description</b>  |   |
| <b>Class</b>  |   |
| <b>Drive Behaviour</b>  |   |
| <b>Device Behaviour</b>   | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>   |   |
|   |   |
| <b>Error removal</b>  | Recheck parameters: <ul style="list-style-type: none"> <li>ID32800 AMK main operation mode</li> <li>ID32801 ... ID32806 AMK secondary operation mode 1 ... 6</li> </ul> |

### 1408 Change of Operation Mode (BA) not executable

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>This message is generated on an operation mode change if the selected BA cannot be executed.</li> </ul> |   |
| <b>Device</b>  |   |
| <b>Description</b>   |   |
| <b>Class</b>   |   |
| <b>Drive Behaviour</b>   |   |
| <b>Device Behaviour</b>  | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>  |   |
|  |   |
| <b>Error removal</b>   | Recheck parameters: <ul style="list-style-type: none"> <li>ID32800 AMK main operation mode</li> <li>ID32801 ... ID32806 AMK secondary operation mode 1 ... 6</li> </ul> |

### 1409 Selected AW No. not active

|   |  |
|---|--|
| <ul style="list-style-type: none"> <li>This message is generated on an operation mode change if the selected AW No. is not activated or not present.</li> </ul> |  |
| <b>Device</b>   |  |
| <b>Description</b>  |  |
| <b>Class</b>  |  |
| <b>Drive Behaviour</b>  |  |
| <b>Device Behaviour</b>   | System run-up aborted  |
| <b>Additional Error Information (AMK Service)</b>   |  |
|   |  |
| <b>Error removal</b>  | <ul style="list-style-type: none"> <li>Activate AW No. through "ID32812 Active drives"</li> <li>Do not command a not existing inverter module</li> </ul> |

### 1410 Selected Parameter Set

|  |                       |
|--|-----------------------|
| <ul style="list-style-type: none"> <li>Selected parameter set not defined</li> </ul> |                       |
| <b>Device</b>  |                       |
| <b>Description</b>   |                       |
| <b>Class</b>   |                       |
| <b>Drive Behaviour</b>   |                       |
| <b>Device Behaviour</b>  | System run-up aborted |
| <b>Additional Error Information (AMK Service)</b>                                    |                       |
|  |                       |
| <b>Error removal</b>   |                       |

### 1411 Type of Position Controller is Inadmissible

|   |                       |
|---|-----------------------|
| <ul style="list-style-type: none"> <li>The selected position controller type is momentarily not available or not permissible</li> </ul> |                       |
| Device  |                       |
| Description   |                       |
| Class   |                       |
| Drive Behaviour   |                       |
| Device Behaviour  | System run-up aborted |
| <b>Additional Error Information (AMK Service)</b>   |                       |
|   |                       |
| Error removal   |                       |

### 1412 Type of External Encoder inadmissible

|  |  |
|--|--|
| <ul style="list-style-type: none"> <li>The selected type of the external encoder system is not permissible.</li> </ul> |  |
| Device   |  |
| Description  |  |
| Class  |  |
| Drive Behaviour  |  |
| Device Behaviour   | System run-up aborted  |
| <b>Additional Error Information (AMK Service)</b>  |  |
|  |  |
| Error removal  | <ul style="list-style-type: none"> <li>Diagnostic message comes only in connection with a position control selected in the operation mode parameter</li> <li>Recheck parameters: <ul style="list-style-type: none"> <li>ID32811 External position feed back source</li> <li>ID32800 AMK main operation mode</li> <li>ID32801 ... ID32806 secondary operation mode 1 ... 6</li> </ul> </li> </ul> |

### 1413 Missing option card

|   |  |
|---|--|
| <ul style="list-style-type: none"> <li>A not existing command value source was defined in the operation mode parameter (e.g. missing option card, wrong slot or missing drive)</li> </ul> |  |
| Device  |  |
| Description   |  |
| Class   |  |
| Drive Behaviour   |  |
| Device Behaviour  | System run-up aborted  |
| <b>Additional Error Information (AMK Service)</b>   |  |
|   |  |
| Error removal   | Recheck parameters:<br>ID32800 AMK main operation mode<br>ID32801 ... ID32806 AMK secondary operation mode 1 ... 6 |

## 1414 Unknown AW type

|   |                        |
|---|------------------------|
| <ul style="list-style-type: none"> <li>This message is reported if an AW module of unknown type was discovered in the analysis of the operation mode parameter, i.e. the AZ detects an AW the function of which is unknown to it.<br/>This error can arise if, for instance, an older AZ software version does not support new types of AW</li> </ul> |                        |
| <b>Device</b>   | <b>AW</b><br><b>AZ</b> |
| <b>Description</b>  |                        |
| <b>Class</b>  |                        |
| <b>Drive Behaviour</b>  |                        |
| <b>Device Behaviour</b>   | System run-up aborted  |
| <b>Additional Error Information (AMK Service)</b>   |                        |
|   |                        |
| <b>Error removal</b>  |                        |

## 1415 Wrong AW type

|   |                       |
|---|-----------------------|
| <ul style="list-style-type: none"> <li>The inverter does not support the stated operation mode (ID32800 ...)</li> </ul> |                       |
| <b>Device</b>   |                       |
| <b>Description</b>  |                       |
| <b>Class</b>  |                       |
| <b>Drive Behaviour</b>  |                       |
| <b>Device Behaviour</b>   | System run-up aborted |
| <b>Additional Error Information (AMK Service)</b>   |                       |
|   |                       |
| <b>Error removal</b>  |                       |

## 1416 Change of Operation Mode inadmissible

|   |                       |
|---|-----------------------|
| <ul style="list-style-type: none"> <li>This message is reported if it is attempted to change the operation mode on an inverter module for parallel operation</li> </ul> |                       |
| <b>Device</b>   |                       |
| <b>Description</b>  |                       |
| <b>Class</b>  |                       |
| <b>Drive Behaviour</b>  |                       |
| <b>Device Behaviour</b>   | System run-up aborted |
| <b>Additional Error Information (AMK Service)</b>   |                       |
|   |                       |
| <b>Error removal</b>  |                       |

## 1417 System diagnostics

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>The chosen operation mode cannot be mapped</li> </ul> |   |
| <b>Device</b>  | <b>AZ</b>   |
| <b>Description</b>   |   |
| <b>Class</b>   |   |
| <b>Drive Behaviour</b>   |   |
| <b>Device Behaviour</b>  | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>  |   |
|  |   |
| <b>Error removal</b>   | Recheck parameters: <ul style="list-style-type: none"> <li>ID32800 AMK main operation mode</li> <li>ID32801 ... ID32806 AMK secondary operation mode 1 ... 6</li> </ul> |

## 1418 System diagnostics

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>The chosen operation mode cannot be mapped</li> </ul> |   |
| <b>Device</b>  | <b>AW</b>   |
| <b>Description</b>   |   |
| <b>Class</b>   |   |
| <b>Drive Behaviour</b>   |   |
| <b>Device Behaviour</b>  | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>  |   |
|  |   |
| <b>Error removal</b>   | Recheck parameters: <ul style="list-style-type: none"> <li>ID32800 AMK main operation mode</li> <li>ID32801 ... ID32806 AMK secondary operation mode 1 ... 6</li> </ul> |

## 1419 System diagnostics

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>Speed filter activated but parameterised wrongly</li> </ul> |   |
| <b>Device</b>  | <b>AZ</b>   |
| <b>Description</b>   |   |
| <b>Class</b>   |   |
| <b>Drive Behaviour</b>   |   |
| <b>Device Behaviour</b>  | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>  |   |
|  | Check_dzlfilt( )  |
| <b>Error removal</b>   | Recheck parameters: <ul style="list-style-type: none"> <li>ID32800 AMK main operation mode</li> <li>ID32801 ... ID32806 AMK secondary operation mode 1 ... 6</li> </ul> |

## 1420 System diagnostics

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>Speed ramp is activated but the ramp parameters are asymmetric or faulty</li> </ul> |   |
| <b>Device</b>  |   |
| <b>Description</b>   |   |
| <b>Class</b>   |   |
| <b>Drive Behaviour</b>   |   |
| <b>Device Behaviour</b>  | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>  |   |
|  | Check_dzlrm( )  |
| <b>Error removal</b>   | Recheck parameters: <ul style="list-style-type: none"> <li>ID32780 Acceleration ramp</li> <li>ID32781 Deceleration ramp</li> <li>ID32800 AMK main operation mode</li> <li>ID32801 ... ID32806 AMK secondary operation mode 1 ... 6</li> </ul> |

## 1421 System diagnostics

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>"ID82 Positive torque limit" faulty</li> </ul> |   |
| <b>Device</b>   |   |
| <b>Description</b>  |   |
| <b>Class</b>  |   |
| <b>Drive Behaviour</b>  |   |
| <b>Device Behaviour</b>   | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>                                     |   |
|   | Check_momgrp()  |
| <b>Error removal</b>  | Recheck parameters: <ul style="list-style-type: none"> <li>ID82 Positive torque limit</li> <li>ID32800 AMK main operation mode</li> <li>ID32801 ... ID32806 AMK secondary operation mode 1 ... 6</li> </ul> |

## 1422 System diagnostics

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>Internal lists of controller configuration do not fit the operation mode</li> </ul> |   |
| <b>Device</b>  |   |
| <b>Description</b>   |   |
| <b>Class</b>   |   |
| <b>Drive Behaviour</b>   |   |
| <b>Device Behaviour</b>  | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>  |   |
|  | Init_cfglist( )   |
| <b>Error removal</b>   | Recheck parameters: <ul style="list-style-type: none"> <li>ID32800 AMK main operation mode</li> <li>ID32801 ... ID32806 AMK secondary operation mode 1 ... 6</li> </ul> |

## 1423 Inadmissible Setpoint Source

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>This warning occurs on analysis of the ID32948 Config. AZ message</li> </ul> |   |
| <b>Device</b>   | <b>AZ</b>   |
| <ul style="list-style-type: none"> <li>Possibly AZ-IG option card not present</li> </ul>                            |   |
| <b>Description</b>  |   |
| <b>Class</b>  |   |
| <b>Drive Behaviour</b>  |   |
| <b>Device Behaviour</b>   | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>   |   |
|   |   |
| <b>Error removal</b>  | Recheck parameters: <ul style="list-style-type: none"> <li>ID32948 Message 4x32</li> <li>ID32800 AMK main operation mode</li> <li>ID32801 ... ID32806 AMK secondary operation mode 1 ... 6</li> </ul> |



### 1424 Inadmissible Setpoint Source

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>This warning occurs on analysis of the ID32948 Config. AZ message</li> </ul> |   |
| Device  |   |
| Description   |   |
| Class   |   |
| Drive Behaviour   |   |
| Device Behaviour  | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>   |   |
|   |   |
| Error removal   | Recheck parameter: <ul style="list-style-type: none"> <li>ID32849 Message 4x32</li> </ul> |

### 1425 ID55 only 0, 5, 9

|  |  |
|--|--|
| <ul style="list-style-type: none"> <li>Position polarity may be selected only pair-wise (setpoint / actual value)</li> </ul> |  |
| Device   |  |
| Description  |  |
| Class  |  |
| Drive Behaviour  |  |
| Device Behaviour   | System run-up aborted  |
| <b>Additional Error Information (AMK Service)</b>  |  |
|  |  |
| Error removal  | Recheck parameter: <ul style="list-style-type: none"> <li>ID55 Closed loop polarity parameter</li> </ul> |

### 1426 ID121/122 wrong

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>The gear factors ID121 and ID122 cannot be implemented. (The marginal conditions for the scaling factors are not fulfilled.)</li> </ul> |   |
| Device   | AZ  |
| Description  |   |
| Class  |   |
| Drive Behaviour  |   |
| Device Behaviour   | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>  |   |
|  |   |
| Error removal  | Recheck parameters: <ul style="list-style-type: none"> <li>ID121 Load gear input revolution</li> <li>ID122 Load gear output revolution</li> </ul> |

### 1427 ID44 inadmissible

|  |                       |
|--|-----------------------|
| <ul style="list-style-type: none"> <li>An inadmissible bit combination was set in "ID44 Scaling of velocity data"</li> </ul> |                       |
| Device   |                       |
| Description  |                       |
| Class  |                       |
| Drive Behaviour  |                       |
| Device Behaviour   | System run-up aborted |
| <b>Additional Error Information (AMK Service)</b>  |                       |
|  |                       |
| Error removal  |                       |



### 1428 ID86 inadmissible

|   |                       |
|---|-----------------------|
| <ul style="list-style-type: none"> <li>An inadmissible bit combination was set in "ID86 Torque data scaling"</li> </ul> |                       |
| <b>Device</b>   |                       |
| <b>Description</b>  |                       |
| <b>Class</b>  |                       |
| <b>Drive Behaviour</b>  |                       |
| <b>Device Behaviour</b>   | System run-up aborted |
| <b>Additional Error Information (AMK Service)</b>   |                       |
|   |                       |
| <b>Error removal</b>  |                       |

### 1429 ID160 inadmissible

|   |  |
|---|--|
| <ul style="list-style-type: none"> <li>An inadmissible bit combination was set in "ID160 Scaling method acceleration data"</li> <li>The data reference must agree with the position data reference in "ID76 Position data scaling"</li> </ul> |  |
| <b>Device</b>   |  |
| <b>Description</b>  |  |
| <b>Class</b>  |  |
| <b>Drive Behaviour</b>  |  |
| <b>Device Behaviour</b>   | System run-up aborted  |
| <b>Additional Error Information (AMK Service)</b>   |  |
|   |  |
| <b>Error removal</b>  | Recheck parameters: <ul style="list-style-type: none"> <li>ID76 Position data scaling</li> <li>ID160 Scaling method acceleration data</li> </ul> |

### 1430 Position scaling

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>The scaling set through the position scaling parameters ID77, ID78, ID79 as well as ID121, ID122 or ID123 and the current encoder resolution cannot be implemented. (The marginal conditions for the scaling factors are not fulfilled)</li> </ul> |   |
| <b>Device</b>   |   |
| <b>Description</b>  |   |
| <b>Class</b>  |   |
| <b>Drive Behaviour</b>  |   |
| <b>Device Behaviour</b>   | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>   |   |
|   |   |
| <b>Error removal</b>  | Recheck parameters: <ul style="list-style-type: none"> <li>ID77 Translation position scaling factor</li> <li>ID78 Translation position scaling exponent</li> <li>ID79 Rotatory position resolution</li> <li>ID121 Load gear input revolution</li> <li>ID122 Load gear output revolution</li> <li>ID123 Feed constant</li> </ul> |

### 1431 Velocity scaling

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>The scaling set through the velocity scaling parameters ID45, ID46 as well as ID123 cannot be implemented. (The marginal conditions for the scaling factors are not fulfilled)</li> </ul> |   |
| <b>Device</b>  |   |
| <b>Description</b>   |   |
| <b>Class</b>   |   |
| <b>Drive Behaviour</b>   |   |
| <b>Device Behaviour</b>  | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>  |   |
|  |   |
| <b>Error removal</b>   | Recheck parameters: <ul style="list-style-type: none"> <li>ID45 Velocity scaling factor</li> <li>ID46 Velocity scaling exponent</li> <li>ID123 Feed constant</li> </ul> |

### 1432 Velocity scaling IPO

|  |  |
|--|--|
| <ul style="list-style-type: none"> <li>The scaling set through the velocity scaling parameters ID45, ID46 as well as ID121, ID122 or ID123 cannot be implemented. (The marginal conditions for the scaling factors are not fulfilled)</li> </ul> |  |
| <b>Device</b>  |  |
| <b>Description</b>   |  |
| <b>Class</b>   |  |
| <b>Drive Behaviour</b>   |  |
| <b>Device Behaviour</b>  | System run-up aborted  |
| <b>Additional Error Information (AMK Service)</b>  |  |
|  |  |
| <b>Error removal</b>   | Recheck parameters: <ul style="list-style-type: none"> <li>ID45 Velocity scaling factor</li> <li>ID46 Velocity scaling exponent</li> <li>ID121 Load gear input revolution</li> <li>ID122 Load gear output revolution</li> <li>ID123 Feed constant</li> </ul> |

### 1433 Torque scaling

|  |  |
|--|--|
| <ul style="list-style-type: none"> <li>The scaling set through the torque / force scaling parameters ID93, ID94 as well as ID123 and ID32771 cannot be implemented. (The marginal conditions for the scaling factors are not fulfilled)</li> </ul> |  |
| <b>Device</b>  |  |
| <b>Description</b>   |  |
| <b>Class</b>   |  |
| <b>Drive Behaviour</b>   |  |
| <b>Device Behaviour</b>  | System run-up aborted  |
| <b>Additional Error Information (AMK Service)</b>  |  |
|  |  |
| <b>Error removal</b>   | Recheck parameters: <ul style="list-style-type: none"> <li>ID93 Torque scaling factor</li> <li>ID94 Torque scaling exponent</li> <li>ID123 Feed constant</li> <li>ID32771 Nominal torque <math>M_N</math></li> </ul> |

### 1434 Acceleration scaling

|  |  |
|--|--|
| <ul style="list-style-type: none"> <li>The scaling set through the velocity scaling parameters ID161, ID162 as well as ID121, ID122 or ID123 cannot be implemented. (The marginal conditions for the scaling factors are not fulfilled)</li> </ul> |  |
| <b>Device</b>  |  |
| <b>Description</b>   |  |
| <b>Class</b>   |  |
| <b>Drive Behaviour</b>   |  |
| <b>Device Behaviour</b>  | System run-up aborted  |
| <b>Additional Error Information (AMK Service)</b>  |  |
|  |  |
| <b>Error removal</b>   | Recheck parameters: <ul style="list-style-type: none"> <li>ID161 Acceleration scaling factor</li> <li>ID162 Acceleration scaling exponent</li> <li>ID121 Load gear input revolution</li> <li>ID122 Load gear output revolution</li> <li>ID123 Feed constant</li> </ul> |

### 1435 ID76 inadmissible

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>An inadmissible bit combination was set in "ID76 Position data scaling"</li> </ul> |   |
| <b>Device</b>   |   |
| <b>Description</b>  |   |
| <b>Class</b>  |   |
| <b>Drive Behaviour</b>  |   |
| <b>Device Behaviour</b>   | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>   |   |
|   |   |
| <b>Error removal</b>  | Recheck parameter: <ul style="list-style-type: none"> <li>ID76 Position data scaling</li> </ul> |

### 1436 Decade switch

|  |                       |
|--|-----------------------|
| <ul style="list-style-type: none"> <li>Configuration decade switch inadmissible<br/>See configuration of binary input</li> </ul> |                       |
| <b>Device</b>  |                       |
| <b>Description</b>   |                       |
| <b>Class</b>   |                       |
| <b>Drive Behaviour</b>   |                       |
| <b>Device Behaviour</b>  | System run-up aborted |
| <b>Additional Error Information (AMK Service)</b>  |                       |
|  |                       |
| <b>Error removal</b>   |                       |

### 1437 Configuration of Software Pulse Transmission (SIWL)

|   |                       |  |  |
|---|-----------------------|--|--|
| <ul style="list-style-type: none"> <li>• Setpoint source in ID32964 inadmissible</li> <li>• Inadmissible external actual position value selected; see ID32800 et seq.</li> <li>• Encoder resolution is not compatible with ID32966 and ID32967</li> </ul> |                       |  |  |
| <b>Device</b>   |                       |  |  |
| <b>Description</b>  |                       |  |  |
| <b>Class</b>  |                       |  |  |
| <b>Drive Behaviour</b>  |                       |  |  |
| <b>Device Behaviour</b>   | System run-up aborted |  |  |
| <b>Additional Error Information (AMK Service)</b>   |                       |  |  |
|   |                       |  |  |
| <b>Error Removal</b>  |                       |  |  |

|   |               |    |  |
|---|---------------|----|--|
| <b>Device</b>                                     | KW-R06        |    |  |
| <b>Description</b>                                |               |    |  |
| <b>Class</b>                                      | Warning       |    |  |
| <b>Drive Behaviour</b>                            |               |    |  |
| <b>Device Behaviour</b>                           |               |    |  |
| <b>Additional Error Information (AMK Service)</b> |               |    |  |
|   | Info 1        | 13 | The encoder frequency for the observer filter is greater than 87,5 % of the maximum value.   |
|   | Error Removal |    | Reduce "ID34259 Maximum scanning frequency" or increase "ID34251 Line counts"<br>Verification is not possible until continuous operation   |
|   |               | 19 | The encoder frequency of the output encoder is greater than 87,5 % of the maximum value.   |
|   | Error Removal |    | <ul style="list-style-type: none"> <li>• Reduce "ID34259 Maximum scanning frequency" or increase "ID34251 Line counts"<br/>Verification is not possible until continuous operation</li> <li>• Reduce speed</li> <li>• Reduce "ID34253 SIWL Factor" or increase "ID34254 SIWL Divisor"</li> </ul> |

| Class   | Error                 |    |  |
|---|-----------------------|----|--|
| Drive Behaviour                                   |                       |    |  |
| Device Behaviour                                  | System run-up aborted |    |  |
| <b>Additional Error Information (AMK Service)</b> |                       |    |  |
|   | Info 1                | 1  | No valid encoder chosen in "ID34250 SIWL source"   |
|   |                       | 2  | "ID34252 Offset Position Index" $\geq$ "ID34251 Line counts"   |
|   |                       | 3  | "ID34251 Line counts" = 0  |
|   |                       | 4  | "ID34251 Line counts" $\geq 2^{22} \Rightarrow$ More than $2^{24}$ increments  |
|   |                       | 5  | With bus encoder no line counts are specified ("ID34255 SIWL Modulo IN" $> 0$ )  |
|   |                       | 6  | "ID34256 Filter observer" time constant is inadmissible ( $600 \mu s \leq ID34256 \leq 20 ms$ )  |
|   |                       | 7  | "ID34259 Maximum scanning frequency" of SIWL output encoder is inadmissible ( $1 kHz \leq ID34259 \leq 2 MHz$ )                            |
|   |                       | 8  | "ID32953 Encoder type" is not a valid encoder type as SIWL source  |
|   |                       | 9  | "ID32953 Encoder type" is inadmissible as SIWL source e.g. sensorless encoder or V/f-operation mode  |
|   | Error Removal         |    | Recheck parameters   |
|   |                       | 14 | "ID34253 SIWL Factor" is 0 or too large  |
|   |                       | 15 | "ID34254 SIWL Divisor" is 0 or too large   |
|   | Error Removal         |    | <ul style="list-style-type: none"> <li>• Reduce ID34253 and ID34254 with the same factor</li> <li>• ID34254 <math>\neq 0</math></li> </ul> |

| Class   | Error                          |    |  |
|---|--------------------------------|----|--|
| Drive Behaviour                                   | Controlled Braking             |    |  |
| Device Behaviour                                  |                                |    |  |
| <b>Additional Error Information (AMK Service)</b> |                                |    |  |
|   | Info 1                         | 12 | The encoder frequency for the observer filter is too large. So the sense of rotation can invert.   |
|   | Error Removal                  |    | Reduce "ID34259 Maximum scanning frequency" or increase "ID34251 Line counts"<br>Verification is not possible until continuous operation   |
|   |                                | 18 | The encoder frequency of the output encoder is too large. So the sense of rotation can invert.   |
|   | Error Removal                  |    | <ul style="list-style-type: none"> <li>Reduce "ID34259 Maximum scanning frequency" or increase "ID34251 Line counts"<br/>Verification is not possible until continuous operation</li> <li>Reduce speed</li> <li>Reduce "ID34253 SIWL Factor" or increase "ID34254 SIWL Divisor"</li> </ul>   |
|   |                                | 20 | Deviation is too large, the following error increases<br>Verification is not possible until continuous operation   |
|   | Error Removal                  |    | <ul style="list-style-type: none"> <li>Reduce speed</li> <li>Increase ID34259</li> <li>Reduce ID34253</li> <li>Increase ID34254</li> </ul>   |
|   |                                | 23 | Within application of a bus encoder "ID34255 Modulo IN" is exceeded. An actual position value > Modulo IN + 1 is reported.<br>Verification is not possible until continuous operation  |
|   | Error Removal                  |    | <ul style="list-style-type: none"> <li>Recheck ID34255</li> <li>Recheck modulo calculation</li> </ul>  |
| <b>Error Removal</b>                              | Recheck parameters in general: |    | <ul style="list-style-type: none"> <li>ID32953 Encoder type</li> <li>ID34250 SIWL source</li> <li>ID34251 Line counts</li> <li>ID34252 Offset Position Index</li> <li>ID34253 SIWL Factor</li> <li>ID34254 SIWL Divisor</li> <li>ID34255 SIWL Modulo IN</li> <li>ID34256 Filter Observer</li> <li>ID34257 SIWL Control</li> <li>ID34258 SIWL Status</li> <li>ID34259 Maximum scanning frequency</li> </ul> |

### 1438 Band width barrier

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>Band width barrier is not configurable</li> <li>Inadmissible entry in "ID32932 Barrier frequency" or "ID32933 Band width"</li> <li>ID32933 &gt; ID32932...</li> </ul> |   |
| <b>Device</b>  |   |
| <b>Description</b>   |   |
| <b>Class</b>   |   |
| <b>Drive Behaviour</b>   |   |
| <b>Device Behaviour</b>  | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>  |   |
|  |   |
| <b>Error Removal</b>   | Recheck parameters: <ul style="list-style-type: none"> <li>ID32932 Barrier frequency</li> <li>ID32933 Band width</li> </ul> |

## 1440 Data record changed

|   |   |  |  |
|---|---|--|--|
| <ul style="list-style-type: none"> <li>"ID32996 Data signification" of the current data record does not agree with the serial number of the unit</li> </ul> |   |  |  |
| <b>Device</b>   |   |  |  |
| <b>Description</b>  |   |  |  |
| <b>Class</b>  |   |  |  |
| <b>Drive Behaviour</b>  |   |  |  |
| <b>Device Behaviour</b>   | System run-up aborted   |  |  |
| <b>Additional Error Information (AMK Service)</b>   |   |  |  |
|   |   |  |  |
| <b>Error Removal</b>  | Recheck parameter: <ul style="list-style-type: none"> <li>ID32996 Data signification</li> </ul> |  |  |

## 1441 Clock synchronization

|  |                       |   |   |
|--|-----------------------|---|---|
| <ul style="list-style-type: none"> <li>Clock master / clock slave combination not permissible</li> </ul> |                       |   |   |
| <b>Device</b>  |                       |   |   |
| <b>Description</b>   |                       |   |   |
| <b>Class</b>   |                       |   |   |
| <b>Drive Behaviour</b>   |                       |   |   |
| <b>Device Behaviour</b>  | System run-up aborted |   |   |
| <b>Additional Error Information (AMK Service)</b>  |                       |   |   |
|  | Info 1                | 1 | SERCOS parameterized as clock master and ACC as clock slave |
|  |                       | 2 | SERCOS parameterized as clock master and PLC as clock slave |
|  |                       | 3 | PLC parameterized as clock master and ACC as clock slave    |
| <b>Error Removal</b>   |                       |   |   |

## 1442 SEEP configuration

|   |                       |   |  |
|---|-----------------------|---|--|
| <ul style="list-style-type: none"> <li>An inadmissible value has been detected in a check of a SEEP cell</li> </ul> |                       |   |  |
| <b>Device</b>   |                       |   |  |
| <b>Description</b>  |                       |   |  |
| <b>Class</b>  |                       |   |  |
| <b>Drive Behaviour</b>  |                       |   |  |
| <b>Device Behaviour</b>   | System run-up aborted |   |  |
| <b>Additional Error Information (AMK Service)</b>   |                       |   |  |
|   | Info 1                | 1 | Test overload time cell 20014, 20018 and 20024 |
| <b>Error Removal</b>  |                       |   |  |



## 1443 Test generator

|  |                       |    |  |
|--|-----------------------|----|--|
| <ul style="list-style-type: none"> <li>Incorrect parameter setting for test generator</li> </ul> |                       |    |  |
| <b>Device</b>  |                       |    |  |
| <b>Description</b>   |                       |    |  |
| <b>Class</b>   |                       |    |  |
| <b>Drive Behaviour</b>   |                       |    |  |
| <b>Device Behaviour</b>  | System run-up aborted |    |  |
| <b>Additional Error Information (AMK Service)</b>  |                       |    |  |
|  | Info 1                | 1  | "ID34044 TG Configuration list" too large (actual size > 32 bytes) |
|  |                       | 2  | Faulty configuration   |
|  |                       | 3  | RF can't be activated by the test generator                        |
|  |                       | 4  | DC BUS enable(UE) is missing                                       |
|  |                       | 6  | Amplitude "High" < Amplitude "Low"                                 |
|  |                       | 7  | Unused signal destination  |
|  |                       | 8  | Incorrect frequency  |
|  |                       | 9  | Status "Init function"   |
|  |                       | 10 | Parameters write / read error                                      |
|  |                       | 11 | System booting could not be executed                               |
|  |                       | 12 | Change of operating mode could not be executed                     |
|  |                       | 14 | Memory error for sine table  |
|  |                       | 15 | SBM System ready is missing  |
|  |                       | 16 | Ramp for trapezium function could not be executed                  |
|  |                       | 19 | RF disable after test generator is started                         |
| <b>Error Removal</b>   |                       |    |  |

## 1444 PWM frequency

|   |                       |   |   |
|---|-----------------------|---|---|
| <ul style="list-style-type: none"> <li>Incorrect parameter setting for PWM frequency</li> </ul> |                       |   |   |
| <b>Device</b>   |                       |   |   |
| <b>Description</b>  |                       |   |   |
| <b>Class</b>  |                       |   |   |
| <b>Drive Behaviour</b>  |                       |   |   |
| <b>Device Behaviour</b>   | System run-up aborted |   |   |
| <b>Additional Error Information (AMK Service)</b>   |                       |   |   |
|   | Info 1                | 0 | "ID34048 PWM frequency" does not contain 4 kHz or 8 kHz |
|   |                       | 1 | 4 kHz values in the device SEEP are invalid             |
| <b>Error Removal</b>  |                       |   |   |

|   |                       |   |  |
|---|-----------------------|---|--|
| <b>Device</b>                                     | <b>KE</b>             |   |  |
| <b>Description</b>                                |                       |   |  |
| <b>Class</b>                                      |                       |   |  |
| <b>Drive Behaviour</b>                            |                       |   |  |
| <b>Device Behaviour</b>                           | System run-up aborted |   |  |
| <b>Additional Error Information (AMK Service)</b> |                       |   |  |
|   | Info 1                | 0 | ID34048 'PWM frequency' does not contain 8 kHz |
| <b>Error Removal</b>                              |                       |   |  |

## 1445 Current controller

|   |  |   |   |
|---|--|---|---|
| <ul style="list-style-type: none"> <li>Incorrect parameter setting for current</li> </ul> |  |   |   |
| <b>Device</b>   |  |   |   |
| <b>Description</b>  |  |   |   |
| <b>Class</b>  |  |   |   |
| <b>Drive Behaviour</b>  |  |   |   |
| <b>Device Behaviour</b>   | System run-up aborted  |   |   |
| <b>Additional Error Information (AMK Service)</b>   |  |   |   |
|   | Info 1   | 0 | Kpi in Q controller not workable                          |
|   |  | 1 | Kii in Q controller not workable                          |
|   |  | 3 | Kpi in D controller not workable                          |
|   |  | 4 | Kii in D controller not workable                          |
|   |  | 5 | "ID34151 Kp current Q" = 0;<br>"ID34152 Kp current D" ≠ 0 |
| <b>Gerät</b>  | <b>KU- / KW-R03</b>  |   |   |
|   | Info 1   | 2 | "ID34051 Kp current D" = 0;<br>"ID34052 TN current D" ≠ 0 |
| <b>Error Removal</b>  | Recheck parameters: <ul style="list-style-type: none"> <li>ID34051 Kp current D</li> <li>ID34052 TN current D</li> <li>ID34151 Kp current Q</li> <li>ID34152 TN current D</li> </ul> |   |   |

## 1446 EF can not be activated

|  |  |  |  |
|--|--|--|--|
| <ul style="list-style-type: none"> <li>EF monitoring is selected in "ID32901 Global service bits" but the controller card does not meet the hardware requirements</li> </ul> |  |  |  |
| <b>Device</b>  |  |  |  |
| <b>Description</b>   |  |  |  |
| <b>Class</b>   |  |  |  |
| <b>Drive Behaviour</b>   |  |  |  |
| <b>Device Behaviour</b>  | System run-up aborted  |  |  |
| <b>Additional Error Information (AMK Service)</b>  |  |  |  |
|  |  |  |  |
| <b>Error Removal</b>   | Recheck parameter: <ul style="list-style-type: none"> <li>ID32901 Global service bits</li> </ul> |  |  |

## 1447 Motor encoder gear

|  |   |  |  |
|--|---|--|--|
| <ul style="list-style-type: none"> <li>The result of the calculation <math>(ID32776 * ID32961)/32960</math> must be an integer value.</li> </ul> |   |  |  |
| <b>Device</b>  |   |  |  |
| <b>Description</b>   |   |  |  |
| <b>Class</b>   |   |  |  |
| <b>Drive Behaviour</b>   |   |  |  |
| <b>Device Behaviour</b>  | System run-up aborted   |  |  |
| <b>Additional Error Information (AMK Service)</b>  |   |  |  |
|  |   |  |  |
| <b>Error Removal</b>   | Recheck parameters: <ul style="list-style-type: none"> <li>ID32776 Sinus encoder period</li> <li>ID32960 Input motor encoder gear</li> <li>ID32961 Output motor encoder gear</li> </ul> |  |  |

### 1448 ID113 > ID34153

|  |  |
|--|--|
| <ul style="list-style-type: none"> <li>"ID113 Maximum Speed" is higher than "ID34153 Maximum Speed Motor" which was written into the encoder data base.</li> </ul> |  |
| <b>Device</b>  |  |
| <b>Description</b>   |  |
| <b>Class</b>   |  |
| <b>Drive Behaviour</b>   |  |
| <b>Device Behaviour</b>  | System run-up aborted  |
| <b>Additional Error Information (AMK Service)</b>  |  |
|  |  |
| <b>Error Removal</b>   | Recheck parameters: <ul style="list-style-type: none"> <li>ID113 Maximum speed</li> <li>ID34153 Maximum speed motor</li> </ul> |

### 1451 Configuration temperature sensor

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>The sensor defined in ID34166 is not valid.</li> <li>The user defined characteristic according to ID34202, ID34203, ID34204 is not plausible</li> </ul> |   |
| <b>Device</b>  | <b>KW / KWD</b>   |
| <b>Description</b>   |   |
| <b>Class</b>   |   |
| <b>Drive Behaviour</b>   |   |
| <b>Device Behaviour</b>  | System run-up aborted   |
| <b>Additional Error Information (AMK Service)</b>  |   |
|  | Info 1    0    The configured sensor in ID34166 is not valid  |
|  | 1    User defined characteristic is not plausible   |
| <b>Error Removal</b>   | Recheck parameters: <ul style="list-style-type: none"> <li>ID34166 Temperature sensor motor</li> <li>ID34203 Voltage at 25 degree</li> <li>ID34204 Voltage at 75 degree</li> <li>ID34205 Voltage at 125 degree</li> </ul> |

### 1454 'Error initialisation angle observer'

|   |  |
|---|--|
| <ul style="list-style-type: none"> <li>Error initialisation angle observer</li> </ul> |  |
| <b>Device</b>   | KW-R06<br>iDT5<br>iX / i3X<br>iC   |
| <b>Description</b>  | The observer for sensorless detection of the rotor position could not be initialised   |
| <b>Class</b>  | Error  |
| <b>Drive Behaviour</b>  |  |
| <b>Device Behaviour</b>   | System run-up aborted  |
| <b>Additional Error Information (AMK Service)</b>                                     |  |
|   | Info1    1    ID34233 = 0 and ID34164 = 0  |
|   | 2    ID34045 = 0, ID34046 = 0 and ID34167 = 0  |
| <b>Error Removal</b>  | Recheck parameters: <ul style="list-style-type: none"> <li>ID34045 'Inductance path D'</li> <li>ID34046 'Inductance path Q'</li> <li>ID34164 'Terminal resistance'</li> <li>ID34167 'Terminal Inductance'</li> <li>ID34233 'Phase resistance'</li> </ul> |

## 4.6 No. 1536 ... 1559 Serial EEPROM

### 1537 System diagnostics

|  |                       |  |                         |
|--|-----------------------|--|-------------------------|
| <ul style="list-style-type: none"> <li>• SEEP error in the inverter</li> <li>• See "ID32773 Service bits", SBM withdrawal</li> </ul> |                       |  |                         |
| <b>Device</b>  |                       |  |                         |
| <b>Description</b>   |                       |  |                         |
| <b>Class</b>   |                       |  |                         |
| <b>Drive Behaviour</b>   |                       |  |                         |
| <b>Device Behaviour</b>  | System run-up aborted |  |                         |
| <b>Additional Error Information (AMK Service)</b>  |                       |  |                         |
|  |                       |  | Inadmissible SEEP order |
| <b>Error Removal</b>   |                       |  |                         |

### 1538 System diagnostics

|   |                       |  |                             |
|---|-----------------------|--|-----------------------------|
| <ul style="list-style-type: none"> <li>• Taskmaster- / taskslave combination is inadmissible</li> </ul> |                       |  |                             |
| <b>Device</b>   |                       |  |                             |
| <b>Description</b>  |                       |  |                             |
| <b>Class</b>  |                       |  |                             |
| <b>Drive Behaviour</b>  |                       |  |                             |
| <b>Device Behaviour</b>   | System run-up aborted |  |                             |
| <b>Additional Error Information (AMK Service)</b>   |                       |  |                             |
|   |                       |  | Error in AWMON reading SEEP |
| <b>Error Removal</b>  |                       |  |                             |

### 1539 SEEP 1st checksum

|   |                       |   |                                  |
|---|-----------------------|---|----------------------------------|
| <ul style="list-style-type: none"> <li>• Checksum of the SEEP range 1 is not correct</li> </ul> |                       |   |                                  |
| <b>Device</b>   |                       |   |                                  |
| <b>Description</b>  |                       |   |                                  |
| <b>Class</b>  |                       |   |                                  |
| <b>Drive Behaviour</b>  |                       |   |                                  |
| <b>Device Behaviour</b>   | System run-up aborted |   |                                  |
| <b>Additional Error Information (AMK Service)</b>   |                       |   |                                  |
|   |                       |   | Inadmissible SEEP order          |
| <b>Error Removal</b>  |                       |   |                                  |
| <b>Device</b>   | KE                    |   |                                  |
| <b>Description</b>  |                       |   |                                  |
| <b>Class</b>  |                       |   |                                  |
| <b>Drive Behaviour</b>  |                       |   |                                  |
| <b>Device Behaviour</b>   | System run-up aborted |   |                                  |
| <b>Additional Error Information (AMK Service)</b>   |                       |   |                                  |
|   | Info1                 | 0 | Error checksum SEEP, cell 0 - 37 |
| <b>Error Removal</b>  |                       |   |                                  |

### 1540 SEEP 2nd checksum

|   |                       |  |                         |
|---|-----------------------|--|-------------------------|
| <ul style="list-style-type: none"> <li>Checksum of the SEEP range 2 is not correct</li> </ul> |                       |  |                         |
| <b>Device</b>   |                       |  |                         |
| <b>Description</b>  |                       |  |                         |
| <b>Class</b>  |                       |  |                         |
| <b>Drive Behaviour</b>  |                       |  |                         |
| <b>Device Behaviour</b>   | System run-up aborted |  |                         |
| <b>Additional Error Information (AMK Service)</b>   |                       |  |                         |
|   |                       |  | Inadmissible SEEP order |
| <b>Error Removal</b>  |                       |  |                         |

|   |                       |   |                                     |
|---|-----------------------|---|-------------------------------------|
| <b>Device</b>                                     |                       |   |                                     |
| <b>Description</b>                                |                       |   |                                     |
| <b>Class</b>                                      |                       |   |                                     |
| <b>Drive Behaviour</b>                            |                       |   |                                     |
| <b>Device Behaviour</b>                           | System run-up aborted |   |                                     |
| <b>Additional Error Information (AMK Service)</b> |                       |   |                                     |
|   | Info1                 | 1 | Error checksum SEEP, cell 39 - 49   |
|   |                       | 2 | Error checksum SEEP, cell 64 - 78   |
|   |                       | 3 | Error checksum SEEP, cell 79 - 93   |
|   |                       | 4 | Error checksum SEEP, cell 94 - 108  |
|   |                       | 5 | Error checksum SEEP, cell 109 - 123 |
| <b>Error Removal</b>                              |                       |   |                                     |

### 1541 Commanded AW missing

|  |                       |  |  |
|--|-----------------------|--|--|
| <ul style="list-style-type: none"> <li>The commanded inverter module is not present</li> </ul> |                       |  |  |
| <b>Device</b>  |                       |  |  |
| <b>Description</b>   |                       |  |  |
| <b>Class</b>   |                       |  |  |
| <b>Drive Behaviour</b>   |                       |  |  |
| <b>Device Behaviour</b>  | System run-up aborted |  |  |
| <b>Additional Error Information (AMK Service)</b>  |                       |  |  |
|  |                       |  |  |
| <b>Error Removal</b>   |                       |  |  |

### 1542 System diagnostics

|   |                       |  |                   |
|---|-----------------------|--|-------------------|
| <b>Device</b>                                     |                       |  |                   |
| <b>Description</b>                                |                       |  |                   |
| <b>Class</b>                                      |                       |  |                   |
| <b>Drive Behaviour</b>                            |                       |  |                   |
| <b>Device Behaviour</b>                           | System run-up aborted |  |                   |
| <b>Additional Error Information (AMK Service)</b> |                       |  |                   |
|   |                       |  | SEEP driver error |
| <b>Error Removal</b>                              |                       |  |                   |

**1543 System diagnostics**

|  |                       |
|--|-----------------------|
| <ul style="list-style-type: none"> <li>The manufacturer information was not written correctly in the SEEP</li> </ul> |                       |
| <b>Device</b>  |                       |
| <b>Description</b>   |                       |
| <b>Class</b>   |                       |
| <b>Drive Behaviour</b>   |                       |
| <b>Device Behaviour</b>  | System run-up aborted |
| <b>Additional Error Information (AMK Service)</b>  |                       |
|  |                       |
| <b>Error Removal</b>   |                       |

**1544 ID32953 no adjustment permissible**

|   |                       |
|---|-----------------------|
| <ul style="list-style-type: none"> <li>If "ID32953 Encoder type" ≠ A type encoder no encoder basic adjustment is permissible</li> </ul> |                       |
| <b>Device</b>   |                       |
| <b>Description</b>  |                       |
| <b>Class</b>  |                       |
| <b>Drive Behaviour</b>  |                       |
| <b>Device Behaviour</b>   | System run-up aborted |
| <b>Additional Error Information (AMK Service)</b>   |                       |
|   |                       |
| <b>Error Removal</b>  |                       |

**1545 System diagnostics**

|  |                       |
|--|-----------------------|
| <ul style="list-style-type: none"> <li>Errors occurred when writing the current encoder values in the SEEP. Values were not written correctly</li> </ul> |                       |
| <b>Device</b>  |                       |
| <b>Description</b>   |                       |
| <b>Class</b>   |                       |
| <b>Drive Behaviour</b>   |                       |
| <b>Device Behaviour</b>  | System run-up aborted |
| <b>Additional Error Information (AMK Service)</b>  |                       |
|  |                       |
| <b>Error Removal</b>   |                       |

**1546 System diagnostics**

|   |                            |
|---|----------------------------|
| <ul style="list-style-type: none"> <li>Fault counter is missing</li> </ul>        |                            |
| <b>Device</b>   | <b>AZ</b>                  |
| <ul style="list-style-type: none"> <li>Possibly AW is not present, ...</li> </ul> |                            |
| <b>Description</b>  |                            |
| <b>Class</b>  |                            |
| <b>Drive Behaviour</b>  |                            |
| <b>Device Behaviour</b>   | System run-up aborted      |
| <b>Additional Error Information (AMK Service)</b>                                 |                            |
|   | SEEP fault counter missing |
| <b>Error Removal</b>  |                            |

### 1547 System diagnostics

|   |                       |  |                               |
|---|-----------------------|--|-------------------------------|
|   |                       |  |                               |
| Device  |                       |  |                               |
| Description                                       |                       |  |                               |
| Class   |                       |  |                               |
| Drive Behaviour                                   |                       |  |                               |
| Device Behaviour                                  | System run-up aborted |  |                               |
| <b>Additional Error Information (AMK Service)</b> |                       |  |                               |
|   |                       |  | AWMON timeout / AZSEEP driver |
| Error Removal                                     |                       |  |                               |

### 1548 System diagnostics

|   |                       |  |  |
|---|-----------------------|--|--|
|   |                       |  |  |
| Device  |                       |  |  |
| Description                                       |                       |  |  |
| Class   |                       |  |  |
| Drive Behaviour                                   |                       |  |  |
| Device Behaviour                                  | System run-up aborted |  |  |
| <b>Additional Error Information (AMK Service)</b> |                       |  |  |
|   |                       |  | Default in SEEP, after ½h for not initialized SEEP |
| Error Removal                                     |                       |  |  |

### 1549 System diagnostics

|  |                       |  |                              |
|--|-----------------------|--|------------------------------|
| <ul style="list-style-type: none"> <li>• Clock master / clock slave combination not permissible</li> </ul> |                       |  |                              |
| Device   |                       |  |                              |
| Description  |                       |  |                              |
| Class  |                       |  |                              |
| Drive Behaviour  |                       |  |                              |
| Device Behaviour   | System run-up aborted |  |                              |
| <b>Additional Error Information (AMK Service)</b>  |                       |  |                              |
|  |                       |  | SEEP Alloc / Dealloc timeout |
| Error Removal  |                       |  |                              |

### 1550 System diagnostics

|  |                       |  |                            |
|--|-----------------------|--|----------------------------|
| <ul style="list-style-type: none"> <li>• Clock master / clock slave combination not permissible</li> </ul> |                       |  |                            |
| Device   |                       |  |                            |
| Description  |                       |  |                            |
| Class  |                       |  |                            |
| Drive Behaviour  |                       |  |                            |
| Device Behaviour   | System run-up aborted |  |                            |
| <b>Additional Error Information (AMK Service)</b>  |                       |  |                            |
|  |                       |  | SEEP Alloc / Dealloc error |
| Error Removal  |                       |  |                            |



## 1551 Encoder track failed

|   |         |  |  |
|---|---------|--|--|
| <ul style="list-style-type: none"> <li>Encoders actual position value determined internally from inputs G1N/G1I or G2N/G2I does not change over time</li> <li>Occurs during encoder basic adjustment, failure of an encoder track</li> <li>Signals not present at G1N, G1I, G2N or G2I</li> </ul> |         |  |  |
| <b>Device</b>   |         |  |  |
| <b>Description</b>  |         |  |  |
| <b>Class</b>  | Warning |  |  |
| <b>Drive Behaviour</b>  |         |  |  |
| <b>Device Behaviour</b>   |         |  |  |
| <b>Additional Error Information (AMK Service)</b>   |         |  |  |
|   |         |  |  |
| <b>Error Removal</b>  |         |  |  |

## 1552 Encoder adjustment abort

|  |   |   |   |
|--|---|---|---|
| <ul style="list-style-type: none"> <li>Encoder adjustment was aborted</li> </ul> |   |   |   |
| <b>Device</b>  | <b>Controller cards</b><br><b>KU-R03(P)</b><br><b>KW-R03(P)</b><br><b>KW-R04</b>  |   |   |
| <b>Description</b>   |   |   |   |
| <b>Class</b>   | Error   |   |   |
| <b>Drive Behaviour</b>   | Drive runs down   |   |   |
| <b>Device Behaviour</b>  | Controller enabled (RF) is withdrawn internally   |   |   |
| <b>Additional Error Information (AMK Service)</b>                                |   |   |   |
|  | Info 1  | 1 | Faulty encoder type (during changing encoder position)    |
|  |   | 2 | Faulty encoder type (during encoder adjustment)           |
|  |   | 3 | RF is set or withdrawn too early (alignment)              |
|  |   | 4 | RF is withdrawn (during encoder setting)                  |
|  |   | 5 | RF is set or withdrawn too early (during encoder setting) |
|  |   | 6 | Time out 29 s is exceeded with SWK                        |
| <b>Error Removal</b>   | <ul style="list-style-type: none"> <li>Set RF not before the function <i>encoder adjustment</i> is started</li> <li>Reset RF not before the function <i>encoder adjustment</i> is finished</li> <li>Recheck parameters: <ul style="list-style-type: none"> <li>ID32953 'Encoder type'</li> <li>ID34094 'Rise time SWC'</li> <li>ID34099 'Delay time SWC'</li> </ul> </li> </ul> |   |   |

|  |   |   |  |
|--|---|---|--|
| <ul style="list-style-type: none"> <li>Encoder adjustment for was aborted</li> </ul> |   |   |  |
| <b>Device</b>  | <b>Controller cards</b><br><b>KW-R06</b>  |   |  |
| <b>Description</b>   | Encoder adjustment for setting of commutation was aborted   |   |  |
| <b>Class</b>   | Error   |   |  |
| <b>Drive Behaviour</b>   | Drive runs down   |   |  |
| <b>Device Behaviour</b>  | Controller enabled (RF) is withdrawn internally   |   |  |
| <b>Additional Error Information (AMK Service)</b>                                    |   |   |  |
|  | Info 1  | 0 | --   |
|  |   | 1 | RF was set before the command <i>encoder adjustment</i> was set.               |
|  |   | 2 | ID32953 'Encoder type': Encoder type or motor model not correct                |
|  |   | 3 | RF was set to zero before the function <i>encoder adjustment</i> was finished. |
| <b>Error Removal</b>   | <ul style="list-style-type: none"> <li>Do not set RF before the function <i>encoder adjustment</i> is started</li> <li>Do not reset RF before the function <i>encoder adjustment</i> is finished</li> <li>Recheck parameter: <ul style="list-style-type: none"> <li>ID32953 'Encoder type'</li> </ul> </li> </ul> |   |  |

### 1553 Encoder adjustment timeout

|  |   |   |   |
|--|---|---|---|
| <ul style="list-style-type: none"> <li>Timeout encoder adjustment</li> </ul> |   |   |   |
| <b>Device</b>  | <b>Controller cards</b><br>KU-R03(P)<br>KW-R03(P)<br>KW-R04   |   |   |
| <b>Description</b>   | After command <i>encoder adjustment</i> was started RF was not set within the timeout time                                      |   |   |
| <b>Class</b>   | Error   |   |   |
| <b>Drive Behaviour</b>   | Drive keeps standstill  |   |   |
| <b>Device Behaviour</b>  | RF = 0 is kept  |   |   |
| <b>Additional Error Information (AMK Service)</b>                            |   |   |   |
|  | Info1   | 1 | time out exceeded during encoder adjustment |
|  |   | 2 | time out exceeded during rotor alignment    |
| <b>Error Removal</b>   | <ul style="list-style-type: none"> <li>After the command <i>encoder adjustment</i> RF must be set within 60 seconds.</li> </ul> |   |   |

|  |   |   |  |
|--|---|---|--|
| <ul style="list-style-type: none"> <li>Timeout while encoder adjustment</li> </ul> |   |   |  |
| <b>Device</b>  | <b>Controller cards</b><br>KW-R06   |   |  |
| <b>Description</b>   | A timeout occurred during encoder adjustment  |   |  |
| <b>Class</b>   | Error   |   |  |
| <b>Drive Behaviour</b>   | Drive keeps standstill  |   |  |
| <b>Device Behaviour</b>  | RF = 0 is kept  |   |  |
| <b>Additional Error Information (AMK Service)</b>                                  |   |   |  |
|  | Info1   | 0 | --   |
|  |   | 1 | RF was not set within 10 s                     |
|  |   | 2 | RF was not withdrawn within 2 min              |
|  |   | 3 | RF was not withdrawn automatically within 10 s |
| <b>Error Removal</b>   | <ul style="list-style-type: none"> <li>Configure a binary input as source for RF and chose it</li> <li>After the command <i>encoder adjustment</i>, RF must be set quickly</li> <li>For safety RF will be withdrawn after 2 minutes if rotor is only adjusted</li> <li>Recheck parameter:                             <ul style="list-style-type: none"> <li>ID32796 'Source RF'</li> </ul> </li> </ul> |   |  |

### 1554 ID32776 Sinus Encoder Period is faulty

|   |  |  |  |
|---|--|--|--|
| <b>Device</b>                                     |  |  |  |
| <b>Description</b>                                | The number of encoder teeth is counted over one revolution of the encoder from reference pulse to reference pulse and compared with parameter "ID32776 Sinus encoder period".<br>A difference has occurred here                      |  |  |
| <b>Class</b>                                      | Warning  |  |  |
| <b>Drive Behaviour</b>                            |  |  |  |
| <b>Device Behaviour</b>                           |  |  |  |
| <b>Additional Error Information (AMK Service)</b> |  |  |  |
|   |  |  |  |
| <b>Error Removal</b>                              | <ul style="list-style-type: none"> <li>Occurs during the basic encoder adjustment</li> <li>Recheck parameter:                             <ul style="list-style-type: none"> <li>ID32776 Sinus encoder period</li> </ul> </li> </ul> |  |  |

## 1555 Reference pulse

|   |  |
|---|--|
| <b>Device</b>                                     |  |
| <b>Description</b>                                | The reference pulse could not be detected during a determined period                         |
| <b>Class</b>                                      | Warning  |
| <b>Drive Behaviour</b>                            |  |
| <b>Device Behaviour</b>                           | System run-up aborted  |
| <b>Additional Error Information (AMK Service)</b> |  |
|   |  |
| <b>Error Removal</b>                              | <ul style="list-style-type: none"> <li>Occurs during the basic encoder adjustment</li> </ul> |

## 1556 Reference Pulse - Encoder Input

|   |   |
|---|---|
| <b>Device</b>                                     |   |
| <b>Description</b>                                | The comparator voltage, which generates the digital pulse D0 from the encoder signal S0, is determined in the process.<br>This comparator voltage has run to the minimum or maximum value |
| <b>Class</b>                                      | Warning   |
| <b>Drive Behaviour</b>                            |   |
| <b>Device Behaviour</b>                           |   |
| <b>Additional Error Information (AMK Service)</b> |   |
|   |   |
| <b>Error Removal</b>                              | <ul style="list-style-type: none"> <li>One of the G0N / G0I signals (reference pulse track) is not present</li> <li>Occurs during the basic encoder adjustment</li> </ul>                 |

## 1557 Turn axis

|   |   |
|---|---|
| <b>Device</b>                                     |   |
| <b>Description</b>                                | No change of the inverter's internal encoder signal counter was determined during a defined time period |
| <b>Class</b>                                      | Warning   |
| <b>Drive Behaviour</b>                            |   |
| <b>Device Behaviour</b>                           |   |
| <b>Additional Error Information (AMK Service)</b> |   |
|   |   |
| <b>Error Removal</b>                              | <ul style="list-style-type: none"> <li>Occurs during the basic encoder adjustment</li> </ul>            |

## 1558 System diagnostics

|   |   |
|---|---|
|   | <ul style="list-style-type: none"> <li>Inverter transfers faulty encoder feedback values</li> </ul> |
| <b>Device</b>                                     |   |
| <b>Description</b>                                |   |
| <b>Class</b>                                      | Warning   |
| <b>Drive Behaviour</b>                            |   |
| <b>Device Behaviour</b>                           |   |
| <b>Additional Error Information (AMK Service)</b> |   |
|   | Online adjustment   |
| <b>Error Removal</b>                              |   |

## 4.7 No. 1792 ... 1849 Drive Commanding

### 1794 System diagnostics

|   |   |
|---|---|
| • Interpolator                                    |   |
| <b>Device</b>                                     |   |
| <b>Description</b>                                |   |
| <b>Class</b>                                      | Warning   |
| <b>Drive Behaviour</b>                            |   |
| <b>Device Behaviour</b>                           |   |
| <b>Additional Error Information (AMK Service)</b> |   |
|   | IPO, end position not reached   |
| <b>Error Removal</b>                              | Recheck parameters: <ul style="list-style-type: none"> <li>• ID41 Homing velocity</li> <li>• ID136 Positive acceleration</li> <li>• ID137 Negative acceleration</li> <li>• ID222 Spindle position speed</li> <li>• ID32956 Additional acceleration value</li> </ul> |

### 1795 System diagnostics

|   |   |
|---|---|
| • Interpolator                                    |   |
| <b>Device</b>                                     |   |
| <b>Description</b>                                |   |
| <b>Class</b>                                      | Warning   |
| <b>Drive Behaviour</b>                            |   |
| <b>Device Behaviour</b>                           |   |
| <b>Additional Error Information (AMK Service)</b> |   |
|   | IPO, dxddiv factor  |
| <b>Error Removal</b>                              | Recheck parameters: <ul style="list-style-type: none"> <li>• ID41 Homing velocity</li> <li>• ID136 Positive acceleration</li> <li>• ID137 Negative acceleration</li> <li>• ID222 Spindle position speed</li> <li>• ID32956 Additional acceleration value</li> </ul> |

### 1796 System diagnostics

|   |   |
|---|---|
| • Interpolator                                    |   |
| <b>Device</b>                                     |   |
| <b>Description</b>                                |   |
| <b>Class</b>                                      | Warning   |
| <b>Drive Behaviour</b>                            |   |
| <b>Device Behaviour</b>                           |   |
| <b>Additional Error Information (AMK Service)</b> |   |
|   | IPO, mkipstart  |
| <b>Error Removal</b>                              | Recheck parameters: <ul style="list-style-type: none"> <li>• ID41 Homing velocity</li> <li>• ID136 Positive acceleration</li> <li>• ID137 Negative acceleration</li> <li>• ID222 Spindle position speed</li> <li>• ID32956 Additional acceleration value</li> </ul> |

## 1797 System diagnostics

|   |   |
|---|---|
| • Interpolator                                    |   |
| Device  |   |
| Description                                       |   |
| Class   | Warning   |
| Drive Behaviour                                   |   |
| Device Behaviour                                  |   |
| <b>Additional Error Information (AMK Service)</b> |   |
|   | IPO, mkipstart = 8 in Ipsteuer  |
| <b>Error Removal</b>                              | Recheck parameters: <ul style="list-style-type: none"> <li>• ID41 Homing velocity</li> <li>• ID136 Positive acceleration</li> <li>• ID137 Negative acceleration</li> <li>• ID222 Spindle position speed</li> <li>• ID32956 Additional acceleration value</li> </ul> |

## 1798 System diagnostics

|   |   |
|---|---|
| • Interpolator                                    |   |
| Device  |   |
| Description                                       |   |
| Class   | Warning   |
| Drive Behaviour                                   |   |
| Device Behaviour                                  |   |
| <b>Additional Error Information (AMK Service)</b> |   |
|   | IPO, mkipstart = 1 or 2 in Ipsteuer   |
| <b>Error Removal</b>                              | Recheck parameters: <ul style="list-style-type: none"> <li>• ID41 Homing velocity</li> <li>• ID136 Positive acceleration</li> <li>• ID137 Negative acceleration</li> <li>• ID222 Spindle position speed</li> <li>• ID32956 Additional acceleration value</li> </ul> |

## 1799 System diagnostics

|   |   |
|---|---|
| • Interpolator                                    |   |
| Device  |   |
| Description                                       |   |
| Class   | Warning   |
| Drive Behaviour                                   |   |
| Device Behaviour                                  |   |
| <b>Additional Error Information (AMK Service)</b> |   |
|   | IPO, mkipstart = 4 in Ipsteuer  |
| <b>Error Removal</b>                              | Recheck parameters: <ul style="list-style-type: none"> <li>• ID41 Homing velocity</li> <li>• ID136 Positive acceleration</li> <li>• ID137 Negative acceleration</li> <li>• ID222 Spindle position speed</li> <li>• ID32956 Additional acceleration value</li> </ul> |

## 1800 System diagnostics

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>• Interpolator</li> <li>• Reduction ID136, ID137</li> </ul> |   |
| <b>Device</b>  |   |
| <b>Description</b>   |   |
| <b>Class</b>   | Warning   |
| <b>Drive Behaviour</b>   |   |
| <b>Device Behaviour</b>  |   |
| <b>Additional Error Information (AMK Service)</b>  |   |
|  | IPO standardisation avzgmax too large   |
| <b>Error Removal</b>   | Recheck parameters: <ul style="list-style-type: none"> <li>• ID41 Homing velocity</li> <li>• ID136 Positive acceleration</li> <li>• ID137 Negative acceleration</li> <li>• ID222 Spindle position speed</li> <li>• ID32956 Additional acceleration value</li> </ul> |

## 1801 System diagnostics

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>• Interpolator</li> <li>• Increase ID136, ID137</li> </ul> |   |
| <b>Device</b>   |   |
| <b>Description</b>  |   |
| <b>Class</b>  | Warning   |
| <b>Drive Behaviour</b>  |   |
| <b>Device Behaviour</b>   |   |
| <b>Additional Error Information (AMK Service)</b>   |   |
|   | IPO standardisation avzgmax too small   |
| <b>Error Removal</b>  | Recheck parameters: <ul style="list-style-type: none"> <li>• ID41 Homing velocity</li> <li>• ID136 Positive acceleration</li> <li>• ID137 Negative acceleration</li> <li>• ID222 Spindle position speed</li> <li>• ID32956 Additional acceleration value</li> </ul> |

## 1802 System diagnostics

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>• Interpolator</li> <li>• Increase ID136, ID137</li> </ul> |   |
| <b>Device</b>   |   |
| <b>Description</b>  |   |
| <b>Class</b>  | Warning   |
| <b>Drive Behaviour</b>  |   |
| <b>Device Behaviour</b>   |   |
| <b>Additional Error Information (AMK Service)</b>   |   |
|   | IPO standardisation amax too small  |
| <b>Error Removal</b>  | Recheck parameters: <ul style="list-style-type: none"> <li>• ID41 Homing velocity</li> <li>• ID136 Positive acceleration</li> <li>• ID137 Negative acceleration</li> <li>• ID222 Spindle position speed</li> <li>• ID32956 Additional acceleration value</li> </ul> |



### 1803 System diagnostics

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>• Interpolator</li> <li>• Check control speed</li> </ul> |   |
| <b>Device</b>   |   |
| <b>Description</b>  |   |
| <b>Class</b>  | Warning   |
| <b>Drive Behaviour</b>  |   |
| <b>Device Behaviour</b>   |   |
| <b>Additional Error Information (AMK Service)</b>   |   |
|   | IPO standardisation vmaxein or voein too large  |
| <b>Error Removal</b>  | Recheck parameters: <ul style="list-style-type: none"> <li>• ID41 Homing velocity</li> <li>• ID136 Positive acceleration</li> <li>• ID137 Negative acceleration</li> <li>• ID222 Spindle position speed</li> <li>• ID32956 Additional acceleration value</li> </ul> |

### 1804 System diagnostics

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>• Check final value (target value)</li> <li>• Operator transmit inadmissible data</li> </ul> |   |
| <b>Device</b>   |   |
| <b>Description</b>  |   |
| <b>Class</b>  | Warning   |
| <b>Drive Behaviour</b>  |   |
| <b>Device Behaviour</b>   |   |
| <b>Additional Error Information (AMK Service)</b>   |   |
|   | IPO standardisation xieneinneu-xiendein alt too large |
| <b>Error Removal</b>  |   |

### 1805 System diagnostics

|   |  |
|---|--|
| <ul style="list-style-type: none"> <li>• Interpolator standardisation: dxifaktor with remainder ID136, ID137, ID116 ratio to one another</li> </ul> |  |
| <b>Device</b>   |  |
| <b>Description</b>  |  |
| <b>Class</b>  | Warning  |
| <b>Drive Behaviour</b>  |  |
| <b>Device Behaviour</b>   |  |
| <b>Additional Error Information (AMK Service)</b>   |  |
|   | IPO standardisation dxifaktor remainder  |
| <b>Error Removal</b>  | Recheck parameters: <ul style="list-style-type: none"> <li>• ID116 Resolution motor encoder</li> <li>• ID136 Positive acceleration</li> <li>• ID137 Negative acceleration</li> </ul> |



### 1806 System diagnostics

|   |  |
|---|--|
| <ul style="list-style-type: none"> <li>• Interpolator standardisation: dxifaktor = 0: increase ID136, ID137, ID116</li> </ul> |  |
| <b>Device</b>   |  |
| <b>Description</b>  |  |
| <b>Class</b>  | Warning  |
| <b>Drive Behaviour</b>  |  |
| <b>Device Behaviour</b>   |  |
| <b>Additional Error Information (AMK Service)</b>   |  |
|   | IPO standardisation dxifaktor  |
| <b>Error Removal</b>  | Recheck parameters: <ul style="list-style-type: none"> <li>• ID116 Resolution motor encoder</li> <li>• ID136 Positive acceleration</li> <li>• ID137 Negative acceleration</li> </ul> |

### 1807 System diagnostics

|  |                    |
|--|--------------------|
| <ul style="list-style-type: none"> <li>• Permissible time between KMD commanding and BAV operation mode management was exceeded</li> </ul> |                    |
| <b>Device</b>  |                    |
| <b>Description</b>   |                    |
| <b>Class</b>   | Warning            |
| <b>Drive Behaviour</b>   |                    |
| <b>Device Behaviour</b>  |                    |
| <b>Additional Error Information (AMK Service)</b>  |                    |
|  | Timeout KMD -> BAV |
| <b>Error Removal</b>   |                    |

### 1808 System diagnostics

|   |                  |
|---|------------------|
| <ul style="list-style-type: none"> <li>• Operation mode management acknowledges error after commanding</li> </ul> |                  |
| <b>Device</b>   |                  |
| <b>Description</b>  |                  |
| <b>Class</b>  | Warning          |
| <b>Drive Behaviour</b>  |                  |
| <b>Device Behaviour</b>   |                  |
| <b>Additional Error Information (AMK Service)</b>   |                  |
|   | Error KMD -> BAV |
| <b>Error Removal</b>  |                  |

### 1809 System diagnostics

|   |         |
|---|---------|
| <ul style="list-style-type: none"> <li>• Inadmissible commanding code in KMD-SS, check interface</li> <li>• STOP order if IPO not active</li> <li>• FURTHER order, if IPO not stopped</li> <li>• Undefined order – Order does not correspond to START, ABORT, STOP, FURTHER, VALUE NEW</li> </ul> |         |
| <b>Device</b>   |         |
| <b>Description</b>  |         |
| <b>Class</b>  | Warning |
| <b>Drive Behaviour</b>  |         |
| <b>Device Behaviour</b>   |         |
| <b>Additional Error Information (AMK Service)</b>   |         |
|   |         |
| <b>Error Removal</b>  |         |

**1810 System diagnostics**

|   |         |
|---|---------|
| <ul style="list-style-type: none"> <li>Inadmissible commanding function in KMD-SS, check interface</li> </ul> |         |
| <b>Device</b>   |         |
| <b>Description</b>  |         |
| <b>Class</b>  | Warning |
| <b>Drive Behaviour</b>  |         |
| <b>Device Behaviour</b>   |         |
| <b>Additional Error Information (AMK Service)</b>   |         |
|   |         |
| <b>Error Removal</b>  |         |

**1811 System diagnostics**

|   |                      |
|---|----------------------|
| <ul style="list-style-type: none"> <li>Inverter can no longer be addressed</li> </ul> |                      |
| <b>Device</b>   |                      |
| <b>Description</b>  |                      |
| <b>Class</b>  | Warning              |
| <b>Drive Behaviour</b>  |                      |
| <b>Device Behaviour</b>   |                      |
| <b>Additional Error Information (AMK Service)</b>                                     |                      |
|   | Timeout KMD -> AWMON |
| <b>Error Removal</b>  |                      |

**1812 System diagnostics**

|   |                    |
|---|--------------------|
| <ul style="list-style-type: none"> <li>Inverter can no longer be addressed</li> </ul> |                    |
| <b>Device</b>   |                    |
| <b>Description</b>  |                    |
| <b>Class</b>  | Warning            |
| <b>Drive Behaviour</b>  |                    |
| <b>Device Behaviour</b>   |                    |
| <b>Additional Error Information (AMK Service)</b>                                     |                    |
|   | Error KMD -> AWMON |
| <b>Error Removal</b>  |                    |

**1813 KMD user error**

|  |                 |
|--|-----------------|
| <ul style="list-style-type: none"> <li>Inadmissible order in KMD-SS</li> </ul> |                 |
| <b>Device</b>  |                 |
| <b>Description</b>   |                 |
| <b>Class</b>   | Warning         |
| <b>Drive Behaviour</b>   |                 |
| <b>Device Behaviour</b>  |                 |
| <b>Additional Error Information (AMK Service)</b>                              |                 |
|  |                 |
| <b>Error Removal</b>   | Check interface |

## 1814 System diagnostics

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>Inadmissible commanding operation mode selected, BA may be assigned code 0...9 according to ID32800 ...32809</li> </ul> |   |
| <b>Device</b>  |   |
| <b>Description</b>   |   |
| <b>Class</b>   | Warning   |
| <b>Drive Behaviour</b>   |   |
| <b>Device Behaviour</b>  |   |
| <b>Additional Error Information (AMK Service)</b>  |   |
|  |   |
| <b>Error Removal</b>   | <ul style="list-style-type: none"> <li>Check interface</li> <li>Recheck parameters: <ul style="list-style-type: none"> <li>ID32800 AMK main operation mode</li> <li>ID32801 ... ID32809 AMK secondary operation mode 1 ... 9</li> </ul> </li> </ul> |

## 1815 Controller enable missing

|   |   |
|---|---|
| Commanding without RF, QRF not possible, control interrupted. |   |
| <b>Device</b>   |   |
| <b>Description</b>  |   |
| <b>Class</b>  | Warning   |
| <b>Drive Behaviour</b>  |   |
| <b>Device Behaviour</b>                                       |   |
| <b>Additional Error Information (AMK Service)</b>             |   |
|   |   |
| <b>Error Removal</b>  | Order must be repeated after RF activation or starting conditions must be restored (e.g. by means of abort function code) |

## 1816 Not homed

|   |         |
|---|---------|
| <ul style="list-style-type: none"> <li>Inverter is not homed, function requires a homed system</li> </ul> |         |
| <b>Device</b>   |         |
| <b>Description</b>  |         |
| <b>Class</b>  | Warning |
| <b>Drive Behaviour</b>  |         |
| <b>Device Behaviour</b>   |         |
| <b>Additional Error Information (AMK Service)</b>   |         |
|   |         |
| <b>Error Removal</b>  |         |

## 1817 System diagnostics

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>Synchronous running source in synchronous running inadmissible</li> </ul> |   |
| <b>Device</b>  |   |
| <b>Description</b>   |   |
| <b>Class</b>   | Warning   |
| <b>Drive Behaviour</b>   |   |
| <b>Device Behaviour</b>  |   |
| <b>Additional Error Information (AMK Service)</b>  |   |
|  |   |
| <b>Error Removal</b>   | Recheck parameters: <ul style="list-style-type: none"> <li>ID32800 AMK main operation mode</li> <li>ID32801 ... ID32805 AMK secondary operation mode 1 ... 5</li> </ul> |

**1818 System diagnostics**

|   |                           |
|---|---------------------------|
| <b>Device</b>                                     |                           |
| <b>Description</b>                                |                           |
| <b>Class</b>                                      | Warning                   |
| <b>Drive Behaviour</b>                            |                           |
| <b>Device Behaviour</b>                           |                           |
| <b>Additional Error Information (AMK Service)</b> |                           |
|   | Inadmissible state in KMD |
| <b>Error Removal</b>                              |                           |

**1819 System diagnostics**

|  |  |
|--|--|
| <ul style="list-style-type: none"> <li>Inverter address calculation impossible, operation mode incomplete</li> </ul> |  |
| <b>Device</b>  |  |
| <b>Description</b>   |  |
| <b>Class</b>   | Warning  |
| <b>Drive Behaviour</b>   |  |
| <b>Device Behaviour</b>  |  |
| <b>Additional Error Information (AMK Service)</b>  |  |
|  |  |
| <b>Error Removal</b>   | Recheck parameters:<br>ID32800 AMK main operation mode<br>ID32801 ... ID32806 AMK secondary operation mode 1 ... 6 |

**1820 System diagnostics**

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>Ramp down error e.g. in lifting axis function, time according to ID32954 was exceeded</li> </ul> |   |
| <b>Device</b>   |   |
| <b>Description</b>  |   |
| <b>Class</b>  |   |
| <b>Drive Behaviour</b>  | Controlled braking  |
| <b>Device Behaviour</b>   |   |
| <b>Additional Error Information (AMK Service)</b>   |   |
|   |   |
| <b>Error Removal</b>  | Recheck parameter: <ul style="list-style-type: none"> <li>ID32954 Time ramp down monitor</li> </ul> |

**1821 System diagnostics**

|   |         |
|---|---------|
| <ul style="list-style-type: none"> <li>IPO cannot perform direction change</li> </ul> |         |
| <b>Device</b>   |         |
| <b>Description</b>  |         |
| <b>Class</b>  | Warning |
| <b>Drive Behaviour</b>  |         |
| <b>Device Behaviour</b>   |         |
| <b>Additional Error Information (AMK Service)</b>                                     |         |
|   |         |
| <b>Error Removal</b>  |         |

### 1822 System diagnostics

|   |         |  |             |
|---|---------|--|-------------|
| <ul style="list-style-type: none"> <li>IPO cannot be activated</li> </ul> |         |  |             |
| Device  |         |  |             |
| Description   |         |  |             |
| Class   | Warning |  |             |
| Drive Behaviour   |         |  |             |
| Device Behaviour  |         |  |             |
| <b>Additional Error Information (AMK Service)</b>                         |         |  |             |
|   |         |  | IPO timeout |
| Error Removal   |         |  |             |

### 1823 System diagnostics

|   |         |  |           |
|---|---------|--|-----------|
| <ul style="list-style-type: none"> <li>IPO cannot be activated</li> </ul> |         |  |           |
| Device  |         |  |           |
| Description   |         |  |           |
| Class   | Warning |  |           |
| Drive Behaviour   |         |  |           |
| Device Behaviour  |         |  |           |
| <b>Additional Error Information (AMK Service)</b>                         |         |  |           |
|   |         |  | IPO error |
| Error Removal   |         |  |           |

### 1824 System diagnostics

|  |         |  |         |
|--|---------|--|---------|
| <ul style="list-style-type: none"> <li>Inadmissible KMD code in KMD-SS, inadmissible timing check interface</li> </ul> |         |  |         |
| Device   |         |  |         |
| Description  |         |  |         |
| Class  | Warning |  |         |
| Drive Behaviour  |         |  |         |
| Device Behaviour   |         |  |         |
| <b>Additional Error Information (AMK Service)</b>  |         |  |         |
|  |         |  | RESERVE |
| Error Removal  |         |  |         |

### 1825 System diagnostics

|  |                        |  |  |
|--|------------------------|--|--|
| <ul style="list-style-type: none"> <li>SINCOS encoder, encoder does not report within 2 sec. through RS485-SS</li> </ul> |                        |  |  |
| Device   |                        |  |  |
| Description  |                        |  |  |
| Class  | Warning                |  |  |
| Drive Behaviour  |                        |  |  |
| Device Behaviour   | SBM withdrawal         |  |  |
| <b>Additional Error Information (AMK Service)</b>  |                        |  |  |
|  |                        |  |  |
| Error Removal  | Check encoder or cable |  |  |

### 1826 System diagnostics

|  |  |
|--|--|
| <ul style="list-style-type: none"> <li>SINCOS encoder, checksum of the encoder acknowledgement does not agree (XOR)</li> </ul> |  |
| <b>Device</b>  |  |
| <b>Description</b>   |  |
| <b>Class</b>   | Warning  |
| <b>Drive Behaviour</b>   |  |
| <b>Device Behaviour</b>  | SBM withdrawal   |
| <b>Additional Error Information (AMK Service)</b>  |  |
|  |  |
| <b>Error Removal</b>   | Possible causes are faults of the RS485 signal cables, or of the RS485 input |

### 1827 System diagnostics

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>Invalid encoder type, the SINCOS encoder type is not permitted in the spindle positioning and synchronous control drive function</li> </ul> |   |
| <b>Device</b>  |   |
| <b>Description</b>   |   |
| <b>Class</b>   | Warning   |
| <b>Drive Behaviour</b>   |   |
| <b>Device Behaviour</b>  |   |
| <b>Additional Error Information (AMK Service)</b>  |   |
|  |   |
| <b>Error Removal</b>   | Recheck parameter: <ul style="list-style-type: none"> <li>ID32953 Encoder type</li> </ul> |

### 1828 System diagnostics

|   |         |
|---|---------|
| <ul style="list-style-type: none"> <li>This message can occur only in connection with an abort of drive functions (or RF withdrawal during an active drive function)</li> <li>The user has not set the synchronization bit "ub_basync" for external command value synchronization and has attempted an operation mode change (inadmissible!), error message and SBM withdrawal (inverter cannot be controlled, operation mode change in the operation mode change)</li> </ul> |         |
| <b>Device</b>   |         |
| <b>Description</b>  |         |
| <b>Class</b>  | Warning |
| <b>Drive Behaviour</b>  |         |
| <b>Device Behaviour</b>   |         |
| <b>Additional Error Information (AMK Service)</b>   |         |
|   |         |
| <b>Error Removal</b>  |         |

### 1829 System diagnostics

|  |   |
|--|---|
| "ID55 Closed loop polarity" and "ID43 Velocity polarity" may be only positive in spindle positioning or synchronous control drive function |   |
| <b>Device</b>  |   |
| <b>Description</b>   |   |
| <b>Class</b>   | Warning   |
| <b>Drive Behaviour</b>   |   |
| <b>Device Behaviour</b>  |   |
| <b>Additional Error Information (AMK Service)</b>  |   |
|  |   |
| <b>Error Removal</b>   | Recheck parameters: <ul style="list-style-type: none"> <li>ID43 Velocity polarity</li> <li>ID55 Closed loop polarity</li> </ul> |

### 1830 System diagnostics

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>“Flying saw” drive function, waiting distance (ID278) is greater than the reference value 2PI according to ID116, ID117 or ID103</li> </ul> |   |
| Device   |   |
| Description  |   |
| Class  | Warning   |
| Drive Behaviour  |   |
| Device Behaviour   |   |
| <b>Additional Error Information (AMK Service)</b>  |   |
|  |   |
| Error Removal  | Recheck parameters: <ul style="list-style-type: none"> <li>ID103 Modulo value</li> <li>ID116 Resolution motor encoder</li> <li>ID117 Resolution external encoder</li> <li>ID278 Synchronous additional angle position</li> <li>ID32800 AMK main operation mode</li> </ul> |

### 1831 System diagnostics

|   |                                    |
|---|------------------------------------|
| <ul style="list-style-type: none"> <li>SINCOS encoder, encoder reports error (error bit set)</li> </ul> |                                    |
| Device  |                                    |
| Description   |                                    |
| Class   | Warning                            |
| Drive Behaviour   |                                    |
| Device Behaviour  | SBM withdrawal                     |
| <b>Additional Error Information (AMK Service)</b>   |                                    |
|   |                                    |
| Error Removal   | Defective encoder or faulty system |

### 1832 System diagnostics

|   |         |
|---|---------|
| <ul style="list-style-type: none"> <li>“Absolute positioning” drive function</li> <li>The preset position is more than  31Bit  removed from the current position command value (inadmissible!)</li> </ul> |         |
| Device  |         |
| Description   |         |
| Class   | Warning |
| Drive Behaviour   |         |
| Device Behaviour  |         |
| <b>Additional Error Information (AMK Service)</b>   |         |
|   |         |
| Error Removal   |         |

### 1833 System diagnostics

|  |  |
|--|--|
| <ul style="list-style-type: none"> <li>“Lifting axis” drive function, <math> n_{\text{actual}}  \geq  1.2 \times n_{\text{limit}} </math></li> </ul> |  |
| Device   |  |
| Description  |  |
| Class  |  |
| Drive Behaviour  | Controlled braking   |
| Device Behaviour   |  |
| <b>Additional Error Information (AMK Service)</b>  |  |
|  |  |
| Error Removal  | Check loading of the system in connection with the preset limits |



### 1834 System diagnostics

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>SINCOS encoders: The difference of the double sampling of the absolute value in the "Homing" drive function does not lie in the position window according to ID 57.</li> </ul> |   |
| <b>Device</b>   |   |
| <b>Description</b>  |   |
| <b>Class</b>  | Warning   |
| <b>Drive Behaviour</b>  |   |
| <b>Device Behaviour</b>   | SBM withdrawal  |
| <b>Additional Error Information (AMK Service)</b>   |   |
|   |   |
| <b>Error Removal</b>  | <ul style="list-style-type: none"> <li>Axis in motion or system disturbed</li> <li>Recheck parameter: <ul style="list-style-type: none"> <li>ID57 In position window</li> </ul> </li> </ul> |

### 1835 System diagnostics

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>Special lift function</li> <li>Driver commanding &lt;-&gt; database disturbed</li> </ul> |   |
| <b>Device</b>   |   |
| <b>Description</b>  |   |
| <b>Class</b>  |   |
| <b>Drive Behaviour</b>  | Drive runs down   |
| <b>Device Behaviour</b>   |   |
| <b>Additional Error Information (AMK Service)</b>   |   |
|   |   |
| <b>Error Removal</b>  | <ul style="list-style-type: none"> <li>Internal interface assigned or parameterised EEPROM defective</li> </ul> |

### 1836 System diagnostics

|   |                        |
|---|------------------------|
| <ul style="list-style-type: none"> <li>Special Lift function</li> <li>Check lift learning travel error</li> </ul> |                        |
| <b>Device</b>   |                        |
| <b>Description</b>  |                        |
| <b>Class</b>  |                        |
| <b>Drive Behaviour</b>  | Drive runs down        |
| <b>Device Behaviour</b>   |                        |
| <b>Additional Error Information (AMK Service)</b>   |                        |
|   |                        |
| <b>Error Removal</b>  | Check KSE, KS contacts |

### 1837 System diagnostics

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>Special Lift function</li> <li>Check invalid order input</li> </ul> |   |
| <b>Device</b>  |   |
| <b>Description</b>   |   |
| <b>Class</b>   |   |
| <b>Drive Behaviour</b>   | Drive runs down   |
| <b>Device Behaviour</b>  |   |
| <b>Additional Error Information (AMK Service)</b>  |   |
|  |   |
| <b>Error Removal</b>   | KMD interface (floor input and driving order in variable 1) |

### 1838 System diagnostics

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>Special Lift function</li> <li>"ID32798 User list 1" contains invalid data</li> </ul> |   |
| <b>Device</b>  |   |
| <b>Description</b>   |   |
| <b>Class</b>   |   |
| <b>Drive Behaviour</b>   | Drive runs down                           |
| <b>Device Behaviour</b>  |   |
| <b>Additional Error Information (AMK Service)</b>  |   |
|  |   |
| <b>Error Removal</b>   | Recheck parameter:<br>ID32798 User list 1 |

### 1839 System diagnostics

|  |  |
|--|--|
| <ul style="list-style-type: none"> <li>Special Lift function</li> <li>The shaft contact KS contact monitoring detects an invalid contact position.<br/>The contact monitoring can be switched through "ID32798 User list 1"</li> </ul> |  |
| <b>Device</b>  |  |
| <b>Description</b>   |  |
| <b>Class</b>   |  |
| <b>Drive Behaviour</b>   | Drive runs down  |
| <b>Device Behaviour</b>  |  |
| <b>Additional Error Information (AMK Service)</b>  |  |
|  |  |
| <b>Error Removal</b>   | Recheck parameter: <ul style="list-style-type: none"> <li>ID32798 User list 1</li> </ul> |

