

|                        |  |      |                    |
|------------------------|--|------|--------------------|
| Main cable             |  |      |                    |
| Pozidriv screwdriver   |  | Size | 2                  |
| Standard screwdriver   |  | mm   | 0.8 x 5.5<br>1 x 6 |
| Control circuit cables |  |      |                    |
| Pozidriv screwdriver   |  | Size | 2                  |
| Standard screwdriver   |  | mm   | 0.8 x 5.5<br>1 x 6 |

### Main conducting paths

|  |                |      |       |
|--|----------------|------|-------|
| Rated impulse withstand voltage        | $U_{imp}$      | V AC | 8000  |
| Overvoltage category/pollution degree  |                |      | III/3 |
| Rated insulation voltage               | $U_i$          | V AC | 690   |
| Rated operational voltage              | $U_e$          | V AC | 690   |
| Safe isolation to EN 61140             |                |      |       |
| between coil and contacts              |                | V AC | 440   |
| between the contacts                   |                | V AC | 440   |
| Making capacity (p.f. to IEC/EN 60947) |                |      |       |
|  | $U_p$ to 690 V | A    | 700   |
| Breaking capacity                      |                |      |       |
| 220 V 230 V                            |                | A    | 500   |
| 380 V 400 V                            |                | A    | 500   |
| 500 V                                  |                | A    | 500   |
| 660 V 690 V                            |                | A    | 320   |
| Short-circuit rating                   |                |      |       |
| Short-circuit protection maximum fuse  |                |      |       |
| Type "2" coordination                  |                |      |       |
| 400 V                                  | gG/gL 500 V    | A    | 80    |
| 690 V                                  | gG/gL 690 V    | A    | 63    |
| Type "1" coordination                  |                |      |       |
| 400 V                                  | gG/gL 500 V    | A    | 160   |
| 690 V                                  | gG/gL 690 V    | A    | 80    |

### AC

|   |                |   |     |
|---|----------------|---|-----|
| AC-1  |                |   |     |
| Rated operational current                                 |                |   |     |
| Conventional free air thermal current, 3 pole, 50 - 60 Hz |                |   |     |
| Open  |                |   |     |
| at 40 °C  | $I_{th} = I_e$ | A | 80  |
| at 50 °C  | $I_{th} = I_e$ | A | 71  |
| at 55 °C  | $I_{th} = I_e$ | A | 68  |
| at 60 °C  | $I_{th} = I_e$ | A | 65  |
| enclosed  | $I_{th}$       | A | 58  |
| Conventional free air thermal current, 1 pole             |                |   |     |
| open  | $I_{th}$       | A | 162 |
| enclosed  | $I_{th}$       | A | 145 |
| AC-3  |                |   |     |
| Rated operational current                                 |                |   |     |
| Open, 3-pole: 50 – 60 Hz                                  |                |   |     |
| 220 V 230 V   | $I_e$          | A | 50  |
| 240 V   | $I_e$          | A | 50  |
| 380 V 400 V   | $I_e$          | A | 50  |
| 415 V   | $I_e$          | A | 50  |
| 440V  | $I_e$          | A | 50  |
| 500 V   | $I_e$          | A | 50  |
| 660 V 690 V   | $I_e$          | A | 32  |
| 380 V 400 V   | $I_e$          | A | 50  |

|              |   |     |      |
|--------------|---|-----|------|
| Motor rating | P | kWh |      |
| 220 V 230 V  | P | kW  | 15.5 |
| 240V         | P | kW  | 17   |
| 380 V 400 V  | P | kW  | 22   |
| 415 V        | P | kW  | 30   |
| 440 V        | P | kW  | 32   |
| 500 V        | P | kW  | 36   |
| 660 V 690 V  | P | kW  | 30   |

#### AC-4

|                          |       |     |     |
|--------------------------|-------|-----|-----|
| Open, 3-pole: 50 – 60 Hz |       |     |     |
| 220 V 230 V              | $I_e$ | A   | 21  |
| 240 V                    | $I_e$ | A   | 21  |
| 380 V 400 V              | $I_e$ | A   | 21  |
| 415 V                    | $I_e$ | A   | 21  |
| 440 V                    | $I_e$ | A   | 21  |
| 500 V                    | $I_e$ | A   | 21  |
| 660 V 690 V              | $I_e$ | A   | 17  |
| Motor rating             | P     | kWh |     |
| 220 V 230 V              | P     | kW  | 6   |
| 240 V                    | P     | kW  | 6.5 |
| 380 V 400 V              | P     | kW  | 10  |
| 415 V                    | P     | kW  | 11  |
| 440 V                    | P     | kW  | 12  |
| 500 V                    | P     | kW  | 13  |
| 660 V 690 V              | P     | kW  | 14  |

#### DC

|                                 |       |   |     |
|---------------------------------|-------|---|-----|
| Rated operational current, open |       |   |     |
| DC-1                            |       |   |     |
| 60 V                            | $I_e$ | A | 60  |
| 110 V                           | $I_e$ | A | 50  |
| 220 V                           | $I_e$ | A | 45  |
| 440 V                           | $I_e$ | A | 2.9 |
| DC-3                            |       |   |     |
| 60 V                            | $I_e$ | A | 60  |
| 110 V                           | $I_e$ | A | 50  |
| 220 V                           | $I_e$ | A | 25  |
| 440 V                           | $I_e$ | A | 0.6 |
| DC-5                            |       |   |     |
| 60 V                            | $I_e$ | A | 60  |
| 110 V                           | $I_e$ | A | 50  |
| 220 V                           | $I_e$ | A | 25  |
| 440 V                           | $I_e$ | A | 0.6 |

#### Current heat loss

|  |  |    |      |
|--|--|----|------|
| 3-pole at $I_{th}$                       |  | W  | 18.9 |
| Current heat loss at $I_e$ to AC-3/400 V |  | W  | 9.9  |
| Impedance per pole                       |  | mΩ | 1.9  |

#### Magnet systems

|                              |          |         |   |
|------------------------------|----------|---------|---|
| Voltage tolerance            |          |         |   |
| AC operated                  | Pick-up  | $x U_c$ | 0.8 - 1.1   |
| Drop-out voltage AC operated | Drop-out | $x U_c$ | 0.3 - 0.6   |
| DC operated                  | Pick-up  | $x U_c$ | 0.7 - 1.2   |
| Notes                        |          |         | RDC 24 ( $U_{min}$ 24 V DC/ $U_{max}$ 27 V DC)<br>Example: $U_c = 0.7 \times U_{min} - 1.2 \times U_{max} / U_c = 0.7 \times 24 V - 1.2 \times 27 V$ DC |
| DC operated                  | Drop-out | $x U_c$ | 0.15 - 0.6  |