

SIMATIC HMI KP700 COMFORT, COMFORT PANEL, KEY OPERATION, 7" WIDESCREEN-TFT-DISPLAY, 16 MIL. COLORS, PROFINET INTERFACE, MPI/PROFIBUS DP INTERFACE, 12 MB USER MEMORY, WINDOWS CE 6.0, CONFIGURABLE FROM WINCC COMFORT V11



## General information

|                          |                           |
|--------------------------|---------------------------|
| Product type designation | SIMATIC HMI KP700 Comfort |
|--------------------------|---------------------------|

## Display

|                   |            |
|-------------------|------------|
| Design of display | TFT        |
| Screen diagonal   | 7 in       |
| Display width     | 152.4 mm   |
| Display height    | 91.4 mm    |
| Number of colors  | 16 777 216 |

## Resolution (pixels)

- |                               |           |
|-------------------------------|-----------|
| • Horizontal image resolution | 800 Pixel |
| • Vertical image resolution   | 480 Pixel |

## Backlighting

- |                                |              |
|--------------------------------|--------------|
| • MTBF backlighting (at 25 °C) | 80 000 h     |
| • Backlight dimmable           | Yes; 0-100 % |

## Control elements

### Keyboard fonts

- |                           |    |
|---------------------------|----|
| • Function keys           |    |
| — Number of function keys | 24 |

|   |                              |
|---|------------------------------|
| • Keys with LED   | Yes                          |
| • System keys   | Yes                          |
| • Numeric/alphabetical input  |                              |
| — Numeric keyboard  | Yes                          |
| — alphanumeric keyboard   | Yes; similar to mobile phone |
| <b>Touch operation</b>  |                              |
| • Design as touch screen  | No                           |
| <b>Expansions for operator control of the process</b>                 |                              |
| • DP direct LEDs (LEDs as S7 output I/O)                              |                              |
| — F1...Fx   | 24                           |
| • Direct keys (keys as S7 input I/O)                                  |                              |
| — F1...Fx   | 24                           |
| • Direct keys (touch buttons as S7 input I/O)                         | 0                            |
| <b>Installation type/mounting</b>                                     |                              |
| Mounting position   | vertical                     |
| Mounting in portrait format possible                                  | No                           |
| Mounting in landscape format possible                                 | Yes                          |
| maximum permissible angle of inclination without external ventilation | 35°                          |
| <b>Supply voltage</b>   |                              |
| Type of supply voltage  | DC                           |
| Rated value (DC)  | 24 V                         |
| permissible range, lower limit (DC)                                   | 19.2 V                       |
| permissible range, upper limit (DC)                                   | 28.8 V                       |
| <b>Input current</b>  |                              |
| Current consumption (rated value)                                     | 0.5 A                        |
| Starting current inrush $I^2t$  | 0.5 A <sup>2</sup> ·s        |
| <b>Power</b>  |                              |
| Active power input, typ.  | 12 W                         |
| <b>Processor</b>  |                              |
| Processor type  | X86                          |
| <b>Memory</b>   |                              |
| Flash   | Yes                          |
| RAM   | Yes                          |
| Memory available for user data  | 12 Mbyte                     |
| <b>Type of output</b>   |                              |
| Info LED  | Yes                          |
| Power LED   | No                           |
| Error LED   | No                           |
| Acoustics   |                              |

- Buzzer No
- Speaker Yes

## Time of day

### Clock

- Hardware clock (real-time) Yes
- Software clock Yes
- retentive Yes; Back-up duration typically 6 weeks
- synchronizable Yes

## Interfaces

|  |                        |
|--|------------------------|
| Number of industrial Ethernet interfaces                       | 1; 2 ports (switch)    |
| Number of RS 485 interfaces                                    | 1; RS 422/485 combined |
| Number of RS 422 interfaces                                    | 1                      |
| Number of RS 232 interfaces                                    | 0                      |
| Number of USB interfaces                                       | 2; USB 2.0             |
| <ul style="list-style-type: none"> <li>• USB Mini B</li> </ul> | 1; 5-pole              |
| Number of 20 mA interfaces (TTY)                               | 0                      |
| Number of parallel interfaces                                  | 0                      |
| Number of other interfaces                                     | 0                      |
| Number of SD card slots  | 2                      |
| With software interfaces                                       | No                     |