### 1840 System diagnostics

|  |                 |
|--|-----------------|
| <ul style="list-style-type: none"> <li>Special Lift function</li> <li>Inadmissible interruption of an active lift function (SBM withdrawal, emergency stop switch, ...)</li> </ul> |                 |
| <b>Device</b>  |                 |
| <b>Description</b>   |                 |
| <b>Class</b>   |                 |
| <b>Drive Behaviour</b>   | Drive runs down |
| <b>Device Behaviour</b>  |                 |
| <b>Additional Error Information (AMK Service)</b>  |                 |
|  |                 |
| <b>Error Removal</b>   |                 |

### 1841 System diagnostics

|   |         |
|---|---------|
|   |         |
| <b>Device</b>                                     |         |
| <b>Description</b>                                |         |
| <b>Class</b>                                      | Warning |
| <b>Drive Behaviour</b>                            |         |
| <b>Device Behaviour</b>                           |         |
| <b>Additional Error Information (AMK Service)</b> |         |
|   | RESERVE |
| <b>Error Removal</b>                              |         |

**1842 System diagnostics**

|   |         |  |  |
|---|---------|--|--|
| <ul style="list-style-type: none"> <li>• Special lift function</li> <li>• KS in the destination not equal to 1</li> </ul> |         |  |  |
| <b>Device</b>   |         |  |  |
| <b>Description</b>  |         |  |  |
| <b>Class</b>  | Warning |  |  |
| <b>Drive Behaviour</b>  |         |  |  |
| <b>Device Behaviour</b>   |         |  |  |
| <b>Additional Error Information (AMK Service)</b>   |         |  |  |
|   |         |  |  |
| <b>Error Removal</b>  |         |  |  |

**1843 System diagnostics**

|   |         |  |         |
|---|---------|--|---------|
|   |         |  |         |
| <b>Device</b>                                     |         |  |         |
| <b>Description</b>                                |         |  |         |
| <b>Class</b>                                      | Warning |  |         |
| <b>Drive Behaviour</b>                            |         |  |         |
| <b>Device Behaviour</b>                           |         |  |         |
| <b>Additional Error Information (AMK Service)</b> |         |  |         |
|   |         |  | RESERVE |
| <b>Error Removal</b>                              |         |  |         |

**4.8 No. 2048 ... 2079 Logical Subscriber, S-BUS****2049 System diagnostics**

|   |         |  |                                    |
|---|---------|--|------------------------------------|
|   |         |  |                                    |
| <b>Device</b>                                     |         |  |                                    |
| <b>Description</b>                                |         |  |                                    |
| <b>Class</b>                                      | Warning |  |                                    |
| <b>Drive Behaviour</b>                            |         |  |                                    |
| <b>Device Behaviour</b>                           |         |  |                                    |
| <b>Additional Error Information (AMK Service)</b> |         |  |                                    |
|   |         |  | No memory enable in PDU processing |
| <b>Error Removal</b>                              |         |  |                                    |

**2050 System diagnostics**

|   |         |  |   |
|---|---------|--|---|
|   |         |  |   |
| <b>Device</b>                                     |         |  |   |
| <b>Description</b>                                |         |  |   |
| <b>Class</b>                                      | Warning |  |   |
| <b>Drive Behaviour</b>                            |         |  |   |
| <b>Device Behaviour</b>                           |         |  |   |
| <b>Additional Error Information (AMK Service)</b> |         |  |   |
|   |         |  | The command code of the PDU to be evaluated is not known (LT: Logical subscriber) only PS3 software problem version PS ≤ 2.07 |
| <b>Error Removal</b>                              |         |  |   |

## 2051 System diagnostics

|  |         |  |            |
|--|---------|--|------------|
| <ul style="list-style-type: none"> <li>Waiting time after order to logical subscriber is exceeded</li> </ul> |         |  |            |
| Device   |         |  |            |
| Description  |         |  |            |
| Class  | Warning |  |            |
| Drive Behaviour  |         |  |            |
| Device Behaviour   |         |  |            |
| Additional Error Information (AMK Service)   |         |  |            |
|  |         |  | LT timeout |
| Error Removal  |         |  |            |

## 2052 System diagnostics

|  |         |  |  |
|--|---------|--|--|
| <ul style="list-style-type: none"> <li>The ID to be edited is not contained in the database of the system</li> </ul> |         |  |  |
| Device   |         |  |  |
| Description  |         |  |  |
| Class  | Warning |  |  |
| Drive Behaviour  |         |  |  |
| Device Behaviour   |         |  |  |
| Additional Error Information (AMK Service)   |         |  |  |
|  |         |  |  |
| Error Removal  |         |  |  |

## 2053 System diagnostics

|  |         |  |              |
|--|---------|--|--------------|
| <ul style="list-style-type: none"> <li>Error acknowledgement in commanding the database</li> </ul> |         |  |              |
| Device   |         |  |              |
| Description  |         |  |              |
| Class  | Warning |  |              |
| Drive Behaviour  |         |  |              |
| Device Behaviour   |         |  |              |
| Additional Error Information (AMK Service)   |         |  |              |
|  |         |  | Error LT-DTH |
| Error Removal  |         |  |              |

## 2054 System diagnostics

|   |         |  |                  |
|---|---------|--|------------------|
| <ul style="list-style-type: none"> <li>Error acknowledgement in commanding the monitor</li> </ul> |         |  |                  |
| Device  |         |  |                  |
| Description   |         |  |                  |
| Class   | Warning |  |                  |
| Drive Behaviour   |         |  |                  |
| Device Behaviour  |         |  |                  |
| Additional Error Information (AMK Service)  |         |  |                  |
|   |         |  | Error LT-MONITOR |
| Error Removal   |         |  |                  |

## 2055 System diagnostics

|   |               |
|---|---------------|
| • Error acknowledgement in commanding the serial EEPROM |               |
| Device  |               |
| Description   |               |
| Class   | Warning       |
| Drive Behaviour   |               |
| Device Behaviour  |               |
| Additional Error Information (AMK Service)              |               |
|   | Error LT-SEEP |
| Error Removal   |               |

## 2056 System diagnostics

|   |              |
|---|--------------|
| • Error acknowledgement in commanding the operation mode management |              |
| Device  |              |
| Description   |              |
| Class   | Warning      |
| Drive Behaviour   |              |
| Device Behaviour  |              |
| Additional Error Information (AMK Service)                          |              |
|   | Error LT-BAV |
| Error Removal   |              |

## 2057 System diagnostics

|  |              |
|--|--------------|
| • Error acknowledgement in commanding the drive commanding KMD |              |
| Device   |              |
| Description  |              |
| Class  | Warning      |
| Drive Behaviour  |              |
| Device Behaviour   |              |
| Additional Error Information (AMK Service)                     |              |
|  | Error LT-KMD |
| Error Removal  |              |

## 2058 System diagnostics

|  |         |
|--|---------|
| • Error in LT → KMD commanding inverter, LT → KMD - logical subscriber at KMD-SS |         |
| Device   |         |
| Description  |         |
| Class  | Warning |
| Drive Behaviour  |         |
| Device Behaviour   |         |
| Additional Error Information (AMK Service)                                       |         |
|  |         |
| Error Removal  |         |

## 2059 System diagnostics

|  |         |
|--|---------|
| • Error in LT → KMD commanding AW2         |         |
| Device                                     |         |
| Description                                |         |
| Class                                      | Warning |
| Drive Behaviour                            |         |
| Device Behaviour                           |         |
| Additional Error Information (AMK Service) |         |
|  |         |
| Error Removal                              |         |

## 2060 System diagnostics

|  |         |
|--|---------|
| • Error in LT → KMD commanding AW3         |         |
| Device                                     |         |
| Description                                |         |
| Class                                      | Warning |
| Drive Behaviour                            |         |
| Device Behaviour                           |         |
| Additional Error Information (AMK Service) |         |
|  |         |
| Error Removal                              |         |

## 2061 System diagnostics

|  |         |
|--|---------|
| • Error in LT → KMD commanding AW4         |         |
| Device                                     |         |
| Description                                |         |
| Class                                      | Warning |
| Drive Behaviour                            |         |
| Device Behaviour                           |         |
| Additional Error Information (AMK Service) |         |
|  |         |
| Error Removal                              |         |

## 2062 System diagnostics

|  |         |
|--|---------|
| • Error in LT → KMD commanding AW5         |         |
| Device                                     |         |
| Description                                |         |
| Class                                      | Warning |
| Drive Behaviour                            |         |
| Device Behaviour                           |         |
| Additional Error Information (AMK Service) |         |
|  |         |
| Error Removal                              |         |

## 2063 System diagnostics

|  |         |  |  |
|--|---------|--|--|
| <ul style="list-style-type: none"> <li>Error in LT → KMD commanding AW6</li> </ul> |         |  |  |
| Device   |         |  |  |
| Description  |         |  |  |
| Class  | Warning |  |  |
| Drive Behaviour  |         |  |  |
| Device Behaviour   |         |  |  |
| Additional Error Information (AMK Service)   |         |  |  |
|  |         |  |  |
| Error Removal  |         |  |  |

## 2064 System diagnostics

|   |         |  |  |
|---|---------|--|--|
| <ul style="list-style-type: none"> <li>Error in LT → MD commanding AW7</li> </ul> |         |  |  |
| Device  |         |  |  |
| Description   |         |  |  |
| Class   | Warning |  |  |
| Drive Behaviour   |         |  |  |
| Device Behaviour  |         |  |  |
| Additional Error Information (AMK Service)  |         |  |  |
|   |         |  |  |
| Error Removal   |         |  |  |

## 2065 System diagnostics

|  |         |  |  |
|--|---------|--|--|
| <ul style="list-style-type: none"> <li>Error in LT → KMD commanding AW8</li> </ul> |         |  |  |
| Device   |         |  |  |
| Description  |         |  |  |
| Class  | Warning |  |  |
| Drive Behaviour  |         |  |  |
| Device Behaviour   |         |  |  |
| Additional Error Information (AMK Service)   |         |  |  |
|  |         |  |  |
| Error Removal  |         |  |  |

## 2066 System diagnostics

|   |         |  |                |
|---|---------|--|----------------|
| <ul style="list-style-type: none"> <li>Error acknowledgement in commanding a drive control</li> </ul> |         |  |                |
| Device  |         |  |                |
| Description   |         |  |                |
| Class   | Warning |  |                |
| Drive Behaviour   |         |  |                |
| Device Behaviour  |         |  |                |
| Additional Error Information (AMK Service)  |         |  |                |
|   |         |  | LT drive error |
| Error Removal   |         |  |                |



## 2067 System diagnostics

|   |         |  |                      |
|---|---------|--|----------------------|
| • Error acknowledgement in commanding the diagnostics |         |  |                      |
| Device  |         |  |                      |
| Description   |         |  |                      |
| Class   | Warning |  |                      |
| Drive Behaviour                                       |         |  |                      |
| Device Behaviour                                      |         |  |                      |
| <b>Additional Error Information (AMK Service)</b>     |         |  |                      |
|   |         |  | LT diagnostics error |
| Error Removal   |         |  |                      |

## 2068 System diagnostics

|  |         |  |                  |
|--|---------|--|------------------|
| • Error acknowledgement in commanding the display function |         |  |                  |
| Device   |         |  |                  |
| Description  |         |  |                  |
| Class  | Warning |  |                  |
| Drive Behaviour  |         |  |                  |
| Device Behaviour   |         |  |                  |
| <b>Additional Error Information (AMK Service)</b>          |         |  |                  |
|  |         |  | Error LT display |
| Error Removal  |         |  |                  |

## 2069 System diagnostics

|   |         |  |               |
|---|---------|--|---------------|
| • Error acknowledgement in commanding the lift function |         |  |               |
| Device  |         |  |               |
| Description   |         |  |               |
| Class   | Warning |  |               |
| Drive Behaviour   |         |  |               |
| Device Behaviour  |         |  |               |
| <b>Additional Error Information (AMK Service)</b>       |         |  |               |
|   |         |  | Error LT lift |
| Error Removal   |         |  |               |

## 2070 System diagnostics

|   |         |  |  |
|---|---------|--|--|
| • LT-SBUS, inverter not present                   |         |  |  |
| Device  |         |  |  |
| Description                                       |         |  |  |
| Class   | Warning |  |  |
| Drive Behaviour                                   |         |  |  |
| Device Behaviour                                  |         |  |  |
| <b>Additional Error Information (AMK Service)</b> |         |  |  |
|   |         |  |  |
| Error Removal                                     |         |  |  |

## 2071 System diagnostics

|   |                       |   |   |
|---|-----------------------|---|---|
| <ul style="list-style-type: none"> <li>Failure in the s-bus hardware; re-boot system or check hardware</li> </ul> |                       |   |   |
| <b>Device</b>   |                       |   |   |
| <b>Description</b>  |                       |   |   |
| <b>Class</b>  | Warning               |   |   |
| <b>Drive Behaviour</b>  |                       |   |   |
| <b>Device Behaviour</b>   | System run-up aborted |   |   |
| <b>Additional Error Information (AMK Service)</b>   |                       |   |   |
|   | Info 1                | 1 | Error during initializing of S-Bus (caused by ABK card) |
|   |                       | 2 | Error in COM port                                       |
| <b>Error Removal</b>  |                       |   |   |

## 2072 System diagnostics

|   |         |   |  |
|---|---------|---|--|
| <ul style="list-style-type: none"> <li>S-bus software received faulty information from connected device, check sent messages</li> </ul> |         |   |  |
| <b>Device</b>   |         |   |  |
| <b>Description</b>  |         |   |  |
| <b>Class</b>  | Warning |   |  |
| <b>Drive Behaviour</b>  |         |   |  |
| <b>Device Behaviour</b>   |         |   |  |
| <b>Additional Error Information (AMK Service)</b>   |         |   |  |
|   | Info 1  | 1 | Module received a PDU from wrong S-bus port                |
|   |         | 2 | S-bus PDU contains a unknown S-bus attribute               |
|   |         | 3 | S-bus PDU contains a unknown Sercos element number in task |
|   |         | 4 | Drive has reported a SB_task_error                         |
|   |         | 5 | S-bus PDU contains unknown S-bus command code              |
| <b>Error Removal</b>  |         |   |  |

## 2073 System diagnostics

|   |   |    |   |
|---|---|----|---|
| <b>Device</b>                                     |   |    |   |
| <b>Description</b>                                |   |    |   |
| <b>Class</b>                                      |   |    |   |
| <b>Drive Behaviour</b>                            |   |    |   |
| <b>Device Behaviour</b>                           | System run-up aborted   |    |   |
| <b>Additional Error Information (AMK Service)</b> |   |    |   |
|   | Info 1  | 33 | Length of ID34040 not permissible   |
|   |   | 34 | In ID34040 Time base not permissible  |
|   |   | 35 | In ID34040 Trigger position not permissible   |
|   |   | 36 | Too many values per cycle   |
|   |   | 37 | Resource error  |
|   |   | 39 | Signal code not available   |
|   |   | 40 | Command code not permissible  |
|   |   | 41 | A new configuration was transmitted during the RUN mode   |
|   |   | 42 | Read-out mode not permissible   |
|   |   | 44 | Channel number not permissible  |
|   |   | 45 | Buffer length incorrect   |
|   |   | 46 | Configuration error – a triggering of an external source (Bi t0 ... 1) and source for external triggering (Bit4) were adjusted isochronal |
|   |   | 47 | An external triggering was configured but there is no free PDO  |
|   |   | 48 | The difference between the system watches of the trigger sender and the trigger receiver is negative                                      |
|   |   | 49 | No free HEAP for the buffer   |
| <b>Error Removal</b>                              | <ul style="list-style-type: none"> <li>• Check scope parameters</li> <li>• Recheck Parameter             <ul style="list-style-type: none"> <li>• ID34040 OSC configuration list</li> </ul> </li> </ul> |    |   |

## 2074 System diagnostics

|   |                       |   |                    |
|---|-----------------------|---|--------------------|
| <ul style="list-style-type: none"> <li>• Disturbance of scope function</li> </ul> |                       |   |                    |
| <b>Device</b>   |                       |   |                    |
| <b>Description</b>  |                       |   |                    |
| <b>Class</b>  |                       |   |                    |
| <b>Drive Behaviour</b>  |                       |   |                    |
| <b>Device Behaviour</b>   | System run-up aborted |   |                    |
| <b>Additional Error Information (AMK Service)</b>                                 |                       |   |                    |
|   | Info 1                | 1 | Allocate memory    |
|   |                       | 2 | Re-allocate memory |
| <b>Error Removal</b>  |                       |   |                    |

## 4.9 No. 2304 ... 2369 Inverter Hardware

### 2305 Phase U Short Circuit

|   |   |  |  |
|---|---|--|--|
| <b>Device</b>                                     | AW  |  |  |
|   | <ul style="list-style-type: none"> <li>As from AW 0210 replacement by message 2334</li> </ul> |  |  |
| <b>Description</b>                                |   |  |  |
| <b>Class</b>                                      |   |  |  |
| <b>Drive Behaviour</b>                            | Drive runs down   |  |  |
| <b>Device Behaviour</b>                           | Single treatment  |  |  |
| <b>Additional Error Information (AMK Service)</b> |   |  |  |
|   |   |  |  |
| <b>Error Removal</b>                              |   |  |  |

### 2306 Phase V Short Circuit

|   |   |  |  |
|---|---|--|--|
| <b>Device</b>                                     | AW  |  |  |
|   | <ul style="list-style-type: none"> <li>As from AW 0210 replacement by message 2334</li> </ul> |  |  |
| <b>Description</b>                                |   |  |  |
| <b>Class</b>                                      |   |  |  |
| <b>Drive Behaviour</b>                            | Drive runs down   |  |  |
| <b>Device Behaviour</b>                           | Single treatment  |  |  |
| <b>Additional Error Information (AMK Service)</b> |   |  |  |
|   |   |  |  |
| <b>Error Removal</b>                              |   |  |  |

### 2307 Phase W Short Circuit

|   |   |  |  |
|---|---|--|--|
|   | <ul style="list-style-type: none"> <li>Short-circuit between 2 phases of the output terminals</li> </ul>        |  |  |
| <b>Device</b>                                     | AW  |  |  |
|   | <ul style="list-style-type: none"> <li>Defect in the AW. As from AW 0210 replacement by message 2334</li> </ul> |  |  |
| <b>Description</b>                                |   |  |  |
| <b>Class</b>                                      |   |  |  |
| <b>Drive Behaviour</b>                            | Drive runs down   |  |  |
| <b>Device Behaviour</b>                           | Single treatment  |  |  |
| <b>Additional Error Information (AMK Service)</b> |   |  |  |
|   |   |  |  |
| <b>Error Removal</b>                              |   |  |  |

### 2308 Supply +12 V

|   |                  |  |  |
|---|------------------|--|--|
| <b>Device</b>                                     |                  |  |  |
| <b>Description</b>                                |                  |  |  |
| <b>Class</b>                                      |                  |  |  |
| <b>Drive Behaviour</b>                            | Drive runs down  |  |  |
| <b>Device Behaviour</b>                           | Single treatment |  |  |
| <b>Additional Error Information (AMK Service)</b> |                  |  |  |
|   |                  |  |  |
| <b>Error Removal</b>                              |                  |  |  |

## 2309 Supply

|  |                  |
|--|------------------|
| <ul style="list-style-type: none"> <li>Internal supply voltages of the inverter module do not have the correct value</li> </ul>                            |                  |
| <b>Device</b>  | AW<br>AZ         |
| <ul style="list-style-type: none"> <li>Damaged ribbon cable, connection at the connector X27 of the AZ module or X57 of the AW module is faulty</li> </ul> |                  |
| <b>Description</b>   |                  |
| <b>Class</b>   |                  |
| <b>Drive Behaviour</b>   | Drive runs down  |
| <b>Device Behaviour</b>  | Single treatment |
| <b>Additional Error Information (AMK Service)</b>  |                  |
|  |                  |
| <b>Error Removal</b>   |                  |

## 2310 Encoder communication

| <ul style="list-style-type: none"> <li>• Error in communication with encoder</li> <li>• Encoder does not report/no encoder present</li> <li>• Encoder cable defective or not connected</li> <li>• Error in encoder database</li> </ul> |  |   |   |                         |   |   |                                    |  |                        |                                    |  |        |                                      |                 |  |   |  |
|--|--|---|---|-------------------------|---|---|------------------------------------|--|------------------------|------------------------------------|--|--------|--------------------------------------|-----------------|--|---|--|
| <b>Device</b>  |  |   |   |                         |   |   |                                    |  |                        |                                    |  |        |                                      |                 |  |   |  |
| <b>Description</b>   |  |   |   |                         |   |   |                                    |  |                        |                                    |  |        |                                      |                 |  |   |  |
| <b>Class</b>   | Warning  |   |   |                         |   |   |                                    |  |                        |                                    |  |        |                                      |                 |  |   |  |
| <b>Drive Behaviour</b>   | Drive runs down  |   |   |                         |   |   |                                    |  |                        |                                    |  |        |                                      |                 |  |   |  |
| <b>Device Behaviour</b>  | System run-up aborted  |   |   |                         |   |   |                                    |  |                        |                                    |  |        |                                      |                 |  |   |  |
| <b>Additional Error Information (AMK Service)</b>  |  |   |   |                         |   |   |                                    |  |                        |                                    |  |        |                                      |                 |  |   |  |
| <b>Error in communication:</b>   |  |   |   |                         |   |   |                                    |  |                        |                                    |  |        |                                      |                 |  |   |  |
| Info 1   | 1  | Timeout: No acknowledgement of the encoder  |   |                         |   |   |                                    |  |                        |                                    |  |        |                                      |                 |  |   |  |
|  | 2  | CRC error: Faulty transmission of the encoder   |   |                         |   |   |                                    |  |                        |                                    |  |        |                                      |                 |  |   |  |
|  | 3  | Alarm bit: The internal error bit of the encoder is set   |   |                         |   |   |                                    |  |                        |                                    |  |        |                                      |                 |  |   |  |
|  | 4  | No single or multi-turn encoder recognized. <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">Info 2</td> <td style="width: 10%;">0</td> <td>ID32776 'Sine encoder period' is higher than the real solution of the single turn encoder. Check parameter ID32953 'Encoder type'</td> </tr> <tr> <td colspan="3">P- / Q-encoder: ID34265 'Encoder ratio'</td> </tr> <tr> <td></td> <td>1</td> <td>Motor revolution or encoder revolution not equal 1</td> </tr> <tr> <td></td> <td>2</td> <td>No power of two</td> </tr> <tr> <td></td> <td>3</td> <td>Motor revolution not equal 1 on singleturn encoder</td> </tr> </table> | Info 2  | 0                       | ID32776 'Sine encoder period' is higher than the real solution of the single turn encoder. Check parameter ID32953 'Encoder type' | P- / Q-encoder: ID34265 'Encoder ratio' |                                    |  |                        | 1                                  | Motor revolution or encoder revolution not equal 1   |        | 2                                    | No power of two |  | 3 | Motor revolution not equal 1 on singleturn encoder |
|  | Info 2   | 0   | ID32776 'Sine encoder period' is higher than the real solution of the single turn encoder. Check parameter ID32953 'Encoder type' |                         |   |   |                                    |  |                        |                                    |  |        |                                      |                 |  |   |  |
|  | P- / Q-encoder: ID34265 'Encoder ratio'  |   |   |                         |   |   |                                    |  |                        |                                    |  |        |                                      |                 |  |   |  |
|  |  | 1   | Motor revolution or encoder revolution not equal 1  |                         |   |   |                                    |  |                        |                                    |  |        |                                      |                 |  |   |  |
|  |  | 2   | No power of two   |                         |   |   |                                    |  |                        |                                    |  |        |                                      |                 |  |   |  |
|  |  | 3   | Motor revolution not equal 1 on singleturn encoder  |                         |   |   |                                    |  |                        |                                    |  |        |                                      |                 |  |   |  |
|  | 5  | Handshake: The answer of the encoder is wrong, disturbed communication, damaged encoder.  |   |                         |   |   |                                    |  |                        |                                    |  |        |                                      |                 |  |   |  |
| 6  | Command cannot be executed by driver since encoder not yet initialized<br>Help: Start System run-up again  |   |   |                         |   |   |                                    |  |                        |                                    |  |        |                                      |                 |  |   |  |
| 7  | Motor was in motion when reading the position <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 60%;">Trigger</th> <th style="width: 40%;">Measure</th> </tr> </thead> <tbody> <tr> <td>AFP command READ_SINCOS</td> <td>Increase ID57 'In position window'</td> </tr> <tr> <td>ID32843 'Service command' = 0x14</td> <td>Increase ID57 'In position window'</td> </tr> <tr> <td>ID32843 'Service command' = 0x10 / 0x11 / 0x12</td> <td>Motor must stand still</td> </tr> <tr> <td>ID32843 'Service command' = 0xEDA3</td> <td>Increase ID34099 'Delay time SWC'<br/>ID34099 = 0: <math>T_{Osc} = 400 \text{ ms}</math><br/>ID34099 <math>\neq</math> 0: <math>T_{Osc} / \text{ms}</math><br/>period time for oscillation around zero or around point of adjustment at encoder tuning</td> </tr> <tr> <td>Run-up</td> <td>Motor must stand still during run-up</td> </tr> </tbody> </table> | Trigger   | Measure   | AFP command READ_SINCOS | Increase ID57 'In position window'  | ID32843 'Service command' = 0x14        | Increase ID57 'In position window' | ID32843 'Service command' = 0x10 / 0x11 / 0x12 | Motor must stand still | ID32843 'Service command' = 0xEDA3 | Increase ID34099 'Delay time SWC'<br>ID34099 = 0: $T_{Osc} = 400 \text{ ms}$<br>ID34099 $\neq$ 0: $T_{Osc} / \text{ms}$<br>period time for oscillation around zero or around point of adjustment at encoder tuning | Run-up | Motor must stand still during run-up |                 |  |   |  |
| Trigger  | Measure  |   |   |                         |   |   |                                    |  |                        |                                    |  |        |                                      |                 |  |   |  |
| AFP command READ_SINCOS  | Increase ID57 'In position window'   |   |   |                         |   |   |                                    |  |                        |                                    |  |        |                                      |                 |  |   |  |
| ID32843 'Service command' = 0x14   | Increase ID57 'In position window'   |   |   |                         |   |   |                                    |  |                        |                                    |  |        |                                      |                 |  |   |  |
| ID32843 'Service command' = 0x10 / 0x11 / 0x12   | Motor must stand still   |   |   |                         |   |   |                                    |  |                        |                                    |  |        |                                      |                 |  |   |  |
| ID32843 'Service command' = 0xEDA3   | Increase ID34099 'Delay time SWC'<br>ID34099 = 0: $T_{Osc} = 400 \text{ ms}$<br>ID34099 $\neq$ 0: $T_{Osc} / \text{ms}$<br>period time for oscillation around zero or around point of adjustment at encoder tuning   |   |   |                         |   |   |                                    |  |                        |                                    |  |        |                                      |                 |  |   |  |
| Run-up   | Motor must stand still during run-up   |   |   |                         |   |   |                                    |  |                        |                                    |  |        |                                      |                 |  |   |  |
| 8  | Encoder property not compatibility, e.g. digital resolution to high, encoder type at present not possible.   |   |   |                         |   |   |                                    |  |                        |                                    |  |        |                                      |                 |  |   |  |
| 9  | Signal error at the interpretation of the analog pulse (SIN, COS is not equal to the absolute pulse).<br>Help: Check the cable of the encoder feedback.  |   |   |                         |   |   |                                    |  |                        |                                    |  |        |                                      |                 |  |   |  |

| <b>Error in action with encoder database:</b> |    |  |  |
|---|----|--|--|
| Info 1  | 10 | Identification: Reading error ID32842 'Encoder list customer', the encoder data are invalid<br>Help: The ID32842 must be recorded with valid data.                               |  |
|   | 11 | Checksum wrong: Data of ID32842 'Encoder list customer' in the encoder are wrong. Data of the were changed in the system without saving them in the encoder                      |  |
|   | 12 | ID32842 'Encoder list customer' was changed without saving the data in the encoder   |  |
|   | 13 | Identification: Reading error "encoder list motor", the wrong list is invalid or the list is empty.<br>Help: The encoder list motor must be recorded trough AMK with valid data. |  |
|   | 14 | Checksum wrong: Data of the "Motor encoder list" in the encoder are wrong. Data of the "Motor encoder list" were changed in the system without saving them in the encoder        |  |
|   | 15 | The data of the ID No. listed in the "User encoder list" require more memory than available in the encoder   |  |
|   | 16 | The addressed memory cell may not be written   |  |
|   | 17 | Entered address does not exist   |  |
|   | 18 | The memory range in the encoder cannot be determined correctly   |  |
|   | 19 | The offset address in the encoder cannot be determined correctly   |  |
|   | 20 | ID34160 'Part number motor' is not equal with the part number motor witch is written into the encoder<br>Help: Read the motor data from the encoder.                             |  |
|   | 33 | Setpoint in ID32942 has a invalid polarity sign, referred to the motor sense of rotation ID32773, bit 16   |  |
|   | 34 | The absolute setpoint in ID32942 is over the limit of the encoder (ID116 x distinguishable revolutions of the encoder )  |  |

| <b>Errors in access to data stock:</b> |    |   |  |
|--|----|---|--|
| Info 1                                 | 30 | Reading access:Error on reading data from DTH |  |
|  | 31 | Writing access:Error on writing data into DTH |  |
|  | 32 | ID wrong: ID number not available             |  |
|  | 40 | Inadmissible status                           |  |
|  | 41 | Timeout encoder commanding                    |  |

**Error Removal**

Encoder errors of the option card KU-/KW-EN1 are distinguished from the motor encoder by Info 1 + 100

| Device  | IDT  |   |    |
|---|--|---|----|
| <b>Description</b>                                | Messages during run-up (ID32773.23.= 1: reading the absolute position during initialisation) |   |    |
| <b>Class</b>                                      | see below  |   |    |
| <b>Drive Behaviour</b>                            |  |   |    |
| <b>Device Behaviour</b>                           | System run-up aborted  |   |    |
| <b>Additional Error Information (AMK Service)</b> |  |   |    |
| ID32773.27 = 0                                    |  |   |    |
| Info 1  | 6  | Warning<br>Monitor of the UPS supply has triggered  |    |
|   | 9  | Error<br>Actual position value change has been detected while no UPS was active (position reference has been lost). |    |
| ID32773.27 = 1                                    |  |   |    |
| Info 1  | 3  | Error   |    |
|   | 9  | Info 2  | 10 |
| Info 1  | 3  | Error   |    |
|   | 9  | Faulty encoder angle was detected during system run-up  |    |

| Device             | IDT   |
|--------------------|---|
| <b>Description</b> | Error in combination with absolute encoder (type C) |



|   |  |    |  |   |   |
|---|--|----|--|---|---|
| <b>Device</b>                                     | <b>IDT</b>   |    |  |   |   |
| <b>Class</b>                                      | see below  |    |  |   |   |
| <b>Drive Behaviour</b>                            |  |    |  |   |   |
| <b>Device Behaviour</b>                           |  |    |  |   |   |
| <b>Additional Error Information (AMK Service)</b> |  |    |  |   |   |
|   | Info 1   | 3  | Absolute encoder error                         |   |   |
|   |  |    | Info 2   | 1   | Speed higher than 6000 rpm  |
|   |  |    |  | 2   | Motor movement during the encoder power down (no battery power supply mode) |
|   |  |    |  | 6   | Communication error during the read access                                  |
|   |  |    |  | 7   | Communication error during the write access                                 |
|   |  |    |  | 8   | System SW error   |
|   |  |    |  | 9   | Position lost because of the deep low power mode command                    |
|   |  | 10 |  | No valid record for position data is detected |   |
|   |  | 5  | Error<br>Encoder communication error           |   |   |
|   |  | 6  | Warning<br>Absolute encoder power off detected |   |   |
| 8   | Error<br>Faulty encoder firmware   |    |  |   |   |
| 9   | Error<br>Motor movement in low power mode without USV  |    |  |   |   |
| <b>Error Removal</b>                              | <ul style="list-style-type: none"> <li>Encoder included in motor electric<br/>Message incl. info 1 and info 2 to AMK service for error localisation</li> <li>If info 1 = 2, the motor can be moved to a known position and with the service command according ID32843=0X12 the encoder position can be set new.</li> </ul> |    |  |   |   |

### 2311 Encoder signal

|  |  |    |  |
|--|--|----|--|
| <ul style="list-style-type: none"> <li>• Motor encoder defective</li> <li>• Encoder cable defective or not connected</li> <li>• Motor is equipped with a D encoder</li> <li>• Possibly A encoder with defective field plates</li> <li>• The SINE encoder monitoring can be switched off through ID32773</li> </ul> |  |    |  |
| <b>Device</b>  |  |    |  |
| <b>Description</b>   |  |    |  |
| <b>Class</b>   |  |    |  |
| <b>Drive Behaviour</b>   | Drive runs down  |    |  |
| <b>Device Behaviour</b>  | Single treatment   |    |  |
| <b>Additional Error Information (AMK Service)</b>  |  |    |  |
|  | Info 1   | 1  | A/I/T encoder hardware:<br>Inadmissible level at the encoder input   |
|  |  | 2  | I/T encoder amplitude:<br>The amplitude at the A/D converter input of an encoder track is less than 0.6 V<br>(normal level: 2 V). Filtration: 5x within 50 ms leads to shutdown. |
|  |  | 3  | T encoder timeout:<br>In homing with T encoder or operation of synchronous machine with T encoder no feedback of the encoder.  |
|  |  | 4  | T encoder reception:<br>In homing with T encoder or operation of synchronous machine with T encoder faulty transmission of the encoder.  |
|  |  | 5  | T encoder error bit:<br>In homing with T encoder or operation of synchronous machine with T encoder the internal error bit of the encoder was set.                               |
|  |  | 6  | T encoder position<br>On operation of synchronous machine with T encoder the drive has moved on system run-up.   |
|  |  | 7  | Resolver:<br>Amplitude of a resolver signal at the A/D converter input is less than 0.6 V<br>(normal level: 2 V)   |
|  |  | 12 | A/I encoder amplitude:<br>The amplitude at the A/D converter input of an encoder track is too large.   |
|  |  | 13 | Initializing ENDAT encoder   |
| <b>Device</b>  | AW   |    |  |
|  | As from AW 2.11 4696 error analysis (code) through monitor cell M 7CFF.<br>Data for T encoder also apply for S encoder |    |  |
| <b>Error Removal</b>   |  |    |  |
| Encoder errors of the option card KU-/KW-EN1 are distinguished from the motor encoder by Info(I) + 100   |  |    |  |

### 2312 Output Terminal Ground Fault

|  |   |  |  |
|--|---|--|--|
| <ul style="list-style-type: none"> <li>• Short-circuit between a phase of the output terminals and PE</li> </ul> |   |  |  |
| <b>Device</b>  |   |  |  |
| <b>Description</b>   |   |  |  |
| <b>Class</b>   |   |  |  |
| <b>Drive Behaviour</b>   | Drive runs down                                       |  |  |
| <b>Device Behaviour</b>  | Single treatment                                      |  |  |
| <b>Additional Error Information (AMK Service)</b>  |   |  |  |
|  |   |  |  |
| <b>Error Removal</b>   | Defective motor connection cable or a defective motor |  |  |

### 2313 Synchronous running error

|  |  |
|--|--|
| <ul style="list-style-type: none"> <li>Inadmissible 16-bit position command value input (step change) or disturbed signal paths</li> </ul> |  |
| Device   |  |
| Description  |  |
| Class  |  |
| Drive Behaviour  | Controlled braking                                     |
| Device Behaviour   |  |
| <b>Additional Error Information (AMK Service)</b>  |  |
|  |  |
| Error Removal  | Usually hardware problem, see. Com. error AZ M881C ... |

### 2314 Master Synchronous Telegram AW

|   |                  |
|---|------------------|
| <ul style="list-style-type: none"> <li>Master synchronous telegram error on inverter</li> </ul> |                  |
| Device  |                  |
| Description   |                  |
| Class   |                  |
| Drive Behaviour   |                  |
| Device Behaviour  | Single treatment |
| <b>Additional Error Information (AMK Service)</b>   |                  |
|   |                  |
| Error Removal   |                  |

### 2315 AW controller clock error

|  |  |
|--|--|
| Lack of the controller clock was detected by an AW |  |
| Device   | AW<br>AZ   |
| Description  |  |
| Class  |  |
| Drive Behaviour                                    | Drive runs down  |
| Device Behaviour                                   | Single treatment   |
| <b>Additional Error Information (AMK Service)</b>  |  |
|  |  |
| Error Removal                                      | <ul style="list-style-type: none"> <li>Fault on the AZ -&gt; AW interface</li> <li>Damaged ribbon cable</li> <li>Connection at the connector X27 of the AZ module or X57 of the AW module is faulty</li> </ul> |

### 2316 Motor direction of rotation

|  |  |
|--|--|
| <ul style="list-style-type: none"> <li>Direction of rotation monitoring recognizes defect on activating RF (only motor operation)</li> </ul> |  |
| Device   |  |
| Description  |  |
| Class  |  |
| Drive Behaviour  | Drive runs down  |
| Device Behaviour   | Single treatment   |
| <b>Additional Error Information (AMK Service)</b>  |  |
|  |  |
| Error Removal  | Encoder tracks reversed polarity, output terminal phase sequence |

### 2317 External encoder direction of rotation

|  |                                  |
|--|----------------------------------|
| <ul style="list-style-type: none"> <li>Reserve, this message is not yet supported</li> </ul> |                                  |
| <b>Device</b>  |                                  |
| <b>Description</b>   |                                  |
| <b>Class</b>   |                                  |
| <b>Drive Behaviour</b>   | Drive runs down                  |
| <b>Device Behaviour</b>  | Single treatment                 |
| <b>Additional Error Information (AMK Service)</b>  |                                  |
|  |                                  |
| <b>Error Removal</b>   | Encoder tracks reversed polarity |

### 2318 Control deviation

|  |  |
|--|--|
| <ul style="list-style-type: none"> <li>Position control difference has exceeded the increment number defined by means of ID159</li> <li>Torque limits ID82 / ID83 too low</li> <li>Check speed controller parameters ID100 / ID101</li> <li>Position control parameter ID104 not optimized</li> <li>Speed limit ID38/ID39 too low</li> <li>Motor too weak for this application</li> <li>Inverter module too weak for this motor</li> </ul> |  |
| <b>Device</b>  |  |
| <b>Description</b>   |  |
| <b>Class</b>   |  |
| <b>Drive Behaviour</b>   | Controlled braking   |
| <b>Device Behaviour</b>  |  |
| <b>Additional Error Information (AMK Service)</b>  |  |
|  |  |
| <b>Error Removal</b>   | Recheck parameters: <ul style="list-style-type: none"> <li>ID38 Positive velocity limit</li> <li>ID39 Negative velocity limit</li> <li>ID82 Positive torque limit</li> <li>ID83 Negative torque limit</li> <li>ID100 Proportional gain speed control KP</li> <li>ID101 Integration acting time speed control TN</li> <li>ID104 Position loop KV factor</li> <li>ID159 Excessive Error</li> </ul> |

### 2319 $n > n_{max}$

|  |  |
|--|--|
| <ul style="list-style-type: none"> <li>Safety shutdown in the inverter</li> <li>Actual speed was more than <math>1.25 * \text{"ID113 Maximum speed"}</math></li> </ul> |  |
| <b>Device</b>  |  |
| <b>Description</b>   |  |
| <b>Class</b>   |  |
| <b>Drive Behaviour</b>   | Drive runs down  |
| <b>Device Behaviour</b>  | Single treatment   |
| <b>Additional Error Information (AMK Service)</b>  |  |
|  |  |
| <b>Error Removal</b>   | <ul style="list-style-type: none"> <li>Motor encoder faulty</li> </ul> |

### 2320 EF inactive

|  |                  |  |  |
|--|------------------|--|--|
| <ul style="list-style-type: none"> <li>• Output stage enabling (EF) inactive with controller enable RF active</li> <li>• EF check</li> </ul> |                  |  |  |
| <b>Device</b>  |                  |  |  |
| <b>Description</b>   |                  |  |  |
| <b>Class</b>   |                  |  |  |
| <b>Drive Behaviour</b>   | Drive runs down  |  |  |
| <b>Device Behaviour</b>  | Single treatment |  |  |
| <b>Additional Error Information (AMK Service)</b>  |                  |  |  |
|  |                  |  |  |
| <b>Error Removal</b>   |                  |  |  |

### 2321 System diagnostics

|   |   |   |  |
|---|---|---|--|
| <ul style="list-style-type: none"> <li>• IGBT monitoring in PWM device detects overcurrent</li> </ul> |   |   |  |
| <b>Device</b>   | KE/KW   |   |  |
| <b>Description</b>  |   |   |  |
| <b>Class</b>  | Error   |   |  |
| <b>Drive Behaviour</b>  | Drive runs down   |   |  |
| <b>Device Behaviour</b>   |   |   |  |
| <b>Additional Error Information (AMK Service)</b>   |   |   |  |
|   | Info 1  | 0 | I*t monitoring, 30 ms, 110% I <sub>max</sub> IGBT          |
|   |   | 1 | Failure in Seep-list (cell 20014)                          |
|   |   | 2 | The IGBT temperature is greater than allowed for this type |
| <b>Error Removal</b>  | <ul style="list-style-type: none"> <li>• Check drive load / motor sizing</li> <li>• Check overload by measuring motor torque</li> <li>• Reduce load (torque limit) optimize gain settings</li> </ul>  |   |  |
| <b>Class</b>  | Warning   |   |  |
| <b>Drive Behaviour</b>  |   |   |  |
| <b>Device Behaviour</b>   | System run-up aborted   |   |  |
| <b>Additional Error Information (AMK Service)</b>   |   |   |  |
|   | Info 1  | 3 | Temperature model is not supported                         |
| <b>Error Removal</b>  | <ul style="list-style-type: none"> <li>• Check revision of the device (SEEP-data)</li> <li>• Upgrade to new revision (SEEP-data)</li> <li>• Disable temperatur model via ID32901 Bit9=0<br/>(KW-R05: Error message will be inhibited; KW-R03: Temperature model is disabled)</li> </ul> |   |  |

### 2322 System diagnostics

|   |                 |  |  |
|---|-----------------|--|--|
| <ul style="list-style-type: none"> <li>• Inverter RAM memory error</li> </ul> |                 |  |  |
| <b>Device</b>   |                 |  |  |
| <b>Description</b>  |                 |  |  |
| <b>Class</b>  |                 |  |  |
| <b>Drive Behaviour</b>  | Drive runs down |  |  |
| <b>Device Behaviour</b>   |                 |  |  |
| <b>Additional Error Information (AMK Service)</b>                             |                 |  |  |
|   |                 |  |  |
| <b>Error Removal</b>  |                 |  |  |

### 2323 System diagnostics

|  |                 |
|--|-----------------|
| <ul style="list-style-type: none"> <li>• VECON watchdog</li> </ul> |                 |
| Device   |                 |
| Description  |                 |
| Class  |                 |
| Drive Behaviour  | Drive runs down |
| Device Behaviour   |                 |
| Additional Error Information (AMK Service)                         |                 |
|  |                 |
| Error Removal  |                 |

### 2324 System diagnostics

|   |                       |
|---|-----------------------|
| <ul style="list-style-type: none"> <li>• Hardware significance in the AW SEEP invalid (M8030, 2 or 3 current measuring elements)</li> <li>• Furthermore differentiation of the <math>U_z</math> sensors new 1/150 or old 1/200</li> </ul> |                       |
| Device  |                       |
| Description   |                       |
| Class   |                       |
| Drive Behaviour   |                       |
| Device Behaviour  | System run-up aborted |
| Additional Error Information (AMK Service)  |                       |
|   |                       |
| Error Removal   |                       |

### 2325 System diagnostics

|  |                 |
|--|-----------------|
| <ul style="list-style-type: none"> <li>• Error (timeout 5s) current controller adjustment</li> </ul> |                 |
| Device   |                 |
| Description  |                 |
| Class  |                 |
| Drive Behaviour  | Drive runs down |
| Device Behaviour   |                 |
| Additional Error Information (AMK Service)   |                 |
|  |                 |
| Error Removal  |                 |

### 2326 System diagnostics

|  |                 |
|--|-----------------|
|  |                 |
| Device                                     |                 |
| Description                                |                 |
| Class                                      |                 |
| Drive Behaviour                            | Drive runs down |
| Device Behaviour                           |                 |
| Additional Error Information (AMK Service) |                 |
|  | Rerserve        |
| Error Removal                              |                 |

### 2327 Plausibility of the External Encoder

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>Plausibility monitoring between motor encoder and external positioning encoder initiated</li> </ul> |   |
| <b>Device</b>  |   |
| <b>Description</b>   | Plausibility monitoring between motor encoder and ext. encoder detects too high slip (special software) |
| <b>Class</b>   |   |
| <b>Drive Behaviour</b>   | Drive runs down   |
| <b>Device Behaviour</b>  |   |
| <b>Additional Error Information (AMK Service)</b>  |   |
|  |   |
| <b>Error Removal</b>   |   |

### 2328 System diagnostics

|   |                       |
|---|-----------------------|
| <ul style="list-style-type: none"> <li>Missing option card e.g. in the KU.<br/>For instance, if an AMK-A encoder is defined in "ID32953 Encoder type", then the option card AW- /KU- AG1 must also be detected</li> </ul> |                       |
| <b>Device</b>   |                       |
| <b>Description</b>  |                       |
| <b>Class</b>  |                       |
| <b>Drive Behaviour</b>  |                       |
| <b>Device Behaviour</b>   | System run-up aborted |
| <b>Additional Error Information (AMK Service)</b>   |                       |
|   |                       |
| <b>Error Removal</b>  |                       |

### 2329 System diagnostics

|  |                       |
|--|-----------------------|
| <ul style="list-style-type: none"> <li>Commutation error in synchronous machine with AMK-T encoder (SINCOS absolute value encoder).<br/>Cause is a motion of the motor in system initialization</li> </ul> |                       |
| <b>Device</b>  |                       |
| <b>Description</b>   |                       |
| <b>Class</b>   |                       |
| <b>Drive Behaviour</b>   |                       |
| <b>Device Behaviour</b>  | System run-up aborted |
| <b>Additional Error Information (AMK Service)</b>  |                       |
|  |                       |
| <b>Error Removal</b>   |                       |

### 2330 System diagnostics

|   |                       |
|---|-----------------------|
|   |                       |
| <b>Device</b>                                     |                       |
| <b>Description</b>                                |                       |
| <b>Class</b>                                      |                       |
| <b>Drive Behaviour</b>                            |                       |
| <b>Device Behaviour</b>                           | System run-up aborted |
| <b>Additional Error Information (AMK Service)</b> |                       |
|   | Reserve               |
| <b>Error Removal</b>                              |                       |



### 2331 System diagnostics

|  |                 |
|--|-----------------|
| <ul style="list-style-type: none"> <li>Ramp down error</li> <li>The actual speed value is not reduced in the 0.5 s grid. The ramp down monitoring can be switched off through ID32773</li> </ul> |                 |
| Device   | AW              |
| <ul style="list-style-type: none"> <li>As from AW 0210, AW ramp down error</li> </ul>  |                 |
| Description  |                 |
| Class  |                 |
| Drive Behaviour  | Drive runs down |
| Device Behaviour   |                 |
| <b>Additional Error Information (AMK Service)</b>  |                 |
|  |                 |
| Error Removal  |                 |

### 2332 System diagnostics

|   |  |
|---|--|
|   |  |
| Device  |  |
| Description                                       | Motor phase error (special software)   |
| Class   |  |
| Drive Behaviour                                   | Drive runs down                        |
| Device Behaviour                                  | System run-up aborted                  |
| <b>Additional Error Information (AMK Service)</b> |  |
|   |  |
| Error Removal                                     | Check motor connection and motor cable |

### 2333 Position growth too large

|   |                    |
|---|--------------------|
| <ul style="list-style-type: none"> <li>Inverter cannot process the cyclic 32-bit position setpoint growth per 500 <math>\mu</math>s (sampling time)</li> <li>Wrong 32-bit input of setpoint by user</li> <li>Fault of the bus system</li> </ul> |                    |
| Device  |                    |
| Description   |                    |
| Class   |                    |
| Drive Behaviour   | Controlled braking |
| Device Behaviour  |                    |
| <b>Additional Error Information (AMK Service)</b>   |                    |
|   |                    |
| Error Removal   |                    |

### 2334 System diagnostics

|   |                 |
|---|-----------------|
| <ul style="list-style-type: none"> <li>Output terminal overcurrent</li> </ul> |                 |
| Device  |                 |
| Description   |                 |
| Class   |                 |
| Drive Behaviour   | Drive runs down |
| Device Behaviour  |                 |
| <b>Additional Error Information (AMK Service)</b>                             |                 |
|   |                 |
| Error Removal   |                 |

### 2335 Error reference pulse

|  |                 |  |  |
|--|-----------------|--|--|
| <ul style="list-style-type: none"> <li>Monitoring of reference pulse ID32773. 6=1 is active</li> <li>Disturbance of reference pulse</li> </ul> |                 |  |  |
| <b>Device</b>  |                 |  |  |
| <b>Description</b>   |                 |  |  |
| <b>Class</b>   |                 |  |  |
| <b>Drive Behaviour</b>   | Drive runs down |  |  |
| <b>Device Behaviour</b>  |                 |  |  |
| <b>Additional Error Information (AMK Service)</b>  |                 |  |  |
|  |                 |  |  |
| <b>Error Removal</b>   |                 |  |  |

### 2336 System diagnostics

|  |                 |  |  |
|--|-----------------|--|--|
| <ul style="list-style-type: none"> <li>Current setpoint at the analog input of the slave AW was too large.<br/>(Only in parallel connection of AWs)</li> </ul> |                 |  |  |
| <b>Device</b>  | AW              |  |  |
| <b>Description</b>   |                 |  |  |
| <b>Class</b>   |                 |  |  |
| <b>Drive Behaviour</b>   | Drive runs down |  |  |
| <b>Device Behaviour</b>  |                 |  |  |
| <b>Additional Error Information (AMK Service)</b>  |                 |  |  |
|  |                 |  |  |
| <b>Error Removal</b>   |                 |  |  |

### 2337 No clock enable acknowledgement

|   |                       |  |  |
|---|-----------------------|--|--|
| <ul style="list-style-type: none"> <li>Clock enable is not acknowledged by the inverter</li> <li>Consequential error</li> </ul> |                       |  |  |
| <b>Device</b>   |                       |  |  |
| <b>Description</b>  |                       |  |  |
| <b>Class</b>  |                       |  |  |
| <b>Drive Behaviour</b>  |                       |  |  |
| <b>Device Behaviour</b>   | System run-up aborted |  |  |
| <b>Additional Error Information (AMK Service)</b>   |                       |  |  |
|   |                       |  |  |
| <b>Error Removal</b>  |                       |  |  |

### 2338 Magnetizing timeout

|   |   |  |  |
|---|---|--|--|
| <ul style="list-style-type: none"> <li>No magnetizing possible</li> </ul> |   |  |  |
| <b>Device</b>   |   |  |  |
| <b>Description</b>  |   |  |  |
| <b>Class</b>  |   |  |  |
| <b>Drive Behaviour</b>  |   |  |  |
| <b>Device Behaviour</b>   | System run-up aborted   |  |  |
| <b>Additional Error Information (AMK Service)</b>                         |   |  |  |
|   |   |  |  |
| <b>Error Removal</b>  | <ul style="list-style-type: none"> <li>e.g. motor cables not connected on activating the controller enable</li> <li>Lack of DC bus voltage</li> </ul> |  |  |

### 2339 Ramp down error

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>Inverter runs inconstantly (dxi/dt) to speed n=0, ramp down monitoring can be switched off through ID32773</li> <li>Motor drifts with low speed.</li> <li>As from AW 0210 replacement by message 2331</li> </ul> |   |
| <b>Device</b>   |   |
| <b>Description</b>  |   |
| <b>Class</b>  |   |
| <b>Drive Behaviour</b>  | Controlled braking  |
| <b>Device Behaviour</b>   |   |
| <b>Additional Error Information (AMK Service)</b>   |   |
|   |   |
| <b>Error Removal</b>  | <ul style="list-style-type: none"> <li>Check motor phases (U, V, W connected correctly?)</li> <li>Encoder signal connections</li> </ul> |

### 2340 Communication on AW

|  |                    |
|--|--------------------|
| <ul style="list-style-type: none"> <li>Inverter-side communication error, fault</li> </ul> |                    |
| <b>Device</b>  |                    |
| <b>Description</b>   |                    |
| <b>Class</b>   |                    |
| <b>Drive Behaviour</b>   | Controlled braking |
| <b>Device Behaviour</b>  |                    |
| <b>Additional Error Information (AMK Service)</b>  |                    |
|  |                    |
| <b>Error Removal</b>   |                    |

### 2341 Communication on AZ

|  |                    |
|--|--------------------|
| <ul style="list-style-type: none"> <li>AZ-side communication error, fault</li> </ul> |                    |
| <b>Device</b>  |                    |
| <b>Description</b>   |                    |
| <b>Class</b>   |                    |
| <b>Drive Behaviour</b>   | Controlled braking |
| <b>Device Behaviour</b>  |                    |
| <b>Additional Error Information (AMK Service)</b>                                    |                    |
|  |                    |
| <b>Error Removal</b>   |                    |

### 2342 System diagnostics

|   |                        |
|---|------------------------|
|   |                        |
| <b>Device</b>                                     |                        |
| <b>Description</b>                                |                        |
| <b>Class</b>                                      |                        |
| <b>Drive Behaviour</b>                            | Drive runs down        |
| <b>Device Behaviour</b>                           |                        |
| <b>Additional Error Information (AMK Service)</b> |                        |
|   |                        |
| <b>Error Removal</b>                              | QUIT AWMON-ERROR, RGRF |

### 2343 System diagnostics

|   |                 |
|---|-----------------|
| <b>Device</b>                                     |                 |
| <b>Description</b>                                |                 |
| <b>Class</b>                                      |                 |
| <b>Drive Behaviour</b>                            | Drive runs down |
| <b>Device Behaviour</b>                           |                 |
| <b>Additional Error Information (AMK Service)</b> |                 |
|   | TIMEOUT BSÜ     |
| <b>Error Removal</b>                              |                 |

### 2344 Monitoring actual position

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>The encoder absolute position and the internal actual position have a deviation of more than 0.5% of the encoder resolution.</li> </ul> |   |
| <b>Device</b>  |   |
| <b>Description</b>   |   |
| <b>Class</b>   |   |
| <b>Drive Behaviour</b>   | Drive runs down                                       |
| <b>Device Behaviour</b>  |   |
| <b>Additional Error Information (AMK Service)</b>  |   |
|  | Deviation shown as 0.1% (Resolution absolute encoder) |
| <b>Error Removal</b>   |   |

### 2345 'Inverter overload error'

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>Current feedback values violate the <math>I^2t</math> calculation</li> <li>100 % overload</li> <li>Previously 2349 'Inverter overload warning'</li> </ul> |   |
| <b>Device</b>  | AW<br>KU<br>KW<br>RM  |
| <b>Description</b>   |   |
| <b>Class</b>   | Warning   |
| <b>Drive Behaviour</b>   | Controlled braking  |
| <b>Device Behaviour</b>  |   |
| <b>Additional Error Information (AMK Service)</b>  |   |
|  | $I^2t$ monitoring, 30 ms, 100% $I_{max}$ IGBT   |
| <b>Error Removal</b>   | <ul style="list-style-type: none"> <li>Check motor parameters</li> <li>No or wrong encoder cable connected</li> <li>Unstable, oscillating drive</li> <li>Wrong encoder period number defined</li> </ul> |

|   |   |
|---|---|
| <b>Device</b>                                     | KE  |
| <b>Description</b>                                |   |
| <b>Class</b>                                      | Warning   |
| <b>Drive Behaviour</b>                            | Controlled braking  |
| <b>Device Behaviour</b>                           |   |
| <b>Additional Error Information (AMK Service)</b> |   |
|   | Info1 0 $I^2t$ error, $I_{max}$ for 60 s at KE<br>$I^2t$ error, $I_{max}$ for 10 s at KES |
| <b>Error Removal</b>                              |   |

|   |  |  |  |
|---|--|--|--|
| <ul style="list-style-type: none"> <li>Overload inverter (n)</li> </ul> |  |  |  |
| <b>Device</b>   | <b>ZWR</b>   |  |  |
| <b>Description</b>  | Overload inverter -U1 ( $I^2t$ error, $I_{max}$ for 10 s)            |  |  |
| <b>Class</b>  | Error  |  |  |
| <b>Device Behaviour</b>   | Automatic error reset and switch back on                             |  |  |
| <b>Additional Error Information (AMK Service)</b>                       |  |  |  |
|   |  |  |  |
| <b>Error Removal</b>  | <ul style="list-style-type: none"> <li>Check inverter -U1</li> </ul> |  |  |

### 2346 'Converter temperature error'

|   |                    |  |  |
|---|--------------------|--|--|
| <ul style="list-style-type: none"> <li>Temperature of the device too high</li> <li>PTC resistor interruption</li> </ul> |                    |  |  |
| <b>Device</b>   |                    |  |  |
| <b>Description</b>  |                    |  |  |
| <b>Class</b>  | Warning            |  |  |
| <b>Drive Behaviour</b>  | Controlled braking |  |  |
| <b>Device Behaviour</b>   |                    |  |  |
| <b>Additional Error Information (AMK Service)</b>   |                    |  |  |
|   |                    |  |  |
| <b>Error Removal</b>  |                    |  |  |

|   |                    |   |   |
|---|--------------------|---|---|
| <b>Device</b>                                     | <b>KE</b>          |   |   |
| <b>Description</b>                                |                    |   |   |
| <b>Class</b>                                      | Error              |   |   |
| <b>Drive Behaviour</b>                            | Controlled braking |   |   |
| <b>Device Behaviour</b>                           |                    |   |   |
| <b>Additional Error Information (AMK Service)</b> |                    |   |   |
|   | Info1              | 0 | Temperature of cold plate -> SEEP cell 37<br>ITK (analogue) |
| <b>Error Removal</b>                              |                    |   |   |

|  |  |  |  |
|--|--|--|--|
| <ul style="list-style-type: none"> <li>Overtemperature inverter (n)</li> </ul> |  |  |  |
| <b>Device</b>  | <b>ZWR</b>   |  |  |
| <b>Description</b>   | Overtemperature inverter -U1 (> 75 °C)                                 |  |  |
| <b>Class</b>   | Warning  |  |  |
| <b>Device Behaviour</b>  | Automatic error reset and switch back on                               |  |  |
| <b>Additional Error Information (AMK Service)</b>                              |  |  |  |
|  |  |  |  |
| <b>Error Removal</b>   | <ul style="list-style-type: none"> <li>Check cooling system</li> </ul> |  |  |

### 2347 Motor temperature error

|  |                    |  |  |
|--|--------------------|--|--|
| <ul style="list-style-type: none"> <li>Temperature of the motor too high</li> <li>PTC resistor interruption</li> </ul> |                    |  |  |
| <b>Device</b>  |                    |  |  |
| <b>Description</b>   |                    |  |  |
| <b>Class</b>   |                    |  |  |
| <b>Drive Behaviour</b>   | Controlled braking |  |  |
| <b>Device Behaviour</b>  |                    |  |  |
| <b>Additional Error Information (AMK Service)</b>  |                    |  |  |
|  |                    |  |  |
| <b>Error Removal</b>   |                    |  |  |

## 2348 System diagnostics

|   |                 |
|---|-----------------|
| <b>Device</b>                                     |                 |
| <b>Description</b>                                |                 |
| <b>Class</b>                                      |                 |
| <b>Drive Behaviour</b>                            | Drive runs down |
| <b>Device Behaviour</b>                           |                 |
| <b>Additional Error Information (AMK Service)</b> |                 |
|   | Reserve         |
| <b>Error Removal</b>                              |                 |

## 2349 Inverter overload warning

|   |  |
|---|--|
| <ul style="list-style-type: none"> <li>• Device shuts down after 4 sec. with error 2345 'Inverter overload error'</li> <li>• Current feedback values violate the <math>I^2t</math> calculation</li> </ul> |  |
| <b>Device</b>   | AW<br>KU<br>RM   |
| <b>Description</b>  |  |
| <b>Class</b>  | Warning message, reaction of the drive after 4 seconds   |
| <b>Drive Behaviour</b>  |  |
| <b>Device Behaviour</b>   |  |
| <b>Additional Error Information (AMK Service)</b>   |  |
|   |  |
| <b>Error Removal</b>  | <ul style="list-style-type: none"> <li>• Motor wrongly connected</li> <li>• No or wrong encoder cable connected</li> <li>• Unstable, oscillating drive</li> <li>• Wrong encoder period number defined</li> </ul> |

## 2350 Device over temperature warning

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>• Device shuts down after 4 sec. With error 2346</li> </ul> |   |
| <b>Device</b>  |   |
| <b>Description</b>   |   |
| <b>Class</b>   | Warning message, reaction of the drive after 4 seconds                    |
| <b>Drive Behaviour</b>   |   |
| <b>Device Behaviour</b>  |   |
| <b>Additional Error Information (AMK Service)</b>  |   |
|  |   |
| <b>Error Removal</b>   |   |
| <b>Device</b>  | <b>KE</b>   |
| <b>Description</b>   |   |
| <b>Class</b>   |   |
| <b>Drive Behaviour</b>   |   |
| <b>Device Behaviour</b>  |   |
| <b>Additional Error Information (AMK Service)</b>  |   |
|  | Info1    0    Temperature of cold plate -> SEEP cell 37<br>ITK (analogue) |
| <b>Error Removal</b>   |   |

### 2351 Motor temperature warning

|   |  |
|---|--|
| <ul style="list-style-type: none"> <li>Motor overtemperature warning or PTC resistor interruption</li> </ul>    |  |
| Device  | AW   |
| <ul style="list-style-type: none"> <li>SBM is withdrawn, drive shuts down after 4sec with error 2347</li> </ul> |  |
| Description   |  |
| Class   | Warning message, reaction of the drive after 4 seconds |
| Drive Behaviour   |  |
| Device Behaviour  |  |
| Additional Error Information (AMK Service)  |  |
|   |  |
| Error Removal   |  |

### 2352 Motor overload warning

|   |  |
|---|--|
| <ul style="list-style-type: none"> <li>The thermal overload limit of the motor is reached</li> <li>Shutting down the drive with error 2353 "Motor overload" after the time ID 32943 "WARNING TIME"</li> </ul> |  |
| Device  | AZ<br>KU   |
| Description   |  |
| Class   | Warning message, reaction of the drive after 4 seconds |
| Drive Behaviour   | Controlled braking                                     |
| Device Behaviour  |  |
| Additional Error Information (AMK Service)  |  |
|   |  |
| Error Removal   |  |

### 2353 Motor overload error

|  |                 |
|--|-----------------|
| <ul style="list-style-type: none"> <li>The thermal overload limit of the motor is reached</li> </ul> |                 |
| Device   | AZ<br>KU        |
| Description  |                 |
| Class  | Error           |
| Drive Behaviour  | Drive runs down |
| Device Behaviour   |                 |
| Additional Error Information (AMK Service)   |                 |
|  |                 |
| Error Removal  |                 |

### 2354 Handshake brake

|   |  |
|---|--|
| <ul style="list-style-type: none"> <li>Plausibility monitoring is active; ID32773. 13 = 1</li> <li>Handshake does not come within "ID207 Drive off delay time"</li> </ul> |  |
| Device  |  |
| Description   |  |
| Class   | Warning  |
| Drive Behaviour   | Drive is still active (QRF=1)  |
| Device Behaviour  |  |
| Additional Error Information (AMK Service)  |  |
|   |  |
| Error Removal   | <ul style="list-style-type: none"> <li>Error reset is not allowed until axis is secured</li> </ul> |



### 2356 Setpoint stop active

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>Setpoint stop active</li> </ul> |   |
| <b>Device</b>  | KE/KW<br>KU   |
| <b>Description</b>   | The limit switches configured at the binary inputs for positive (code 33909) and negative (code 33910) setpoint processing are actuated at the same time (low active) |
| <b>Class</b>   | Warning   |
| <b>Drive Behaviour</b>   |   |
| <b>Device Behaviour</b>  |   |
| <b>Additional Error Information (AMK Service)</b>                      |   |
|  |   |
| <b>Error Removal</b>   | <ul style="list-style-type: none"> <li>Check limit switch, replace if necessary</li> <li>Check signal wiring, replace if necessary</li> </ul>                         |

### 2357 Device overload warning

|   |  |
|---|--|
| <ul style="list-style-type: none"> <li>Current actual values infringe the overload threshold ID32999 of the I<sup>2</sup>t calculation</li> <li>Switching off the drive with 2358 'Device overload error' at 100% overload</li> </ul> |  |
| <b>Device</b>   |  |
| <b>Description</b>  |  |
| <b>Class</b>  | Warning  |
| <b>Drive Behaviour</b>  |  |
| <b>Device Behaviour</b>   |  |
| <b>Additional Error Information (AMK Service)</b>   |  |
|   |  |
| <b>Error Removal</b>  | <ul style="list-style-type: none"> <li>Motor incorrectly connected</li> <li>Check motor parameters</li> <li>No or incorrect encoder channel connected</li> <li>Unstable, oscillating drive</li> <li>Incorrect number of encoder periods defined</li> </ul> |

### 2358 Device overload error

|   |                 |
|---|-----------------|
| <ul style="list-style-type: none"> <li>Current actual values infringe the I<sup>2</sup>t calculation</li> <li>100% overload</li> <li>Previously "2357 Device overload warning"</li> </ul> |                 |
| <b>Device</b>   |                 |
| <b>Description</b>  |                 |
| <b>Class</b>  |                 |
| <b>Drive Behaviour</b>  | Drive runs down |
| <b>Device Behaviour</b>   |                 |
| <b>Additional Error Information (AMK Service)</b>   |                 |
|   |                 |
| <b>Error Removal</b>  |                 |

### 2359 Motor overload warning

|  |  |  |  |
|--|--|--|--|
| <ul style="list-style-type: none"> <li>"ID114 Overload limit motor" is reached</li> <li>Switching off the drive with "2360 Motor overload error" at 100% overload</li> </ul> |  |  |  |
| <b>Device</b>  |  |  |  |
| <b>Description</b>   |  |  |  |
| <b>Class</b>   | Warning  |  |  |
| <b>Drive Behaviour</b>   |  |  |  |
| <b>Device Behaviour</b>  |  |  |  |
| <b>Additional Error Information (AMK Service)</b>  |  |  |  |
|  |  |  |  |
| <b>Error Removal</b>   | Recheck parameter: <ul style="list-style-type: none"> <li>ID32920 Overload time motor</li> </ul> |  |  |

### 2360 Motor overload error

|   |                 |  |  |
|---|-----------------|--|--|
| <ul style="list-style-type: none"> <li>The thermal overload limit of the motor is reached</li> <li>100% overload</li> <li>Previously "2359 Motor overload warning"</li> </ul> |                 |  |  |
| <b>Device</b>   |                 |  |  |
| <b>Description</b>  |                 |  |  |
| <b>Class</b>  | Error           |  |  |
| <b>Drive Behaviour</b>  | Drive runs down |  |  |
| <b>Device Behaviour</b>   |                 |  |  |
| <b>Additional Error Information (AMK Service)</b>   |                 |  |  |
|   |                 |  |  |
| <b>Error Removal</b>  |                 |  |  |

### 2361 EF Logic

|   |   |   |  |
|---|---|---|--|
| <ul style="list-style-type: none"> <li>The selected EF monitor has responded (ID32901, bit 11)</li> </ul> |   |   |  |
| <b>Device</b>   |   |   |  |
| <b>Description</b>  |   |   |  |
| <b>Class</b>  |   |   |  |
| <b>Drive Behaviour</b>  | Drive runs down   |   |  |
| <b>Device Behaviour</b>   |   |   |  |
| <b>Additional Error Information (AMK Service)</b>   |   |   |  |
|   | Info 1  | 0 | EF logic infringed, detected by controller |
|   |   | 1 | EF logic infringed, detected by VECON      |
| <b>Error Removal</b>  | <ul style="list-style-type: none"> <li>Device is not EF compatible</li> <li>Hardware error -&gt; change device</li> </ul> |   |  |

### 2362 Error Commutation Motor

|   |  |  |  |
|---|--|--|--|
| <ul style="list-style-type: none"> <li>A fault has occurred during the evaluation of the commutation angle</li> </ul> |  |  |  |
| <b>Device</b>   | KW<br>KWZ<br>KW-R06<br>iX / iC / iDT5 / iDP7 |  |  |
| <b>Description</b>  |  |  |  |
| <b>Class</b>  | Error  |  |  |
| <b>Drive Behaviour</b>  | Drive runs down                              |  |  |
| <b>Device Behaviour</b>   | "Controller enable" (RF) is withdrawn        |  |  |
| <b>Additional Error Information (AMK Service)</b>   |  |  |  |

|                      |  |  |   |       |   |                                     |       |   |  |
|----------------------|--|--|---|-------|---|-------------------------------------|-------|---|--|
|                      | Info 1   | 10   | Wrong calculation   |       |   |                                     |       |   |  |
|                      |  | 11   | Wrong direction of rotation (phase sequence)  |       |   |                                     |       |   |  |
|                      |  | 12   | Slope is too large<br><table border="1"> <tr> <td>Info2</td> <td>-</td> <td>Actual value of the slope measured</td> </tr> <tr> <td>Info3</td> <td>-</td> <td>Parameter limit value for the maximum slope</td> </tr> </table>                        | Info2 | - | Actual value of the slope measured  | Info3 | - | Parameter limit value for the maximum slope  |
| Info2                | -  | Actual value of the slope measured           |   |       |   |                                     |       |   |  |
| Info3                | -  | Parameter limit value for the maximum slope  |   |       |   |                                     |       |   |  |
|                      |  | 13   | Slope is too small<br><table border="1"> <tr> <td>Info2</td> <td>-</td> <td>Actual value of the slope measured</td> </tr> <tr> <td>Info3</td> <td>-</td> <td>Parameter limit value for the maximum slope</td> </tr> </table>                        | Info2 | - | Actual value of the slope measured  | Info3 | - | Parameter limit value for the maximum slope  |
| Info2                | -  | Actual value of the slope measured           |   |       |   |                                     |       |   |  |
| Info3                | -  | Parameter limit value for the maximum slope  |   |       |   |                                     |       |   |  |
|                      |  | 14   | Offset is too large (absolute value)<br><table border="1"> <tr> <td>Info2</td> <td>-</td> <td>Actual value of the offset measured</td> </tr> <tr> <td>Info3</td> <td>-</td> <td>Parameter limit value for the maximum offset</td> </tr> </table>    | Info2 | - | Actual value of the offset measured | Info3 | - | Parameter limit value for the maximum offset |
| Info2                | -  | Actual value of the offset measured          |   |       |   |                                     |       |   |  |
| Info3                | -  | Parameter limit value for the maximum offset |   |       |   |                                     |       |   |  |
|                      |  | 15   | Deviation is too large (absolute value)<br><table border="1"> <tr> <td>Info2</td> <td>-</td> <td>Actual value of the offset measured</td> </tr> <tr> <td>Info3</td> <td>-</td> <td>Parameter limit value for the maximum offset</td> </tr> </table> | Info2 | - | Actual value of the offset measured | Info3 | - | Parameter limit value for the maximum offset |
| Info2                | -  | Actual value of the offset measured          |   |       |   |                                     |       |   |  |
| Info3                | -  | Parameter limit value for the maximum offset |   |       |   |                                     |       |   |  |
|                      |  | 16   | Wrong state (internal error inside the firmware - contact AMK service)  |       |   |                                     |       |   |  |
|                      |  | 17   | Error when reading the list ID34174 'SWK monitoring'  |       |   |                                     |       |   |  |
|                      |  | 18   | Error when updating the list ID34174 'SWK monitoring'   |       |   |                                     |       |   |  |
|                      |  | 20   | Error occurred in alignment on homing position during SW commutation  |       |   |                                     |       |   |  |
|                      |  | 21   | Error occurred during wake&shake commutation  |       |   |                                     |       |   |  |
| <b>Error Removal</b> | <ul style="list-style-type: none"> <li>• The wake&amp;shake commutation was not able to evaluate a position (The motor was moved by an external torque)</li> <li>• Motor must be able to move freely(disconnect the load and check if the shaft can move freely)</li> <li>• Motor current too small (ID111 'Motor nominal current IN' , ID34095 'Final value SWC')</li> <li>• Wrong direction of rotation (change direction of rotation by changing 2 phases of the motor)</li> <li>• RF was withdrawn during the SW commutation</li> <li>• RF is not allowed to be withdrawn before SW commutation has finished</li> <li>• Check limit values in ID34174</li> </ul> |  |   |       |   |                                     |       |   |  |

### 2365 'Error angle observer'

|  |   |   |  |
|--|---|---|--|
| <ul style="list-style-type: none"> <li>• Error angle observer</li> </ul> |   |   |  |
| <b>Device</b>  | KW-R06<br>iDT5<br>iX / i3X<br>iC  |   |  |
| <b>Description</b>   | An error occurred during operation of the observer for sensorless detection of the rotor position   |   |  |
| <b>Class</b>   | Error   |   |  |
| <b>Drive Behaviour</b>   | Controlled braking  |   |  |
| <b>Device Behaviour</b>  |   |   |  |
| <b>Additional Error Information (AMK Service)</b>                        |   |   |  |
|  | Info1   | 1 | The difference between encoder angle and observer angle exceeds ID33151. |
| <b>Error Removal</b>   | <ul style="list-style-type: none"> <li>• If additional message 2311 'Encoder signal': Check encoder and encoder wiring, replace if necessary</li> <li>• Recheck parameters: <ul style="list-style-type: none"> <li>◦ ID33151 'Maximal angular deviation of encoder-sensorless'</li> <li>◦ ID34045 'Inductance path D'</li> <li>◦ ID34046 'Inductance path Q'</li> <li>◦ ID34164 'Terminal resistance'</li> <li>◦ ID34167 'Terminal Inductance'</li> <li>◦ ID34233 'Phase resistance'</li> </ul> </li> </ul> |   |  |

## 4.10 No. 2560 ... 2599 SERCOS / EtherCAT

### 2561 System diagnostics

|   |  |
|---|--|
| • SERCOS  |  |
| <b>Device</b>                                     |  |
| <b>Description</b>                                | Failure of the master within communication phase 3 or 4<br>Master does not send any or just irregular frames of setpoint and actual values |
| <b>Class</b>                                      | Error  |
| <b>Drive Behaviour</b>                            | Controlled braking   |
| <b>Device Behaviour</b>                           |  |
| <b>Additional Error Information (AMK Service)</b> |  |
|   |  |
| <b>Error Removal</b>                              | Check wiring   |

|   |  |
|---|--|
| • EtherCAT  |  |
| <b>Device</b>                                     | KW-EC1<br>KWZ<br>KW-R05<br>A5<br>iX / iC / iDT5  |
| <b>Description</b>                                | EtherCAT master does not send any or just irregular frames of setpoint and actual values   |
| <b>Class</b>                                      | Error  |
| <b>Drive Behaviour</b>                            | Drive runs down  |
| <b>Device Behaviour</b>                           | Slave will be reset to mode "Safe Operational"<br>Controller: Setpoint values are not taken over any longer  |
| <b>Additional Error Information (AMK Service)</b> |  |
|   | Info 1      1      Failure of frame with real time data in "Operational" mode<br>In "Operational" mode within two cycles no setpoint or actual values were written or read |
|   | 2      Failure of frame with real time data in "Operational" mode  |
| <b>Error Removal</b>                              | Check EtherCAT wiring  |

### 2562 System diagnostics

|   |                    |
|---|--------------------|
| • MDT reception error in the Comm.phase 3 or 4    |                    |
| <b>Device</b>                                     |                    |
| <b>Description</b>                                |                    |
| <b>Class</b>                                      |                    |
| <b>Drive Behaviour</b>                            | Controlled Braking |
| <b>Device Behaviour</b>                           |                    |
| <b>Additional Error Information (AMK Service)</b> |                    |
|   |                    |
| <b>Error Removal</b>                              |                    |

### 2563 System diagnostics

|   |                             |
|---|-----------------------------|
| • SERCOS  |                             |
| <b>Device</b>                                     |                             |
| <b>Description</b>                                | Invalid communication phase |
| <b>Class</b>                                      | Error                       |
| <b>Drive Behaviour</b>                            | Controlled braking          |
| <b>Device Behaviour</b>                           |                             |
| <b>Additional Error Information (AMK Service)</b> |                             |
|   |                             |
| <b>Error Removal</b>                              |                             |

|   |   |
|---|---|
| • EtherCAT  |   |
| <b>Device</b>                                     | KW-EC1<br>KWZ<br>KW-R05<br>A5   |
| <b>Description</b>                                | EtherCAT AL fault<br>The EtherCAT master has requested an invalid status. |
| <b>Class</b>                                      | Error   |
| <b>Drive Behaviour</b>                            | Drive runs down   |
| <b>Device Behaviour</b>                           | Controller: Setpoints are no longer applied                               |
| <b>Additional Error Information (AMK Service)</b> |   |
|   |   |
| <b>Error Removal</b>                              | Incorrect specification from EtherCAT master.                             |

### 2564 System diagnostics

|   |                          |
|---|--------------------------|
| • SERCOS  |                          |
| <b>Device</b>                                     |                          |
| <b>Description</b>                                | Phase ramp up (sequence) |
| <b>Class</b>                                      | Error                    |
| <b>Drive Behaviour</b>                            | Controlled braking       |
| <b>Device Behaviour</b>                           |                          |
| <b>Additional Error Information (AMK Service)</b> |                          |
|   |                          |
| <b>Error Removal</b>                              |                          |

|   |   |
|---|---|
| • EtherCAT  |   |
| <b>Device</b>                                     | KE-EC1<br>KWZ<br>KW-R05<br>A5   |
| <b>Description</b>                                | EtherCAT AL fault<br>The EtherCAT master has specified an incorrect status sequence |
| <b>Class</b>                                      | Error   |
| <b>Drive Behaviour</b>                            | Drive runs down   |
| <b>Device Behaviour</b>                           |   |
| <b>Additional Error Information (AMK Service)</b> |   |
|   |   |
| <b>Error Removal</b>                              | Incorrect specification from EtherCAT master.                                       |

**2565 System diagnostics**

|   |                    |
|---|--------------------|
| • Phase switchback (not on phase 0)               |                    |
| <b>Device</b>                                     |                    |
| <b>Description</b>                                |                    |
| <b>Class</b>                                      |                    |
| <b>Drive Behaviour</b>                            | Controlled braking |
| <b>Device Behaviour</b>                           |                    |
| <b>Additional Error Information (AMK Service)</b> |                    |
|   |                    |
| <b>Error Removal</b>                              |                    |

**2566 System diagnostics**

|   |                    |
|---|--------------------|
| • Phase switchover without ready message          |                    |
| <b>Device</b>                                     |                    |
| <b>Description</b>                                |                    |
| <b>Class</b>                                      |                    |
| <b>Drive Behaviour</b>                            | Controlled braking |
| <b>Device Behaviour</b>                           |                    |
| <b>Additional Error Information (AMK Service)</b> |                    |
|   |                    |
| <b>Error Removal</b>                              |                    |

**2569 System diagnostics**

|   |                    |
|---|--------------------|
| • Memory error (allocating)                       |                    |
| <b>Device</b>                                     |                    |
| <b>Description</b>                                |                    |
| <b>Class</b>                                      |                    |
| <b>Drive Behaviour</b>                            | Controlled braking |
| <b>Device Behaviour</b>                           |                    |
| <b>Additional Error Information (AMK Service)</b> |                    |
|   |                    |
| <b>Error Removal</b>                              |                    |

**2570 System diagnostics**

|   |                    |
|---|--------------------|
| • Memory error (deallocating)                     |                    |
| <b>Device</b>                                     |                    |
| <b>Description</b>                                |                    |
| <b>Class</b>                                      |                    |
| <b>Drive Behaviour</b>                            | Controlled braking |
| <b>Device Behaviour</b>                           |                    |
| <b>Additional Error Information (AMK Service)</b> |                    |
|   |                    |
| <b>Error Removal</b>                              |                    |

## 2571 System diagnostics

|   |                       |
|---|-----------------------|
| <ul style="list-style-type: none"> <li>• Timeout during communication phases switch-over (AS-PL)</li> </ul> |                       |
| <b>Device</b>   |                       |
| <b>Description</b>  |                       |
| <b>Class</b>  |                       |
| <b>Drive Behaviour</b>  |                       |
| <b>Device Behaviour</b>   | System run-up aborted |
| <b>Additional Error Information (AMK Service)</b>   |                       |
|   |                       |
| <b>Error Removal</b>  |                       |

