



SIMATIC HMI KP400 Comfort, Comfort Panel, key operation, 4" widescreen TFT display, 16 million colors, PROFINET interface, MPI/PROFIBUS DP interface, 4 MB configuration memory, Windows CE 6.0, configurable from WinCC Comfort V11

| General information   |                              |
|---|------------------------------|
| Product type designation  | KP400 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   | 8                            |
| — Number of function keys with LEDs                                   | 8                            |
| • Keys with LED   | Yes                          |
| • System keys   | Yes                          |
| • Numeric keyboard  | Yes                          |
| • alphanumeric keyboard   | Yes; similar to mobile phone |
| Touch operation   |                              |
| • Design as touch screen  | No; without                  |
| Expansions for operator control of the process                        |                              |
| • DP direct LEDs (LEDs as S7 output I/O)                              |                              |
| — F1...Fx   | 8                            |
| • Direct keys (keys as S7 input I/O)                                  |                              |
| — F1...Fx   | 8                            |
| • Direct keys (touch buttons as S7 input I/O)                         | 0                            |
| Installation type/mounting  |                              |
| Mounting position   | vertical                     |
| Wall mounting/direct mounting   | No                           |
| Mounting in portrait format possible                                  | No                           |
| Mounting in landscape format possible                                 | Yes                          |
| maximum permissible angle of inclination without external ventilation | 35°                          |
| Supply voltage  |                              |


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| 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 <sup>2</sup> t   | 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                                   | Yes                                     |
| Power LED                                  | No                                      |
| Error LED                                  | No                                      |
| Acoustics                                  |   |
| • Buzzer                                   | Yes                                     |
| • Speaker                                  | No                                      |
| <b>Time of day</b>                         |   |
| Clock                                      |   |
| • Hardware clock (real-time)               | Yes                                     |
| • Software clock                           | Yes                                     |
| • retentive                                | Yes; Back-up duration typically 6 weeks |
| • synchronizable                           | Yes                                     |
| <b>Interfaces</b>                          |   |
| 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                                      |
| <b>Industrial Ethernet</b>                 |   |
| • Industrial Ethernet status LED           | 2                                       |
| • Number of ports of the integrated switch | 1; No switch integrated                 |
| <b>Protocols</b>                           |   |
| PROFINET                                   | Yes                                     |
| Supports protocol for PROFINET IO          | Yes                                     |
| IRT  | No                                      |
| PROFIBUS                                   | Yes                                     |
| EtherNet/IP                                | Yes                                     |
| MPI  | Yes                                     |
| <b>Protocols (Ethernet)</b>                |   |
| • TCP/IP                                   | Yes                                     |
| • DHCP                                     | Yes                                     |
| • SNMP                                     | Yes                                     |
| • DCP                                      | Yes                                     |
| • LLDP                                     | Yes                                     |
| <b>WEB characteristics</b>                 |   |
| • HTTP                                     | Yes                                     |
| • HTTPS                                    | No                                      |

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| • HTML   | Yes                |
| • XML  | No                 |
| • CSS  | Yes                |
| • Active X   | No                 |
| • JavaScript                                       | Yes                |
| • Java VM  | No                 |
| <b>Redundancy mode</b>                             |                    |
| Media redundancy                                   |                    |
| — MRP  | No                 |
| <b>Further protocols</b>                           |                    |
| • CAN  | No                 |
| • MODBUS   | Yes                |
| <b>Interrupts/diagnostics/status information</b>   |                    |
| Diagnoses  |                    |
| • Diagnostic information readable                  | Yes; S7 controller |
| <b>EMC</b>   |                    |
| Emission of radio interference acc. to EN 55 011   |                    |
| • 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               |
| IP (rear)  | IP20               |
| NEMA (front)                                       |                    |
| • Enclosure Type 4 at the front                    | Yes                |
| • Enclosure Type 4x at the front                   | Yes                |
| <b>Standards, approvals, certificates</b>          |                    |
| CE mark  | Yes                |
| cULus  | Yes                |
| RCM (formerly C-TICK)                              | Yes                |
| KC approval  | Yes                |
| Use in hazardous areas                             |                    |
| • 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                |
| Marine approval                                    |                    |
| • 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>Ambient conditions</b>                          |                    |
| Ambient temperature during operation               |                    |
| Operation (vertical installation)                  |                    |
| — For vertical installation, min.                  | 0 °C               |
| — For vertical installation, max.                  | 50 °C              |
| Operation (max. tilt angle)                        |                    |
| — At maximum tilt angle, min.                      | 0 °C               |
| — At maximum tilt angle, max.                      | 40 °C              |
| Operation (vertical installation, portrait format) |                    |
| — For vertical installation, min.                  | 0 °C               |
| — For vertical installation, max.                  | 40 °C              |
| Operation (max. tilt angle, portrait format)       |                    |
| — At maximum tilt angle, min.                      | 0 °C               |