### Industrial Ethernet

- Industrial Ethernet status LED 2
- Number of ports of the integrated switch 2

## Protocols

|                                   |                      |
|-----------------------------------|----------------------|
| PROFINET                          | Yes                  |
| Supports protocol for PROFINET IO | Yes                  |
| IRT                               | Yes; As of WinCC V12 |
| MRP                               | Yes; As of WinCC V12 |
| PROFIBUS                          | Yes                  |
| MPI                               | Yes                  |

### Protocols (Ethernet)

- TCP/IP Yes
- DHCP Yes
- SNMP Yes
- DCP Yes
- LLDP Yes

### WEB characteristics

- HTTP Yes
- HTTPS Yes
- HTML Yes
- XML Yes

|                          |     |
|--------------------------|-----|
| • CSS                    | Yes |
| • Active X               | Yes |
| • JavaScript             | Yes |
| • Java VM                | No  |
| <b>Further protocols</b> |     |
| • CAN                    | No  |
| • EtherNet/IP            | Yes |
| • MODBUS                 | Yes |

## EMC

|   |     |
|---|-----|
| <b>Emission of radio interference acc. to EN 55 011</b> |     |
| • Limit class A, for use in industrial areas            | Yes |
| • Limit class B, for use in residential areas           | No  |

## Degree and class of protection

|                                |      |
|--------------------------------|------|
| IP (at the front)              | IP65 |
| Enclosure Type 4 at the front  | Yes  |
| Enclosure Type 4x at the front | Yes  |
| IP (rear)                      | IP20 |

## Standards, approvals, certificates

|                       |     |
|-----------------------|-----|
| CE mark               | Yes |
| cULus                 | Yes |
| RCM (formerly C-TICK) | Yes |
| KC approval           | Yes |

|                                     |     |
|-------------------------------------|-----|
| <b>Marine approval</b>              |     |
| • Germanischer Lloyd (GL)           | Yes |
| • American Bureau of Shipping (ABS) | Yes |
| • Bureau Veritas (BV)               | Yes |
| • Det Norske Veritas (DNV)          | Yes |
| • Lloyds Register of Shipping (LRS) | Yes |
| • Nippon Kaiji Kyokai (Class NK)    | Yes |
| • Polski Rejestr Statkow (PRS)      | No  |

|                                    |     |
|------------------------------------|-----|
| <b>Use in hazardous areas</b>      |     |
| • ATEX Zone 2                      | Yes |
| • ATEX Zone 22                     | Yes |
| • IECEx Zone 2                     | Yes |
| • IECEx Zone 22                    | Yes |
| • cULus Class I Zone 1             | No  |
| • cULus Class I Zone 2, Division 2 | Yes |
| • FM Class I Division 2            | Yes |

## Ambient conditions

|                                      |
|--------------------------------------|
| Ambient temperature during operation |
|--------------------------------------|

