

SIMATIC HMI TP900 COMFORT, COMFORT PANEL, TOUCH OPERATION, 9" WIDESCREEN-TFT-DISPLAY, 16 MIL. COLORS, PROFINET INTERFACE, MPI/PROFIBUS DP INTERFACE, 12 MB USER MEMORY, WINDOWS CE 6.0, CONFIGURABLE FROM WINCC COMFORT V11



General information

| | |
|--------------------------|---------------------------|
| Product type designation | SIMATIC HMI TP900 Comfort |
|--------------------------|---------------------------|

Display

| | |
|-------------------|------------|
| Design of display | TFT |
| Screen diagonal | 9 in |
| Display width | 195 mm |
| Display height | 117 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 |

| | |
|---|------------------------|
| • Keys with LED | No |
| • System keys | No |
| • Numeric/alphabetical input | |
| — Numeric keyboard | Yes; Onscreen keyboard |
| — alphanumeric keyboard | Yes; Onscreen keyboard |
| Touch operation | |
| • Design as touch screen | Yes |
| 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) | 40 |
| Installation type/mounting | |
| Mounting position | vertical |
| 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 |
| Rated value (DC) | 24 V |
| permissible range, lower limit (DC) | 19.2 V |
| permissible range, upper limit (DC) | 28.8 V |
| Input current | |
| Current consumption (rated value) | 0.75 A |
| Starting current inrush I ² t | 0.5 A ² ·s |
| Power | |
| Active power input, typ. | 18 W |
| Processor | |
| Processor type | X86 |
| Memory | |
| Flash | Yes |
| RAM | Yes |
| Memory available for user data | 12 Mbyte |
| Type of output | |
| Info LED | No |
| Power LED | No |
| Error LED | No |
| Acoustics | |

- Buzzer No
- Speaker Yes

Time of day

Clock

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

Interfaces

| | |
|--|------------------------|
| Number of industrial Ethernet interfaces | 1; 2 ports (switch) |
| Number of RS 485 interfaces | 1; RS 422/485 combined |
| Number of RS 422 interfaces | 0; together with RS485 |
| Number of RS 232 interfaces | 0 |
| Number of USB interfaces | 2; USB 2.0 |
| <ul style="list-style-type: none"> • 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 2

Protocols

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

Protocols (Ethernet)

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

WEB characteristics

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

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

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

Standards, approvals, certificates

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

| | |
|------------------------------------|-----|
| 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 |

Ambient conditions

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

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

- Languages per project

32

Functionality under WinCC (TIA Portal)

| | |
|--|---------|
| Libraries | Yes |
| Applications/options | |
| • 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 |
| Task planner | |
| • time-controlled | Yes |
| • task-controlled | Yes |
| Help system | |
| • Number of characters per info text | 70 |
| Message system | |
| • Number of alarm classes | 32 |
| • Bit messages | |
| — Number of bit messages | 4 000 |
| • Analog messages | |
| — Number of analog messages | 200 |
| • S7 alarm number procedure | Yes |
| • System messages HMI | Yes |
| • System messages, other (SIMATIC S7, Sinumerik, Simotion, etc.) | Yes |
| • Number of characters per message | 80 |
| • Number of process values per message | 8 |
| • Acknowledgment groups | Yes |
| • Message indicator | Yes |
| • Message buffer | |
| — Number of entries | 1 024 |
| — Circulating buffer | Yes |
| — retentive | Yes |
| — maintenance-free | Yes |
| Recipe management | |
| • Number of recipes | 300 |
| • Data records per recipe | 500 |
| • Entries per data record | 1 000 |
| • Size of internal recipe memory | 2 Mbyte |

| | |
|--|-------|
| • Recipe memory expandable | Yes |
| Variables | |
| • Number of variables per device | 2 048 |
| • Number of variables per screen | 400 |
| • 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 | 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 |
| Complex image objects | |
| • 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 |
| Lists | |
| • 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 |
| Archiving | |
| • Number of archives per device | 50 |
| • Number of entries per archive | 20 000 |
| • Message archive | Yes |
| • Process value archive | Yes |
| • Archiving methods | |
| — Sequential archive | Yes |
| — Short-term archive | Yes |
| • Memory location | |
| — Memory card | Yes |
| — USB memory | Yes |
| — Ethernet | Yes |
| • Data storage format | |
| — CSV | Yes |
| — TXT | Yes |
| — RDB | Yes |
| Security | |
| • Number of user groups | 50 |
| • Number of user rights | 32 |
| • Number of users | 50 |
| • Password export/import | Yes |
| • SIMATIC Logon | Yes |
| Logging through printer | |
| • Alarms | Yes |
| • Report (shift log) | Yes |
| • Hardcopy | Yes |
| • Electronic print to file | Yes; pdf, html |
| Character sets | |
| • Keyboard fonts | |
| — US English | Yes |
| Transfer (upload/download) | |

| | |
|--|------------------------------------|
| • MPI/PROFIBUS DP | Yes |
| • USB | Yes |
| • Ethernet | Yes |
| • using external storage medium | Yes |
| Process coupling | |
| • 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 |
| Service tools/configuration aids | |
| • Backup/Restore manually | Yes |
| • Backup/Restore automatically | Yes |
| • Simulation | Yes |
| • Device switchover | Yes |
| Peripherals/Options | |
| Peripherals | |
| • Printer | Yes |
| • SIMATIC HMI MM memory card: Multi Media Card | Yes; Up to 128 MB |
| • SIMATIC HMI SD memory card: Secure Digital memory card | Yes; Up to 2 GB |
| • SIMATIC HMI CF memory card Compact Flash Card | No |
| • USB memory | Yes |
| • SIMATIC IPC USB Flashdrive (USB stick) | Yes; Up to 16 GB |
| • SIMATIC HMI USB stick | Yes; Up to 8 GB |
| • Network camera | Yes |

Mechanics/material

Enclosure material (front)

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

Dimensions

| | |
|----------------------------|--------|
| Width of the housing front | 274 mm |
| Height of housing front | 190 mm |
| Mounting cutout, width | 251 mm |
| Mounting cutout, height | 166 mm |
| Overall depth | 63 mm |

Weights

| | |
|--------------------------|--------|
| Weight without packaging | 1.9 kg |
| Weight incl. packaging | 2.6 kg |

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