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| — At maximum tilt angle, max.                                | 35 °C                 |
| <b>Ambient temperature during storage/transportation</b>     |                       |
| • min.   | -20 °C                |
| • max.   | 60 °C                 |
| <b>Relative humidity</b>                                     |                       |
| • Operation, max.  | 90 %; no condensation |
| <b>Operating systems</b>                                     |                       |
| proprietary  | No                    |
| <b>pre-installed operating system</b>                        |                       |
| • Windows CE   | Yes                   |
| <b>configuration / header</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>                                |                       |
| • STEP 7 Basic (TIA Portal)                                  | No                    |
| • STEP 7 Professional (TIA Portal)                           | No                    |
| • WinCC flexible Compact                                     | No                    |
| • WinCC flexible Standard                                    | No                    |
| • WinCC flexible Advanced                                    | No                    |
| • WinCC Basic (TIA Portal)                                   | No                    |
| • WinCC Comfort (TIA Portal)                                 | Yes; from V11         |
| • WinCC Advanced (TIA Portal)                                | Yes; from V11         |
| • WinCC Professional (TIA Portal)                            | Yes; from V11         |
| <b>Languages</b>   |                       |
| <b>Online languages</b>                                      |                       |
| • Number of online/runtime languages                         | 32                    |
| <b>Project languages</b>                                     |                       |
| • Languages per project                                      | 32                    |
| <b>Functionality under WinCC (TIA Portal)</b>                |                       |
| Libraries  | Yes                   |
| <b>Applications/options</b>                                  |                       |
| • Web browser  | Yes                   |
| • Pocket Word  | Yes                   |
| • Pocket Excel   | Yes                   |
| • PDF Viewer   | Yes                   |
| • Media Player   | Yes                   |
| • SIMATIC WinCC Sm@rtServer                                  | Yes                   |
| • SIMATIC WinCC Audit  | Yes                   |
| Number of Visual Basic Scripts                               | Yes                   |
| <b>Task planner</b>  |                       |
| • time-controlled  | Yes                   |
| • task-controlled  | Yes                   |
| <b>Help system</b>   |                       |
| • Number of characters per info text                         | 70                    |
| <b>Message system</b>  |                       |
| • Number of alarm classes                                    | 32                    |
| • Bit messages   | Yes                   |
| — Number of bit messages                                     | 2 000                 |
| • Analog messages  | Yes                   |
| — Number of analog messages                                  | 50                    |
| • S7 alarm number procedure                                  | Yes                   |
| • System messages HMI  | Yes                   |
| • System event, more (SIMATIC S7, SINUMERIK, SIMOTION, ... ) | Yes                   |
| • Number of characters per message                           | 80                    |
| • Number of process values per message                       | 8                     |
| • Acknowledgment groups                                      | Yes                   |

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| • Message indicator                    | Yes       |
| • Message buffer                       |           |
| — Number of entries                    | 256       |
| — Circulating buffer                   | Yes       |
| — retentive                            | Yes       |
| — maintenance-free                     | Yes       |
| <b>Recipe management</b>               |           |
| • Number of recipes                    | 100       |
| • Data records per recipe              | 200       |
| • Entries per data record              | 200       |
| • Size of internal recipe memory       | 512 kbyte |
| • 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        |

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| • 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                                |

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| • Device switchover                                    | Yes  |
| <b>Peripherals/Options</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  |
| <b>Mechanics/material</b>                              |  |
| Enclosure material (front)                             |  |
| • Plastic  | Yes  |
| • Aluminum   | No   |
| • Stainless steel                                      | No   |
| <b>Dimensions</b>                                      |  |
| Width of the housing front                             | 152 mm   |
| Height of housing front                                | 188 mm   |
| Mounting cutout, width                                 | 135 mm   |
| Mounting cutout, height                                | 171 mm   |
| Overall depth  | 49 mm  |
| <b>Weights</b>   |  |
| Weight (without packaging)                             | 0.8 kg   |
| Weight (with packaging)                                | 0.9 kg   |
| <b>last modified:</b>                                  | 1/24/2022  |