## 2572 System diagnostics

|   |   |    |   |        |        |
|---|---|----|---|--------|--------|
| <ul style="list-style-type: none"> <li>• SERCOS</li> <li>• AT/MDT configuration error</li> <li>• During KMD ID127 read error in the database</li> </ul> |   |    |   |        |        |
| <b>Device</b>   |   |    |   |        |        |
| <b>Description</b>  |   |    |   |        |        |
| <b>Class</b>  |   |    |   |        |        |
| <b>Drive Behaviour</b>  |   |    |   |        |        |
| <b>Device Behaviour</b>   | System run-up aborted   |    |   |        |        |
| <b>Additional Error Information (AMK Service)</b>   |   |    |   |        |        |
|   | Info 1  | 10 | MDT too large   |        |        |
|   |   | 11 | Starting addr. (ID9) outside MDT or (ID9+data record length) > ID10                         |        |        |
|   |   | 12 | Too many MDT-IDs (cycl.)  |        |        |
|   |   | 13 | Too many MDT-IDs  |        |        |
|   |   | 14 | Too many AT-IDs   |        |        |
|   |   | 15 | AT too large  |        |        |
|   |   | 16 | One of the IDs in the AT is a list parameter  |        |        |
|   |   | 17 | AT contains not configurable IDs  |        |        |
|   |   |    | <table border="1"> <tr> <td>Info 2</td> <td>ID-No.</td> </tr> </table>                      | Info 2 | ID-No. |
| Info 2  | ID-No.  |    |   |        |        |
|   |   | 18 | Configuration in ID24 does not fit in MDT range (too many bytes in the config. data record) |        |        |
|   |   | 19 | One of the IDs in the MDT is a list parameter   |        |        |
|   |   | 20 | MDT contains not configurable ID  |        |        |
|   |   |    | <table border="1"> <tr> <td>Info 2</td> <td>ID-No.</td> </tr> </table>                      | Info 2 | ID-No. |
| Info 2  | ID-No.  |    |   |        |        |
|   |   | 21 | Too many temporary IDs  |        |        |
|   |   | 22 | Error in initialisation of temporary IDs  |        |        |
|   |   | 23 | ID7 too small (ID7 lies before the AT end)  |        |        |
|   |   | 24 | ID8 too small (ID8 lies before the MDT end)   |        |        |
|   |   | 25 | During CMD 127 error in reading database  |        |        |
|   |   | 27 | In phase 2 received value ID2 is unequal instance value                                     |        |        |
| <b>Error Removal</b>  | <ul style="list-style-type: none"> <li>• Info 1 = 10 ... 22:<br/>Check the MDT or AT configuration in the master ("ID16 Configuration list AT", "ID24 Configuratin list MDT").</li> </ul> |    |   |        |        |



|  |  |   |  |        |        |              |  |        |                             |
|--|--|---|--|--------|--------|--------------|--|--------|-----------------------------|
| <ul style="list-style-type: none"> <li>• EtherCAT</li> <li>• EtherCAT configuration error</li> </ul> |  |   |  |        |        |              |  |        |                             |
| <b>Device</b>  | KW-EC1<br>KWZ<br>KW-R05<br>A5  |   |  |        |        |              |  |        |                             |
| <b>Description</b>   |  |   |  |        |        |              |  |        |                             |
| <b>Class</b>   | Error  |   |  |        |        |              |  |        |                             |
| <b>Drive Behaviour</b>   |  |   |  |        |        |              |  |        |                             |
| <b>Device Behaviour</b>  |  |   |  |        |        |              |  |        |                             |
| <b>Additional Error Information (AMK Service)</b>  |  |   |  |        |        |              |  |        |                             |
|  | Info 1   | 5   | "ID15 Telegram type parameter" ≠ 7   |        |        |              |  |        |                             |
|  |  | 6   | ID-No in configuration list is described incorrectly (Internal error (AMK Service))  |        |        |              |  |        |                             |
|  |  | 10  | MDT too large  |        |        |              |  |        |                             |
|  |  | 11  | Starting addr. (ID9) outside MDT or (ID9+data record length) > ID10  |        |        |              |  |        |                             |
|  |  | 12  | Too many MDT-IDs (cycl.)   |        |        |              |  |        |                             |
|  |  | 13  | Too many MDT-IDs   |        |        |              |  |        |                             |
|  |  | 14  | Too many AT-IDs  |        |        |              |  |        |                             |
|  |  | 15  | AT too large   |        |        |              |  |        |                             |
|  |  | 16  | One of the IDs in the AT is a list parameter   |        |        |              |  |        |                             |
|  |  | 17  | AT contains not configurable IDs<br><table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">Info 2</td> <td style="width: 20%;">ID-No.</td> <td></td> </tr> </table>   | Info 2 | ID-No. |              |  |        |                             |
| Info 2   | ID-No.   |   |  |        |        |              |  |        |                             |
|  |  | 18  | Configuration in ID24 does not fit in MDT range (too many bytes in the config. data record)  |        |        |              |  |        |                             |
|  |  | 19  | One of the IDs in the MDT is a list parameter  |        |        |              |  |        |                             |
|  |  | 20  | MDT contains not configurable ID<br><table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">Info 2</td> <td style="width: 20%;">ID-No.</td> <td></td> </tr> </table>   | Info 2 | ID-No. |              |  |        |                             |
| Info 2   | ID-No.   |   |  |        |        |              |  |        |                             |
|  |  | 21  | Too many temporary IDs   |        |        |              |  |        |                             |
|  |  | 22  | Error in initialisation of temporary IDs   |        |        |              |  |        |                             |
|  |  | The master has specified an inappropriate MDT or AT configuration |  |        |        |              |  |        |                             |
|  |  | 27  | EtherCAT register "DC Cycle Time Sync0" is not equal to "ID2 SERCOS cycle time" when device is switched on   |        |        |              |  |        |                             |
|  |  | 29  | EtherCAT configuration: Mailbox is faulty  |        |        |              |  |        |                             |
|  |  | 30  | EtherCAT configuration: Out-Sync manager is faulty   |        |        |              |  |        |                             |
|  |  | 31  | EtherCAT configuration: In-Sync manager is faulty  |        |        |              |  |        |                             |
|  |  | 32  | EtherCAT configuration: Synchronisation is faulty  |        |        |              |  |        |                             |
|  |  | 79  | Software error   |        |        |              |  |        |                             |
|  |  | 81  | Software error at AT<br><table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">Info 2</td> <td style="width: 20%;">0</td> <td style="width: 60%;">Module error</td> </tr> <tr> <td></td> <td>ID-No.</td> <td>Pointer to ID not available</td> </tr> </table>  | Info 2 | 0      | Module error |  | ID-No. | Pointer to ID not available |
| Info 2   | 0  | Module error  |  |        |        |              |  |        |                             |
|  | ID-No.   | Pointer to ID not available                                       |  |        |        |              |  |        |                             |
|  |  | 82  | Software error at MDT<br><table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 20%;">Info 2</td> <td style="width: 20%;">0</td> <td style="width: 60%;">Module error</td> </tr> <tr> <td></td> <td>ID-No.</td> <td>Pointer to ID not available</td> </tr> </table> | Info 2 | 0      | Module error |  | ID-No. | Pointer to ID not available |
| Info 2   | 0  | Module error  |  |        |        |              |  |        |                             |
|  | ID-No.   | Pointer to ID not available                                       |  |        |        |              |  |        |                             |
| <b>Error Removal</b>   | <ul style="list-style-type: none"> <li>• Info 1 = 10 ... 22:<br/>Check the MDT or AT configuration in the master ("ID16 Configuration list AT", "ID24 Configuration list MDT").</li> <li>• Info 1 = 27:<br/>Adapt "ID1 NC cycle time" and "ID2 SERCOS cycle time" switch off / on, restart master (master normally adapted ID1 and ID2 during previous startup)</li> <li>• Info 1 = 29 ... 32:<br/>Check whether a correct XML device description file is used in the master<br/>Info 1 = 30: too many output data<br/>Info 1 = 31: too many input data</li> </ul> |   |  |        |        |              |  |        |                             |

### 2573 System diagnostics

|   |   |                       |                |
|---|---|-----------------------|----------------|
| • SERCOS  |   |                       |                |
| <b>Device</b>                                     |   |                       |                |
| <b>Description</b>                                | Memory cell error (system error)                      |                       |                |
| <b>Class</b>                                      |   |                       |                |
| <b>Drive Behaviour</b>                            |   |                       |                |
| <b>Device Behaviour</b>                           | System run-up aborted                                 |                       |                |
| <b>Additional Error Information (AMK Service)</b> |   |                       |                |
|   | Info 1  | 21, 22, 23,<br>33, 61 | Software error |
| <b>Error Removal</b>                              | Software error => Transfer information to AMK Service |                       |                |

|   |  |            |   |
|---|--|------------|---|
| • EtherCAT  |  |            |   |
| <b>Device</b>                                     | KW-EC1<br>KWZ<br>KW-R05<br>A5                                  |            |   |
| <b>Description</b>                                | EtherCAT memory error or special error                         |            |   |
| <b>Class</b>                                      | Error  |            |   |
| <b>Drive Behaviour</b>                            |  |            |   |
| <b>Device Behaviour</b>                           | Drive runs down  |            |   |
| <b>Additional Error Information (AMK Service)</b> |  |            |   |
|   | Info 1   | 1          | Error in memory request                           |
|   |  | 10         | Module message transmission error                 |
|   |  | 21, 22, 23 | EtherCAT software error                           |
|   |  | 33         | EtherCAT software error                           |
|   |  | 40         | ID reading error                                  |
|   |  | 41         | Signal address reading error                      |
|   |  | 42         | EtherCAT initialisation error                     |
|   |  | 43         | Device type unknown                               |
|   |  | 44         | "Clear error" was not successful                  |
|   |  | 45         | "Clear error" software error                      |
|   |  | 46         | Error in "Real Time Data Manager" entry           |
|   |  | 47         | AT DMA transfer error                             |
|   |  | 48         | MDT DMA transfer error                            |
|   |  | 50         | Error during EtherCAT slave system initialisation |
|   |  | 61         | EtherCAT software error                           |
| <b>Error Removal</b>                              | EtherCAT software error => Transfer information to AMK-Service |            |   |

### 2574 System diagnostics

|   |                         |  |  |
|---|-------------------------|--|--|
| • SERCOS  |                         |  |  |
| <b>Device</b>                                     |                         |  |  |
| <b>Description</b>                                | SERCOS-Asic memory test |  |  |
| <b>Class</b>                                      |                         |  |  |
| <b>Drive Behaviour</b>                            |                         |  |  |
| <b>Device Behaviour</b>                           | System run-up aborted   |  |  |
| <b>Additional Error Information (AMK Service)</b> |                         |  |  |
|   |                         |  |  |
| <b>Error Removal</b>                              |                         |  |  |

|   |   |
|---|---|
| • EtherCAT  |   |
| <b>Device</b>                                     |   |
| <b>Description</b>                                | Error during memory test in the EtherCAT Chip (The memory test is carried out without EtherCAT link!) |
| <b>Class</b>                                      |   |
| <b>Drive Behaviour</b>                            | Drive runs down   |
| <b>Device Behaviour</b>                           |   |
| <b>Additional Error Information (AMK Service)</b> |   |
|   |   |
| <b>Error Removal</b>                              | Replace KU-EC1, KW-EC1.   |

## 2575 System diagnostics

|   |                       |
|---|-----------------------|
| • In Kx-SC2 modules: ext. 48 V power supply is not available or has been applied too late |                       |
| <b>Device</b>   |                       |
| <b>Description</b>  |                       |
| <b>Class</b>  |                       |
| <b>Drive Behaviour</b>  |                       |
| <b>Device Behaviour</b>   | System run-up aborted |
| <b>Additional Error Information (AMK Service)</b>   |                       |
|   |                       |
| <b>Error Removal</b>  |                       |

## 2576 System diagnostics

|   |   |    |  |
|---|---|----|--|
|   |   |    |  |
| <b>Device</b>                                     |   |    |  |
| <b>Description</b>                                | Internal memory initialization<br>During initialization error in reading database |    |  |
| <b>Class</b>                                      | Error   |    |  |
| <b>Drive Behaviour</b>                            |   |    |  |
| <b>Device Behaviour</b>                           | System run-up aborted   |    |  |
| <b>Additional Error Information (AMK Service)</b> |   |    |  |
|   | Info 1  | 1  | During initialization error in reading database                |
|   |   | 2  | Too many master instances                                      |
|   |   | 3  | More than one slave instance                                   |
|   |   | 4  | Error in writing database<br>("ID34150 Configuration list BC") |
|   |   | 5  | Error in deletion "ID34142 Node list"                          |
|   |   | 6  | Error in writing "ID34142 Node list"                           |
|   |   | 7  | Same card addresses configured                                 |
|   |   | 8  | Installation synchronization function failed                   |
|   |   | 9  | Installation copying function before PGT failed                |
|   |   | 10 | Installation copying function after PGT failed                 |
|   |   | 11 | ID2 unequal for SC-master and SC-slave                         |
|   |   | 12 | Error cause of additional initializations out of the *.ccb     |
| <b>Error Removal</b>                              | Check bus parameterization  |    |  |

|   |  |    |   |
|---|--|----|---|
| • EtherCAT  |  |    |   |
| <b>Device</b>                                     | KW-R05<br>A5                           |    |   |
| <b>Description</b>                                | EtherCAT memory error or special error |    |   |
| <b>Class</b>                                      |  |    |   |
| <b>Drive Behaviour</b>                            |  |    |   |
| <b>Device Behaviour</b>                           | EtherCAT slave does not start          |    |   |
| <b>Additional Error Information (AMK Service)</b> |  |    |   |
|   | Info 1                                 | 13 | Error initialising ETC SoE service                                    |
| <b>Device</b>                                     | KW-R05                                 |    |   |
|   | Info 1                                 | 14 | BUS type not known – ETC and VARAN are possible. SEEP value incorrect |
| <b>Error Removal</b>                              |  |    |   |

### 2577 System diagnostics

|   |                       |  |  |
|---|-----------------------|--|--|
| • Allocation of the real time control or real time status bit |                       |  |  |
| <b>Device</b>   |                       |  |  |
| <b>Description</b>  |                       |  |  |
| <b>Class</b>  |                       |  |  |
| <b>Drive Behaviour</b>  |                       |  |  |
| <b>Device Behaviour</b>                                       | System run-up aborted |  |  |
| <b>Additional Error Information (AMK Service)</b>             |                       |  |  |
|   |                       |  |  |
| <b>Error Removal</b>  |                       |  |  |

### 2578 System diagnostics

|  |                       |  |  |
|--|-----------------------|--|--|
| • Test function active message (continuous light, zero bit stream) |                       |  |  |
| <b>Device</b>  |                       |  |  |
| <b>Description</b>   |                       |  |  |
| <b>Class</b>   |                       |  |  |
| <b>Drive Behaviour</b>   |                       |  |  |
| <b>Device Behaviour</b>  | System run-up aborted |  |  |
| <b>Additional Error Information (AMK Service)</b>                  |                       |  |  |
|  |                       |  |  |
| <b>Error Removal</b>   |                       |  |  |

### 2579 System diagnostics

|   |                                       |   |   |
|---|---------------------------------------|---|---|
| • Error on initialization of the SERCOS option card |                                       |   |   |
| <b>Device</b>                                       |                                       |   |   |
| <b>Description</b>                                  |                                       |   |   |
| <b>Class</b>  |                                       |   |   |
| <b>Drive Behaviour</b>                              |                                       |   |   |
| <b>Device Behaviour</b>                             | System run-up aborted                 |   |   |
| <b>Additional Error Information (AMK Service)</b>   |                                       |   |   |
|   | Info 1                                | 1 | Error on card access  |
|   |                                       | 2 | Inadmissible value IRQ  |
|   |                                       | 3 | Inadmissible baud rate (only cards with HP Trans/Rec can transfer more than 4 Mbit)                                       |
|   |                                       | 4 | Wrong option card type, no AMK option card or option card type does not match the master/slave setting "ID34025 BUS mode" |
|   |                                       | 5 | Wrong revision of the option card (CPLD version)  |
|   |                                       | 6 | Option card type and redundancy incompatible  |
| <b>Error Removal</b>                                | Check installation of the option card |   |   |

## 2581 System diagnostics

|   |   |      |  |
|---|---|------|--|
| • SERCOS master driver initialization             |   |      |  |
| <b>Device</b>                                     |   |      |  |
| <b>Description</b>                                | Option card type invalid or option card defective |      |  |
| <b>Class</b>                                      |   |      |  |
| <b>Drive Behaviour</b>                            |   |      |  |
| <b>Device Behaviour</b>                           | System run-up aborted                             |      |  |
| <b>Additional Error Information (AMK Service)</b> |   |      |  |
|   | Info 1  | 1    | Memory SERCON ASIC SercosDriverInit( )               |
|   |   | 2    | Version SERCON ASIC SercosDriverInit( )              |
|   |   | 3    | Reset error SERCON ASIC SercosDriverInit( )          |
|   |   | 4    | Memory SERCON ASIC SercosDriverInit( )               |
|   |   | 10   | Too many cyclic data (ScmFillMov( ))                 |
|   |   | 11   | ID for cyclic telegram not available (ScmFillMov( )) |
|   |   | 12   | Too many cyclic parameters (ScmFillMov( ))           |
|   |   | 13   | ID incorrect length (ScmFillMov( ))                  |
|   |   | 49   | Driver not installed SercosDriverInit( )             |
|   |   | 257  | SERCOS-III FPGA code wrong                           |
|   |   | 258  | SERCOS-III no master FPGA                            |
|   |   | 260  | SERCOS-III FPGA version is not supported             |
|   |   | 536  | Invalid SERCOS cycle time (ID 2)                     |
|   |   | 1029 | Error during memory allocation                       |
| <b>Error Removal</b>                              | Check bus parameterization                        |      |  |

## 2582 System diagnostics

|   |                            |   |                       |
|---|----------------------------|---|-----------------------|
| • SERCOS master driver initialization             |                            |   |                       |
| <b>Device</b>                                     |                            |   |                       |
| <b>Description</b>                                |                            |   |                       |
| <b>Class</b>                                      |                            |   |                       |
| <b>Drive Behaviour</b>                            |                            |   |                       |
| <b>Device Behaviour</b>                           | System run-up aborted      |   |                       |
| <b>Additional Error Information (AMK Service)</b> |                            |   |                       |
|   | Info 1                     | 1 | Memory assignment     |
|   |                            | 2 | Too many slaves       |
|   |                            | 3 | Too many SERCOS rings |
|   |                            | 4 | Too many slaves       |
| <b>Error Removal</b>                              | Check bus parameterization |   |                       |

## 2583 System diagnostics

| • SERCOS master configuration "ID34036 CCB File" |  |                       |  |
|--|--|-----------------------|--|
| Device   |  |                       |  |
| Description                                      |  |                       |  |
| Class  |  |                       |  |
| Drive Behaviour                                  |  |                       |  |
| Device Behaviour                                 |  | System run-up aborted |  |
| Additional Error Information (AMK Service)       |  |                       |  |
|  |  | 1                     | "ID34036 CCB File" is empty  |
|  |  | 2                     | No slaves in "ID34036 CCB File"  |
|  |  | 3                     | Too many slaves in "ID34036 CCB File"  |
|  |  | 4                     | Entry with invalid data format in "ID34036 CCB File"                           |
|  |  | 5                     | Invalid format of "ID34036 CCB File"   |
|  |  | 10                    | Too many entries in the MDT configuration                                      |
|  |  | 11                    | Axis in MDT master configuration does not exist                                |
|  |  | 12                    | Axis in MDT slave configuration does not exist                                 |
|  |  | 13                    | Too many entries in the AT configuration                                       |
|  |  | 14                    | Axis in AT master configuration does not exist                                 |
|  |  | 15                    | Axis in AT slave configuration does not exist                                  |
|  |  | 16                    | Too many entries in the broadcast configuration                                |
|  |  | 17                    | Axis in broadcast configuration is not broadcast axis                          |
|  |  | 18                    | Node address for broadcast configuration does not exist                        |
|  |  | 19                    | Telegram type configuration permitted only for slave                           |
|  |  | 20                    | Node address for telegram type configuration does not exist                    |
|  |  | 21                    | Configuration SERCOS control permitted only for master                         |
|  |  | 22                    | Node address for SERCOS control configuration does not exist                   |
|  |  | 23                    | Configuration SERCOS status permitted only for master                          |
|  |  | 24                    | Node address for SERCOS status configuration does not exist                    |
|  |  | 25                    | Unknown entry in CCB list ID34036  |
|  |  | 28                    | Node address not in the ring   |
|  |  | 29                    | Number of nodes in all ring lists is not equal to number of nodes in node list |
|  |  | 30                    | ID (element) of the Broadcast configuration not available                      |
|  |  | 31                    | ID (element) of the AT configuration not available                             |
|  |  |                       | Info 2      Node address   |
|  |  | 32                    | ID (element) of the MDT configuration not available                            |
|  |  |                       | Info 2      Node address   |
|  |  | 33                    | "ID34036 CCB-File" cannot be read  |
|  |  | 34                    | wrong attribute  |
|  |  | 35                    | "ID34054 CCB-Filename" for slave configured                                    |
|  |  | 36                    | MDT-konfiguration of a non valid node (8000 h)                                 |
|  |  | 37                    | AT-konfiguration of a non valid node (8000 h)                                  |
|  |  | 38                    | Error during writing ID34054 CCB-filename                                      |
|  |  | 41                    | XML configuration file: End tag missing  |
|  |  | 43                    | XML configuration file: File has to start with start tag                       |
|  |  | 44                    | XML configuration file: Start tag name missing                                 |
|  |  | 45                    | XML configuration file: End tag name missing                                   |
|  |  | 47                    | XML configuration file: Start tag missing                                      |
|  |  | 48                    | XML configuration file: Invalid token  |
|  |  | 49                    | XML configuration file: Invalid tag  |
|  |  | 50                    | XML configuration file: Empty configuration file                               |
|  |  | 52                    | XML configuration file: Configuration file without usable content              |



|                      |    |  |
|----------------------|----|--|
|                      | 53 | XML configuration file: Tag name communication missing   |
|                      | 54 | XML configuration file: Tag name ring missing  |
|                      | 55 | XML configuration file: Attribute RingConfigurationID missing  |
|                      | 56 | XML configuration file: Tag name RingGeneral missing   |
|                      | 57 | XML configuration file: Tag name MasterAdress missing  |
|                      | 58 | XML configuration file: Tag name MDTLengths missing  |
|                      | 59 | XML configuration file: Tag name TelegrammLength missing   |
|                      | 60 | XML configuration file: Tag name ATLength missing  |
|                      | 61 | XML configuration file: Tag name Node missing  |
|                      | 62 | XML configuration file: Attribute NodeAddress missing  |
|                      | 63 | XML configuration file: Tag name SVCAT missing   |
|                      | 64 | XML configuration file: Tag name SVCMDT missing  |
|                      | 65 | XML configuration file: Tag name Connection missing  |
|                      | 66 | XML configuration file: Attribute ConnectionID missing   |
|                      | 67 | XML configuration file: Attribute tpcyc missing  |
|                      | 68 | XML configuration file: Attribute TelegrammType missing  |
|                      | 69 | XML configuration file: Attribute TelegrammNumber missing  |
|                      | 70 | XML configuration file: Attribute Offset missing   |
|                      | 71 | XML configuration file: Tag Producer missing   |
|                      | 72 | XML configuration file: Tag PLCVariable missing  |
|                      | 73 | XML configuration file: Attribute Length missing   |
|                      | 74 | XML configuration file: Attribute Address missing  |
|                      | 75 | XML configuration file: Attribute Name missing   |
|                      | 76 | XML configuration file: Attribute Offset missing   |
|                      | 77 | XML configuration file: Tag Consumer missing   |
|                      | 78 | XML configuration file: Attribute RingConfigurationID missing  |
|                      | 79 | XML configuration file: Error during writing the RingConfigurationID   |
|                      | 80 | XML configuration file: Error during writing the cycle time (ID2)  |
|                      | 81 | XML configuration file: Attribute sync missing for the PLC variable  |
|                      | 82 | XML configuration file: Telegram Length cannot be divided by 4   |
|                      | 83 | XML configuration file: Offset cannot be divided by 4  |
|                      | 84 | XML configuration file: PLC address range exceeded   |
|                      | 85 | XML configuration file: Too many cross-communication relations   |
|                      | 86 | XML configuration file: Invalid length MDT   |
|                      | 87 | XML configuration file: Invalid length AT  |
| <b>Error Removal</b> |    | <ul style="list-style-type: none"> <li>• Check bus configuration</li> <li>• Check SERCOS-III Master XML configuration file ("ID1204 XML-File", "ID1205 SML-File"), Info2 = instance</li> </ul> |



## 2584 System diagnostics

|   |                       |    |  |
|---|-----------------------|----|--|
| • SERCOS master phase switchover                  |                       |    |  |
| <b>Device</b>                                     |                       |    |  |
| <b>Description</b>                                |                       |    |  |
| <b>Class</b>                                      |                       |    |  |
| <b>Drive Behaviour</b>                            |                       |    |  |
| <b>Device Behaviour</b>                           | System run-up aborted |    |  |
| <b>Additional Error Information (AMK Service)</b> |                       |    |  |
|   | Info 1                | 1  | Ring is open Fiberbreak<br>Info 2      Phase   |
|   |                       | 2  | Ring is open MST late<br>Info 2      Phase   |
|   |                       | 3  | Ring is open MST miss<br>Info 2      Phase   |
|   |                       | 4  | Redundancy: master isolated  |
|   |                       | 5  | master no clock signal   |
|   |                       | 9  | Invalid telegram received P1 (AT wrong address)<br>Info 3      Address                       |
|   |                       | 13 | receive of non valid telegram P1 (AT data unequal 1)<br>Info 3      Address                  |
|   |                       | 15 | Phase change cannot be performed<br>Info 2      Phase  |
|   |                       | 35 | Timeout<br>Info 2      Phase   |
|   |                       | 40 | MST invalid phase information received<br>Info 2      Phase                                  |
|   |                       | 42 | It is not possible to switch from phase 1 into 0   |
|   |                       | 43 | no drive response P1<br>Info 3      Address  |
|   |                       | 80 | Timeout  |
|   |                       | 81 | No participant found in phase 0  |
|   |                       | 82 | Configuration file in the slave does not match the file in the master<br>Info 2      Address |

|                      |  |     |   |        |       |        |         |
|----------------------|--|-----|---|--------|-------|--------|---------|
|                      |  | 522 | Slave sends even though a phase exchange has been initiated   |        |       |        |         |
|                      |  |     | <table border="1"> <tr> <td>Info 2</td> <td>Phase</td> </tr> <tr> <td>Info 3</td> <td>Address</td> </tr> </table> | Info 2 | Phase | Info 3 | Address |
| Info 2               | Phase  |     |   |        |       |        |         |
| Info 3               | Address  |     |   |        |       |        |         |
|                      |  | 523 | Slave does send after phase exchange  |        |       |        |         |
|                      |  |     | <table border="1"> <tr> <td>Info 2</td> <td>Phase</td> </tr> <tr> <td>Info 3</td> <td>Address</td> </tr> </table> | Info 2 | Phase | Info 3 | Address |
| Info 2               | Phase  |     |   |        |       |        |         |
| Info 3               | Address  |     |   |        |       |        |         |
|                      |  | 524 | Timeout, no stable slave detection in master  |        |       |        |         |
|                      |  | 525 | Invalid ATs in phase 0  |        |       |        |         |
|                      |  | 527 | Ring/line in phase 0 not closed   |        |       |        |         |
|                      |  | 529 | No participant found in phase 0   |        |       |        |         |
|                      |  | 530 | A specified node is missing   |        |       |        |         |
|                      |  |     | <table border="1"> <tr> <td>Info 2</td> <td>Phase</td> </tr> <tr> <td>Info 3</td> <td>Address</td> </tr> </table> | Info 2 | Phase | Info 3 | Address |
| Info 2               | Phase  |     |   |        |       |        |         |
| Info 3               | Address  |     |   |        |       |        |         |
|                      |  | 532 | Ring/line in phase 0 not closed   |        |       |        |         |
|                      |  | 536 | Invalid SERCOS cycle time (ID2)   |        |       |        |         |
|                      |  | 545 | No link at output in phase 0  |        |       |        |         |
| <b>Error Removal</b> | <ul style="list-style-type: none"> <li>• Check fibre optic conductors</li> <li>• Check slaves</li> </ul> |     |   |        |       |        |         |

## 2585 System diagnostics

|   |   |     |   |
|---|---|-----|---|
| <ul style="list-style-type: none"> <li>SERCOS master time slot calculation</li> </ul> |   |     |   |
| <b>Device</b>   |   |     |   |
| <b>Description</b>  |   |     |   |
| <b>Class</b>  |   |     |   |
| <b>Drive Behaviour</b>  |   |     |   |
| <b>Device Behaviour</b>   | System run-up aborted   |     |   |
| <b>Additional Error Information (AMK Service)</b>                                     |   |     |   |
|   | Info 1  | 6   | "ID5 Minimal feedback acquisition time" from slave is not available for time slot calculation |
|   |   | 20  | "ID3 Drive transmission reaction time" from slave is not available for time slot calculation  |
|   |   | 25  | "ID88 Recovery time receive-receive" from slave is not available for time slot calculation    |
|   |   | 29  | "ID2 SERCOS cycle time" is too short  |
|   |   | 31  | "ID90 Command value copytime" from slave is not available for time slot calculation           |
|   |   | 44  | "ID4 Transmit/receive time" from slave is not available for time slot calculation             |
|   |   | 45  | "ID96 Slave identifier (SKLN)" from slave is not available for time slot calculation          |
|   |   | 46  | "ID87 Recovery time transmit-transmit" from slave is not available for time slot calculation  |
|   |   | 80  | Timeout   |
|   |   | 533 | Invalid MDT length in configuration file  |
|   |   | 534 | Invalid AT length in configuration file   |
|   |   | 536 | Invalid "ID2 SERCOS cycle time"   |
|   |   | 537 | Invalid "ID1 NC cycle time"   |
|   |   | 538 | Internal error  |
|   |   | 539 | Internal error  |
|   |   | 540 | Internal error  |
|   |   | 541 | Internal error  |
|   |   | 543 | Too much cyclic data in SERCOS cycle  |
|   |   | 544 | Too many telegrams in SERCOS cycle  |
| <b>Error Removal</b>  | <ul style="list-style-type: none"> <li>Check slaves</li> <li>Check SERCOS-III Master XML configuration file ("ID1204 XML File", "ID1205 XML File"), Info2 = instance</li> </ul> |     |   |

### 2586 System diagnostics

|   |         |                      |  |  |  |
|---|---------|----------------------|--|--|--|
| <ul style="list-style-type: none"> <li>SERCOS master service channel</li> </ul> |         |                      |  |  |  |
| <b>Device</b>   |         |                      |  |  |  |
| <b>Description</b>  |         |                      |  |  |  |
| <b>Class</b>  | Warning |                      |  |  |  |
| <b>Drive Behaviour</b>  |         |                      |  |  |  |
| <b>Device Behaviour</b>   |         |                      |  |  |  |
| <b>Additional Error Information (AMK Service)</b>                               |         |                      |  |  |  |
|   | Info 1  | 1                    | Protocol error: HS_AT != HS_MDT + BUSY = 1<br>Info 3      Node address   |  |  |
|   |         | 2                    | Error on initialization of service channel   |  |  |
|   |         | 3                    | Router error<br>Info 2      Error of the router<br>Info 3      Error location  |  |  |
|   |         | 4                    | Data access attribute unknown<br>Info 3      Node address  |  |  |
|   |         | 33                   | Busy Timeout<br>Info 2      ID<br>Info 3      Node address   |  |  |
|   |         | 34                   | Handshake timeout bit<br>Info 2      ID<br>Info 3      Node address  |  |  |
|   |         | 80                   | Timeout<br>Info 2      ID<br>Info 3      Node address  |  |  |
|   |         | 81                   | Startup error<br>Info 3      Node address  |  |  |
|   |         | 9                    | Error service channel acc. SERCOS e.g. data transmission to long (Info 3: node address)<br>Info 3      Node address  |  |  |
|   |         | > 0x1000             | Error service channel acc. SERCOS e.g. data transmission to long<br>Info 3      Node address<br>0x88xxerror in ROUTER from slave<br>Info 3      Node address |  |  |
|   |         | 514                  | Service channel already assigned   |  |  |
|   |         | <b>Error Removal</b> |  |  |  |

### 2587 System diagnostics

|   |         |  |                                   |
|---|---------|--|-----------------------------------|
| <ul style="list-style-type: none"> <li>SERCOS master incorrect data in the service channel</li> </ul> |         |  |                                   |
| <b>Device</b>   |         |  |                                   |
| <b>Description</b>  |         |  |                                   |
| <b>Class</b>  | Warning |  |                                   |
| <b>Drive Behaviour</b>  |         |  |                                   |
| <b>Device Behaviour</b>   |         |  |                                   |
| <b>Additional Error Information (AMK Service)</b>   |         |  |                                   |
|   |         |  | Error message according to SERCOS |
| <b>Error Removal</b>  |         |  |                                   |

### 2588 System diagnostics

|  |              |    |   |        |    |        |              |
|--|--------------|----|---|--------|----|--------|--------------|
| <ul style="list-style-type: none"> <li>SERCOS master error in command execution</li> </ul> |              |    |   |        |    |        |              |
| Device   |              |    |   |        |    |        |              |
| Description  |              |    |   |        |    |        |              |
| Class  | Warning      |    |   |        |    |        |              |
| Drive Behaviour  |              |    |   |        |    |        |              |
| Device Behaviour   |              |    |   |        |    |        |              |
| <b>Additional Error Information (AMK Service)</b>  |              |    |   |        |    |        |              |
|  | Info 1       | 36 | Command timeout   |        |    |        |              |
|  |              |    | <table border="1"> <tr> <td>Info 2</td> <td>ID</td> </tr> <tr> <td>Info 3</td> <td>Node address</td> </tr> </table> | Info 2 | ID | Info 3 | Node address |
| Info 2   | ID           |    |   |        |    |        |              |
| Info 3   | Node address |    |   |        |    |        |              |
| Error Removal  |              |    |   |        |    |        |              |

### 2589 System diagnostics

|  |   |  |  |
|--|---|--|--|
| <ul style="list-style-type: none"> <li>SERCOS master has detected ring interruption</li> </ul> |   |  |  |
| Device   |   |  |  |
| Description  |   |  |  |
| Class  | Warning   |  |  |
| Drive Behaviour  |   |  |  |
| Device Behaviour   |   |  |  |
| <b>Additional Error Information (AMK Service)</b>  |   |  |  |
|  |   |  |  |
| Error Removal  | <ul style="list-style-type: none"> <li>Check fibre optic cable</li> <li>Check slaves</li> </ul> |  |  |

### 2590 System diagnostics

|   |              |    |                                |
|---|--------------|----|--------------------------------|
| <ul style="list-style-type: none"> <li>SERCOS master has detected AT failure</li> </ul> |              |    |                                |
| Device  |              |    |                                |
| Description   |              |    |                                |
| Class   | Warning      |    |                                |
| Drive Behaviour   |              |    |                                |
| Device Behaviour  |              |    |                                |
| <b>Additional Error Information (AMK Service)</b>                                       |              |    |                                |
|   | Info 1       | xx | xx = Node address of the slave |
| Error Removal   | Check slaves |    |                                |

### 2591 System diagnostics

|  |         |  |                             |
|--|---------|--|-----------------------------|
| <ul style="list-style-type: none"> <li>SERCOS master software error</li> </ul> |         |  |                             |
| Device   |         |  |                             |
| Description  |         |  |                             |
| Class  | Warning |  |                             |
| Drive Behaviour  |         |  |                             |
| Device Behaviour   |         |  |                             |
| <b>Additional Error Information (AMK Service)</b>                              |         |  |                             |
|  |         |  | Contents SERCON Register 17 |
| Error Removal  |         |  |                             |

## 2592 System diagnostics

|   |                         |  |  |
|---|-------------------------|--|--|
| • SERCOS master has detected MST failure          |                         |  |  |
| Device  |                         |  |  |
| Description                                       |                         |  |  |
| Class   | Warning                 |  |  |
| Drive Behaviour                                   |                         |  |  |
| Device Behaviour                                  |                         |  |  |
| <b>Additional Error Information (AMK Service)</b> |                         |  |  |
|   |                         |  |  |
| Error Removal                                     | Check fibre optic cable |  |  |

## 2593 System diagnostics

|   |         |  |                               |
|---|---------|--|-------------------------------|
| • SERCOS master real time error                   |         |  |                               |
| Device  |         |  |                               |
| Description                                       |         |  |                               |
| Class   | Warning |  |                               |
| Drive Behaviour                                   |         |  |                               |
| Device Behaviour                                  |         |  |                               |
| <b>Additional Error Information (AMK Service)</b> |         |  |                               |
|   |         |  | Additional driver information |
| Error Removal                                     |         |  |                               |

## 2594 System diagnostics

|   |         |  |  |
|---|---------|--|--|
| • SERCOS master software error                    |         |  |  |
| Device  |         |  |  |
| Description                                       |         |  |  |
| Class   | Warning |  |  |
| Drive Behaviour                                   |         |  |  |
| Device Behaviour                                  |         |  |  |
| <b>Additional Error Information (AMK Service)</b> |         |  |  |
|   |         |  |  |
| Error Removal                                     |         |  |  |

## 2595 System diagnostics

|   |                              |   |                                       |
|---|------------------------------|---|---------------------------------------|
| • SERCOS  |                              |   |                                       |
| Device  |                              |   |                                       |
| Description                                       | Error SERCOS synchronization |   |                                       |
| Class   | Warning                      |   |                                       |
| Drive Behaviour                                   |                              |   |                                       |
| Device Behaviour                                  |                              |   |                                       |
| <b>Additional Error Information (AMK Service)</b> |                              |   |                                       |
|   | Info 1                       | 1 | SERCOS master synchronization timeout |
|   |                              | 2 | SERCOS synchronization lost           |
| Error Removal                                     |                              |   |                                       |

|   |   |   |   |
|---|---|---|---|
| • EtherCAT  |   |   |   |
| <b>Device</b>                                     | KW-EC1<br>KWZ<br>KW-R05<br>A5   |   |   |
| <b>Description</b>                                | Error EtherCAT synchronisation  |   |   |
| <b>Class</b>                                      | Error   |   |   |
| <b>Drive Behaviour</b>                            |   |   |   |
| <b>Device Behaviour</b>                           | Slave will be reset to mode "Safe Operational"<br>Controller: Setpoints are no longer applied |   |   |
| <b>Additional Error Information (AMK Service)</b> |   |   |   |
|   | Info 1  | 2 | EtherCAT synchronisation not reached <ul style="list-style-type: none"> <li>While changing from "Safe operational" to "Operational" the synchronisation on distributed clock was not reached</li> </ul>                   |
|   |   | 3 | EtherCAT synchronisation lost <ul style="list-style-type: none"> <li>In the state "Operational" the state of the synchronisation in the cycle is checked and in 2 subsequent cycles "not synchronous" detected</li> </ul> |
|   |   | 4 | Toggle bit in control word is incorrect   |
| <b>Error Removal</b>                              | Check settings for distributed clock in the master  |   |   |

### 2596 System diagnostics

|  |                |  |   |        |              |        |                |
|--|----------------|--|---|--------|--------------|--------|----------------|
| • SERCOS master has received the "error" acknowledgment to a command |                |  |   |        |              |        |                |
| <b>Device</b>  |                |  |   |        |              |        |                |
| <b>Description</b>   |                |  |   |        |              |        |                |
| <b>Class</b>   | Warning        |  |   |        |              |        |                |
| <b>Drive Behaviour</b>   |                |  |   |        |              |        |                |
| <b>Device Behaviour</b>  |                |  |   |        |              |        |                |
| <b>Additional Error Information (AMK Service)</b>                    |                |  |   |        |              |        |                |
|  | Info 1         |  | Command ID  |        |              |        |                |
|  |                |  | <table border="1"> <tr> <td>Info 2</td> <td>Node address</td> </tr> <tr> <td>Info 3</td> <td>Acknowledgment</td> </tr> </table> | Info 2 | Node address | Info 3 | Acknowledgment |
| Info 2   | Node address   |  |   |        |              |        |                |
| Info 3   | Acknowledgment |  |   |        |              |        |                |
| <b>Error Removal</b>   |                |  |   |        |              |        |                |

### 2597 System diagnostics

|  |         |   |                        |
|--|---------|---|------------------------|
| • SERCOS master has received an error message from a remote node |         |   |                        |
| <b>Device</b>  |         |   |                        |
| <b>Description</b>   |         |   |                        |
| <b>Class</b>   | Warning |   |                        |
| <b>Drive Behaviour</b>   |         |   |                        |
| <b>Device Behaviour</b>  |         |   |                        |
| <b>Additional Error Information (AMK Service)</b>                |         |   |                        |
|  | Info 1  | 1 | Error status class 1   |
|  |         | 2 | Warning status class 2 |
| <b>Error Removal</b>   |         |   |                        |



## 2598 System diagnostics Warning

|   |         |     |   |
|---|---------|-----|---|
| <ul style="list-style-type: none"> <li>SERCOS has indicated a bad signal quality on the OWG receiver (excessive receive data distortion RDST)</li> <li>OWG disconnection AS-FSR1</li> </ul> |         |     |   |
| <b>Device</b>   |         |     |   |
| <b>Description</b>  |         |     |   |
| <b>Class</b>  | Warning |     |   |
| <b>Drive Behaviour</b>  |         |     |   |
| <b>Device Behaviour</b>   |         |     |   |
| <b>Additional Error Information (AMK Service)</b>   |         |     |   |
| Bad signal quality on the OWG receiver  |         |     |   |
|   | Info 1  | 1   | Master  |
|   |         | 2   | Slave   |
|   |         | 3   | Master verify ring  |
|   |         | 4   | Slave verify ring   |
| Disconnection OWG receiver (redundant)  |         |     |   |
|   | Info 1  | 10  | Main ring error during bootup   |
|   |         | 11  | Verify ring error during bootup   |
|   |         | 14  | Main ring error during operation  |
|   |         |     | Info 2 Node (256 = master)  |
|   |         | 15  | Verify ring error during operation  |
|   |         |     | Info 2 Node (256 = master)  |
|   |         | 527 | No link is detected during the bus booting time ("ID34026 BUS mode attribut") |
| <b>Error Removal</b>  |         |     |   |

## 4.11 No. 2600 ... 2609 Profibus (PB)

### 2600 System diagnostics

|  |   |    |  |
|--|---|----|--|
| <ul style="list-style-type: none"> <li>Error memory space</li> </ul> |   |    |  |
| <b>Device</b>  |   |    |  |
| <b>Description</b>   |   |    |  |
| <b>Class</b>   |   |    |  |
| <b>Drive Behaviour</b>   |   |    |  |
| <b>Device Behaviour</b>  | System run-up aborted   |    |  |
| <b>Additional Error Information (AMK Service)</b>                    |   |    |  |
|  |   |    |  |
| <b>Error Removal</b>   |   |    |  |
| <ul style="list-style-type: none"> <li>Memory error</li> </ul>       |   |    |  |
| <b>Device</b>  | AMKAMAC control units A4 / A5   |    |  |
| <b>Description</b>   | Profibus error  |    |  |
| <b>Class</b>   | Error   |    |  |
| <b>Drive Behaviour</b>   |   |    |  |
| <b>Device Behaviour</b>  | System run-up aborted: Profibus does not start  |    |  |
| <b>Additional Error Information (AMK Service)</b>                    |   |    |  |
|  | Info1   | 1  | Software error - memory                |
|  |   | 10 | Software error - message sending       |
|  |   | 20 | A5: Profibus option card A-SPB missing |
| <b>Error Removal</b>   | <ul style="list-style-type: none"> <li>Info1 = 20: check device</li> <li>AMK service</li> </ul> |    |  |

## 2601 System diagnostics

|   |                       |   |  |
|---|-----------------------|---|--|
| • Adapter cannot be initialized                   |                       |   |  |
| Device  |                       |   |  |
| Description                                       |                       |   |  |
| Class   |                       |   |  |
| Drive Behaviour                                   |                       |   |  |
| Device Behaviour                                  | System run-up aborted |   |  |
| <b>Additional Error Information (AMK Service)</b> |                       |   |  |
|   | Info 1                | 1 | Module number not permitted (>3)                             |
|   |                       | 2 | SPC3 buffer size not possible                                |
|   |                       | 3 | Initialization error (e.g. module address jumper plugged in) |
|   |                       | 4 | It's not possible to read initial parameters.                |
|   |                       | 5 | AFP because of an active option card not available           |
|   |                       | 6 | Number of synchronous data modules is not allowed.           |
| Error Removal                                     |                       |   |  |

## 2602 System diagnostics

|   |         |  |  |
|---|---------|--|--|
| • Cable is interrupted (reaction according to "ID 34027 BUS failure characteristics") |         |  |  |
| Device  |         |  |  |
| Description   |         |  |  |
| Class   | Warning |  |  |
| Drive Behaviour   |         |  |  |
| Device Behaviour  |         |  |  |
| <b>Additional Error Information (AMK Service)</b>                                     |         |  |  |
|   |         |  |  |
| Error Removal   |         |  |  |

## 2603 System diagnostics

|   |         |  |  |
|---|---------|--|--|
| • Data exchange mode is exited (e.g. after watchdog error; reaction according to "ID34027 BUS failure characteristics") |         |  |  |
| Device  |         |  |  |
| Description   |         |  |  |
| Class   | Warning |  |  |
| Drive Behaviour   |         |  |  |
| Device Behaviour  |         |  |  |
| <b>Additional Error Information (AMK Service)</b>   |         |  |  |
|   |         |  |  |
| Error Removal   |         |  |  |

## 2604 System diagnostics

|  |         |   |                  |
|--|---------|---|------------------|
| • Inadmissible field bus handshake code (e.g. SERVERERROR, SERVERWARNING, ...) |         |   |                  |
| Device   |         |   |                  |
| Description  |         |   |                  |
| Class  | Warning |   |                  |
| Drive Behaviour  |         |   |                  |
| Device Behaviour   |         |   |                  |
| <b>Additional Error Information (AMK Service)</b>                              |         |   |                  |
|  | Info 1  | 1 | Input handshake  |
|  |         | 2 | Output handshake |
| Error Removal  |         |   |                  |

## 2605 System diagnostics

|  |   |  |   |       |   |  |       |                     |  |  |   |                         |       |
|--|---|--|---|-------|---|--|-------|---------------------|--|--|---|-------------------------|-------|
| <ul style="list-style-type: none"> <li>PROFIBUS Initialization/ Error state</li> </ul> |   |  |   |       |   |  |       |                     |  |  |   |                         |       |
| <b>Device</b>  |   |  |   |       |   |  |       |                     |  |  |   |                         |       |
| <b>Description</b>   |   |  |   |       |   |  |       |                     |  |  |   |                         |       |
| <b>Class</b>   | Warning   |  |   |       |   |  |       |                     |  |  |   |                         |       |
| <b>Drive Behaviour</b>   |   |  |   |       |   |  |       |                     |  |  |   |                         |       |
| <b>Device Behaviour</b>  |   |  |   |       |   |  |       |                     |  |  |   |                         |       |
| <b>Additional Error Information (AMK Service)</b>                                      |   |  |   |       |   |  |       |                     |  |  |   |                         |       |
|  | Info 1  | 16   | PROFIBUS Controller not in "Offline" state  |       |   |  |       |                     |  |  |   |                         |       |
|  |   | 17   | Node address error  |       |   |  |       |                     |  |  |   |                         |       |
|  |   | 18   | Input/output length error 2   |       |   |  |       |                     |  |  |   |                         |       |
| <b>Error Removal</b>   |   |  |   |       |   |  |       |                     |  |  |   |                         |       |
| <ul style="list-style-type: none"> <li>PROFIBUS error bus configuration</li> </ul>     |   |  |   |       |   |  |       |                     |  |  |   |                         |       |
| <b>Device</b>  | <b>AMKAMAC control units A4 / A5</b>                                      |  |   |       |   |  |       |                     |  |  |   |                         |       |
| <b>Description</b>   |   |  |   |       |   |  |       |                     |  |  |   |                         |       |
| <b>Class</b>   | Error   |  |   |       |   |  |       |                     |  |  |   |                         |       |
| <b>Drive Behaviour</b>   |   |  |   |       |   |  |       |                     |  |  |   |                         |       |
| <b>Device Behaviour</b>  | System run-up aborted: Profibus does not start                            |  |   |       |   |  |       |                     |  |  |   |                         |       |
| <b>Additional Error Information (AMK Service)</b>                                      |   |  |   |       |   |  |       |                     |  |  |   |                         |       |
|  | Info1   | 17   | Slave address error   |       |   |  |       |                     |  |  |   |                         |       |
|  |   | 24   | Profibus configuration: wrong length  |       |   |  |       |                     |  |  |   |                         |       |
|  |   |  | <table border="1"> <tr> <td>Info2</td> <td>1</td> <td>ID1204 'XML file' / P.S.2 - length too small</td> </tr> <tr> <td>Info3</td> <td colspan="2">Length of ID Header</td> </tr> <tr> <td></td> <td>2</td> <td>Master length too large</td> </tr> <tr> <td>Info3</td> <td colspan="2">Length Master</td> </tr> </table> | Info2 | 1 | ID1204 'XML file' / P.S.2 - length too small | Info3 | Length of ID Header |  |  | 2 | Master length too large | Info3 |
| Info2  | 1   | ID1204 'XML file' / P.S.2 - length too small                 |   |       |   |  |       |                     |  |  |   |                         |       |
| Info3  | Length of ID Header   |  |   |       |   |  |       |                     |  |  |   |                         |       |
|  | 2   | Master length too large                                      |   |       |   |  |       |                     |  |  |   |                         |       |
| Info3  | Length Master   |  |   |       |   |  |       |                     |  |  |   |                         |       |
|  | 35  | Master configuration -<br>Wrong I/O modules or not supported |   |       |   |  |       |                     |  |  |   |                         |       |
|  |   | Info2  | I/O Module Identifier   |       |   |  |       |                     |  |  |   |                         |       |
|  |   | Info3  | I/O Module Offset in Master CFG Indication  |       |   |  |       |                     |  |  |   |                         |       |
| <b>Error Removal</b>   | <ul style="list-style-type: none"> <li>Check bus configuration</li> </ul> |  |   |       |   |  |       |                     |  |  |   |                         |       |

## 2606 System diagnostics

|  |         |  |  |
|--|---------|--|--|
| <ul style="list-style-type: none"> <li>PROFIBUS MSAC-C1 error (Master-Slave Acyclic Communication-Class1)</li> </ul> |         |  |  |
| <b>Device</b>  |         |  |  |
| <b>Description</b>   |         |  |  |
| <b>Class</b>   | Warning |  |  |
| <b>Drive Behaviour</b>   |         |  |  |
| <b>Device Behaviour</b>  |         |  |  |
| <b>Additional Error Information (AMK Service)</b>  |         |  |  |
|  |         |  |  |
| <b>Error Removal</b>   |         |  |  |

## 2607 System diagnostics

|  |         |
|--|---------|
| • PROFIBUS MSAC-C2 error (Master-Slave Acyclic Communication-Class2) |         |
| <b>Device</b>  |         |
| <b>Description</b>   |         |
| <b>Class</b>   | Warning |
| <b>Drive Behaviour</b>   |         |
| <b>Device Behaviour</b>  |         |
| <b>Additional Error Information (AMK Service)</b>                    |         |
|  |         |
| <b>Error Removal</b>   |         |

## 2608 System diagnostics

|   |           |  |
|---|-----------|--|
| • PROFIBUS initialisation error                   |           |  |
| <b>Device</b>                                     |           |  |
| <b>Description</b>                                |           |  |
| <b>Class</b>                                      | Warning   |  |
| <b>Drive Behaviour</b>                            |           |  |
| <b>Device Behaviour</b>                           |           |  |
| <b>Additional Error Information (AMK Service)</b> |           |  |
|   | Info 1    |  |
|   | 1         | Buffer configuration too small                                       |
|   | 2         | Input/output data size wrongly configured ("ID34025 BUS mode"/Inst1) |
|   | 3         | Wrong / not supported PROFIdrive standard telegram                   |
|   | 5         | KW software older than 2004/52                                       |
|   | 8         | ID 2<> 0.5 ms by PROFIdrive Telegram 105                             |
|   | 21 - 28   | ID READ error during initialization                                  |
|   | 31 - 34   | Reading error during initialization                                  |
|   | 38        | ID READ error ("ID 32840 Diagnostic List")                           |
|   | 41        | ID WRITE error ("ID34023 BUS address participant")                   |
|   | 42        | ID WRITE error ("ID32944 SYADR")                                     |
|   | 148 - 255 | Software error   |
| <b>Error Removal</b>                              |           |  |

|  |  |       |  |       |                                    |       |                                   |
|--|--|-------|--|-------|------------------------------------|-------|-----------------------------------|
| <ul style="list-style-type: none"> <li>PROFIBUS error</li> </ul> |  |       |  |       |                                    |       |                                   |
| <b>Device</b>  | <b>AMKAMAC control units A4 / A5</b>   |       |  |       |                                    |       |                                   |
| <b>Description</b>   |  |       |  |       |                                    |       |                                   |
| <b>Class</b>   | Error  |       |  |       |                                    |       |                                   |
| <b>Drive Behaviour</b>   |  |       |  |       |                                    |       |                                   |
| <b>Device Behaviour</b>  | System run-up aborted: Profibus does not start   |       |  |       |                                    |       |                                   |
| <b>Additional Error Information (AMK Service)</b>                |  |       |  |       |                                    |       |                                   |
|  | Info 1   | 9     | DP cycle ID2 faulty, e. g. less than 1 ms<br><table border="1" style="width: 100%;"> <tr> <td>Info2</td> <td>DP cycle ID2 / <math>\mu</math>s</td> </tr> </table>  | Info2 | DP cycle ID2 / $\mu$ s             |       |                                   |
|  |  | Info2 | DP cycle ID2 / $\mu$ s   |       |                                    |       |                                   |
|  |  | 50    | Number of input bytes in slave greater than number of input bytes in master<br><table border="1" style="width: 100%;"> <tr> <td>Info2</td> <td>Input size slave</td> </tr> <tr> <td>Info3</td> <td>Input size master</td> </tr> </table>     | Info2 | Input size slave                   | Info3 | Input size master                 |
|  |  | Info2 | Input size slave   |       |                                    |       |                                   |
|  |  | Info3 | Input size master  |       |                                    |       |                                   |
|  |  | 51    | Number of output bytes in slave greater than number of output bytes in master<br><table border="1" style="width: 100%;"> <tr> <td>Info2</td> <td>Output size slave</td> </tr> <tr> <td>Info3</td> <td>Output size master</td> </tr> </table> | Info2 | Output size slave                  | Info3 | Output size master                |
|  |  | Info2 | Output size slave  |       |                                    |       |                                   |
|  |  | Info3 | Output size master   |       |                                    |       |                                   |
|  |  | 52    | Not enough input modules in master<br><table border="1" style="width: 100%;"> <tr> <td>Info2</td> <td>Number of input modules in slave</td> </tr> <tr> <td>Info3</td> <td>Number of input modules in master</td> </tr> </table>              | Info2 | Number of input modules in slave   | Info3 | Number of input modules in master |
|  |  | Info2 | Number of input modules in slave   |       |                                    |       |                                   |
| Info3  | Number of input modules in master  |       |  |       |                                    |       |                                   |
| 53   | Not enough output modules in master<br><table border="1" style="width: 100%;"> <tr> <td>Info2</td> <td>Number of output modules in slave</td> </tr> <tr> <td>Info3</td> <td>Number of output modules in master</td> </tr> </table> | Info2 | Number of output modules in slave  | Info3 | Number of output modules in master |       |                                   |
| Info2  | Number of output modules in slave  |       |  |       |                                    |       |                                   |
| Info3  | Number of output modules in master   |       |  |       |                                    |       |                                   |
| 54   | Input module in slave not equal to input module in master<br><table border="1" style="width: 100%;"> <tr> <td>Info2</td> <td>Module offset / bytes</td> </tr> </table>   | Info2 | Module offset / bytes  |       |                                    |       |                                   |
| Info2  | Module offset / bytes  |       |  |       |                                    |       |                                   |
| 55   | Output module in slave not equal to output module in Master<br><table border="1" style="width: 100%;"> <tr> <td>Info2</td> <td>Module offset / bytes</td> </tr> </table>   | Info2 | Module offset / bytes  |       |                                    |       |                                   |
| Info2  | Module offset / bytes  |       |  |       |                                    |       |                                   |
| 56   | Dummy input module in slave does not match input module in master<br><table border="1" style="width: 100%;"> <tr> <td>Info2</td> <td>Module offset / bytes</td> </tr> </table>   | Info2 | Module offset / bytes  |       |                                    |       |                                   |
| Info2  | Module offset / bytes  |       |  |       |                                    |       |                                   |
| 57   | Dummy output module in slave does not match output module in master<br><table border="1" style="width: 100%;"> <tr> <td>Info2</td> <td>Module offset / bytes</td> </tr> </table>   | Info2 | Module offset / bytes  |       |                                    |       |                                   |
| Info2  | Module offset / bytes  |       |  |       |                                    |       |                                   |
| <b>Error Removal</b>   | <ul style="list-style-type: none"> <li>Check bus configuration</li> <li>ID1204 'XML file'</li> </ul>   |       |  |       |                                    |       |                                   |

## 2609 System diagnostics

|  |         |     |   |
|--|---------|-----|---|
| <ul style="list-style-type: none"> <li>• PROFIBUS Warning – wrong parameter initialization</li> <li>• Read error ID 173</li> <li>• Global Control Sync Loss</li> </ul> |         |     |   |
| <b>Device</b>  |         |     |   |
| <b>Description</b>   |         |     |   |
| <b>Class</b>   | Warning |     |   |
| <b>Drive Behaviour</b>   |         |     |   |
| <b>Device Behaviour</b>  |         |     |   |
| <b>Additional Error Information (AMK Service)</b>  |         |     |   |
|  | Info 1  | 1   | Wrong initialized "ID32799 Configuration standard peripherie" |
|  |         | 2   | Wrong initialized "ID34026 BUS mode attribut"                 |
|  |         | 3   | Wrong initialized "ID32926 AMK homing cycle parameter"        |
|  |         | 4   | Wrong initialized "ID32855 Output port 2"                     |
|  |         | 5   | Wrong initialized "ID32863v Port 2 bit 7"                     |
|  |         | 6   | Wrong initialized "ID32968 Input port 2"                      |
|  |         | 7   | Wrong initialized "ID32973 Port 2 bit 4"                      |
|  |         | 8   | Wrong initialized "ID32976 Port 2 bit 7"                      |
|  |         | 20  | Global Control Sync Loss                                      |
|  |         | 173 | Error by reading "ID173 Marker position A"                    |
|  |         |     |   |
|  |         |     |   |
| <b>Error Removal</b>   |         |     |   |

## 4.12 No. 2620 ... 2629 ARCNET (ARC)

### 2620 System diagnostics

|   |         |  |  |
|---|---------|--|--|
| <ul style="list-style-type: none"> <li>• Subscriber not connected with network</li> </ul> |         |  |  |
| <b>Device</b>   |         |  |  |
| <b>Description</b>  |         |  |  |
| <b>Class</b>  | Warning |  |  |
| <b>Drive Behaviour</b>  |         |  |  |
| <b>Device Behaviour</b>   |         |  |  |
| <b>Additional Error Information (AMK Service)</b>   |         |  |  |
|   |         |  |  |
| <b>Error Removal</b>  |         |  |  |

### 2621 System diagnostics

|   |         |  |  |
|---|---------|--|--|
| <ul style="list-style-type: none"> <li>• Network error</li> </ul> |         |  |  |
| <b>Device</b>   |         |  |  |
| <b>Description</b>  |         |  |  |
| <b>Class</b>  | Warning |  |  |
| <b>Drive Behaviour</b>  |         |  |  |
| <b>Device Behaviour</b>   |         |  |  |
| <b>Additional Error Information (AMK Service)</b>                 |         |  |  |
|   |         |  |  |
| <b>Error Removal</b>  |         |  |  |

## 2622 System diagnostics

|   |         |
|---|---------|
| <ul style="list-style-type: none"> <li>• Transfer error/transmission error</li> <li>• Transmission process timeout</li> </ul> |         |
| <b>Device</b>   |         |
| <b>Description</b>  |         |
| <b>Class</b>  | Warning |
| <b>Drive Behaviour</b>  |         |
| <b>Device Behaviour</b>   |         |
| <b>Additional Error Information (AMK Service)</b>   |         |
|   |         |
| <b>Error Removal</b>  |         |

## 2623 System diagnostics

|  |                      |
|--|----------------------|
| <ul style="list-style-type: none"> <li>• Adapter is constantly reconfigured</li> </ul> |                      |
| <b>Device</b>  |                      |
| <b>Description</b>   |                      |
| <b>Class</b>   | Warning              |
| <b>Drive Behaviour</b>   |                      |
| <b>Device Behaviour</b>  |                      |
| <b>Additional Error Information (AMK Service)</b>                                      |                      |
|  |                      |
| <b>Error Removal</b>   | Check BUS connection |

## 2624 System diagnostics

|  |                       |
|--|-----------------------|
| <ul style="list-style-type: none"> <li>• ID34023=0, BUS subscriber address must be unequal to 0</li> <li>• ARCNET controller error</li> <li>• RAM test controller error</li> </ul> |                       |
| <b>Device</b>  |                       |
| <b>Description</b>   |                       |
| <b>Class</b>   |                       |
| <b>Drive Behaviour</b>   |                       |
| <b>Device Behaviour</b>  | System run-up aborted |
| <b>Additional Error Information (AMK Service)</b>  |                       |
|  |                       |
| <b>Error Removal</b>   |                       |

## 2625 System diagnostics

|  |                    |
|--|--------------------|
| <ul style="list-style-type: none"> <li>• ARCNET telegram too long</li> </ul> |                    |
| <b>Device</b>  |                    |
| <b>Description</b>   |                    |
| <b>Class</b>   | Controlled braking |
| <b>Drive Behaviour</b>   |                    |
| <b>Device Behaviour</b>  |                    |
| <b>Additional Error Information (AMK Service)</b>                            |                    |
|  |                    |
| <b>Error Removal</b>   |                    |

## 2626 System diagnostics

|  |  |
|--|--|
| <ul style="list-style-type: none"> <li>• Node ID is already present</li> </ul> |  |
| <b>Device</b>  |  |



|   |  |
|---|--|
| <b>Description</b>                                |  |
| <b>Class</b>                                      |  |
| <b>Drive Behaviour</b>                            |  |
| <b>Device Behaviour</b>                           | System run-up aborted  |
| <b>Additional Error Information (AMK Service)</b> |  |
|   |  |
| <b>Error Removal</b>                              | Recheck parameter: <ul style="list-style-type: none"> <li>ID34023 BUS address participant</li> </ul> |

## 2628 System diagnostics

|  |                       |
|--|-----------------------|
| <ul style="list-style-type: none"> <li>Init. state error</li> <li>Error in node ID check</li> <li>No adapter present</li> <li>RAM memory too small for ARCNET</li> </ul> |                       |
| <b>Device</b>  |                       |
| <b>Description</b>   |                       |
| <b>Class</b>   |                       |
| <b>Drive Behaviour</b>   |                       |
| <b>Device Behaviour</b>  | System run-up aborted |
| <b>Additional Error Information (AMK Service)</b>  |                       |
|  |                       |
| <b>Error Removal</b>   |                       |

## 4.13 No. 2640 ... 2649 LON

### 2640 LON failure

|   |         |
|---|---------|
| <ul style="list-style-type: none"> <li>Interruption of the master → slave connection</li> <li>Recognition only by heartbeat failure</li> <li>Ramp down after BUS failure</li> </ul> |         |
| <b>Device</b>   |         |
| <b>Description</b>  |         |
| <b>Class</b>  | Warning |
| <b>Drive Behaviour</b>  |         |
| <b>Device Behaviour</b>   |         |
| <b>Additional Error Information (AMK Service)</b>   |         |
|   |         |
| <b>Error Removal</b>  |         |

### 2641 LON timeout IN

|  |         |
|--|---------|
| <ul style="list-style-type: none"> <li>Device does not accept control block within T1</li> <li>T1 = low word after variable nvi_QhsTime</li> <li>See LON network variables for more details</li> </ul> |         |
| <b>Device</b>  |         |
| <b>Description</b>   |         |
| <b>Class</b>   | Warning |
| <b>Drive Behaviour</b>   |         |
| <b>Device Behaviour</b>  |         |
| <b>Additional Error Information (AMK Service)</b>  |         |
|  |         |
| <b>Error Removal</b>   |         |

**2642 LON timeout OUT**

|  |         |
|--|---------|
| <ul style="list-style-type: none"> <li>• Device does not output status block within T1</li> <li>• T1 = low word after variable nvi_Qhs Time</li> <li>• See LON network variables for more details</li> </ul> |         |
| <b>Device</b>  |         |
| <b>Description</b>   |         |
| <b>Class</b>   | Warning |
| <b>Drive Behaviour</b>   |         |
| <b>Device Behaviour</b>  |         |
| <b>Additional Error Information (AMK Service)</b>  |         |
|  |         |
| <b>Error Removal</b>   |         |

**2643 LON timeout appl.**

|   |         |
|---|---------|
| <ul style="list-style-type: none"> <li>• The application lasts (Q_CODE=1) longer than T2</li> <li>• T2= high word after variable nvi_QhsTime</li> <li>• See LON network variables for more details</li> </ul> |         |
| <b>Device</b>   |         |
| <b>Description</b>  |         |
| <b>Class</b>  | Warning |
| <b>Drive Behaviour</b>  |         |
| <b>Device Behaviour</b>   |         |
| <b>Additional Error Information (AMK Service)</b>   |         |
|   |         |
| <b>Error Removal</b>  |         |

**2644 System diagnostics**

|  |         |
|--|---------|
| <ul style="list-style-type: none"> <li>• Device reports within 2 s in the ramp up</li> <li>• Handshake not with code "5678"</li> </ul> |         |
| <b>Device</b>  |         |
| <b>Description</b>   |         |
| <b>Class</b>   | Warning |
| <b>Drive Behaviour</b>   |         |
| <b>Device Behaviour</b>  |         |
| <b>Additional Error Information (AMK Service)</b>  |         |
|  |         |
| <b>Error Removal</b>   |         |

**2645 System diagnostics**

|   |         |
|---|---------|
| <ul style="list-style-type: none"> <li>• DPRAM writing error</li> </ul> |         |
| <b>Device</b>   |         |
| <b>Description</b>  |         |
| <b>Class</b>  | Warning |
| <b>Drive Behaviour</b>  |         |
| <b>Device Behaviour</b>   |         |
| <b>Additional Error Information (AMK Service)</b>                       |         |
|   |         |
| <b>Error Removal</b>  |         |

#### 4.14 No. 2660 ... 2669 INTERBUS (IB)

##### 2660 System diagnostics

|  |                    |  |  |
|--|--------------------|--|--|
| <ul style="list-style-type: none"> <li>The required RAM memory for the system data is not present</li> </ul> |                    |  |  |
| Device   |                    |  |  |
| Description  |                    |  |  |
| Class  |                    |  |  |
| Drive Behaviour  | Controlled braking |  |  |
| Device Behaviour   |                    |  |  |
| Additional Error Information (AMK Service)   |                    |  |  |
|  |                    |  |  |
| Error Removal  |                    |  |  |

##### 2661 System diagnostics

|  |                    |  |  |
|--|--------------------|--|--|
| <ul style="list-style-type: none"> <li>Unknown bus mode entry in "ID34025 BUS mode"</li> </ul> |                    |  |  |
| Device   |                    |  |  |
| Description  |                    |  |  |
| Class  |                    |  |  |
| Drive Behaviour  | Controlled braking |  |  |
| Device Behaviour   |                    |  |  |
| Additional Error Information (AMK Service)   |                    |  |  |
|  |                    |  |  |
| Error Removal  |                    |  |  |

##### 2663 System diagnostics

|  |   |  |  |
|--|---|--|--|
| <ul style="list-style-type: none"> <li>Interbus is inactive</li> </ul> |   |  |  |
| Device   |   |  |  |
| Description  |   |  |  |
| Class  | Warning   |  |  |
| Drive Behaviour  |   |  |  |
| Device Behaviour   |   |  |  |
| Additional Error Information (AMK Service)                             |   |  |  |
|  |   |  |  |
| Error Removal  | Cable is defective or not connected with master |  |  |

##### 2664 System diagnostics

|  |         |  |  |
|--|---------|--|--|
| <ul style="list-style-type: none"> <li>Interbus reset</li> </ul> |         |  |  |
| Device   |         |  |  |
| Description  |         |  |  |
| Class  | Warning |  |  |
| Drive Behaviour  |         |  |  |
| Device Behaviour   |         |  |  |
| Additional Error Information (AMK Service)                       |         |  |  |
|  |         |  |  |
| Error Removal  |         |  |  |

## 2665 System diagnostics

|  |         |  |  |
|--|---------|--|--|
| <ul style="list-style-type: none"> <li>At least 20 invalid data cycles detected</li> </ul> |         |  |  |
| Device   |         |  |  |
| Description  |         |  |  |
| Class  | Warning |  |  |
| Drive Behaviour  |         |  |  |
| Device Behaviour   |         |  |  |
| <b>Additional Error Information (AMK Service)</b>  |         |  |  |
|  |         |  |  |
| Error Removal  |         |  |  |

## 4.15 No. 2680 ... 2699 CAN

### 2680 System diagnostics

|   |                       |        |   |
|---|-----------------------|--------|---|
| <ul style="list-style-type: none"> <li>CAN AFP error during initialization</li> </ul> |                       |        |   |
| Device  |                       |        |   |
| Description   |                       |        |   |
| Class   |                       |        |   |
| Drive Behaviour   | Controlled braking    |        |   |
| Device Behaviour  | System run-up aborted |        |   |
| <b>Additional Error Information (AMK Service)</b>                                     |                       |        |   |
|   | Info 1                | 1      | Device does not answer during initialization longer as 2 sec. |
|   |                       | 2      | AFP timeout status  |
|   |                       | 3 - 23 | Error by reading ID s   |
| Error Removal   |                       |        |   |

### 2681 System diagnostics

|   |         |  |  |
|---|---------|--|--|
| <ul style="list-style-type: none"> <li>Object Dictionary error</li> </ul> |         |  |  |
| Device  |         |  |  |
| Description   |         |  |  |
| Class   | Warning |  |  |
| Drive Behaviour   |         |  |  |
| Device Behaviour  |         |  |  |
| <b>Additional Error Information (AMK Service)</b>                         |         |  |  |
|   |         |  |  |
| Error Removal   |         |  |  |

### 2682 System diagnostics

|   |                       |  |  |
|---|-----------------------|--|--|
| <ul style="list-style-type: none"> <li>Too much Receive PDOs and SDOs configured</li> </ul> |                       |  |  |
| Device  |                       |  |  |
| Description   |                       |  |  |
| Class   |                       |  |  |
| Drive Behaviour   |                       |  |  |
| Device Behaviour  | System run-up aborted |  |  |
| <b>Additional Error Information (AMK Service)</b>   |                       |  |  |
|   |                       |  |  |
| Error Removal   |                       |  |  |

## 2683 System diagnostics

|   |                    |  |  |
|---|--------------------|--|--|
| <ul style="list-style-type: none"> <li>Software error (Reason could be false configuration data)</li> </ul> |                    |  |  |
| <b>Device</b>   |                    |  |  |
| <b>Description</b>  |                    |  |  |
| <b>Class</b>  | Warning            |  |  |
| <b>Drive Behaviour</b>  | Controlled braking |  |  |
| <b>Device Behaviour</b>   |                    |  |  |
| <b>Additional Error Information (AMK Service)</b>   |                    |  |  |
|   |                    |  |  |
| <b>Error Removal</b>  |                    |  |  |

## 2684 System diagnostics

|   |         |   |  |
|---|---------|---|--|
| <ul style="list-style-type: none"> <li>Communication error</li> </ul> |         |   |  |
| <b>Device</b>   |         |   |  |
| <b>Description</b>  |         |   |  |
| <b>Class</b>  | Warning |   |  |
| <b>Drive Behaviour</b>  |         |   |  |
| <b>Device Behaviour</b>   |         |   |  |
| <b>Additional Error Information (AMK Service)</b>                     |         |   |  |
|   | Info 1  | 1 | Transmit buffer full                         |
|   |         | 2 | RTR to RPDO                                  |
|   |         | 3 | Unknown NMT command                          |
|   |         | 4 | Invalid message type                         |
|   |         | 5 | Exit from OPERATIONAL state                  |
|   |         | 6 | CAN controller not ready to send new message |
| <b>Error Removal</b>  |         |   |  |

## 2685 System diagnostics

|   |         |    |  |
|---|---------|----|--|
| <ul style="list-style-type: none"> <li>Communication error</li> <li>Hardware synchronisation error</li> </ul> |         |    |  |
| <b>Device</b>   |         |    |  |
| <b>Description</b>  |         |    |  |
| <b>Class</b>  | Warning |    |  |
| <b>Drive Behaviour</b>  |         |    |  |
| <b>Device Behaviour</b>   |         |    |  |
| <b>Additional Error Information (AMK Service)</b>   |         |    |  |
|   | Info 1  | 1  | CAN controller in BUSOFF state, check cables     |
|   |         | 2  | Life guarding timeout, communication interrupted |
|   |         | 3  | AMK hardware synchronisation not possible        |
|   |         | 4  | AMK hardware synchronisation lost                |
|   |         | 5  | HW synchronization wrong cycle time              |
|   |         | 10 | Basic device synchronisation signal timeout      |
|   |         | 11 | Basic device synchronisation timeout             |
|   |         | 12 | Basic device synchronisation signal lost         |
|   |         | 13 | Basic device synchronisation lost                |
|   |         | 14 | External synchronisation signal lost             |
|   |         | 15 | External synchronisation lost                    |
|   |         | 16 | External synchronisation signal timeout          |
|   |         | 17 | External synchronisation timeout                 |
|   |         | 20 | Error in time system (250 µs level)              |
| <b>Error Removal</b>  |         |    |  |

|   |   |   |   |
|---|---|---|---|
| <b>Device</b>                                     | <b>KE</b>   |   |   |
| <b>Description</b>                                |   |   |   |
| <b>Class</b>                                      |   |   |   |
| <b>Drive Behaviour</b>                            |   |   |   |
| <b>Device Behaviour</b>                           |   |   |   |
| <b>Additional Error Information (AMK Service)</b> |   |   |   |
|   | Info1   | 1   | Interruption ACC                                |
|   |   | 2   | Life guarding timeout                           |
| <b>Error Removal</b>                              |   |   |   |
| <b>Device</b>                                     | <b>AMKAMAC control units A4 / A5</b>  |   |   |
| <b>Description</b>                                | <ul style="list-style-type: none"> <li>• Communication error</li> <li>• Hardware synchronisation error</li> </ul> |   |   |
| <b>Class</b>                                      | Error   |   |   |
| <b>Drive Behaviour</b>                            |   |   |   |
| <b>Device Behaviour</b>                           | System run-up aborted: Profibus does not start  |   |   |
| <b>Additional Error Information (AMK Service)</b> |   |   |   |
|   | Info1   | 1   | CAN controller BUS off state                    |
|   |   | 2   | Life guarding time-out, communication disturbed |
|   |   | 3   | AMK hardware synchronisation not possible       |
|   |   | 4   | AMK hardware synchronisation lost               |
|   |   | 5   | Faulty cycle time of HW synchronisation         |
|   |   | 10  | Basic device synchronisation signal time-out    |
|   |   | 11  | Basic device synchronisation time-out           |
|   |   | 13  | Basic device synchronisation lost               |
|   |   | 14  | External synchronisation signal lost            |
|   |   | 15  | External synchronisation lost                   |
|   |   | 16  | External synchronisation signal time-out        |
|   |   | 17  | External synchronisation time-out               |
|   |   | 20  | Error in time system (250 µs level)             |
| <b>Error Removal</b>                              | Info1 = 1<br>Info1 = 4  | <ul style="list-style-type: none"> <li>• Check cabling</li> <li>• Check configuration of hardware synchronisation ID34026 'BUS mode attribute' in all devices</li> <li>• Check ID 2 'SERCOS cycle time' in all devices</li> <li>• Check cabling and terminator</li> <li>• When using the AMK adaptor AP-CI4 (O778), the resistors R1 and R2 must be equipped</li> </ul> |   |
|   | Info1 = 5   | <ul style="list-style-type: none"> <li>• Check configuration of hardware synchronisation ID34026 'BUS mode attribute' in all devices. Only one sender of hardware synchronisation cycle may be active.</li> </ul>   |   |
|   | Info1 = 11  | <ul style="list-style-type: none"> <li>• NMT 'OPERATIONAL' received but basic device synchronisation not finished. I. e. the switching to 'OPERATIONAL' must be delayed. On AMK CAN master devices, this can be done by means of ID34026 by activating a run-up delay.</li> </ul>   |   |

## 2686 System diagnostics

|   |         |   |                               |
|---|---------|---|-------------------------------|
| <ul style="list-style-type: none"> <li>AFP error</li> </ul> |         |   |                               |
| <b>Device</b>   |         |   |                               |
| <b>Description</b>  |         |   |                               |
| <b>Class</b>  | Warning |   |                               |
| <b>Drive Behaviour</b>                                      |         |   |                               |
| <b>Device Behaviour</b>                                     |         |   |                               |
| <b>Additional Error Information (AMK Service)</b>           |         |   |                               |
|   | Info 1  | 1 | No HS reading AFP output data |
|   |         | 2 | No HS writing AFP input data  |
|   |         | 3 | Both 1 and 2                  |
| <b>Error Removal</b>  |         |   |                               |

## 2687 System diagnostics

|   |  |   |   |
|---|--|---|---|
| <ul style="list-style-type: none"> <li>Invalid Node address</li> <li>Invalid Baud Rate</li> </ul> |  |   |   |
| <b>Device</b>   |  |   |   |
| <b>Description</b>  |  |   |   |
| <b>Class</b>  |  |   |   |
| <b>Drive Behaviour</b>  |  |   |   |
| <b>Device Behaviour</b>   | System run-up aborted  |   |   |
| <b>Additional Error Information (AMK Service)</b>   |  |   |   |
|   | Info 1   | 0 | Hardware switch Node address invalid                    |
|   |  | 1 | "ID34023 BUS address participant": Node address invalid |
|   |  | 2 | "ID34024 BUS transmit rate": Baud Rate invalid          |
| <b>Error Removal</b>  | <ul style="list-style-type: none"> <li>Check participant no. at rotary coding switch</li> <li>Recheck parameters: <ul style="list-style-type: none"> <li>ID34023 BUS address participant</li> <li>ID34024 BUS transmit rate</li> </ul> </li> </ul> |   |   |

## 2688 System diagnostics

|   |   |  |  |
|---|---|--|--|
| <ul style="list-style-type: none"> <li>"ID34025 Bus mode":AFP bit not valid</li> <li>AFP Error by reading ID s</li> </ul> |   |  |  |
| <b>Device</b>   |   |  |  |
| <b>Description</b>  |   |  |  |
| <b>Class</b>  |   |  |  |
| <b>Drive Behaviour</b>  |   |  |  |
| <b>Device Behaviour</b>   | System run-up aborted   |  |  |
| <b>Additional Error Information (AMK Service)</b>   |   |  |  |
|   |   |  |  |
| <b>Error Removal</b>  | Recheck parameter: <ul style="list-style-type: none"> <li>ID34025 BUS mode</li> </ul> |  |  |



## 2689 System diagnostics

|   |                                      |                          |   |        |                                      |             |  |   |               |
|---|--------------------------------------|--------------------------|---|--------|--------------------------------------|-------------|--|---|---------------|
| <ul style="list-style-type: none"> <li>Errors on configuring</li> </ul> |                                      |                          |   |        |                                      |             |  |   |               |
| <b>Device</b>   |                                      |                          |   |        |                                      |             |  |   |               |
| <b>Description</b>  |                                      |                          |   |        |                                      |             |  |   |               |
| <b>Class</b>  |                                      |                          |   |        |                                      |             |  |   |               |
| <b>Drive Behaviour</b>  |                                      |                          |   |        |                                      |             |  |   |               |
| <b>Device Behaviour</b>   | System run-up aborted                |                          |   |        |                                      |             |  |   |               |
| <b>Additional Error Information (AMK Service)</b>                       |                                      |                          |   |        |                                      |             |  |   |               |
|   | Info 1                               | 1, 2<br>11, 12<br>35, 92 | Internal error  |        |                                      |             |  |   |               |
|   |                                      | 13, 20, 81               | Transmission channel busy   |        |                                      |             |  |   |               |
|   |                                      | 82                       | Bus error (BUS OFF status)  |        |                                      |             |  |   |               |
|   |                                      | 91                       | Client SDO missing in master object list  |        |                                      |             |  |   |               |
|   |                                      |                          | <table border="1"> <tr> <td>Info 2</td> <td colspan="2">Subscriber address of the slave node</td> </tr> </table>                              | Info 2 | Subscriber address of the slave node |             |  |   |               |
| Info 2  | Subscriber address of the slave node |                          |   |        |                                      |             |  |   |               |
|   |                                      | 93                       | Not successful SDO transmission   |        |                                      |             |  |   |               |
|   |                                      | 101                      | Resource problem (DCF too large)  |        |                                      |             |  |   |               |
|   |                                      |                          | <table border="1"> <tr> <td>Info 2</td> <td>0</td> <td>save to CCB</td> </tr> <tr> <td></td> <td>1</td> <td>Load from CCB</td> </tr> </table> | Info 2 | 0                                    | save to CCB |  | 1 | Load from CCB |
| Info 2  | 0                                    | save to CCB              |   |        |                                      |             |  |   |               |
|   | 1                                    | Load from CCB            |   |        |                                      |             |  |   |               |
|   |                                      | 102                      | Resource problem (memory)   |        |                                      |             |  |   |               |
|   |                                      | 103                      | Faulty PDO mapping in the DCF   |        |                                      |             |  |   |               |
|   |                                      | 112, 113                 | Resource problem (Heap initialization)  |        |                                      |             |  |   |               |
|   |                                      | 114, 115                 | Resource problem (memory)   |        |                                      |             |  |   |               |
|   |                                      | 116                      | DCF not available   |        |                                      |             |  |   |               |
|   |                                      | 117                      | Error on reading DCF  |        |                                      |             |  |   |               |
|   |                                      | 118                      | Invalid DCF element (incorrect index or size)   |        |                                      |             |  |   |               |
|   |                                      | 119                      | Resource problem (memory)   |        |                                      |             |  |   |               |
|   |                                      | 120                      | Internal error  |        |                                      |             |  |   |               |
|   |                                      | 121 - 145                | Error on reading ID   |        |                                      |             |  |   |               |
|   |                                      | 135                      | Error on writing from ID 34023  |        |                                      |             |  |   |               |
|   |                                      | 151 - 194                | Error on reading ID   |        |                                      |             |  |   |               |
|   |                                      | 211                      | Hardware synchronization not successful   |        |                                      |             |  |   |               |
|   |                                      | 212                      | No bus node available   |        |                                      |             |  |   |               |
|   |                                      | 218                      | EndOfFile mark wrong  |        |                                      |             |  |   |               |
| <b>Error Removal</b>  |                                      |                          |   |        |                                      |             |  |   |               |

## 2690 System diagnostics

|   |                       |  |   |        |       |        |           |
|---|-----------------------|--|---|--------|-------|--------|-----------|
| <ul style="list-style-type: none"> <li>Error in Slave configuration (Data size in CCF element too big)</li> </ul> |                       |  |   |        |       |        |           |
| <b>Device</b>   |                       |  |   |        |       |        |           |
| <b>Description</b>  |                       |  |   |        |       |        |           |
| <b>Class</b>  |                       |  |   |        |       |        |           |
| <b>Drive Behaviour</b>  |                       |  |   |        |       |        |           |
| <b>Device Behaviour</b>   | System run-up aborted |  |   |        |       |        |           |
| <b>Additional Error Information (AMK Service)</b>   |                       |  |   |        |       |        |           |
|   |                       |  | Node ID of Slave node   |        |       |        |           |
|   |                       |  | <table border="1"> <tr> <td>Info 2</td> <td>Index</td> </tr> <tr> <td>Info 3</td> <td>Sub index</td> </tr> </table> | Info 2 | Index | Info 3 | Sub index |
| Info 2  | Index                 |  |   |        |       |        |           |
| Info 3  | Sub index             |  |   |        |       |        |           |
| <b>Error Removal</b>  |                       |  |   |        |       |        |           |

## 2691 System diagnostics

|   |   |                                  |  |
|---|---|----------------------------------|--|
| <b>Device</b>                                     | Devices with ACC-Bus connection   |                                  |  |
| <b>Description</b>                                | Bus overload  |                                  |  |
| <b>Class</b>                                      | Warning   |                                  |  |
| <b>Drive Behaviour</b>                            |   |                                  |  |
| <b>Device Behaviour</b>                           |   |                                  |  |
| <b>Additional Error Information (AMK Service)</b> |   |                                  |  |
|   |   | 13, 20, 43,<br>48 - 50,<br>53,65 | SEND QUEUE FULL  |
|   |   | 33, 38                           | Heap overflow  |
|   |   | 45 - 47                          | AFP handshake failed   |
|   |   | 57, 58                           | Heap overflow  |
|   |   | 62                               | CAN Controller not ready to send a message                   |
|   |   | 80                               | Data exchange utilisation ration too high                    |
|   |   | 82                               | Extraction from Send Queue late                              |
|   |   | 90                               | Extraction from Receive Queue late                           |
|   |   | 91                               | Send: Too many TPDOs<br>Receive: Sync RPDO received too late |
|   |   | 92                               | Receive: Buffer for Asynchronous Receive PDOs full           |
|   |   | 93                               | Sync TPDO cant't be sent; too many PDOs in network           |
|   |   | 201                              | Receive queue full   |
|   |   | 202                              | Last CAN message lost  |
|   |   | 203                              | Previous CAN message lost                                    |
|   |   | 210                              | SDO Receive channel full                                     |
|   |   | 211                              | SDO Transmission channel full                                |
|   |   | 212                              | Too many SDO sessions started                                |
|   |   | 214                              | DSDO multiple started  |
|   |   | 214                              | DSDO Error   |
| <b>Error Removal</b>                              | <ul style="list-style-type: none"> <li>• Info 1 = 91:<br/>Switch on hardware synchronisation in "ID34026 BUS mode attribut"<br/>Master: sender of signal<br/>Slave: receiver of signal</li> <li>• Check if "ID2 SERCOS cycle time" is the same cycle time for all nodes</li> <li>• Synchronous PDOs (with synchronous mapping variables) from external device must be received as EVENT PDO.</li> </ul> |                                  |  |