|  |     |
|--|-----|
| <ul style="list-style-type: none"> <li>• Operation (vertical installation) <ul style="list-style-type: none"> <li>— For vertical installation, min. 0 °C</li> <li>— For vertical installation, max. 50 °C; (55 °C, see entry ID:64847814)</li> </ul> </li> <li>• Operation (max. tilt angle) <ul style="list-style-type: none"> <li>— At maximum tilt angle, min. 0 °C</li> <li>— At maximum tilt angle, min. 40 °C</li> </ul> </li> <li>• Operation (vertical installation, portrait format) <ul style="list-style-type: none"> <li>— For vertical installation, min. 0 °C</li> <li>— For vertical installation, max. 40 °C</li> </ul> </li> <li>• Operation (max. tilt angle, portrait format) <ul style="list-style-type: none"> <li>— At maximum tilt angle, min. 0 °C</li> <li>— At maximum tilt angle, min. 35 °C</li> </ul> </li> </ul> |     |
| <b>Ambient temperature during storage/transportation</b>   |     |
| <ul style="list-style-type: none"> <li>• min. -20 °C</li> <li>• max. 60 °C</li> </ul>  |     |
| <b>Relative humidity</b>   |     |
| <ul style="list-style-type: none"> <li>• Operation, max. 90 %; no condensation</li> </ul>  |     |
| <b>Operating systems</b>   |     |
| proprietary  | No  |
| <b>pre-installed operating system</b>  |     |
| <ul style="list-style-type: none"> <li>• Windows CE Yes</li> </ul>   |     |
| <b>Configuration</b>   |     |
| Message indicator  | Yes |
| Alarm system (incl. buffer and acknowledgment)   | Yes |
| Process value display (output)   | Yes |
| Process value default (input) possible   | Yes |
| Recipe management  | Yes |
| <b>Configuration software</b>  |     |
| <ul style="list-style-type: none"> <li>• STEP 7 Basic (TIA Portal) No</li> <li>• STEP 7 Professional (TIA Portal) No</li> <li>• WinCC flexible Compact No</li> <li>• WinCC flexible Standard No</li> <li>• WinCC flexible Advanced No</li> <li>• WinCC Basic (TIA Portal) No</li> <li>• WinCC Comfort (TIA Portal) Yes; from V11</li> <li>• WinCC Advanced (TIA Portal) Yes; from V11</li> <li>• WinCC Professional (TIA Portal) Yes; from V11</li> </ul>  |     |
| <b>Languages</b>   |     |
| <b>Online languages</b>  |     |
| <ul style="list-style-type: none"> <li>• Number of online/runtime languages 32</li> </ul>  |     |
| <b>Project languages</b>   |     |

- Languages per project

32

## Functionality under WinCC (TIA Portal)

|  |                            |
|--|----------------------------|
| Libraries  | Yes                        |
| Applications/options   |                            |
| <ul style="list-style-type: none"> <li>• Web browser</li> </ul>  | Yes                        |
| <ul style="list-style-type: none"> <li>• Pocket Word</li> </ul>  | Yes                        |
| <ul style="list-style-type: none"> <li>• Pocket Excel</li> </ul>   | Yes                        |
| <ul style="list-style-type: none"> <li>• PDF Viewer</li> </ul>   | Yes                        |
| <ul style="list-style-type: none"> <li>• Media Player</li> </ul>   | Yes                        |
| <ul style="list-style-type: none"> <li>• SIMATIC WinCC Sm@rtServer</li> </ul>  | Yes                        |
| <ul style="list-style-type: none"> <li>• SIMATIC WinCC Audit</li> </ul>  | Yes                        |
| Number of Visual Basic Scripts   | Yes                        |
| Task planner   |                            |
| <ul style="list-style-type: none"> <li>• time-controlled</li> </ul>  | Yes                        |
| <ul style="list-style-type: none"> <li>• task-controlled</li> </ul>  | Yes                        |
| Help system  |                            |
| <ul style="list-style-type: none"> <li>• Number of characters per info text</li> </ul>   | 70                         |
| <b>Message system</b>  |                            |
| <ul style="list-style-type: none"> <li>• Number of alarm classes</li> </ul>  | 32                         |
| <ul style="list-style-type: none"> <li>• Bit messages           <ul style="list-style-type: none"> <li>— Number of bit messages</li> </ul> </li> </ul>   | 4 000                      |
| <ul style="list-style-type: none"> <li>• Analog messages           <ul style="list-style-type: none"> <li>— Number of analog messages</li> </ul> </li> </ul>   | 200                        |
| <ul style="list-style-type: none"> <li>• S7 alarm number procedure</li> </ul>  | Yes                        |
| <ul style="list-style-type: none"> <li>• System messages HMI</li> </ul>  | Yes                        |
| <ul style="list-style-type: none"> <li>• System messages, other (SIMATIC S7, Sinumerik, Simotion, etc.)</li> </ul>   | Yes                        |
| <ul style="list-style-type: none"> <li>• Number of characters per message</li> </ul>   | 80                         |
| <ul style="list-style-type: none"> <li>• Number of process values per message</li> </ul>   | 8                          |
| <ul style="list-style-type: none"> <li>• Acknowledgment groups</li> </ul>  | Yes                        |
| <ul style="list-style-type: none"> <li>• Message indicator</li> </ul>  | Yes                        |
| <ul style="list-style-type: none"> <li>• Message buffer           <ul style="list-style-type: none"> <li>— Number of entries</li> <li>— Circulating buffer</li> <li>— retentive</li> <li>— maintenance-free</li> </ul> </li> </ul> | 1 024<br>Yes<br>Yes<br>Yes |
| <b>Recipe management</b>   |                            |
| <ul style="list-style-type: none"> <li>• Number of recipes</li> </ul>  | 300                        |
| <ul style="list-style-type: none"> <li>• Data records per recipe</li> </ul>  | 500                        |
| <ul style="list-style-type: none"> <li>• Entries per data record</li> </ul>  | 1 000                      |
| <ul style="list-style-type: none"> <li>• Size of internal recipe memory</li> </ul>   | 2 Mbyte                    |

