

SIMATIC HMI KTP400 COMFORT, COMFORT PANEL, TOUCH AND KEY OPERATION, 4" WIDESCREEN-TFT-DISPLAY, 16 MIL. COLORS, PROFINET INTERFACE, MPI/PROFIBUS DP INTERFACE, 4 MB USER MEMORY, WINDOWS CE 6.0, CONFIGURABLE FROM WINCC COMFORT V11



## General information

|                          |                            |
|--------------------------|----------------------------|
| Product type designation | SIMATIC HMI KTP400 Comfort |
|--------------------------|----------------------------|

## Display

|                   |            |
|-------------------|------------|
| Design of display | TFT        |
| Screen diagonal   | 4.3 in     |
| Display width     | 95 mm      |
| Display height    | 53.8 mm    |
| Number of colors  | 16 777 216 |

## Resolution (pixels)

|                               |           |
|-------------------------------|-----------|
| • Horizontal image resolution | 480 Pixel |
| • Vertical image resolution   | 272 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 | 4 |

|   |                        |
|---|------------------------|
| • Keys with LED   | Yes                    |
| • System keys   | No                     |
| • Numeric/alphabetical input  |                        |
| — Numeric keyboard  | Yes; Onscreen keyboard |
| — alphanumeric keyboard   | Yes; Onscreen keyboard |
| <b>Touch operation</b>  |                        |
| • Design as touch screen  | Yes                    |
| <b>Expansions for operator control of the process</b>                 |                        |
| • DP direct LEDs (LEDs as S7 output I/O)                              |                        |
| — F1...Fx   | 4                      |
| • Direct keys (keys as S7 input I/O)                                  |                        |
| — F1...Fx   | 4                      |
| • Direct keys (touch buttons as S7 input I/O)                         | 32                     |
| <b>Installation type/mounting</b>                                     |                        |
| Mounting position   | vertical               |
| Mounting in portrait format possible                                  | Yes                    |
| 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)                                     | 0.13 A                 |
| Starting current inrush $I^2t$  | 0.5 A <sup>2</sup> ·s  |
| <b>Power</b>  |                        |
| Active power input, typ.  | 3.1 W                  |
| <b>Processor</b>  |                        |
| Processor type  | ARM                    |
| <b>Memory</b>   |                        |
| Flash   | Yes                    |
| RAM   | Yes                    |
| Memory available for user data  | 4 Mbyte                |
| <b>Type of output</b>   |                        |
| Info LED  | No                     |
| Power LED   | No                     |
| Error LED   | No                     |
| Acoustics   |                        |

- Buzzer Yes
- Speaker No

## 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                      |
| 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                 | 1; USB 2.0             |
| • USB Mini B                             | 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 1; No switch integrated

## Protocols

|                                   |     |
|-----------------------------------|-----|
| PROFINET                          | Yes |
| Supports protocol for PROFINET IO | Yes |
| IRT                               | No  |
| MRP                               | No  |
| PROFIBUS                          | Yes |
| MPI                               | Yes |

### Protocols (Ethernet)

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

### WEB characteristics

- HTTP Yes
- HTTPS No
- HTML Yes
- XML No

|   |      |
|---|------|
| • CSS   | Yes  |
| • Active X  | No   |
| • JavaScript  | Yes  |
| • Java VM   | No   |
| <b>Further protocols</b>                                |      |
| • CAN   | No   |
| • EtherNet/IP   | Yes  |
| • MODBUS  | Yes  |
| <b>EMC</b>  |      |
| <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   |
| <b>Degree and class of protection</b>                   |      |
| IP (at the front)                                       | IP65 |
| Enclosure Type 4 at the front                           | Yes  |
| Enclosure Type 4x at the front                          | Yes  |
| IP (rear)   | IP20 |
| <b>Standards, approvals, certificates</b>               |      |
| 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  |
| <b>Ambient conditions</b>                               |      |
| <b>Ambient temperature during operation</b>             |      |