### 2692 System diagnostics

|   |         |        |  |
|---|---------|--------|--|
| • Software warning                                |         |        |  |
| <b>Device</b>                                     |         |        |  |
| <b>Description</b>                                |         |        |  |
| <b>Class</b>                                      | Warning |        |  |
| <b>Drive Behaviour</b>                            |         |        |  |
| <b>Device Behaviour</b>                           |         |        |  |
| <b>Additional Error Information (AMK Service)</b> |         |        |  |
|   | Info 1  | 1      | DCF not available                            |
|   |         | 2      | Oscilloscope PDO not available               |
|   |         | 3      | CAN BUS not active                           |
|   |         | 31, 36 | Invalid NMT command received                 |
|   |         | 32, 37 | Exit from OPERATIONAL state                  |
|   |         | 101    | ID write not possible                        |
|   |         | 103    | Read "ERROR FIFO" not possible               |
|   |         | 104    | Mapping conflict (copy direction)            |
|   |         | 105    | Hardware synchronization configuration error |
| <b>Error Removal</b>                              |         |        |  |

### 2693 System diagnostics

|   |         |  |                       |
|---|---------|--|-----------------------|
| • Slave Node State error                          |         |  |                       |
| <b>Device</b>                                     |         |  |                       |
| <b>Description</b>                                |         |  |                       |
| <b>Class</b>                                      | Warning |  |                       |
| <b>Drive Behaviour</b>                            |         |  |                       |
| <b>Device Behaviour</b>                           |         |  |                       |
| <b>Additional Error Information (AMK Service)</b> |         |  |                       |
|   | Info 1  |  | Node ID of slave node |
| <b>Error Removal</b>                              |         |  |                       |

### 2694 System diagnostics

|   |         |        |                       |
|---|---------|--------|-----------------------|
| • Slave Node Guarding error                       |         |        |                       |
| <b>Device</b>                                     |         |        |                       |
| <b>Description</b>                                |         |        |                       |
| <b>Class</b>                                      | Warning |        |                       |
| <b>Drive Behaviour</b>                            |         |        |                       |
| <b>Device Behaviour</b>                           |         |        |                       |
| <b>Additional Error Information (AMK Service)</b> |         |        |                       |
|   | Info 1  |        | Node ID of slave node |
|   |         | Info 2 | 1 Timeout             |
|   |         |        | 2 Toggle Bit error    |
| <b>Error Removal</b>                              |         |        |                       |

## 2695 System diagnostics

|   |         |  |                       |
|---|---------|--|-----------------------|
| • Emergency received                              |         |  |                       |
| <b>Device</b>                                     |         |  |                       |
| <b>Description</b>                                |         |  |                       |
| <b>Class</b>                                      | Warning |  |                       |
| <b>Drive Behaviour</b>                            |         |  |                       |
| <b>Device Behaviour</b>                           |         |  |                       |
| <b>Additional Error Information (AMK Service)</b> |         |  |                       |
|   | Info 1  |  | Node ID of slave node |
| <b>Error Removal</b>                              |         |  |                       |

## 2696 System diagnostics

|   |         |  |                   |
|---|---------|--|-------------------|
| • DSDO Router error                               |         |  |                   |
| <b>Device</b>                                     |         |  |                   |
| <b>Description</b>                                |         |  |                   |
| <b>Class</b>                                      | Warning |  |                   |
| <b>Drive Behaviour</b>                            |         |  |                   |
| <b>Device Behaviour</b>                           |         |  |                   |
| <b>Additional Error Information (AMK Service)</b> |         |  |                   |
|   | Info 1  |  | Router error code |
| <b>Error Removal</b>                              |         |  |                   |

## 2697 System diagnostics

|   |         |        |                           |
|---|---------|--------|---------------------------|
| • Mandatory slave node missing                    |         |        |                           |
| <b>Device</b>                                     |         |        |                           |
| <b>Description</b>                                |         |        |                           |
| <b>Class</b>                                      | Warning |        |                           |
| <b>Drive Behaviour</b>                            |         |        |                           |
| <b>Device Behaviour</b>                           |         |        |                           |
| <b>Additional Error Information (AMK Service)</b> |         |        |                           |
|   | Info 1  |        | Node ID of slave node     |
|   |         | Info 2 | 1                         |
|   |         |        | Network configuration     |
|   |         |        | 2                         |
|   |         |        | Single node configuration |
| <b>Error Removal</b>                              |         |        |                           |

## 2698 System diagnostics

|   |         |        |                       |
|---|---------|--------|-----------------------|
| • SDO error during network configuration          |         |        |                       |
| <b>Device</b>                                     |         |        |                       |
| <b>Description</b>                                |         |        |                       |
| <b>Class</b>                                      | Warning |        |                       |
| <b>Drive Behaviour</b>                            |         |        |                       |
| <b>Device Behaviour</b>                           |         |        |                       |
| <b>Additional Error Information (AMK Service)</b> |         |        |                       |
|   | Info 1  |        | Node ID of slave node |
|   |         | Info 2 | Index                 |
|   |         | Info 3 | Sub Index             |
| <b>Error Removal</b>                              |         |        |                       |

## 2699 System diagnostics

- System error

|   |                       |    |  |
|---|-----------------------|----|--|
| <b>Device</b>                                     |                       |    |  |
| <b>Description</b>                                |                       |    |  |
| <b>Class</b>                                      |                       |    |  |
| <b>Drive Behaviour</b>                            | Controlled braking    |    |  |
| <b>Device Behaviour</b>                           | System run-up aborted |    |  |
| <b>Additional Error Information (AMK Service)</b> |                       |    |  |
|   | Info 1                | 4  | RAM-check error  |
|   |                       | 10 | Watchdog or time level error                                   |
|   |                       | 12 | User stack error   |
|   |                       | 13 | System stack overflow  |
|   |                       | 14 | System stack underflow   |
|   |                       | 15 | Controller error   |
|   |                       | 20 | Fast function overflow   |
|   |                       | 30 | Initialization - Software error                                |
|   |                       | 31 | Initialization - error while data read                         |
|   |                       | 32 | Initialization - too much FCT instances                        |
|   |                       | 33 | Initialization - no FCT instance                               |
|   |                       | 34 | Initialization - error while data write "ID30 Softwareversion" |
|   |                       | 35 | Initialization - invalid bus use "ID34143 Usage port"          |
|   |                       | 36 | Error while clock initialization                               |
|   |                       | 37 | FCT initialization – invalid CPLD version (2 FCT)              |
|   |                       | 38 | FCT initialization – writing error Routing "ID32944 SYADR"     |
|   |                       | 39 | FCT initialization – more than one synchronization source      |
| <b>Error Removal</b>                              |                       |    |  |

## 4.16 No. 2720 ... 2739 EtherCAT

### 2721 System diagnostics

|  |  |    |  |
|--|--|----|--|
| <ul style="list-style-type: none"> <li>Slave defective or no longer on the bus</li> <li>Cable defective</li> <li>Slave leaves the “operational” status (resulting error in case of cable break)</li> </ul> |  |    |  |
| <b>Device</b>  | AS-PL15<br>AS-Cxx-1<br>A5  |    |  |
| <b>Description</b>   |  |    |  |
| <b>Class</b>   | Error  |    |  |
| <b>Drive Behaviour</b>   |  |    |  |
| <b>Device Behaviour</b>  | Controller: Switch back to status SAFE-OPERATIONAL   |    |  |
| <b>Additional Error Information (AMK Service)</b>  |  |    |  |
|  | Info 1   | 1  | Broadcast AL status not received   |
|  |  | 2  | Broadcast working counter error  |
|  |  | 3  | Slave offline<br>Info 4 Slave address  |
|  |  | 4  | Slave offline<br>Info 4 Slave address  |
|  |  | 5  | Slave not in “Operational” status<br>Info 2 Status<br>Info 4 Slave address   |
|  |  | 10 | No Ethernet link available   |
|  |  | 20 | DL status change<br>Info 2 Current status<br>Info 4 Previous status          |
|  |  | 30 | EtherCAT input (AMK devices X86) and EtherCAT output (AMK devices X85) mixed |
| <b>Error Removal</b>   | <ul style="list-style-type: none"> <li>Check slave with the address from “Info 4”</li> <li>Replace slave</li> <li>Info 1 = 10: Exchange Ethernet cable</li> <li>Info 1 = 30: Check EtherCAT cabling</li> </ul> |    |  |

### 2722 System diagnostics

|  |   |    |  |
|--|---|----|--|
| <ul style="list-style-type: none"> <li>Cable breakage</li> <li>Error exchanging real-time data</li> <li>Synchronisation error</li> </ul> |   |    |  |
| <b>Device</b>  | AS-PL15<br>AS-Cxx-1<br>A5   |    |  |
| <b>Description</b>   |   |    |  |
| <b>Class</b>   | Error   |    |  |
| <b>Drive Behaviour</b>   |   |    |  |
| <b>Device Behaviour</b>  | Controller: Switch back to status SAFE-OPERATIONAL  |    |  |
| <b>Additional Error Information (AMK Service)</b>  |   |    |  |
|  | Info 1  | 1  | Real-time telegram not received                                    |
|  |   | 2  | Real-time telegram working counter error<br>Info 2 Working counter |
|  |   | 10 | Error in synchronisation with host                                 |
| <b>Error Removal</b>   | <ul style="list-style-type: none"> <li>Check Ethernet cable and replace if necessary</li> </ul> |    |  |

## 2723 System Diagnostics

|   |        |     |                         |
|---|--------|-----|-------------------------|
| <ul style="list-style-type: none"> <li>Configuration too large</li> </ul> |        |     |                         |
| <b>Device</b>   | A5     |     |                         |
| <b>Description</b>  |        |     |                         |
| <b>Class</b>  | Error  |     |                         |
| <b>Drive Behaviour</b>  |        |     |                         |
| <b>Device Behaviour</b>   |        |     |                         |
| <b>Additional Error Information (AMK Service)</b>                         |        |     |                         |
|   | Info 1 | 520 | Runtime error           |
|   |        | 550 | Configuration too large |
| <b>Error Removal</b>  |        |     |                         |

## 2724 System diagnostics

|   |  |    |   |
|---|--|----|---|
| <ul style="list-style-type: none"> <li>Error during the initialisation fir the EtherCAT option</li> <li>Device for the operation of the optional component AS-FEC1 not released.<br/>The option card cannot be installed subsequently.</li> <li>Configuration faulty</li> </ul> |  |    |   |
| <b>Device</b>   | AS-PL15<br>AS-Cxx-1<br>A5  |    |   |
| <b>Description</b>  |  |    |   |
| <b>Class</b>  |  |    |   |
| <b>Drive Behaviour</b>  |  |    |   |
| <b>Device Behaviour</b>   | System run-up aborted<br>Controller: EtherCAT does not boot  |    |   |
| <b>Additional Error Information (AMK Service)</b>   |  |    |   |
|   | Info 1   | 1  | EtherCAT not parameterised in any instance of "ID34140 AS BUS protocol"                                     |
|   |  | 2  | Error while reading the bus parameters  |
|   |  | 3  | Registration at the router faulty   |
|   |  | 4  | Setting up the cyclic functions faulty  |
|   |  | 5  | Driver interface not initialised properly   |
|   |  | 6  | Device not released for the operation of the optional component AS-FEC1 (dongle code)                       |
|   |  | 7  | Option not configured as master   |
|   |  | 8  | Option ACC active (Instance 1 or 5) EtherCAT and ACC-BUS can not be active both                             |
|   |  | 10 | Access error to cyclic driver interface (The version of the EC driver is not compatible to the AMK library) |
|   |  | 11 | Initialisation error  |
|   |  | 21 | Invalid task  |
|   |  | 22 | Error during bus restart  |
| <b>Error Removal</b>  | <ul style="list-style-type: none"> <li>Check configuration</li> <li>Order controller with the AS-FEC1 option from AMK</li> </ul> |    |   |



## 2725 System diagnostics

|   |   |   |  |
|---|---|---|--|
| <b>Device</b>                                     | AS-PL15<br>AS-Cxx-1<br>A5                     |   |  |
| <b>Description</b>                                |   |   |  |
| <b>Class</b>                                      |   |   |  |
| <b>Drive Behaviour</b>                            |   |   |  |
| <b>Device Behaviour</b>                           | Controller: Depends on additional information |   |  |
| <b>Additional Error Information (AMK Service)</b> |   |   |  |
|   | Info 1  | 0 | EtherCAT booting process cancelled.<br>This error is a subsequent error to the errors 2726 or 2727 |
| <b>Error Removal</b>                              |   |   |  |

## 2726 System diagnostics

|  |   |   |  |        |                              |  |  |   |                                    |  |   |                                   |  |  |                               |  |   |   |  |  |                        |  |  |                               |
|--|---|---|--|--------|------------------------------|--|--|---|------------------------------------|--|---|-----------------------------------|--|--|-------------------------------|--|---|---|--|--|------------------------|--|--|-------------------------------|
| <ul style="list-style-type: none"> <li>Error in the EtherCAT master booting process</li> </ul> |   |   |  |        |                              |  |  |   |                                    |  |   |                                   |  |  |                               |  |   |   |  |  |                        |  |  |                               |
| <b>Device</b>  | AS-PL15<br>AS-Cxx-1<br>A5                                   |   |  |        |                              |  |  |   |                                    |  |   |                                   |  |  |                               |  |   |   |  |  |                        |  |  |                               |
| <b>Description</b>   |   |   |  |        |                              |  |  |   |                                    |  |   |                                   |  |  |                               |  |   |   |  |  |                        |  |  |                               |
| <b>Class</b>   |   |   |  |        |                              |  |  |   |                                    |  |   |                                   |  |  |                               |  |   |   |  |  |                        |  |  |                               |
| <b>Drive Behaviour</b>   |   |   |  |        |                              |  |  |   |                                    |  |   |                                   |  |  |                               |  |   |   |  |  |                        |  |  |                               |
| <b>Device Behaviour</b>  | System run-up aborted<br>Controller: EtherCAT does not boot |   |  |        |                              |  |  |   |                                    |  |   |                                   |  |  |                               |  |   |   |  |  |                        |  |  |                               |
| <b>Additional Error Information (AMK Service)</b>  |   |   |  |        |                              |  |  |   |                                    |  |   |                                   |  |  |                               |  |   |   |  |  |                        |  |  |                               |
|  | Info 1  | 1   | Error while starting the master driver<br><table border="1"> <tr> <td>Info 2</td> <td>1, 2, 3</td> <td>Internal Error (AMK Service)</td> </tr> <tr> <td></td> <td>5</td> <td>No connection to slaves</td> </tr> </table>   | Info 2 | 1, 2, 3                      | Internal Error (AMK Service)                       |  | 5 | No connection to slaves            |  |   |                                   |  |  |                               |  |   |   |  |  |                        |  |  |                               |
| Info 2   | 1, 2, 3   | Internal Error (AMK Service)  |  |        |                              |  |  |   |                                    |  |   |                                   |  |  |                               |  |   |   |  |  |                        |  |  |                               |
|  | 5   | No connection to slaves   |  |        |                              |  |  |   |                                    |  |   |                                   |  |  |                               |  |   |   |  |  |                        |  |  |                               |
|  |   | 2   | Error during the stop of the master driver<br><table border="1"> <tr> <td>Info 2</td> <td>1</td> <td>No configured slave was not found</td> </tr> <tr> <td></td> <td></td> <td>Info 4 Slave network position</td> </tr> <tr> <td></td> <td>2</td> <td>More slaves found than configured</td> </tr> <tr> <td></td> <td></td> <td>Info 4 Slave network position</td> </tr> <tr> <td></td> <td>3</td> <td>Slave has wrong revision</td> </tr> <tr> <td></td> <td></td> <td>Info 3 Actual revision</td> </tr> <tr> <td></td> <td></td> <td>Info 4 Slave network position</td> </tr> </table>         | Info 2 | 1                            | No configured slave was not found                  |  |   | Info 4 Slave network position      |  | 2 | More slaves found than configured |  |  | Info 4 Slave network position |  | 3 | Slave has wrong revision  |  |  | Info 3 Actual revision |  |  | Info 4 Slave network position |
| Info 2   | 1   | No configured slave was not found   |  |        |                              |  |  |   |                                    |  |   |                                   |  |  |                               |  |   |   |  |  |                        |  |  |                               |
|  |   | Info 4 Slave network position   |  |        |                              |  |  |   |                                    |  |   |                                   |  |  |                               |  |   |   |  |  |                        |  |  |                               |
|  | 2   | More slaves found than configured   |  |        |                              |  |  |   |                                    |  |   |                                   |  |  |                               |  |   |   |  |  |                        |  |  |                               |
|  |   | Info 4 Slave network position   |  |        |                              |  |  |   |                                    |  |   |                                   |  |  |                               |  |   |   |  |  |                        |  |  |                               |
|  | 3   | Slave has wrong revision  |  |        |                              |  |  |   |                                    |  |   |                                   |  |  |                               |  |   |   |  |  |                        |  |  |                               |
|  |   | Info 3 Actual revision  |  |        |                              |  |  |   |                                    |  |   |                                   |  |  |                               |  |   |   |  |  |                        |  |  |                               |
|  |   | Info 4 Slave network position   |  |        |                              |  |  |   |                                    |  |   |                                   |  |  |                               |  |   |   |  |  |                        |  |  |                               |
|  |   | 3   | Error while activating the master function (subsequent error of 2731 process slave configuration)<br><table border="1"> <tr> <td>Info 2</td> <td>Internal Error (AMK Service)</td> </tr> </table>  | Info 2 | Internal Error (AMK Service) |  |  |   |                                    |  |   |                                   |  |  |                               |  |   |   |  |  |                        |  |  |                               |
| Info 2   | Internal Error (AMK Service)                                |   |  |        |                              |  |  |   |                                    |  |   |                                   |  |  |                               |  |   |   |  |  |                        |  |  |                               |
|  |   | 4   | Error reading the slave information<br><table border="1"> <tr> <td>Info 2</td> <td>Internal Error (AMK Service)</td> </tr> </table>  | Info 2 | Internal Error (AMK Service) |  |  |   |                                    |  |   |                                   |  |  |                               |  |   |   |  |  |                        |  |  |                               |
| Info 2   | Internal Error (AMK Service)                                |   |  |        |                              |  |  |   |                                    |  |   |                                   |  |  |                               |  |   |   |  |  |                        |  |  |                               |
|  |   | 5   | Error writing the slave addresses<br><table border="1"> <tr> <td>Info 2</td> <td>1</td> <td>Access error to the bus configuration</td> </tr> <tr> <td></td> <td>2</td> <td>Data length of the ID is not valid</td> </tr> <tr> <td></td> <td></td> <td>Info 3 ID</td> </tr> <tr> <td></td> <td></td> <td>Info 4 Slave address</td> </tr> <tr> <td></td> <td>3</td> <td>Write error at dictionary entries, seriation of the slaves wrong for this configuration</td> </tr> <tr> <td></td> <td></td> <td>Info 3 ID</td> </tr> <tr> <td></td> <td></td> <td>Info 4 Slave address</td> </tr> </table> | Info 2 | 1                            | Access error to the bus configuration              |  | 2 | Data length of the ID is not valid |  |   | Info 3 ID                         |  |  | Info 4 Slave address          |  | 3 | Write error at dictionary entries, seriation of the slaves wrong for this configuration |  |  | Info 3 ID              |  |  | Info 4 Slave address          |
| Info 2   | 1   | Access error to the bus configuration   |  |        |                              |  |  |   |                                    |  |   |                                   |  |  |                               |  |   |   |  |  |                        |  |  |                               |
|  | 2   | Data length of the ID is not valid  |  |        |                              |  |  |   |                                    |  |   |                                   |  |  |                               |  |   |   |  |  |                        |  |  |                               |
|  |   | Info 3 ID   |  |        |                              |  |  |   |                                    |  |   |                                   |  |  |                               |  |   |   |  |  |                        |  |  |                               |
|  |   | Info 4 Slave address  |  |        |                              |  |  |   |                                    |  |   |                                   |  |  |                               |  |   |   |  |  |                        |  |  |                               |
|  | 3   | Write error at dictionary entries, seriation of the slaves wrong for this configuration |  |        |                              |  |  |   |                                    |  |   |                                   |  |  |                               |  |   |   |  |  |                        |  |  |                               |
|  |   | Info 3 ID   |  |        |                              |  |  |   |                                    |  |   |                                   |  |  |                               |  |   |   |  |  |                        |  |  |                               |
|  |   | Info 4 Slave address  |  |        |                              |  |  |   |                                    |  |   |                                   |  |  |                               |  |   |   |  |  |                        |  |  |                               |
|  |   | 6   | Error writing the PDO configuration<br><table border="1"> <tr> <td>Info 2</td> <td>2</td> <td>"Category" information not in EEPROM of the slaves</td> </tr> <tr> <td></td> <td></td> <td>Info 4 Slave address</td> </tr> </table>  | Info 2 | 2                            | "Category" information not in EEPROM of the slaves |  |   | Info 4 Slave address               |  |   |                                   |  |  |                               |  |   |   |  |  |                        |  |  |                               |
| Info 2   | 2   | "Category" information not in EEPROM of the slaves                                      |  |        |                              |  |  |   |                                    |  |   |                                   |  |  |                               |  |   |   |  |  |                        |  |  |                               |
|  |   | Info 4 Slave address  |  |        |                              |  |  |   |                                    |  |   |                                   |  |  |                               |  |   |   |  |  |                        |  |  |                               |
|  |   | 7   | Error during registering the PDOs<br><table border="1"> <tr> <td>Info 2</td> <td>Internal Error (AMK Service)</td> </tr> </table>  | Info 2 | Internal Error (AMK Service) |  |  |   |                                    |  |   |                                   |  |  |                               |  |   |   |  |  |                        |  |  |                               |
| Info 2   | Internal Error (AMK Service)                                |   |  |        |                              |  |  |   |                                    |  |   |                                   |  |  |                               |  |   |   |  |  |                        |  |  |                               |
|  |   | 8   | Error during writing the RT data   |        |                              |  |  |   |                                    |  |   |                                   |  |  |                               |  |   |   |  |  |                        |  |  |                               |
|  |   | 9   | Error during reading the RT data   |        |                              |  |  |   |                                    |  |   |                                   |  |  |                               |  |   |   |  |  |                        |  |  |                               |
|  |   | 10  | Error during writing the DC configuration  |        |                              |  |  |   |                                    |  |   |                                   |  |  |                               |  |   |   |  |  |                        |  |  |                               |
|  |   | 11  | Error DC configuration, Subsequent error of error 2730 datagram error  |        |                              |  |  |   |                                    |  |   |                                   |  |  |                               |  |   |   |  |  |                        |  |  |                               |
|  |   | 12  | Error during switchover AL status, Subsequent error of error 2731 process slave configuration  |        |                              |  |  |   |                                    |  |   |                                   |  |  |                               |  |   |   |  |  |                        |  |  |                               |

|                      |   |  |  |        |               |                              |               |   |                                     |  |   |                            |  |   |                                   |  |   |  |  |   |                    |  |   |                               |  |   |                         |
|----------------------|---|--|--|--------|---------------|------------------------------|---------------|---|-------------------------------------|--|---|----------------------------|--|---|-----------------------------------|--|---|--|--|---|--------------------|--|---|-------------------------------|--|---|-------------------------|
|                      |   | 14                                     | Write error during PDO mapping   |        |               |                              |               |   |                                     |  |   |                            |  |   |                                   |  |   |  |  |   |                    |  |   |                               |  |   |                         |
|                      |   |  | <table border="1"> <tr> <td>Info 2</td> <td>1</td> <td>Slave not available</td> </tr> <tr> <td></td> <td>2</td> <td>Slave does not support COE protocol</td> </tr> <tr> <td></td> <td>3</td> <td>Slave does not support PDO</td> </tr> <tr> <td></td> <td>4</td> <td>direction of the PDO is not valid</td> </tr> <tr> <td></td> <td>5</td> <td>error during start of the sync-manager</td> </tr> <tr> <td></td> <td>6</td> <td>PDO already mapped</td> </tr> <tr> <td></td> <td>7</td> <td>error during creating the PDO</td> </tr> <tr> <td></td> <td>8</td> <td>PDO could not be copied</td> </tr> </table> | Info 2 | 1             | Slave not available          |               | 2 | Slave does not support COE protocol |  | 3 | Slave does not support PDO |  | 4 | direction of the PDO is not valid |  | 5 | error during start of the sync-manager |  | 6 | PDO already mapped |  | 7 | error during creating the PDO |  | 8 | PDO could not be copied |
| Info 2               | 1   | Slave not available                    |  |        |               |                              |               |   |                                     |  |   |                            |  |   |                                   |  |   |  |  |   |                    |  |   |                               |  |   |                         |
|                      | 2   | Slave does not support COE protocol    |  |        |               |                              |               |   |                                     |  |   |                            |  |   |                                   |  |   |  |  |   |                    |  |   |                               |  |   |                         |
|                      | 3   | Slave does not support PDO             |  |        |               |                              |               |   |                                     |  |   |                            |  |   |                                   |  |   |  |  |   |                    |  |   |                               |  |   |                         |
|                      | 4   | direction of the PDO is not valid      |  |        |               |                              |               |   |                                     |  |   |                            |  |   |                                   |  |   |  |  |   |                    |  |   |                               |  |   |                         |
|                      | 5   | error during start of the sync-manager |  |        |               |                              |               |   |                                     |  |   |                            |  |   |                                   |  |   |  |  |   |                    |  |   |                               |  |   |                         |
|                      | 6   | PDO already mapped                     |  |        |               |                              |               |   |                                     |  |   |                            |  |   |                                   |  |   |  |  |   |                    |  |   |                               |  |   |                         |
|                      | 7   | error during creating the PDO          |  |        |               |                              |               |   |                                     |  |   |                            |  |   |                                   |  |   |  |  |   |                    |  |   |                               |  |   |                         |
|                      | 8   | PDO could not be copied                |  |        |               |                              |               |   |                                     |  |   |                            |  |   |                                   |  |   |  |  |   |                    |  |   |                               |  |   |                         |
|                      |   | 15                                     | Command driver reset failed  |        |               |                              |               |   |                                     |  |   |                            |  |   |                                   |  |   |  |  |   |                    |  |   |                               |  |   |                         |
|                      |   | 16                                     | Error while reading PDO mapping  |        |               |                              |               |   |                                     |  |   |                            |  |   |                                   |  |   |  |  |   |                    |  |   |                               |  |   |                         |
|                      |   | 17                                     | Error while reading slave names  |        |               |                              |               |   |                                     |  |   |                            |  |   |                                   |  |   |  |  |   |                    |  |   |                               |  |   |                         |
|                      |   | 20                                     | Driver command timeout   |        |               |                              |               |   |                                     |  |   |                            |  |   |                                   |  |   |  |  |   |                    |  |   |                               |  |   |                         |
|                      |   | 40, 41, 45                             | Error during bus start   |        |               |                              |               |   |                                     |  |   |                            |  |   |                                   |  |   |  |  |   |                    |  |   |                               |  |   |                         |
|                      |   | 42 - 44                                | Error while accessing slave parameter  |        |               |                              |               |   |                                     |  |   |                            |  |   |                                   |  |   |  |  |   |                    |  |   |                               |  |   |                         |
|                      |   |  | <table border="1"> <tr> <td>Info 2</td> <td>ID-no / index</td> </tr> <tr> <td>Info 4</td> <td>Slave address</td> </tr> </table>  | Info 2 | ID-no / index | Info 4                       | Slave address |   |                                     |  |   |                            |  |   |                                   |  |   |  |  |   |                    |  |   |                               |  |   |                         |
| Info 2               | ID-no / index   |  |  |        |               |                              |               |   |                                     |  |   |                            |  |   |                                   |  |   |  |  |   |                    |  |   |                               |  |   |                         |
| Info 4               | Slave address   |  |  |        |               |                              |               |   |                                     |  |   |                            |  |   |                                   |  |   |  |  |   |                    |  |   |                               |  |   |                         |
|                      |   | 46                                     | Error configuring cyclical data. Additional nodes are found See ID34026 instance 5 bit 5 = 1   |        |               |                              |               |   |                                     |  |   |                            |  |   |                                   |  |   |  |  |   |                    |  |   |                               |  |   |                         |
|                      |   |  | <table border="1"> <tr> <td>Info 2</td> <td>1, 2, 3</td> <td>Internal Error (AMK Service)</td> </tr> </table>  | Info 2 | 1, 2, 3       | Internal Error (AMK Service) |               |   |                                     |  |   |                            |  |   |                                   |  |   |  |  |   |                    |  |   |                               |  |   |                         |
| Info 2               | 1, 2, 3   | Internal Error (AMK Service)           |  |        |               |                              |               |   |                                     |  |   |                            |  |   |                                   |  |   |  |  |   |                    |  |   |                               |  |   |                         |
|                      |   | 50                                     | Return message while writing slave parameters  |        |               |                              |               |   |                                     |  |   |                            |  |   |                                   |  |   |  |  |   |                    |  |   |                               |  |   |                         |
|                      |   | 51                                     | Return message error while reading slave parameters  |        |               |                              |               |   |                                     |  |   |                            |  |   |                                   |  |   |  |  |   |                    |  |   |                               |  |   |                         |
|                      |   | 203, 205, 206, 208, 209                | Internal errors (AMK Service)  |        |               |                              |               |   |                                     |  |   |                            |  |   |                                   |  |   |  |  |   |                    |  |   |                               |  |   |                         |
| <b>Error Removal</b> | <ul style="list-style-type: none"> <li>• No EtherCAT master option card available</li> <li>• No bus connection, no link</li> <li>• Check optional component AS-FEC1</li> <li>• Check Ethernet cable and replace if necessary</li> </ul> |  |  |        |               |                              |               |   |                                     |  |   |                            |  |   |                                   |  |   |  |  |   |                    |  |   |                               |  |   |                         |

## 2727 System diagnostics

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>• Error EtherCAT configuration</li> </ul> |   |
| <b>Device</b>  | AS-PL15<br>AS-Cxx-1<br>A5   |
| <b>Description</b>   |   |
| <b>Class</b>   | Error   |
| <b>Drive Behaviour</b>   |   |
| <b>Device Behaviour</b>  | System run-up aborted<br>Controller: EtherCAT booting process cancelled |

| Additional Error Information (AMK Service) |                                    |   |  |                                    |        |  |        |                                    |  |                        |    |        |   |        |                        |   |        |   |        |                  |        |                        |  |   |   |        |                |  |   |  |                                     |
|--|------------------------------------|---|--|------------------------------------|--------|--|--------|------------------------------------|--|------------------------|----|--------|---|--------|------------------------|---|--------|---|--------|------------------|--------|------------------------|--|---|---|--------|----------------|--|---|--|-------------------------------------|
|  | Info 1                             | 1   | Too much cyclic data   |                                    |        |  |        |                                    |  |                        |    |        |   |        |                        |   |        |   |        |                  |        |                        |  |   |   |        |                |  |   |  |                                     |
|  |                                    | 2   | The configured slaves are different from the existing slaves <table border="1"> <tr> <td>Info 2</td> <td>1</td> <td>A configured slave was not found               <table border="1"> <tr> <td>Info 3</td> <td>Slave with fixed address not found</td> </tr> <tr> <td>Info 4</td> <td>Slave network position</td> </tr> </table> </td> </tr> <tr> <td></td> <td>2</td> <td>More slave exist as configured               <table border="1"> <tr> <td>Info 4</td> <td>Slave network position</td> </tr> </table> </td> </tr> <tr> <td></td> <td>3</td> <td>Slave has wrong revision               <table border="1"> <tr> <td>Info 3</td> <td>Current revision</td> </tr> <tr> <td>Info 4</td> <td>Slave network position</td> </tr> </table> </td> </tr> <tr> <td></td> <td>4</td> <td>Not configured slave               <table border="1"> <tr> <td>Info 4</td> <td>Slave position</td> </tr> </table> </td> </tr> <tr> <td></td> <td>5</td> <td>Slave found without "category information" in EEPROM</td> </tr> </table> | Info 2                             | 1      | A configured slave was not found <table border="1"> <tr> <td>Info 3</td> <td>Slave with fixed address not found</td> </tr> <tr> <td>Info 4</td> <td>Slave network position</td> </tr> </table> | Info 3 | Slave with fixed address not found | Info 4   | Slave network position |    | 2      | More slave exist as configured <table border="1"> <tr> <td>Info 4</td> <td>Slave network position</td> </tr> </table> | Info 4 | Slave network position |   | 3      | Slave has wrong revision <table border="1"> <tr> <td>Info 3</td> <td>Current revision</td> </tr> <tr> <td>Info 4</td> <td>Slave network position</td> </tr> </table>                      | Info 3 | Current revision | Info 4 | Slave network position |  | 4 | Not configured slave <table border="1"> <tr> <td>Info 4</td> <td>Slave position</td> </tr> </table> | Info 4 | Slave position |  | 5 | Slave found without "category information" in EEPROM |                                     |
| Info 2                                     | 1                                  | A configured slave was not found <table border="1"> <tr> <td>Info 3</td> <td>Slave with fixed address not found</td> </tr> <tr> <td>Info 4</td> <td>Slave network position</td> </tr> </table>  | Info 3   | Slave with fixed address not found | Info 4 | Slave network position   |        |                                    |  |                        |    |        |   |        |                        |   |        |   |        |                  |        |                        |  |   |   |        |                |  |   |  |                                     |
| Info 3                                     | Slave with fixed address not found |   |  |                                    |        |  |        |                                    |  |                        |    |        |   |        |                        |   |        |   |        |                  |        |                        |  |   |   |        |                |  |   |  |                                     |
| Info 4                                     | Slave network position             |   |  |                                    |        |  |        |                                    |  |                        |    |        |   |        |                        |   |        |   |        |                  |        |                        |  |   |   |        |                |  |   |  |                                     |
|  | 2                                  | More slave exist as configured <table border="1"> <tr> <td>Info 4</td> <td>Slave network position</td> </tr> </table>   | Info 4   | Slave network position             |        |  |        |                                    |  |                        |    |        |   |        |                        |   |        |   |        |                  |        |                        |  |   |   |        |                |  |   |  |                                     |
| Info 4                                     | Slave network position             |   |  |                                    |        |  |        |                                    |  |                        |    |        |   |        |                        |   |        |   |        |                  |        |                        |  |   |   |        |                |  |   |  |                                     |
|  | 3                                  | Slave has wrong revision <table border="1"> <tr> <td>Info 3</td> <td>Current revision</td> </tr> <tr> <td>Info 4</td> <td>Slave network position</td> </tr> </table>  | Info 3   | Current revision                   | Info 4 | Slave network position   |        |                                    |  |                        |    |        |   |        |                        |   |        |   |        |                  |        |                        |  |   |   |        |                |  |   |  |                                     |
| Info 3                                     | Current revision                   |   |  |                                    |        |  |        |                                    |  |                        |    |        |   |        |                        |   |        |   |        |                  |        |                        |  |   |   |        |                |  |   |  |                                     |
| Info 4                                     | Slave network position             |   |  |                                    |        |  |        |                                    |  |                        |    |        |   |        |                        |   |        |   |        |                  |        |                        |  |   |   |        |                |  |   |  |                                     |
|  | 4                                  | Not configured slave <table border="1"> <tr> <td>Info 4</td> <td>Slave position</td> </tr> </table>   | Info 4   | Slave position                     |        |  |        |                                    |  |                        |    |        |   |        |                        |   |        |   |        |                  |        |                        |  |   |   |        |                |  |   |  |                                     |
| Info 4                                     | Slave position                     |   |  |                                    |        |  |        |                                    |  |                        |    |        |   |        |                        |   |        |   |        |                  |        |                        |  |   |   |        |                |  |   |  |                                     |
|  | 5                                  | Slave found without "category information" in EEPROM  |  |                                    |        |  |        |                                    |  |                        |    |        |   |        |                        |   |        |   |        |                  |        |                        |  |   |   |        |                |  |   |  |                                     |
|  | Info 1                             | 2   | <table border="1"> <tr> <td></td> <td>6</td> <td>Device address already exists (twice assigned)               <table border="1"> <tr> <td>Info 3</td> <td>Slave address</td> </tr> <tr> <td>Info 4</td> <td>Position 2nd slave</td> </tr> </table> </td> </tr> <tr> <td></td> <td>7</td> <td>Slave with "vendor id" equal zero               <table border="1"> <tr> <td>Info 4</td> <td>Slave position</td> </tr> </table> </td> </tr> <tr> <td></td> <td>8</td> <td>Slave found with fixed address, but not in configuration               <table border="1"> <tr> <td>Info 3</td> <td>Fixed address</td> </tr> <tr> <td>Info 4</td> <td>Slave position</td> </tr> </table> </td> </tr> <tr> <td></td> <td>9</td> <td>Link present but no slaves found, e.g., connected to switch or KW-R05 with VARAN interface</td> </tr> <tr> <td></td> <td>10</td> <td>Error in composition of real time telegram</td> </tr> <tr> <td></td> <td>11</td> <td>Configuration file XML format error</td> </tr> </table>                  |                                    | 6      | Device address already exists (twice assigned) <table border="1"> <tr> <td>Info 3</td> <td>Slave address</td> </tr> <tr> <td>Info 4</td> <td>Position 2nd slave</td> </tr> </table>            | Info 3 | Slave address                      | Info 4   | Position 2nd slave     |    | 7      | Slave with "vendor id" equal zero <table border="1"> <tr> <td>Info 4</td> <td>Slave position</td> </tr> </table>      | Info 4 | Slave position         |   | 8      | Slave found with fixed address, but not in configuration <table border="1"> <tr> <td>Info 3</td> <td>Fixed address</td> </tr> <tr> <td>Info 4</td> <td>Slave position</td> </tr> </table> | Info 3 | Fixed address    | Info 4 | Slave position         |  | 9 | Link present but no slaves found, e.g., connected to switch or KW-R05 with VARAN interface          |        | 10             | Error in composition of real time telegram |   | 11   | Configuration file XML format error |
|  | 6                                  | Device address already exists (twice assigned) <table border="1"> <tr> <td>Info 3</td> <td>Slave address</td> </tr> <tr> <td>Info 4</td> <td>Position 2nd slave</td> </tr> </table>   | Info 3   | Slave address                      | Info 4 | Position 2nd slave   |        |                                    |  |                        |    |        |   |        |                        |   |        |   |        |                  |        |                        |  |   |   |        |                |  |   |  |                                     |
| Info 3                                     | Slave address                      |   |  |                                    |        |  |        |                                    |  |                        |    |        |   |        |                        |   |        |   |        |                  |        |                        |  |   |   |        |                |  |   |  |                                     |
| Info 4                                     | Position 2nd slave                 |   |  |                                    |        |  |        |                                    |  |                        |    |        |   |        |                        |   |        |   |        |                  |        |                        |  |   |   |        |                |  |   |  |                                     |
|  | 7                                  | Slave with "vendor id" equal zero <table border="1"> <tr> <td>Info 4</td> <td>Slave position</td> </tr> </table>  | Info 4   | Slave position                     |        |  |        |                                    |  |                        |    |        |   |        |                        |   |        |   |        |                  |        |                        |  |   |   |        |                |  |   |  |                                     |
| Info 4                                     | Slave position                     |   |  |                                    |        |  |        |                                    |  |                        |    |        |   |        |                        |   |        |   |        |                  |        |                        |  |   |   |        |                |  |   |  |                                     |
|  | 8                                  | Slave found with fixed address, but not in configuration <table border="1"> <tr> <td>Info 3</td> <td>Fixed address</td> </tr> <tr> <td>Info 4</td> <td>Slave position</td> </tr> </table>   | Info 3   | Fixed address                      | Info 4 | Slave position   |        |                                    |  |                        |    |        |   |        |                        |   |        |   |        |                  |        |                        |  |   |   |        |                |  |   |  |                                     |
| Info 3                                     | Fixed address                      |   |  |                                    |        |  |        |                                    |  |                        |    |        |   |        |                        |   |        |   |        |                  |        |                        |  |   |   |        |                |  |   |  |                                     |
| Info 4                                     | Slave position                     |   |  |                                    |        |  |        |                                    |  |                        |    |        |   |        |                        |   |        |   |        |                  |        |                        |  |   |   |        |                |  |   |  |                                     |
|  | 9                                  | Link present but no slaves found, e.g., connected to switch or KW-R05 with VARAN interface  |  |                                    |        |  |        |                                    |  |                        |    |        |   |        |                        |   |        |   |        |                  |        |                        |  |   |   |        |                |  |   |  |                                     |
|  | 10                                 | Error in composition of real time telegram  |  |                                    |        |  |        |                                    |  |                        |    |        |   |        |                        |   |        |   |        |                  |        |                        |  |   |   |        |                |  |   |  |                                     |
|  | 11                                 | Configuration file XML format error   |  |                                    |        |  |        |                                    |  |                        |    |        |   |        |                        |   |        |   |        |                  |        |                        |  |   |   |        |                |  |   |  |                                     |
|  |                                    | 3   | Access to the account list ("ID34142 Node list") failed  |                                    |        |  |        |                                    |  |                        |    |        |   |        |                        |   |        |   |        |                  |        |                        |  |   |   |        |                |  |   |  |                                     |
|  |                                    | 4   | Initialisation SoE failed  |                                    |        |  |        |                                    |  |                        |    |        |   |        |                        |   |        |   |        |                  |        |                        |  |   |   |        |                |  |   |  |                                     |
|  |                                    | 5   | Error during writing the initial dictionary entries (e.g. "ID 2 SERCOS cycle time") <table border="1"> <tr> <td>Info 2</td> <td>1</td> <td>Error during access to the bus configuration</td> </tr> <tr> <td></td> <td>2</td> <td>Invalid data length of an ID               <table border="1"> <tr> <td>Info 3</td> <td>ID</td> </tr> <tr> <td>Info 4</td> <td>Slave address</td> </tr> </table> </td> </tr> <tr> <td></td> <td>3</td> <td>Error during writing the dictionary entries, order of the slaves in configuration is invalid<br/>Subsequent error of 2728 or 2729               <table border="1"> <tr> <td>Info 3</td> <td>ID</td> </tr> <tr> <td>Info 4</td> <td>Slave address</td> </tr> </table> </td> </tr> </table>   | Info 2                             | 1      | Error during access to the bus configuration   |        | 2                                  | Invalid data length of an ID <table border="1"> <tr> <td>Info 3</td> <td>ID</td> </tr> <tr> <td>Info 4</td> <td>Slave address</td> </tr> </table>  | Info 3                 | ID | Info 4 | Slave address   |        | 3                      | Error during writing the dictionary entries, order of the slaves in configuration is invalid<br>Subsequent error of 2728 or 2729 <table border="1"> <tr> <td>Info 3</td> <td>ID</td> </tr> <tr> <td>Info 4</td> <td>Slave address</td> </tr> </table> | Info 3 | ID  | Info 4 | Slave address    |        |                        |  |   |   |        |                |  |   |  |                                     |
| Info 2                                     | 1                                  | Error during access to the bus configuration  |  |                                    |        |  |        |                                    |  |                        |    |        |   |        |                        |   |        |   |        |                  |        |                        |  |   |   |        |                |  |   |  |                                     |
|  | 2                                  | Invalid data length of an ID <table border="1"> <tr> <td>Info 3</td> <td>ID</td> </tr> <tr> <td>Info 4</td> <td>Slave address</td> </tr> </table>   | Info 3   | ID                                 | Info 4 | Slave address  |        |                                    |  |                        |    |        |   |        |                        |   |        |   |        |                  |        |                        |  |   |   |        |                |  |   |  |                                     |
| Info 3                                     | ID                                 |   |  |                                    |        |  |        |                                    |  |                        |    |        |   |        |                        |   |        |   |        |                  |        |                        |  |   |   |        |                |  |   |  |                                     |
| Info 4                                     | Slave address                      |   |  |                                    |        |  |        |                                    |  |                        |    |        |   |        |                        |   |        |   |        |                  |        |                        |  |   |   |        |                |  |   |  |                                     |
|  | 3                                  | Error during writing the dictionary entries, order of the slaves in configuration is invalid<br>Subsequent error of 2728 or 2729 <table border="1"> <tr> <td>Info 3</td> <td>ID</td> </tr> <tr> <td>Info 4</td> <td>Slave address</td> </tr> </table> | Info 3   | ID                                 | Info 4 | Slave address  |        |                                    |  |                        |    |        |   |        |                        |   |        |   |        |                  |        |                        |  |   |   |        |                |  |   |  |                                     |
| Info 3                                     | ID                                 |   |  |                                    |        |  |        |                                    |  |                        |    |        |   |        |                        |   |        |   |        |                  |        |                        |  |   |   |        |                |  |   |  |                                     |
| Info 4                                     | Slave address                      |   |  |                                    |        |  |        |                                    |  |                        |    |        |   |        |                        |   |        |   |        |                  |        |                        |  |   |   |        |                |  |   |  |                                     |
|  |                                    | 6   | Error during writing the PDO dictionary entries <table border="1"> <tr> <td>Info 2</td> <td>1</td> <td>Error during access to the bus configuration</td> </tr> <tr> <td></td> <td>3</td> <td>Error during writing the dictionary entries<br/>Subsequent error of 2728 or 2729               <table border="1"> <tr> <td>Info 3</td> <td>ID</td> </tr> <tr> <td>Info 4</td> <td>Slave address</td> </tr> </table> </td> </tr> </table>  | Info 2                             | 1      | Error during access to the bus configuration   |        | 3                                  | Error during writing the dictionary entries<br>Subsequent error of 2728 or 2729 <table border="1"> <tr> <td>Info 3</td> <td>ID</td> </tr> <tr> <td>Info 4</td> <td>Slave address</td> </tr> </table> | Info 3                 | ID | Info 4 | Slave address   |        |                        |   |        |   |        |                  |        |                        |  |   |   |        |                |  |   |  |                                     |
| Info 2                                     | 1                                  | Error during access to the bus configuration  |  |                                    |        |  |        |                                    |  |                        |    |        |   |        |                        |   |        |   |        |                  |        |                        |  |   |   |        |                |  |   |  |                                     |
|  | 3                                  | Error during writing the dictionary entries<br>Subsequent error of 2728 or 2729 <table border="1"> <tr> <td>Info 3</td> <td>ID</td> </tr> <tr> <td>Info 4</td> <td>Slave address</td> </tr> </table>  | Info 3   | ID                                 | Info 4 | Slave address  |        |                                    |  |                        |    |        |   |        |                        |   |        |   |        |                  |        |                        |  |   |   |        |                |  |   |  |                                     |
| Info 3                                     | ID                                 |   |  |                                    |        |  |        |                                    |  |                        |    |        |   |        |                        |   |        |   |        |                  |        |                        |  |   |   |        |                |  |   |  |                                     |
| Info 4                                     | Slave address                      |   |  |                                    |        |  |        |                                    |  |                        |    |        |   |        |                        |   |        |   |        |                  |        |                        |  |   |   |        |                |  |   |  |                                     |
|  |                                    | 7   | Timeout master synchronisation   |                                    |        |  |        |                                    |  |                        |    |        |   |        |                        |   |        |   |        |                  |        |                        |  |   |   |        |                |  |   |  |                                     |

|                             |  |   |        |   |  |        |          |   |  |      |   |        |                              |   |        |         |  |        |         |                                    |        |       |                               |        |         |  |  |   |                                       |        |          |  |
|-----------------------------|--|---|--------|---|--|--------|----------|---|--|------|---|--------|------------------------------|---|--------|---------|--|--------|---------|------------------------------------|--------|-------|-------------------------------|--------|---------|--|--|---|---------------------------------------|--------|----------|--|
|                             | 8  | <p>Error in PDO configuration</p> <table border="1"> <tr> <td>Info 2</td> <td>1</td> <td>AT is empty, has to contain at least the "ID135 Drive status word"</td> </tr> <tr> <td></td> <td>2</td> <td>ID135 is not the first entry in the AT</td> </tr> <tr> <td></td> <td>3</td> <td>MDT is empty, has to contain at least the "ID134 Master control word"</td> </tr> <tr> <td></td> <td>4</td> <td>ID134 is not the first entry in the MDT</td> </tr> <tr> <td></td> <td>5</td> <td>Data size of the PLC variable is not equal to the mapped value</td> </tr> </table>  | Info 2 | 1 | AT is empty, has to contain at least the "ID135 Drive status word" |        | 2        | ID135 is not the first entry in the AT          |  | 3    | MDT is empty, has to contain at least the "ID134 Master control word" |        | 4                            | ID134 is not the first entry in the MDT |        | 5       | Data size of the PLC variable is not equal to the mapped value |        |         |                                    |        |       |                               |        |         |  |  |   |                                       |        |          |  |
| Info 2                      | 1  | AT is empty, has to contain at least the "ID135 Drive status word"  |        |   |  |        |          |   |  |      |   |        |                              |   |        |         |  |        |         |                                    |        |       |                               |        |         |  |  |   |                                       |        |          |  |
|                             | 2  | ID135 is not the first entry in the AT  |        |   |  |        |          |   |  |      |   |        |                              |   |        |         |  |        |         |                                    |        |       |                               |        |         |  |  |   |                                       |        |          |  |
|                             | 3  | MDT is empty, has to contain at least the "ID134 Master control word"   |        |   |  |        |          |   |  |      |   |        |                              |   |        |         |  |        |         |                                    |        |       |                               |        |         |  |  |   |                                       |        |          |  |
|                             | 4  | ID134 is not the first entry in the MDT   |        |   |  |        |          |   |  |      |   |        |                              |   |        |         |  |        |         |                                    |        |       |                               |        |         |  |  |   |                                       |        |          |  |
|                             | 5  | Data size of the PLC variable is not equal to the mapped value  |        |   |  |        |          |   |  |      |   |        |                              |   |        |         |  |        |         |                                    |        |       |                               |        |         |  |  |   |                                       |        |          |  |
|                             | 9  | <p>Error during access to the bus configuration<br/>"ID1204 XML-File", "ID1205 XML-File"</p> <table border="1"> <tr> <td>Info 2</td> <td>1</td> <td>Error during access to XML file</td> </tr> <tr> <td></td> <td>2</td> <td>Error during access to the bus configuration ID</td> </tr> <tr> <td></td> <td>4</td> <td>XML format error</td> </tr> <tr> <td>Info 3</td> <td colspan="2">Internal Error (AMK Service)</td> </tr> </table>   | Info 2 | 1 | Error during access to XML file                                    |        | 2        | Error during access to the bus configuration ID |  | 4    | XML format error  | Info 3 | Internal Error (AMK Service) |   |        |         |  |        |         |                                    |        |       |                               |        |         |  |  |   |                                       |        |          |  |
| Info 2                      | 1  | Error during access to XML file   |        |   |  |        |          |   |  |      |   |        |                              |   |        |         |  |        |         |                                    |        |       |                               |        |         |  |  |   |                                       |        |          |  |
|                             | 2  | Error during access to the bus configuration ID   |        |   |  |        |          |   |  |      |   |        |                              |   |        |         |  |        |         |                                    |        |       |                               |        |         |  |  |   |                                       |        |          |  |
|                             | 4  | XML format error  |        |   |  |        |          |   |  |      |   |        |                              |   |        |         |  |        |         |                                    |        |       |                               |        |         |  |  |   |                                       |        |          |  |
| Info 3                      | Internal Error (AMK Service)   |   |        |   |  |        |          |   |  |      |   |        |                              |   |        |         |  |        |         |                                    |        |       |                               |        |         |  |  |   |                                       |        |          |  |
|                             | 10   | <p>Addresses in configuration faulty</p> <table border="1"> <tr> <td>Info 2</td> <td>1</td> <td>Network position not found</td> </tr> <tr> <td>Info 3</td> <td colspan="2">Position</td> </tr> <tr> <td></td> <td>2</td> <td>Network position exists multiple times</td> </tr> <tr> <td>Info 3</td> <td colspan="2">Position</td> </tr> <tr> <td></td> <td>3</td> <td>Address invalid, &gt; 225</td> </tr> <tr> <td>Info 3</td> <td colspan="2">Address</td> </tr> <tr> <td></td> <td>4</td> <td>Address issued multiple times</td> </tr> <tr> <td>Info 3</td> <td colspan="2">Address</td> </tr> <tr> <td></td> <td>5</td> <td>Optional device without fixed address</td> </tr> <tr> <td>Info 3</td> <td colspan="2">Position</td> </tr> </table> | Info 2 | 1 | Network position not found   | Info 3 | Position |   |  | 2    | Network position exists multiple times                                | Info 3 | Position                     |   |        | 3       | Address invalid, > 225   | Info 3 | Address |                                    |        | 4     | Address issued multiple times | Info 3 | Address |  |  | 5 | Optional device without fixed address | Info 3 | Position |  |
| Info 2                      | 1  | Network position not found  |        |   |  |        |          |   |  |      |   |        |                              |   |        |         |  |        |         |                                    |        |       |                               |        |         |  |  |   |                                       |        |          |  |
| Info 3                      | Position   |   |        |   |  |        |          |   |  |      |   |        |                              |   |        |         |  |        |         |                                    |        |       |                               |        |         |  |  |   |                                       |        |          |  |
|                             | 2  | Network position exists multiple times  |        |   |  |        |          |   |  |      |   |        |                              |   |        |         |  |        |         |                                    |        |       |                               |        |         |  |  |   |                                       |        |          |  |
| Info 3                      | Position   |   |        |   |  |        |          |   |  |      |   |        |                              |   |        |         |  |        |         |                                    |        |       |                               |        |         |  |  |   |                                       |        |          |  |
|                             | 3  | Address invalid, > 225  |        |   |  |        |          |   |  |      |   |        |                              |   |        |         |  |        |         |                                    |        |       |                               |        |         |  |  |   |                                       |        |          |  |
| Info 3                      | Address  |   |        |   |  |        |          |   |  |      |   |        |                              |   |        |         |  |        |         |                                    |        |       |                               |        |         |  |  |   |                                       |        |          |  |
|                             | 4  | Address issued multiple times   |        |   |  |        |          |   |  |      |   |        |                              |   |        |         |  |        |         |                                    |        |       |                               |        |         |  |  |   |                                       |        |          |  |
| Info 3                      | Address  |   |        |   |  |        |          |   |  |      |   |        |                              |   |        |         |  |        |         |                                    |        |       |                               |        |         |  |  |   |                                       |        |          |  |
|                             | 5  | Optional device without fixed address   |        |   |  |        |          |   |  |      |   |        |                              |   |        |         |  |        |         |                                    |        |       |                               |        |         |  |  |   |                                       |        |          |  |
| Info 3                      | Position   |   |        |   |  |        |          |   |  |      |   |        |                              |   |        |         |  |        |         |                                    |        |       |                               |        |         |  |  |   |                                       |        |          |  |
|                             | 11   | <p>PDO structure in configuration with error</p> <table border="1"> <tr> <td>Info 2</td> <td>1</td> <td>Address does not exist</td> </tr> <tr> <td>Info 4</td> <td colspan="2">Address</td> </tr> <tr> <td></td> <td>2</td> <td>Number of entries incorrect</td> </tr> <tr> <td>Info 4</td> <td colspan="2">Address</td> </tr> <tr> <td></td> <td>3</td> <td>Structure detail incorrect</td> </tr> <tr> <td>Info 4</td> <td colspan="2">Address</td> </tr> </table>   | Info 2 | 1 | Address does not exist   | Info 4 | Address  |   |  | 2    | Number of entries incorrect   | Info 4 | Address                      |   |        | 3       | Structure detail incorrect                                     | Info 4 | Address |                                    |        |       |                               |        |         |  |  |   |                                       |        |          |  |
| Info 2                      | 1  | Address does not exist  |        |   |  |        |          |   |  |      |   |        |                              |   |        |         |  |        |         |                                    |        |       |                               |        |         |  |  |   |                                       |        |          |  |
| Info 4                      | Address  |   |        |   |  |        |          |   |  |      |   |        |                              |   |        |         |  |        |         |                                    |        |       |                               |        |         |  |  |   |                                       |        |          |  |
|                             | 2  | Number of entries incorrect   |        |   |  |        |          |   |  |      |   |        |                              |   |        |         |  |        |         |                                    |        |       |                               |        |         |  |  |   |                                       |        |          |  |
| Info 4                      | Address  |   |        |   |  |        |          |   |  |      |   |        |                              |   |        |         |  |        |         |                                    |        |       |                               |        |         |  |  |   |                                       |        |          |  |
|                             | 3  | Structure detail incorrect  |        |   |  |        |          |   |  |      |   |        |                              |   |        |         |  |        |         |                                    |        |       |                               |        |         |  |  |   |                                       |        |          |  |
| Info 4                      | Address  |   |        |   |  |        |          |   |  |      |   |        |                              |   |        |         |  |        |         |                                    |        |       |                               |        |         |  |  |   |                                       |        |          |  |
|                             | 12   | <p>Error PDO context</p> <table border="1"> <tr> <td>Info 2</td> <td>1</td> <td>Internal error</td> </tr> <tr> <td></td> <td>2</td> <td>XML format error</td> </tr> <tr> <td></td> <td>3, 4</td> <td>Configuration faulty</td> </tr> <tr> <td>Info 3</td> <td colspan="2">Index</td> </tr> <tr> <td>Info 4</td> <td colspan="2">Address</td> </tr> <tr> <td></td> <td>5</td> <td>Chosen PDO selection not supported</td> </tr> <tr> <td>Info 3</td> <td colspan="2">Index</td> </tr> <tr> <td>Info 4</td> <td colspan="2">Address</td> </tr> </table>   | Info 2 | 1 | Internal error   |        | 2        | XML format error                                |  | 3, 4 | Configuration faulty  | Info 3 | Index                        |   | Info 4 | Address |  |        | 5       | Chosen PDO selection not supported | Info 3 | Index |                               | Info 4 | Address |  |  |   |                                       |        |          |  |
| Info 2                      | 1  | Internal error  |        |   |  |        |          |   |  |      |   |        |                              |   |        |         |  |        |         |                                    |        |       |                               |        |         |  |  |   |                                       |        |          |  |
|                             | 2  | XML format error  |        |   |  |        |          |   |  |      |   |        |                              |   |        |         |  |        |         |                                    |        |       |                               |        |         |  |  |   |                                       |        |          |  |
|                             | 3, 4   | Configuration faulty  |        |   |  |        |          |   |  |      |   |        |                              |   |        |         |  |        |         |                                    |        |       |                               |        |         |  |  |   |                                       |        |          |  |
| Info 3                      | Index  |   |        |   |  |        |          |   |  |      |   |        |                              |   |        |         |  |        |         |                                    |        |       |                               |        |         |  |  |   |                                       |        |          |  |
| Info 4                      | Address  |   |        |   |  |        |          |   |  |      |   |        |                              |   |        |         |  |        |         |                                    |        |       |                               |        |         |  |  |   |                                       |        |          |  |
|                             | 5  | Chosen PDO selection not supported  |        |   |  |        |          |   |  |      |   |        |                              |   |        |         |  |        |         |                                    |        |       |                               |        |         |  |  |   |                                       |        |          |  |
| Info 3                      | Index  |   |        |   |  |        |          |   |  |      |   |        |                              |   |        |         |  |        |         |                                    |        |       |                               |        |         |  |  |   |                                       |        |          |  |
| Info 4                      | Address  |   |        |   |  |        |          |   |  |      |   |        |                              |   |        |         |  |        |         |                                    |        |       |                               |        |         |  |  |   |                                       |        |          |  |
| <p><b>Error Removal</b></p> | <ul style="list-style-type: none"> <li>• Check EtherCAT configuration</li> <li>• Check slave (Info 4)</li> <li>• Check fixed addresses in address assignment</li> <li>• Check order of slaves (slaves without fixed addresses)</li> <li>• Info 1 = 7:<br/>Check cabling<br/>Correct the EtherCAT input (AMK devices X86) and output (AMK devices X85)</li> </ul> |   |        |   |  |        |          |   |  |      |   |        |                              |   |        |         |  |        |         |                                    |        |       |                               |        |         |  |  |   |                                       |        |          |  |

## 2728 System diagnostics

|  |  |                      |  |        |                     |                      |  |    |                      |
|--|--|----------------------|--|--------|---------------------|----------------------|--|----|----------------------|
| <ul style="list-style-type: none"> <li>Error EtherCAT protocol during ID access</li> </ul> |  |                      |  |        |                     |                      |  |    |                      |
| <b>Device</b>  | AS-PL15<br>AS-Cxx-1  |                      |  |        |                     |                      |  |    |                      |
| <b>Description</b>   |  |                      |  |        |                     |                      |  |    |                      |
| <b>Class</b>   | Error  |                      |  |        |                     |                      |  |    |                      |
| <b>Drive Behaviour</b>   |  |                      |  |        |                     |                      |  |    |                      |
| <b>Device Behaviour</b>  | Controller: ID access by service channel is cancelled  |                      |  |        |                     |                      |  |    |                      |
| <b>Additional Error Information (AMK Service)</b>  |  |                      |  |        |                     |                      |  |    |                      |
|  | Info 1   | 1                    | Service channel error  |        |                     |                      |  |    |                      |
|  |  | 3                    | Router reports error   |        |                     |                      |  |    |                      |
|  |  |                      | <table border="1"> <tr> <td>Info 2</td> <td>Return value router</td> </tr> </table>  | Info 2 | Return value router |                      |  |    |                      |
| Info 2   | Return value router  |                      |  |        |                     |                      |  |    |                      |
|  |  | 4                    | Attribute of the ID in the controller unknown (current ADB file necessary)   |        |                     |                      |  |    |                      |
|  |  | 5                    | Service channel not yet ready, e.g. boot process still active  |        |                     |                      |  |    |                      |
|  |  | 6                    | Slave not found  |        |                     |                      |  |    |                      |
|  |  | 7                    | Slave not initialised  |        |                     |                      |  |    |                      |
|  |  | 8                    | Type of protocol not supported   |        |                     |                      |  |    |                      |
|  |  |                      | <table border="1"> <tr> <td>Info 2</td> <td>4</td> <td>COE is not supported</td> </tr> <tr> <td></td> <td>16</td> <td>SOE is not supported</td> </tr> </table> | Info 2 | 4                   | COE is not supported |  | 16 | SOE is not supported |
| Info 2   | 4  | COE is not supported |  |        |                     |                      |  |    |                      |
|  | 16   | SOE is not supported |  |        |                     |                      |  |    |                      |
|  |  | > 20                 | access error to driver   |        |                     |                      |  |    |                      |
| <b>Error Removal</b>   | <ul style="list-style-type: none"> <li>Check PLC program (application)</li> <li>Info 1 = 4:<br/>Install current ADB file</li> <li>Info 1 = 5:<br/>Before ID access, check bus status using FuiGetNetStatus function block</li> </ul> |                      |  |        |                     |                      |  |    |                      |

## 2729 System diagnostics

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>Error EtherCAT service channel / mailbox</li> </ul> |   |
| <b>Device</b>  | AS-PL15<br>AS-Cxx-1<br>A5                             |
| <b>Description</b>   |   |
| <b>Class</b>   | Error   |
| <b>Drive Behaviour</b>   |   |
| <b>Device Behaviour</b>  | Controller: ID access by service channel is cancelled |

| Additional Error Information (AMK Service) |        |           |  |
|--|--------|-----------|--|
|  | Info 1 | 1         | Slave does not support the service channel<br>Info 4      Slave address                              |
|  |        | 2         | Data length too long for the mailbox<br>Info 2      Length<br>Info 4      Slave address              |
|  |        | 3         | Faulty service channel feedback<br>Info 4      Slave address   |
|  |        | 4         | Mailbox datagram not received<br>Info 4      Slave address   |
|  |        | 5         | Mailbox datagram working counter error<br>Info 4      Slave address                                  |
|  |        | 6         | Timeout receiving mailbox<br>Info 4      Slave address   |
|  |        | 7, 8      | Service channel invalid answer<br>Info 2      ID<br>Info 4      Slave address                        |
|  |        | 9         | Transmission mailbox occupied<br>Info 4      Slave address   |
|  |        | 10        | Timeout transmission mailbox<br>Info 4      Slave address  |
|  |        | 11 - 18   | SoE Service channel invalid answer<br>Info 2      ID<br>Info 4      Slave address                    |
|  |        | 20        | Error send mailbox   |
|  |        | 21        | Mailbox error message<br>Info 2      Error<br>Info 4      Slave address                              |
|  |        | 22        | Internal error   |
|  |        | 23        | Mailbox error, too many requests   |
|  |        | 24        | Unknown protocol type received   |
|  |        | 40 - 44   | COE service channel error<br>Info 2      Index<br>Info 3      Sub index<br>Info 4      Slave address |
|  |        | 45        | COE emergency<br>Info 2      Error code<br>Info 3      Error register<br>Info 4      Slave address   |
|  |        | 46, 47    | COE service channel error<br>Info 2      Index<br>Info 3      Sub index<br>Info 4      Slave address |
|  |        | 102       | Incorrect task   |
|  |        | 103       | Mailbox protocol initialisation  |
|  |        | 105, 106  | Incorrect address  |
|  |        | 107 - 109 | Incorrect protocol type  |
|  |        | 111 - 150 | Mailbox error  |
|  |        | 200 - 399 | Internal Error   |



|                      |   |
|----------------------|---|
| <b>Error Removal</b> | <ul style="list-style-type: none"> <li>• Check PLC program</li> <li>• Check slave with address from "I4"</li> <li>• Info 1 = 4 while booting:<br/>Check whether ACPI enable has been configured in BIOS Power Management</li> </ul> |
|----------------------|---|

### 2730 System diagnostics

|  |  |      |   |        |                      |        |                |        |               |
|--|--|------|---|--------|----------------------|--------|----------------|--------|---------------|
| <ul style="list-style-type: none"> <li>• Error EtherCAT datagram sending procedure, communication error</li> </ul> |  |      |   |        |                      |        |                |        |               |
| <b>Device</b>  | AS-PL15<br>AS-Cxx-1<br>A5  |      |   |        |                      |        |                |        |               |
| <b>Description</b>   |  |      |   |        |                      |        |                |        |               |
| <b>Class</b>   | Error  |      |   |        |                      |        |                |        |               |
| <b>Drive Behaviour</b>   |  |      |   |        |                      |        |                |        |               |
| <b>Device Behaviour</b>  | Controller: Further behaviour depends on the subsequent error  |      |   |        |                      |        |                |        |               |
| <b>Additional Error Information (AMK Service)</b>  |  |      |   |        |                      |        |                |        |               |
|  | Info 1   | 1    | Datagram memory error<br><table border="1" style="width: 100%;"> <tr> <td>Info 2</td> <td>Size</td> </tr> </table>  | Info 2 | Size                 |        |                |        |               |
| Info 2   | Size   |      |   |        |                      |        |                |        |               |
|  |  | 2    | Datagram not received<br><table border="1" style="width: 100%;"> <tr> <td>Info 2</td> <td>Offset <sup>1)</sup></td> </tr> <tr> <td>Info 4</td> <td>Slave address</td> </tr> </table>  | Info 2 | Offset <sup>1)</sup> | Info 4 | Slave address  |        |               |
| Info 2   | Offset <sup>1)</sup>   |      |   |        |                      |        |                |        |               |
| Info 4   | Slave address  |      |   |        |                      |        |                |        |               |
|  |  | 3    | Datagram working counter (WKC) error<br><table border="1" style="width: 100%;"> <tr> <td>Info 2</td> <td>Offset <sup>1)</sup></td> </tr> <tr> <td>Info 3</td> <td>WKC</td> </tr> <tr> <td>Info 4</td> <td>Slave address</td> </tr> </table> | Info 2 | Offset <sup>1)</sup> | Info 3 | WKC            | Info 4 | Slave address |
| Info 2   | Offset <sup>1)</sup>   |      |   |        |                      |        |                |        |               |
| Info 3   | WKC  |      |   |        |                      |        |                |        |               |
| Info 4   | Slave address  |      |   |        |                      |        |                |        |               |
|  |  | 4    | Datagram timeout send<br><table border="1" style="width: 100%;"> <tr> <td>Info 2</td> <td>Offset <sup>1)</sup></td> </tr> <tr> <td>Info 4</td> <td>Slave position</td> </tr> </table>   | Info 2 | Offset <sup>1)</sup> | Info 4 | Slave position |        |               |
| Info 2   | Offset <sup>1)</sup>   |      |   |        |                      |        |                |        |               |
| Info 4   | Slave position   |      |   |        |                      |        |                |        |               |
|  |  | 5, 6 | Datagram error<br><table border="1" style="width: 100%;"> <tr> <td>Info 2</td> <td>Offset <sup>1)</sup></td> </tr> <tr> <td>Info 4</td> <td>Slave address</td> </tr> </table>   | Info 2 | Offset <sup>1)</sup> | Info 4 | Slave address  |        |               |
| Info 2   | Offset <sup>1)</sup>   |      |   |        |                      |        |                |        |               |
| Info 4   | Slave address  |      |   |        |                      |        |                |        |               |
|  |  | 7    | Frame timeout error   |        |                      |        |                |        |               |
| <sup>1)</sup> Offset: Address in the EtherCAT slave controller   |  |      |   |        |                      |        |                |        |               |
| <b>Error Removal</b>   | <ul style="list-style-type: none"> <li>• Communication error</li> <li>• Address in the EtherCAT slave controller not accessible or not existing</li> </ul> |      |   |        |                      |        |                |        |               |

## 2731 System diagnostics

|   |   |    |   |        |   |        |               |
|---|---|----|---|--------|---|--------|---------------|
| <ul style="list-style-type: none"> <li>Error EtherCAT sequence slave configuration</li> </ul> |   |    |   |        |   |        |               |
| <b>Device</b>   | AS-PL15<br>AS-Cxx-1<br>A5   |    |   |        |   |        |               |
| <b>Description</b>  |   |    |   |        |   |        |               |
| <b>Class</b>  |   |    |   |        |   |        |               |
| <b>Drive Behaviour</b>  |   |    |   |        |   |        |               |
| <b>Device Behaviour</b>   | System run-up aborted<br>Controller: EtherCAT does not boot   |    |   |        |   |        |               |
| <b>Additional Error Information (AMK Service)</b>   |   |    |   |        |   |        |               |
|   | Info 1  | 1  | Error during AL status change   |        |   |        |               |
|   |   |    | <table border="1"> <tr> <td>Info 2</td> <td>AL status code (Internal error (AMK service))</td> </tr> <tr> <td>Info 4</td> <td>Slave address</td> </tr> </table> | Info 2 | AL status code (Internal error (AMK service)) | Info 4 | Slave address |
| Info 2  | AL status code (Internal error (AMK service))   |    |   |        |   |        |               |
| Info 4  | Slave address   |    |   |        |   |        |               |
|   |   | 2  | Timeout AL status change  |        |   |        |               |
|   |   |    | <table border="1"> <tr> <td>Info 4</td> <td>Slave address</td> </tr> </table>   | Info 4 | Slave address                                 |        |               |
| Info 4  | Slave address   |    |   |        |   |        |               |
|   |   | 3  | Status error could not be deleted   |        |   |        |               |
|   |   |    | <table border="1"> <tr> <td>Info 2</td> <td>AL status (Internal error (AMK service))</td> </tr> <tr> <td>Info 4</td> <td>Slave address</td> </tr> </table>      | Info 2 | AL status (Internal error (AMK service))      | Info 4 | Slave address |
| Info 2  | AL status (Internal error (AMK service))  |    |   |        |   |        |               |
| Info 4  | Slave address   |    |   |        |   |        |               |
|   |   | 4  | Error during the slave configuration (frequent subsequent error of 2730)  |        |   |        |               |
|   |   |    | <table border="1"> <tr> <td>Info 4</td> <td>Slave address</td> </tr> </table>   | Info 4 | Slave address                                 |        |               |
| Info 4  | Slave address   |    |   |        |   |        |               |
|   |   | 5  | Error during the configuration of the slave address   |        |   |        |               |
|   |   |    | <table border="1"> <tr> <td>Info 4</td> <td>Slave address</td> </tr> </table>   | Info 4 | Slave address                                 |        |               |
| Info 4  | Slave address   |    |   |        |   |        |               |
|   |   | 6  | Error in the configuration DL access  |        |   |        |               |
|   |   |    | <table border="1"> <tr> <td>Info 4</td> <td>Slave address</td> </tr> </table>   | Info 4 | Slave address                                 |        |               |
| Info 4  | Slave address   |    |   |        |   |        |               |
|   |   | 7  | Incorrect module address  |        |   |        |               |
|   |   | 8  | Constant status change in slave   |        |   |        |               |
|   |   |    | <table border="1"> <tr> <td>Info 4</td> <td>Slave address</td> </tr> </table>   | Info 4 | Slave address                                 |        |               |
| Info 4  | Slave address   |    |   |        |   |        |               |
|   |   | 10 | Invalid status requested at status change   |        |   |        |               |
|   |   | 11 | Error at status request   |        |   |        |               |
| <b>Error Removal</b>  | <ul style="list-style-type: none"> <li>Configuration error in a slave (see error in a slave)</li> <li>"ID32786 Message 32" in the AT configured as data type "INT". Needs to be changed to "DINT".</li> </ul> |    |   |        |   |        |               |

## 2732 System diagnostics

|   |   |    |   |        |         |
|---|---|----|---|--------|---------|
| <b>Device</b>                                     | AS-PL15<br>AS-Cxx-1   |    |   |        |         |
| <b>Description</b>                                |   |    |   |        |         |
| <b>Class</b>                                      | Error   |    |   |        |         |
| <b>Drive Behaviour</b>                            |   |    |   |        |         |
| <b>Device Behaviour</b>                           |   |    |   |        |         |
| <b>Additional Error Information (AMK Service)</b> |   |    |   |        |         |
|   | Info 1  | 18 | Error while writing permanent address to EEPROM                         |        |         |
|   |   |    | <table border="1"> <tr> <td>Info 4</td> <td>Address</td> </tr> </table> | Info 4 | Address |
| Info 4  | Address   |    |   |        |         |
| <b>Error Removal</b>                              | <ul style="list-style-type: none"> <li>No slave exists at this address</li> <li>The slave with this address is offline.</li> <li>Error while writing</li> </ul> |    |   |        |         |

## 4.17 No. 2740 ... 2749 Modbus

### 2741 Modbus configuration

|   |  |   |  |
|---|--|---|--|
| <ul style="list-style-type: none"> <li>Error during the configuration of the MODBUS parameters</li> </ul> |  |   |  |
| Device  | IDT  |   |  |
| Description   |  |   |  |
| Class   |  |   |  |
| Drive Behaviour   |  |   |  |
| Device Behaviour  | System run-up aborted  |   |  |
| <b>Additional Error Information (AMK Service)</b>   |  |   |  |
|   | Info 1   | 1 | Slave number in "ID34023 BUS address participant" is incorrect |
|   |  | 2 | Baud rate in "ID34028 BUS output rate" is wrong                |
|   |  | 3 | Protocol type in "ID34025 BUS mode" is unknown                 |
|   |  | 4 | Number of data bits in "ID34025 BUS mode" is incorrect         |
| Error Removal   | <ul style="list-style-type: none"> <li>Inspection / correction of the ID described in the additional info</li> </ul> |   |  |

### 2742 MODBUS communication

|   |  |   |                       |
|---|--|---|-----------------------|
| <ul style="list-style-type: none"> <li>Error with the MODBUS Communication</li> </ul> |  |   |                       |
| Device  | IDT  |   |                       |
| Description   |  |   |                       |
| Class   |  |   |                       |
| Drive Behaviour   | Drive runs down  |   |                       |
| Device Behaviour  |  |   |                       |
| <b>Additional Error Information (AMK Service)</b>                                     |  |   |                       |
|   | Info 1   | 6 | Parity error          |
|   |  | 7 | Framing error         |
|   |  | 8 | Overrun error         |
|   |  | 9 | Receiving buffer full |
| Error Removal   | <ul style="list-style-type: none"> <li>Check the correct setting of the communication parameters</li> <li>Replacing the MODBUS cables</li> <li>Change the connecting plug</li> </ul> |   |                       |

### 2743 MODBUS protocol

|  |   |    |   |
|--|---|----|---|
| <ul style="list-style-type: none"> <li>Error in the MODBUS protocol</li> </ul> |   |    |   |
| Device   | IDT   |    |   |
| Description  |   |    |   |
| Class  | Warning   |    |   |
| Drive Behaviour  |   |    |   |
| Device Behaviour   |   |    |   |
| <b>Additional Error Information (AMK Service)</b>                              |   |    |   |
|  | Info 1  | 5  | CRC Check   |
|  |   | 7  | Wrong data length during the function "Read n words"  |
|  |   | 8  | Wrong data length during the function "Write n words" |
|  |   | 9  | Wrong data length during the function "Read n bits"   |
|  |   | 10 | Wrong data length during the function "Write 1 bit"   |
|  |   | 11 | Wrong address during the function "Read n words"      |
|  |   | 12 | Wrong address during the function "Write n words"     |
|  |   | 13 | Wrong address during the function "Read n bits"       |
|  |   | 14 | Wrong address during the function "Write n bits"      |
|  |   | 15 | Unknown function code                                 |
| Error Removal  | <ul style="list-style-type: none"> <li>Check the settings of the MODBUS master</li> </ul> |    |   |

## 2744 MODBUS command

|   |   |   |  |
|---|---|---|--|
| <ul style="list-style-type: none"> <li>Error in the MODBUS command</li> </ul> |   |   |  |
| <b>Device</b>   | IDT   |   |  |
| <b>Description</b>  |   |   |  |
| <b>Class</b>  |   |   |  |
| <b>Drive Behaviour</b>  | Drive runs down   |   |  |
| <b>Device Behaviour</b>   |   |   |  |
| <b>Additional Error Information (AMK Service)</b>                             |   |   |  |
|   | Info 1  | 1 | Unknown application mode               |
|   |   | 3 | Error detected in the control function |
|   |   | 4 | Error detected in the status function  |
| <b>Error Removal</b>  | <ul style="list-style-type: none"> <li>Check the specifications of the MODBUS master</li> </ul> |   |  |

## 4.18 No. 2816 ... 2819 AZ/Kx Option PS

### 2816 PS option

|   |   |  |  |
|---|---|--|--|
| <ul style="list-style-type: none"> <li>Refer to the separate description of the corresponding option card for the analyzed error</li> </ul> |   |  |  |
| <b>Device</b>   | Option PS   |  |  |
| <b>Description</b>  |   |  |  |
| <b>Class</b>  | Warning   |  |  |
| <b>Drive Behaviour</b>  |   |  |  |
| <b>Device Behaviour</b>   |   |  |  |
| <b>Additional Error Information (AMK Service)</b>   |   |  |  |
|   |   |  |  |
| <b>Error Removal</b>  | <ul style="list-style-type: none"> <li>Check PS user program</li> </ul> |  |  |

## 4.19 No. 3071 ... 3079 AZ Option SERCOS

### 3072 Error option SERCOS

|  |         |    |  |
|--|---------|----|--|
| <ul style="list-style-type: none"> <li>Refer to separate option card manual for error description</li> </ul> |         |    |  |
| <b>Device</b>  |         |    |  |
| <b>Description</b>   |         |    |  |
| <b>Class</b>   | Warning |    |  |
| <b>Drive Behaviour</b>   |         |    |  |
| <b>Device Behaviour</b>  |         |    |  |
| <b>Additional Error Information (AMK Service)</b>  |         |    |  |
|  | Info 1  | 1  | MST-failure in communication phase 3 or 4  |
|  |         | 2  | MDT-failure in communication phase 3 or 4  |
|  |         | 3  | Invalid communication phase  |
|  |         | 4  | Communication phase-incrementing (sequence)  |
|  |         | 5  | Communication phase-decrementing (not in phase 0)                                      |
|  |         | 6  | Communication phase-switching without ready message                                    |
|  |         | 9  | Memory error (allocated)   |
|  |         | 10 | Memory error (deallocated)   |
|  |         | 11 | No AZ-Handshake (AZR-failure?)   |
|  |         | 12 | AT/MDT configuration error<br>(evaluation in command "ID127 Transition check phase 3") |
|  |         | 21 | "ID 2 SERCOS Cycle time" is not 0.500  |
|  |         | 23 | "ID 2 SERCOS Cycle time" can not be divided by base time (ID 2 remanent)               |
|  |         | 24 | Main operating mode incorrectly  |
|  |         | 26 | Timeout in Interrupt: time level overflow  |
|  |         | 27 | Entry in ID 96 chained incorrectly   |
|  |         | 28 | Hardware failure AZ-SCx or 48 V-failure  |
| <b>Error Removal</b>   |         |    |  |

## 4.20 No. 3228 AZ Option NC

### 3228 NC option error

|   |         |  |  |
|---|---------|--|--|
| <ul style="list-style-type: none"> <li>Refer to the separate description of the corresponding option card for the analyzed error</li> </ul> |         |  |  |
| <b>Device</b>   |         |  |  |
| <b>Description</b>  |         |  |  |
| <b>Class</b>  | Warning |  |  |
| <b>Drive Behaviour</b>  |         |  |  |
| <b>Device Behaviour</b>   |         |  |  |
| <b>Additional Error Information (AMK Service)</b>   |         |  |  |
|   |         |  |  |
| <b>Error Removal</b>  |         |  |  |

## 4.21 No. 3584 ... 3603 Special Functions

### 3584 'System diagnostics: Special software message'

|  |   |  |  |  |
|--|---|--|--|--|
| <ul style="list-style-type: none"> <li>Fault overload protection connectbox (n)</li> </ul> |   |  |  |  |
| Device   | ZWR   |  |  |  |
| Description  | Overload protection tripped   |  |  |  |
| Class  | Error   |  |  |  |
| Device Behaviour   | Automatic error reset and switch back on  |  |  |  |
| <b>Additional Error Information (AMK Service)</b>  |   |  |  |  |
| <table border="1"> <tr> <td> </td> <td> </td> <td> </td> </tr> </table>                    |   |  |  |  |
|  |   |  |  |  |
| Error Removal  | <ul style="list-style-type: none"> <li>Replace overload protection -F100 in connectbox</li> </ul> |  |  |  |

