



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                                                        |                              |
| 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                                      |
| • HTML                                     | Yes                                     |
| • XML                                      | No                                      |

|                                                    |                    |
|----------------------------------------------------|--------------------|
| • CSS                                              | Yes                |
| • Active X                                         | No                 |
| • JavaScript                                       | Yes                |
| • Java VM                                          | No                 |
| Redundancy mode                                    |                    |
| Media redundancy                                   |                    |
| — MRP                                              | No                 |
| Further protocols                                  |                    |
| • CAN                                              | No                 |
| • MODBUS                                           | Yes                |
| Interrupts/diagnostics/status information          |                    |
| Diagnoses                                          |                    |
| • Diagnostic information readable                  | Yes; S7 controller |
| EMC                                                |                    |
| 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                 |
| Degree and class of protection                     |                    |
| IP (at the front)                                  | IP65               |
| IP (rear)                                          | IP20               |
| NEMA (front)                                       |                    |
| • Enclosure Type 4 at the front                    | Yes                |
| • Enclosure Type 4x at the front                   | Yes                |
| Standards, approvals, certificates                 |                    |
| 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                 |
| Ambient conditions                                 |                    |
| 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               |
| — At maximum tilt angle, max.                      | 35 °C              |
| Ambient temperature during storage/transportation  |                    |
| • min.                                             | -20 °C             |

|                                                              |                       |
|--------------------------------------------------------------|-----------------------|
| • max.                                                       | 60 °C                 |
| Relative humidity                                            |                       |
| • Operation, max.                                            | 90 %; no condensation |
| <b>Operating systems</b>                                     |                       |
| proprietary                                                  | No                    |
| pre-installed operating system                               |                       |
| • 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>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                   |
| • Message indicator                                          | 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    |
| Variables                              |        |
| • Number of variables per device       | 1 024  |
| • Number of variables per screen       | 50     |
| • Limit values                         | Yes    |
| • Multiplexing                         | Yes    |
| • Structures                           | Yes    |
| • Arrays                               | Yes    |
| Images                                 |        |
| • 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    |
| Image objects                          |        |
| • 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    |
| Complex image objects                  |        |
| • 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    |
| Lists                                  |        |
| • 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     |
| Archiving                              |        |
| • 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>                             |                                    |
| 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
- Stainless steel

No  
No

Dimensions

|                            |        |
|----------------------------|--------|
| Width of the housing front | 152 mm |
| Height of housing front    | 188 mm |
| Mounting cutout, width     | 136 mm |
| Mounting cutout, height    | 172 mm |
| Overall depth              | 48 mm  |

Weights

|                            |        |
|----------------------------|--------|
| Weight (without packaging) | 0.8 kg |
| Weight (with packaging)    | 0.9 kg |

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