



SIMATIC HMI TP700 Comfort, Comfort Panel, touch operation, 7" widescreen TFT display, 16 million colors, PROFINET interface, MPI/PROFIBUS DP interface, 12 MB configuration memory, Windows CE 6.0, configurable from WinCC Comfort V11

| General information   |                        |
|---|------------------------|
| Product type designation  | TP700 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   | 0                      |
| — Number of function keys with LEDs                                   | 0                      |
| • Keys with LED   | No                     |
| • System keys   | No                     |
| • Numeric keyboard  | Yes; Onscreen keyboard |
| • alphanumeric keyboard   | Yes; Onscreen keyboard |
| Touch operation   |                        |
| • Design as touch screen  | Yes; Analog-resistive  |
| Expansions for operator control of the process                        |                        |
| • DP direct LEDs (LEDs as S7 output I/O)                              |                        |
| — F1...Fx   | 0                      |
| • Direct keys (keys as S7 input I/O)                                  |                        |
| — F1...Fx   | 0                      |
| • Direct keys (touch buttons as S7 input I/O)                         | 32                     |
| Installation type/mounting  |                        |
| Mounting position   | vertical               |
| Wall mounting/direct mounting   | No                     |
| Mounting in portrait format possible                                  | Yes                    |
| Mounting in landscape format possible                                 | Yes                    |
| maximum permissible angle of inclination without external ventilation | 35°                    |
| Supply voltage  |                        |
| Type of supply voltage  | DC                     |

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| 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 <sup>2</sup> t   | 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                                   | No                                      |
| Power LED                                  | No                                      |
| Error LED                                  | No                                      |
| Acoustics                                  |   |
| • Buzzer                                   | No                                      |
| • Speaker                                  | Yes                                     |
| <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; 2 ports (switch)                     |
| Number of RS 485 interfaces                | 1; RS 422 / 485 combined                |
| Number of RS 422 interfaces                | 0; together with RS 485                 |
| Number of RS 232 interfaces                | 0                                       |
| Number of USB interfaces                   | 2; 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 | 2                                       |
| <b>Protocols</b>                           |   |
| PROFINET                                   | Yes                                     |
| Supports protocol for PROFINET IO          | Yes                                     |
| IRT  | Yes; As of WinCC V12                    |
| 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                                    | Yes                                     |
| • HTML                                     | Yes                                     |
| • XML                                      | Yes                                     |

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| • CSS  | Yes                                    |
| • Active X   | Yes                                    |
| • JavaScript                                       | Yes                                    |
| • Java VM  | No                                     |
| <b>Redundancy mode</b>                             |  |
| Media redundancy                                   |  |
| — MRP  | Yes; As of WinCC V12                   |
| <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; (55 °C, see entry ID: 64847814) |
| 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                                 |

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| • 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>Message system</b>  |                       |
| • Number of alarm classes                                    | 32                    |
| • Bit messages   | Yes                   |
| — Number of bit messages                                     | 4 000                 |
| • Analog messages  | Yes                   |
| — Number of analog messages                                  | 200                   |
| • 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  | 300                   |
| • Data records per recipe                                    | 500                   |
| • Entries per data record                                    | 1 000                 |
| • Size of internal recipe memory                             | 2 Mbyte               |

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| • 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    |

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|--|------------------------------------|
| — 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  | No                                 |

- Aluminum
- Stainless steel

Yes  
No

#### Dimensions

|                            |        |
|----------------------------|--------|
| Width of the housing front | 214 mm |
| Height of housing front    | 158 mm |
| Mounting cutout, width     | 197 mm |
| Mounting cutout, height    | 141 mm |
| Overall depth              | 63 mm  |

#### Weights

|                            |        |
|----------------------------|--------|
| Weight (without packaging) | 1.4 kg |
| Weight (with packaging)    | 1.6 kg |

**last modified:**

5/27/2022 