### 3585 'System diagnostics: Special software message'

|  |                 |                         |                         |                                     |   |  |
|--|-----------------|-------------------------|-------------------------|-------------------------------------|---|--|
| <ul style="list-style-type: none"> <li>Error message Motor Controller</li> </ul> |                 |                         |                         |                                     |   |  |
| Device   | MCE             |                         |                         |                                     |   |  |
| Description  |                 |                         |                         |                                     |   |  |
| Class  | Error           |                         |                         |                                     |   |  |
| Drive behaviour  | Drive runs down |                         |                         |                                     |   |  |
| Device behaviour   |                 |                         |                         |                                     |   |  |
| <b>Additional information (Info AMK service)</b>                                 |                 |                         |                         |                                     |   |  |
| Info1  | 1               | Info2                   | 3                       | Info3                               | 1 | Upper voltage limit < lower voltage limit    |
|  |                 |                         |                         |                                     | 2 | P(motor) < 0                                 |
|  |                 |                         |                         |                                     | 3 | P(generator) < 0                             |
|  |                 |                         |                         |                                     | 4 | Sign error of torque limit from calculation  |
|  |                 |                         |                         |                                     | 5 | 0 V > Uz > 1000 V                            |
|  |                 |                         |                         |                                     | 6 | -300 kW > motor shaft power > 300 kW         |
|  |                 |                         |                         |                                     | 7 | Error in quadrant determination              |
|  |                 |                         |                         |                                     | 8 | Faulty settings of voltage limitation        |
|  |                 | 2                       | Faulty parameterisation |                                     |   |  |
|  |                 | Info2                   | 1                       | I <sup>2</sup> t de-rating settings |   |  |
|  | 3               | Error during operation  |                         |                                     |   |  |
|  |                 | Info2                   | 2                       | Info3                               | 2 | Invalid system status automat                |
|  |                 |                         |                         | Info3                               | 3 | Monitoring output values                     |
|  | 4               | Faulty parameterisation |                         |                                     |   |  |
|  |                 | Info2                   | 4                       | Info3                               | 1 | Number of pulses = 0                         |
|  | 5               | Error during operation  |                         |                                     |   |  |
|  |                 | Info2                   | 1                       | Error asynchronous data storage     |   |  |
|  | 7               | Info2                   | 1                       | Info3                               | 1 | ID32798-10: 'MCE operation mode' not defined |
|  |                 |                         |                         |                                     | 2 | ID32798-32: 'Direction forward' not defined  |
|  |                 |                         |                         |                                     | 3 | Plausibility accelerator                     |
|  |                 |                         |                         |                                     | 4 | Parameter accelerator                        |
|  | 9               | Error during operation  |                         |                                     |   |  |
|  |                 | Info2                   | 1                       | Toggle bit error                    |   |  |

|   |   |    |  |   |   |
|---|---|----|--|---|---|
|   |   | 10 | Error during system check of the inverter      |   |   |
|   |   |    | Info2  | 1 | Analogue 1                                      |
|   |   |    |  | 2 | Analogue 2                                      |
|   |   |    |  | 3 | BE1   |
|   |   |    |  | 4 | BE2   |
|   |   |    |  | 5 | BE3   |
|   |   |    |  | 6 | Speed difference                                |
|   |   |    |  | 7 | Pulse encoder input                             |
|   |   | 11 | Error on inactive switching off of terminal 15 |   |   |
|   |   |    | Info2  | 1 | No switching off after end of 'Switch-off time' |
| <b>Error removal</b>                              | <ul style="list-style-type: none"> <li>• Check parameterisation</li> <li>• Re-start device</li> <li>• Info1 = 11: Software used with MCE hardware:<br/>Internal hardware error; please contact AMK service</li> <li>• Software used with KW hardware:<br/>External hardware error; please check wiring</li> </ul> |    |  |   |   |
|   | <ul style="list-style-type: none"> <li>• Fault monitoring power supply</li> </ul>   |    |  |   |   |
| <b>Device</b>                                     | ZWR   |    |  |   |   |
| <b>Description</b>                                | NA protection device -A3 has tripped  |    |  |   |   |
| <b>Class</b>                                      | Error   |    |  |   |   |
| <b>Device Behaviour</b>                           | Automatic error reset and switch back on  |    |  |   |   |
| <b>Additional Error Information (AMK Service)</b> |   |    |  |   |   |
|   |   |    |  |   |   |
| <b>Error Removal</b>                              | <ul style="list-style-type: none"> <li>• Check mains conditions</li> <li>• Check configuration NA device -A3</li> </ul>   |    |  |   |   |

### 3586 'System diagnostics: Special software message'

|   |  |   |   |  |  |
|---|--|---|---|--|--|
|   | <ul style="list-style-type: none"> <li>• Error messages of CAN communication</li> </ul>  |   |   |  |  |
| <b>Device</b>                                     | MCE  |   |   |  |  |
| <b>Description</b>                                |  |   |   |  |  |
| <b>Class</b>                                      | Error  |   |   |  |  |
| <b>Drive behaviour</b>                            | Drive runs down  |   |   |  |  |
| <b>Device behaviour</b>                           |  |   |   |  |  |
| <b>Additional information (Info AMK service)</b>  |  |   |   |  |  |
|   | Info1  | 0 | Memory error  |  |  |
|   |  | 1 | Module command error                                |  |  |
|   |  | 2 | Invalid value in ID34028 'BUS output rate'          |  |  |
|   |  | 3 | Invalid value in ID34024 'BUS transmit rate'        |  |  |
|   |  | 4 | Error during access CAN                             |  |  |
|   |  | 5 | Error in message configuration (ID34036 'CCB-File') |  |  |
| <b>Error removal</b>                              | <ul style="list-style-type: none"> <li>• Check parameters</li> <li>• Re-start device</li> </ul>                                      |   |   |  |  |
|   | <ul style="list-style-type: none"> <li>• Fault BUS</li> </ul>  |   |   |  |  |
| <b>Device</b>                                     | ZWR  |   |   |  |  |
| <b>Description</b>                                | Fieldbus interruption  |   |   |  |  |
| <b>Class</b>                                      | Error  |   |   |  |  |
| <b>Device Behaviour</b>                           | Automatic error reset and switch back on   |   |   |  |  |
| <b>Additional Error Information (AMK Service)</b> |  |   |   |  |  |
|   |  |   |   |  |  |
| <b>Error Removal</b>                              | <ul style="list-style-type: none"> <li>• Check bus wiring</li> <li>• Check inverter -U1</li> <li>• Check control unit -A1</li> </ul> |   |   |  |  |



**3587 'System diagnostics: Special software message'**

|  |  |   |  |
|--|--|---|--|
| • Error during operation                         |  |   |  |
| <b>Device</b>                                    | MCE  |   |  |
| <b>Description</b>                               |  |   |  |
| <b>Class</b>                                     | Error  |   |  |
| <b>Drive behaviour</b>                           | Drive runs down  |   |  |
| <b>Device behaviour</b>                          |  |   |  |
| <b>Additional information (Info AMK service)</b> |  |   |  |
|  | Info1  | 0 | Failure of setpoint message                        |
|  |  | 1 | Checksum error                                     |
|  |  | 2 | Error in message counter                           |
|  |  | 3 | Implausible signals (during inverted transmission) |
|  |  | 4 | Unknown message received                           |
|  |  | 5 | Message with wrong length received                 |
|  |  | 6 | Error on transmission, possibly CAN not connected  |
| <b>Error removal</b>                             | <ul style="list-style-type: none"> <li>• Re-start device</li> <li>• AMK service</li> </ul> |   |  |

|   |   |  |  |
|---|---|--|--|
| • Temperature cabinet too high                    |   |  |  |
| <b>Device</b>                                     | ZWR   |  |  |
| <b>Description</b>                                | Overtemperature in cabinet  |  |  |
| <b>Class</b>                                      | Error   |  |  |
| <b>Device Behaviour</b>                           | Automatic error reset and switch back on  |  |  |
| <b>Additional Error Information (AMK Service)</b> |   |  |  |
|   |   |  |  |
| <b>Error Removal</b>                              | <ul style="list-style-type: none"> <li>• Check cooling / fan in cabinet</li> <li>• Check fuse -F11</li> <li>• Check thermostat -S1</li> </ul> |  |  |

**3588 'System diagnostics: Special software message'**

|   |  |  |  |
|---|--|--|--|
| • Frequency too low                               |  |  |  |
| <b>Device</b>                                     | ZWR  |  |  |
| <b>Description</b>                                | Mains frequency out of configured frequency range  |  |  |
| <b>Class</b>                                      | Error  |  |  |
| <b>Device Behaviour</b>                           | Automatic error reset and switch back on   |  |  |
| <b>Additional Error Information (AMK Service)</b> |  |  |  |
|   |  |  |  |
| <b>Error Removal</b>                              | <ul style="list-style-type: none"> <li>• Check mains frequency</li> <li>• Check configured values</li> </ul> |  |  |

**3589 'System diagnostics: Special software message'**

|   |  |  |  |
|---|--|--|--|
| • Frequency too high                              |  |  |  |
| <b>Device</b>                                     | ZWR  |  |  |
| <b>Description</b>                                | Mains frequency out of configured frequency range  |  |  |
| <b>Class</b>                                      | Error  |  |  |
| <b>Device Behaviour</b>                           | Automatic error reset and switch back on   |  |  |
| <b>Additional Error Information (AMK Service)</b> |  |  |  |
|   |  |  |  |
| <b>Error Removal</b>                              | <ul style="list-style-type: none"> <li>• Check mains frequency</li> <li>• Check configured values</li> </ul> |  |  |

**3590 'System diagnostics: Special software message'**

|   |  |
|---|--|
| • Voltage too low                                 |  |
| <b>Device</b>                                     | ZWR  |
| <b>Description</b>                                | Mains voltage out of configured voltage range  |
| <b>Class</b>                                      | Error  |
| <b>Device Behaviour</b>                           | Automatic error reset and switch back on   |
| <b>Additional Error Information (AMK Service)</b> |  |
|   |  |
| <b>Error Removal</b>                              | <ul style="list-style-type: none"> <li>• Check mains voltage</li> <li>• Check configured values</li> </ul> |

**3591 'System diagnostics: Special software message'**

|   |  |
|---|--|
| • Voltage too high                                |  |
| <b>Device</b>                                     | ZWR  |
| <b>Description</b>                                | Mains voltage out of configured voltage range  |
| <b>Class</b>                                      | Error  |
| <b>Device Behaviour</b>                           | Automatic error reset and switch back on   |
| <b>Additional Error Information (AMK Service)</b> |  |
|   |  |
| <b>Error Removal</b>                              | <ul style="list-style-type: none"> <li>• Check mains voltage</li> <li>• Check configured values</li> </ul> |

**3592 'System diagnostics: Special software message'**

|   |  |
|---|--|
| • Fault voltage (switch on)                       |  |
| <b>Device</b>                                     | ZWR  |
| <b>Description</b>                                | Mains voltage below configured switch-on voltage   |
| <b>Class</b>                                      | Error  |
| <b>Device Behaviour</b>                           | Automatic error reset and switch back on   |
| <b>Additional Error Information (AMK Service)</b> |  |
|   |  |
| <b>Error Removal</b>                              | <ul style="list-style-type: none"> <li>• Check mains voltage</li> <li>• Check configured values</li> </ul> |

**3593 'System diagnostics: Special software message'**

|   |  |
|---|--|
| • Fault frequency (switch on)                     |  |
| <b>Device</b>                                     | ZWR  |
| <b>Description</b>                                | Mains frequency exceeds configured switch-on frequency   |
| <b>Class</b>                                      | Error  |
| <b>Device Behaviour</b>                           | Automatic error reset and switch back on   |
| <b>Additional Error Information (AMK Service)</b> |  |
|   |  |
| <b>Error Removal</b>                              | <ul style="list-style-type: none"> <li>• Check mains frequency</li> <li>• Check configured values</li> </ul> |

**3594 'System diagnostics: Special software message'**

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>Warning string monitoring connectbox (n) string (m)</li> </ul> |   |
| <b>Device</b>   | ZWR   |
| <b>Description</b>  | String current below configured permissible deviation   |
| <b>Class</b>  | Warning   |
| <b>Device Behaviour</b>   | Automatic error reset and switch back on  |
| <b>Additional Error Information (AMK Service)</b>   |   |
|   |   |
| <b>Error Removal</b>  | <ul style="list-style-type: none"> <li>Check string</li> <li>Check configured values</li> </ul> |

**3595 'System diagnostics: Special software message'**

|  |  |
|--|--|
| <ul style="list-style-type: none"> <li>See special descriptions corresponding to special software documentation</li> </ul> |  |
| <b>Device</b>  |  |
| <b>Description</b>   |  |
| <b>Class</b>   |  |
| <b>Drive Behaviour</b>   |  |
| <b>Device Behaviour</b>  |  |
| <b>Additional Error Information (AMK Service)</b>  |  |
|  |  |
| <b>Error Removal</b>   |  |

**3596 'System diagnostics: Special software message'**

|  |  |
|--|--|
| <ul style="list-style-type: none"> <li>See special descriptions corresponding to special software documentation</li> </ul> |  |
| <b>Device</b>  |  |
| <b>Description</b>   |  |
| <b>Class</b>   |  |
| <b>Drive Behaviour</b>   |  |
| <b>Device Behaviour</b>  |  |
| <b>Additional Error Information (AMK Service)</b>  |  |
|  |  |
| <b>Error Removal</b>   |  |

**3597 'System diagnostics: Special software message'**

|  |  |
|--|--|
| <ul style="list-style-type: none"> <li>See special descriptions corresponding to special software documentation</li> </ul> |  |
| <b>Device</b>  |  |
| <b>Description</b>   |  |
| <b>Class</b>   |  |
| <b>Drive Behaviour</b>   |  |
| <b>Device Behaviour</b>  |  |
| <b>Additional Error Information (AMK Service)</b>  |  |
|  |  |
| <b>Error Removal</b>   |  |

**3598 'System diagnostics: Special software message'**

|  |  |
|--|--|
| <ul style="list-style-type: none"> <li>See special descriptions corresponding to special software documentation</li> </ul> |  |
| Device   |  |
| Description  |  |
| Class  |  |
| Drive Behaviour  |  |
| Device Behaviour   |  |
| Additional Error Information (AMK Service)   |  |
|  |  |
| Error Removal  |  |

**3599 'System diagnostics: Special software message'**

|  |  |
|--|--|
| <ul style="list-style-type: none"> <li>See special descriptions corresponding to special software documentation</li> </ul> |  |
| Device   |  |
| Description  |  |
| Class  |  |
| Drive Behaviour  |  |
| Device Behaviour   |  |
| Additional Error Information (AMK Service)   |  |
|  |  |
| Error Removal  |  |

**3600 'System diagnostics: Special software message'**

|  |  |
|--|--|
| <ul style="list-style-type: none"> <li>See special descriptions corresponding to special software documentation</li> </ul> |  |
| Device   |  |
| Description  |  |
| Class  |  |
| Drive Behaviour  |  |
| Device Behaviour   |  |
| Additional Error Information (AMK Service)   |  |
|  |  |
| Error Removal  |  |

**3601 'System diagnostics: Special software message'**

|  |  |
|--|--|
| <ul style="list-style-type: none"> <li>See special descriptions corresponding to special software documentation</li> </ul> |  |
| Device   |  |
| Description  |  |
| Class  |  |
| Drive Behaviour  |  |
| Device Behaviour   |  |
| Additional Error Information (AMK Service)   |  |
|  |  |
| Error Removal  |  |

**3602 'System diagnostics: Special software message'**

|  |  |
|--|--|
| <ul style="list-style-type: none"> <li>See special descriptions corresponding to special software documentation</li> </ul> |  |
| <b>Device</b>  |  |
| <b>Description</b>   |  |
| <b>Class</b>   |  |
| <b>Drive Behaviour</b>   |  |
| <b>Device Behaviour</b>  |  |
| <b>Additional Error Information (AMK Service)</b>  |  |
|  |  |
| <b>Error Removal</b>   |  |

**3603 'System diagnostics: AFP-PLC error'**

|   |         |   |  |
|---|---------|---|--|
| <ul style="list-style-type: none"> <li>There is a program error in the KU control program (AFP-PLC) (user program is filed in "ID32798 User list 1")</li> </ul> |         |   |  |
| <b>Device</b>   |         |   |  |
| <b>Description</b>  |         |   |  |
| <b>Class</b>  | Warning |   |  |
| <b>Drive Behaviour</b>  |         |   |  |
| <b>Device Behaviour</b>   |         |   |  |
| <b>Additional Error Information (AMK Service)</b>   |         |   |  |
|   | Info 1  | 1 | AFP handshake timeout                  |
|   |         | 2 | Wrong AFP command block                |
|   |         | 3 | Not allowed command                    |
|   |         | 4 | Inadmissible state                     |
|   |         | 5 | Loop number too high                   |
|   |         | 6 | Loop end without loop start            |
|   |         | 7 | Jump to invalid block No. (>41)        |
|   |         | 8 | Invalid mark                           |
|   |         | 9 | Inadmissible parameter in the RF macro |
| <b>Error Removal</b>  |         |   |  |

**4.22 No. 3605 ... 3610 Safety Functions****3605 Safety - Invalid Parameterisation**

|  |  |
|--|--|
| <ul style="list-style-type: none"> <li>Invalid parameterisation</li> </ul> |  |
| <b>Device</b>  | KW-R07 / -R17 safety module  |
| <b>Description</b>   | An invalid parameterisation was detected during the evaluation of the safety parameters, e.g. invalid values           |
| <b>Class</b>   | Error  |
| <b>Drive behaviour</b>   | The drive remains torque-free  |
| <b>Device behaviour</b>  | The safety monitoring does not switch to the operational state, i.e. the safety functions cannot be put into operation |

|                            |         |  |  |   |  |
|----------------------------|---------|--|--|---|--|
| 3605                       | Info1   | 7  | Encoder error, sine encoder evaluation, monitoring channel 1 |   |  |
|                            |         |  | Info2  | 1 | Prm6 'Sine encoder period'<br>Specification for the sine encoder period too small (Prm6 < 16)    |
|                            |         |  |  | 2 | Prm6 'Sine encoder period'<br>Specification for the sine encoder period too large (Prm6 > 32768) |
| <b>Error rectification</b> |         | <ul style="list-style-type: none"> <li>Parameter to be checked: <ul style="list-style-type: none"> <li>Prm6: 'Sine encoder period'</li> </ul> </li> <li>Generate a correct parameter set and load on the target device</li> </ul>  |  |   |  |
| 3605                       | Info1   | 16   | Error message for the safety inputs, monitoring channel 1    |   |  |
|                            |         |  | Info2  | 1 | Dynamic sampling impulse duration is too small   |
|                            |         |  |  | 3 | Dynamic sampling impulse duration is too large   |
|                            |         |  | Info3  | 1 | Input 1  |
|                            |         |  |  | 2 | Input 2  |
| 3                          | Input 3 |  |  |   |  |
| <b>Error rectification</b> |         | <ul style="list-style-type: none"> <li>Parameter to be checked: <ul style="list-style-type: none"> <li>Prm71: 'SE1.1 dynamic sampling impulse duration'</li> <li>Prm73: 'SE1.2 dynamic sampling impulse duration'</li> <li>Prm77: 'SE2.1 dynamic sampling impulse duration'</li> <li>Prm79: 'SE2.2 dynamic sampling impulse duration'</li> <li>Prm83: 'SE3.1 dynamic sampling impulse duration'</li> <li>Prm85: 'SE3.2 dynamic sampling impulse duration'</li> </ul> </li> <li>Generate a correct parameter set and load on the target device</li> </ul> |  |   |  |
| 3605                       | Info1   | 17   | Error message for the safety inputs, monitoring channel 2    |   |  |
|                            |         |  | Info2  | 1 | Dynamic sampling impulse duration is too small   |
|                            |         |  |  | 3 | Dynamic sampling impulse duration is too large   |
|                            |         |  | Info3  | 1 | Input 1  |
|                            |         |  |  | 2 | Input 2  |
| 3                          | Input 3 |  |  |   |  |
| <b>Error rectification</b> |         | <ul style="list-style-type: none"> <li>Parameter to be checked: <ul style="list-style-type: none"> <li>Prm71: 'SE1.1 dynamic sampling impulse duration'</li> <li>Prm73: 'SE1.2 dynamic sampling impulse duration'</li> <li>Prm77: 'SE2.1 dynamic sampling impulse duration'</li> <li>Prm79: 'SE2.2 dynamic sampling impulse duration'</li> <li>Prm83: 'SE3.1 dynamic sampling impulse duration'</li> <li>Prm85: 'SE3.2 dynamic sampling impulse duration'</li> </ul> </li> <li>Generate a correct parameter set and load on the target device</li> </ul> |  |   |  |

|                            |       |   |   |       |   |                                      |   |                                      |   |   |       |                              |         |   |         |   |         |   |         |
|----------------------------|-------|---|---|-------|---|--------------------------------------|---|--------------------------------------|---|---|-------|------------------------------|---------|---|---------|---|---------|---|---------|
| 3605                       | Info1 | 18  | <p>Error message for the safety inputs, monitoring channel 1</p> <table border="1"> <tr> <td rowspan="3">Info2</td> <td>2</td> <td>Dynamic sampling period is too large</td> </tr> <tr> <td>3</td> <td>Dynamic sampling period is too small</td> </tr> <tr> <td>5</td> <td>Ratio between dynamic sampling period and impulse duration is too small</td> </tr> </table> <table border="1"> <tr> <td rowspan="3">Info3</td> <td>1</td> <td>Input 1</td> </tr> <tr> <td>2</td> <td>Input 2</td> </tr> <tr> <td>3</td> <td>Input 3</td> </tr> </table>  | Info2 | 2 | Dynamic sampling period is too large | 3 | Dynamic sampling period is too small | 5 | Ratio between dynamic sampling period and impulse duration is too small | Info3 | 1                            | Input 1 | 2 | Input 2 | 3 | Input 3 |   |         |
| Info2                      | 2     | Dynamic sampling period is too large                                    |   |       |   |                                      |   |                                      |   |   |       |                              |         |   |         |   |         |   |         |
|                            | 3     | Dynamic sampling period is too small                                    |   |       |   |                                      |   |                                      |   |   |       |                              |         |   |         |   |         |   |         |
|                            | 5     | Ratio between dynamic sampling period and impulse duration is too small |   |       |   |                                      |   |                                      |   |   |       |                              |         |   |         |   |         |   |         |
| Info3                      | 1     | Input 1   |   |       |   |                                      |   |                                      |   |   |       |                              |         |   |         |   |         |   |         |
|                            | 2     | Input 2   |   |       |   |                                      |   |                                      |   |   |       |                              |         |   |         |   |         |   |         |
|                            | 3     | Input 3   |   |       |   |                                      |   |                                      |   |   |       |                              |         |   |         |   |         |   |         |
| <b>Error rectification</b> |       |   | <ul style="list-style-type: none"> <li>• Parameter to be checked:             <ul style="list-style-type: none"> <li>• Prm71: 'SE1.1 dynamic sampling impulse duration'</li> <li>• Prm72: 'SE1.1 dynamic sampling period'</li> <li>• Prm77: 'SE2.1 dynamic sampling impulse duration'</li> <li>• Prm78: 'SE2.1 dynamic sampling period'</li> <li>• Prm83: 'SE3.1 dynamic sampling impulse duration'</li> <li>• Prm84: 'SE3.1 dynamic sampling period'</li> </ul> </li> <li>• Generate a correct parameter set and load on the target device</li> </ul>  |       |   |                                      |   |                                      |   |   |       |                              |         |   |         |   |         |   |         |
| 3605                       | Info1 | 19  | <p>Error message for the safety inputs, monitoring channel 2</p> <table border="1"> <tr> <td rowspan="4">Info2</td> <td>2</td> <td>Dynamic sampling period is too large</td> </tr> <tr> <td>3</td> <td>Dynamic sampling period is too small</td> </tr> <tr> <td>5</td> <td>Ratio between dynamic sampling period and impulse duration is too small</td> </tr> <tr> <td>6</td> <td>Invalid value of input level</td> </tr> </table> <table border="1"> <tr> <td rowspan="3">Info3</td> <td>1</td> <td>Input 1</td> </tr> <tr> <td>2</td> <td>Input 2</td> </tr> <tr> <td>3</td> <td>Input 3</td> </tr> </table> | Info2 | 2 | Dynamic sampling period is too large | 3 | Dynamic sampling period is too small | 5 | Ratio between dynamic sampling period and impulse duration is too small | 6     | Invalid value of input level | Info3   | 1 | Input 1 | 2 | Input 2 | 3 | Input 3 |
| Info2                      | 2     | Dynamic sampling period is too large                                    |   |       |   |                                      |   |                                      |   |   |       |                              |         |   |         |   |         |   |         |
|                            | 3     | Dynamic sampling period is too small                                    |   |       |   |                                      |   |                                      |   |   |       |                              |         |   |         |   |         |   |         |
|                            | 5     | Ratio between dynamic sampling period and impulse duration is too small |   |       |   |                                      |   |                                      |   |   |       |                              |         |   |         |   |         |   |         |
|                            | 6     | Invalid value of input level  |   |       |   |                                      |   |                                      |   |   |       |                              |         |   |         |   |         |   |         |
| Info3                      | 1     | Input 1   |   |       |   |                                      |   |                                      |   |   |       |                              |         |   |         |   |         |   |         |
|                            | 2     | Input 2   |   |       |   |                                      |   |                                      |   |   |       |                              |         |   |         |   |         |   |         |
|                            | 3     | Input 3   |   |       |   |                                      |   |                                      |   |   |       |                              |         |   |         |   |         |   |         |
| <b>Error rectification</b> |       |   | <ul style="list-style-type: none"> <li>• Parameter to be checked:             <ul style="list-style-type: none"> <li>• Prm70: 'SE1 input level'</li> <li>• Prm71: 'SE1.1 dynamic sampling impulse duration'</li> <li>• Prm72: 'SE1.1 dynamic sampling period'</li> <li>• Prm76: 'SE2 input level'</li> <li>• Prm77: 'SE2.1 dynamic sampling impulse duration'</li> <li>• Prm78: 'SE2.1 dynamic sampling period'</li> <li>• Prm82: 'SE3 input level'</li> <li>• Prm83: 'SE3.1 dynamic sampling impulse duration'</li> <li>• Prm84: 'SE3.1 dynamic sampling period'</li> </ul> </li> <li>• Generate a correct parameter set and load on the target device</li> </ul>          |       |   |                                      |   |                                      |   |   |       |                              |         |   |         |   |         |   |         |



|                            |  |   |   |  |   |  |   |   |   |  |   |  |   |  |   |  |    |   |    |
|----------------------------|--|---|---|--|---|--|---|---|---|--|---|--|---|--|---|--|----|---|----|
| 3605                       | Info1  | 20  | Error message for safety input selection, monitoring channel 1  |  |   |  |   |   |   |  |   |  |   |  |   |  |    |   |    |
|                            |  |   | Info2   | <table border="1"> <tr> <td>1</td> <td>Prm17 'SE3 emergency stop function':<br/>invalid value</td> </tr> <tr> <td>2</td> <td>Prm15 'SE1 safety function':<br/>invalid value</td> </tr> <tr> <td>3</td> <td>Prm16 'SE2 safety function':<br/>invalid value</td> </tr> <tr> <td>4</td> <td>Prm15 'SE1 safety function' and Prm17 'SE3 emergency stop function' same value</td> </tr> <tr> <td>5</td> <td>Prm16 'SE2 safety function' and Prm17 'SE3 emergency stop function' same value</td> </tr> <tr> <td>6</td> <td>Prm15 'SE1 safety function' and Prm16 'SE2 safety function' same value</td> </tr> </table>  | 1 | Prm17 'SE3 emergency stop function':<br>invalid value                            | 2 | Prm15 'SE1 safety function':<br>invalid value | 3 | Prm16 'SE2 safety function':<br>invalid value    | 4 | Prm15 'SE1 safety function' and Prm17 'SE3 emergency stop function' same value | 5 | Prm16 'SE2 safety function' and Prm17 'SE3 emergency stop function' same value | 6 | Prm15 'SE1 safety function' and Prm16 'SE2 safety function' same value |    |   |    |
| 1                          | Prm17 'SE3 emergency stop function':<br>invalid value                            |   |   |  |   |  |   |   |   |  |   |  |   |  |   |  |    |   |    |
| 2                          | Prm15 'SE1 safety function':<br>invalid value                                    |   |   |  |   |  |   |   |   |  |   |  |   |  |   |  |    |   |    |
| 3                          | Prm16 'SE2 safety function':<br>invalid value                                    |   |   |  |   |  |   |   |   |  |   |  |   |  |   |  |    |   |    |
| 4                          | Prm15 'SE1 safety function' and Prm17 'SE3 emergency stop function' same value   |   |   |  |   |  |   |   |   |  |   |  |   |  |   |  |    |   |    |
| 5                          | Prm16 'SE2 safety function' and Prm17 'SE3 emergency stop function' same value   |   |   |  |   |  |   |   |   |  |   |  |   |  |   |  |    |   |    |
| 6                          | Prm15 'SE1 safety function' and Prm16 'SE2 safety function' same value           |   |   |  |   |  |   |   |   |  |   |  |   |  |   |  |    |   |    |
| <b>Error rectification</b> |  | <ul style="list-style-type: none"> <li>Parameter to be checked: <ul style="list-style-type: none"> <li>Prm15: 'SE1 safety function'</li> <li>Prm16: 'SE2 safety function'</li> <li>Prm17: 'SE3 emergency stop function'</li> </ul> </li> </ul>  |   |  |   |  |   |   |   |  |   |  |   |  |   |  |    |   |    |
| 3605                       | Info1  | 22  | Error message for safety input selection, monitoring channel 2  |  |   |  |   |   |   |  |   |  |   |  |   |  |    |   |    |
|                            |  |   | Info2   | <table border="1"> <tr> <td>1</td> <td>Prm17 'SE3 emergency stop function':<br/>invalid value</td> </tr> <tr> <td>2</td> <td>Prm15 'SE1 safety function':<br/>invalid value</td> </tr> <tr> <td>3</td> <td>Prm16 'SE2 safety function':<br/>invalid value</td> </tr> <tr> <td>4</td> <td>Prm15 'SE1 safety function' and Prm17 'SE3 emergency stop function' same value</td> </tr> <tr> <td>5</td> <td>Prm16 'SE2 safety function' and Prm17 'SE3 emergency stop function' same value</td> </tr> <tr> <td>6</td> <td>Prm15 'SE1 safety function' and Prm16 'SE2 safety function' same value</td> </tr> <tr> <td>16</td> <td>Prm70 'SE1 input level':<br/>invalid value</td> </tr> <tr> <td>17</td> <td>Prm76 'SE2 input level':<br/>invalid value</td> </tr> <tr> <td>18</td> <td>Prm82 'SE3 input level':<br/>invalid value</td> </tr> </table> | 1 | Prm17 'SE3 emergency stop function':<br>invalid value                            | 2 | Prm15 'SE1 safety function':<br>invalid value | 3 | Prm16 'SE2 safety function':<br>invalid value    | 4 | Prm15 'SE1 safety function' and Prm17 'SE3 emergency stop function' same value | 5 | Prm16 'SE2 safety function' and Prm17 'SE3 emergency stop function' same value | 6 | Prm15 'SE1 safety function' and Prm16 'SE2 safety function' same value | 16 | Prm70 'SE1 input level':<br>invalid value | 17 |
| 1                          | Prm17 'SE3 emergency stop function':<br>invalid value                            |   |   |  |   |  |   |   |   |  |   |  |   |  |   |  |    |   |    |
| 2                          | Prm15 'SE1 safety function':<br>invalid value                                    |   |   |  |   |  |   |   |   |  |   |  |   |  |   |  |    |   |    |
| 3                          | Prm16 'SE2 safety function':<br>invalid value                                    |   |   |  |   |  |   |   |   |  |   |  |   |  |   |  |    |   |    |
| 4                          | Prm15 'SE1 safety function' and Prm17 'SE3 emergency stop function' same value   |   |   |  |   |  |   |   |   |  |   |  |   |  |   |  |    |   |    |
| 5                          | Prm16 'SE2 safety function' and Prm17 'SE3 emergency stop function' same value   |   |   |  |   |  |   |   |   |  |   |  |   |  |   |  |    |   |    |
| 6                          | Prm15 'SE1 safety function' and Prm16 'SE2 safety function' same value           |   |   |  |   |  |   |   |   |  |   |  |   |  |   |  |    |   |    |
| 16                         | Prm70 'SE1 input level':<br>invalid value  |   |   |  |   |  |   |   |   |  |   |  |   |  |   |  |    |   |    |
| 17                         | Prm76 'SE2 input level':<br>invalid value  |   |   |  |   |  |   |   |   |  |   |  |   |  |   |  |    |   |    |
| 18                         | Prm82 'SE3 input level':<br>invalid value  |   |   |  |   |  |   |   |   |  |   |  |   |  |   |  |    |   |    |
| <b>Error rectification</b> |  | <ul style="list-style-type: none"> <li>Parameter to be checked: <ul style="list-style-type: none"> <li>Prm15: 'SE1 safety function'</li> <li>Prm16: 'SE2 safety function'</li> <li>Prm17: 'SE3 emergency stop function'</li> <li>Prm70 'SE1 input level'</li> <li>Prm76 'SE2 input level'</li> <li>Prm82 'SE3 input level'</li> </ul> </li> </ul> |   |  |   |  |   |   |   |  |   |  |   |  |   |  |    |   |    |
| 3605                       | Info1  | 23  | Error message for safety output selection, monitoring channel 1 |  |   |  |   |   |   |  |   |  |   |  |   |  |    |   |    |
|                            |  |   | Info2   | <table border="1"> <tr> <td>2</td> <td>Prm7 'Commanding' and Prm8 'Output control':<br/>Invalid parameters Prm7 and Prm8</td> </tr> <tr> <td>3</td> <td>Prm7 'Commanding':<br/>Invalid parameter Prm7</td> </tr> <tr> <td>4</td> <td>Prm8 'Output control':<br/>Invalid parameter Prm8</td> </tr> </table>   | 2 | Prm7 'Commanding' and Prm8 'Output control':<br>Invalid parameters Prm7 and Prm8 | 3 | Prm7 'Commanding':<br>Invalid parameter Prm7  | 4 | Prm8 'Output control':<br>Invalid parameter Prm8 |   |  |   |  |   |  |    |   |    |
| 2                          | Prm7 'Commanding' and Prm8 'Output control':<br>Invalid parameters Prm7 and Prm8 |   |   |  |   |  |   |   |   |  |   |  |   |  |   |  |    |   |    |
| 3                          | Prm7 'Commanding':<br>Invalid parameter Prm7                                     |   |   |  |   |  |   |   |   |  |   |  |   |  |   |  |    |   |    |
| 4                          | Prm8 'Output control':<br>Invalid parameter Prm8                                 |   |   |  |   |  |   |   |   |  |   |  |   |  |   |  |    |   |    |
| <b>Error rectification</b> |  | <ul style="list-style-type: none"> <li>Parameter to be checked: <ul style="list-style-type: none"> <li>Prm7: 'Commanding'</li> <li>Prm8: 'Output control'</li> </ul> </li> </ul>  |   |  |   |  |   |   |   |  |   |  |   |  |   |  |    |   |    |

|                            |       |  |   |   |  |
|----------------------------|-------|--|---|---|--|
| 3605                       | Info1 | 24   | Error message for safety output selection, monitoring channel 2 |   |  |
|                            |       |  | Info2   | 2 | Prm7 'Commanding' and Prm8 'Output control':<br>Invalid parameters Prm7 and Prm8 |
|                            |       |  |   | 3 | Prm7 'Commanding':<br>Invalid parameter Prm7                                     |
|                            |       |  |   | 4 | Prm8 'Output control':<br>Invalid parameter Prm8                                 |
| <b>Error rectification</b> |       | <ul style="list-style-type: none"> <li>• Parameter to be checked:             <ul style="list-style-type: none"> <li>• Prm7: 'Commanding'</li> <li>• Prm8: 'Output control'</li> </ul> </li> </ul> |   |   |  |

|                            |  |   |   |       |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |   |       |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |   |       |    |   |  |    |   |  |    |   |  |    |   |  |    |   |  |    |  |
|----------------------------|--|---|---|-------|---|--|--|---|--|--|---|--|--|---|--|--|---|--|--|---|--|--|---|---|-------|----|--|--|----|--|--|----|--|--|----|--|--|----|--|--|----|--|--|----|---|-------|----|---|--|----|---|--|----|---|--|----|---|--|----|---|--|----|--|
| 3605                       | Info1  | 25  | <p>Error messages of the dynamic sampling of the safety outputs, monitoring channel 1</p> <table border="1"> <tr> <td>Info2</td> <td>1</td> <td>Dynamic sampling period A1 exceeds maximum</td> </tr> <tr> <td></td> <td>2</td> <td>Dynamic sampling period A1 drops below minimum</td> </tr> <tr> <td></td> <td>3</td> <td>Dynamic sampling impulse duration A1 exceeds maximum</td> </tr> <tr> <td></td> <td>4</td> <td>Dynamic sampling impulse duration A1 drops below minimum</td> </tr> <tr> <td></td> <td>5</td> <td>Dynamic sampling impulse duration A1 does not fit the 125 µs pattern</td> </tr> <tr> <td></td> <td>6</td> <td>Dynamic sampling period &lt; 10 x Dynamic sampling impulse duration</td> </tr> <tr> <td></td> <td>7</td> <td>Prm87 'SA1 dynamic sampling': Invalid parameter Prm87</td> </tr> </table><br><table border="1"> <tr> <td>Info2</td> <td>10</td> <td>Dynamic sampling period A2 exceeds maximum</td> </tr> <tr> <td></td> <td>11</td> <td>Dynamic sampling period A2 drops below minimum</td> </tr> <tr> <td></td> <td>12</td> <td>Dynamic sampling impulse duration A2 exceeds maximum</td> </tr> <tr> <td></td> <td>13</td> <td>Dynamic sampling impulse duration A2 drops below minimum</td> </tr> <tr> <td></td> <td>14</td> <td>Dynamic sampling impulse duration A2 does not fit the 125 µs pattern</td> </tr> <tr> <td></td> <td>15</td> <td>Dynamic sampling period &lt; 10 x Dynamic sampling impulse duration</td> </tr> <tr> <td></td> <td>17</td> <td>Prm93 'SA2 dynamic sampling': Invalid parameter Prm93</td> </tr> </table><br><table border="1"> <tr> <td>Info2</td> <td>20</td> <td>Dynamic sampling period Dyn exceeds maximum</td> </tr> <tr> <td></td> <td>21</td> <td>Dynamic sampling period Dyn drops below minimum</td> </tr> <tr> <td></td> <td>22</td> <td>Dynamic sampling impulse duration Dyn exceeds maximum</td> </tr> <tr> <td></td> <td>23</td> <td>Dynamic sampling impulse duration Dyn drops below minimum</td> </tr> <tr> <td></td> <td>24</td> <td>Dynamic sampling impulse duration Dyn does not fit the 125 µs pattern</td> </tr> <tr> <td></td> <td>25</td> <td>Dynamic sampling period &lt; 10 x Dynamic sampling impulse duration</td> </tr> </table> | Info2 | 1 | Dynamic sampling period A1 exceeds maximum |  | 2 | Dynamic sampling period A1 drops below minimum |  | 3 | Dynamic sampling impulse duration A1 exceeds maximum |  | 4 | Dynamic sampling impulse duration A1 drops below minimum |  | 5 | Dynamic sampling impulse duration A1 does not fit the 125 µs pattern |  | 6 | Dynamic sampling period < 10 x Dynamic sampling impulse duration |  | 7 | Prm87 'SA1 dynamic sampling': Invalid parameter Prm87 | Info2 | 10 | Dynamic sampling period A2 exceeds maximum |  | 11 | Dynamic sampling period A2 drops below minimum |  | 12 | Dynamic sampling impulse duration A2 exceeds maximum |  | 13 | Dynamic sampling impulse duration A2 drops below minimum |  | 14 | Dynamic sampling impulse duration A2 does not fit the 125 µs pattern |  | 15 | Dynamic sampling period < 10 x Dynamic sampling impulse duration |  | 17 | Prm93 'SA2 dynamic sampling': Invalid parameter Prm93 | Info2 | 20 | Dynamic sampling period Dyn exceeds maximum |  | 21 | Dynamic sampling period Dyn drops below minimum |  | 22 | Dynamic sampling impulse duration Dyn exceeds maximum |  | 23 | Dynamic sampling impulse duration Dyn drops below minimum |  | 24 | Dynamic sampling impulse duration Dyn does not fit the 125 µs pattern |  | 25 | Dynamic sampling period < 10 x Dynamic sampling impulse duration |
| Info2                      | 1  | Dynamic sampling period A1 exceeds maximum                            |   |       |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |   |       |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |   |       |    |   |  |    |   |  |    |   |  |    |   |  |    |   |  |    |  |
|                            | 2  | Dynamic sampling period A1 drops below minimum                        |   |       |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |   |       |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |   |       |    |   |  |    |   |  |    |   |  |    |   |  |    |   |  |    |  |
|                            | 3  | Dynamic sampling impulse duration A1 exceeds maximum                  |   |       |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |   |       |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |   |       |    |   |  |    |   |  |    |   |  |    |   |  |    |   |  |    |  |
|                            | 4  | Dynamic sampling impulse duration A1 drops below minimum              |   |       |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |   |       |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |   |       |    |   |  |    |   |  |    |   |  |    |   |  |    |   |  |    |  |
|                            | 5  | Dynamic sampling impulse duration A1 does not fit the 125 µs pattern  |   |       |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |   |       |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |   |       |    |   |  |    |   |  |    |   |  |    |   |  |    |   |  |    |  |
|                            | 6  | Dynamic sampling period < 10 x Dynamic sampling impulse duration      |   |       |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |   |       |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |   |       |    |   |  |    |   |  |    |   |  |    |   |  |    |   |  |    |  |
|                            | 7  | Prm87 'SA1 dynamic sampling': Invalid parameter Prm87                 |   |       |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |   |       |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |   |       |    |   |  |    |   |  |    |   |  |    |   |  |    |   |  |    |  |
| Info2                      | 10   | Dynamic sampling period A2 exceeds maximum                            |   |       |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |   |       |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |   |       |    |   |  |    |   |  |    |   |  |    |   |  |    |   |  |    |  |
|                            | 11   | Dynamic sampling period A2 drops below minimum                        |   |       |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |   |       |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |   |       |    |   |  |    |   |  |    |   |  |    |   |  |    |   |  |    |  |
|                            | 12   | Dynamic sampling impulse duration A2 exceeds maximum                  |   |       |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |   |       |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |   |       |    |   |  |    |   |  |    |   |  |    |   |  |    |   |  |    |  |
|                            | 13   | Dynamic sampling impulse duration A2 drops below minimum              |   |       |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |   |       |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |   |       |    |   |  |    |   |  |    |   |  |    |   |  |    |   |  |    |  |
|                            | 14   | Dynamic sampling impulse duration A2 does not fit the 125 µs pattern  |   |       |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |   |       |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |   |       |    |   |  |    |   |  |    |   |  |    |   |  |    |   |  |    |  |
|                            | 15   | Dynamic sampling period < 10 x Dynamic sampling impulse duration      |   |       |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |   |       |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |   |       |    |   |  |    |   |  |    |   |  |    |   |  |    |   |  |    |  |
|                            | 17   | Prm93 'SA2 dynamic sampling': Invalid parameter Prm93                 |   |       |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |   |       |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |   |       |    |   |  |    |   |  |    |   |  |    |   |  |    |   |  |    |  |
| Info2                      | 20   | Dynamic sampling period Dyn exceeds maximum                           |   |       |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |   |       |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |   |       |    |   |  |    |   |  |    |   |  |    |   |  |    |   |  |    |  |
|                            | 21   | Dynamic sampling period Dyn drops below minimum                       |   |       |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |   |       |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |   |       |    |   |  |    |   |  |    |   |  |    |   |  |    |   |  |    |  |
|                            | 22   | Dynamic sampling impulse duration Dyn exceeds maximum                 |   |       |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |   |       |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |   |       |    |   |  |    |   |  |    |   |  |    |   |  |    |   |  |    |  |
|                            | 23   | Dynamic sampling impulse duration Dyn drops below minimum             |   |       |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |   |       |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |   |       |    |   |  |    |   |  |    |   |  |    |   |  |    |   |  |    |  |
|                            | 24   | Dynamic sampling impulse duration Dyn does not fit the 125 µs pattern |   |       |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |   |       |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |   |       |    |   |  |    |   |  |    |   |  |    |   |  |    |   |  |    |  |
|                            | 25   | Dynamic sampling period < 10 x Dynamic sampling impulse duration      |   |       |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |   |       |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |   |       |    |   |  |    |   |  |    |   |  |    |   |  |    |   |  |    |  |
| <b>Error rectification</b> | <ul style="list-style-type: none"> <li>• Parameter to be checked: <ul style="list-style-type: none"> <li>• Prm87: 'SA1 dynamic sampling'</li> <li>• Prm88: 'SA1.1 dynamic sampling impulse duration'</li> <li>• Prm89: 'SA1.1 dynamic sampling period'</li> <li>• Prm90: 'SA1.2 dynamic sampling impulse duration'</li> <li>• Prm91: 'SA1.2 dynamic sampling period'</li> <li>• Prm93: 'SA2 dynamic sampling'</li> <li>• Prm94: 'SA2.1 dynamic sampling impulse duration'</li> <li>• Prm95: 'SA2.1 dynamic sampling period'</li> <li>• Prm96: 'SA2.2 dynamic sampling impulse duration'</li> <li>• Prm97: 'SA2.2 dynamic sampling period'</li> <li>• Prm99: 'SDYN1 dynamic sampling impulse duration'</li> <li>• Prm100: 'SDYN1 dynamic sampling period'</li> <li>• Prm101: 'SDYN2 dynamic sampling impulse duration'</li> <li>• Prm102: 'SDYN2 dynamic sampling period'</li> </ul> </li> <li>• Generate a correct parameter set and load on the target device</li> <li>• AMK service</li> </ul> |   |   |       |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |   |       |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |   |       |    |   |  |    |   |  |    |   |  |    |   |  |    |   |  |    |  |

|       |       |   |   |       |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |       |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |       |    |   |  |    |   |  |    |   |  |    |   |  |    |   |  |    |  |  |    |   |
|-------|-------|---|---|-------|---|--|--|---|--|--|---|--|--|---|--|--|---|--|--|---|--|--|---|--|--|---|--|-------|----|--|--|----|--|--|----|--|--|----|--|--|----|--|--|----|--|--|----|--|--|----|--|-------|----|---|--|----|---|--|----|---|--|----|---|--|----|---|--|----|--|--|----|---|
| 3605  | Info1 | 26  | <p>Error messages of the dynamic sampling of the safety outputs, monitoring channel 2</p> <table border="1"> <tr> <td>Info2</td> <td>1</td> <td>Dynamic sampling period A1 exceeds maximum</td> </tr> <tr> <td></td> <td>2</td> <td>Dynamic sampling period A1 drops below minimum</td> </tr> <tr> <td></td> <td>3</td> <td>Dynamic sampling impulse duration A1 exceeds maximum</td> </tr> <tr> <td></td> <td>4</td> <td>Dynamic sampling impulse duration A1 drops below minimum</td> </tr> <tr> <td></td> <td>5</td> <td>Dynamic sampling impulse duration A1 does not fit the 125 µs pattern</td> </tr> <tr> <td></td> <td>6</td> <td>Dynamic sampling period &lt; 10 x Dynamic sampling impulse duration</td> </tr> <tr> <td></td> <td>7</td> <td>Prm87 'SA1 dynamic sampling':<br/>Invalid parameter Prm87</td> </tr> <tr> <td></td> <td>8</td> <td>Prm92 'SA1 output level':<br/>Invalid parameter Prm92</td> </tr> </table> <table border="1"> <tr> <td>Info2</td> <td>10</td> <td>Dynamic sampling period A2 exceeds maximum</td> </tr> <tr> <td></td> <td>11</td> <td>Dynamic sampling period A2 drops below minimum</td> </tr> <tr> <td></td> <td>12</td> <td>Dynamic sampling impulse duration A2 exceeds maximum</td> </tr> <tr> <td></td> <td>13</td> <td>Dynamic sampling impulse duration A2 drops below minimum</td> </tr> <tr> <td></td> <td>14</td> <td>Dynamic sampling impulse duration A2 does not fit the 125 µs pattern</td> </tr> <tr> <td></td> <td>15</td> <td>Dynamic sampling period &lt; 10 x Dynamic sampling impulse duration</td> </tr> <tr> <td></td> <td>17</td> <td>Prm93 'SA2 dynamic sampling':<br/>Invalid parameter Prm93</td> </tr> <tr> <td></td> <td>18</td> <td>Prm98 'SA2 output level':<br/>Invalid parameter Prm98</td> </tr> </table> <table border="1"> <tr> <td>Info2</td> <td>20</td> <td>Dynamic sampling period Dyn exceeds maximum</td> </tr> <tr> <td></td> <td>21</td> <td>Dynamic sampling period Dyn drops below minimum</td> </tr> <tr> <td></td> <td>22</td> <td>Dynamic sampling impulse duration Dyn exceeds maximum</td> </tr> <tr> <td></td> <td>23</td> <td>Dynamic sampling impulse duration Dyn drops below minimum</td> </tr> <tr> <td></td> <td>24</td> <td>Dynamic sampling impulse duration Dyn does not fit the 125 µs pattern</td> </tr> <tr> <td></td> <td>25</td> <td>Dynamic sampling period &lt; 10 x Dynamic sampling impulse duration</td> </tr> <tr> <td></td> <td>28</td> <td>Prm104 'SA1.2 output type':<br/>Invalid parameter Prm104</td> </tr> </table> | Info2 | 1 | Dynamic sampling period A1 exceeds maximum |  | 2 | Dynamic sampling period A1 drops below minimum |  | 3 | Dynamic sampling impulse duration A1 exceeds maximum |  | 4 | Dynamic sampling impulse duration A1 drops below minimum |  | 5 | Dynamic sampling impulse duration A1 does not fit the 125 µs pattern |  | 6 | Dynamic sampling period < 10 x Dynamic sampling impulse duration |  | 7 | Prm87 'SA1 dynamic sampling':<br>Invalid parameter Prm87 |  | 8 | Prm92 'SA1 output level':<br>Invalid parameter Prm92 | Info2 | 10 | Dynamic sampling period A2 exceeds maximum |  | 11 | Dynamic sampling period A2 drops below minimum |  | 12 | Dynamic sampling impulse duration A2 exceeds maximum |  | 13 | Dynamic sampling impulse duration A2 drops below minimum |  | 14 | Dynamic sampling impulse duration A2 does not fit the 125 µs pattern |  | 15 | Dynamic sampling period < 10 x Dynamic sampling impulse duration |  | 17 | Prm93 'SA2 dynamic sampling':<br>Invalid parameter Prm93 |  | 18 | Prm98 'SA2 output level':<br>Invalid parameter Prm98 | Info2 | 20 | Dynamic sampling period Dyn exceeds maximum |  | 21 | Dynamic sampling period Dyn drops below minimum |  | 22 | Dynamic sampling impulse duration Dyn exceeds maximum |  | 23 | Dynamic sampling impulse duration Dyn drops below minimum |  | 24 | Dynamic sampling impulse duration Dyn does not fit the 125 µs pattern |  | 25 | Dynamic sampling period < 10 x Dynamic sampling impulse duration |  | 28 | Prm104 'SA1.2 output type':<br>Invalid parameter Prm104 |
| Info2 | 1     | Dynamic sampling period A1 exceeds maximum                            |   |       |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |       |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |       |    |   |  |    |   |  |    |   |  |    |   |  |    |   |  |    |  |  |    |   |
|       | 2     | Dynamic sampling period A1 drops below minimum                        |   |       |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |       |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |       |    |   |  |    |   |  |    |   |  |    |   |  |    |   |  |    |  |  |    |   |
|       | 3     | Dynamic sampling impulse duration A1 exceeds maximum                  |   |       |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |       |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |       |    |   |  |    |   |  |    |   |  |    |   |  |    |   |  |    |  |  |    |   |
|       | 4     | Dynamic sampling impulse duration A1 drops below minimum              |   |       |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |       |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |       |    |   |  |    |   |  |    |   |  |    |   |  |    |   |  |    |  |  |    |   |
|       | 5     | Dynamic sampling impulse duration A1 does not fit the 125 µs pattern  |   |       |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |       |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |       |    |   |  |    |   |  |    |   |  |    |   |  |    |   |  |    |  |  |    |   |
|       | 6     | Dynamic sampling period < 10 x Dynamic sampling impulse duration      |   |       |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |       |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |       |    |   |  |    |   |  |    |   |  |    |   |  |    |   |  |    |  |  |    |   |
|       | 7     | Prm87 'SA1 dynamic sampling':<br>Invalid parameter Prm87              |   |       |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |       |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |       |    |   |  |    |   |  |    |   |  |    |   |  |    |   |  |    |  |  |    |   |
|       | 8     | Prm92 'SA1 output level':<br>Invalid parameter Prm92                  |   |       |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |       |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |       |    |   |  |    |   |  |    |   |  |    |   |  |    |   |  |    |  |  |    |   |
| Info2 | 10    | Dynamic sampling period A2 exceeds maximum                            |   |       |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |       |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |       |    |   |  |    |   |  |    |   |  |    |   |  |    |   |  |    |  |  |    |   |
|       | 11    | Dynamic sampling period A2 drops below minimum                        |   |       |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |       |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |       |    |   |  |    |   |  |    |   |  |    |   |  |    |   |  |    |  |  |    |   |
|       | 12    | Dynamic sampling impulse duration A2 exceeds maximum                  |   |       |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |       |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |       |    |   |  |    |   |  |    |   |  |    |   |  |    |   |  |    |  |  |    |   |
|       | 13    | Dynamic sampling impulse duration A2 drops below minimum              |   |       |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |       |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |       |    |   |  |    |   |  |    |   |  |    |   |  |    |   |  |    |  |  |    |   |
|       | 14    | Dynamic sampling impulse duration A2 does not fit the 125 µs pattern  |   |       |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |       |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |       |    |   |  |    |   |  |    |   |  |    |   |  |    |   |  |    |  |  |    |   |
|       | 15    | Dynamic sampling period < 10 x Dynamic sampling impulse duration      |   |       |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |       |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |       |    |   |  |    |   |  |    |   |  |    |   |  |    |   |  |    |  |  |    |   |
|       | 17    | Prm93 'SA2 dynamic sampling':<br>Invalid parameter Prm93              |   |       |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |       |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |       |    |   |  |    |   |  |    |   |  |    |   |  |    |   |  |    |  |  |    |   |
|       | 18    | Prm98 'SA2 output level':<br>Invalid parameter Prm98                  |   |       |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |       |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |       |    |   |  |    |   |  |    |   |  |    |   |  |    |   |  |    |  |  |    |   |
| Info2 | 20    | Dynamic sampling period Dyn exceeds maximum                           |   |       |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |       |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |       |    |   |  |    |   |  |    |   |  |    |   |  |    |   |  |    |  |  |    |   |
|       | 21    | Dynamic sampling period Dyn drops below minimum                       |   |       |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |       |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |       |    |   |  |    |   |  |    |   |  |    |   |  |    |   |  |    |  |  |    |   |
|       | 22    | Dynamic sampling impulse duration Dyn exceeds maximum                 |   |       |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |       |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |       |    |   |  |    |   |  |    |   |  |    |   |  |    |   |  |    |  |  |    |   |
|       | 23    | Dynamic sampling impulse duration Dyn drops below minimum             |   |       |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |       |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |       |    |   |  |    |   |  |    |   |  |    |   |  |    |   |  |    |  |  |    |   |
|       | 24    | Dynamic sampling impulse duration Dyn does not fit the 125 µs pattern |   |       |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |       |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |       |    |   |  |    |   |  |    |   |  |    |   |  |    |   |  |    |  |  |    |   |
|       | 25    | Dynamic sampling period < 10 x Dynamic sampling impulse duration      |   |       |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |       |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |       |    |   |  |    |   |  |    |   |  |    |   |  |    |   |  |    |  |  |    |   |
|       | 28    | Prm104 'SA1.2 output type':<br>Invalid parameter Prm104               |   |       |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |       |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |  |    |  |       |    |   |  |    |   |  |    |   |  |    |   |  |    |   |  |    |  |  |    |   |

|                            |   |  |  |       |   |  |  |   |  |
|----------------------------|---|--|--|-------|---|--|--|---|--|
| <b>Error rectification</b> | <ul style="list-style-type: none"> <li>• Parameter to be checked:             <ul style="list-style-type: none"> <li>• Prm87: 'SA1 dynamic sampling'</li> <li>• Prm88: 'SA1.1 dynamic sampling impulse duration'</li> <li>• Prm89: 'SA1.1 dynamic sampling period'</li> <li>• Prm90: 'SA1.2 dynamic sampling impulse duration'</li> <li>• Prm91: 'SA1.2 dynamic sampling period'</li> <li>• Prm92: 'SA1 output level'</li> <li>• Prm93: 'SA2 dynamic sampling'</li> <li>• Prm94: 'SA2.1 dynamic sampling impulse duration'</li> <li>• Prm95: 'SA2.1 dynamic sampling period'</li> <li>• Prm96: 'SA2.2 dynamic sampling impulse duration'</li> <li>• Prm97: 'SA2.2 dynamic sampling period'</li> <li>• Prm98: 'SA2 output level'</li> <li>• Prm99: 'SDYN1 dynamic sampling impulse duration'</li> <li>• Prm100: 'SDYN1 dynamic sampling period'</li> <li>• Prm101: 'SDYN2 dynamic sampling impulse duration'</li> <li>• Prm102: 'SDYN2 dynamic sampling period'</li> <li>• Prm104: 'SA1.2 output type'</li> </ul> </li> <li>• Generate a correct parameter set and load on the target device</li> <li>• AMK service</li> </ul> |  |  |       |   |  |  |   |  |
| 3605                       | Info1   | 38   | Error message of 'Safe encoder monitoring (SEM)', monitoring channel 1 <table border="1"> <tr> <td>Info2</td> <td>1</td> <td>Prm9 'Transition time in case of standstill'<br/>Prm9 &gt; 60000 min</td> </tr> <tr> <td></td> <td>2</td> <td>Prm10 'Reaction time in case of standstill'<br/>Prm10 &gt; 60000 min</td> </tr> </table>     | Info2 | 1 | Prm9 'Transition time in case of standstill'<br>Prm9 > 60000 min |  | 2 | Prm10 'Reaction time in case of standstill'<br>Prm10 > 60000 min |
| Info2                      | 1   | Prm9 'Transition time in case of standstill'<br>Prm9 > 60000 min |  |       |   |  |  |   |  |
|                            | 2   | Prm10 'Reaction time in case of standstill'<br>Prm10 > 60000 min |  |       |   |  |  |   |  |
| <b>Error rectification</b> | <ul style="list-style-type: none"> <li>• Parameter to be checked:             <ul style="list-style-type: none"> <li>• Prm9: 'Transition time in case of standstill'</li> <li>• Prm10: 'Reaction time in case of standstill'</li> </ul> </li> </ul>   |  |  |       |   |  |  |   |  |
| 3605                       | Info1   | 39   | Error message of 'Safe encoder monitoring (SEM)', monitoring channel 2 <table border="1"> <tr> <td>Info2</td> <td>1</td> <td>Prm9 'Transition time in case of standstill'<br/>Prm9 &gt; 60000 min</td> </tr> <tr> <td></td> <td>2</td> <td>Prm10 'Reaction time in case of standstill'<br/>Prm10 &gt; 60000 min</td> </tr> </table> | Info2 | 1 | Prm9 'Transition time in case of standstill'<br>Prm9 > 60000 min |  | 2 | Prm10 'Reaction time in case of standstill'<br>Prm10 > 60000 min |
| Info2                      | 1   | Prm9 'Transition time in case of standstill'<br>Prm9 > 60000 min |  |       |   |  |  |   |  |
|                            | 2   | Prm10 'Reaction time in case of standstill'<br>Prm10 > 60000 min |  |       |   |  |  |   |  |
| <b>Error rectification</b> | <ul style="list-style-type: none"> <li>• Parameter to be checked:             <ul style="list-style-type: none"> <li>• Prm9: 'Transition time in case of standstill'</li> <li>• Prm10: 'Reaction time in case of standstill'</li> </ul> </li> </ul>   |  |  |       |   |  |  |   |  |

|                            |       |  |  |  |       |   |                     |   |
|----------------------------|-------|--|--|--|-------|---|---------------------|---|
| 3605                       | Info1 | 101  | Error message for the stop function 'Safe stop 1 (SS1)'  |  |       |   |                     |   |
|                            |       |  | Movement monitoring <table border="1"> <tr> <td rowspan="3">Info2</td> <td>0</td> <td>Not to be evaluated</td> </tr> <tr> <td>7</td> <td>Prm21 'SS1 safe speed standstill window'<br/>Prm21 exceeds the maximum permissible value<br/>(Prm21 &gt; 60000 1/min)</td> </tr> <tr> <td>8</td> <td>Prm21 'SS1 safe speed standstill window'<br/>Prm21 drops below the minimum permissible value<br/>(Prm21 &lt; -60000 1/min)</td> </tr> </table> |  | Info2 | 0 | Not to be evaluated | 7 |
| Info2                      | 0     | Not to be evaluated  |  |  |       |   |                     |   |
|                            | 7     | Prm21 'SS1 safe speed standstill window'<br>Prm21 exceeds the maximum permissible value<br>(Prm21 > 60000 1/min)   |  |  |       |   |                     |   |
|                            | 8     | Prm21 'SS1 safe speed standstill window'<br>Prm21 drops below the minimum permissible value<br>(Prm21 < -60000 1/min)  |  |  |       |   |                     |   |
| <b>Error rectification</b> |       | <ul style="list-style-type: none"> <li>• Parameter to be checked:                         <ul style="list-style-type: none"> <li>• Prm20: 'SS1 brake ramp time'</li> <li>• Prm21: 'SS1 safe speed standstill window'</li> <li>• Prm67: 'SMS safe maximum speed'</li> </ul> </li> <li>• Generate a correct parameter set and load on the target device</li> </ul> |  |  |       |   |                     |   |



|                            |  |  |  |       |   |                     |  |   |  |  |   |  |  |   |  |  |   |   |       |   |   |  |   |  |  |   |   |  |   |   |  |   |   |  |   |   |  |   |  |  |    |  |  |    |  |  |    |  |
|----------------------------|--|--|--|-------|---|---------------------|--|---|--|--|---|--|--|---|--|--|---|---|-------|---|---|--|---|--|--|---|---|--|---|---|--|---|---|--|---|---|--|---|--|--|----|--|--|----|--|--|----|--|
| 3605                       | Info1  | 102  | <p>Error message for the stop function 'Safe stop 2 (SS2)'</p> <p>Movement monitoring</p> <table border="1"> <tr> <td>Info2</td> <td>0</td> <td>Not to be evaluated</td> </tr> <tr> <td></td> <td>1</td> <td>Prm26 'SS2 safe speed standstill window'<br/>Speed limits are identical (Prm26 = 0)</td> </tr> <tr> <td></td> <td>2</td> <td>Prm27 'SS2 safe position standstill window'<br/>Position limits are identical (Prm27 = 0)</td> </tr> <tr> <td></td> <td>7</td> <td>Prm26 'SS2 safe speed standstill window'<br/>Prm26 exceeds the maximum permissible value<br/>(Prm26 &gt; 60000 1/min)</td> </tr> <tr> <td></td> <td>8</td> <td>Prm26 'SS2 safe speed standstill window'<br/>Prm26 drops below the minimum permissible value<br/>(Prm26 &lt; -60000 1/min)</td> </tr> </table> <p>Ramp monitoring</p> <table border="1"> <tr> <td>Info3</td> <td>1</td> <td>Actual value exceeds maximum permissible value<br/>(60000 1/min)</td> </tr> <tr> <td></td> <td>2</td> <td>Prm26 'SS2 safe speed standstill window':<br/>Prm26 drops below the minimum permissible value<br/>(Prm21 &lt; -60000 1/min)</td> </tr> <tr> <td></td> <td>3</td> <td>Prm26 'SS2 safe speed standstill window':<br/>Prm26 exceeds the maximum permissible value<br/>(Prm21 &gt; 60000 1/min)</td> </tr> <tr> <td></td> <td>4</td> <td>Prm26 'SS2 safe speed standstill window':<br/>Limits of the speed standstill window have the same value<br/>(Prm26 = 0)</td> </tr> <tr> <td></td> <td>5</td> <td>Prm67 'SMS safe maximum speed':<br/>Prm67 exceeds maximum permissible value<br/>(Prm67 &gt; 60000 1/min)</td> </tr> <tr> <td></td> <td>6</td> <td>Prm25 'SS2 brake ramp time':<br/>Prm25 = 0</td> </tr> <tr> <td></td> <td>7</td> <td>Prm 67/Prm 25:<br/>Relation of maximum speed to deceleration ramp n/t too small. (Ramp too flat)<br/>(only monitoring channel 1)</td> </tr> <tr> <td></td> <td>10</td> <td>Prm25 'SS2 brake ramp time':<br/>Current deceleration ramp deviates from the permissible range<br/>(only monitoring channel 2)</td> </tr> <tr> <td></td> <td>11</td> <td>Prm25 'SS2 brake ramp time':<br/>Current deceleration ramp deviates from the permissible range<br/>(only monitoring channel 2)</td> </tr> <tr> <td></td> <td>13</td> <td>Prm67/Prm25: Relation of maximum speed to ramp time wrong<br/>(only monitoring channel 2)</td> </tr> </table> | Info2 | 0 | Not to be evaluated |  | 1 | Prm26 'SS2 safe speed standstill window'<br>Speed limits are identical (Prm26 = 0) |  | 2 | Prm27 'SS2 safe position standstill window'<br>Position limits are identical (Prm27 = 0) |  | 7 | Prm26 'SS2 safe speed standstill window'<br>Prm26 exceeds the maximum permissible value<br>(Prm26 > 60000 1/min) |  | 8 | Prm26 'SS2 safe speed standstill window'<br>Prm26 drops below the minimum permissible value<br>(Prm26 < -60000 1/min) | Info3 | 1 | Actual value exceeds maximum permissible value<br>(60000 1/min) |  | 2 | Prm26 'SS2 safe speed standstill window':<br>Prm26 drops below the minimum permissible value<br>(Prm21 < -60000 1/min) |  | 3 | Prm26 'SS2 safe speed standstill window':<br>Prm26 exceeds the maximum permissible value<br>(Prm21 > 60000 1/min) |  | 4 | Prm26 'SS2 safe speed standstill window':<br>Limits of the speed standstill window have the same value<br>(Prm26 = 0) |  | 5 | Prm67 'SMS safe maximum speed':<br>Prm67 exceeds maximum permissible value<br>(Prm67 > 60000 1/min) |  | 6 | Prm25 'SS2 brake ramp time':<br>Prm25 = 0 |  | 7 | Prm 67/Prm 25:<br>Relation of maximum speed to deceleration ramp n/t too small. (Ramp too flat)<br>(only monitoring channel 1) |  | 10 | Prm25 'SS2 brake ramp time':<br>Current deceleration ramp deviates from the permissible range<br>(only monitoring channel 2) |  | 11 | Prm25 'SS2 brake ramp time':<br>Current deceleration ramp deviates from the permissible range<br>(only monitoring channel 2) |  | 13 | Prm67/Prm25: Relation of maximum speed to ramp time wrong<br>(only monitoring channel 2) |
| Info2                      | 0  | Not to be evaluated  |  |       |   |                     |  |   |  |  |   |  |  |   |  |  |   |   |       |   |   |  |   |  |  |   |   |  |   |   |  |   |   |  |   |   |  |   |  |  |    |  |  |    |  |  |    |  |
|                            | 1  | Prm26 'SS2 safe speed standstill window'<br>Speed limits are identical (Prm26 = 0)   |  |       |   |                     |  |   |  |  |   |  |  |   |  |  |   |   |       |   |   |  |   |  |  |   |   |  |   |   |  |   |   |  |   |   |  |   |  |  |    |  |  |    |  |  |    |  |
|                            | 2  | Prm27 'SS2 safe position standstill window'<br>Position limits are identical (Prm27 = 0)                                       |  |       |   |                     |  |   |  |  |   |  |  |   |  |  |   |   |       |   |   |  |   |  |  |   |   |  |   |   |  |   |   |  |   |   |  |   |  |  |    |  |  |    |  |  |    |  |
|                            | 7  | Prm26 'SS2 safe speed standstill window'<br>Prm26 exceeds the maximum permissible value<br>(Prm26 > 60000 1/min)               |  |       |   |                     |  |   |  |  |   |  |  |   |  |  |   |   |       |   |   |  |   |  |  |   |   |  |   |   |  |   |   |  |   |   |  |   |  |  |    |  |  |    |  |  |    |  |
|                            | 8  | Prm26 'SS2 safe speed standstill window'<br>Prm26 drops below the minimum permissible value<br>(Prm26 < -60000 1/min)          |  |       |   |                     |  |   |  |  |   |  |  |   |  |  |   |   |       |   |   |  |   |  |  |   |   |  |   |   |  |   |   |  |   |   |  |   |  |  |    |  |  |    |  |  |    |  |
| Info3                      | 1  | Actual value exceeds maximum permissible value<br>(60000 1/min)  |  |       |   |                     |  |   |  |  |   |  |  |   |  |  |   |   |       |   |   |  |   |  |  |   |   |  |   |   |  |   |   |  |   |   |  |   |  |  |    |  |  |    |  |  |    |  |
|                            | 2  | Prm26 'SS2 safe speed standstill window':<br>Prm26 drops below the minimum permissible value<br>(Prm21 < -60000 1/min)         |  |       |   |                     |  |   |  |  |   |  |  |   |  |  |   |   |       |   |   |  |   |  |  |   |   |  |   |   |  |   |   |  |   |   |  |   |  |  |    |  |  |    |  |  |    |  |
|                            | 3  | Prm26 'SS2 safe speed standstill window':<br>Prm26 exceeds the maximum permissible value<br>(Prm21 > 60000 1/min)              |  |       |   |                     |  |   |  |  |   |  |  |   |  |  |   |   |       |   |   |  |   |  |  |   |   |  |   |   |  |   |   |  |   |   |  |   |  |  |    |  |  |    |  |  |    |  |
|                            | 4  | Prm26 'SS2 safe speed standstill window':<br>Limits of the speed standstill window have the same value<br>(Prm26 = 0)          |  |       |   |                     |  |   |  |  |   |  |  |   |  |  |   |   |       |   |   |  |   |  |  |   |   |  |   |   |  |   |   |  |   |   |  |   |  |  |    |  |  |    |  |  |    |  |
|                            | 5  | Prm67 'SMS safe maximum speed':<br>Prm67 exceeds maximum permissible value<br>(Prm67 > 60000 1/min)                            |  |       |   |                     |  |   |  |  |   |  |  |   |  |  |   |   |       |   |   |  |   |  |  |   |   |  |   |   |  |   |   |  |   |   |  |   |  |  |    |  |  |    |  |  |    |  |
|                            | 6  | Prm25 'SS2 brake ramp time':<br>Prm25 = 0  |  |       |   |                     |  |   |  |  |   |  |  |   |  |  |   |   |       |   |   |  |   |  |  |   |   |  |   |   |  |   |   |  |   |   |  |   |  |  |    |  |  |    |  |  |    |  |
|                            | 7  | Prm 67/Prm 25:<br>Relation of maximum speed to deceleration ramp n/t too small. (Ramp too flat)<br>(only monitoring channel 1) |  |       |   |                     |  |   |  |  |   |  |  |   |  |  |   |   |       |   |   |  |   |  |  |   |   |  |   |   |  |   |   |  |   |   |  |   |  |  |    |  |  |    |  |  |    |  |
|                            | 10   | Prm25 'SS2 brake ramp time':<br>Current deceleration ramp deviates from the permissible range<br>(only monitoring channel 2)   |  |       |   |                     |  |   |  |  |   |  |  |   |  |  |   |   |       |   |   |  |   |  |  |   |   |  |   |   |  |   |   |  |   |   |  |   |  |  |    |  |  |    |  |  |    |  |
|                            | 11   | Prm25 'SS2 brake ramp time':<br>Current deceleration ramp deviates from the permissible range<br>(only monitoring channel 2)   |  |       |   |                     |  |   |  |  |   |  |  |   |  |  |   |   |       |   |   |  |   |  |  |   |   |  |   |   |  |   |   |  |   |   |  |   |  |  |    |  |  |    |  |  |    |  |
|                            | 13   | Prm67/Prm25: Relation of maximum speed to ramp time wrong<br>(only monitoring channel 2)                                       |  |       |   |                     |  |   |  |  |   |  |  |   |  |  |   |   |       |   |   |  |   |  |  |   |   |  |   |   |  |   |   |  |   |   |  |   |  |  |    |  |  |    |  |  |    |  |
| <b>Error rectification</b> | <ul style="list-style-type: none"> <li>• Parameter to be checked: <ul style="list-style-type: none"> <li>• Prm 25: 'SS2 brake ramp time'</li> <li>• Prm 26: 'SS2 safe speed standstill window'</li> <li>• Prm 27: 'SS2 safe position standstill window'</li> <li>• Prm 67: 'SMS safe maximum speed'</li> </ul> </li> <li>• Generate a correct parameter set and load on the target device</li> </ul> |  |  |       |   |                     |  |   |  |  |   |  |  |   |  |  |   |   |       |   |   |  |   |  |  |   |   |  |   |   |  |   |   |  |   |   |  |   |  |  |    |  |  |    |  |  |    |  |



|                            |       |   |   |   |  |
|----------------------------|-------|---|---|---|--|
| 3605                       | Info1 | 103   | Error message for the safety function 'Safe operating stop (SOS)' |   |  |
|                            |       |   | Movement monitoring   |   |  |
|                            |       |   | Info2   | 1 | Prm28 'SOS safe speed standstill window'<br>Speed limits are identical (Prm 28 = 0)                              |
|                            |       |   |   | 2 | Prm 29 'SOS safe position standstill window'<br>Position limits are identical (Prm 29 = 0)                       |
|                            |       |   |   | 7 | Prm28 'SOS safe speed standstill window'<br>Prm28 exceeds the maximum permissible value<br>(Prm28 > 60000 1/min) |
|                            | 8     | Prm28 'SOS safe speed standstill window'<br>Prm28 drops below the minimum permissible value<br>(Prm28 < -60000 1/min)   |   |   |  |
| <b>Error rectification</b> |       | <ul style="list-style-type: none"> <li>• Parameter to be checked:             <ul style="list-style-type: none"> <li>• Prm 28: 'SOS safe speed standstill window'</li> <li>• Prm 29: 'SOS safe position standstill window'</li> </ul> </li> <li>• Generate a correct parameter set and load on the target device</li> </ul> |   |   |  |

|                            |  |   |   |       |   |  |  |   |   |  |   |   |       |   |   |  |   |  |  |   |  |  |   |   |  |   |   |  |   |   |  |   |   |  |    |  |  |    |  |  |    |   |
|----------------------------|--|---|---|-------|---|--|--|---|---|--|---|---|-------|---|---|--|---|--|--|---|--|--|---|---|--|---|---|--|---|---|--|---|---|--|----|--|--|----|--|--|----|---|
| 3605                       | Info1  | 104   | <p>Error message for the safety function 'Safe speed range 1 (SSR1)'</p> <p><b>Movement monitoring</b></p> <table border="1"> <tr> <td>Info2</td> <td>1</td> <td>Prm33 'SSR1 safe limit speed 1';<br/>Prm34 'SSR1 safe limit speed 2';<br/>Speed limits are identical (Prm33 = Prm34)</td> </tr> <tr> <td></td> <td>7</td> <td>Prm33 'SSR1 safe limit speed 1'<br/>Prm33 exceeds the maximum permissible value<br/>( Prm33  &gt; 60000 1/min)</td> </tr> <tr> <td></td> <td>8</td> <td>Prm34 'SSR1 safe limit speed 2'<br/>Prm34 exceeds the maximum permissible value<br/>( Prm34  &gt; 60000 1/min)</td> </tr> </table> <p><b>Ramp monitoring</b></p> <table border="1"> <tr> <td>Info3</td> <td>1</td> <td>Actual value exceeds maximum permissible value<br/>(60000 1/min)</td> </tr> <tr> <td></td> <td>2</td> <td>Prm33 'SSR1 safe limit speed 1':<br/>Prm33 exceeds the maximum permissible value<br/>( Prm33  &gt; 60000 1/min)</td> </tr> <tr> <td></td> <td>3</td> <td>Prm34 'SSR1 safe limit speed 2':<br/>Prm34 exceeds the maximum permissible value<br/>( Prm34  &gt; 60000 1/min)</td> </tr> <tr> <td></td> <td>4</td> <td>Prm33 'SSR1 safe limit speed 1';<br/>Prm34 'SSR1 safe limit speed 2':<br/>Limits of the speed standstill window have the same<br/>value<br/>(Prm33 = Prm34)</td> </tr> <tr> <td></td> <td>5</td> <td>Prm67 'SMS safe maximum speed':<br/>Prm67 exceeds maximum permissible value<br/>(Prm67 &gt; 60000 1/min)</td> </tr> <tr> <td></td> <td>6</td> <td>Prm32 'SSR1 brake ramp time'<br/>Prm32 = 0</td> </tr> <tr> <td></td> <td>7</td> <td>Prm67/Prm32:<br/>Relation of maximum speed to deceleration ramp n/t too<br/>small. (Ramp too flat)<br/>(only monitoring channel 1)</td> </tr> <tr> <td></td> <td>10</td> <td>Prm32 'SSR1 brake ramp time':<br/>Current deceleration ramp deviates from the permissible<br/>range<br/>(only monitoring channel 2)</td> </tr> <tr> <td></td> <td>11</td> <td>Prm32 'SSR1 brake ramp time':<br/>Current deceleration ramp deviates from the permissible<br/>range<br/>(only monitoring channel 2)</td> </tr> <tr> <td></td> <td>13</td> <td>Prm67/Prm32:<br/>Relation of maximum speed to ramp time<br/>(only monitoring channel 2)</td> </tr> </table> | Info2 | 1 | Prm33 'SSR1 safe limit speed 1';<br>Prm34 'SSR1 safe limit speed 2';<br>Speed limits are identical (Prm33 = Prm34) |  | 7 | Prm33 'SSR1 safe limit speed 1'<br>Prm33 exceeds the maximum permissible value<br>( Prm33  > 60000 1/min) |  | 8 | Prm34 'SSR1 safe limit speed 2'<br>Prm34 exceeds the maximum permissible value<br>( Prm34  > 60000 1/min) | Info3 | 1 | Actual value exceeds maximum permissible value<br>(60000 1/min) |  | 2 | Prm33 'SSR1 safe limit speed 1':<br>Prm33 exceeds the maximum permissible value<br>( Prm33  > 60000 1/min) |  | 3 | Prm34 'SSR1 safe limit speed 2':<br>Prm34 exceeds the maximum permissible value<br>( Prm34  > 60000 1/min) |  | 4 | Prm33 'SSR1 safe limit speed 1';<br>Prm34 'SSR1 safe limit speed 2':<br>Limits of the speed standstill window have the same<br>value<br>(Prm33 = Prm34) |  | 5 | Prm67 'SMS safe maximum speed':<br>Prm67 exceeds maximum permissible value<br>(Prm67 > 60000 1/min) |  | 6 | Prm32 'SSR1 brake ramp time'<br>Prm32 = 0 |  | 7 | Prm67/Prm32:<br>Relation of maximum speed to deceleration ramp n/t too<br>small. (Ramp too flat)<br>(only monitoring channel 1) |  | 10 | Prm32 'SSR1 brake ramp time':<br>Current deceleration ramp deviates from the permissible<br>range<br>(only monitoring channel 2) |  | 11 | Prm32 'SSR1 brake ramp time':<br>Current deceleration ramp deviates from the permissible<br>range<br>(only monitoring channel 2) |  | 13 | Prm67/Prm32:<br>Relation of maximum speed to ramp time<br>(only monitoring channel 2) |
| Info2                      | 1  | Prm33 'SSR1 safe limit speed 1';<br>Prm34 'SSR1 safe limit speed 2';<br>Speed limits are identical (Prm33 = Prm34)                                      |   |       |   |  |  |   |   |  |   |   |       |   |   |  |   |  |  |   |  |  |   |   |  |   |   |  |   |   |  |   |   |  |    |  |  |    |  |  |    |   |
|                            | 7  | Prm33 'SSR1 safe limit speed 1'<br>Prm33 exceeds the maximum permissible value<br>( Prm33  > 60000 1/min)   |   |       |   |  |  |   |   |  |   |   |       |   |   |  |   |  |  |   |  |  |   |   |  |   |   |  |   |   |  |   |   |  |    |  |  |    |  |  |    |   |
|                            | 8  | Prm34 'SSR1 safe limit speed 2'<br>Prm34 exceeds the maximum permissible value<br>( Prm34  > 60000 1/min)   |   |       |   |  |  |   |   |  |   |   |       |   |   |  |   |  |  |   |  |  |   |   |  |   |   |  |   |   |  |   |   |  |    |  |  |    |  |  |    |   |
| Info3                      | 1  | Actual value exceeds maximum permissible value<br>(60000 1/min)   |   |       |   |  |  |   |   |  |   |   |       |   |   |  |   |  |  |   |  |  |   |   |  |   |   |  |   |   |  |   |   |  |    |  |  |    |  |  |    |   |
|                            | 2  | Prm33 'SSR1 safe limit speed 1':<br>Prm33 exceeds the maximum permissible value<br>( Prm33  > 60000 1/min)  |   |       |   |  |  |   |   |  |   |   |       |   |   |  |   |  |  |   |  |  |   |   |  |   |   |  |   |   |  |   |   |  |    |  |  |    |  |  |    |   |
|                            | 3  | Prm34 'SSR1 safe limit speed 2':<br>Prm34 exceeds the maximum permissible value<br>( Prm34  > 60000 1/min)  |   |       |   |  |  |   |   |  |   |   |       |   |   |  |   |  |  |   |  |  |   |   |  |   |   |  |   |   |  |   |   |  |    |  |  |    |  |  |    |   |
|                            | 4  | Prm33 'SSR1 safe limit speed 1';<br>Prm34 'SSR1 safe limit speed 2':<br>Limits of the speed standstill window have the same<br>value<br>(Prm33 = Prm34) |   |       |   |  |  |   |   |  |   |   |       |   |   |  |   |  |  |   |  |  |   |   |  |   |   |  |   |   |  |   |   |  |    |  |  |    |  |  |    |   |
|                            | 5  | Prm67 'SMS safe maximum speed':<br>Prm67 exceeds maximum permissible value<br>(Prm67 > 60000 1/min)   |   |       |   |  |  |   |   |  |   |   |       |   |   |  |   |  |  |   |  |  |   |   |  |   |   |  |   |   |  |   |   |  |    |  |  |    |  |  |    |   |
|                            | 6  | Prm32 'SSR1 brake ramp time'<br>Prm32 = 0   |   |       |   |  |  |   |   |  |   |   |       |   |   |  |   |  |  |   |  |  |   |   |  |   |   |  |   |   |  |   |   |  |    |  |  |    |  |  |    |   |
|                            | 7  | Prm67/Prm32:<br>Relation of maximum speed to deceleration ramp n/t too<br>small. (Ramp too flat)<br>(only monitoring channel 1)                         |   |       |   |  |  |   |   |  |   |   |       |   |   |  |   |  |  |   |  |  |   |   |  |   |   |  |   |   |  |   |   |  |    |  |  |    |  |  |    |   |
|                            | 10   | Prm32 'SSR1 brake ramp time':<br>Current deceleration ramp deviates from the permissible<br>range<br>(only monitoring channel 2)                        |   |       |   |  |  |   |   |  |   |   |       |   |   |  |   |  |  |   |  |  |   |   |  |   |   |  |   |   |  |   |   |  |    |  |  |    |  |  |    |   |
|                            | 11   | Prm32 'SSR1 brake ramp time':<br>Current deceleration ramp deviates from the permissible<br>range<br>(only monitoring channel 2)                        |   |       |   |  |  |   |   |  |   |   |       |   |   |  |   |  |  |   |  |  |   |   |  |   |   |  |   |   |  |   |   |  |    |  |  |    |  |  |    |   |
|                            | 13   | Prm67/Prm32:<br>Relation of maximum speed to ramp time<br>(only monitoring channel 2)   |   |       |   |  |  |   |   |  |   |   |       |   |   |  |   |  |  |   |  |  |   |   |  |   |   |  |   |   |  |   |   |  |    |  |  |    |  |  |    |   |
| <b>Error rectification</b> | <ul style="list-style-type: none"> <li>• Parameter to be checked: <ul style="list-style-type: none"> <li>• Prm32: 'SSR1 brake ramp time'</li> <li>• Prm33: 'SSR1 safe limit speed 1'</li> <li>• Prm34: 'SSR1 safe limit speed 2'</li> <li>• Prm67: 'SMS safe maximum speed'</li> </ul> </li> <li>• Generate a correct parameter set and load on the target device</li> </ul> |   |   |       |   |  |  |   |   |  |   |   |       |   |   |  |   |  |  |   |  |  |   |   |  |   |   |  |   |   |  |   |   |  |    |  |  |    |  |  |    |   |

