

SIMATIC HMI TP1900 COMFORT, COMFORT PANEL, TOUCH OPERATION, 19" WIDESCREEN-TFT-DISPLAY, 16 MIL. COLORS, PROFINET INTERFACE, MPI/PROFIBUS DP INTERFACE, 24 MB USER MEMORY, WINDOWS CE 6.0, CONFIGURABLE FROM WINCC COMFORT V11 SP2



| General information | |
|--------------------------------|----------------------------|
| Product type designation | SIMATIC HMI TP1900 Comfort |
| Display | |
| Design of display | TFT |
| Screen diagonal | 18.5 in |
| Display width | 409.8 mm |
| Display height | 230.4 mm |
| Number of colors | 16 777 216 |
| Resolution (pixels) | |
| • Horizontal image resolution | 1 366 Pixel |
| • Vertical image resolution | 768 Pixel |
| Backlighting | |
| • MTBF backlighting (at 25 °C) | 50 000 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 |
| — alphanumeric keyboard | Yes |
| 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 in portrait format possible | Yes |
| Mounting in landscape format possible | Yes |
| Mounting position | vertical |
| 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) | 1.3 A |
| Starting current inrush I ² t | 0.5 A ² ·s |
| Power | |
| Power consumption, typ. | 32 W |
| Processor | |
| Processor type | X86 |
| Memory | |
| Flash | Yes |
| RAM | Yes |
| Memory available for user data | 24 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 clock) Yes
- Software clock Yes
- retentive Yes; Back-up duration typically 6 weeks
- synchronizable Yes

Interfaces

| | |
|--|--|
| Number of industrial Ethernet interfaces | 2; 2 ports (switch) + independent port |
| Number of RS 485 interfaces | 1; RS 422/485 combined |
| Number of USB interfaces | 2; USB 2.0 |
| Number of USB Mini B interfaces | 1; 5-pole |
| Number of 20 mA interfaces (TTY) | 0 |
| Number of RS 232 interfaces | 0 |
| Number of RS 422 interfaces | 0; together with RS485 |
| 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 3
- 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 |
| 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

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|---|------|
| • CSS | Yes |
| • Active X | Yes |
| • JavaScript | Yes |
| • Java VM | No |
| Further protocols | |
| • CAN | No |
| • MODBUS | Yes |
| • EtherNet/IP | 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 | |
| CE mark | Yes |
| cULus | Yes |
| RCM (formerly C-TICK) | Yes |
| KC approval | Yes |
| Marine approval | |
| • Germanischer Lloyd (GL) | No |
| • American Bureau of Shipping (ABS) | No |
| • Bureau Veritas (BV) | No |
| • Det Norske Veritas (DNV) | No |
| • Lloyds Register of Shipping (LRS) | No |
| • Nippon Kaiji Kyokai (Class NK) | No |
| • Polski Rejestr Statkow (PRS) | No |
| Use in hazardous areas | |
| • ATEX Zone 2 | No |
| • ATEX Zone 22 | No |
| • IECEx Zone 2 | No |
| • IECEx Zone 22 | No |
| • 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. 0 °C — For vertical installation, max. 45 °C • Operation (max. tilt angle) <ul style="list-style-type: none"> — At maximum tilt angle, min. 0 °C — At maximum tilt angle, min. 40 °C • Operation (vertical installation, portrait format) <ul style="list-style-type: none"> — For vertical installation, min. 0 °C — For vertical installation, max. 40 °C • Operation (max. tilt angle, portrait format) <ul style="list-style-type: none"> — At maximum tilt angle, min. 0 °C — At maximum tilt angle, min. 35 °C | |
| Ambient temperature during storage/transportation | |
| <ul style="list-style-type: none"> • min. -20 °C • max. 60 °C | |
| 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 logging system (incl. buffer and acknowledgment) | Yes |
| Process value display (output) | Yes |
| Process value default (input) possible | Yes |
| Recipe administration | 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) | <ul style="list-style-type: none"> No No No No No No Yes; V11 SP2 or higher Yes; V11 SP2 or higher Yes; V11 SP2 or higher |
| 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 | 320 |
| Message system | |
| • Number of alarm classes | 32 |
| • Bit messages | |
| — Number of bit messages | 6 000 |
| • 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 administration | |
| • Number of recipes | 500 |
| • Data records per recipe | 1 000 |
| • Entries per data record | 2 000 |

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|--|---------|
| • Size of internal recipe memory | 4 Mbyte |
| • Recipe memory expandable | Yes |
| Variables | |
| • Number of variables per device | 4 096 |
| • Number of variables per screen | 400 |
| • Limit values | Yes |
| • Multiplexing | Yes |
| • Structures | Yes |
| • Arrays | Yes |
| Images | |
| • Number of configurable images | 750 |
| • 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 | 600 |
| • 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 | 40 |
| • 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 |

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|--|----------------|
| • 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 | 50 000 |
| • 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 | No |
| 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
- Aluminum
- Stainless steel

No

Yes

No

Dimensions

Width of the housing front

483 mm

Height of housing front

337 mm

Mounting cutout, width

465 mm

Mounting cutout, height

319 mm

Overall depth

75 mm

Weights

Weight without packaging

6.5 kg

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