

SIMATIC HMI TP1900 Comfort PRO, for support arm (extendable, round pipe), neutral front, Comfort Panel, touch operation, 19" widescreen TFT display, 16 million colors, PROFINET interface, MPI/PROFIBUS DP interface, 24 MB configuration memory, WEC 2013, configurable as of WinCC V16 Update 8 or V17 update 6



| General information                                                   |                            |
|-----------------------------------------------------------------------|----------------------------|
| Product type designation                                              | TP1900 Comfort PRO         |
| 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                                                              |                            |
| • Function keys                                                       |                            |
| — Number of function keys                                             | 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; Projective-capacitive |
| Expansions for operator control of the process                        |                            |
| • Direct keys (touch buttons as S7 input I/O)                         | 40                         |
| Installation type/mounting                                            |                            |
| Mounting                                                              | Support arm                |
| Mounting position                                                     | vertical                   |
| 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                     |
| Input current                                                         |                            |

|                                            |                                           |
|--------------------------------------------|-------------------------------------------|
| Current consumption (rated value)          | 1.5 A                                     |
| Current consumption, max.                  | 1.8 A                                     |
| Starting current inrush I <sup>2</sup> t   | 0.5 A <sup>2</sup> ·s                     |
| <b>Power</b>                               |                                           |
| Active power input, typ.                   | 36 W                                      |
| <b>Processor</b>                           |                                           |
| Processor type                             | X86                                       |
| <b>Storage</b>                             |                                           |
| Flash                                      | Yes                                       |
| RAM                                        | Yes                                       |
| Memory available for user data             | 24 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>                         |                                           |
| <b>Clock</b>                               |                                           |
| • 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   | 2; 2 ports (switch) + independent port    |
| 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                                |
| 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           | 3                                         |
| • Number of ports of the integrated switch | 2                                         |
| <b>Protocols</b>                           |                                           |
| PROFINET                                   | Yes                                       |
| Supports protocol for PROFINET IO          | Yes                                       |
| IRT                                        | Yes; V16 Update 8, V17 Update 6 or higher |
| 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                                       |
| • CSS                                      | Yes                                       |
| • Active X                                 | Yes                                       |

|                                                          |                                    |
|----------------------------------------------------------|------------------------------------|
| • JavaScript                                             | Yes                                |
| • Java VM                                                | No                                 |
| <b>Redundancy mode</b>                                   |                                    |
| <b>Media redundancy</b>                                  |                                    |
| — MRP                                                    | Yes                                |
| <b>Further protocols</b>                                 |                                    |
| • CAN                                                    | No                                 |
| • MODBUS                                                 | Yes                                |
| <b>EMC</b>                                               |                                    |
| <b>Emission of radio interference acc. to EN 55 011</b>  |                                    |
| • 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)                                                | IP65                               |
| 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                                |
| FM approval                                              | Yes                                |
| RCM (formerly C-TICK)                                    | Yes                                |
| KC approval                                              | Yes                                |
| EAC (formerly Gost-R)                                    | No                                 |
| <b>Use in hazardous areas</b>                            |                                    |
| • 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                       | No                                 |
| • cULus Class II Division 2                              | No                                 |
| • FM Class I Division 2                                  | No                                 |
| • FM Class II Division 2                                 | No                                 |
| <b>Ambient conditions</b>                                |                                    |
| Suited for indoor use                                    | Yes                                |
| Suited for outdoor use                                   | No                                 |
| <b>Ambient temperature during operation</b>              |                                    |
| <b>Operation (vertical installation)</b>                 |                                    |
| — For vertical installation, min.                        | 0 °C                               |
| — For vertical installation, max.                        | 45 °C                              |
| <b>Operation (max. tilt angle)</b>                       |                                    |
| — At maximum tilt angle, min.                            | 0 °C                               |
| — At maximum tilt angle, max.                            | 40 °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; Windows Embedded Compact 2013 |
| <b>Configuration</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; V16 Update 8, V17 Update 6 or higher |
| • WinCC Advanced (TIA Portal)                               | Yes; V16 Update 8, V17 Update 6 or higher |
| • WinCC Professional (TIA Portal)                           | Yes; V16 Update 8, V17 Update 6 or higher |
| <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                        | 320                                       |
| <b>Message system</b>                                       |                                           |
| • 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 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                                       |
| • Message buffer                                            |                                           |
| — Number of entries                                         | 1 024                                     |
| — Circulating buffer                                        | Yes                                       |
| — retentive                                                 | Yes                                       |
| — maintenance-free                                          | Yes                                       |
| <b>Recipe management</b>                                    |                                           |
| • Number of recipes                                         | 500                                       |
| • Data records per recipe                                   | 1 000                                     |
| • Entries per data record                                   | 2 000                                     |
| • Size of internal recipe memory                            | 4 Mbyte                                   |
| • Recipe memory expandable                                  | Yes                                       |
| <b>Variables</b>                                            |                                           |
| • Number of variables per device                            | 4 096                                     |

|                                        |        |
|----------------------------------------|--------|
| • Number of variables per screen       | 400    |
| • Limit values                         | Yes    |
| • Multiplexing                         | Yes    |
| • Structures                           | Yes    |
| • Arrays                               | Yes    |
| <b>Images</b>                          |        |
| • 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    |
| <b>Image objects</b>                   |        |
| • 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    |
| <b>Complex image objects</b>           |        |
| • 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    |
| • 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        | 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                                                            |
| <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 as from WinCC V15 or higher |
| • SIMOTION                                             | Yes                                                            |
| • Allen Bradley (EtherNet/IP)                          | Yes                                                            |
| • Allen Bradley (DF1)                                  | Yes                                                            |
| • Mitsubishi (MC TCP/IP)                               | Yes                                                            |
| • Mitsubishi (FX)                                      | Yes                                                            |
| • OMRON (FINS TCP)                                     | No                                                             |
| • OMRON (Host Link)                                    | Yes                                                            |
| • Modicon (Modbus TCP/IP)                              | Yes                                                            |
| • Modicon (Modbus RTU)                                 | 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
- Aluminum
- Stainless steel

No

Yes

No

Dimensions

|                            |                                 |
|----------------------------|---------------------------------|
| Width of the housing front | 462 mm                          |
| Height of housing front    | 292.5 mm; Without basic adapter |
| mounting depth             | 163 mm; Without basic adapter   |

Weights

|                            |        |
|----------------------------|--------|
| Weight (without packaging) | 7.4 kg |
|----------------------------|--------|

Classifications

|  |        | Version | Classification |
|--|--------|---------|----------------|
|  | eClass | 14      | 27-33-02-01    |
|  | eClass | 12      | 27-33-02-01    |
|  | eClass | 9.1     | 27-33-02-01    |
|  | eClass | 9       | 27-33-02-01    |
|  | eClass | 8       | 27-24-23-02    |
|  | eClass | 7.1     | 27-24-23-02    |
|  | eClass | 6       | 27-24-23-02    |
|  | ETIM   | 10      | EC001412       |
|  | ETIM   | 9       | EC001412       |
|  | ETIM   | 8       | EC001412       |
|  | ETIM   | 7       | EC001412       |

Approvals / Certificates

General Product Approval

[Miscellaneous](#)

[Manufacturer Declaration](#)



|                          |                                |
|--------------------------|--------------------------------|
| General Product Approval | For use in hazardous locations |
|--------------------------|--------------------------------|



[China RoHS](#)



For use in hazardous locations



[Miscellaneous](#)

[CCC-Ex](#)

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