|                            |       |  |  |   |  |
|----------------------------|-------|--|--|---|--|
| 3605                       | Info1 | 105  | Error message for the safety function 'Safe direction positive (SDIp)' |   |  |
|                            |       |  | Movement monitoring  |   |  |
|                            |       |  | Info2  | 1   | Prm64 'SDI safe speed standstill window';<br>Prm67 'SMS safe maximum speed':<br>Speed limits are identical (Prm67 = Prm64) |
|                            |       |  | 7  | Prm64 'SDI safe speed standstill window':<br>Prm64 exceeds the maximum permissible value<br>( Prm64  > 60000 1/min) |  |
|                            |       |  | 8  | Prm67 'SMS safe maximum speed':<br>Prm67 exceeds the maximum permissible value<br>( Prm67  > 60000 1/min)           |  |
|                            |       |  | Ramp monitoring  |   |  |
|                            |       |  | Info3  | 0   | Not to be evaluated  |
|                            |       |  |  | 5   | Prm67 'SMS safe maximum speed':<br>Prm67 exceeds maximum permissible value<br>(Prm67 > 60000 1/min)                        |
| <b>Error rectification</b> |       | <ul style="list-style-type: none"> <li>Parameter to be checked: <ul style="list-style-type: none"> <li>Prm 64: 'SDI safe speed standstill window'</li> <li>Prm 67: 'SMS safe maximum speed'</li> </ul> </li> <li>Generate a correct parameter set and load on the target device</li> </ul> |  |   |  |
| 3605                       | Info1 | 106  | Error message for the safety function 'Safe direction negative (SDIn)' |   |  |
|                            |       |  | Movement monitoring  |   |  |
|                            |       |  | Info2  | 1   | Prm64 'SDI safe speed standstill window';<br>Prm67 'SMS safe maximum speed':<br>Speed limits are identical (Prm67 = Prm64) |
|                            |       |  | 7  | Prm67 'SMS safe maximum speed':<br>Prm67 exceeds the maximum permissible value<br>( Prm67  > 60000 1/min)           |  |
|                            |       |  | 8  | Prm64 'SDI safe speed standstill window':<br>Prm64 exceeds the maximum permissible value<br>( Prm64  > 60000 1/min) |  |
|                            |       |  | Ramp monitoring  |   |  |
|                            |       |  | Info3  | 0   | Not to be evaluated  |
|                            |       |  |  | 5   | Prm67 'SMS safe maximum speed':<br>Prm67 exceeds maximum permissible value<br>(Prm67 > 60000 1/min)                        |
| <b>Error rectification</b> |       | <ul style="list-style-type: none"> <li>Parameter to be checked: <ul style="list-style-type: none"> <li>Prm 64: 'SDI safe speed standstill window'</li> <li>Prm 67: 'SMS safe maximum speed'</li> </ul> </li> <li>Generate a correct parameter set and load on the target device</li> </ul> |  |   |  |
| 3605                       | Info1 | 108  | Error message for the safety function 'Safe maximum speed (SMS)'       |   |  |
|                            |       |  | Movement monitoring  |   |  |
|                            |       |  | Info2  | 1   | Prm67 'SMS safe maximum speed':<br>Speed limits are identical (Prm67 = 0)  |
|                            |       |  | 7  | Prm67 'SMS safe maximum speed':<br>Prm67 exceeds the maximum permissible value<br>(Prm67 > 60000 1/min)             |  |
|                            |       |  | 8  | Prm67 'SMS safe maximum speed':<br>Prm67 drops below the minimum permissible value<br>(Prm67 < -60000 1/min)        |  |
| <b>Error rectification</b> |       | <ul style="list-style-type: none"> <li>Parameter to be checked: <ul style="list-style-type: none"> <li>Prm 67: 'SMS safe maximum speed'</li> </ul> </li> <li>Generate a correct parameter set and load on the target device</li> </ul>   |  |   |  |

|                            |  |  |   |       |   |  |  |   |  |  |   |  |       |   |   |  |   |  |  |   |  |  |   |  |  |   |   |  |   |  |  |   |  |  |    |   |  |    |   |  |    |  |
|----------------------------|--|--|---|-------|---|--|--|---|--|--|---|--|-------|---|---|--|---|--|--|---|--|--|---|--|--|---|---|--|---|--|--|---|--|--|----|---|--|----|---|--|----|--|
| 3605                       | Info1  | 109  | <p>Error message for the safety function 'Safe speed range 2 (SSR2)'</p> <p><b>Movement monitoring</b></p> <table border="1"> <tr> <td>Info2</td> <td>1</td> <td>Prm39 'SSR2 safe limit speed 1';<br/>Prm40 'SSR2 safe limit speed 2';<br/>Speed limits are identical (Prm39 = Prm40)</td> </tr> <tr> <td></td> <td>7</td> <td>Prm39 'SSR2 safe limit speed 1':<br/>Prm39 exceeds the maximum permissible value<br/>( Prm39  &gt; 60000 1/min)</td> </tr> <tr> <td></td> <td>8</td> <td>Prm40 'SSR2 safe limit speed 2':<br/>Prm40 exceeds the maximum permissible value<br/>( Prm40  &gt; 60000 1/min)</td> </tr> </table> <p><b>Ramp monitoring</b></p> <table border="1"> <tr> <td>Info3</td> <td>1</td> <td>Actual value exceeds maximum permissible value<br/>(60000 1/min)</td> </tr> <tr> <td></td> <td>2</td> <td>Prm39 'SSR2 safe limit speed 1':<br/>Prm39 exceeds the maximum permissible value<br/>( Prm39  &gt; 60000 1/min)</td> </tr> <tr> <td></td> <td>3</td> <td>Prm40 'SSR2 safe limit speed 2':<br/>Prm40 exceeds the maximum permissible value<br/>( Prm40  &gt; 60000 1/min)</td> </tr> <tr> <td></td> <td>4</td> <td>Prm39 'SSR2 safe limit speed 1';<br/>Prm40 'SSR2 safe limit speed 2':<br/>Limits of the speed standstill window have the same value<br/>(Prm39 = Prm40)</td> </tr> <tr> <td></td> <td>5</td> <td>Prm67 'SMS safe maximum speed':<br/>Prm67 exceeds the maximum permissible value<br/>(Prm67 &gt; 60000 1/min)</td> </tr> <tr> <td></td> <td>6</td> <td>Prm38 'SSR2 brake ramp time':<br/>Prm38 = 0</td> </tr> <tr> <td></td> <td>7</td> <td>Prm38 'SSR2 brake ramp time';<br/>Prm67 'SMS safe maximum speed':<br/>Relation of maximum speed to deceleration ramp n/t too small. (Ramp too flat)<br/>(only monitoring channel 1)</td> </tr> <tr> <td></td> <td>10</td> <td>Prm38 'SSR2 brake ramp time':<br/>Current deceleration ramp deviates from the permissible range<br/>(only monitoring channel 2)</td> </tr> <tr> <td></td> <td>11</td> <td>Prm38 'SSR2 brake ramp time':<br/>Current deceleration ramp deviates from the permissible range<br/>(only monitoring channel 2)</td> </tr> <tr> <td></td> <td>13</td> <td>Prm38 'SSR2 brake ramp time';<br/>Prm67 'SMS safe maximum speed':<br/>Relation of maximum speed to ramp time wrong<br/>(Prm67/Prm38)<br/>(only monitoring channel 2)</td> </tr> </table> | Info2 | 1 | Prm39 'SSR2 safe limit speed 1';<br>Prm40 'SSR2 safe limit speed 2';<br>Speed limits are identical (Prm39 = Prm40) |  | 7 | Prm39 'SSR2 safe limit speed 1':<br>Prm39 exceeds the maximum permissible value<br>( Prm39  > 60000 1/min) |  | 8 | Prm40 'SSR2 safe limit speed 2':<br>Prm40 exceeds the maximum permissible value<br>( Prm40  > 60000 1/min) | Info3 | 1 | Actual value exceeds maximum permissible value<br>(60000 1/min) |  | 2 | Prm39 'SSR2 safe limit speed 1':<br>Prm39 exceeds the maximum permissible value<br>( Prm39  > 60000 1/min) |  | 3 | Prm40 'SSR2 safe limit speed 2':<br>Prm40 exceeds the maximum permissible value<br>( Prm40  > 60000 1/min) |  | 4 | Prm39 'SSR2 safe limit speed 1';<br>Prm40 'SSR2 safe limit speed 2':<br>Limits of the speed standstill window have the same value<br>(Prm39 = Prm40) |  | 5 | Prm67 'SMS safe maximum speed':<br>Prm67 exceeds the maximum permissible value<br>(Prm67 > 60000 1/min) |  | 6 | Prm38 'SSR2 brake ramp time':<br>Prm38 = 0 |  | 7 | Prm38 'SSR2 brake ramp time';<br>Prm67 'SMS safe maximum speed':<br>Relation of maximum speed to deceleration ramp n/t too small. (Ramp too flat)<br>(only monitoring channel 1) |  | 10 | Prm38 'SSR2 brake ramp time':<br>Current deceleration ramp deviates from the permissible range<br>(only monitoring channel 2) |  | 11 | Prm38 'SSR2 brake ramp time':<br>Current deceleration ramp deviates from the permissible range<br>(only monitoring channel 2) |  | 13 | Prm38 'SSR2 brake ramp time';<br>Prm67 'SMS safe maximum speed':<br>Relation of maximum speed to ramp time wrong<br>(Prm67/Prm38)<br>(only monitoring channel 2) |
| Info2                      | 1  | Prm39 'SSR2 safe limit speed 1';<br>Prm40 'SSR2 safe limit speed 2';<br>Speed limits are identical (Prm39 = Prm40)   |   |       |   |  |  |   |  |  |   |  |       |   |   |  |   |  |  |   |  |  |   |  |  |   |   |  |   |  |  |   |  |  |    |   |  |    |   |  |    |  |
|                            | 7  | Prm39 'SSR2 safe limit speed 1':<br>Prm39 exceeds the maximum permissible value<br>( Prm39  > 60000 1/min)   |   |       |   |  |  |   |  |  |   |  |       |   |   |  |   |  |  |   |  |  |   |  |  |   |   |  |   |  |  |   |  |  |    |   |  |    |   |  |    |  |
|                            | 8  | Prm40 'SSR2 safe limit speed 2':<br>Prm40 exceeds the maximum permissible value<br>( Prm40  > 60000 1/min)   |   |       |   |  |  |   |  |  |   |  |       |   |   |  |   |  |  |   |  |  |   |  |  |   |   |  |   |  |  |   |  |  |    |   |  |    |   |  |    |  |
| Info3                      | 1  | Actual value exceeds maximum permissible value<br>(60000 1/min)  |   |       |   |  |  |   |  |  |   |  |       |   |   |  |   |  |  |   |  |  |   |  |  |   |   |  |   |  |  |   |  |  |    |   |  |    |   |  |    |  |
|                            | 2  | Prm39 'SSR2 safe limit speed 1':<br>Prm39 exceeds the maximum permissible value<br>( Prm39  > 60000 1/min)   |   |       |   |  |  |   |  |  |   |  |       |   |   |  |   |  |  |   |  |  |   |  |  |   |   |  |   |  |  |   |  |  |    |   |  |    |   |  |    |  |
|                            | 3  | Prm40 'SSR2 safe limit speed 2':<br>Prm40 exceeds the maximum permissible value<br>( Prm40  > 60000 1/min)   |   |       |   |  |  |   |  |  |   |  |       |   |   |  |   |  |  |   |  |  |   |  |  |   |   |  |   |  |  |   |  |  |    |   |  |    |   |  |    |  |
|                            | 4  | Prm39 'SSR2 safe limit speed 1';<br>Prm40 'SSR2 safe limit speed 2':<br>Limits of the speed standstill window have the same value<br>(Prm39 = Prm40)                             |   |       |   |  |  |   |  |  |   |  |       |   |   |  |   |  |  |   |  |  |   |  |  |   |   |  |   |  |  |   |  |  |    |   |  |    |   |  |    |  |
|                            | 5  | Prm67 'SMS safe maximum speed':<br>Prm67 exceeds the maximum permissible value<br>(Prm67 > 60000 1/min)  |   |       |   |  |  |   |  |  |   |  |       |   |   |  |   |  |  |   |  |  |   |  |  |   |   |  |   |  |  |   |  |  |    |   |  |    |   |  |    |  |
|                            | 6  | Prm38 'SSR2 brake ramp time':<br>Prm38 = 0   |   |       |   |  |  |   |  |  |   |  |       |   |   |  |   |  |  |   |  |  |   |  |  |   |   |  |   |  |  |   |  |  |    |   |  |    |   |  |    |  |
|                            | 7  | Prm38 'SSR2 brake ramp time';<br>Prm67 'SMS safe maximum speed':<br>Relation of maximum speed to deceleration ramp n/t too small. (Ramp too flat)<br>(only monitoring channel 1) |   |       |   |  |  |   |  |  |   |  |       |   |   |  |   |  |  |   |  |  |   |  |  |   |   |  |   |  |  |   |  |  |    |   |  |    |   |  |    |  |
|                            | 10   | Prm38 'SSR2 brake ramp time':<br>Current deceleration ramp deviates from the permissible range<br>(only monitoring channel 2)  |   |       |   |  |  |   |  |  |   |  |       |   |   |  |   |  |  |   |  |  |   |  |  |   |   |  |   |  |  |   |  |  |    |   |  |    |   |  |    |  |
|                            | 11   | Prm38 'SSR2 brake ramp time':<br>Current deceleration ramp deviates from the permissible range<br>(only monitoring channel 2)  |   |       |   |  |  |   |  |  |   |  |       |   |   |  |   |  |  |   |  |  |   |  |  |   |   |  |   |  |  |   |  |  |    |   |  |    |   |  |    |  |
|                            | 13   | Prm38 'SSR2 brake ramp time';<br>Prm67 'SMS safe maximum speed':<br>Relation of maximum speed to ramp time wrong<br>(Prm67/Prm38)<br>(only monitoring channel 2)                 |   |       |   |  |  |   |  |  |   |  |       |   |   |  |   |  |  |   |  |  |   |  |  |   |   |  |   |  |  |   |  |  |    |   |  |    |   |  |    |  |
| <b>Error rectification</b> | <ul style="list-style-type: none"> <li>• Parameter to be checked: <ul style="list-style-type: none"> <li>• Prm 38: 'SSR2 brake ramp time'</li> <li>• Prm 39: 'SSR2 safe limit speed 1'</li> <li>• Prm 40: 'SSR2 safe limit speed 2'</li> <li>• Prm 67: 'SMS safe maximum speed'</li> </ul> </li> <li>• Generate a correct parameter set and load on the target device</li> </ul> |  |   |       |   |  |  |   |  |  |   |  |       |   |   |  |   |  |  |   |  |  |   |  |  |   |   |  |   |  |  |   |  |  |    |   |  |    |   |  |    |  |

|                            |  |   |   |       |   |  |  |   |  |  |   |  |       |   |   |  |   |  |  |   |  |  |   |   |  |   |   |  |   |  |  |   |   |  |    |  |  |    |  |  |    |  |
|----------------------------|--|---|---|-------|---|--|--|---|--|--|---|--|-------|---|---|--|---|--|--|---|--|--|---|---|--|---|---|--|---|--|--|---|---|--|----|--|--|----|--|--|----|--|
| 3605                       | Info1  | 110   | <p>Error message for the safety function 'Safe speed range 3 (SSR3)'</p> <p><b>Movement monitoring</b></p> <table border="1"> <tr> <td>Info2</td> <td>1</td> <td>Prm45 'SSR3 safe limit speed 1';<br/>Prm46 'SSR3 safe limit speed 2';<br/>Speed limits are identical (Prm45 = Prm46)</td> </tr> <tr> <td></td> <td>7</td> <td>Prm45 'SSR3 safe limit speed 1':<br/>Prm45 exceeds the maximum permissible value<br/>( Prm45  &gt; 60000 1/min)</td> </tr> <tr> <td></td> <td>8</td> <td>Prm46 'SSR3 safe limit speed 2':<br/>Prm46 exceeds the maximum permissible value<br/>( Prm46  &gt; 60000 1/min)</td> </tr> </table> <p><b>Ramp monitoring</b></p> <table border="1"> <tr> <td>Info3</td> <td>1</td> <td>Actual value exceeds maximum permissible value<br/>(60000 1/min)</td> </tr> <tr> <td></td> <td>2</td> <td>Prm45 'SSR3 safe limit speed 1':<br/>Prm45 exceeds the maximum permissible value<br/>( Prm45  &gt; 60000 1/min)</td> </tr> <tr> <td></td> <td>3</td> <td>Prm46 'SSR3 safe limit speed 2':<br/>Prm46 exceeds the maximum permissible value<br/>( Prm46  &gt; 60000 1/min)</td> </tr> <tr> <td></td> <td>4</td> <td>Prm45 'SSR3 safe limit speed 1';<br/>Prm46 'SSR3 safe limit speed 2':<br/>Prm45 = Prm46</td> </tr> <tr> <td></td> <td>5</td> <td>Prm67 'SMS safe maximum speed':<br/>Prm67 exceeds the maximum permissible value<br/>(Prm67 &gt; 60000 1/min)</td> </tr> <tr> <td></td> <td>6</td> <td>Prm44 'SSR3 brake ramp time':<br/>(Prm44 = 0)</td> </tr> <tr> <td></td> <td>7</td> <td>Prm44 'SSR3 brake ramp time';<br/>Prm67 'SMS safe maximum speed':<br/>Relation of maximum speed to deceleration ramp n/t too<br/>small. (Ramp too flat)<br/>(only monitoring channel 1)</td> </tr> <tr> <td></td> <td>10</td> <td>Prm44 'SSR3 brake ramp time':<br/>Current deceleration ramp deviates from the permissible<br/>range<br/>(only monitoring channel 2)</td> </tr> <tr> <td></td> <td>11</td> <td>Prm44 'SSR3 brake ramp time':<br/>Current deceleration ramp deviates from the permissible<br/>range<br/>(only monitoring channel 2)</td> </tr> <tr> <td></td> <td>13</td> <td>Prm44 'SSR3 brake ramp time';<br/>Prm67 'SMS safe maximum speed':<br/>Relation of maximum speed to ramp time wrong<br/>(Prm67/Prm44)<br/>(only monitoring channel 2)</td> </tr> </table> | Info2 | 1 | Prm45 'SSR3 safe limit speed 1';<br>Prm46 'SSR3 safe limit speed 2';<br>Speed limits are identical (Prm45 = Prm46) |  | 7 | Prm45 'SSR3 safe limit speed 1':<br>Prm45 exceeds the maximum permissible value<br>( Prm45  > 60000 1/min) |  | 8 | Prm46 'SSR3 safe limit speed 2':<br>Prm46 exceeds the maximum permissible value<br>( Prm46  > 60000 1/min) | Info3 | 1 | Actual value exceeds maximum permissible value<br>(60000 1/min) |  | 2 | Prm45 'SSR3 safe limit speed 1':<br>Prm45 exceeds the maximum permissible value<br>( Prm45  > 60000 1/min) |  | 3 | Prm46 'SSR3 safe limit speed 2':<br>Prm46 exceeds the maximum permissible value<br>( Prm46  > 60000 1/min) |  | 4 | Prm45 'SSR3 safe limit speed 1';<br>Prm46 'SSR3 safe limit speed 2':<br>Prm45 = Prm46 |  | 5 | Prm67 'SMS safe maximum speed':<br>Prm67 exceeds the maximum permissible value<br>(Prm67 > 60000 1/min) |  | 6 | Prm44 'SSR3 brake ramp time':<br>(Prm44 = 0) |  | 7 | Prm44 'SSR3 brake ramp time';<br>Prm67 'SMS safe maximum speed':<br>Relation of maximum speed to deceleration ramp n/t too<br>small. (Ramp too flat)<br>(only monitoring channel 1) |  | 10 | Prm44 'SSR3 brake ramp time':<br>Current deceleration ramp deviates from the permissible<br>range<br>(only monitoring channel 2) |  | 11 | Prm44 'SSR3 brake ramp time':<br>Current deceleration ramp deviates from the permissible<br>range<br>(only monitoring channel 2) |  | 13 | Prm44 'SSR3 brake ramp time';<br>Prm67 'SMS safe maximum speed':<br>Relation of maximum speed to ramp time wrong<br>(Prm67/Prm44)<br>(only monitoring channel 2) |
| Info2                      | 1  | Prm45 'SSR3 safe limit speed 1';<br>Prm46 'SSR3 safe limit speed 2';<br>Speed limits are identical (Prm45 = Prm46)  |   |       |   |  |  |   |  |  |   |  |       |   |   |  |   |  |  |   |  |  |   |   |  |   |   |  |   |  |  |   |   |  |    |  |  |    |  |  |    |  |
|                            | 7  | Prm45 'SSR3 safe limit speed 1':<br>Prm45 exceeds the maximum permissible value<br>( Prm45  > 60000 1/min)  |   |       |   |  |  |   |  |  |   |  |       |   |   |  |   |  |  |   |  |  |   |   |  |   |   |  |   |  |  |   |   |  |    |  |  |    |  |  |    |  |
|                            | 8  | Prm46 'SSR3 safe limit speed 2':<br>Prm46 exceeds the maximum permissible value<br>( Prm46  > 60000 1/min)  |   |       |   |  |  |   |  |  |   |  |       |   |   |  |   |  |  |   |  |  |   |   |  |   |   |  |   |  |  |   |   |  |    |  |  |    |  |  |    |  |
| Info3                      | 1  | Actual value exceeds maximum permissible value<br>(60000 1/min)   |   |       |   |  |  |   |  |  |   |  |       |   |   |  |   |  |  |   |  |  |   |   |  |   |   |  |   |  |  |   |   |  |    |  |  |    |  |  |    |  |
|                            | 2  | Prm45 'SSR3 safe limit speed 1':<br>Prm45 exceeds the maximum permissible value<br>( Prm45  > 60000 1/min)  |   |       |   |  |  |   |  |  |   |  |       |   |   |  |   |  |  |   |  |  |   |   |  |   |   |  |   |  |  |   |   |  |    |  |  |    |  |  |    |  |
|                            | 3  | Prm46 'SSR3 safe limit speed 2':<br>Prm46 exceeds the maximum permissible value<br>( Prm46  > 60000 1/min)  |   |       |   |  |  |   |  |  |   |  |       |   |   |  |   |  |  |   |  |  |   |   |  |   |   |  |   |  |  |   |   |  |    |  |  |    |  |  |    |  |
|                            | 4  | Prm45 'SSR3 safe limit speed 1';<br>Prm46 'SSR3 safe limit speed 2':<br>Prm45 = Prm46   |   |       |   |  |  |   |  |  |   |  |       |   |   |  |   |  |  |   |  |  |   |   |  |   |   |  |   |  |  |   |   |  |    |  |  |    |  |  |    |  |
|                            | 5  | Prm67 'SMS safe maximum speed':<br>Prm67 exceeds the maximum permissible value<br>(Prm67 > 60000 1/min)   |   |       |   |  |  |   |  |  |   |  |       |   |   |  |   |  |  |   |  |  |   |   |  |   |   |  |   |  |  |   |   |  |    |  |  |    |  |  |    |  |
|                            | 6  | Prm44 'SSR3 brake ramp time':<br>(Prm44 = 0)  |   |       |   |  |  |   |  |  |   |  |       |   |   |  |   |  |  |   |  |  |   |   |  |   |   |  |   |  |  |   |   |  |    |  |  |    |  |  |    |  |
|                            | 7  | Prm44 'SSR3 brake ramp time';<br>Prm67 'SMS safe maximum speed':<br>Relation of maximum speed to deceleration ramp n/t too<br>small. (Ramp too flat)<br>(only monitoring channel 1) |   |       |   |  |  |   |  |  |   |  |       |   |   |  |   |  |  |   |  |  |   |   |  |   |   |  |   |  |  |   |   |  |    |  |  |    |  |  |    |  |
|                            | 10   | Prm44 'SSR3 brake ramp time':<br>Current deceleration ramp deviates from the permissible<br>range<br>(only monitoring channel 2)  |   |       |   |  |  |   |  |  |   |  |       |   |   |  |   |  |  |   |  |  |   |   |  |   |   |  |   |  |  |   |   |  |    |  |  |    |  |  |    |  |
|                            | 11   | Prm44 'SSR3 brake ramp time':<br>Current deceleration ramp deviates from the permissible<br>range<br>(only monitoring channel 2)  |   |       |   |  |  |   |  |  |   |  |       |   |   |  |   |  |  |   |  |  |   |   |  |   |   |  |   |  |  |   |   |  |    |  |  |    |  |  |    |  |
|                            | 13   | Prm44 'SSR3 brake ramp time';<br>Prm67 'SMS safe maximum speed':<br>Relation of maximum speed to ramp time wrong<br>(Prm67/Prm44)<br>(only monitoring channel 2)                    |   |       |   |  |  |   |  |  |   |  |       |   |   |  |   |  |  |   |  |  |   |   |  |   |   |  |   |  |  |   |   |  |    |  |  |    |  |  |    |  |
| <b>Error rectification</b> | <ul style="list-style-type: none"> <li>• Parameter to be checked: <ul style="list-style-type: none"> <li>• Prm 44: 'SSR3 brake ramp time'</li> <li>• Prm 45: 'SSR3 safe limit speed 1'</li> <li>• Prm 46: 'SSR3 safe limit speed 2'</li> <li>• Prm 67: 'SMS safe maximum speed'</li> </ul> </li> <li>• Generate a correct parameter set and load on the target device</li> </ul> |   |   |       |   |  |  |   |  |  |   |  |       |   |   |  |   |  |  |   |  |  |   |   |  |   |   |  |   |  |  |   |   |  |    |  |  |    |  |  |    |  |

|                            |  |  |  |       |   |  |  |   |  |  |   |  |       |   |   |  |   |  |  |   |  |  |   |   |  |   |   |  |   |  |  |   |  |  |    |   |  |    |   |  |    |  |
|----------------------------|--|--|--|-------|---|--|--|---|--|--|---|--|-------|---|---|--|---|--|--|---|--|--|---|---|--|---|---|--|---|--|--|---|--|--|----|---|--|----|---|--|----|--|
| 3605                       | Info1  | 111  | <p>Error message for the safety function 'Safe speed range 4 (SSR4)'</p> <p>Movement monitoring</p> <table border="1"> <tr> <td>Info2</td> <td>1</td> <td>Prm51 'SSR4 safe limit speed 1';<br/>Prm52 'SSR4 safe limit speed 2':<br/>Speed limits are identical (Prm51 = Prm52)</td> </tr> <tr> <td></td> <td>7</td> <td>Prm51 'SSR4 safe limit speed 1':<br/>Prm51 exceeds the maximum permissible value<br/>( Prm51  &gt; 60000 1/min)</td> </tr> <tr> <td></td> <td>8</td> <td>Prm52 'SSR4 safe limit speed 2':<br/>Prm52 exceeds the maximum permissible value<br/>( Prm52  &gt; 60000 1/min)</td> </tr> </table> <p>Ramp monitoring</p> <table border="1"> <tr> <td>Info3</td> <td>1</td> <td>Actual value exceeds maximum permissible value<br/>(60000 1/min)</td> </tr> <tr> <td></td> <td>2</td> <td>Prm51 'SSR4 safe limit speed 1':<br/>Prm51 exceeds the maximum permissible value<br/>( Prm51  &gt; 60000 1/min)</td> </tr> <tr> <td></td> <td>3</td> <td>Prm52 'SSR4 safe limit speed 2':<br/>Prm52 exceeds the maximum permissible value<br/>( Prm52  &gt; 60000 1/min)</td> </tr> <tr> <td></td> <td>4</td> <td>Prm51 'SSR4 safe limit speed 1';<br/>Prm52 'SSR4 safe limit speed 2':<br/>Prm51 = Prm52</td> </tr> <tr> <td></td> <td>5</td> <td>Prm67 'SMS safe maximum speed':<br/>Prm67 exceeds the maximum permissible value<br/>(Prm67 &gt; 60000 1/min)</td> </tr> <tr> <td></td> <td>6</td> <td>Prm50 'SSR4 brake ramp time':<br/>Prm50 = 0</td> </tr> <tr> <td></td> <td>7</td> <td>Prm50 'SSR4 brake ramp time';<br/>Prm67 'SMS safe maximum speed':<br/>Relation of maximum speed to deceleration ramp n/t too small. (Ramp too flat)<br/>(only monitoring channel 1)</td> </tr> <tr> <td></td> <td>10</td> <td>Prm50 'SSR4 brake ramp time':<br/>Current deceleration ramp deviates from the permissible range<br/>(only monitoring channel 2)</td> </tr> <tr> <td></td> <td>11</td> <td>Prm50 'SSR4 brake ramp time':<br/>Current deceleration ramp deviates from the permissible range<br/>(only monitoring channel 2)</td> </tr> <tr> <td></td> <td>13</td> <td>Prm50 'SSR4 brake ramp time';<br/>Prm67 'SMS safe maximum speed':<br/>Relation of maximum speed to ramp time wrong<br/>(Prm67/Prm50)<br/>(only monitoring channel 2)</td> </tr> </table> | Info2 | 1 | Prm51 'SSR4 safe limit speed 1';<br>Prm52 'SSR4 safe limit speed 2':<br>Speed limits are identical (Prm51 = Prm52) |  | 7 | Prm51 'SSR4 safe limit speed 1':<br>Prm51 exceeds the maximum permissible value<br>( Prm51  > 60000 1/min) |  | 8 | Prm52 'SSR4 safe limit speed 2':<br>Prm52 exceeds the maximum permissible value<br>( Prm52  > 60000 1/min) | Info3 | 1 | Actual value exceeds maximum permissible value<br>(60000 1/min) |  | 2 | Prm51 'SSR4 safe limit speed 1':<br>Prm51 exceeds the maximum permissible value<br>( Prm51  > 60000 1/min) |  | 3 | Prm52 'SSR4 safe limit speed 2':<br>Prm52 exceeds the maximum permissible value<br>( Prm52  > 60000 1/min) |  | 4 | Prm51 'SSR4 safe limit speed 1';<br>Prm52 'SSR4 safe limit speed 2':<br>Prm51 = Prm52 |  | 5 | Prm67 'SMS safe maximum speed':<br>Prm67 exceeds the maximum permissible value<br>(Prm67 > 60000 1/min) |  | 6 | Prm50 'SSR4 brake ramp time':<br>Prm50 = 0 |  | 7 | Prm50 'SSR4 brake ramp time';<br>Prm67 'SMS safe maximum speed':<br>Relation of maximum speed to deceleration ramp n/t too small. (Ramp too flat)<br>(only monitoring channel 1) |  | 10 | Prm50 'SSR4 brake ramp time':<br>Current deceleration ramp deviates from the permissible range<br>(only monitoring channel 2) |  | 11 | Prm50 'SSR4 brake ramp time':<br>Current deceleration ramp deviates from the permissible range<br>(only monitoring channel 2) |  | 13 | Prm50 'SSR4 brake ramp time';<br>Prm67 'SMS safe maximum speed':<br>Relation of maximum speed to ramp time wrong<br>(Prm67/Prm50)<br>(only monitoring channel 2) |
| Info2                      | 1  | Prm51 'SSR4 safe limit speed 1';<br>Prm52 'SSR4 safe limit speed 2':<br>Speed limits are identical (Prm51 = Prm52)   |  |       |   |  |  |   |  |  |   |  |       |   |   |  |   |  |  |   |  |  |   |   |  |   |   |  |   |  |  |   |  |  |    |   |  |    |   |  |    |  |
|                            | 7  | Prm51 'SSR4 safe limit speed 1':<br>Prm51 exceeds the maximum permissible value<br>( Prm51  > 60000 1/min)   |  |       |   |  |  |   |  |  |   |  |       |   |   |  |   |  |  |   |  |  |   |   |  |   |   |  |   |  |  |   |  |  |    |   |  |    |   |  |    |  |
|                            | 8  | Prm52 'SSR4 safe limit speed 2':<br>Prm52 exceeds the maximum permissible value<br>( Prm52  > 60000 1/min)   |  |       |   |  |  |   |  |  |   |  |       |   |   |  |   |  |  |   |  |  |   |   |  |   |   |  |   |  |  |   |  |  |    |   |  |    |   |  |    |  |
| Info3                      | 1  | Actual value exceeds maximum permissible value<br>(60000 1/min)  |  |       |   |  |  |   |  |  |   |  |       |   |   |  |   |  |  |   |  |  |   |   |  |   |   |  |   |  |  |   |  |  |    |   |  |    |   |  |    |  |
|                            | 2  | Prm51 'SSR4 safe limit speed 1':<br>Prm51 exceeds the maximum permissible value<br>( Prm51  > 60000 1/min)   |  |       |   |  |  |   |  |  |   |  |       |   |   |  |   |  |  |   |  |  |   |   |  |   |   |  |   |  |  |   |  |  |    |   |  |    |   |  |    |  |
|                            | 3  | Prm52 'SSR4 safe limit speed 2':<br>Prm52 exceeds the maximum permissible value<br>( Prm52  > 60000 1/min)   |  |       |   |  |  |   |  |  |   |  |       |   |   |  |   |  |  |   |  |  |   |   |  |   |   |  |   |  |  |   |  |  |    |   |  |    |   |  |    |  |
|                            | 4  | Prm51 'SSR4 safe limit speed 1';<br>Prm52 'SSR4 safe limit speed 2':<br>Prm51 = Prm52  |  |       |   |  |  |   |  |  |   |  |       |   |   |  |   |  |  |   |  |  |   |   |  |   |   |  |   |  |  |   |  |  |    |   |  |    |   |  |    |  |
|                            | 5  | Prm67 'SMS safe maximum speed':<br>Prm67 exceeds the maximum permissible value<br>(Prm67 > 60000 1/min)  |  |       |   |  |  |   |  |  |   |  |       |   |   |  |   |  |  |   |  |  |   |   |  |   |   |  |   |  |  |   |  |  |    |   |  |    |   |  |    |  |
|                            | 6  | Prm50 'SSR4 brake ramp time':<br>Prm50 = 0   |  |       |   |  |  |   |  |  |   |  |       |   |   |  |   |  |  |   |  |  |   |   |  |   |   |  |   |  |  |   |  |  |    |   |  |    |   |  |    |  |
|                            | 7  | Prm50 'SSR4 brake ramp time';<br>Prm67 'SMS safe maximum speed':<br>Relation of maximum speed to deceleration ramp n/t too small. (Ramp too flat)<br>(only monitoring channel 1) |  |       |   |  |  |   |  |  |   |  |       |   |   |  |   |  |  |   |  |  |   |   |  |   |   |  |   |  |  |   |  |  |    |   |  |    |   |  |    |  |
|                            | 10   | Prm50 'SSR4 brake ramp time':<br>Current deceleration ramp deviates from the permissible range<br>(only monitoring channel 2)  |  |       |   |  |  |   |  |  |   |  |       |   |   |  |   |  |  |   |  |  |   |   |  |   |   |  |   |  |  |   |  |  |    |   |  |    |   |  |    |  |
|                            | 11   | Prm50 'SSR4 brake ramp time':<br>Current deceleration ramp deviates from the permissible range<br>(only monitoring channel 2)  |  |       |   |  |  |   |  |  |   |  |       |   |   |  |   |  |  |   |  |  |   |   |  |   |   |  |   |  |  |   |  |  |    |   |  |    |   |  |    |  |
|                            | 13   | Prm50 'SSR4 brake ramp time';<br>Prm67 'SMS safe maximum speed':<br>Relation of maximum speed to ramp time wrong<br>(Prm67/Prm50)<br>(only monitoring channel 2)                 |  |       |   |  |  |   |  |  |   |  |       |   |   |  |   |  |  |   |  |  |   |   |  |   |   |  |   |  |  |   |  |  |    |   |  |    |   |  |    |  |
| <b>Error rectification</b> | <ul style="list-style-type: none"> <li>• Parameter to be checked: <ul style="list-style-type: none"> <li>• Prm 50: 'SSR4 brake ramp time'</li> <li>• Prm 51: 'SSR4 safe limit speed 1'</li> <li>• Prm 52: 'SSR4 safe limit speed 2'</li> <li>• Prm 67: 'SMS safe maximum speed'</li> </ul> </li> <li>• Generate a correct parameter set and load on the target device</li> </ul> |  |  |       |   |  |  |   |  |  |   |  |       |   |   |  |   |  |  |   |  |  |   |   |  |   |   |  |   |  |  |   |  |  |    |   |  |    |   |  |    |  |



|                            |   |  |  |       |   |  |  |   |   |  |   |  |       |   |  |  |   |   |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |    |   |  |    |   |  |    |   |
|----------------------------|---|--|--|-------|---|--|--|---|---|--|---|--|-------|---|--|--|---|---|--|---|--|--|---|--|--|---|--|--|---|--|--|---|--|--|----|---|--|----|---|--|----|---|
| 3605                       | Info1   | 112  | <p>Error message for the safety function 'Safely-limited speed 1 (SLS1)'</p> <p>Movement monitoring</p> <table border="1"> <tr> <td>Info2</td> <td>1</td> <td>Prm57 'SLS1 safe limit speed':<br/>Speed limits are identical (Prm51 = Prm52)</td> </tr> <tr> <td></td> <td>7</td> <td>Prm57 'SLS1 safe limit speed':<br/>Prm57 exceeds the maximum permissible value (Prm57 &gt; 60000 1/min)</td> </tr> <tr> <td></td> <td>8</td> <td>Prm57 'SLS1 safe limit speed':<br/>Prm57 drops below the minimum permissible value (Prm57 &lt; -60000 1/min)</td> </tr> </table> <p>Ramp monitoring</p> <table border="1"> <tr> <td>Info3</td> <td>1</td> <td>Actual value exceeds maximum permissible value (60000 1/min)</td> </tr> <tr> <td></td> <td>2</td> <td>Prm57 'SLS1 safe limit speed':<br/>Prm57 exceeds the maximum permissible value (Prm57 &gt; 60000 1/min)</td> </tr> <tr> <td></td> <td>3</td> <td>Prm57 'SLS1 safe limit speed':<br/>Prm57 drops below the minimum permissible value (Prm57 &lt; -60000 1/min)</td> </tr> <tr> <td></td> <td>4</td> <td>Prm57 'SLS1 safe limit speed':<br/>Limits of the speed window have the same value (Prm57 = 0)</td> </tr> <tr> <td></td> <td>5</td> <td>Prm67 'SMS safe maximum speed':<br/>Prm67 exceeds the maximum permissible value (Prm67 &gt; 60000 1/min)</td> </tr> <tr> <td></td> <td>6</td> <td>Prm56 'SLS1 brake ramp time':<br/>Prm56 = 0</td> </tr> <tr> <td></td> <td>7</td> <td>Prm56 'SLS1 brake ramp time';<br/>Prm67 'SMS safe maximum speed':<br/>Relation of maximum speed to deceleration ramp n/t too small. (Ramp too flat)<br/>(only monitoring channel 1)</td> </tr> <tr> <td></td> <td>10</td> <td>Prm56 'SLS1 brake ramp time':<br/>Current deceleration ramp deviates from the permissible range<br/>(only monitoring channel 2)</td> </tr> <tr> <td></td> <td>11</td> <td>Prm56 'SLS1 brake ramp time':<br/>Current deceleration ramp deviates from the permissible range<br/>(only monitoring channel 2)</td> </tr> <tr> <td></td> <td>13</td> <td>Prm56 'SLS1 brake ramp time';<br/>Prm67 'SMS safe maximum speed':<br/>Relation of maximum speed to ramp time wrong (Prm67/Prm56)<br/>(only monitoring channel 2)</td> </tr> </table> | Info2 | 1 | Prm57 'SLS1 safe limit speed':<br>Speed limits are identical (Prm51 = Prm52) |  | 7 | Prm57 'SLS1 safe limit speed':<br>Prm57 exceeds the maximum permissible value (Prm57 > 60000 1/min) |  | 8 | Prm57 'SLS1 safe limit speed':<br>Prm57 drops below the minimum permissible value (Prm57 < -60000 1/min) | Info3 | 1 | Actual value exceeds maximum permissible value (60000 1/min) |  | 2 | Prm57 'SLS1 safe limit speed':<br>Prm57 exceeds the maximum permissible value (Prm57 > 60000 1/min) |  | 3 | Prm57 'SLS1 safe limit speed':<br>Prm57 drops below the minimum permissible value (Prm57 < -60000 1/min) |  | 4 | Prm57 'SLS1 safe limit speed':<br>Limits of the speed window have the same value (Prm57 = 0) |  | 5 | Prm67 'SMS safe maximum speed':<br>Prm67 exceeds the maximum permissible value (Prm67 > 60000 1/min) |  | 6 | Prm56 'SLS1 brake ramp time':<br>Prm56 = 0 |  | 7 | Prm56 'SLS1 brake ramp time';<br>Prm67 'SMS safe maximum speed':<br>Relation of maximum speed to deceleration ramp n/t too small. (Ramp too flat)<br>(only monitoring channel 1) |  | 10 | Prm56 'SLS1 brake ramp time':<br>Current deceleration ramp deviates from the permissible range<br>(only monitoring channel 2) |  | 11 | Prm56 'SLS1 brake ramp time':<br>Current deceleration ramp deviates from the permissible range<br>(only monitoring channel 2) |  | 13 | Prm56 'SLS1 brake ramp time';<br>Prm67 'SMS safe maximum speed':<br>Relation of maximum speed to ramp time wrong (Prm67/Prm56)<br>(only monitoring channel 2) |
| Info2                      | 1   | Prm57 'SLS1 safe limit speed':<br>Speed limits are identical (Prm51 = Prm52)   |  |       |   |  |  |   |   |  |   |  |       |   |  |  |   |   |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |    |   |  |    |   |  |    |   |
|                            | 7   | Prm57 'SLS1 safe limit speed':<br>Prm57 exceeds the maximum permissible value (Prm57 > 60000 1/min)  |  |       |   |  |  |   |   |  |   |  |       |   |  |  |   |   |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |    |   |  |    |   |  |    |   |
|                            | 8   | Prm57 'SLS1 safe limit speed':<br>Prm57 drops below the minimum permissible value (Prm57 < -60000 1/min)   |  |       |   |  |  |   |   |  |   |  |       |   |  |  |   |   |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |    |   |  |    |   |  |    |   |
| Info3                      | 1   | Actual value exceeds maximum permissible value (60000 1/min)   |  |       |   |  |  |   |   |  |   |  |       |   |  |  |   |   |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |    |   |  |    |   |  |    |   |
|                            | 2   | Prm57 'SLS1 safe limit speed':<br>Prm57 exceeds the maximum permissible value (Prm57 > 60000 1/min)  |  |       |   |  |  |   |   |  |   |  |       |   |  |  |   |   |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |    |   |  |    |   |  |    |   |
|                            | 3   | Prm57 'SLS1 safe limit speed':<br>Prm57 drops below the minimum permissible value (Prm57 < -60000 1/min)   |  |       |   |  |  |   |   |  |   |  |       |   |  |  |   |   |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |    |   |  |    |   |  |    |   |
|                            | 4   | Prm57 'SLS1 safe limit speed':<br>Limits of the speed window have the same value (Prm57 = 0)   |  |       |   |  |  |   |   |  |   |  |       |   |  |  |   |   |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |    |   |  |    |   |  |    |   |
|                            | 5   | Prm67 'SMS safe maximum speed':<br>Prm67 exceeds the maximum permissible value (Prm67 > 60000 1/min)   |  |       |   |  |  |   |   |  |   |  |       |   |  |  |   |   |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |    |   |  |    |   |  |    |   |
|                            | 6   | Prm56 'SLS1 brake ramp time':<br>Prm56 = 0   |  |       |   |  |  |   |   |  |   |  |       |   |  |  |   |   |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |    |   |  |    |   |  |    |   |
|                            | 7   | Prm56 'SLS1 brake ramp time';<br>Prm67 'SMS safe maximum speed':<br>Relation of maximum speed to deceleration ramp n/t too small. (Ramp too flat)<br>(only monitoring channel 1) |  |       |   |  |  |   |   |  |   |  |       |   |  |  |   |   |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |    |   |  |    |   |  |    |   |
|                            | 10  | Prm56 'SLS1 brake ramp time':<br>Current deceleration ramp deviates from the permissible range<br>(only monitoring channel 2)  |  |       |   |  |  |   |   |  |   |  |       |   |  |  |   |   |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |    |   |  |    |   |  |    |   |
|                            | 11  | Prm56 'SLS1 brake ramp time':<br>Current deceleration ramp deviates from the permissible range<br>(only monitoring channel 2)  |  |       |   |  |  |   |   |  |   |  |       |   |  |  |   |   |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |    |   |  |    |   |  |    |   |
|                            | 13  | Prm56 'SLS1 brake ramp time';<br>Prm67 'SMS safe maximum speed':<br>Relation of maximum speed to ramp time wrong (Prm67/Prm56)<br>(only monitoring channel 2)                    |  |       |   |  |  |   |   |  |   |  |       |   |  |  |   |   |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |    |   |  |    |   |  |    |   |
| <b>Error rectification</b> | <ul style="list-style-type: none"> <li>• Parameter to be checked:             <ul style="list-style-type: none"> <li>• Prm 56: 'SLS1 brake ramp time'</li> <li>• Prm 57: 'SLS1 safe limit speed'</li> <li>• Prm 67: 'SMS safe maximum speed'</li> </ul> </li> <li>• Generate a correct parameter set and load on the target device</li> </ul> |  |  |       |   |  |  |   |   |  |   |  |       |   |  |  |   |   |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |    |   |  |    |   |  |    |   |



|                            |   |  |  |       |   |  |  |   |   |  |   |  |       |   |  |  |   |   |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |    |   |  |    |   |  |    |   |
|----------------------------|---|--|--|-------|---|--|--|---|---|--|---|--|-------|---|--|--|---|---|--|---|--|--|---|--|--|---|--|--|---|--|--|---|--|--|----|---|--|----|---|--|----|---|
| 3605                       | Info1   | 113  | <p>Error message for the safety function 'Safely-limited speed 2 (SLS2)'</p> <p>Movement monitoring</p> <table border="1"> <tr> <td>Info2</td> <td>1</td> <td>Prm62 'SLS2 safe limit speed':<br/>Speed limits are identical (Prm62 = 0)</td> </tr> <tr> <td></td> <td>7</td> <td>Prm62 'SLS2 safe limit speed':<br/>Prm62 exceeds the maximum permissible value (Prm62 &gt; 60000 1/min)</td> </tr> <tr> <td></td> <td>8</td> <td>Prm62 'SLS2 safe limit speed':<br/>Prm62 drops below the minimum permissible value (Prm62 &lt; -60000 1/min)</td> </tr> </table> <p>Ramp monitoring</p> <table border="1"> <tr> <td>Info3</td> <td>1</td> <td>Actual value exceeds maximum permissible value (60000 1/min)</td> </tr> <tr> <td></td> <td>2</td> <td>Prm62 'SLS2 safe limit speed':<br/>Prm62 exceeds the maximum permissible value (Prm62 &gt; 60000 1/min)</td> </tr> <tr> <td></td> <td>3</td> <td>Prm62 'SLS2 safe limit speed':<br/>Prm62 drops below the minimum permissible value (Prm62 &lt; -60000 1/min)</td> </tr> <tr> <td></td> <td>4</td> <td>Prm62 'SLS2 safe limit speed':<br/>Limits of the speed window have the same value (Prm62 = 0)</td> </tr> <tr> <td></td> <td>5</td> <td>Prm67 'SMS safe maximum speed':<br/>Prm67 exceeds the maximum permissible value (Prm67 &gt; 60000 1/min)</td> </tr> <tr> <td></td> <td>6</td> <td>Prm61 'SLS2 brake ramp time':<br/>Prm61 = 0</td> </tr> <tr> <td></td> <td>7</td> <td>Prm61 'SLS2 brake ramp time';<br/>Prm67 'SMS safe maximum speed':<br/>Relation of maximum speed to deceleration ramp n/t too small. (Ramp too flat)<br/>(only monitoring channel 1)</td> </tr> <tr> <td></td> <td>10</td> <td>Prm61 'SLS2 brake ramp time':<br/>Current deceleration ramp deviates from the permissible range<br/>(only monitoring channel 2)</td> </tr> <tr> <td></td> <td>11</td> <td>Prm61 'SLS2 brake ramp time':<br/>Current deceleration ramp deviates from the permissible range<br/>(only monitoring channel 2)</td> </tr> <tr> <td></td> <td>13</td> <td>Prm61 'SLS2 brake ramp time';<br/>Prm67 'SMS safe maximum speed':<br/>Relation of maximum speed to ramp time wrong (Prm 67/Prm 61)<br/>(only monitoring channel 2)</td> </tr> </table> | Info2 | 1 | Prm62 'SLS2 safe limit speed':<br>Speed limits are identical (Prm62 = 0) |  | 7 | Prm62 'SLS2 safe limit speed':<br>Prm62 exceeds the maximum permissible value (Prm62 > 60000 1/min) |  | 8 | Prm62 'SLS2 safe limit speed':<br>Prm62 drops below the minimum permissible value (Prm62 < -60000 1/min) | Info3 | 1 | Actual value exceeds maximum permissible value (60000 1/min) |  | 2 | Prm62 'SLS2 safe limit speed':<br>Prm62 exceeds the maximum permissible value (Prm62 > 60000 1/min) |  | 3 | Prm62 'SLS2 safe limit speed':<br>Prm62 drops below the minimum permissible value (Prm62 < -60000 1/min) |  | 4 | Prm62 'SLS2 safe limit speed':<br>Limits of the speed window have the same value (Prm62 = 0) |  | 5 | Prm67 'SMS safe maximum speed':<br>Prm67 exceeds the maximum permissible value (Prm67 > 60000 1/min) |  | 6 | Prm61 'SLS2 brake ramp time':<br>Prm61 = 0 |  | 7 | Prm61 'SLS2 brake ramp time';<br>Prm67 'SMS safe maximum speed':<br>Relation of maximum speed to deceleration ramp n/t too small. (Ramp too flat)<br>(only monitoring channel 1) |  | 10 | Prm61 'SLS2 brake ramp time':<br>Current deceleration ramp deviates from the permissible range<br>(only monitoring channel 2) |  | 11 | Prm61 'SLS2 brake ramp time':<br>Current deceleration ramp deviates from the permissible range<br>(only monitoring channel 2) |  | 13 | Prm61 'SLS2 brake ramp time';<br>Prm67 'SMS safe maximum speed':<br>Relation of maximum speed to ramp time wrong (Prm 67/Prm 61)<br>(only monitoring channel 2) |
| Info2                      | 1   | Prm62 'SLS2 safe limit speed':<br>Speed limits are identical (Prm62 = 0)   |  |       |   |  |  |   |   |  |   |  |       |   |  |  |   |   |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |    |   |  |    |   |  |    |   |
|                            | 7   | Prm62 'SLS2 safe limit speed':<br>Prm62 exceeds the maximum permissible value (Prm62 > 60000 1/min)  |  |       |   |  |  |   |   |  |   |  |       |   |  |  |   |   |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |    |   |  |    |   |  |    |   |
|                            | 8   | Prm62 'SLS2 safe limit speed':<br>Prm62 drops below the minimum permissible value (Prm62 < -60000 1/min)   |  |       |   |  |  |   |   |  |   |  |       |   |  |  |   |   |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |    |   |  |    |   |  |    |   |
| Info3                      | 1   | Actual value exceeds maximum permissible value (60000 1/min)   |  |       |   |  |  |   |   |  |   |  |       |   |  |  |   |   |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |    |   |  |    |   |  |    |   |
|                            | 2   | Prm62 'SLS2 safe limit speed':<br>Prm62 exceeds the maximum permissible value (Prm62 > 60000 1/min)  |  |       |   |  |  |   |   |  |   |  |       |   |  |  |   |   |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |    |   |  |    |   |  |    |   |
|                            | 3   | Prm62 'SLS2 safe limit speed':<br>Prm62 drops below the minimum permissible value (Prm62 < -60000 1/min)   |  |       |   |  |  |   |   |  |   |  |       |   |  |  |   |   |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |    |   |  |    |   |  |    |   |
|                            | 4   | Prm62 'SLS2 safe limit speed':<br>Limits of the speed window have the same value (Prm62 = 0)   |  |       |   |  |  |   |   |  |   |  |       |   |  |  |   |   |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |    |   |  |    |   |  |    |   |
|                            | 5   | Prm67 'SMS safe maximum speed':<br>Prm67 exceeds the maximum permissible value (Prm67 > 60000 1/min)   |  |       |   |  |  |   |   |  |   |  |       |   |  |  |   |   |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |    |   |  |    |   |  |    |   |
|                            | 6   | Prm61 'SLS2 brake ramp time':<br>Prm61 = 0   |  |       |   |  |  |   |   |  |   |  |       |   |  |  |   |   |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |    |   |  |    |   |  |    |   |
|                            | 7   | Prm61 'SLS2 brake ramp time';<br>Prm67 'SMS safe maximum speed':<br>Relation of maximum speed to deceleration ramp n/t too small. (Ramp too flat)<br>(only monitoring channel 1) |  |       |   |  |  |   |   |  |   |  |       |   |  |  |   |   |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |    |   |  |    |   |  |    |   |
|                            | 10  | Prm61 'SLS2 brake ramp time':<br>Current deceleration ramp deviates from the permissible range<br>(only monitoring channel 2)  |  |       |   |  |  |   |   |  |   |  |       |   |  |  |   |   |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |    |   |  |    |   |  |    |   |
|                            | 11  | Prm61 'SLS2 brake ramp time':<br>Current deceleration ramp deviates from the permissible range<br>(only monitoring channel 2)  |  |       |   |  |  |   |   |  |   |  |       |   |  |  |   |   |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |    |   |  |    |   |  |    |   |
|                            | 13  | Prm61 'SLS2 brake ramp time';<br>Prm67 'SMS safe maximum speed':<br>Relation of maximum speed to ramp time wrong (Prm 67/Prm 61)<br>(only monitoring channel 2)                  |  |       |   |  |  |   |   |  |   |  |       |   |  |  |   |   |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |    |   |  |    |   |  |    |   |
| <b>Error rectification</b> | <ul style="list-style-type: none"> <li>• Parameter to be checked: <ul style="list-style-type: none"> <li>• Prm 61: 'SLS2 brake ramp time'</li> <li>• Prm 62: 'SLS2 safe limit speed'</li> <li>• Prm 67: 'SMS safe maximum speed'</li> </ul> </li> <li>• Generate a correct parameter set and load on the target device</li> </ul> |  |  |       |   |  |  |   |   |  |   |  |       |   |  |  |   |   |  |   |  |  |   |  |  |   |  |  |   |  |  |   |  |  |    |   |  |    |   |  |    |   |

|                            |  |  |  |   |  |
|----------------------------|--|--|--|---|--|
| 3605                       | Info1  | 114  | Error message for the safety function 'Safely-limited increment (SLI)' |   |  |
|                            |  |  | Movement monitoring  |   |  |
|                            |  |  | Info2  | 1 | Prm67 'SMS safe maximum speed':<br>Speed limits are identical (Prm67 = 0)  |
|                            |  |  |  | 2 | Prm65 'SLI Safely limited position change 1';<br>Prm66 'SLI Safely limited position change 2'<br>Position limits are identical (Prm65 = Prm66) |
|                            |  |  |  | 7 | Prm67 'SMS safe maximum speed':<br>Prm67 exceeds the maximum permissible value<br>(Prm67 > 60000 1/min)  |
| 8                          | Prm67 'SMS safe maximum speed':<br>Prm67 drops below the minimum permissible value<br>(Prm67 < -60000 1/min) |  |  |   |  |
| <b>Error rectification</b> |  | <ul style="list-style-type: none"> <li>Parameter to be checked: <ul style="list-style-type: none"> <li>Prm 65: 'SLI Safely limited position change 1'</li> <li>Prm 66: 'SLI Safely limited position change 2'</li> <li>Prm 67: 'SMS safe maximum speed'</li> </ul> </li> <li>Generate a correct parameter set and load on the target device</li> </ul> |  |   |  |

### 3606 Safety - Error During Operation

|  |  |  |   |   |  |
|--|--|--|---|---|--|
| <ul style="list-style-type: none"> <li>Error in a monitoring during operation</li> </ul> |  |  |   |   |  |
| <b>Device</b>  | KW-R07 / -R17 safety module  |  |   |   |  |
| <b>Description</b>   | A monitoring has detected a deviation from a limit value during operations |  |   |   |  |
| <b>Class</b>   | Error  |  |   |   |  |
| <b>Drive behaviour</b>   | See 'Error reaction' towards the individual additional information Info1   |  |   |   |  |
| <b>Device behaviour</b>  |  |  |   |   |  |
| <b>Additional information (Info AMK customer service)</b>                                |  |  |   |   |  |
| 3606   | Info1  | 3  | Error messages of the encoder- / resolver monitorings, monitoring channel 1 |   |  |
|  |  |  | Info2   | 1 | Circle radius of the resolver traces too small (resolver evaluation) |
|  |  |  |   | 2 | Circle radius of the resolver traces too great (resolver evaluation) |
| <b>Error reaction</b>  |  | <ul style="list-style-type: none"> <li>In case of an error in the encoder / resolver monitorings, 'Save torque off (STO)' follows as error reaction</li> </ul> |   |   |  |
| <b>Error rectification</b>   |  | <ul style="list-style-type: none"> <li>Check parameterisation if correct encoder type was set</li> <li>Check encoder / resolver signals and wiring</li> </ul>  |   |   |  |
| 3606   | Info1  | 4  | Error messages of the encoder- / resolver monitorings, monitoring channel 2 |   |  |
|  |  |  | Info2   | 1 | Circle radius of the resolver traces too small (resolver evaluation) |
|  |  |  |   | 2 | Circle radius of the resolver traces too great (resolver evaluation) |
| <b>Error reaction</b>  |  | <ul style="list-style-type: none"> <li>In case of an error in the encoder / resolver monitorings, 'Save torque off (STO)' follows as error reaction</li> </ul> |   |   |  |
| <b>Error rectification</b>   |  | <ul style="list-style-type: none"> <li>Check parameterisation if correct encoder type was set</li> <li>Check encoder / resolver signals and wiring</li> </ul>  |   |   |  |

|                            |       |  |   |   |   |
|----------------------------|-------|--|---|---|---|
| 3606                       | Info1 | 5  | Error messages of the encoder- / resolver monitorings, monitoring channel 1 |   |   |
|                            |       |  | Info2   | 1 | Circle radius of the sine traces too great (sine encoder detection)   |
|                            |       |  |   | 2 | Circle radius of the sine traces too small (sine encoder detection)   |
|                            |       |  |   | 3 | Difference of the quadrants between traces and counter value greater than 1 (sine encoder detection)          |
| <b>Error reaction</b>      |       | <ul style="list-style-type: none"> <li>In case of an error in the encoder / resolver monitorings, 'Save torque off (STO)' follows as error reaction</li> </ul>   |   |   |   |
| <b>Error rectification</b> |       | <ul style="list-style-type: none"> <li>Check parameterisation if correct encoder type was set</li> <li>Check encoder / resolver signals and wiring</li> <li>AMK service</li> </ul>   |   |   |   |
| 3606                       | Info1 | 6  | Error messages of the encoder- / resolver monitorings, monitoring channel 2 |   |   |
|                            |       |  | Info2   | 1 | Circle radius of the sine traces too great (sine encoder detection)   |
|                            |       |  |   | 2 | Circle radius of the sine traces too small (sine encoder detection)   |
|                            |       |  |   | 3 | Difference of the quadrants between traces and counter value greater than 1 (sine encoder detection)          |
| <b>Error reaction</b>      |       | <ul style="list-style-type: none"> <li>In case of an error in the encoder / resolver monitorings, 'Save torque off (STO)' follows as error reaction</li> </ul>   |   |   |   |
| <b>Error rectification</b> |       | <ul style="list-style-type: none"> <li>Check parameterisation if correct encoder type was set</li> <li>Check encoder / resolver signals and wiring</li> <li>AMK service</li> </ul>   |   |   |   |
| 3606                       | Info1 | 7  | Error messages of the encoder- / resolver monitorings                       |   |   |
|                            |       |  | Info2   | 3 | Difference between 2 position values too great (sine encoder evaluation)                                      |
| <b>Error reaction</b>      |       | <ul style="list-style-type: none"> <li>In case of an error in the encoder / resolver monitorings, 'Save torque off (STO)' follows as error reaction</li> </ul>   |   |   |   |
| <b>Error rectification</b> |       | <ul style="list-style-type: none"> <li>Check parameterisation if correct encoder type was set</li> <li>Check encoder / resolver signals and wiring</li> </ul>  |   |   |   |
| 3606                       | Info1 | 13   | Error messages monitoring cross-communication                               |   |   |
|                            |       |  | Info2   | 1 | monitoring of the other monitoring channel failed   |
|                            |       |  |   | 2 | Status difference between 2 monitoring channels detected => STO   |
|                            |       |  |   | 3 | Status difference between 2 monitoring channels detected => SS1   |
|                            |       |  |   | 4 | Status difference between 2 monitoring channels detected => SS2   |
|                            |       |  |   | 5 | Status difference between monitoring channels detected  |
|                            |       |  |   | 6 | Switch-off threshold position has been exceeded. Position difference between monitoring channels is too great |
|                            |       |  |   | 7 | Velocity switch-off threshold has been exceeded. Position difference between monitoring channels is too great |
|                            |       |  |   | 8 | Invalid specification of emergency stop bit   |
| <b>Error reaction</b>      |       | <ul style="list-style-type: none"> <li>In case of an error in the cross communication, 'Save torque off (STO)' follows as error reaction</li> </ul>  |   |   |   |
| <b>Error rectification</b> |       | <ul style="list-style-type: none"> <li>Info2 = 1, 2, 3, 4, 5: resulting error</li> <li>Parameter to be checked: <ul style="list-style-type: none"> <li>Info2 = 6: Prm2 'Switch-off threshold position'</li> <li>Info2 = 7: Prm3 'Switch-off threshold velocity'</li> </ul> </li> </ul> |   |   |   |

|                            |         |   |  |       |   |
|----------------------------|---------|---|--|-------|---|
| 3606                       | Info1   | 18  | Error messages of the input monitorings, monitoring channel 1  |       |   |
|                            |         |   | Info2  | 1     | No dynamic sampling pulse detected at input   |
|                            |         |   |  | 4     | Measured dynamic sampling period is too small   |
|                            |         |   | Info3  | 1     | Input 1   |
| 2                          | Input 2 |   |  |       |   |
| 3                          | Input 3 |   |  |       |   |
| <b>Error reaction</b>      |         | <ul style="list-style-type: none"> <li>In case of an error in the input monitorings, 'Save torque off (STO)' follows as error reaction</li> </ul>   |  |       |   |
| <b>Error rectification</b> |         | <ul style="list-style-type: none"> <li>Check wiring of the inputs</li> <li>Check correctness of dynamic sampling</li> <li>Check parameterisation of dynamic sampling</li> <li>Hardware possibly faulty (e.g. bouncing switches) / check</li> <li>AMK service</li> </ul> |  |       |   |
| 3606                       | Info1   | 19  | Error messages of the input monitorings, monitoring channel 2  |       |   |
|                            |         |   | Info2  | 1     | No dynamic sampling pulse detected at input   |
|                            |         |   |  | 4     | Measured dynamic sampling period is too small   |
|                            |         |   | Info3  | 1     | Input 1   |
| 2                          | Input 2 |   |  |       |   |
| 3                          | Input 3 |   |  |       |   |
| <b>Error reaction</b>      |         | <ul style="list-style-type: none"> <li>In case of an error in the input monitorings, 'Save torque off (STO)' follows as error reaction</li> </ul>   |  |       |   |
| <b>Error rectification</b> |         | <ul style="list-style-type: none"> <li>Check wiring of the inputs</li> <li>Check correctness of dynamic sampling</li> <li>Check parameterisation of dynamic sampling</li> <li>Hardware possibly faulty (e.g. bouncing switches) / check</li> <li>AMK service</li> </ul> |  |       |   |
| 3606                       | Info1   | 27  | Error messages of the output monitorings, monitoring channel 1 |       |   |
|                            |         |   | Info2  | 1     | Value of a safety output that has been read back not equal to the specification<br>Internal plausibility monitoring; possibly short circuit of the outputs. |
|                            |         |   |  | Info2 | 1   |
|                            |         |   | 2  |       | Error safety output 2:<br>Signal that has been read back does not match the specification   |
| <b>Error reaction</b>      |         | <ul style="list-style-type: none"> <li>In case of an error in the output monitorings, 'Save torque off (STO)' follows as error reaction</li> </ul>  |  |       |   |
| <b>Error rectification</b> |         | <ul style="list-style-type: none"> <li>Check wiring of the outputs</li> <li>Check correctness of dynamic sampling</li> <li>Check parameterisation of dynamic sampling</li> <li>Hardware possibly faulty / check</li> </ul>  |  |       |   |

|                            |   |  |   |   |   |
|----------------------------|---|--|---|---|---|
| 3606                       | Info1   | 28   | Error messages of the output monitorings, monitoring channel 2              |   |   |
|                            |   |  | Info2   | 1 | Value of a safety output that has been read back not equal to the specification<br>Internal plausibility monitoring; possibly short circuit of the outputs. |
|                            |   |  | Info2   | 1 | Error safety output 1:<br>Signal that has been read back does not match the specification   |
| 2                          | Error safety output 2:<br>Signal that has been read back does not match the specification |  |   |   |   |
| <b>Error reaction</b>      |   | <ul style="list-style-type: none"> <li>In case of an error in the output monitorings, 'Save torque off (STO)' follows as error reaction</li> </ul>   |   |   |   |
| <b>Error rectification</b> |   | <ul style="list-style-type: none"> <li>Check wiring of the outputs</li> <li>Check correctness of dynamic sampling</li> <li>Check parameterisation of dynamic sampling</li> <li>Hardware possibly faulty / check</li> </ul> |   |   |   |
| 3606                       | Info1   | 38   | Error messages of the 'Safe encoder monitoring (SEM)', monitoring channel 1 |   |   |
|                            |   |  | Info2   | 4 | Prm10 'Reaction time in case of standstill' was exceeded  |
| <b>Error reaction</b>      |   | <ul style="list-style-type: none"> <li>In case of an error in the encoder standstill monitoring, 'Save torque off (STO)' follows as error reaction</li> </ul>  |   |   |   |
| <b>Error rectification</b> |   | <ul style="list-style-type: none"> <li>See Safety manual; functional safety (203446), 'Safe Encoder Monitoring (SEM)'</li> <li>Move drive</li> <li>Restart device</li> </ul>   |   |   |   |
| 3606                       | Info1   | 39   | Error messages of the 'Safe encoder monitoring (SEM)', monitoring channel 2 |   |   |
|                            |   |  | Info2   | 4 | Prm10 'Reaction time in case of standstill' was exceeded  |
| <b>Error reaction</b>      |   | <ul style="list-style-type: none"> <li>In case of an error in the encoder standstill monitoring, 'Save torque off (STO)' follows as error reaction</li> </ul>  |   |   |   |
| <b>Error rectification</b> |   | <ul style="list-style-type: none"> <li>See Safety manual; functional safety (203446), 'Safe Encoder Monitoring (SEM)'</li> <li>Move drive</li> <li>Restart device</li> </ul>   |   |   |   |
| 3606                       | Info1   | 52   | Error messages of the hardware monitorings                                  |   |   |
|                            |   |  | Info2   | 1 | Overvoltage in the 1.8 V supply voltage   |
|                            |   |  |   | 2 | Undervoltage in the 1.8 V supply voltage  |
|                            |   |  |   | 3 | Overvoltage in the 3.3 V supply voltage   |
|                            |   |  |   | 4 | Undervoltage in the 3.3 V supply voltage  |
|                            |   |  |   | 5 | Overvoltage in the 1.5 V reference voltage  |
| 6                          | Undervoltage in the 1.5 V reference voltage   |  |   |   |   |
| <b>Error reaction</b>      |   | <ul style="list-style-type: none"> <li>In case of an error in the hardware monitorings, 'Save torque off (STO)' follows as error reaction</li> </ul>   |   |   |   |
| <b>Error rectification</b> |   | <ul style="list-style-type: none"> <li>Hardware possibly faulty -&gt; check</li> <li>AMK service</li> </ul>  |   |   |   |

|                            |  |   |  |   |                                  |
|----------------------------|--|---|--|---|----------------------------------|
| 3606                       | Info1  | 70  | Error messages of the FSoE handling  |   |                                  |
|                            |  |   | Info2  | 3 | monitoring channel 1             |
|                            |  |   |  | 4 | monitoring channel 2             |
| Info2                      | 6  | The FSoE Watchdog has expired, i.e. no new FSoE Frame was received within the Watchdog time |  |   |                                  |
| <b>Error reaction</b>      | <ul style="list-style-type: none"> <li>In case of an error in the FSoE monitorings, 'Save torque off (STO)' follows as error reaction</li> </ul>   |   |  |   |                                  |
| <b>Error rectification</b> | <ul style="list-style-type: none"> <li>Check FSoE communication</li> <li>Info2 = 1, 2, 4, 5: AMK service</li> <li>Info2 = 3, 6: check FSoE communication and check safety configuration</li> </ul> |   |  |   |                                  |
| 3606                       | Info1  | 75  | Error messages of the hardware monitorings, switch-off path monitoring channel 1 |   |                                  |
|                            |  |   | Info2  | 1 | Malfunction of the line driver L |
|                            |  |   |  | 2 | Malfunction of the line driver H |
| 3                          | Error line driver status status of the drivers not identical   |   |  |   |                                  |
| 4                          | Error line driver control checking short circuit control line to supply  |   |  |   |                                  |
| 5                          | Error line drivers' control checking short circuit control line to GND   |   |  |   |                                  |
| 7                          | Error internal data handling plausibility check of control data  |   |  |   |                                  |
| 8                          | Error internal data handling plausibility check of test data   |   |  |   |                                  |
| <b>Error reaction</b>      | <ul style="list-style-type: none"> <li>In case of an error in the hardware monitorings, 'Save torque off (STO)' follows as error reaction</li> </ul>   |   |  |   |                                  |
| <b>Error rectification</b> | <ul style="list-style-type: none"> <li>Hardware possibly faulty -&gt; check</li> <li>AMK service</li> </ul>  |   |  |   |                                  |



|                            |       |  |  |                       |  |
|----------------------------|-------|--|--|-----------------------|--|
| 3606                       | Info1 | 76   | Error messages of the hardware monitorings, switch-off path monitoring channel 2 |                       |  |
|                            |       |  | Info2  | 1                     | Malfunction of the line driver L   |
|                            |       |  |  | 2                     | Malfunction of the line driver H   |
|                            |       |  |  | 3                     | Error line driver status status of the drivers not identical   |
|                            |       |  |  | 4                     | Error line driver control checking short circuit control line to supply  |
|                            |       |  |  | 5                     | Error line drivers' control checking short circuit control line to GND   |
|                            |       |  |  | 7                     | Error internal data handling plausibility check of control data  |
|                            |       |  |  | 8                     | Error internal data handling plausibility check of test data   |
|                            |       |  |  | <b>Error reaction</b> |  |
| <b>Error rectification</b> |       | <ul style="list-style-type: none"> <li>Hardware possibly faulty -&gt; check</li> <li>AMK service</li> </ul>  |  |                       |  |
| 3606                       | Info1 | 101  | Error message of the stop function 'Safe stop 1 (SS1)'                           |                       |  |
|                            |       |  | Info3  | 0                     | Not to be evaluated  |
|                            |       |  |  | Ramp monitoring       |  |
|                            |       |  |  | 0                     | Not to be evaluated  |
|                            |       |  |  | 1                     | Actual value exceeds maximum permissible value (60000 1/min)   |
|                            |       |  |  | 8                     | Permitted speed range was exceeded (only monitoring channel 1)   |
|                            |       |  |  | 9                     | Permitted speed range was fallen short of (only monitoring channel 1)  |
|                            |       |  |  | 11                    | Prm20 'SS1 brake ramp time': Current deceleration ramp deviates from the permissible range (only monitoring channel 2) |
|                            |       |  |  | 14                    | Permitted speed range was breached (only monitoring channel 2)   |
|                            |       |  |  | 15                    | Standstill window following end of ramp breached (only monitoring channel 2)   |
| <b>Error reaction</b>      |       | <ul style="list-style-type: none"> <li>In case of an error in the monitoring of the SS1 stop function, 'Save torque off (STO)' follows as error reaction</li> </ul>    |  |                       |  |
| <b>Error rectification</b> |       | <ul style="list-style-type: none"> <li>Check why SS1 ramp was breached by the movement of the drive</li> <li>Adjust parameterisation to physical conditions</li> </ul> |  |                       |  |



|                            |  |  |   |  |                     |  |  |       |   |                     |   |  |   |  |   |   |   |   |                 |  |  |       |   |                     |   |  |   |  |   |   |    |  |    |
|----------------------------|--|--|---|--|---------------------|--|--|-------|---|---------------------|---|--|---|--|---|---|---|---|-----------------|--|--|-------|---|---------------------|---|--|---|--|---|---|----|--|----|
| 3606                       | Info1  | 102  | Error message of the stop function 'Safe stop 2 (SS2)'  |  |                     |  |  |       |   |                     |   |  |   |  |   |   |   |   |                 |  |  |       |   |                     |   |  |   |  |   |   |    |  |    |
|                            |  |  | <table border="1"> <tr> <td colspan="3">Movement monitoring</td> </tr> <tr> <td rowspan="5">Info2</td> <td>0</td> <td>Not to be evaluated</td> </tr> <tr> <td>3</td> <td>Upper speed limit in standstill was breached</td> </tr> <tr> <td>4</td> <td>Lower speed limit in standstill was breached</td> </tr> <tr> <td>5</td> <td>Upper position limit in standstill was breached</td> </tr> <tr> <td>6</td> <td>Lower position limit in standstill was breached</td> </tr> <tr> <td colspan="3">Ramp monitoring</td> </tr> <tr> <td rowspan="7">Info3</td> <td>0</td> <td>Not to be evaluated</td> </tr> <tr> <td>1</td> <td>Actual speed value exceeds maximum permissible value (60000 1/min)</td> </tr> <tr> <td>8</td> <td>Permitted speed range was exceeded (only monitoring channel 1)</td> </tr> <tr> <td>9</td> <td>Permitted speed range was fallen short of (only monitoring channel 1)</td> </tr> <tr> <td>11</td> <td>Prm25 'SS2 brake ramp time': Current deceleration ramp deviates from the permissible range (only monitoring channel 2)</td> </tr> <tr> <td>14</td> <td>Permitted speed range was breached (only monitoring channel 2)</td> </tr> <tr> <td>15</td> <td>Standstill window following end of ramp breached (only monitoring channel 2)</td> </tr> </table> |  | Movement monitoring |  |  | Info2 | 0 | Not to be evaluated | 3 | Upper speed limit in standstill was breached | 4 | Lower speed limit in standstill was breached | 5 | Upper position limit in standstill was breached | 6 | Lower position limit in standstill was breached | Ramp monitoring |  |  | Info3 | 0 | Not to be evaluated | 1 | Actual speed value exceeds maximum permissible value (60000 1/min) | 8 | Permitted speed range was exceeded (only monitoring channel 1) | 9 | Permitted speed range was fallen short of (only monitoring channel 1) | 11 | Prm25 'SS2 brake ramp time': Current deceleration ramp deviates from the permissible range (only monitoring channel 2) | 14 |
| Movement monitoring        |  |  |   |  |                     |  |  |       |   |                     |   |  |   |  |   |   |   |   |                 |  |  |       |   |                     |   |  |   |  |   |   |    |  |    |
| Info2                      | 0  | Not to be evaluated  |   |  |                     |  |  |       |   |                     |   |  |   |  |   |   |   |   |                 |  |  |       |   |                     |   |  |   |  |   |   |    |  |    |
|                            | 3  | Upper speed limit in standstill was breached   |   |  |                     |  |  |       |   |                     |   |  |   |  |   |   |   |   |                 |  |  |       |   |                     |   |  |   |  |   |   |    |  |    |
|                            | 4  | Lower speed limit in standstill was breached   |   |  |                     |  |  |       |   |                     |   |  |   |  |   |   |   |   |                 |  |  |       |   |                     |   |  |   |  |   |   |    |  |    |
|                            | 5  | Upper position limit in standstill was breached  |   |  |                     |  |  |       |   |                     |   |  |   |  |   |   |   |   |                 |  |  |       |   |                     |   |  |   |  |   |   |    |  |    |
|                            | 6  | Lower position limit in standstill was breached  |   |  |                     |  |  |       |   |                     |   |  |   |  |   |   |   |   |                 |  |  |       |   |                     |   |  |   |  |   |   |    |  |    |
| Ramp monitoring            |  |  |   |  |                     |  |  |       |   |                     |   |  |   |  |   |   |   |   |                 |  |  |       |   |                     |   |  |   |  |   |   |    |  |    |
| Info3                      | 0  | Not to be evaluated  |   |  |                     |  |  |       |   |                     |   |  |   |  |   |   |   |   |                 |  |  |       |   |                     |   |  |   |  |   |   |    |  |    |
|                            | 1  | Actual speed value exceeds maximum permissible value (60000 1/min)   |   |  |                     |  |  |       |   |                     |   |  |   |  |   |   |   |   |                 |  |  |       |   |                     |   |  |   |  |   |   |    |  |    |
|                            | 8  | Permitted speed range was exceeded (only monitoring channel 1)   |   |  |                     |  |  |       |   |                     |   |  |   |  |   |   |   |   |                 |  |  |       |   |                     |   |  |   |  |   |   |    |  |    |
|                            | 9  | Permitted speed range was fallen short of (only monitoring channel 1)  |   |  |                     |  |  |       |   |                     |   |  |   |  |   |   |   |   |                 |  |  |       |   |                     |   |  |   |  |   |   |    |  |    |
|                            | 11   | Prm25 'SS2 brake ramp time': Current deceleration ramp deviates from the permissible range (only monitoring channel 2) |   |  |                     |  |  |       |   |                     |   |  |   |  |   |   |   |   |                 |  |  |       |   |                     |   |  |   |  |   |   |    |  |    |
|                            | 14   | Permitted speed range was breached (only monitoring channel 2)   |   |  |                     |  |  |       |   |                     |   |  |   |  |   |   |   |   |                 |  |  |       |   |                     |   |  |   |  |   |   |    |  |    |
|                            | 15   | Standstill window following end of ramp breached (only monitoring channel 2)   |   |  |                     |  |  |       |   |                     |   |  |   |  |   |   |   |   |                 |  |  |       |   |                     |   |  |   |  |   |   |    |  |    |
| <b>Error reaction</b>      | <ul style="list-style-type: none"> <li>In case of an error in the monitoring of the SS2 stop function, 'Save torque off (STO)' follows as error reaction</li> </ul>    |  |   |  |                     |  |  |       |   |                     |   |  |   |  |   |   |   |   |                 |  |  |       |   |                     |   |  |   |  |   |   |    |  |    |
| <b>Error rectification</b> | <ul style="list-style-type: none"> <li>Check why SS2 ramp was breached by the movement of the drive</li> <li>Adjust parameterisation to physical conditions</li> </ul> |  |   |  |                     |  |  |       |   |                     |   |  |   |  |   |   |   |   |                 |  |  |       |   |                     |   |  |   |  |   |   |    |  |    |
| 3606                       | Info1  | 103  | Error message of the safety function 'Safe operating stop (SOS)'  |  |                     |  |  |       |   |                     |   |  |   |  |   |   |   |   |                 |  |  |       |   |                     |   |  |   |  |   |   |    |  |    |
|                            |  |  | <table border="1"> <tr> <td colspan="3">Movement monitoring</td> </tr> <tr> <td rowspan="5">Info2</td> <td>0</td> <td>Not to be evaluated</td> </tr> <tr> <td>3</td> <td>Upper speed limit in standstill was breached</td> </tr> <tr> <td>4</td> <td>Lower speed limit in standstill was breached</td> </tr> <tr> <td>5</td> <td>Upper position limit in standstill was breached</td> </tr> <tr> <td>6</td> <td>Lower position limit in standstill was breached</td> </tr> <tr> <td colspan="3">Ramp monitoring</td> </tr> <tr> <td rowspan="2">Info3</td> <td>0</td> <td>Not to be evaluated</td> </tr> <tr> <td>1</td> <td>Actual value exceeds maximum permissible value (60000 1/min)</td> </tr> </table>   |  | Movement monitoring |  |  | Info2 | 0 | Not to be evaluated | 3 | Upper speed limit in standstill was breached | 4 | Lower speed limit in standstill was breached | 5 | Upper position limit in standstill was breached | 6 | Lower position limit in standstill was breached | Ramp monitoring |  |  | Info3 | 0 | Not to be evaluated | 1 | Actual value exceeds maximum permissible value (60000 1/min)       |   |  |   |   |    |  |    |
| Movement monitoring        |  |  |   |  |                     |  |  |       |   |                     |   |  |   |  |   |   |   |   |                 |  |  |       |   |                     |   |  |   |  |   |   |    |  |    |
| Info2                      | 0  | Not to be evaluated  |   |  |                     |  |  |       |   |                     |   |  |   |  |   |   |   |   |                 |  |  |       |   |                     |   |  |   |  |   |   |    |  |    |
|                            | 3  | Upper speed limit in standstill was breached   |   |  |                     |  |  |       |   |                     |   |  |   |  |   |   |   |   |                 |  |  |       |   |                     |   |  |   |  |   |   |    |  |    |
|                            | 4  | Lower speed limit in standstill was breached   |   |  |                     |  |  |       |   |                     |   |  |   |  |   |   |   |   |                 |  |  |       |   |                     |   |  |   |  |   |   |    |  |    |
|                            | 5  | Upper position limit in standstill was breached  |   |  |                     |  |  |       |   |                     |   |  |   |  |   |   |   |   |                 |  |  |       |   |                     |   |  |   |  |   |   |    |  |    |
|                            | 6  | Lower position limit in standstill was breached  |   |  |                     |  |  |       |   |                     |   |  |   |  |   |   |   |   |                 |  |  |       |   |                     |   |  |   |  |   |   |    |  |    |
| Ramp monitoring            |  |  |   |  |                     |  |  |       |   |                     |   |  |   |  |   |   |   |   |                 |  |  |       |   |                     |   |  |   |  |   |   |    |  |    |
| Info3                      | 0  | Not to be evaluated  |   |  |                     |  |  |       |   |                     |   |  |   |  |   |   |   |   |                 |  |  |       |   |                     |   |  |   |  |   |   |    |  |    |
|                            | 1  | Actual value exceeds maximum permissible value (60000 1/min)   |   |  |                     |  |  |       |   |                     |   |  |   |  |   |   |   |   |                 |  |  |       |   |                     |   |  |   |  |   |   |    |  |    |
| <b>Error reaction</b>      | <ul style="list-style-type: none"> <li>In case of an error in the monitoring of the SOS safety function, 'Save torque off (STO)' follows as error reaction</li> </ul>  |  |   |  |                     |  |  |       |   |                     |   |  |   |  |   |   |   |   |                 |  |  |       |   |                     |   |  |   |  |   |   |    |  |    |
| <b>Error rectification</b> | <ul style="list-style-type: none"> <li>Check by what the invalid movement of the drive was triggered</li> </ul>  |  |   |  |                     |  |  |       |   |                     |   |  |   |  |   |   |   |   |                 |  |  |       |   |                     |   |  |   |  |   |   |    |  |    |