|  |       |
|--|-------|
| • Recipe memory expandable             | Yes   |
| <b>Variables</b>                       |       |
| • Number of variables per device       | 2 048 |
| • Number of variables per screen       | 400   |
| • Limit values                         | Yes   |
| • Multiplexing                         | Yes   |
| • Structures                           | Yes   |
| • Arrays                               | Yes   |
| <b>Images</b>                          |       |
| • Number of configurable images        | 500   |
| • Permanent window/default             | Yes   |
| • Global image                         | Yes   |
| • Pop-up images                        | Yes   |
| • Slide-in images                      | Yes   |
| • Image selection by PLC               | Yes   |
| • Image number in the PLC              | Yes   |
| <b>Image objects</b>                   |       |
| • Number of objects per image          | 400   |
| • Text fields                          | Yes   |
| • I/O fields                           | Yes   |
| • Graphic I/O fields (graphics list)   | Yes   |
| • Symbolic I/O fields (text list)      | Yes   |
| • Date/time fields                     | Yes   |
| • Switches                             | Yes   |
| • Buttons                              | Yes   |
| • Graphic display                      | Yes   |
| • Icons                                | Yes   |
| • Geometric objects                    | Yes   |
| <b>Complex image objects</b>           |       |
| • Number of complex objects per screen | 20    |
| • Alarm view                           | Yes   |
| • Trend view                           | Yes   |
| • User view                            | Yes   |
| • Status/control                       | Yes   |
| • Sm@rtClient view                     | Yes   |
| • Recipe view                          | Yes   |
| • f(x) trend view                      | Yes   |
| • System diagnostics view              | Yes   |
| • Media Player                         | Yes   |
| • HTML browser                         | Yes   |
| • PDF display                          | Yes   |