|  |   |
|--|---|
| <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</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</li> </ul>   | Yes   |
| <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)</li> <li>• STEP 7 Professional (TIA Portal)</li> <li>• WinCC flexible Compact</li> <li>• WinCC flexible Standard</li> <li>• WinCC flexible Advanced</li> <li>• WinCC Basic (TIA Portal)</li> <li>• WinCC Comfort (TIA Portal)</li> <li>• WinCC Advanced (TIA Portal)</li> <li>• WinCC Professional (TIA Portal)</li> </ul>  | <ul style="list-style-type: none"> <li>No</li> <li>No</li> <li>No</li> <li>No</li> <li>No</li> <li>No</li> <li>Yes; from V11</li> <li>Yes; from V11</li> <li>Yes; from V11</li> </ul> |
| <b>Languages</b>   |   |
| <b>Online languages</b>  |   |
| <ul style="list-style-type: none"> <li>• Number of online/runtime languages</li> </ul>   | 32  |
| <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> <li>• Pocket Word</li> <li>• Pocket Excel</li> <li>• PDF Viewer</li> <li>• Media Player</li> <li>• SIMATIC WinCC Sm@rtServer</li> <li>• SIMATIC WinCC Audit</li> </ul>  | <ul style="list-style-type: none"> <li>Yes</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> </ul>   |
| Number of Visual Basic Scripts  | Yes   |
| Task planner  |   |
| <ul style="list-style-type: none"> <li>• time-controlled</li> <li>• task-controlled</li> </ul>  | <ul style="list-style-type: none"> <li>Yes</li> <li>Yes</li> </ul>  |
| 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> <li>• Bit messages <ul style="list-style-type: none"> <li>— Number of bit messages</li> </ul> </li> <li>• Analog messages <ul style="list-style-type: none"> <li>— Number of analog messages</li> </ul> </li> <li>• S7 alarm number procedure</li> <li>• System messages HMI</li> <li>• System messages, other (SIMATIC S7, Sinumerik, Simotion, etc.)</li> <li>• Number of characters per message</li> <li>• Number of process values per message</li> <li>• Acknowledgment groups</li> <li>• Message indicator</li> <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> | <ul style="list-style-type: none"> <li>32</li> <li>2 000</li> <li>50</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> <li>80</li> <li>8</li> <li>Yes</li> <li>Yes</li> <li>256</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> </ul> |
| <b>Recipe management</b>  |   |
| <ul style="list-style-type: none"> <li>• Number of recipes</li> <li>• Data records per recipe</li> <li>• Entries per data record</li> <li>• Size of internal recipe memory</li> </ul>   | <ul style="list-style-type: none"> <li>100</li> <li>200</li> <li>200</li> <li>512 kbyte</li> </ul>  |

|  |       |
|--|-------|
| • Recipe memory expandable             | Yes   |
| <b>Variables</b>                       |       |
| • Number of variables per device       | 1 024 |
| • Number of variables per screen       | 50    |
| • 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          | 50    |
| • 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 | 5     |
| • 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                         | No    |
| • 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     | 300            |
| • Number of entries per text list      | 30             |
| • Number of graphics lists per project | 100            |
| • Number of entries per graphics list  | 30             |
| <b>Archiving</b>                       |                |
| • Number of archives per device        | 10             |
| • Number of entries per archive        | 10 000         |
| • 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         | Yes |
| • Aluminum        | No  |
| • Stainless steel | No  |

## Dimensions

|                            |        |
|----------------------------|--------|
| Width of the housing front | 140 mm |
| Height of housing front    | 116 mm |
| Mounting cutout, width     | 123 mm |
| Mounting cutout, height    | 99 mm  |
| Overall depth              | 49 mm  |

## Weights

|                          |            |
|--------------------------|------------|
| Weight without packaging | 0.6 kg     |
| Weight incl. packaging   | 0.7 kg     |
| <b>last modified:</b>    | 03/16/2017 |