|                            |   |   |  |       |  |   |
|----------------------------|---|---|--|-------|--|---|
| 3606                       | Info1   | 104   | Error message of the safety function 'Safe speed range 1 (SSR1)'       |       |  |   |
|                            |   |   | Movement monitoring  |       |  |   |
|                            |   |   | Info2  | 0     | Not to be evaluated  |   |
|                            |   |   |  | 3     | Upper speed limit of the monitoring range was breached   |   |
|                            |   |   |  | 4     | Lower speed limit of the monitoring range was breached   |   |
|                            |   |   | Ramp monitoring  |       |  |   |
|                            |   |   | Info3  | 0     | Not to be evaluated  |   |
|                            |   |   |  | 1     | Actual speed value exceeds maximum permissible value (60000 1/min)   |   |
|                            |   |   |  | 8     | Permitted speed range was exceeded (only monitoring channel 1)   |   |
|                            |   |   |  | 9     | Permitted speed range was fallen short of (only monitoring channel 1)  |   |
| 11                         | Prm32 'SSR1 brake ramp time': Current deceleration ramp deviates from the permissible range (only monitoring channel 2) |   |  |       |  |   |
| 14                         | Permitted speed range was breached (only monitoring channel 2)  |   |  |       |  |   |
| 15                         | Monitoring window following end of ramp breached (only monitoring channel 2)  |   |  |       |  |   |
| <b>Error reaction</b>      |   | <ul style="list-style-type: none"> <li>In case of an error in the monitoring of the SSR1 safety function, the parameterised error reaction follows (STO, SS1 or SS2)</li> </ul> |  |       |  |   |
| <b>Error rectification</b> |   | <ul style="list-style-type: none"> <li>Check why the movement of the drive has breached the limits</li> <li>Adjust parameterisation to physical conditions</li> </ul>           |  |       |  |   |
| 3606                       | Info1   | 105   | Error message for the safety function 'Safe direction positive (SDIp)' |       |  |   |
|                            |   |   | Movement monitoring  |       |  |   |
|                            |   |   | Info2  | 0     | Not to be evaluated  |   |
|                            |   |   |  | 4     | Lower speed limit of the monitoring range was breached   |   |
|                            |   |   | Ramp monitoring  |       |  |   |
|                            |   |   | Info3  | 0     | Not to be evaluated  |   |
|                            |   |   |  | 1     | Actual value exceeds maximum permissible value (60000 1/min)   |   |
|                            |   |   | <b>Error reaction</b>  |       | <ul style="list-style-type: none"> <li>In case of an error in the monitoring of the SDIp safety function, 'Save torque off (STO)' follows as error reaction</li> </ul> |   |
|                            |   |   | <b>Error rectification</b>   |       | <ul style="list-style-type: none"> <li>Check by what the invalid movement of the drive was triggered</li> </ul>  |   |
|                            |   |   | 3606   | Info1 | 106  | Error message of the safety function 'Safe direction negative (SDIn)' |
| Movement monitoring        |   |   |  |       |  |   |
| Info2                      | 0   | Not to be evaluated   |  |       |  |   |
|                            | 3   | Upper speed limit of the monitoring range was breached  |  |       |  |   |
| Ramp monitoring            |   |   |  |       |  |   |
| Info3                      | 0   | Not to be evaluated   |  |       |  |   |
|                            | 1   | Actual value exceeds maximum permissible value (60000 1/min)  |  |       |  |   |
| <b>Error reaction</b>      |   | <ul style="list-style-type: none"> <li>In case of an error in the monitoring of the SDIn safety function, 'Save torque off (STO)' follows as error reaction</li> </ul>          |  |       |  |   |
| <b>Error rectification</b> |   | <ul style="list-style-type: none"> <li>Check by what the invalid movement of the drive was triggered</li> </ul>   |  |       |  |   |

|                            |   |     |  |   |   |  |   |  |   |  |   |   |    |  |    |  |    |  |
|----------------------------|---|-----|--|---|---|--|---|--|---|--|---|---|----|--|----|--|----|--|
| 3606                       | Info1   | 108 | Error message for the safety function 'Safe maximum speed (SMS)' |   |   |  |   |  |   |  |   |   |    |  |    |  |    |  |
|                            |   |     | Movement monitoring  |   |   |  |   |  |   |  |   |   |    |  |    |  |    |  |
|                            |   |     | Info2  | <table border="1"> <tr> <td>3</td> <td>Upper speed limit of the monitoring range was breached</td> </tr> <tr> <td>4</td> <td>Lower speed limit of the monitoring range was breached</td> </tr> </table>   | 3 | Upper speed limit of the monitoring range was breached | 4 | Lower speed limit of the monitoring range was breached                 |   |  |   |   |    |  |    |  |    |  |
| 3                          | Upper speed limit of the monitoring range was breached  |     |  |   |   |  |   |  |   |  |   |   |    |  |    |  |    |  |
| 4                          | Lower speed limit of the monitoring range was breached  |     |  |   |   |  |   |  |   |  |   |   |    |  |    |  |    |  |
| <b>Error reaction</b>      | <ul style="list-style-type: none"> <li>In case of an error in the monitoring of the SMS safety function, the parameterised error reaction follows (STO, SS1 or SS2)</li> </ul>  |     |  |   |   |  |   |  |   |  |   |   |    |  |    |  |    |  |
| <b>Error rectification</b> | <ul style="list-style-type: none"> <li>Check why the movement of the drive has breached the limits</li> <li>Adjust parameterisation to physical conditions</li> </ul>           |     |  |   |   |  |   |  |   |  |   |   |    |  |    |  |    |  |
| 3606                       | Info1   | 109 | Error message of the safety function 'Safe speed range 2 (SSR2)' |   |   |  |   |  |   |  |   |   |    |  |    |  |    |  |
|                            |   |     | Movement monitoring  |   |   |  |   |  |   |  |   |   |    |  |    |  |    |  |
|                            |   |     | Info2  | <table border="1"> <tr> <td>0</td> <td>Not to be evaluated</td> </tr> <tr> <td>3</td> <td>Upper speed limit of the monitoring range was breached</td> </tr> <tr> <td>4</td> <td>Lower speed limit of the monitoring range was breached</td> </tr> </table>  | 0 | Not to be evaluated                                    | 3 | Upper speed limit of the monitoring range was breached                 | 4 | Lower speed limit of the monitoring range was breached         |   |   |    |  |    |  |    |  |
|                            |   |     | 0  | Not to be evaluated   |   |  |   |  |   |  |   |   |    |  |    |  |    |  |
|                            |   |     | 3  | Upper speed limit of the monitoring range was breached  |   |  |   |  |   |  |   |   |    |  |    |  |    |  |
|                            |   |     | 4  | Lower speed limit of the monitoring range was breached  |   |  |   |  |   |  |   |   |    |  |    |  |    |  |
|                            |   |     | Ramp monitoring  |   |   |  |   |  |   |  |   |   |    |  |    |  |    |  |
|                            |   |     | Info3  | <table border="1"> <tr> <td>0</td> <td>Not to be evaluated</td> </tr> <tr> <td>1</td> <td>Actual speed value exceeds the maximum permissible value (60000 1/min)</td> </tr> <tr> <td>8</td> <td>Permitted speed range was exceeded (only monitoring channel 1)</td> </tr> <tr> <td>9</td> <td>Permitted speed range was fallen short of (only monitoring channel 1)</td> </tr> <tr> <td>11</td> <td>Prm38 'SSR2 brake ramp time':<br/>Current deceleration ramp deviates from the permissible range (only monitoring channel 2)</td> </tr> <tr> <td>14</td> <td>Permitted speed range was breached (only monitoring channel 2)</td> </tr> <tr> <td>15</td> <td>Monitoring window following end of ramp breached (only monitoring channel 2)</td> </tr> </table> | 0 | Not to be evaluated                                    | 1 | Actual speed value exceeds the maximum permissible value (60000 1/min) | 8 | Permitted speed range was exceeded (only monitoring channel 1) | 9 | Permitted speed range was fallen short of (only monitoring channel 1) | 11 | Prm38 'SSR2 brake ramp time':<br>Current deceleration ramp deviates from the permissible range (only monitoring channel 2) | 14 | Permitted speed range was breached (only monitoring channel 2) | 15 | Monitoring window following end of ramp breached (only monitoring channel 2) |
|                            |   |     | 0  | Not to be evaluated   |   |  |   |  |   |  |   |   |    |  |    |  |    |  |
|                            |   |     | 1  | Actual speed value exceeds the maximum permissible value (60000 1/min)  |   |  |   |  |   |  |   |   |    |  |    |  |    |  |
| 8                          | Permitted speed range was exceeded (only monitoring channel 1)  |     |  |   |   |  |   |  |   |  |   |   |    |  |    |  |    |  |
| 9                          | Permitted speed range was fallen short of (only monitoring channel 1)   |     |  |   |   |  |   |  |   |  |   |   |    |  |    |  |    |  |
| 11                         | Prm38 'SSR2 brake ramp time':<br>Current deceleration ramp deviates from the permissible range (only monitoring channel 2)  |     |  |   |   |  |   |  |   |  |   |   |    |  |    |  |    |  |
| 14                         | Permitted speed range was breached (only monitoring channel 2)  |     |  |   |   |  |   |  |   |  |   |   |    |  |    |  |    |  |
| 15                         | Monitoring window following end of ramp breached (only monitoring channel 2)  |     |  |   |   |  |   |  |   |  |   |   |    |  |    |  |    |  |
| <b>Error reaction</b>      | <ul style="list-style-type: none"> <li>In case of an error in the monitoring of the SSR2 safety function, the parameterised error reaction follows (STO, SS1 or SS2)</li> </ul> |     |  |   |   |  |   |  |   |  |   |   |    |  |    |  |    |  |
| <b>Error rectification</b> | <ul style="list-style-type: none"> <li>Check why the movement of the drive has breached the limits</li> <li>Adjust parameterisation to physical conditions</li> </ul>           |     |  |   |   |  |   |  |   |  |   |   |    |  |    |  |    |  |

|                            |   |     |  |   |   |
|----------------------------|---|-----|--|---|---|
| 3606                       | Info1   | 110 | Error message of the safety function 'Safe speed range 3 (SSR3)' |   |   |
|                            |   |     | Movement monitoring  |   |   |
|                            |   |     | Info2  | 0 | Not to be evaluated   |
|                            |   |     |  | 3 | Upper speed limit of the monitoring range was breached                |
|                            |   |     |  | 4 | Lower speed limit of the monitoring range was breached                |
|                            |   |     | Ramp monitoring  |   |   |
|                            |   |     | Info3  | 0 | Not to be evaluated   |
|                            |   |     |  | 1 | Actual speed value exceeds maximum permissible value (60000 1/min)    |
|                            |   |     |  | 8 | Permitted speed range was exceeded (only monitoring channel 1)        |
|                            |   |     |  | 9 | Permitted speed range was fallen short of (only monitoring channel 1) |
| 11                         | Prm44 'SSR3 brake ramp time':<br>Current deceleration ramp deviates from the permissible range (only monitoring channel 2)  |     |  |   |   |
| 14                         | Permitted speed range was breached (only monitoring channel 2)  |     |  |   |   |
| 15                         | Monitoring window following end of ramp breached (only monitoring channel 2)  |     |  |   |   |
| <b>Error reaction</b>      | <ul style="list-style-type: none"> <li>In case of an error in the monitoring of the SSR3 safety function, the parameterised error reaction follows (STO, SS1 or SS2)</li> </ul> |     |  |   |   |
| <b>Error rectification</b> | <ul style="list-style-type: none"> <li>Check why the movement of the drive has breached the limits</li> <li>Adjust parameterisation to physical conditions</li> </ul>           |     |  |   |   |
| 3606                       | Info1   | 111 | Error message of the safety function 'Safe speed range 4 (SSR4)' |   |   |
|                            |   |     | Movement monitoring  |   |   |
|                            |   |     | Info2  | 0 | Not to be evaluated   |
|                            |   |     |  | 3 | Upper speed limit of the monitoring range was breached                |
|                            |   |     |  | 4 | Lower speed limit of the monitoring range was breached                |
|                            |   |     | Ramp monitoring  |   |   |
|                            |   |     | Info3  | 0 | Not to be evaluated   |
|                            |   |     |  | 1 | Actual speed value exceeds maximum permissible value (60000 1/min)    |
|                            |   |     |  | 8 | Permitted speed range was exceeded (only monitoring channel 1)        |
|                            |   |     |  | 9 | Permitted speed range was fallen short of (only monitoring channel 1) |
| 11                         | Prm50 'SSR4 brake ramp time':<br>Current deceleration ramp deviates from the permissible range (only monitoring channel 2)  |     |  |   |   |
| 14                         | Permitted speed range was breached (only monitoring channel 2)  |     |  |   |   |
| 15                         | Monitoring window following end of ramp breached (only monitoring channel 2)  |     |  |   |   |
| <b>Error reaction</b>      | <ul style="list-style-type: none"> <li>In case of an error in the monitoring of the SSR4 safety function, the parameterised error reaction follows (STO, SS1 or SS2)</li> </ul> |     |  |   |   |
| <b>Error rectification</b> | <ul style="list-style-type: none"> <li>Check why the movement of the drive has breached the limits</li> <li>Adjust parameterisation to physical conditions</li> </ul>           |     |  |   |   |

|                            |       |   |  |  |
|----------------------------|-------|---|--|--|
| 3606                       | Info1 | 112   | Error message of the safety function 'Safely-limited speed 1 (SLS1)'   |  |
|                            |       |   | Movement monitoring  |  |
|                            |       |   | Info2  | 0 Not to be evaluated                                    |
|                            |       |   |  | 3 Upper speed limit of the monitoring range was breached |
|                            |       |   | 4 Lower speed limit of the monitoring range was breached   |  |
|                            |       | Ramp monitoring   |  |  |
|                            | Info3 | 0   | Not to be evaluated  |  |
|                            |       | 1   | Actual speed value exceeds maximum permissible value (60000 1/min)   |  |
|                            |       | 8   | Permitted speed range was exceeded (only monitoring channel 1)   |  |
|                            |       | 9   | Permitted speed range was fallen short of (only monitoring channel 1)  |  |
|                            |       | 11  | Prm56 'SLS1 brake ramp time':<br>Current deceleration ramp deviates from the permissible range (only monitoring channel 2) |  |
|                            |       | 14  | Permitted speed range was breached (only monitoring channel 2)   |  |
|                            |       | 15  | Monitoring window following end of ramp breached (only monitoring channel 2)   |  |
| <b>Error reaction</b>      |       | <ul style="list-style-type: none"> <li>In case of an error in the monitoring of the SLS1 safety function, the parameterised error reaction follows (STO, SS1 or SS2)</li> </ul> |  |  |
| <b>Error rectification</b> |       | <ul style="list-style-type: none"> <li>Check why the movement of the drive has breached the limits</li> <li>Adjust parameterisation to physical conditions</li> </ul>           |  |  |
| 3606                       | Info1 | 113   | Error message of the safety function 'Safely-limited speed 2 (SLS2)'   |  |
|                            |       |   | Movement monitoring  |  |
|                            |       |   | Info2  | 0 Not to be evaluated                                    |
|                            |       |   |  | 3 Upper speed limit of the monitoring range was breached |
|                            |       |   | 4 Lower speed limit of the monitoring range was breached   |  |
|                            |       | Ramp monitoring   |  |  |
|                            | Info3 | 0   | Not to be evaluated  |  |
|                            |       | 1   | Actual speed value exceeds maximum permissible value (60000 1/min)   |  |
|                            |       | 8   | Permitted speed range was exceeded (only monitoring channel 1)   |  |
|                            |       | 9   | Permitted speed range was fallen short of (only monitoring channel 1)  |  |
|                            |       | 11  | Prm61 'SLS2 brake ramp time':<br>Current deceleration ramp deviates from the permissible range (only monitoring channel 2) |  |
|                            |       | 14  | Permitted speed range was breached (only monitoring channel 2)   |  |
|                            |       | 15  | Monitoring window following end of ramp breached (only monitoring channel 2)   |  |
| <b>Error reaction</b>      |       | <ul style="list-style-type: none"> <li>In case of an error in the monitoring of the SLS2 safety function, the parameterised error reaction follows (STO, SS1 or SS2)</li> </ul> |  |  |
| <b>Error rectification</b> |       | <ul style="list-style-type: none"> <li>Check why the movement of the drive has breached the limits</li> <li>Adjust parameterisation to physical conditions</li> </ul>           |  |  |

|                            |  |     |  |   |
|----------------------------|--|-----|--|---|
| 3606                       | Info1  | 114 | Error message for the safety function 'Safely-limited increment (SLI)' |   |
|                            |  |     | Movement monitoring  |   |
|                            |  |     | Info2  | 5   |
|                            |  |     | 6  | Lower position limit of the monitoring range was breached |
| <b>Error reaction</b>      | <ul style="list-style-type: none"> <li>In case of an error in the monitoring of the SLI safety function, the parameterised error reaction follows (STO, SS1 or SS2)</li> </ul> |     |  |   |
| <b>Error rectification</b> | <ul style="list-style-type: none"> <li>Check why the movement of the drive has breached the limits</li> <li>Adjust parameterisation to physical conditions</li> </ul>          |     |  |   |

### 3607 Safety - Internal System Error

|   |  |
|---|--|
| <ul style="list-style-type: none"> <li>Internal system error</li> </ul> |  |
| <b>Device</b>   | KW-R07 / -R17 safety module  |
| <b>Description</b>  | Internal error of a process monitoring or a self-test  |
| <b>Class</b>  | Error  |
| <b>Drive behaviour</b>  | The drive remains torque-free  |
| <b>Device behaviour</b>   | The safety monitoring does not switch to the operational state, i.e. the safety functions cannot be put into operation |

|   |  |   |   |   |   |
|---|--|---|---|---|---|
| <b>Additional information (Info AMK customer service)</b> |  |   |   |   |   |
| 3607  | Info1  | 5 | Encoder error, sine encoder detection, monitoring channel 1 |   |   |
|   |  |   | Info2   | 4 | No stable state of the counter in the determination of the offset |
|   |  |   |   | 5 | Default branch run through  |
| <b>Error reaction</b>                                     | <ul style="list-style-type: none"> <li>In case of an error in the encoder monitoring, 'Save torque off (STO)' follows as error reaction</li> </ul> |   |   |   |   |
| <b>Error rectification</b>                                | <ul style="list-style-type: none"> <li>AMK service</li> </ul>  |   |   |   |   |

|                            |  |   |   |                                |                              |
|----------------------------|--|---|---|--------------------------------|------------------------------|
| 3607                       | Info1  | 6 | Encoder error, sine encoder detection, monitoring channel 2 |                                |                              |
|                            |  |   | Info2   | 4                              | Counter value cannot be read |
|                            |  |   |   | 5                              | Default branch run through   |
|                            |  |   | 6   | No stable state of the counter |                              |
| <b>Error reaction</b>      | <ul style="list-style-type: none"> <li>In case of an error in the encoder monitoring, 'Save torque off (STO)' follows as error reaction</li> </ul> |   |   |                                |                              |
| <b>Error rectification</b> | <ul style="list-style-type: none"> <li>AMK service</li> </ul>  |   |   |                                |                              |

|                            |  |    |   |   |                    |
|----------------------------|--|----|---|---|--------------------|
| 3607                       | Info1  | 16 | Error messages of the input monitorings, monitoring channel 1 |   |                    |
|                            |  |    | Info2   | 2 | Faulty input value |
|                            |  |    | Info3   | 1 | Input 1            |
|                            |  |    |   | 2 | Input 2            |
| 3                          | Input 3  |    |   |   |                    |
| <b>Error reaction</b>      | <ul style="list-style-type: none"> <li>In case of an error in the input / output monitorings, 'Save torque off (STO)' follows as error reaction</li> </ul>   |    |   |   |                    |
| <b>Error rectification</b> | <ul style="list-style-type: none"> <li>Check wiring of the inputs</li> <li>Check correctness of dynamic sampling</li> <li>Check parameterisation of dynamic sampling</li> <li>Hardware possibly faulty / check</li> <li>AMK service</li> </ul> |    |   |   |                    |



|                            |  |    |   |  |   |
|----------------------------|--|----|---|--|---|
| 3607                       | Info1  | 17 | Error messages of the input monitorings, monitoring channel 2 |  |   |
|                            |  |    | Info2   | 2  | Faulty input value  |
|                            |  |    | Info3   | 1  | Input 1   |
|                            |  |    |   | 2  | Input 2   |
| 3                          | Input 3  |    |   |  |   |
| <b>Error reaction</b>      | <ul style="list-style-type: none"> <li>In case of an error in the input / output monitorings, 'Save torque off (STO)' follows as error reaction</li> </ul>   |    |   |  |   |
| <b>Error rectification</b> | <ul style="list-style-type: none"> <li>Check wiring of the inputs</li> <li>Check correctness of dynamic sampling</li> <li>Check parameterisation of dynamic sampling</li> <li>Hardware possibly faulty / check</li> <li>AMK service</li> </ul>                   |    |   |  |   |
| 3607                       | Info1  | 20 | Error messages of the input monitorings, monitoring channel 1 |  |   |
|                            |  |    | Info2   | 7  | Invalid specification for the allocation of the input 1 in the status |
|                            |  |    |   | 8  | Invalid specification for the allocation of the input 2 in the status |
|                            |  |    |   | 9  | Invalid specification for the allocation of the input 3 in the status |
|                            |  |    |   | 10   | Bit number for input 1 and input 2 in the status value identical      |
|                            |  |    |   | 11   | Bit number for input 1 and input 3 in the status value identical      |
|                            |  |    |   | 12   | Bit number for input 2 and input 3 in the status value identical      |
|                            |  |    |   | 13   | Value of input 1 is too large   |
|                            |  |    |   | 14   | Value of input 2 is too large   |
|                            |  |    |   | 15   | Value of input 3 is too large   |
|                            |  |    | <b>Error reaction</b>   | <ul style="list-style-type: none"> <li>In case of an error in the input / output monitorings, 'Save torque off (STO)' follows as error reaction</li> </ul> |   |
| <b>Error rectification</b> | <ul style="list-style-type: none"> <li>Check wiring of the inputs</li> <li>Check correctness of dynamic sampling</li> <li>Check parameterisation of dynamic sampling</li> <li>Hardware possibly faulty / check</li> <li>Info2 = 7 ... 12: AMK service</li> </ul> |    |   |  |   |



|                            |       |  |  |    |   |
|----------------------------|-------|--|--|----|---|
| 3607                       | Info1 | 22   | Error messages of the input monitorings, monitoring channel 2  |    |   |
|                            |       |  | Info2  | 7  | Invalid specification for the allocation of the input 1 in the status         |
|                            |       |  |  | 8  | Invalid specification for the allocation of the input 2 in the status         |
|                            |       |  |  | 9  | Invalid specification for the allocation of the input 3 in the status         |
|                            |       |  |  | 10 | Bit number for input 1 and input 2 in the status value identical              |
|                            |       |  |  | 11 | Bit number for input 1 and input 3 in the status value identical              |
|                            |       |  |  | 12 | Bit number for input 2 and input 3 in the status value identical              |
|                            |       |  |  | 13 | Value of input 1 is too large   |
|                            |       |  |  | 14 | Value of input 2 is too large   |
|                            |       |  |  | 15 | Value of input 3 is too large   |
| <b>Error reaction</b>      |       | <ul style="list-style-type: none"> <li>In case of an error in the input / output monitorings, 'Save torque off (STO)' follows as error reaction</li> </ul>   |  |    |   |
| <b>Error rectification</b> |       | <ul style="list-style-type: none"> <li>Check wiring of the inputs</li> <li>Check correctness of dynamic sampling</li> <li>Check parameterisation of dynamic sampling</li> <li>Hardware possibly faulty / check</li> <li>Info2 = 7 ... 12: AMK service</li> </ul> |  |    |   |
| 3607                       | Info1 | 23   | Error messages of the safety outputs monitoring channel 1      |    |   |
|                            |       |  | Info2  | 1  | A safety function is reported as active although the function is not selected |
|                            |       |  |  | 5  | Internal error  |
|                            |       |  |  | 6  | Internal error  |
|                            |       |  |  | 7  | Internal error  |
|                            |       |  |  | 8  | Internal error  |
| <b>Error reaction</b>      |       | <ul style="list-style-type: none"> <li>In case of an error in the input / output monitorings, 'Save torque off (STO)' follows as error reaction</li> </ul>   |  |    |   |
| <b>Error rectification</b> |       | <ul style="list-style-type: none"> <li>AMK service</li> </ul>  |  |    |   |
| 3607                       | Info1 | 24   | Error messages of the safety outputs monitoring channel 2      |    |   |
|                            |       |  | Info2  | 1  | A safety function is reported as active although the function is not selected |
|                            |       |  |  | 5  | Internal error  |
|                            |       |  |  | 6  | Internal error  |
|                            |       |  |  | 7  | Internal error  |
|                            |       |  |  | 8  | Internal error  |
| <b>Error reaction</b>      |       | <ul style="list-style-type: none"> <li>In case of an error in the input / output monitorings, 'Save torque off (STO)' follows as error reaction</li> </ul>   |  |    |   |
| <b>Error rectification</b> |       | <ul style="list-style-type: none"> <li>AMK service</li> </ul>  |  |    |   |
| 3607                       | Info1 | 25   | Error messages of the output monitorings, monitoring channel 1 |    |   |
|                            |       |  | Info2  | 26 | Setpoint A1 > 1   |
|                            |       |  |  | 27 | Setpoint A2 > 1   |
|                            |       |  |  | 28 | Feed forward A1 > limit   |
|                            |       |  |  | 29 | Feed forward A2 > limit   |
|                            |       |  |  | 30 | Feed forward Dyn > limit  |
| <b>Error reaction</b>      |       | <ul style="list-style-type: none"> <li>In case of an error in the input / output monitorings, 'Save torque off (STO)' follows as error reaction</li> </ul>   |  |    |   |
| <b>Error rectification</b> |       | <ul style="list-style-type: none"> <li>AMK service</li> </ul>  |  |    |   |

|                            |       |  |  |                          |  |
|----------------------------|-------|--|--|--------------------------|--|
| 3607                       | Info1 | 26   | Error messages of the output monitorings, monitoring channel 2 |                          |  |
|                            |       |  | Info2  | 26                       | Setpoint A1 > 1                                  |
|                            |       |  |  | 27                       | Setpoint A2 > 1                                  |
|                            |       |  |  | 28                       | Prm104 'SA1.2 output type' > maximum value       |
|                            |       |  |  | 29                       | Feed forward A2 > limit                          |
|                            |       |  | 30   | Feed forward Dyn > limit |  |
| <b>Error reaction</b>      |       | <ul style="list-style-type: none"> <li>In case of an error in the input / output monitorings, 'Save torque off (STO)' follows as error reaction</li> </ul> |  |                          |  |
| <b>Error rectification</b> |       | <ul style="list-style-type: none"> <li>AMK service</li> </ul>  |  |                          |  |
| 3607                       | Info1 | 27   | Error messages of the output test, monitoring channel 1        |                          |  |
|                            |       |  | Info2  | 1                        |  |
|                            |       |  | Info3  | 3                        | Read-back signal > 1                             |
|                            |       |  |  | 4                        | Setpoint > 1                                     |
|                            |       |  |  | 5                        | Instance > 1                                     |
|                            |       |  |  | 6                        | Output no. > 1                                   |
|                            |       |  |  | 7                        | Test cycle > limit                               |
|                            |       |  |  | 8                        | Signal changing without error monitoring > limit |
|                            |       |  |  | 9                        | More than 4 signal changes per ms                |
| <b>Error reaction</b>      |       | <ul style="list-style-type: none"> <li>In case of an error in the input / output monitorings, 'Save torque off (STO)' follows as error reaction</li> </ul> |  |                          |  |
| <b>Error rectification</b> |       | <ul style="list-style-type: none"> <li>AMK service</li> </ul>  |  |                          |  |
| 3607                       | Info1 | 28   | Error messages of the output test, monitoring channel 2        |                          |  |
|                            |       |  | Info2  | 1                        |  |
|                            |       |  | Info3  | 3                        | Read-back signal > 1                             |
|                            |       |  |  | 4                        | Setpoint > 1                                     |
|                            |       |  |  | 5                        | Instance > 1                                     |
|                            |       |  |  | 6                        | Output no. > 1                                   |
|                            |       |  |  | 7                        | Test cycle > limit                               |
|                            |       |  |  | 8                        | Signal changing without error monitoring > limit |
|                            |       |  |  | 9                        | More than 4 signal changes per ms                |
| <b>Error reaction</b>      |       | <ul style="list-style-type: none"> <li>In case of an error in the input / output monitorings, 'Save torque off (STO)' follows as error reaction</li> </ul> |  |                          |  |
| <b>Error rectification</b> |       | <ul style="list-style-type: none"> <li>AMK service</li> </ul>  |  |                          |  |

|                            |  |  |   |                       |  |                     |         |
|----------------------------|--|--|---|-----------------------|--|---------------------|---------|
| 3607                       | Info1  | 29   | Module sequence monitoring  |                       |  |                     |         |
|                            |  |  | Info2   | 1                     | me pointer is faulty   |                     |         |
|                            |  |  |   |                       | Info3  | 1                   | Reset   |
|                            |  |  |   |                       |  | 2                   | Do step |
|                            |  |  | 2   | PAU pointer is faulty |  |                     |         |
|                            |  |  |   | Info3                 | n  | Software module no. |         |
|                            |  |  | 3   | Index exceeds limit   |  |                     |         |
| Info3                      | n  | Software module no.  |   |                       |  |                     |         |
| 4                          | Identifier is faulty   |  |   |                       |  |                     |         |
|                            | Info3  | n  | Software module no.   |                       |  |                     |         |
| 5                          | Cycle time exceeds tolerance (< minimum)                         |  |   |                       |  |                     |         |
|                            | Info3  | n  | Time level no.  |                       |  |                     |         |
| 6                          | Cycle time exceeds tolerance (> maximum)                         |  |   |                       |  |                     |         |
|                            | Info3  | n  | Time level no.  |                       |  |                     |         |
| <b>Error reaction</b>      |  | <ul style="list-style-type: none"> <li>In case of an error in the module sequence monitoring, 'Save torque off (STO)' follows as error reaction</li> </ul> |   |                       |  |                     |         |
| <b>Error rectification</b> |  | <ul style="list-style-type: none"> <li>Hardware possibly faulty / check</li> <li>AMK service</li> </ul>  |   |                       |  |                     |         |
| 3607                       | Info1  | 30   | Error during reading of a parameter from the safe parameter set       |                       |  |                     |         |
|                            |  |  | Wrong parameter number or internal system error                       |                       |  |                     |         |
|                            |  |  | Info2   | nn                    | Parameter arrangement, position of the faulty parameter            |                     |         |
|                            |  |  | Info3   | 0                     | Read unsigned integer 16-Bit parameter from the safe parameter set |                     |         |
|                            |  |  |   | 1                     | Read unsigned integer 32-Bit parameter from the safe parameter set |                     |         |
| 2                          | Read signed integer 16-Bit parameter from the safe parameter set |  |   |                       |  |                     |         |
| 3                          | Read signed integer 32-Bit parameter from the safe parameter set |  |   |                       |  |                     |         |
| <b>Error reaction</b>      |  | <ul style="list-style-type: none"> <li>In case of an error while reading the parameters, 'Save torque off (STO)' follows as error reaction</li> </ul>      |   |                       |  |                     |         |
| <b>Error rectification</b> |  | <ul style="list-style-type: none"> <li>AMK service</li> </ul>  |   |                       |  |                     |         |
| 3607                       | Info1  | 38   | Error message of 'Safe encoder monitoring (SEM)' monitoring channel 1 |                       |  |                     |         |
|                            |  |  | Info2   | 5                     | Wrong state selected   |                     |         |
| <b>Error reaction</b>      |  | <ul style="list-style-type: none"> <li>In case of an error in the safe encoder monitoring, 'Save torque off (STO)' follows as error reaction</li> </ul>    |   |                       |  |                     |         |
| <b>Error rectification</b> |  | <ul style="list-style-type: none"> <li>AMK service</li> </ul>  |   |                       |  |                     |         |
| 3607                       | Info1  | 39   | Error message of 'Safe encoder monitoring (SEM)' monitoring channel 2 |                       |  |                     |         |
|                            |  |  | Info2   | 5                     | Wrong state selected   |                     |         |
| <b>Error reaction</b>      |  | <ul style="list-style-type: none"> <li>In case of an error in the safe encoder monitoring, 'Save torque off (STO)' follows as error reaction</li> </ul>    |   |                       |  |                     |         |
| <b>Error rectification</b> |  | <ul style="list-style-type: none"> <li>AMK service</li> </ul>  |   |                       |  |                     |         |

|                            |   |   |  |                          |  |
|----------------------------|---|---|--|--------------------------|--|
| 3607                       | Info1   | 40  | Error messages communication to P1 system processor monitoring channel 1 / 2 |                          |  |
|                            |   |   | Info2  | 1                        | Data length is invalid   |
|                            |   |   |  | 2                        | Index for list invalid   |
|                            |   |   |  | 3                        | State in error deletion false  |
|                            |   |   |  | 4                        | State in system booting false  |
|                            |   |   |  | 5                        | Service -> SEEP data is read   |
|                            |   |   | Info3  | 0                        | No error   |
| 1                          | Reading SEEP is not possible because of system run-up     |   |  |                          |  |
| 2                          | Reading SEEP is not possible because of data transmission |   |  |                          |  |
|                            |   |   | 3  | Maximum address exceeded |  |
| <b>Error reaction</b>      |   | <ul style="list-style-type: none"> <li>In case of an error in the communication to the system processor, 'Save torque off (STO)' follows as error reaction</li> </ul> |  |                          |  |
| <b>Error rectification</b> |   | <ul style="list-style-type: none"> <li>AMK service</li> </ul>   |  |                          |  |
| 3607                       | Info1   | 70  | Error message FSoE handling  |                          |  |
|                            |   |   | Info2  | 7                        | FSoE error while reading status  |
|                            |   |   |  | 8                        | FSoE error while reading process data  |
| <b>Error reaction</b>      |   | <ul style="list-style-type: none"> <li>In case of an error in the FSoE handling, 'Save torque off (STO)' follows as error reaction</li> </ul>                         |  |                          |  |
| <b>Error rectification</b> |   | <ul style="list-style-type: none"> <li>AMK service</li> </ul>   |  |                          |  |
| 3607                       | Info1   | 71  | Error messages clock monitoring monitoring channel 1                         |                          |  |
|                            |   |   | Info2  | 1                        | State monitoring   |
|                            |   |   |  | 2                        | Clock monitoring is faulty   |
|                            |   |   |  | 3                        | Faulty state   |
| <b>Error reaction</b>      |   | <ul style="list-style-type: none"> <li>In case of an error in the clock monitoring, 'Save torque off (STO)' follows as error reaction</li> </ul>                      |  |                          |  |
| <b>Error rectification</b> |   | <ul style="list-style-type: none"> <li>AMK service</li> </ul>   |  |                          |  |
| 3607                       | Info1   | 72  | Error messages clock monitoring monitoring channel 2                         |                          |  |
|                            |   |   | Info2  | 1                        | State monitoring   |
|                            |   |   |  | 2                        | Clock monitoring is faulty   |
|                            |   |   |  | 3                        | Faulty state   |
| <b>Error reaction</b>      |   | <ul style="list-style-type: none"> <li>In case of an error in the clock monitoring, 'Save torque off (STO)' follows as error reaction</li> </ul>                      |  |                          |  |
| <b>Error rectification</b> |   | <ul style="list-style-type: none"> <li>AMK service</li> </ul>   |  |                          |  |
| 3607                       | Info1   | 73  | Error message system monitoring channel 1                                    |                          |  |
|                            |   |   | Info2  | 1                        | FSoE stack / cross communication / clock monitoring were not activated for 3 cycles successively |
|                            |   |   |  | 2                        | Life counter FSoE is activated   |
|                            |   |   |  | 3                        | Outputs cannot be set  |
|                            |   |   | Info3  | 3                        | Monitoring channel 1   |
| <b>Error reaction</b>      |   | <ul style="list-style-type: none"> <li>In case of a system error, 'Save torque off (STO)' follows as error reaction</li> </ul>  |  |                          |  |
| <b>Error rectification</b> |   | <ul style="list-style-type: none"> <li>AMK service</li> </ul>   |  |                          |  |

|                            |       |  |   |   |  |
|----------------------------|-------|--|---|---|--|
| 3607                       | Info1 | 74   | Error message system monitoring channel 2 |   |  |
|                            |       |  | Info2                                     | 1 | FSoE stack / cross communication / clock monitoring were not activated for 3 cycles successively |
|                            |       |  |   | 2 | Life counter FSoE is activated   |
|                            |       |  |   | 3 | Outputs cannot be set  |
|                            |       |  |   | 4 | Writing history is failed during data transmission   |
| Info3                      | 4     | Monitoring channel 2   |   |   |  |
| <b>Error reaction</b>      |       | <ul style="list-style-type: none"> <li>In case of a system error, 'Save torque off (STO)' follows as error reaction</li> </ul> |   |   |  |
| <b>Error rectification</b> |       | <ul style="list-style-type: none"> <li>AMK service</li> </ul>  |   |   |  |

|      |       |     |  |  |     |                                      |     |                                      |     |   |     |                                       |     |                                       |     |                                      |     |   |     |  |     |  |     |                      |     |   |     |   |     |   |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |
|------|-------|-----|--|--|-----|--------------------------------------|-----|--------------------------------------|-----|---|-----|---------------------------------------|-----|---------------------------------------|-----|--------------------------------------|-----|---|-----|--|-----|--|-----|----------------------|-----|---|-----|---|-----|---|-----|---|-----|--|-----|---|-----|--|-----|---|-----|--|-----|---|-----|--|-----|---|-----|--|-----|---|-----|--|-----|---|
| 3607 | Info1 | 100 | Error message of the stop and safety functions |  |     |                                      |     |                                      |     |   |     |                                       |     |                                       |     |                                      |     |   |     |  |     |  |     |                      |     |   |     |   |     |   |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |
|      |       |     | Info2  | <table border="1"> <tr><td>100</td><td>Start bit allocation &gt; maximum value</td></tr> <tr><td>101</td><td>Reset bit allocation &gt; maximum value</td></tr> <tr><td>102</td><td>Reset bit allocation = start bit allocation</td></tr> <tr><td>103</td><td>Active bit allocation &gt; maximum value</td></tr> <tr><td>104</td><td>Status bit allocation &gt; maximum value</td></tr> <tr><td>105</td><td>Error bit allocation &gt; maximum value</td></tr> <tr><td>106</td><td>Active bit allocation = status bit allocation</td></tr> <tr><td>107</td><td>Active bit allocation = error bit allocation</td></tr> <tr><td>108</td><td>Error bit allocation = status bit allocation</td></tr> <tr><td>109</td><td>Wrong state selected</td></tr> <tr><td>114</td><td>Monitoring channel 1: SS1<br/>Error reaction &gt; maximum value</td></tr> <tr><td>115</td><td>Monitoring channel 2: SS1<br/>Error reaction &gt; maximum value</td></tr> <tr><td>116</td><td>Monitoring channel 1: SS2<br/>Error reaction &gt; maximum value</td></tr> <tr><td>117</td><td>Monitoring channel 2: SS2<br/>Error reaction &gt; maximum value</td></tr> <tr><td>118</td><td>Monitoring channel 1: Safety function<br/>Pointer not initialised</td></tr> <tr><td>119</td><td>Monitoring channel 1: Safety function<br/>Faulty state</td></tr> <tr><td>120</td><td>Monitoring channel 2: Safety function<br/>Pointer not initialised</td></tr> <tr><td>121</td><td>Monitoring channel 2: Safety function<br/>Faulty state</td></tr> <tr><td>122</td><td>Monitoring channel 1: SS1<br/>Pointer not initialised</td></tr> <tr><td>123</td><td>Monitoring channel 1: SS1<br/>Faulty state</td></tr> <tr><td>124</td><td>Monitoring channel 2: SS1<br/>Pointer not initialised</td></tr> <tr><td>125</td><td>Monitoring channel 2: SS1<br/>Faulty state</td></tr> <tr><td>126</td><td>Monitoring channel 1: SS2<br/>Pointer not initialised</td></tr> <tr><td>127</td><td>Monitoring channel 1: SS2<br/>Faulty state</td></tr> <tr><td>128</td><td>Monitoring channel 2: SS2<br/>Pointer not initialised</td></tr> <tr><td>129</td><td>Monitoring channel 2: SS2<br/>Faulty state</td></tr> </table> | 100 | Start bit allocation > maximum value | 101 | Reset bit allocation > maximum value | 102 | Reset bit allocation = start bit allocation | 103 | Active bit allocation > maximum value | 104 | Status bit allocation > maximum value | 105 | Error bit allocation > maximum value | 106 | Active bit allocation = status bit allocation | 107 | Active bit allocation = error bit allocation | 108 | Error bit allocation = status bit allocation | 109 | Wrong state selected | 114 | Monitoring channel 1: SS1<br>Error reaction > maximum value | 115 | Monitoring channel 2: SS1<br>Error reaction > maximum value | 116 | Monitoring channel 1: SS2<br>Error reaction > maximum value | 117 | Monitoring channel 2: SS2<br>Error reaction > maximum value | 118 | Monitoring channel 1: Safety function<br>Pointer not initialised | 119 | Monitoring channel 1: Safety function<br>Faulty state | 120 | Monitoring channel 2: Safety function<br>Pointer not initialised | 121 | Monitoring channel 2: Safety function<br>Faulty state | 122 | Monitoring channel 1: SS1<br>Pointer not initialised | 123 | Monitoring channel 1: SS1<br>Faulty state | 124 | Monitoring channel 2: SS1<br>Pointer not initialised | 125 | Monitoring channel 2: SS1<br>Faulty state | 126 | Monitoring channel 1: SS2<br>Pointer not initialised | 127 | Monitoring channel 1: SS2<br>Faulty state | 128 | Monitoring channel 2: SS2<br>Pointer not initialised | 129 | Monitoring channel 2: SS2<br>Faulty state |
|      |       |     | 100  | Start bit allocation > maximum value   |     |                                      |     |                                      |     |   |     |                                       |     |                                       |     |                                      |     |   |     |  |     |  |     |                      |     |   |     |   |     |   |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |
|      |       |     | 101  | Reset bit allocation > maximum value   |     |                                      |     |                                      |     |   |     |                                       |     |                                       |     |                                      |     |   |     |  |     |  |     |                      |     |   |     |   |     |   |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |
|      |       |     | 102  | Reset bit allocation = start bit allocation  |     |                                      |     |                                      |     |   |     |                                       |     |                                       |     |                                      |     |   |     |  |     |  |     |                      |     |   |     |   |     |   |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |
|      |       |     | 103  | Active bit allocation > maximum value  |     |                                      |     |                                      |     |   |     |                                       |     |                                       |     |                                      |     |   |     |  |     |  |     |                      |     |   |     |   |     |   |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |
|      |       |     | 104  | Status bit allocation > maximum value  |     |                                      |     |                                      |     |   |     |                                       |     |                                       |     |                                      |     |   |     |  |     |  |     |                      |     |   |     |   |     |   |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |
|      |       |     | 105  | Error bit allocation > maximum value   |     |                                      |     |                                      |     |   |     |                                       |     |                                       |     |                                      |     |   |     |  |     |  |     |                      |     |   |     |   |     |   |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |
|      |       |     | 106  | Active bit allocation = status bit allocation  |     |                                      |     |                                      |     |   |     |                                       |     |                                       |     |                                      |     |   |     |  |     |  |     |                      |     |   |     |   |     |   |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |
|      |       |     | 107  | Active bit allocation = error bit allocation   |     |                                      |     |                                      |     |   |     |                                       |     |                                       |     |                                      |     |   |     |  |     |  |     |                      |     |   |     |   |     |   |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |
|      |       |     | 108  | Error bit allocation = status bit allocation   |     |                                      |     |                                      |     |   |     |                                       |     |                                       |     |                                      |     |   |     |  |     |  |     |                      |     |   |     |   |     |   |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |
|      |       |     | 109  | Wrong state selected   |     |                                      |     |                                      |     |   |     |                                       |     |                                       |     |                                      |     |   |     |  |     |  |     |                      |     |   |     |   |     |   |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |
|      |       |     | 114  | Monitoring channel 1: SS1<br>Error reaction > maximum value  |     |                                      |     |                                      |     |   |     |                                       |     |                                       |     |                                      |     |   |     |  |     |  |     |                      |     |   |     |   |     |   |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |
|      |       |     | 115  | Monitoring channel 2: SS1<br>Error reaction > maximum value  |     |                                      |     |                                      |     |   |     |                                       |     |                                       |     |                                      |     |   |     |  |     |  |     |                      |     |   |     |   |     |   |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |
|      |       |     | 116  | Monitoring channel 1: SS2<br>Error reaction > maximum value  |     |                                      |     |                                      |     |   |     |                                       |     |                                       |     |                                      |     |   |     |  |     |  |     |                      |     |   |     |   |     |   |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |
|      |       |     | 117  | Monitoring channel 2: SS2<br>Error reaction > maximum value  |     |                                      |     |                                      |     |   |     |                                       |     |                                       |     |                                      |     |   |     |  |     |  |     |                      |     |   |     |   |     |   |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |
|      |       |     | 118  | Monitoring channel 1: Safety function<br>Pointer not initialised   |     |                                      |     |                                      |     |   |     |                                       |     |                                       |     |                                      |     |   |     |  |     |  |     |                      |     |   |     |   |     |   |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |
|      |       |     | 119  | Monitoring channel 1: Safety function<br>Faulty state  |     |                                      |     |                                      |     |   |     |                                       |     |                                       |     |                                      |     |   |     |  |     |  |     |                      |     |   |     |   |     |   |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |
|      |       |     | 120  | Monitoring channel 2: Safety function<br>Pointer not initialised   |     |                                      |     |                                      |     |   |     |                                       |     |                                       |     |                                      |     |   |     |  |     |  |     |                      |     |   |     |   |     |   |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |
|      |       |     | 121  | Monitoring channel 2: Safety function<br>Faulty state  |     |                                      |     |                                      |     |   |     |                                       |     |                                       |     |                                      |     |   |     |  |     |  |     |                      |     |   |     |   |     |   |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |
|      |       |     | 122  | Monitoring channel 1: SS1<br>Pointer not initialised   |     |                                      |     |                                      |     |   |     |                                       |     |                                       |     |                                      |     |   |     |  |     |  |     |                      |     |   |     |   |     |   |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |
|      |       |     | 123  | Monitoring channel 1: SS1<br>Faulty state  |     |                                      |     |                                      |     |   |     |                                       |     |                                       |     |                                      |     |   |     |  |     |  |     |                      |     |   |     |   |     |   |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |
|      |       |     | 124  | Monitoring channel 2: SS1<br>Pointer not initialised   |     |                                      |     |                                      |     |   |     |                                       |     |                                       |     |                                      |     |   |     |  |     |  |     |                      |     |   |     |   |     |   |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |
|      |       |     | 125  | Monitoring channel 2: SS1<br>Faulty state  |     |                                      |     |                                      |     |   |     |                                       |     |                                       |     |                                      |     |   |     |  |     |  |     |                      |     |   |     |   |     |   |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |
|      |       |     | 126  | Monitoring channel 1: SS2<br>Pointer not initialised   |     |                                      |     |                                      |     |   |     |                                       |     |                                       |     |                                      |     |   |     |  |     |  |     |                      |     |   |     |   |     |   |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |
|      |       |     | 127  | Monitoring channel 1: SS2<br>Faulty state  |     |                                      |     |                                      |     |   |     |                                       |     |                                       |     |                                      |     |   |     |  |     |  |     |                      |     |   |     |   |     |   |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |
|      |       |     | 128  | Monitoring channel 2: SS2<br>Pointer not initialised   |     |                                      |     |                                      |     |   |     |                                       |     |                                       |     |                                      |     |   |     |  |     |  |     |                      |     |   |     |   |     |   |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |
|      |       |     | 129  | Monitoring channel 2: SS2<br>Faulty state  |     |                                      |     |                                      |     |   |     |                                       |     |                                       |     |                                      |     |   |     |  |     |  |     |                      |     |   |     |   |     |   |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |     |  |     |   |

|                            |  |  |       |     |   |
|----------------------------|--|--|-------|-----|---|
|                            |  |  | Info3 | 100 | Error message of stop function 'Save torque off (STO)'            |
|                            |  |  |       | 101 | Error message of stop function 'Safe stop 1 (SS1)'                |
|                            |  |  |       | 102 | Error message of stop function 'Safe stop 2 (SS2)'                |
|                            |  |  |       | 103 | Error message of safety function 'Safe operating stop (SOS)'      |
|                            |  |  |       | 104 | Error message of safety function 'Safe speed range 1 (SSR1)'      |
|                            |  |  |       | 105 | Error message of safety function 'Safe direction positive (SDIp)' |
|                            |  |  |       | 106 | Error message of safety function 'Safe direction negative (SDIn)' |
|                            |  |  |       | 108 | Error message of safety function 'Safe maximum speed (SMS)'       |
|                            |  |  |       | 109 | Error message of safety function 'Safe speed range 2 (SSR2)'      |
|                            |  |  |       | 110 | Error message of safety function 'Safe speed range 3 (SSR3)'      |
|                            |  |  |       | 111 | Error message of safety function 'Safe speed range 4 (SSR4)'      |
|                            |  |  |       | 112 | Error message of safety function 'Safely-limited speed 1 (SLS1)'  |
|                            |  |  |       | 113 | Error message of safety function 'Safely-limited speed 2 (SLS2)'  |
|                            |  |  |       | 114 | Error message of safety function 'Safely-limited increment (SLI)' |
| <b>Error reaction</b>      | <ul style="list-style-type: none"> <li>In case of an error, 'Save torque off (STO)' follows as error reaction</li> </ul> |  |       |     |   |
| <b>Error rectification</b> | <ul style="list-style-type: none"> <li>AMK service</li> </ul>  |  |       |     |   |

### 3609 Safety - Faulty Parameter Transfer

|   |   |    |   |  |  |
|---|---|----|---|--|--|
| <ul style="list-style-type: none"> <li>Faulty parameter transfer</li> </ul> |   |    |   |  |  |
| <b>Device</b>   | KW-R07 / -R17 safety module   |    |   |  |  |
| <b>Description</b>  | Parameterisation error during system booting or during parameter set transfer <ul style="list-style-type: none"> <li>During system booting, the safe parameter set is checked for validity</li> <li>During parameter set transfer, the safe parameter set is checked for validity and the validation is also monitored during the transfer</li> </ul> |    |   |  |  |
| <b>Class</b>  | Error   |    |   |  |  |
| <b>Drive behaviour</b>  | The drive remains torque-free   |    |   |  |  |
| <b>Device behaviour</b>   | The safety monitoring does not switch to the operational state, i.e. the safety functions cannot be put into operation  |    |   |  |  |
| Additional information (Info AMK customer service)                          |   |    |   |  |  |
| 3609  | Info1   | 3  | Error during sending of the status from monitoring channel 2 to monitoring channel 1<br>Status: Confirmation of the adoption of the transmitted safe parameter set is requested |  |  |
|   | Info2   | 11 | Internal system error<br>Error during sending of the status from monitoring channel 2 to monitoring channel 1   |  |  |
|   |   | 15 | Internal system error<br>Timeout during sending of the status from monitoring channel 2 to monitoring channel 1   |  |  |
|   | Info3   | 58 | Transfer of the safe parameter set is started (monitoring channel 2)  |  |  |
| <b>Error rectification</b>  | <ul style="list-style-type: none"> <li>Transmit the safe parameter set to the device once more</li> <li>If the error occurs again, contact AMK service</li> </ul>   |    |   |  |  |



|                            |   |   |  |                     |   |
|----------------------------|---|---|--|---------------------|---|
| 3609                       | Info1   | 5   | Error during the importing of the safe parameter set into the SEEP   |                     |   |
|                            |   |   | Info2  | 5                   | Internal system error:<br>Timeout import parameter set into the SEEP                            |
|                            |   |   |  | 7                   | Internal system error: Procedural error   |
|                            |   |   |  | 8                   | Internal system error: Input parameter  |
|                            |   |   | Info3  | 57                  | Transfer of the safe parameter set is started<br>(monitoring channel 1)                         |
| 58                         | Transfer of the safe parameter set is started<br>(monitoring channel 2) |   |  |                     |   |
| <b>Error rectification</b> |   | <ul style="list-style-type: none"> <li>• Transmit the safe parameter set to the device once more</li> <li>• If the error occurs again, contact AMK service</li> </ul> |  |                     |   |
| 3609                       | Info1   | 6   | The error occurs if certain functions are not completed during the transfer of the safe parameter set to the device. |                     |   |
|                            |   |   | Info2  | Not to be evaluated |   |
|                            |   |   | Info3  | 55                  | Testing of the safe parameter set is started during<br>system booting<br>(monitoring channel 1) |
|                            |   |   |  | 56                  | Testing of the safe parameter set is started during<br>system booting<br>(monitoring channel 2) |
|                            |   |   |  | 57                  | Transfer of the safe parameter set is started<br>(monitoring channel 1)                         |
| 58                         | Transfer of the safe parameter set is started<br>(monitoring channel 2) |   |  |                     |   |
| <b>Error rectification</b> |   | <ul style="list-style-type: none"> <li>• Switch the device off/on</li> <li>• Possibly transmit the safe parameter set to the device once more</li> </ul>              |  |                     |   |
| 3609                       | Info1   | 7   | Resulting error: Within a certain time, the expected status from monitoring channel 2 does not arrive                |                     |   |
|                            |   |   | Info2  | 7                   | Internal system error: Procedural error   |
|                            |   |   |  | 8                   | Internal system error: Input parameter  |
|                            |   |   |  | 12                  | Timeout during reading of the status from monitoring<br>channel 2                               |
|                            |   |   | Info3  | 55                  | Testing of the safe parameter set is started during<br>system booting<br>(monitoring channel 1) |
| 57                         | Transfer of the safe parameter set is started<br>(monitoring channel 1) |   |  |                     |   |
| <b>Error rectification</b> |   | <ul style="list-style-type: none"> <li>• Switch the device off/on</li> <li>• Possibly transmit the safe parameter set to the device once more</li> </ul>              |  |                     |   |

|                            |       |   |  |                     |   |
|----------------------------|-------|---|--|---------------------|---|
| 3609                       | Info1 | 8   | Internal system error  |                     |   |
|                            |       |   | Info2  | Not to be evaluated |   |
|                            |       |   | Info3  | 55                  | Testing of the safe parameter set is started during system booting (monitoring channel 1)   |
|                            |       |   |  | 56                  | Testing of the safe parameter set is started during system booting (monitoring channel 2)   |
|                            |       |   |  | 57                  | Transfer of the safe parameter set is started (monitoring channel 1)  |
|                            |       |   |  | 58                  | Transfer of the safe parameter set is started (monitoring channel 2)  |
|                            |       |   |  | 59                  | Testing of the safe parameter set is completed during system booting (monitoring channel 1)   |
|                            |       |   |  | 60                  | Testing of the safe parameter set is completed during system booting (monitoring channel 2)   |
|                            |       |   |  | 61                  | Transfer of the safe parameter set is completed (monitoring channel 1)  |
|                            |       |   |  | 62                  | Transfer of the safe parameter set is completed (monitoring channel 2)  |
| <b>Error rectification</b> |       | <ul style="list-style-type: none"> <li>• AMK service</li> </ul> |  |                     |   |
| 3609                       | Info1 | 9   | Transfer of the safe parameter set is successfully completed |                     |   |
|                            |       |   | Info2  | 0                   | "The transfer of the safe parameter set has been successfully completed, please restart."<br>(This information is always displayed when the safe parameter set has been successfully transmitted to the device!)            |
|                            |       |   |  | 11                  | Internal system error:<br>Error during sending of the status from monitoring channel 2 to monitoring channel 1  |
|                            |       |   |  | 15                  | Internal system error:<br>Timeout during sending of the status from monitoring channel 2 to monitoring channel 1  |
|                            |       |   | Info3  | 61                  | Transfer of the safe parameter set is completed (monitoring channel 1)  |
|                            |       |   |  | 62                  | Transfer of the safe parameter set is completed (monitoring channel 2)  |
|                            |       |   | <b>Error rectification</b>                                   |                     | <ul style="list-style-type: none"> <li>• Switch the device off/on</li> <li>• Possibly transmit the safe parameter set to the device once more</li> <li>• If an internal system error occurs, contact AMK service</li> </ul> |

|                            |  |   |  |    |  |   |
|----------------------------|--|---|--|----|--|---|
| 3609                       | Info1  | 10  | Internal system error<br>Error during reading of the verification number from the SEEP in monitoring channel 2 |    |  |   |
|                            |  |   | Info2  | 0  | Not to be evaluated  |   |
|                            |  |   |  | 7  | Internal system error: Procedural error  |   |
| 11                         | Internal system error:<br>Error during sending of the status from monitoring channel 2 to monitoring channel 1       |   |  |    |  |   |
| 13                         | Internal system error:<br>Reading of the check sum from the SEEP monitoring channel 2 has been completed incorrectly |   |  |    |  |   |
| 14                         | Internal system error:<br>Timeout in the reading function of the check sum from the SEEP monitoring channel 2        |   |  |    |  |   |
| 15                         | Internal system error:<br>Timeout during sending of the status from monitoring channel 2 to monitoring channel 1     |   |  |    |  |   |
| Info3                      | 56   | Testing of the safe parameter set is started during system booting (monitoring channel 2)   |  |    |  |   |
| <b>Error rectification</b> |  | <ul style="list-style-type: none"> <li>• Switch the device off/on</li> <li>• Possibly transmit the safe parameter set to the device once more</li> <li>• If an internal system error occurs, contact AMK service</li> </ul> |  |    |  |   |
| 3609                       | Info1  | 11  | Internal system error  |    |  |   |
|                            |  |   | Info2  | 16 | Secure the timeout in the check sum function in SEEP monitoring channel 2        |   |
|                            |  |   | Info3  | 58 | Transfer of the safe parameter set is started (monitoring channel 2)             |   |
| <b>Error rectification</b> |  | <ul style="list-style-type: none"> <li>• Switch the device off/on</li> <li>• Possibly transmit the safe parameter set to the device once more</li> <li>• If an internal system error occurs, contact AMK service</li> </ul> |  |    |  |   |
| 3609                       | Info1  | 73  | Internal system error  |    |  |   |
|                            |  |   | Info2  | 0  | During system run-up, an error in checksum 2 was detected within CRC examination |   |
|                            |  |   |  |    | Info3  | 3 |
| <b>Error reaction</b>      |  | <ul style="list-style-type: none"> <li>• In case of a system internal error, 'Save torque off (STO)' follows as error reaction</li> </ul>   |  |    |  |   |
| <b>Error rectification</b> |  | <ul style="list-style-type: none"> <li>• Transmit the safe parameter set to the device once more</li> <li>• AMK service</li> </ul>  |  |    |  |   |
| 3609                       | Info1  | 74  | Internal system error  |    |  |   |
|                            |  |   | Info2  | 0  | During system run-up, an error in checksum 2 was detected within CRC examination |   |
|                            |  |   |  |    | Info3  | 4 |
|                            |  | 5   | New parameter set is transmitted   |    |  |   |
| <b>Error reaction</b>      |  | <ul style="list-style-type: none"> <li>• In case of a system internal error, 'Save torque off (STO)' follows as error reaction</li> </ul>   |  |    |  |   |
| <b>Error rectification</b> |  | <ul style="list-style-type: none"> <li>• Transmit the safe parameter set to the device once more</li> <li>• AMK service</li> </ul>  |  |    |  |   |

|                            |       |   |  |       |   |   |  |
|----------------------------|-------|---|--|-------|---|---|--|
| 3609                       | Info1 | 128   | The current parameter set is invalid   |       |   |   |  |
|                            |       |   | Info2  | 6     | This version of the checked parameter set is not compatible with the device version or the safe parameter set is not available on the device                                    |   |  |
|                            |       |   |  | 9     | Error during comparison of test sums<br>Check sum from the current safe parameter set and check sum from the SEEP, monitoring channel 2, are different<br>Hardware was replaced |   |  |
|                            |       |   |  | 10    | The check sum read from the SEEP, monitoring channel 2 is 0   |   |  |
|                            |       |   | Info3  | 55    | Testing of the safe parameter set is started during system booting (monitoring channel 1)   |   |  |
|                            |       |   |  | 56    | Testing of the safe parameter set is started during system booting (monitoring channel 2)   |   |  |
|                            |       |   |  | 57    | Transfer of the safe parameter set is started (monitoring channel 1)  |   |  |
|                            |       |   |  | 58    | Transfer of the safe parameter set is started (monitoring channel 2)  |   |  |
|                            |       |   | <b>Error rectification</b>   |       | <ul style="list-style-type: none"> <li>• Transmit the valid safe parameter set to the device once more</li> </ul>   |   |  |
|                            |       |   | 3609   | Info1 | 131   | Error during sending of the status from monitoring channel 2 to monitoring channel 1<br>Status: Confirmation of the adoption of the transmitted safe parameter set is requested<br>The current parameter set is invalid |  |
| Info2                      | 11    | Internal system error<br>Error during sending of the status from monitoring channel 2 to monitoring channel 1   |  |       |   |   |  |
|                            | 15    | Internal system error<br>Timeout during sending of the status from monitoring channel 2 to monitoring channel 1   |  |       |   |   |  |
| Info3                      | 58    | Transfer of the safe parameter set is started (monitoring channel 2)  |  |       |   |   |  |
| <b>Error rectification</b> |       | <ul style="list-style-type: none"> <li>• Transmit the safe parameter set to the device once more</li> <li>• If the error occurs again, contact AMK service</li> </ul> |  |       |   |   |  |
| 3609                       | Info1 | 133   | Error during the importing of the safe parameter set into the SEEP<br>The current parameter set is invalid |       |   |   |  |
|                            |       |   | Info2  | 5     | Internal system error: Timeout import parameter set into the SEEP   |   |  |
|                            |       |   |  | 7     | Internal system error: Procedural error   |   |  |
|                            |       |   |  | 8     | Internal system error: Input parameter  |   |  |
|                            |       |   | Info3  | 57    | Transfer of the safe parameter set is started (monitoring channel 1)  |   |  |
|                            |       |   |  | 58    | Transfer of the safe parameter set is started (monitoring channel 2)  |   |  |
| <b>Error rectification</b> |       | <ul style="list-style-type: none"> <li>• Transmit the safe parameter set to the device once more</li> <li>• If the error occurs again, contact AMK service</li> </ul> |  |       |   |   |  |

|                            |  |   |   |   |  |  |    |  |    |  |    |  |    |   |    |   |    |
|----------------------------|--|---|---|---|--|--|----|--|----|--|----|--|----|---|----|---|----|
| 3609                       | Info1  | 135   | Resulting error: Within a certain time, the expected status from monitoring channel 2 does not arrive<br>The current parameter set is invalid |   |  |  |    |  |    |  |    |  |    |   |    |   |    |
|                            |  |   | Info2   | <table border="1"> <tr> <td>7</td> <td>Internal system error: Procedural error</td> </tr> <tr> <td>8</td> <td>Internal system error: Input parameter</td> </tr> <tr> <td>12</td> <td>Timeout during reading of the status from monitoring channel 2.</td> </tr> </table>  | 7  | Internal system error: Procedural error  | 8  | Internal system error: Input parameter   | 12 | Timeout during reading of the status from monitoring channel 2.  |    |  |    |   |    |   |    |
|                            |  |   | 7   | Internal system error: Procedural error   |  |  |    |  |    |  |    |  |    |   |    |   |    |
| 8                          | Internal system error: Input parameter   |   |   |   |  |  |    |  |    |  |    |  |    |   |    |   |    |
| 12                         | Timeout during reading of the status from monitoring channel 2.  |   |   |   |  |  |    |  |    |  |    |  |    |   |    |   |    |
| Info3                      | <table border="1"> <tr> <td>55</td> <td>Testing of the safe parameter set is started during system booting (monitoring channel 1)</td> </tr> <tr> <td>57</td> <td>Transfer of the safe parameter set is started (monitoring channel 1)</td> </tr> </table> | 55  | Testing of the safe parameter set is started during system booting (monitoring channel 1)   | 57  | Transfer of the safe parameter set is started (monitoring channel 1)   |  |    |  |    |  |    |  |    |   |    |   |    |
| 55                         | Testing of the safe parameter set is started during system booting (monitoring channel 1)  |   |   |   |  |  |    |  |    |  |    |  |    |   |    |   |    |
| 57                         | Transfer of the safe parameter set is started (monitoring channel 1)   |   |   |   |  |  |    |  |    |  |    |  |    |   |    |   |    |
| <b>Error rectification</b> |  | <ul style="list-style-type: none"> <li>• Switch the device off/on</li> <li>• Possibly transmit the safe parameter set to the device once more</li> </ul>  |   |   |  |  |    |  |    |  |    |  |    |   |    |   |    |
| 3609                       | Info1  | 136   | Internal system error   |   |  |  |    |  |    |  |    |  |    |   |    |   |    |
|                            |  |   | Info2   | Not to be evaluated   |  |  |    |  |    |  |    |  |    |   |    |   |    |
|                            |  |   | Info3   | <table border="1"> <tr> <td>55</td> <td>Testing of the safe parameter set is started during system booting (monitoring channel 1)</td> </tr> <tr> <td>56</td> <td>Testing of the safe parameter set is started during system booting (monitoring channel 2)</td> </tr> <tr> <td>57</td> <td>Transfer of the safe parameter set is started (monitoring channel 1)</td> </tr> <tr> <td>58</td> <td>Transfer of the safe parameter set is started (monitoring channel 2)</td> </tr> <tr> <td>59</td> <td>Testing of the safe parameter set is completed during system booting (monitoring channel 1)</td> </tr> <tr> <td>60</td> <td>Testing of the safe parameter set is completed during system booting (monitoring channel 2)</td> </tr> <tr> <td>61</td> <td>Transfer of the safe parameter set is completed (monitoring channel 1)</td> </tr> <tr> <td>62</td> <td>Transfer of the safe parameter set is completed (monitoring channel 2)</td> </tr> </table> | 55   | Testing of the safe parameter set is started during system booting (monitoring channel 1)  | 56 | Testing of the safe parameter set is started during system booting (monitoring channel 2)                      | 57 | Transfer of the safe parameter set is started (monitoring channel 1)   | 58 | Transfer of the safe parameter set is started (monitoring channel 2) | 59 | Testing of the safe parameter set is completed during system booting (monitoring channel 1) | 60 | Testing of the safe parameter set is completed during system booting (monitoring channel 2) | 61 |
| 55                         | Testing of the safe parameter set is started during system booting (monitoring channel 1)  |   |   |   |  |  |    |  |    |  |    |  |    |   |    |   |    |
| 56                         | Testing of the safe parameter set is started during system booting (monitoring channel 2)  |   |   |   |  |  |    |  |    |  |    |  |    |   |    |   |    |
| 57                         | Transfer of the safe parameter set is started (monitoring channel 1)   |   |   |   |  |  |    |  |    |  |    |  |    |   |    |   |    |
| 58                         | Transfer of the safe parameter set is started (monitoring channel 2)   |   |   |   |  |  |    |  |    |  |    |  |    |   |    |   |    |
| 59                         | Testing of the safe parameter set is completed during system booting (monitoring channel 1)  |   |   |   |  |  |    |  |    |  |    |  |    |   |    |   |    |
| 60                         | Testing of the safe parameter set is completed during system booting (monitoring channel 2)  |   |   |   |  |  |    |  |    |  |    |  |    |   |    |   |    |
| 61                         | Transfer of the safe parameter set is completed (monitoring channel 1)   |   |   |   |  |  |    |  |    |  |    |  |    |   |    |   |    |
| 62                         | Transfer of the safe parameter set is completed (monitoring channel 2)   |   |   |   |  |  |    |  |    |  |    |  |    |   |    |   |    |
| <b>Error rectification</b> |  | <ul style="list-style-type: none"> <li>• AMK service</li> </ul>   |   |   |  |  |    |  |    |  |    |  |    |   |    |   |    |
| 3609                       | Info1  | 137   | Transfer of the safe parameter set is successfully completed<br>The current parameter set is invalid  |   |  |  |    |  |    |  |    |  |    |   |    |   |    |
|                            |  |   | Info2   | <table border="1"> <tr> <td>0</td> <td>"The transfer of the safe parameter set has been successfully completed, please restart."<br/>(This information is always displayed when the safe parameter set has been successfully transmitted to the device!)</td> </tr> <tr> <td>11</td> <td>Internal system error:<br/>Error during sending of the status from monitoring channel 2 to monitoring channel 1</td> </tr> <tr> <td>15</td> <td>Internal system error:<br/>Timeout during sending of the status from monitoring channel 2 to monitoring channel 1</td> </tr> </table>  | 0  | "The transfer of the safe parameter set has been successfully completed, please restart."<br>(This information is always displayed when the safe parameter set has been successfully transmitted to the device!) | 11 | Internal system error:<br>Error during sending of the status from monitoring channel 2 to monitoring channel 1 | 15 | Internal system error:<br>Timeout during sending of the status from monitoring channel 2 to monitoring channel 1 |    |  |    |   |    |   |    |
|                            |  |   | 0   | "The transfer of the safe parameter set has been successfully completed, please restart."<br>(This information is always displayed when the safe parameter set has been successfully transmitted to the device!)  |  |  |    |  |    |  |    |  |    |   |    |   |    |
| 11                         | Internal system error:<br>Error during sending of the status from monitoring channel 2 to monitoring channel 1   |   |   |   |  |  |    |  |    |  |    |  |    |   |    |   |    |
| 15                         | Internal system error:<br>Timeout during sending of the status from monitoring channel 2 to monitoring channel 1   |   |   |   |  |  |    |  |    |  |    |  |    |   |    |   |    |
| Info3                      | <table border="1"> <tr> <td>61</td> <td>Transfer of the safe parameter set is completed (monitoring channel 1)</td> </tr> <tr> <td>62</td> <td>Transfer of the safe parameter set is completed (monitoring channel 2)</td> </tr> </table>                  | 61  | Transfer of the safe parameter set is completed (monitoring channel 1)  | 62  | Transfer of the safe parameter set is completed (monitoring channel 2) |  |    |  |    |  |    |  |    |   |    |   |    |
| 61                         | Transfer of the safe parameter set is completed (monitoring channel 1)   |   |   |   |  |  |    |  |    |  |    |  |    |   |    |   |    |
| 62                         | Transfer of the safe parameter set is completed (monitoring channel 2)   |   |   |   |  |  |    |  |    |  |    |  |    |   |    |   |    |
| <b>Error rectification</b> |  | <ul style="list-style-type: none"> <li>• Switch the device off/on</li> <li>• Possibly transmit the safe parameter set to the device once more</li> <li>• If an internal system error occurs, contact AMK service</li> </ul> |   |   |  |  |    |  |    |  |    |  |    |   |    |   |    |

|                            |       |   |   |    |  |
|----------------------------|-------|---|---|----|--|
| 3609                       | Info1 | 138   | Internal system error<br>The current parameter set is invalid |    |  |
|                            |       |   | Info2   | 13 | Error in function 'Read checksum from SEEP monitoring channel 2'     |
|                            |       |   |   | 14 | Timeout in function 'Read checksum from SEEP monitoring channel 2'   |
|                            |       |   |   | 15 | Timeout during sending of the checksum to monitoring channel 1       |
| Info3                      | 56    | Testing of the safe parameter set is started during system booting (monitoring channel 2)   |   |    |  |
| <b>Error rectification</b> |       | <ul style="list-style-type: none"> <li>Switch the device off/on</li> <li>If the error occurs again, contact AMK service</li> </ul>  |   |    |  |
| 3609                       | Info1 | 139   | Internal system error<br>The current parameter set is invalid |    |  |
|                            |       |   | Info2   | 0  | Not to be evaluated  |
|                            |       |   |   | 16 | Timeout in function 'Secure checksum to SEEP monitoring channel 2'   |
|                            |       |   | Info3   | 58 | Transfer of the safe parameter set is started (monitoring channel 2) |
| <b>Error rectification</b> |       | <ul style="list-style-type: none"> <li>Switch the device off/on</li> <li>Possibly transmit the safe parameter set to the device once more</li> <li>If an internal system error occurs, contact AMK service</li> </ul> |   |    |  |

### 3610 Safety - Warning During Operation

|  |  |   |   |   |  |
|--|--|---|---|---|--|
| <ul style="list-style-type: none"> <li>Warning in a monitoring during operation</li> </ul> |  |   |   |   |  |
| <b>Device</b>  | KW-R07 / -R17 safety module  |   |   |   |  |
| <b>Description</b>   | A monitoring has detected a deviation from a limit value during operations |   |   |   |  |
| <b>Class</b>   | Warning  |   |   |   |  |
| <b>Drive behaviour</b>   | See error reaction towards the individual additional information Info1     |   |   |   |  |
| <b>Device behaviour</b>  |  |   |   |   |  |
| 3610   | Info1  | 13  | Warning message monitoring cross communication                                  |   |  |
|  |  |   | Info2   | 3 | Status difference between 2 monitoring channels detected: SS1      |
|  |  |   |   | 4 | Status difference between 2 monitoring channels detected: SS2      |
|  |  |   | Info3   | 3 | Monitoring channel 1   |
| 4  | Monitoring channel 2   |   |   |   |  |
| <b>Error reaction</b>  |  | In case of a warning in the monitoring of the cross communication, SS1 or SS2 follows   |   |   |  |
| <b>Error rectification</b>   |  | <ul style="list-style-type: none"> <li>Info2 = 3, 4: resulting error</li> </ul>   |   |   |  |
| 3610   | Info1  | 38  | Warning messages of the 'Safe encoder monitoring (SEM)'<br>Monitoring channel 1 |   |  |
|  |  |   | Info2   | 3 | Warning: Prm9 'Transition time in case of standstill' was exceeded |
| <b>Error reaction</b>  |  | <ul style="list-style-type: none"> <li>After the expiration of Prm10 'Reaction time in case of standstill' an error is generated and 'Save torque off (STO)' follows as error reaction</li> </ul> |   |   |  |
| <b>Error rectification</b>   |  | <ul style="list-style-type: none"> <li>See 'PDK_203446_Sicherheitshandbuch_KW-R07, Safe Encoder Monitoring (SEM)'</li> <li>Move device</li> </ul>   |   |   |  |



|                            |       |   |   |   |   |       |   |              |  |   |   |  |   |                               |  |   |              |  |    |                                      |  |    |  |  |    |  |
|----------------------------|-------|---|---|---|---|-------|---|--------------|--|---|---|--|---|-------------------------------|--|---|--------------|--|----|--------------------------------------|--|----|--|--|----|--|
| 3610                       | Info1 | 39  | Warning messages of the 'Safe encoder monitoring (SEM)'<br>Monitoring channel 2     |   |   |       |   |              |  |   |   |  |   |                               |  |   |              |  |    |                                      |  |    |  |  |    |  |
|                            |       |   | Info2   | 3 | Warning: Prm9 'Transition time in case of standstill' was exceeded  |       |   |              |  |   |   |  |   |                               |  |   |              |  |    |                                      |  |    |  |  |    |  |
| <b>Error reaction</b>      |       | <ul style="list-style-type: none"> <li>After the expiration of Prm10 'Reaction time in case of standstill' an error is generated and 'Save torque off (STO)' follows as error reaction</li> </ul>   |   |   |   |       |   |              |  |   |   |  |   |                               |  |   |              |  |    |                                      |  |    |  |  |    |  |
| <b>Error rectification</b> |       | <ul style="list-style-type: none"> <li>See 'PDK_203446_Sicherheitshandbuch_KW-R07, Safe Encoder Monitoring (SEM)'</li> <li>Move device</li> </ul>   |   |   |   |       |   |              |  |   |   |  |   |                               |  |   |              |  |    |                                      |  |    |  |  |    |  |
| 3610                       | Info1 | 40  | Warning message of communication to P1  |   |   |       |   |              |  |   |   |  |   |                               |  |   |              |  |    |                                      |  |    |  |  |    |  |
|                            |       |   | Info2   | 0 | Flashing process is started   |       |   |              |  |   |   |  |   |                               |  |   |              |  |    |                                      |  |    |  |  |    |  |
|                            |       | <table border="1"> <tr> <td>Info3</td> <td>0</td> <td>RF is active</td> </tr> <tr> <td></td> <td>1</td> <td>Start identifier for flashing not found</td> </tr> <tr> <td></td> <td>2</td> <td>Identifier 'SPImon' not found</td> </tr> <tr> <td></td> <td>3</td> <td>Faulty state</td> </tr> <tr> <td></td> <td>10</td> <td>SEEP reading invalid if RF is active</td> </tr> <tr> <td></td> <td>11</td> <td>Parameter set transmission invalid if RF is active</td> </tr> <tr> <td></td> <td>15</td> <td>Parameter set transmission invalid if RF is active</td> </tr> </table> |   |   |   | Info3 | 0 | RF is active |  | 1 | Start identifier for flashing not found |  | 2 | Identifier 'SPImon' not found |  | 3 | Faulty state |  | 10 | SEEP reading invalid if RF is active |  | 11 | Parameter set transmission invalid if RF is active |  | 15 | Parameter set transmission invalid if RF is active |
| Info3                      | 0     | RF is active  |   |   |   |       |   |              |  |   |   |  |   |                               |  |   |              |  |    |                                      |  |    |  |  |    |  |
|                            | 1     | Start identifier for flashing not found   |   |   |   |       |   |              |  |   |   |  |   |                               |  |   |              |  |    |                                      |  |    |  |  |    |  |
|                            | 2     | Identifier 'SPImon' not found   |   |   |   |       |   |              |  |   |   |  |   |                               |  |   |              |  |    |                                      |  |    |  |  |    |  |
|                            | 3     | Faulty state  |   |   |   |       |   |              |  |   |   |  |   |                               |  |   |              |  |    |                                      |  |    |  |  |    |  |
|                            | 10    | SEEP reading invalid if RF is active  |   |   |   |       |   |              |  |   |   |  |   |                               |  |   |              |  |    |                                      |  |    |  |  |    |  |
|                            | 11    | Parameter set transmission invalid if RF is active  |   |   |   |       |   |              |  |   |   |  |   |                               |  |   |              |  |    |                                      |  |    |  |  |    |  |
|                            | 15    | Parameter set transmission invalid if RF is active  |   |   |   |       |   |              |  |   |   |  |   |                               |  |   |              |  |    |                                      |  |    |  |  |    |  |
| <b>Error reaction</b>      |       | <ul style="list-style-type: none"> <li>A warning of communication to P1 can be cleared</li> </ul>   |   |   |   |       |   |              |  |   |   |  |   |                               |  |   |              |  |    |                                      |  |    |  |  |    |  |
| <b>Error rectification</b> |       | <ul style="list-style-type: none"> <li>Withdraw RF</li> <li>Start flash process again</li> <li>AMK service</li> </ul>   |   |   |   |       |   |              |  |   |   |  |   |                               |  |   |              |  |    |                                      |  |    |  |  |    |  |
| 3610                       | Info1 | 75  | Warning message of the hardware monitoring, switch-off path<br>Monitoring channel 1 |   |   |       |   |              |  |   |   |  |   |                               |  |   |              |  |    |                                      |  |    |  |  |    |  |
|                            |       |   | Info2   | 6 | For more than 1 hour, no dynamic check of the line drivers could be carried out.<br>Possible cause: <ul style="list-style-type: none"> <li>Power output stage enable (EF) of the device is inactive</li> <li>STO is active</li> </ul> |       |   |              |  |   |   |  |   |                               |  |   |              |  |    |                                      |  |    |  |  |    |  |
| <b>Error rectification</b> |       | <ul style="list-style-type: none"> <li>Probably hardware defect / check</li> <li>AMK service</li> </ul> <p>This warning message cannot be reset before a new dynamic check of the line drivers is done</p>  |   |   |   |       |   |              |  |   |   |  |   |                               |  |   |              |  |    |                                      |  |    |  |  |    |  |
| 3610                       | Info1 | 76  | Warning message of the hardware monitoring, switch-off path<br>Monitoring channel 2 |   |   |       |   |              |  |   |   |  |   |                               |  |   |              |  |    |                                      |  |    |  |  |    |  |
|                            |       |   | Info2   | 6 | For more than 1 hour, no dynamic check of the line drivers could be carried out.<br>Possible cause: <ul style="list-style-type: none"> <li>Power output stage enable (EF) of the device is inactive</li> <li>STO is active</li> </ul> |       |   |              |  |   |   |  |   |                               |  |   |              |  |    |                                      |  |    |  |  |    |  |
| <b>Error rectification</b> |       | <ul style="list-style-type: none"> <li>Probably hardware defect / check</li> <li>AMK service</li> </ul> <p>This warning message cannot be reset before a new dynamic check of the line drivers is done</p>  |   |   |   |       |   |              |  |   |   |  |   |                               |  |   |              |  |    |                                      |  |    |  |  |    |  |



|                            |  |  |   |   |  |
|----------------------------|--|--|---|---|--|
| 3610                       | Info1  | 104  | Warning message for the safety function 'Safe speed range 1 (SSR1)' |   |  |
|                            |  |  | Movement monitoring   |   |  |
|                            |  |  | Info2   | 0 | Not to be evaluated  |
|                            |  |  |   | 3 | Upper speed limit of the monitoring range was breached             |
|                            |  |  |   | 4 | Lower speed limit of the monitoring range was breached             |
|                            |  |  | Ramp monitoring   |   |  |
|                            |  |  | Info3   | 0 | Not to be evaluated  |
|                            |  |  |   | 1 | Actual speed value exceeds maximum permissible value (60000 1/min) |
|                            |  |  |   | 8 | Permitted speed range was exceeded                                 |
|                            |  |  |   | 9 | Permitted speed range was fallen short of                          |
| 14                         | Permitted speed range was breached               |  |   |   |  |
| 15                         | Monitoring window following end of ramp breached |  |   |   |  |
| <b>Error reaction</b>      |  | <ul style="list-style-type: none"> <li>In case of a warning in the monitoring of the safety function SSR1, the parameterised error reaction follows (STO, SS1 or SS2)</li> </ul> |   |   |  |
| <b>Error rectification</b> |  | <ul style="list-style-type: none"> <li>Check why the movement of the drive has breached the limits</li> <li>Adjust parameterisation to physical conditions</li> </ul>            |   |   |  |
| 3610                       | Info1  | 108  | Warning message for the safety function 'Safe maximum speed (SMS)'  |   |  |
|                            |  |  | Movement monitoring   |   |  |
|                            |  |  | Info2   | 3 | Upper speed limit of the monitoring range was breached             |
|                            |  |  |   | 4 | Lower speed limit of the monitoring range was breached             |
| <b>Error reaction</b>      |  | <ul style="list-style-type: none"> <li>In case of a warning in the monitoring of the safety function SMS, the parameterised error reaction follows (STO, SS1 or SS2)</li> </ul>  |   |   |  |
| <b>Error rectification</b> |  | <ul style="list-style-type: none"> <li>Check why the movement of the drive has breached the limits</li> <li>Adjust parameterisation to physical conditions</li> </ul>            |   |   |  |
| 3610                       | Info1  | 109  | Warning message for the safety function 'Safe speed range 2 (SSR2)' |   |  |
|                            |  |  | Movement monitoring   |   |  |
|                            |  |  | Info2   | 0 | Not to be evaluated  |
|                            |  |  |   | 3 | Upper speed limit of the monitoring range was breached             |
|                            |  |  |   | 4 | Lower speed limit of the monitoring range was breached             |
|                            |  |  | Ramp monitoring   |   |  |
|                            |  |  | Info3   | 0 | Not to be evaluated  |
|                            |  |  |   | 1 | Actual speed value exceeds maximum permitted value (60000 1/min)   |
|                            |  |  |   | 8 | Permitted speed range was exceeded                                 |
|                            |  |  |   | 9 | Permitted speed range was fallen short of                          |
| 14                         | Permitted speed range was breached               |  |   |   |  |
| 15                         | Monitoring window following end of ramp breached |  |   |   |  |
| <b>Error reaction</b>      |  | <ul style="list-style-type: none"> <li>In case of a warning in the monitoring of the safety function SSR2, the parameterised error reaction follows (STO, SS1 or SS2)</li> </ul> |   |   |  |
| <b>Error rectification</b> |  | <ul style="list-style-type: none"> <li>Check why the movement of the drive has breached the limits</li> <li>Adjust parameterisation to physical conditions</li> </ul>            |   |   |  |

|                            |  |  |   |   |  |
|----------------------------|--|--|---|---|--|
| 3610                       | Info1  | 110  | Warning message for the safety function 'Safe speed range 3 (SSR3)'     |   |  |
|                            |  |  | Movement monitoring   |   |  |
|                            |  |  | Info2   | 0 | Not to be evaluated                                    |
|                            |  |  |   | 3 | Upper speed limit of the monitoring range was breached |
| 4                          | Lower speed limit of the monitoring range was breached |  |   |   |  |
| Ramp monitoring            |  |  |   |   |  |
| Info3                      | 0  | Not to be evaluated  |   |   |  |
|                            | 1  | Actual speed value exceeds maximum permitted value (60000 1/min)   |   |   |  |
|                            | 8  | Permitted speed range was exceeded   |   |   |  |
|                            | 9  | Permitted speed range was fallen short of  |   |   |  |
|                            | 14   | Permitted speed range was breached   |   |   |  |
|                            | 15   | Monitoring window following end of ramp breached   |   |   |  |
| <b>Error reaction</b>      |  | <ul style="list-style-type: none"> <li>In case of a warning in the monitoring of the safety function SSR3, the parameterised error reaction follows (STO, SS1 or SS2)</li> </ul> |   |   |  |
| <b>Error rectification</b> |  | <ul style="list-style-type: none"> <li>Check why the movement of the drive has breached the limits</li> <li>Adjust parameterisation to physical conditions</li> </ul>            |   |   |  |
| 3610                       | Info1  | 111  | Warning message for the safety function 'Safe speed range 4 (SSR4)'     |   |  |
|                            |  |  | Movement monitoring   |   |  |
|                            |  |  | Info2   | 0 | Not to be evaluated                                    |
|                            |  |  |   | 3 | Upper speed limit of the monitoring range was breached |
| 4                          | Lower speed limit of the monitoring range was breached |  |   |   |  |
| Ramp monitoring            |  |  |   |   |  |
| Info3                      | 0  | Not to be evaluated  |   |   |  |
|                            | 1  | Actual speed value exceeds maximum permitted value (60000 1/min)   |   |   |  |
|                            | 8  | Permitted speed range was exceeded   |   |   |  |
|                            | 9  | Permitted speed range was fallen short of  |   |   |  |
|                            | 14   | Permitted speed range was breached   |   |   |  |
|                            | 15   | Monitoring window following end of ramp breached   |   |   |  |
| <b>Error reaction</b>      |  | <ul style="list-style-type: none"> <li>In case of a warning in the monitoring of the safety function SSR4, the parameterised error reaction follows (STO, SS1 or SS2)</li> </ul> |   |   |  |
| <b>Error rectification</b> |  | <ul style="list-style-type: none"> <li>Check why the movement of the drive has breached the limits</li> <li>Adjust parameterisation to physical conditions</li> </ul>            |   |   |  |
| 3610                       | Info1  | 112  | Warning message for the safety function 'Safely-limited speed 1 (SLS1)' |   |  |
|                            |  |  | Movement monitoring   |   |  |
|                            |  |  | Info2   | 0 | Not to be evaluated                                    |
|                            |  |  |   | 3 | Upper speed limit of the monitoring range was breached |
| 4                          | Lower speed limit of the monitoring range was breached |  |   |   |  |
| Ramp monitoring            |  |  |   |   |  |
| Info3                      | 0  | Not to be evaluated  |   |   |  |
|                            | 1  | Actual speed value exceeds maximum permitted value (60000 1/min)   |   |   |  |
|                            | 8  | Permitted speed range was exceeded   |   |   |  |
|                            | 9  | Permitted speed range was fallen short of  |   |   |  |
|                            | 14   | Permitted speed range was breached   |   |   |  |
|                            | 15   | Monitoring window following end of ramp breached   |   |   |  |
| <b>Error reaction</b>      |  | <ul style="list-style-type: none"> <li>In case of a warning in the monitoring of the safety function SLS1, the parameterised error reaction follows (STO, SS1 or SS2)</li> </ul> |   |   |  |
| <b>Error rectification</b> |  | <ul style="list-style-type: none"> <li>Check why the movement of the drive has breached the limits</li> <li>Adjust parameterisation to physical conditions</li> </ul>            |   |   |  |

|                            |                                    |  |  |   |  |  |  |
|----------------------------|------------------------------------|--|--|---|--|--|--|
| 3610                       | Info1                              | 113  | Warning message for the safety function 'Safely-limited speed 2 (SLS2)'  |   |  |  |  |
|                            |                                    |  | Movement monitoring  |   |  |  |  |
|                            |                                    |  | Info2  | 0 | Not to be evaluated  |  |  |
|                            |                                    |  |  | 3 | Upper speed limit of the monitoring range was breached   |  |  |
|                            |                                    |  |  | 4 | Lower speed limit of the monitoring range was breached   |  |  |
|                            |                                    |  | Ramp monitoring  |   |  |  |  |
|                            |                                    |  | Info3  | 0 | Not to be evaluated  |  |  |
|                            |                                    |  |  | 1 | Actual speed value exceeds maximum permitted value (60000 1/min)   |  |  |
|                            |                                    |  |  | 8 | Permitted speed range was exceeded   |  |  |
|                            |                                    |  |  | 9 | Permitted speed range was fallen short of  |  |  |
| 14                         | Permitted speed range was breached |  |  |   |  |  |  |
|                            | 15                                 | Monitoring window following end of ramp breached   |  |   |  |  |  |
| <b>Error reaction</b>      |                                    | <ul style="list-style-type: none"> <li>In case of a warning in the monitoring of the safety function SLS2, the parameterised error reaction follows (STO, SS1 or SS2)</li> </ul> |  |   |  |  |  |
| <b>Error rectification</b> |                                    | <ul style="list-style-type: none"> <li>Check why the movement of the drive has breached the limits</li> <li>Adjust parameterisation to physical conditions</li> </ul>            |  |   |  |  |  |
| 3610                       | Info1                              | 114  | Warning message for the safety function 'Safely-limited increment (SLI)' |   |  |  |  |
|                            |                                    |  | Movement monitoring  |   |  |  |  |
|                            |                                    |  | Info2  | 0 | Not to be evaluated  |  |  |
|                            |                                    |  |  | 3 | Upper position limit of the monitoring range was breached  |  |  |
|                            |                                    |  |  | 4 | Lower position limit of the monitoring range was breached  |  |  |
|                            |                                    |  | Ramp monitoring  |   |  |  |  |
|                            |                                    |  | Info3  | 0 | Not to be evaluated  |  |  |
|                            |                                    |  |  | 1 | Actual speed value exceeds maximum permitted value (60000 1/min)   |  |  |
|                            |                                    |  | <b>Error reaction</b>  |   | <ul style="list-style-type: none"> <li>In case of a warning in the monitoring of the safety function SLS2, the parameterised error reaction follows (STO, SS1 or SS2)</li> </ul> |  |  |
|                            |                                    |  | <b>Error rectification</b>   |   | <ul style="list-style-type: none"> <li>Check why the movement of the drive has breached the limits</li> <li>Adjust parameterisation to physical conditions</li> </ul>            |  |  |