|  |                |
|--|----------------|
| • IP camera display                    | Yes            |
| • Bar graphs                           | Yes            |
| • Sliders                              | Yes            |
| • Pointer instruments                  | Yes            |
| • Analog/digital clock                 | Yes            |
| <b>Lists</b>                           |                |
| • Number of text lists per project     | 500            |
| • Number of entries per text list      | 500            |
| • Number of graphics lists per project | 500            |
| • Number of entries per graphics list  | 500            |
| <b>Archiving</b>                       |                |
| • Number of archives per device        | 50             |
| • Number of entries per archive        | 20 000         |
| • Message archive                      | Yes            |
| • Process value archive                | Yes            |
| • Archiving methods                    |                |
| — Sequential archive                   | Yes            |
| — Short-term archive                   | Yes            |
| • Memory location                      |                |
| — Memory card                          | Yes            |
| — USB memory                           | Yes            |
| — Ethernet                             | Yes            |
| • Data storage format                  |                |
| — CSV                                  | Yes            |
| — TXT                                  | Yes            |
| — RDB                                  | Yes            |
| <b>Security</b>                        |                |
| • Number of user groups                | 50             |
| • Number of user rights                | 32             |
| • Number of users                      | 50             |
| • Password export/import               | Yes            |
| • SIMATIC Logon                        | Yes            |
| <b>Logging through printer</b>         |                |
| • Alarms                               | Yes            |
| • Report (shift log)                   | Yes            |
| • Hardcopy                             | Yes            |
| • Electronic print to file             | Yes; pdf, html |
| <b>Character sets</b>                  |                |
| • Keyboard fonts                       |                |
| — US English                           | Yes            |
| <b>Transfer (upload/download)</b>      |                |



|  |                                    |
|--|------------------------------------|
| • MPI/PROFIBUS DP  | Yes                                |
| • USB  | Yes                                |
| • Ethernet   | Yes                                |
| • using external storage medium                          | Yes                                |
| <b>Process coupling</b>                                  |                                    |
| • S7-1200  | Yes                                |
| • S7-1500  | Yes                                |
| • S7-200   | Yes                                |
| • S7-300/400   | Yes                                |
| • LOGO!  | Yes                                |
| • WinAC  | Yes                                |
| • SINUMERIK  | Yes; with SINUMERIK option package |
| • SIMOTION   | Yes                                |
| • Allen Bradley (EtherNet/IP)                            | Yes                                |
| • Allen Bradley (DF1)                                    | Yes                                |
| • Mitsubishi (MC TCP/IP)                                 | Yes                                |
| • Mitsubishi (FX)  | Yes                                |
| • OMRON (FINS TCP)                                       | No                                 |
| • OMRON (LINK/Multilink)                                 | Yes                                |
| • Modicon (Modbus TCP/IP)                                | Yes                                |
| • Modicon (Modbus)                                       | Yes                                |
| • OPC UA Client  | Yes                                |
| • OPC UA Server  | Yes                                |
| <b>Service tools/configuration aids</b>                  |                                    |
| • Backup/Restore manually                                | Yes                                |
| • Backup/Restore automatically                           | Yes                                |
| • Simulation   | Yes                                |
| • Device switchover                                      | Yes                                |
| <b>Peripherals/Options</b>                               |                                    |
| <b>Peripherals</b>                                       |                                    |
| • Printer  | Yes                                |
| • SIMATIC HMI MM memory card: Multi Media Card           | Yes; Up to 128 MB                  |
| • SIMATIC HMI SD memory card: Secure Digital memory card | Yes; Up to 2 GB                    |
| • SIMATIC HMI CF memory card Compact Flash Card          | No                                 |
| • USB memory   | Yes                                |
| • SIMATIC IPC USB Flashdrive (USB stick)                 | Yes; Up to 16 GB                   |
| • SIMATIC HMI USB stick                                  | Yes; Up to 8 GB                    |
| • Network camera   | Yes                                |

## Mechanics/material

### Enclosure material (front)

|                   |     |
|-------------------|-----|
| • Plastic         | No  |
| • Aluminum        | Yes |
| • Stainless steel | No  |

## Dimensions

|                            |        |
|----------------------------|--------|
| Width of the housing front | 308 mm |
| Height of housing front    | 204 mm |
| Mounting cutout, width     | 281 mm |
| Mounting cutout, height    | 177 mm |
| Overall depth              | 63 mm  |

## Weights

|                          |        |
|--------------------------|--------|
| Weight without packaging | 2.2 kg |
| Weight incl. packaging   | 2.8 kg |

**last modified:** 04/28/2017