## 4.23 No. 3840 ... 3869 Operating System

### 3840 File access

|  |   |    |  |
|--|---|----|--|
| <ul style="list-style-type: none"> <li>General data error</li> </ul> |   |    |  |
| <b>Device</b>  |   |    |  |
| <b>Description</b>   |   |    |  |
| <b>Class</b>   |   |    |  |
| <b>Drive Behaviour</b>   |   |    |  |
| <b>Device Behaviour</b>  | System run-up aborted   |    |  |
| <b>Additional Error Information (AMK Service)</b>                    |   |    |  |
|  | Info 1  | 2  | Wrong parameters transferred                 |
|  |   | 3  | Illegal file name                            |
|  |   | 4  | Floppy drive not found                       |
|  |   | 5  | To many files open                           |
|  |   | 6  | No more files found                          |
|  |   | 7  | Wrong device identified                      |
|  |   | 8  | Unknown data system                          |
|  |   | 9  | Can not find file name                       |
|  |   | 10 | Unknown filehandle has been transferred      |
|  |   | 11 | Device is not supported                      |
|  |   | 12 | Function is not supported                    |
|  |   | 13 | Error partition table                        |
|  |   | 14 | Too many devices present                     |
|  |   | 15 | Wrong file position stated                   |
|  |   | 16 | Access not possible (access right is active) |
|  |   | 17 | Text buffer is to small                      |
|  |   | 18 | General device error                         |
|  |   | 19 | Path not found                               |
|  |   | 20 | FAT is defect                                |
|  |   | 21 | Root directory is full                       |
|  |   | 22 | Floppy drive is full                         |
|  |   | 23 | Timeout                                      |
|  |   | 24 | Defective sector                             |
|  |   | 25 | Data error (checksum)                        |
|  |   | 26 | Device has been changed                      |
|  |   | 27 | Sector not found                             |
|  |   | 28 | Address label not found                      |
|  |   | 29 | Floppy drive not ready (e.g. no disk)        |
|  |   | 30 | Floppy is write protected                    |
|  |   | 31 | DMA-Overrun                                  |
|  |   | 32 | CRC-error                                    |
|  |   | 33 | Device resource-error                        |
|  |   | 34 | Defective sector size                        |
|  |   | 35 | No buffer available                          |
|  |   | 36 | File already exists                          |
|  |   | 37 | Data position out of range                   |
|  |   | 38 | File is to big                               |
| <b>Error Removal</b>   | <ul style="list-style-type: none"> <li>Check memory device</li> </ul> |    |  |

### 3841 System diagnostics

|  |         |
|--|---------|
| <ul style="list-style-type: none"> <li>Internal communication: Error message returned from end device</li> </ul> |         |
| Device   |         |
| Description  |         |
| Class  | Warning |
| Drive Behaviour  |         |
| Device Behaviour   |         |
| Additional Error Information (AMK Service)   |         |
|  |         |
| Error Removal  |         |

### 3842 System diagnostics

|  |         |
|--|---------|
| <ul style="list-style-type: none"> <li>Internal communication: No heap memory could be addressed.</li> </ul> |         |
| Device   |         |
| Description  |         |
| Class  | Warning |
| Drive Behaviour  |         |
| Device Behaviour   |         |
| Additional Error Information (AMK Service)   |         |
|  |         |
| Error Removal  |         |

### 3843 System diagnostics

|   |  |
|---|--|
| <ul style="list-style-type: none"> <li>Internal communication: Source module does not exist (not logged in?)</li> </ul> |  |
| Device  |  |
| Description   | An access attempt came from a module unknown to the internal communications system (i.e., not logged in) |
| Class   | Warning  |
| Drive Behaviour   |  |
| Device Behaviour  |  |
| Additional Error Information (AMK Service)  |  |
|   |  |
| Error Removal   |  |

### 3844 System diagnostics

|   |  |
|---|--|
| <ul style="list-style-type: none"> <li>Internal communication: The addressed target does not exist</li> </ul> |  |
| Device  |  |
| Description   | An unknown target was addressed (via routing "ID32944 SYADR"). |
| Class   | Warning  |
| Drive Behaviour   |  |
| Device Behaviour  |  |
| Additional Error Information (AMK Service)  |  |
|   |  |
| Error Removal   |  |

**3845 System diagnostics**

|   |   |
|---|---|
| <b>Device</b>                                     |   |
| <b>Description</b>                                | A target has been accessed that is already occupied by another source module. |
| <b>Class</b>                                      | Warning   |
| <b>Drive Behaviour</b>                            |   |
| <b>Device Behaviour</b>                           |   |
| <b>Additional Error Information (AMK Service)</b> |   |
|   |   |
| <b>Error Removal</b>                              |   |

**3846 System diagnostics**

|   |                       |
|---|-----------------------|
| <ul style="list-style-type: none"> <li>Internal communication: A module has logged on that already exists (number already assigned?)</li> </ul> |                       |
| <b>Device</b>   |                       |
| <b>Description</b>  |                       |
| <b>Class</b>  | Warning               |
| <b>Drive Behaviour</b>  |                       |
| <b>Device Behaviour</b>   | System run-up aborted |
| <b>Additional Error Information (AMK Service)</b>   |                       |
|   |                       |
| <b>Error Removal</b>  |                       |

**3847 System diagnostics**

|   |         |
|---|---------|
| <ul style="list-style-type: none"> <li>Internal communication: The element code is unknown</li> </ul> |         |
| <b>Device</b>   |         |
| <b>Description</b>  |         |
| <b>Class</b>  | Warning |
| <b>Drive Behaviour</b>  |         |
| <b>Device Behaviour</b>   |         |
| <b>Additional Error Information (AMK Service)</b>   |         |
|   |         |
| <b>Error Removal</b>  |         |

**3848 System diagnostics**

|  |                       |
|--|-----------------------|
| <ul style="list-style-type: none"> <li>Internal communication: Too many modules have logged in</li> </ul> or <ul style="list-style-type: none"> <li>Internal communication: Too many paths have been opened</li> </ul> |                       |
| <b>Device</b>  |                       |
| <b>Description</b>   |                       |
| <b>Class</b>   | Warning               |
| <b>Drive Behaviour</b>   |                       |
| <b>Device Behaviour</b>  | System run-up aborted |
| <b>Additional Error Information (AMK Service)</b>  |                       |
|  |                       |
| <b>Error Removal</b>   |                       |

### 3849 System diagnostics

|  |         |
|--|---------|
| <ul style="list-style-type: none"> <li>Internal communication: Protocol or command order is incorrect</li> </ul> |         |
| Device   |         |
| Description  |         |
| Class  | Warning |
| Drive Behaviour  |         |
| Device Behaviour   |         |
| Additional Error Information (AMK Service)   |         |
|  |         |
| Error Removal  |         |

### 3850 System diagnostics

|   |         |
|---|---------|
| <ul style="list-style-type: none"> <li>A bus connected to the internal communication is not in standby mode (e.g., SBUS token error)</li> </ul> |         |
| Device  |         |
| Description   |         |
| Class   | Warning |
| Drive Behaviour   |         |
| Device Behaviour  |         |
| Additional Error Information (AMK Service)  |         |
|   |         |
| Error Removal   |         |

### 3851 System diagnostics

|   |                                |
|---|--------------------------------|
| <ul style="list-style-type: none"> <li>An internal communication path has been occupied by a module by writing to routing "ID32944 SYADR" and has no longer been used for a fixed period (blocking).</li> </ul> |                                |
| Device  |                                |
| Description   | Timeout internal communication |
| Class   | Warning                        |
| Drive Behaviour   |                                |
| Device Behaviour  |                                |
| Additional Error Information (AMK Service)  |                                |
|   |                                |
| Error Removal   |                                |

### 3852 System diagnostics

|  |         |
|--|---------|
| <ul style="list-style-type: none"> <li>An internal communication path specified by a module is not valid or is no longer valid.</li> </ul> |         |
| Device   |         |
| Description  |         |
| Class  | Warning |
| Drive Behaviour  |         |
| Device Behaviour   |         |
| Additional Error Information (AMK Service)   |         |
|  |         |
| Error Removal  |         |



**3853 System diagnostics**

|   |                        |  |  |
|---|------------------------|--|--|
| • Router error in module setting                  |                        |  |  |
| <b>Device</b>                                     | AS-PL15<br>AS-Cxx-1    |  |  |
| <b>Description</b>                                |                        |  |  |
| <b>Class</b>                                      | Error                  |  |  |
| <b>Drive Behaviour</b>                            |                        |  |  |
| <b>Device Behaviour</b>                           |                        |  |  |
| <b>Additional Error Information (AMK Service)</b> |                        |  |  |
|   |                        |  |  |
| <b>Error Removal</b>                              | Check parameterisation |  |  |

**3854 System diagnostics**

|   |                        |  |  |
|---|------------------------|--|--|
| • Router memory overflow of the internal buffer   |                        |  |  |
| <b>Device</b>                                     | AS-PL15<br>AS-Cxx-1    |  |  |
| <b>Description</b>                                |                        |  |  |
| <b>Class</b>                                      | Error                  |  |  |
| <b>Drive Behaviour</b>                            |                        |  |  |
| <b>Device Behaviour</b>                           |                        |  |  |
| <b>Additional Error Information (AMK Service)</b> |                        |  |  |
|   |                        |  |  |
| <b>Error Removal</b>                              | Check parameterisation |  |  |

**3855 System diagnostics**

|   |                        |  |  |
|---|------------------------|--|--|
| • Router memory overflow at access to the internal database |                        |  |  |
| <b>Device</b>   | AS-PL15<br>AS-Cxx-1    |  |  |
| <b>Description</b>  |                        |  |  |
| <b>Class</b>  | Error                  |  |  |
| <b>Drive Behaviour</b>                                      |                        |  |  |
| <b>Device Behaviour</b>                                     |                        |  |  |
| <b>Additional Error Information (AMK Service)</b>           |                        |  |  |
|   |                        |  |  |
| <b>Error Removal</b>  | Check parameterisation |  |  |

**3860 ADB-File access**

|   |                               |   |   |
|---|-------------------------------|---|---|
| • Access to parameter data bank ADB not possible  |                               |   |   |
| <b>Device</b>                                     |                               |   |   |
| <b>Description</b>                                |                               |   |   |
| <b>Class</b>                                      |                               |   |   |
| <b>Drive Behaviour</b>                            |                               |   |   |
| <b>Device Behaviour</b>                           | System run-up aborted         |   |   |
| <b>Additional Error Information (AMK Service)</b> |                               |   |   |
|   | Info 1                        | 0 | No adb-file found   |
|   |                               | 1 | File can not be opened  |
|   |                               | 2 | Read error  |
|   |                               | 3 | General File interpretation error (e.g. checksum, version, ...) |
| <b>Error Removal</b>                              | • Check ADB or transfer again |   |   |

### 3861 System update

|   |                       |        |   |
|---|-----------------------|--------|---|
| <ul style="list-style-type: none"> <li>Firmware update AMKAMAC not successful (RTB-File faulty or BOOT-Device could not been generated)</li> <li>Firmware update option AS-FCT1, AS-FCT2 not successful, Hex-File faulty</li> </ul> |                       |        |   |
| <b>Device</b>   |                       |        |   |
| <b>Description</b>  |                       |        |   |
| <b>Class</b>  |                       |        |   |
| <b>Drive Behaviour</b>  |                       |        |   |
| <b>Device Behaviour</b>   | System run-up aborted |        |   |
| <b>Additional Error Information (AMK Service)</b>   |                       |        |   |
|   | Info 1                | 1 - 14 | Software update not successful  |
|   |                       | 30     | Firmware update option AS-FCT1, AS_FCT2 not successful, Hex-File faulty |
| <b>Error Removal</b>  |                       |        |   |

|   |        |    |   |  |
|---|--------|----|---|--|
| <ul style="list-style-type: none"> <li>Error during system start or update</li> </ul> |        |    |   |  |
| <b>Device</b>   | A5     |    |   |  |
| <b>Description</b>  |        |    |   |  |
| <b>Class</b>  | Error  |    |   |  |
| <b>Drive Behaviour</b>  |        |    |   |  |
| <b>Device Behaviour</b>   |        |    |   |  |
| <b>Additional Error Information (AMK Service)</b>                                     |        |    |   |  |
|   | Info 1 | 18 | Timeout Problem during System Startup                               |  |
|   |        | 19 | Hardware Problem during System Startup                              |  |
|   |        | 20 | Error while flashing I/O card                                       |  |
|   |        | 21 | Error while flashing I/O card                                       |  |
|   | Info 2 |    | 1   | Task is invalid                        |
|   |        |    | 2   | Command from CMD file is invalid       |
|   |        |    | 3   | Memory problem                         |
|   |        |    | 4   | Binary file not available for flashing |
|   |        |    | 5   | Target module not available            |
|   |        |    | 6   | No firmware in binary file             |
|   |        | 7  | Invalid binary file   |  |
|   |        | 22 | Error in host synchronisation                                       |  |
|   |        | 30 | Firmware update of option AS-FCT1, AS-FCT2 failed, hex file corrupt |  |
| <b>Error Removal</b>  |        |    |   |  |

## 3862 System diagnostics

- System exception, CPU error

|   |  |  |  |
|---|--|--|--|
| <b>Device</b>                                     |  |  |  |
| <b>Description</b>                                |  |  |  |
| <b>Class</b>                                      | Warning                                      |  |  |
| <b>Drive Behaviour</b>                            |  |  |  |
| <b>Device Behaviour</b>                           |  |  |  |
| <b>Additional Error Information (AMK Service)</b> |  |  |  |
|   | Exception in PLC-Tasks (user program)        |  |  |
|   | 16   | Task monitoring failed                             |  |
|   | 17   | Hardware monitoring failed                         |  |
|   | 18   | Bus error  |  |
|   | 19   | Check sum error on program loading                 |  |
|   | 20   | Field bus error                                    |  |
|   | 21   | I/O map update failed                              |  |
|   | 22   | Cycle time exceeded                                |  |
|   | 23   | "Online change" program too large                  |  |
|   | 26   | Retain-memory too small or not available (AS-FCT1) |  |
|   | 27   | Boot project could not be loaded, it was deleted   |  |
|   | 39   | PLC overload                                       |  |
|   | 80   | Invalid instruction                                |  |
|   | 81   | Access infringement                                |  |
|   | 82   | Privileged instruction                             |  |
|   | 83   | Page error   |  |
|   | 84   | Stack overflow                                     |  |
|   | 85   | Invalid arrangement                                |  |
|   | 86   | Invalid access code                                |  |
|   | 87   | Access to protected page                           |  |
|   | 88   | Double error                                       |  |
|   | 89   | Double error                                       |  |
|   | 256  | Access to uneven address                           |  |
|   | 257  | Array limit exceeded                               |  |
|   | 258  | Division by zero                                   |  |
|   | 259  | Overflow   |  |
|   | 260  | Not ignorable exception                            |  |
|   | 336  | Floating point unit: General error                 |  |
|   | 337  | Floating point unit: Not normalized operand        |  |
|   | 338  | Floating point unit: Division by zero              |  |
|   | 339  | Floating point unit: Inaccurate result             |  |
|   | 340  | Floating point unit: Inaccurate instruction        |  |
|   | 341  | Floating point unit: Overflow                      |  |
|   | 342  | Floating point unit: Stack check failed            |  |
|   | 343  | Floating point unit: Underflow                     |  |
|   | Exception AMKAMAC System program<br>65536... |  |  |
| <b>Error Removal</b>                              |  |  |  |

### 3863 System diagnostics

|  |                        |    |  |
|--|------------------------|----|--|
| <ul style="list-style-type: none"> <li>Router memory overflow internal buffer</li> </ul> |                        |    |  |
| <b>Device</b>  | AS-PL15<br>AS-Cxx-1    |    |  |
| <b>Description</b>   |                        |    |  |
| <b>Class</b>   | Error                  |    |  |
| <b>Drive Behaviour</b>   |                        |    |  |
| <b>Device Behaviour</b>  |                        |    |  |
| <b>Additional Error Information (AMK Service)</b>  |                        |    |  |
|  | Info 1                 | 0  | Timeout PGT task   |
|  |                        | 1  | Time overflow copy command (e.g. to many data's configured with SERCOS)  |
|  |                        | 2  | PLC controller configuration error   |
|  |                        | 3  | Too many asynchronous send data per "ID 2 SERCOS cycle time"   |
|  |                        | 4  | Time overflow "timer task"   |
|  |                        | 5  | Time overflow EtherCAT "send task"   |
|  |                        | 6  | Time overflow task "cyclic"  |
|  |                        | 7  | Access to not configured input   |
|  |                        | 8  | Access to not configured output  |
|  |                        | 10 | System exit  |
|  |                        | 11 | Battery error, all the BIOS values were received, because they are saved into a flash module.<br>The system time will be set on 00:00:00. The system data will be set on 01.01.2001. |
|  |                        | 12 | File system error  |
|  |                        | 13 | Temperature error  |
|  |                        | 14 | Error in initialisation of the system library  |
|  |                        | 15 | Checksum error in root file system   |
| <b>Error Removal</b>   | Check parameterisation |    |  |

|   |   |       |   |
|---|---|-------|---|
| <b>Device</b>                                     | A5  |       |   |
| <b>Description</b>                                | Error / warning on system runtime   |       |   |
| <b>Class</b>                                      | Warning / Error   |       |   |
| <b>Drive Behaviour</b>                            |   |       |   |
| <b>Device Behaviour</b>                           |   |       |   |
| <b>Additional Error Information (AMK Service)</b> |   |       |   |
|   | Info 1  | 0     | time overflow PGT task in PLC   |
|   |   | 1     | time overflow copying functions (e.g., too much data in configuration)  |
|   |   | 2     | Error in PLC controller configuration   |
|   |   | 3     | Too much asynchronous transmission data per "ID2 SERCOS cycle time"   |
|   |   | 4     | Overflow of internal timer  |
|   |   | 5     | Overflow of EtherCAT transmission task (e.g., too much data in configuration)   |
|   |   | 6     | Overflow of cyclical task, system is overloaded   |
|   |   | 7     | Access to unassigned communications input data  |
|   |   | 8     | Access to unassigned communications output data   |
|   |   | 9, 10 | Internal error  |
|   |   | 11    | Battery error, battery is empty<br><ul style="list-style-type: none"> <li>• All BIOS values are kept because they are stored in the flash module.</li> <li>• The date and time are returned to their default values.</li> <li>• Please send the device to AMK for repairs.</li> </ul> |
|   |   | 12    | Error checking file system for PLC program and parameters. Please send the device to AMK for repairs.   |
|   |   | 13    | Temperature error. Device was operated at an excessively high ambient temperature.  |
|   |   | 14    | Internal error  |
|   |   | 15    | Error checking Linux file system  |
| 20  | Error in runtime system P3<br><table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">Info2</td> <td>Information about cause of error -&gt; AMK Service</td> </tr> </table> | Info2 | Information about cause of error -> AMK Service   |
| Info2   | Information about cause of error -> AMK Service   |       |   |
| 21  | Error at activation of backlight function   |       |   |
| <b>Error Removal</b>                              |   |       |   |

### 3864 Bus Configuration

|   |                       |   |  |
|---|-----------------------|---|--|
| <ul style="list-style-type: none"> <li>• Testing configuration of the buses</li> <li>• Test cycle time ID 2 for the buses. The values in the different instances must in each case be divisible by all smaller values</li> <li>• Ethernet faultily parameterised</li> </ul> |                       |   |  |
| <b>Device</b>   |                       |   |  |
| <b>Description</b>  |                       |   |  |
| <b>Class</b>  |                       |   |  |
| <b>Drive Behaviour</b>  |                       |   |  |
| <b>Device Behaviour</b>   | System run-up aborted |   |  |
| <b>Additional Error Information (AMK Service)</b>   |                       |   |  |
|   | Info 1                | 1 | Bus Master or slave definition invalid   |
|   |                       | 2 | "ID2 SERCOS cycle time" in the different instances invalid   |
|   |                       | 3 | <ul style="list-style-type: none"> <li>• Ethernet double parameterized; see "ID34140 AS BUS protocol"</li> <li>• IP addresses invalid (see Ethernet parameterisation)</li> <li>• "ID34141 AS card address" invalid, wrong slot number</li> </ul> <table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 15%;">Info 2</td> <td>Ethernet instance</td> </tr> </table> |
| Info 2  | Ethernet instance     |   |  |
| <b>Error Removal</b>  |                       |   |  |

|  |                               |  |   |              |                   |   |  |  |  |        |          |  |   |  |  |  |  |        |          |  |   |  |  |  |  |        |              |
|--|-------------------------------|--|---|--------------|-------------------|---|--|--|--|--------|----------|--|---|--|--|--|--|--------|----------|--|---|--|--|--|--|--------|--------------|
| <ul style="list-style-type: none"> <li>System configuration</li> </ul> |                               |  |   |              |                   |   |  |  |  |        |          |  |   |  |  |  |  |        |          |  |   |  |  |  |  |        |              |
| <b>Device</b>  | A5                            |  |   |              |                   |   |  |  |  |        |          |  |   |  |  |  |  |        |          |  |   |  |  |  |  |        |              |
| <b>Description</b>   | Error in system configuration |  |   |              |                   |   |  |  |  |        |          |  |   |  |  |  |  |        |          |  |   |  |  |  |  |        |              |
| <b>Class</b>   | Error                         |  |   |              |                   |   |  |  |  |        |          |  |   |  |  |  |  |        |          |  |   |  |  |  |  |        |              |
| <b>Drive Behaviour</b>   |                               |  |   |              |                   |   |  |  |  |        |          |  |   |  |  |  |  |        |          |  |   |  |  |  |  |        |              |
| <b>Device Behaviour</b>  |                               |  |   |              |                   |   |  |  |  |        |          |  |   |  |  |  |  |        |          |  |   |  |  |  |  |        |              |
| <b>Additional Error Information (AMK Service)</b>                      |                               |  |   |              |                   |   |  |  |  |        |          |  |   |  |  |  |  |        |          |  |   |  |  |  |  |        |              |
|  | Info 1                        | 1  | Bus master or slave definition invalid  |              |                   |   |  |  |  |        |          |  |   |  |  |  |  |        |          |  |   |  |  |  |  |        |              |
|  |                               | 2  | "ID2 SERCOS cycle time" is invalid in the different instances   |              |                   |   |  |  |  |        |          |  |   |  |  |  |  |        |          |  |   |  |  |  |  |        |              |
|  |                               | 3  | <ul style="list-style-type: none"> <li>Ethernet parameterised twice; see "ID34140 AS BUS protocol"</li> <li>IP addresses invalid (see Ethernet configuration)</li> <li>"ID34141 AS card address" invalid, incorrect slot number</li> </ul> <table border="1"> <tr> <td>Info 2</td> <td>Ethernet instance</td> </tr> </table>  | Info 2       | Ethernet instance |   |  |  |  |        |          |  |   |  |  |  |  |        |          |  |   |  |  |  |  |        |              |
| Info 2   | Ethernet instance             |  |   |              |                   |   |  |  |  |        |          |  |   |  |  |  |  |        |          |  |   |  |  |  |  |        |              |
|  |                               | 4  | Invalid dongle code, device not enabled for this communication  |              |                   |   |  |  |  |        |          |  |   |  |  |  |  |        |          |  |   |  |  |  |  |        |              |
|  |                               |  | <table border="1"> <tr> <td>Info 2</td> <td>Instance</td> </tr> </table>  | Info 2       | Instance          |   |  |  |  |        |          |  |   |  |  |  |  |        |          |  |   |  |  |  |  |        |              |
| Info 2   | Instance                      |  |   |              |                   |   |  |  |  |        |          |  |   |  |  |  |  |        |          |  |   |  |  |  |  |        |              |
|  |                               | 6  | Invalid configuration "ID32917 Time zone"   |              |                   |   |  |  |  |        |          |  |   |  |  |  |  |        |          |  |   |  |  |  |  |        |              |
|  |                               | 7  | Internal error  |              |                   |   |  |  |  |        |          |  |   |  |  |  |  |        |          |  |   |  |  |  |  |        |              |
|  |                               | 8  | Invalid bus type, check "ID34140 AS BUS protocol"   |              |                   |   |  |  |  |        |          |  |   |  |  |  |  |        |          |  |   |  |  |  |  |        |              |
|  |                               |  | <table border="1"> <tr> <td>Info 3</td> <td>Instance</td> </tr> </table>  | Info 3       | Instance          |   |  |  |  |        |          |  |   |  |  |  |  |        |          |  |   |  |  |  |  |        |              |
| Info 3   | Instance                      |  |   |              |                   |   |  |  |  |        |          |  |   |  |  |  |  |        |          |  |   |  |  |  |  |        |              |
|  |                               | 9  | Error during bus initialisation <table border="1"> <tr> <td>Info 2</td> <td>1</td> <td>Invalid bus type; check "ID34140 AS BUS protocol"</td> </tr> <tr> <td></td> <td></td> <td> <table border="1"> <tr> <td>Info 3</td> <td>Instance</td> </tr> </table> </td> </tr> <tr> <td></td> <td>2</td> <td>Invalid bus type; check "ID34025 BUS mode"</td> </tr> <tr> <td></td> <td></td> <td> <table border="1"> <tr> <td>Info 3</td> <td>Instance</td> </tr> </table> </td> </tr> <tr> <td></td> <td>5</td> <td>Bus not ready, I/O option does not exist</td> </tr> <tr> <td></td> <td></td> <td> <table border="1"> <tr> <td>Info 3</td> <td>Instance = 3</td> </tr> </table> </td> </tr> </table> | Info 2       | 1                 | Invalid bus type; check "ID34140 AS BUS protocol" |  |  | <table border="1"> <tr> <td>Info 3</td> <td>Instance</td> </tr> </table> | Info 3 | Instance |  | 2 | Invalid bus type; check "ID34025 BUS mode" |  |  | <table border="1"> <tr> <td>Info 3</td> <td>Instance</td> </tr> </table> | Info 3 | Instance |  | 5 | Bus not ready, I/O option does not exist |  |  | <table border="1"> <tr> <td>Info 3</td> <td>Instance = 3</td> </tr> </table> | Info 3 | Instance = 3 |
| Info 2   | 1                             | Invalid bus type; check "ID34140 AS BUS protocol"                            |   |              |                   |   |  |  |  |        |          |  |   |  |  |  |  |        |          |  |   |  |  |  |  |        |              |
|  |                               | <table border="1"> <tr> <td>Info 3</td> <td>Instance</td> </tr> </table>     | Info 3  | Instance     |                   |   |  |  |  |        |          |  |   |  |  |  |  |        |          |  |   |  |  |  |  |        |              |
| Info 3   | Instance                      |  |   |              |                   |   |  |  |  |        |          |  |   |  |  |  |  |        |          |  |   |  |  |  |  |        |              |
|  | 2                             | Invalid bus type; check "ID34025 BUS mode"                                   |   |              |                   |   |  |  |  |        |          |  |   |  |  |  |  |        |          |  |   |  |  |  |  |        |              |
|  |                               | <table border="1"> <tr> <td>Info 3</td> <td>Instance</td> </tr> </table>     | Info 3  | Instance     |                   |   |  |  |  |        |          |  |   |  |  |  |  |        |          |  |   |  |  |  |  |        |              |
| Info 3   | Instance                      |  |   |              |                   |   |  |  |  |        |          |  |   |  |  |  |  |        |          |  |   |  |  |  |  |        |              |
|  | 5                             | Bus not ready, I/O option does not exist                                     |   |              |                   |   |  |  |  |        |          |  |   |  |  |  |  |        |          |  |   |  |  |  |  |        |              |
|  |                               | <table border="1"> <tr> <td>Info 3</td> <td>Instance = 3</td> </tr> </table> | Info 3  | Instance = 3 |                   |   |  |  |  |        |          |  |   |  |  |  |  |        |          |  |   |  |  |  |  |        |              |
| Info 3   | Instance = 3                  |  |   |              |                   |   |  |  |  |        |          |  |   |  |  |  |  |        |          |  |   |  |  |  |  |        |              |
| <b>Error Removal</b>   |                               |  |   |              |                   |   |  |  |  |        |          |  |   |  |  |  |  |        |          |  |   |  |  |  |  |        |              |

### 3865 Software version option

|  |                       |  |  |
|--|-----------------------|--|--|
| <ul style="list-style-type: none"> <li>Software version of the active option module is not compatible with the software level of the basic system</li> </ul> |                       |  |  |
| <b>Device</b>  |                       |  |  |
| <b>Description</b>   |                       |  |  |
| <b>Class</b>   |                       |  |  |
| <b>Drive Behaviour</b>   |                       |  |  |
| <b>Device Behaviour</b>  | System run-up aborted |  |  |
| <b>Additional Error Information (AMK Service)</b>  |                       |  |  |
|  |                       |  | Instance of the not compatible option module |
| <b>Error Removal</b>   |                       |  |  |

### 3867 System Diagnostics

|  |   |  |  |        |   |                           |  |    |                     |  |    |                      |  |    |  |
|--|---|--|--|--------|---|---------------------------|--|----|---------------------|--|----|----------------------|--|----|--|
| <ul style="list-style-type: none"> <li>Error in updating device data record</li> </ul> |   |  |  |        |   |                           |  |    |                     |  |    |                      |  |    |  |
| <b>Device</b>  | <b>AS-PL15</b><br><b>AS-Cxx-1</b>   |  |  |        |   |                           |  |    |                     |  |    |                      |  |    |  |
| <b>Description</b>   |   |  |  |        |   |                           |  |    |                     |  |    |                      |  |    |  |
| <b>Class</b>   | Error   |  |  |        |   |                           |  |    |                     |  |    |                      |  |    |  |
| <b>Drive Behaviour</b>   |   |  |  |        |   |                           |  |    |                     |  |    |                      |  |    |  |
| <b>Device Behaviour</b>  |   |  |  |        |   |                           |  |    |                     |  |    |                      |  |    |  |
| <b>Additional Error Information (AMK Service)</b>                                      |   |  |  |        |   |                           |  |    |                     |  |    |                      |  |    |  |
|  | Info 1  | 1  | Update is faulty which is controlled by the configuration file   |        |   |                           |  |    |                     |  |    |                      |  |    |  |
|  |   |  | <table border="1"> <tr> <td>Info 2</td> <td>2</td> <td>Configuration file faulty</td> </tr> <tr> <td></td> <td>10</td> <td>Invalid device data</td> </tr> <tr> <td></td> <td>11</td> <td>Invalid ID selection</td> </tr> <tr> <td></td> <td>17</td> <td>Invalid configuration for generation of the device data record</td> </tr> </table> | Info 2 | 2 | Configuration file faulty |  | 10 | Invalid device data |  | 11 | Invalid ID selection |  | 17 | Invalid configuration for generation of the device data record |
| Info 2   | 2   | Configuration file faulty                                      |  |        |   |                           |  |    |                     |  |    |                      |  |    |  |
|  | 10  | Invalid device data  |  |        |   |                           |  |    |                     |  |    |                      |  |    |  |
|  | 11  | Invalid ID selection   |  |        |   |                           |  |    |                     |  |    |                      |  |    |  |
|  | 17  | Invalid configuration for generation of the device data record |  |        |   |                           |  |    |                     |  |    |                      |  |    |  |
|  |   | 2  | Devices can not be accessed over fieldbus  |        |   |                           |  |    |                     |  |    |                      |  |    |  |
|  |   | 3  | Timeout during update  |        |   |                           |  |    |                     |  |    |                      |  |    |  |
|  |   | 4  | Data record does not fit to device   |        |   |                           |  |    |                     |  |    |                      |  |    |  |
| <b>Error Removal</b>   | <ul style="list-style-type: none"> <li>Info 1 = 4:<br/>Select a fitting data record</li> <li>Check configuration of fieldbus</li> </ul> |  |  |        |   |                           |  |    |                     |  |    |                      |  |    |  |

|  |   |         |   |        |   |         |  |   |        |        |            |  |
|--|---|---------|---|--------|---|---------|--|---|--------|--------|------------|--|
| <ul style="list-style-type: none"> <li>Parameter Update</li> </ul> |   |         |   |        |   |         |  |   |        |        |            |  |
| <b>Device</b>  | <b>A5</b>                               |         |   |        |   |         |  |   |        |        |            |  |
| <b>Description</b>   | Error in parameter update functionality |         |   |        |   |         |  |   |        |        |            |  |
| <b>Class</b>   | Fehler                                  |         |   |        |   |         |  |   |        |        |            |  |
| <b>Drive Behaviour</b>   |   |         |   |        |   |         |  |   |        |        |            |  |
| <b>Device Behaviour</b>  |   |         |   |        |   |         |  |   |        |        |            |  |
| <b>Additional Error Information (AMK Service)</b>                  |   |         |   |        |   |         |  |   |        |        |            |  |
|  | Info 1                                  | 1       | Internal error  |        |   |         |  |   |        |        |            |  |
|  |   | 2       | Device could not be accessed  |        |   |         |  |   |        |        |            |  |
|  |   |         | <table border="1"> <tr> <td>Info 2</td> <td>1</td> <td>ASC-Bus</td> </tr> <tr> <td></td> <td>2</td> <td>CC-Bus</td> </tr> <tr> <td>Info 3</td> <td colspan="2">Busadresse</td> </tr> </table> | Info 2 | 1 | ASC-Bus |  | 2 | CC-Bus | Info 3 | Busadresse |  |
| Info 2   | 1                                       | ASC-Bus |   |        |   |         |  |   |        |        |            |  |
|  | 2                                       | CC-Bus  |   |        |   |         |  |   |        |        |            |  |
| Info 3   | Busadresse                              |         |   |        |   |         |  |   |        |        |            |  |
|  |   | 3       | Timeout communication   |        |   |         |  |   |        |        |            |  |
|  |   | 4       | Data record does not fit to device  |        |   |         |  |   |        |        |            |  |
| <b>Error Removal</b>   |   |         |   |        |   |         |  |   |        |        |            |  |



### 3868 System Diagnostics

|   |             |         |   |        |             |
|---|-------------|---------|---|--------|-------------|
| <ul style="list-style-type: none"> <li>Error during initialisation of system</li> </ul> |             |         |   |        |             |
| <b>Device</b>   | A5          |         |   |        |             |
| <b>Description</b>  |             |         |   |        |             |
| <b>Class</b>  | Error       |         |   |        |             |
| <b>Drive Behaviour</b>  |             |         |   |        |             |
| <b>Device Behaviour</b>   |             |         |   |        |             |
| <b>Additional Error Information (AMK Service)</b>                                       |             |         |   |        |             |
|   | Info 1      | 1       | Error in module communications, source module does not exist                |        |             |
|   |             | 2       | Error in module communications, target module does not exist                |        |             |
|   |             | 3       | Packet transfer error in DPM gateway  |        |             |
|   |             | 4       | Error initialising real-time data   |        |             |
|   |             | 5       | Error initialising slave interface (P2)                                     |        |             |
|   |             | 6       | Error initialising master interface (P3)                                    |        |             |
|   |             | 8       | Error in memory allocation  |        |             |
|   |             | 9       | Error in memory allocation  |        |             |
|   |             | 10 - 12 | Internal error  |        |             |
|   |             |         | <table border="1"> <tr> <td>Info 2</td> <td>Modulnummer</td> </tr> </table> | Info 2 | Modulnummer |
| Info 2  | Modulnummer |         |   |        |             |
| <b>Error Removal</b>  |             |         |   |        |             |

|   |               |         |   |        |               |
|---|---------------|---------|---|--------|---------------|
| <ul style="list-style-type: none"> <li>Error during initialisation of system</li> </ul> |               |         |   |        |               |
| <b>Device</b>   | A5            |         |   |        |               |
| <b>Description</b>  |               |         |   |        |               |
| <b>Class</b>  | Error         |         |   |        |               |
| <b>Drive Behaviour</b>  |               |         |   |        |               |
| <b>Device Behaviour</b>   |               |         |   |        |               |
| <b>Additional Error Information (AMK Service)</b>                                       |               |         |   |        |               |
|   | Info 1        | 1       | Error in module communications, source module does not exist                  |        |               |
|   |               | 2       | Error in module communications, target module does not exist                  |        |               |
|   |               | 3       | Packet transfer error in DPM gateway  |        |               |
|   |               | 4       | Error initialising real-time data   |        |               |
|   |               | 5       | Error initialising slave interface (P2)                                       |        |               |
|   |               | 6       | Error initialising master interface (P3)                                      |        |               |
|   |               | 8, 9    | Error in memory allocation  |        |               |
|   |               | 10 - 12 | Internal error  |        |               |
|   |               |         | <table border="1"> <tr> <td>Info 2</td> <td>Module number</td> </tr> </table> | Info 2 | Module number |
| Info 2  | Module number |         |   |        |               |
| <b>Error Removal</b>  |               |         |   |        |               |

### 3869 I/O Optional Card

|   |                                       |    |                                       |
|---|---------------------------------------|----|---------------------------------------|
| • E/A Optionskarte                          |                                       |    |                                       |
| <b>Device</b>                               | <b>A5</b>                             |    |                                       |
| <b>Description</b>                          | Error during initialisation of system |    |                                       |
| <b>Class</b>                                | Error                                 |    |                                       |
| <b>Drive Behaviour</b>                      |                                       |    |                                       |
| <b>Device Behaviour</b>                     |                                       |    |                                       |
| <b>Additional Information (AMK Service)</b> |                                       |    |                                       |
|   | Info 1                                | 10 | Incorrect check sum                   |
|   |                                       | 11 | Incorrect SPI message ID              |
|   |                                       | 12 | Protocol error                        |
|   |                                       | 13 | Error SPI real-time transmission data |
|   |                                       | 14 | Error SPI real-time reception data    |
| <b>Error Removal</b>                        |                                       |    |                                       |

### 5 AW/AZ/KU internal bit blocks

The displayed bit blocks classify the individual error causes and serve for the system-internal overview. Direct access to this information is possible only using the service monitor. The addresses of information depend upon the system configuration and the software level and are thus variable.

| 5.1 Bit block AZ_ERR_1 |                            |              | 5.2 Bit block AZ_ERR_2 |                                 |               |
|------------------------|----------------------------|--------------|------------------------|---------------------------------|---------------|
| Bit                    | Meaning                    | Error codeAZ | Bit                    | Meaning                         | Error code AZ |
| 0                      | Ser. EEPROM checksum error | 1            | 0                      | AZ temperature error            | 17            |
| 1                      | Ser. EEPROM write error    | 2            | 1                      | Mains fault or fuse defective   | 18            |
| 2                      | EPROM checksum error       | 3            | 2                      | Line voltage error              | 19            |
| 3                      | RAM error                  | 4            | 3                      | No SBM                          | 20            |
| 4                      | Par. EEPROM checksum error | 5            | 4                      | Line voltage > 460 V            | 21            |
| 5                      | Par. EEPROM write error    | 6            | 5                      | Line voltage < 340 V            | 22            |
| 6                      | AZB error                  | 7            | 6                      | Blocking time for UE not ended  | 23            |
| 7                      | Ser. receive 1 error       | 8            | 7                      | Switching frequency too high    | 24            |
| 8                      | Ser. receive 2 error       | 9            | 8                      | DC bus charging faulty          | 25            |
| 9                      | Watchdog reset             | 10           | 9                      | Phase error L1                  | 26            |
| A                      | BAV timeout                | 11           | A                      | Phase error L2                  | 27            |
| B                      | Programm stack overflow    | 12           | B                      | Phase error L3                  | 28            |
| C                      | System stack overflow      | 13           | C                      | Phase sequence L1/L2 or fuse    | 29            |
| D                      | System stack underflow     | 14           | D                      | Phase sequence L2/L3 or fuse    | 30            |
| E                      | Controller error           | 15           | E                      | Phase sequence L1/L2/L3 or fuse | 31            |
| F                      | Reserve                    | 16           | F                      | Phase sequence L1/L2/L3. -"     | 32            |

| 5.3 Bit block AZ_ERR_3 |                          |               | 5.4 Bit block AZ_ERR_4 |                                      |               |
|------------------------|--------------------------|---------------|------------------------|--------------------------------------|---------------|
| Bit                    | Meaning                  | Error code AZ | Bit                    | Meaning                              | Error code AZ |
| 0                      | Fault +12 V              | 33            | 0                      | Cooling air overtemperature          | 49            |
| 1                      | Fault -12 V              | 34            | 1                      | External component overtemperature   | 50            |
| 2                      | DC bus overvoltage       | 35            | 2                      | Power supply unit overtemperature    | 51            |
| 3                      | Regeneration fault       | 36            | 3                      | Feeding/regeneration overtemperature | 52            |
| 4                      | Braking transistor fault | 37            | 4                      | Line overvoltage                     | 53            |
| 5                      | Reserve                  | 38            | 5                      | Line undervoltage                    | 54            |
| 6                      | Reserve                  | 39            | 6                      | Pulse input encoder fault            | 55            |
| 7                      | Reserve                  | 40            | 7                      | Encoder fault E1, OPT1               | 56            |
| 8                      | Reserve                  | 41            | 8                      | Encoder fault E2, OPT1               | 57            |
| 9                      | Reserve                  | 42            | 9                      | Encoder fault E3, OPT1               | 58            |
| A                      | Reserve                  | 43            | A                      | Encoder fault E4, OPT1               | 59            |
| B                      | Reserve                  | 44            | B                      | Encoder fault E1, OPT2               | 60            |
| C                      | Reserve                  | 45            | C                      | Encoder fault E2, OPT2               | 61            |
| D                      | Reserve                  | 46            | D                      | Encoder fault E3, OPT2               | 62            |
| E                      | Reserve                  | 47            | E                      | Encoder fault E4, OPT2               | 63            |
| F                      | Reserve                  | 48            | F                      | Encoder fault E1, OPT3               | 64            |

| 5.5 Bit block AW_ERR_1 |   |                     | 5.6 Bit block SYS_ERR (SERCOS) |   |                     |
|------------------------|---|---------------------|--------------------------------|---|---------------------|
| Bit                    | Meaning                                   | Inverter error code | Bit                            | Meaning                                   | Inverter error code |
| 0                      | Phase U short-circuit                     | 1                   | 0                              | EPROM memory error (checksum)             | 17 <sup>1)</sup>    |
| 1                      | Phase V short-circuit                     | 2                   | 1                              | RAM memory error                          | 18 <sup>1)</sup>    |
| 2                      | Phase W short-circuit                     | 3                   | 2                              | ASIC error                                | 19 <sup>1)</sup>    |
| 3                      | Supply voltage error +12 V                | 4                   | 3                              | A/D converter channel 1 defective         | 20 <sup>1)</sup>    |
| 4                      | Supply voltage error -12 V                | 5                   | 4                              | .....2                                    | 21 <sup>1)</sup>    |
| 5                      | Undervoltage error                        | 6 <sup>1)</sup>     | 5                              | .....3                                    | 22 <sup>1)</sup>    |
| 6                      | Motor encoder error                       | 7                   | 6                              | .....4                                    | 23 <sup>1)</sup>    |
| 7                      | Output terminal ground fault              | 8                   | 7                              | .....5                                    | 24 <sup>1)</sup>    |
| 8                      | Synchronous running error                 | 9                   | 8                              | .....6                                    | 25 <sup>1)</sup>    |
| 9                      | Master synchronous telegram error         | 10                  | 9                              | .....7                                    | 26 <sup>1)</sup>    |
| A                      | Inverter controller clock error           | 11                  | A                              | A/D converter channel 8 defective         | 27 <sup>1)</sup>    |
| B                      |   | 12 <sup>1)</sup>    | B                              | Watchdog                                  | 28                  |
| C                      | Wrong rotation direction external encoder | 13 <sup>1)</sup>    | C                              | Position growth too large                 | 29                  |
| D                      | Excessive control deviation               | 14                  | D                              | Reserve                                   | 30                  |
| E                      | $n_{ist} > n_{max}$                       | 15                  | E                              | Reserve                                   | 31                  |
| F                      | Output stage enable (EF) inactive         | 16                  | F                              | Current command value analog at the slave | 32                  |

<sup>1)</sup> is not yet evaluated

| 5.7 Bit block AW_STÖR |  | 5.8 Bit block SYS_ERR                 |   |
|-----------------------|--|---------------------------------------|---|
|                       |  | (SERCOS interface ® - Status class 1) |   |
| Bit                   | Meaning                                      | Bit                                   | Meaning   |
| 0                     | No clock enable acknowledgement              | 0                                     | Nominal current exceeding (current limit integral)                        |
| 1                     | No magnetizing possible                      | 1                                     | Inverter overtemperature  |
| 2                     | Operation mode for inverter not acknowledged | 2                                     | Motor overtemperature   |
| 3                     | Communication on AW                          | 3                                     | Reserve   |
| 4                     | Communication on AZ                          | 4                                     | Supply voltage error (+/-12 V)  |
| 5                     | Reserve                                      | 5                                     | <encoder error  |
| 6                     | Reserve                                      | 6                                     | Reserve   |
| 7                     | Reserve                                      | 7                                     | Short-circuit/output terminal ground fault                                |
| 8                     | Awn overload                                 | 8                                     | Reserve   |
| 9                     | Awn overtemperature                          | 9                                     | Undervoltage error (DC bus not connected)                                 |
| A                     | Motor overtemperature                        | A                                     | Reserve   |
| B                     | Reserve                                      | B                                     | Excessive control deviation   |
| C                     | Reserve                                      | C                                     | SERCOS interface ® communication error                                    |
| D                     | Reserve                                      | D                                     | Reserve   |
| E                     | Reserve                                      | E                                     | Reserve   |
| F                     | Reserve                                      | F                                     | Manufacturer-specific error<br>see inverter_ERR_1 ...ERR_3 or diagnostics |

Additional AW faults acquired by the AZ (bit blocks) are created as AW\_STÖR for each drive. Only faults/warnings and ERRORS which are acquired by time-critical programs (system graphs) are entered to make them available for diagnosis

These messages are formed by corresponding driver programs. This bit block is a summary of the previously defined bit blocks according to the SERCOS interface® status class 1. It is formed in the central module in the case of an error.

## 5.9 Real time bit block AW\_MESSAGE

| Bit | Meaning  |
|-----|--|
| 0   | $ N_{\text{command}} - N_{\text{feedback}}  < N_{\text{window}}$ ( $N_{\text{feedback}} = N_{\text{command}}$ ), according to window ID157 |
| 1   | $ N_{\text{feedback}}  < N_{\text{min}}$ , according to window ID124   |
| 2   | $ N_{\text{feedback}}  < n_x$ , according to window ID125  |
| 3   | $ M_{\text{feedback}}  > M_x$ , according to window ID126  |
| 4   | $ M_{\text{feedback}}  > M_{\text{limit}}$ , according to ID82, ID83   |
| 5   | $ N_{\text{command}}  >  N_{\text{limit}} $ , according to ID38, ID39  |
| 6   | $SA < SA_{\text{limit}}$ , according to window ID57  |
| 7   | $ P_{\text{feedback}}  > P_x$ , according to window ID158  |
| 8   | Software limit switch negative, according to window ID50   |
| 9   | Drive angle synchronous, according to window ID228   |
| A   | Drive position synchronous, according to window ID32952  |
| B   | $N_{\text{feedback}} \neq 0$ , as from AW version AW 0210  |
| C   | Feedback value acknowledgement calibrated  |
| D   | Residual distance was deleted, according to window ID32922   |
| E   | Overcurrent message: Utilization > 50% of the overload limit   |
| F   | Software limit switch positive according to window ID49  |

Key:

N Speed, M Torque, P Power, X Position, SA Following error

## 5.10 System bit blocks

| SYS_INP |                                   | SYS_OUTP |                                     |
|---------|-----------------------------------|----------|-------------------------------------|
| Bit     | Bedeutung                         | Bit      | Bedeutung                           |
| 0       | FL (error deletion)               | 0        | SBM (group ready message)           |
| 1       | UE (inverter ON)                  | 1        | QUE                                 |
| 2       | Reserve                           | 2        | Reserve                             |
| 3       | Reserve                           | 3        | Reserve                             |
| 4       | Reserve                           | 4        | Reserve                             |
| 5       | Reserve                           | 5        | Reserve                             |
| 6       | Reserve                           | 6        | PR_POS (touch probe, positive edge) |
| 7       | PR_EN (enable measuring function) | 7        | PR_NEG (touch probe, negative edge) |
| 8       | RF1 (controller enable AW1)       | 8        | QRF1 (acknowledgement RF AW1)       |
| 9       | RF2 (controller enable AW2)       | 9        | QRF2 (acknowledgement RF AW2)       |
| A       | RF3 (controller enable AW3)       | A        | QRF3 (acknowledgement RF AW3)       |
| B       | RF4 (controller enable AW4)       | B        | QRF4 (acknowledgement RF AW4)       |
| C       | RF5 (controller enable AW5)       | C        | QRF5 (acknowledgement RF AW5)       |
| D       | RF6 (controller enable AW6)       | D        | QRF6 (acknowledgement RF AW6)       |
| E       | RF7 (controller enable AW7)       | E        | QRF7 (acknowledgement RF AW7)       |
| F       | RF8 (controller enable AW8)       | F        | QRF8 (acknowledgement RF AW8)       |

## 6 KE messages via LED-block

### 6.1 LED status display

Status and diagnostic messages are displayed via LED block in the compact supply unit KE. In KE/KW network systems additional to the LED display it is possible to read the diagnostic number via bus system.




System ready signal SBM is reset in case of an operation error. Error code is displayed via LED field H1. Activation of error reset through a L/H signal at binary input FL (error reset).



H1: LED field

LED 1, 2 und 4 green  
LED 3 red

#### Display status

| LED display   | Meaning  |
|---|--|
|   | <p><b>"System ready"</b></p> <ul style="list-style-type: none"> <li>• Boot up of compact supply unit KE without an error but not activated yet. Waiting of control command "DC bus enable ON".</li> </ul>                            |
|  | <p>"DC bus" UE is active.</p> <ul style="list-style-type: none"> <li>• DC bus voltage has been establish via main power on and no error occurred</li> <li>• Acknowledge via "DC bus enable" QUE=1 handshake.</li> </ul>              |
|  | <p>"Activation of regenerative operation" ARS is active.</p> <ul style="list-style-type: none"> <li>• Regenerative operation is activated depending on DC bus voltage in KE power supply unit with regenerative function.</li> </ul> |

### 6.2 LED diagnostic display









After an error occurrence the power supply unit KE is reset to a safe mode and a diagnostic message is displayed. In this case the red LED is always ON.

System behavior in error case:



- Regenerative function is de-activated
- Reset of system ready signal (SBM = 0)
- Power supply unit KE is disconnected from main power line
- Discharge of DC bus voltage via external braking resistor
- Reset of QUE
- System ready signal (SBM = 1) after successful error reset



Diagnostic overview

| LED Display   | Meaning / Error causes  |
|---|---|
|    | <p><b>Power reset</b></p> <ul style="list-style-type: none"> <li>• Missing supply voltage 24 VDC extern</li> <li>• Power-On-Reset-condition during power up</li> <li>• Power reset during operation (sag of power supply voltages)</li> </ul>   |
|    | <p><b>Limit main power supply</b></p> <ul style="list-style-type: none"> <li>• Voltage range at X20 greater than 530 VAC or smaller than 320 VAC for time period &gt; 6.4 s.</li> <li>• At least one phase missing at X20.</li> <li>• At least one phase missing at X01</li> </ul>  |
|    | <p><b>Phase sequence L1/L2/L3</b></p> <ul style="list-style-type: none"> <li>• Phase sequence L1, L2, L3 at X20 does not correspond with L1.1, L2.1, L3.1 at X01.</li> <li>• External main contactor (connection via X20/ EH1, EH2) does not energize (wiring, fuse defect).</li> </ul>   |
|  | <p><b>DC bus</b></p> <ul style="list-style-type: none"> <li>• Restriction time for UE: The variable restriction time has not expired between two “power on” cycles. A successful error clearance is possible at once. inverter on (UE = 1) after end of restriction time.</li> <li>• Short circuit DC bus (wiring, IGBT defect).</li> <li>• Charging time of DC bus is too long (Capacitor load too big, load resistors defect)</li> <li>• DC bus voltage is greater than max limit of 850 VDC. (KW display this fault also)</li> </ul> |
|  | <p><b>Regenerative fault</b></p> <ul style="list-style-type: none"> <li>• Synchronization with main power after re-boot is not possible.</li> <li>• Voltage frequency out of range limit 47 ... 63 Hz</li> <li>• Current exceeds max limit.</li> </ul>  |
|  | <p><b>Short circuit</b></p> <ul style="list-style-type: none"> <li>• Short circuit brake resistor (brake resistor too small, resistor defective, cable defective, ground fault)</li> </ul> <p> Error only can be reset once via binary input “FL”. Main power supply has to be cycled if this error occurs again.</p>  |
|  | <p><b>Over temperature</b></p> <ul style="list-style-type: none"> <li>• Heat sink temperature or external temperature X25 (RT1, RT2), (brake resistor) exceeded.</li> <li>• Overload exceeded</li> </ul>  |



| LED Display   | Meaning / Error causes  |
|---|---|
|  | <b>Fault <math>\pm 12</math> V</b> <ul style="list-style-type: none"><li>• Internal power supply voltage <math>\pm 12</math> V smaller than I10 VI.</li><li>• External power supply (24 VDC) smaller than permitted limit</li></ul> |
|  | <b>Controller</b> <ul style="list-style-type: none"><li>• Error checksum SEEP</li><li>• Error ACC-BUS</li><li>• Watchdog-monitoring</li><li>• Stack-monitoring</li><li>• Time level monitoring</li></ul>                            |

### 7 Messages of AZ 05 through LED block

In the central module AZ 05 status and diagnostic messages are indicated by a LED block at the top right margin. This facilitates rough diagnosis of the system without control panel.







LED field



Operating status:  
AZ 05 and AW ready

#### Status indication

| LED display   | Meaning  | Status |
|---|--|--------|
|    | <ul style="list-style-type: none"> <li>System run-up</li> </ul>                                  | 1      |
|  | <ul style="list-style-type: none"> <li>System configuration free of error</li> </ul>             | 2      |
|  | <ul style="list-style-type: none"> <li>AZ 05 ready, DC bus charged</li> </ul>                    | 3      |
|  | <ul style="list-style-type: none"> <li>AZ 05 ready and all activated AW modules ready</li> </ul> | 4      |

### 8 Messages AZ 20 ... AZ 60 through LED block

In the central modules AZ for the extended line voltage range, status and diagnostic messages concerning the regenerative braking are displayed by LED block H1. Regenerative braking is no longer controlled by the central computer AZ-R0x but by a separate µC.

In the case of operational fault of the regenerating braking the system ready message SBM is withdrawn, and the error 1060 "Regenerative braking fault" is displayed on the control panel. Error deletion is possible only by switching off the line voltage or the external supply voltage of the power supply unit.

System behavior in the case of error:

- Regenerative braking is inactivated
- The system ready message SBM is withdrawn (SBM = 0)
- Coasting of the drives (pulse barrier at AW)
- The main contactor in the AN opens, QUE is reset.
- The DC bus circuit is discharged through the internal or external braking resistor








H1: LED field

Operating status:  
Regenerative braking active

Status indication

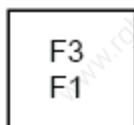
| LED display | Meaning  | Status |
|-------------|--|--------|
|             | <ul style="list-style-type: none"> <li>• Regenerative braking has run up correctly but is not yet activated</li> </ul> | 1      |
|             | <ul style="list-style-type: none"> <li>• Regenerative braking is active and without fault</li> </ul>                   | 2      |

## Diagnosis overview

| LED display   | Meaning/causes of error  | Status |
|---|--|--------|
|    | <ul style="list-style-type: none"> <li>Regenerative braking is active, but has switched off briefly because of overcurrent of the IGBT. The LED remains on for approx. 1 sec. and then changes to 1 or 2 if no further error occurs</li> </ul> Possible causes: <ul style="list-style-type: none"> <li>- Faults on line voltage</li> </ul>   | 3      |
|    | <ul style="list-style-type: none"> <li>Regenerative braking is active, but has detected a short-term line voltage error, IGBT continue to be switched. The LED remains on for approx. 1 sec. and then changes to 1 or 2 if no further error occurs.</li> </ul> Possible cause: <ul style="list-style-type: none"> <li>- Strongly disturbed power supply, overcurrent errors then occur generally.</li> </ul> | 4      |
|    | <ul style="list-style-type: none"> <li>Regenerative braking is in error status.</li> </ul> Possible causes: <ul style="list-style-type: none"> <li>- Faults on line voltage</li> <li>- Overcurrent in regenerative braking</li> </ul> Note:<br>This LED pattern lights up if with regenerative braking switched off a corresponding error is present   | 5      |
|  | <ul style="list-style-type: none"> <li>Regenerative braking is in error status.</li> </ul> Possible causes <ul style="list-style-type: none"> <li>- Line voltage not applied (for AZ with ext. power supply)</li> <li>- Synchronization not possible because of highly disturbed power supply</li> </ul>   | 6      |
|  | <ul style="list-style-type: none"> <li>Regenerative braking is in error status. Error in system run-up.</li> </ul> Possible causes: <ul style="list-style-type: none"> <li>- No power supply at the regenerative braking logic</li> <li>- Defect in the regenerative braking logic</li> </ul>  | 7      |

## 9 Messages through control panel, error deletion

1. In the case of error:



(DIAGNOSTICS)

|             |      |
|-------------|------|
| Error       |      |
| DIAGNOSTICS | NEXT |

|      |        |
|------|--------|
| xxxx | Aqq zz |
| abcd |        |

xxxx: Diagnostic No.  
 Aqq: Error source (AZ0,4Wn)  
 zz: Error counter  
 abcd: Diagnostic text



3.

Display of further diagnostic messages which (if present) are stored in the diagnostic stack.

4. Switch off inverter on (UE) and controller enable (RF).

5. Remove cause of fault



6.

|              |         |
|--------------|---------|
| DELETE ERROR | SYSTEM  |
| DIAGNOSTICS  | STARTUP |



7.

|                       |
|-----------------------|
| Error deletion active |
|-----------------------|

For some seconds then:

|              |         |
|--------------|---------|
| DELETE ERROR | SYSTEM  |
| DIAGNOSTICS  | STARTUP |

Alternatively an error deletion can take place with inactive "Inverter on and controller enable" signals through the binary input FL at AZ X30, FL at KU X33 or through active option cards such as AZ-PSx. Error deletion always results in a partial system initialization. This lasts approx. 2 s per activated drive. Only after the end of this time and the "Group ready" message can the system be restarted.

**Error deletion with active UE/RF**

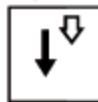
1. In the case of error:



(DIAGNOSTICS)



xxxx: Diagnostic No.  
 Aqq: Error source (AZ0,4Wn)  
 zz: Error counter  
 abcd: Diagnostic text



3.

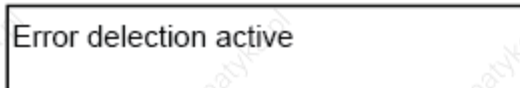
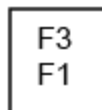
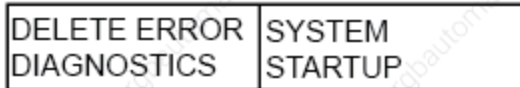
Display of further diagnostic messages which (if present) are stored in the diagnostic stack.

4. Switch off inverter on (UE) and controller enable (RF).

5. Remove cause of fault

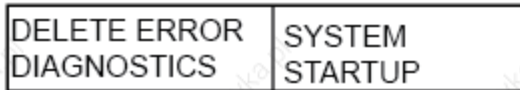


6.



7.

For some seconds then:



**Internal diagnostic information**

(F2 key on "System diagnostics" message, or "See description")

1.

(DIAGNOSTICS)

2.

3.

Display of the internal data structure of further messages if present. Further information can be found in the "Clocking out the diagnostic message" section.

**Please note all values and inform the AMK service (Tel.: +49 (0) 7021/50 05-191).**

F3  
F1

xxxx Aqq zz  
abcd

F4  
F2

K: kkk M: mmm Z: tt  
F: fff l: iii





## 10 Non-volatile saved events

Different values are saved in non non-volatile memory. (Maximal 40 000 write cycle per memory cell).

These can be analyzed with the key pad( Main menu\System\fault statistic or operation hour counter) or with PC-Program (AIPAR, APS).

Operation hour counter is increased every hour. (Active power supply).

Following fault information can be obtained:

| Content   | ID-No. <sup>1)</sup> | AZ            | KE | AW            | KW | KU | RM |
|---|----------------------|---------------|----|---------------|----|----|----|
| Fault counter mains                                 | 34062/2              | x             | x  | -             | -  | x  | x  |
| Fault counter brake transistor                      | 34062/3              | x             | x  | -             | -  | x  | -  |
| Fault counter Logic voltage                         | 34062/4              | x             | x  | x             | x  | x  | x  |
| Fault counter overload I <sup>2</sup> t             | 34062/5              | -             | x  | x             | x  | x  | x  |
| Fault counter encoder error                         | 34062/6              | -             | -  | x             | x  | x  | x  |
| Fault counter short circuit/ground fault            | 34062/7              | x             | x  | x             | x  | x  | x  |
| Fault counter device over-temperature               | 34062/8              | x             | x  | x             | x  | x  | x  |
| Fault counter motor/brake resistor over-temperature | 34062/9              | <sup>2)</sup> | x  | <sup>2)</sup> | x  | -  | x  |

<sup>1)</sup> ID does not exist in AZ/AW

<sup>2)</sup> Included in fault counter device over-temperature

## 11 Clocking the diagnostic message (only AZ)

The diagnosis and the data output is possible in the AZ through binary outputs DA1 ... DA4.

### Overview of assigned inputs/outputs

#### Inputs:

|    |   |
|----|---|
| SC | Output status code                                    |
| TS | Clock for reading the status code through DA1 ... DA4 |

#### Outputs:

|     |                    |
|-----|--------------------|
| QSC | Acknowledgement SC |
| QTS | Acknowledgement TS |
| DA1 | data output 1      |
| DA2 | data output 2      |
| DA3 | data output 3      |
| DA4 | data output 4      |

### Functional description of the signals:

#### SC = 0:

The binary displays (messages) agreed with the system parameters are output cyclically at DA1 ... DA4.

#### SC = 0 → 1:

The diagnostic module prepares the diagnostic information for output at the outputs DA1 ... DA4.

#### QSC:

Acknowledges the SC signal if the diagnostic information is present for the output at DA1 ... DA4.

#### TS = 1:

The drive status is read nibble-sequentially (4 nibbles) with clock pulses TS. If no further error messages are present, "0" is output in each case at DA1 ... DA4.

TS is without effect as long as SC = 0. With SC = 1 and TS = 1, the individual nibbles of the status information are output at the outputs DA1 ... DA4. The 1st nibble is output at

DA1 ... DA4 with the first TS = 0 → 1 transition, the 2nd nibble with the second TS = 0 → 1 transition etc. The values at DA1 ... DA4 are valid and may be processed further by the higher-level control system if QTS = 1.

#### QTS:

QTS acknowledges the signal TS and indicates that the binary outputs DA1 ... DA4 are valid.

#### DA1 ... DA4:

Binary outputs for status messages (SC = 0) and diagnostic messages (SC = 1).

### Structure of the diagnostic information:

| Nibble 1     | Nibble 2           | Nibble 3            | Nibble 4     |
|--------------|--------------------|---------------------|--------------|
| Error source | Diagnostic no. low | Diagnostic no. high | Error module |

## 12 AMK service info

The following explanations serve for additional information of the AMK service and require deeper system knowledge.

### Example of clocking out error codes (only AZ)

|          | MSB             |    |    |    |    |    |    |   |   |   |   |   |           |   | LSB |   |     |
|----------|-----------------|----|----|----|----|----|----|---|---|---|---|---|-----------|---|-----|---|-----|
|          | 16              | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4         | 3 | 2   | 1 | Bit |
| Nibble1  |                 |    |    |    |    |    |    |   |   |   |   |   | 0         | 0 | 1   | 0 |     |
| Nibble 2 |                 |    |    |    |    |    |    |   | 1 | 1 | 1 | 1 |           |   |     |   |     |
| Nibble 3 |                 |    |    |    | 0  | 0  | 1  | 0 |   |   |   |   |           |   |     |   |     |
| Nibble 4 | 1               | 0  | 0  | 1  |    |    |    |   |   |   |   |   |           |   |     |   |     |
| Hex:     | 9               |    |    |    | 2  |    |    |   | F |   |   |   | 2         |   |     |   |     |
| Decimal: | 2351 = Code-No. |    |    |    |    |    |    |   |   |   |   |   | Drive AW2 |   |     |   |     |

Message: "Motor temp. warning"

|          | MSB             |    |    |    |    |    |    |   |   |   |   |   |           |   | LSB |   |     |
|----------|-----------------|----|----|----|----|----|----|---|---|---|---|---|-----------|---|-----|---|-----|
|          | 16              | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4         | 3 | 2   | 1 | Bit |
| Nibble1  |                 |    |    |    |    |    |    |   |   |   |   |   | 0         | 0 | 1   | 0 |     |
| Nibble 2 |                 |    |    |    |    |    |    |   | 1 | 0 | 1 | 1 |           |   |     |   |     |
| Nibble 3 |                 |    |    |    | 0  | 0  | 1  | 0 |   |   |   |   |           |   |     |   |     |
| Nibble 4 | 1               | 0  | 0  | 1  |    |    |    |   |   |   |   |   |           |   |     |   |     |
| Hex:     | 9               |    |    |    | 2  |    |    |   | B |   |   |   | 2         |   |     |   |     |
| Decimal: | 2347 = Code-No. |    |    |    |    |    |    |   |   |   |   |   | Drive AW2 |   |     |   |     |

Message: "Motor temp. error"

|          | MSB |    |    |    |    |    |    |   |   |   |   |   |   |   | LSB |   |     |
|----------|-----|----|----|----|----|----|----|---|---|---|---|---|---|---|-----|---|-----|
|          | 16  | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2   | 1 | Bit |
| Nibble1  |     |    |    |    |    |    |    |   |   |   |   |   | 0 | 0 | 0   | 0 |     |
| Nibble 2 |     |    |    |    |    |    |    |   | 0 | 0 | 0 | 0 |   |   |     |   |     |
| Nibble 3 |     |    |    |    | 0  | 0  | 0  | 0 |   |   |   |   |   |   |     |   |     |
| Nibble 4 | 0   | 0  | 0  | 0  |    |    |    |   |   |   |   |   |   |   |     |   |     |
| Hex:     | 0   |    |    |    | 0  |    |    |   | 0 |   |   |   | 0 |   |     |   |     |

Message:

No further error message in the system. Enquiry of the status code can be interrupted by removal of "SC".

The diagnostic message is composed of two parts. Part 1 states which AMKASYN internal error source has generated the diagnostic message, part 2 represents the diagnostic module to which an inverter reference can be produced.

#### List of the error sources:

|     |   |   |
|-----|---|---|
| AZ  | 0 | Fault message AZ                        |
| AW1 | 1 | Fault message AW 1                      |
| AW2 | 2 | Fault message AW 2                      |
| AW3 | 3 | Fault message AW 3                      |
| AW4 | 4 | Fault message AW 4                      |
| AW5 | 5 | Fault message AW 5                      |
| AW6 | 6 | Fault message AW 6                      |
| AW7 | 7 | Fault message AW 7                      |
| AW8 | 8 | Fault message AW 8                      |
| OPT | 9 | Option card fault message (e.g. AZ-PSx) |

**List of the software diagnostic modules for forming the global error number:**

|                           |    |  |
|---------------------------|----|--|
| DIAGNOSTICS               | 0  | Diagnostic module fault message                |
| CONTROL PANEL             | 1  | Control panel software fault message           |
| MONITOR                   | 2  | Monitor module fault message                   |
| DATA BASE                 | 3  | Data base module fault message                 |
| HARDWARE-AZ               | 4  | Central module hardware fault message          |
| OPERATION MODE MANAGEMENT | 5  | Operation mode management module fault message |
| SERIAL EEPROM             | 6  | Serial EEPROM fault message                    |
| COMMANDING                | 7  | Commanding module fault message                |
| LOG.SUBSCRIBER            | 8  | Logical subscriber fault message               |
| HARDWARE-AW               | 9  | Inverter hardware fault message                |
| OPTION CARDS              | 10 | Option cards fault message                     |
| SPS                       | 11 | AZ-PSx card fault message                      |
| SERCOS interface ®        | 12 | AZ-K02 card fault message                      |
| NC                        | 13 | AZ-MCx card fault message                      |

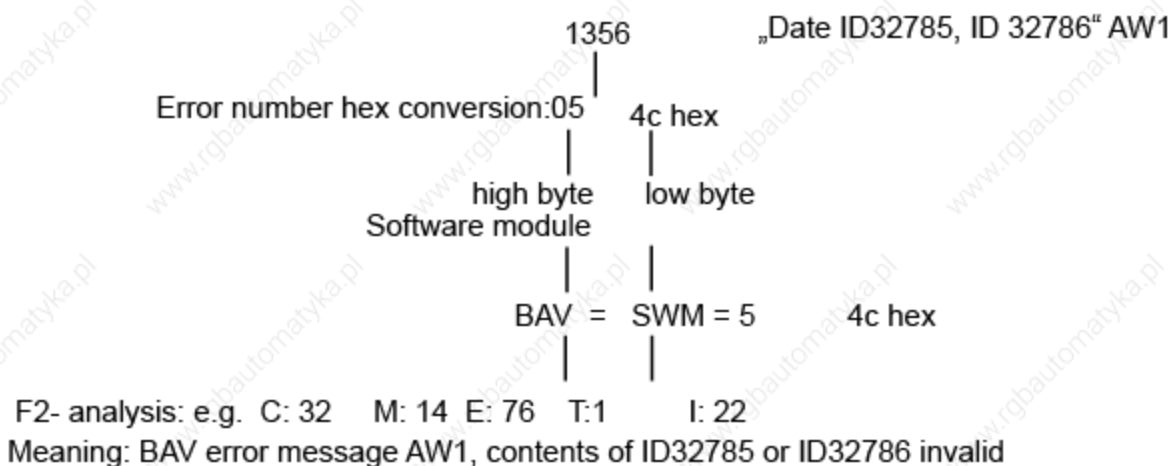
The development-internal error data structure can be read by pressing the F2 key (F2 analysis) on the control panel, this is absolutely necessary in connection with the "System diagnostics" plain language message:

|              |   |              |              |              |
|--------------|---|--------------|--------------|--------------|
| <b>C: cc</b> | <b>M: mm</b>  | <b>T: tt</b> | <b>E: ee</b> | <b>I: ii</b> |
| cc           | Variable ub_errorclass, error class                                 |              |              |              |
| mm           | Variable ub_modul, error module                                     |              |              |              |
| tt           | Time at which the error occurred, order of the events               |              |              |              |
| ee           | Variable ub_errornr, error number                                   |              |              |              |
| ii           | Variable uw_info, additional information (error-reporting function) |              |              |              |

The error code and the error module of the development-internal error data structure is not identical with the external global diagnostic message. The diagnostic messages can be used in connection with the current version of the file DIAG\_DEF.INC of the directory C:\AZMODUL\INCLUDE.

**Example of calculation of control panel error number for module assignment:**

Control panel display:1356"Datum ID 32785, ID 32786"AW1



picture name: ZCH\_Diagnose\_Berechn\_bsp

## Overview of diagnostic modules for internal module code with inverter No. reference

| Subscriber    | Int. module code (F2 analysis) | Diagnostic module SWM for calculation |                              |
|---------------|--------------------------------|---------------------------------------|------------------------------|
| DIAGNOSTICS   | 0                              | SWM0                                  | Diagnostics                  |
| MNU           | 1                              | SWM1                                  | Control panel                |
| MON           | 2                              | SWM2                                  | Monitor                      |
| DTH           | 3                              | SWM3                                  | Database                     |
| AZ            | 4                              | SWM4                                  | AZ fault messages            |
| BAV           | 13                             | SWM5                                  | BAV not drive-specific       |
| BAV1          | 14                             | SWM5                                  | BAV AW1 drive-specific       |
| BAV2          | 15                             |                                       | BAV AW2                      |
| BAV3          | 16                             |                                       | BAV AW3                      |
| BAV4          | 17                             |                                       | BAV AW4                      |
| BAV5          | 18                             |                                       | BAV AW5                      |
| BAV6          | 19                             |                                       | BAV AW6                      |
| BAV7          | 20                             |                                       | BAV AW7                      |
| BAV8          | 21                             |                                       | BAV AW8                      |
| SEEPAZ        | 22                             | <b>SWM6</b>                           | SEEP AZ                      |
| SEEPAW1       | 23                             |                                       | SEEP AW1                     |
| SEEPAW2       | 24                             |                                       | SEEP AW2                     |
| SEEPAW3       | 25                             |                                       | SEEP AW3                     |
| SEEPAW4       | 26                             |                                       | SEEP AW4                     |
| SEEPAW5       | 27                             |                                       | SEEP AW5                     |
| SEEPAW6       | 28                             |                                       | SEEP AW6                     |
| SEEPAW7       | 29                             |                                       | SEEP AW7                     |
| SEEPAW8       | 30                             |                                       | SEEP AW8                     |
| KMD1          | 31                             | <b>SWM7</b>                           | KMD AW1 Commanding interface |
| KMD2          | 32                             |                                       | KMD AW2                      |
| KMD3          | 33                             |                                       | KMD AW3                      |
| KMD4          | 34                             |                                       | KMD AW4                      |
| KMD5          | 35                             |                                       | KMD AW5                      |
| KMD6          | 36                             |                                       | KMD AW6                      |
| KMD7          | 37                             |                                       | KMD AW7                      |
| KMD8          | 38                             |                                       | KMD AW8                      |
| LT_ANTR       | 39                             | <b>SWM8</b>                           | Logical SBUS subscriber      |
| AW1           | 5                              | <b>SWM9</b>                           | AW fault messages AW1        |
| AW2           | 6                              |                                       | AW2                          |
| AW3           | 7                              |                                       | AW3                          |
| AW4           | 8                              |                                       | AW4                          |
| AW5           | 9                              |                                       | AW5                          |
| AW6           | 10                             |                                       | AW6                          |
| AW7           | 11                             |                                       | AW7                          |
| AW8           | 12                             |                                       | AW8                          |
| FSS_AZSSINT   | 40                             | <b>SWM10</b>                          | Option cards                 |
| SPS_MODULE    | 101                            | <b>SWM11</b>                          | SPS                          |
| SERCOS_MODULE | 121                            | <b>SWM12</b>                          | SERCOS                       |
| NC_MODULE     | 131                            | <b>SWM13</b>                          | NC                           |

### 13 Your opinion is important!

With our documentation we want to offer you the highest quality support in handling the AMK products.

That is why we are now working on optimising our documentation.

Your comments or suggestions are always of interest to us.

We would be grateful if you take a bit of time and answer our questions. Please return a copy of this page to us.



e-mail: [dokumentation@amk-antriebe.de](mailto:dokumentation@amk-antriebe.de)

or

fax no.: +49 (0) 70 21 / 50 05-199

**Thank you for your assistance.**

**Your AMK documentation team**

1. How would you rate the layout of our AMK documentation?  
(1) very good (2) good (3) satisfactory (4) less than satisfactory (5) poor
2. Is the content structured well?  
(1) very good (2) good (3) moderate (4) hardly (5) not at all
3. How easy is it to understand the documentation?  
(1) very easy (2) easy (3) moderately easy (4) difficult (5) extremely difficult
4. Did you miss any topics in the documentation?  
(1) no (2) if yes, which ones:
5. How would you rate the overall service at AMK?  
(1) very good (2) good (3) satisfactory (4) less than satisfactory (5) poor

AMK Arnold Müller GmbH & Co. KG  
phone : +49 (0) 70 21 / 50 05-0, fax: +49 (0) 70 21 / 50 05-199,  
[info@amk-antriebe.de](mailto:info@amk-antriebe.de)