

SIMATIC HMI TP1900 Comfort, Comfort Panel, Touch operation, 19" widescreen TFT display, 16 million colors, PROFINET interface, MPI/PROFIBUS DP interface, 24 MB configuration memory, WEC 2013, configurable from WinCC Comfort V14 SP1 with HSP



### General information

Product type designation	TP1900 Comfort
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### 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
— 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
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#### Expansions for operator control of the process

• Direct keys (touch buttons as S7 input I/O)	40
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### 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)	1.7 A
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Starting current inrush $I^2t$	0.5 A <sup>2</sup> ·s
<b>Power</b>	
Active power input, typ.	41 W
<b>Processor</b>	
Processor type	X86
<b>Memory</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>	
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	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
Industrial Ethernet	
• 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
PROFIBUS	Yes
EtherNet/IP	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
Redundancy mode	
Media redundancy	

— MRP	Yes
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
EAC (formerly Gost-R)	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; For inscription on device rating plate
• cULus Class II Division 2	No; Available soon
• FM Class I Division 2	Yes; For inscription on device rating plate
• FM Class II Division 2	No; Available soon
Marine approval	
• Germanischer Lloyd (GL)	No
• American Bureau of Shipping (ABS)	No
• Bureau Veritas (BV)	No
• Det Norske Veritas (DNV)	No
• Korean Register of Shipping (KRS)	No
• Lloyds Register of Shipping (LRS)	No
• Nippon Kaiji Kyokai (Class NK)	No
• Polski Rejestr Statków (PRS)	No
• Chinese Classification Society (CCS)	No
Ambient conditions	
Suited for indoor use	Yes
Suited for outdoor use	No
Ambient temperature during operation	
Operation (vertical installation)	
— For vertical installation, min.	0 °C
— For vertical installation, max.	45 °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; Windows Embedded Compact 2013
<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; V14 SP1 HSP and higher
• WinCC Advanced (TIA Portal)	Yes; V14 SP1 HSP and higher
• WinCC Professional (TIA Portal)	Yes; V14 SP1 HSP and higher
<b>Languages</b>	
Online languages	
• Number of online/runtime languages	32
Project languages	
• Languages per project	32
<b>Functionality under WinCC (TIA Portal)</b>	
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
<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
<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 / for WinCC in the TIA Portal	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 (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>	
<b>Enclosure material (front)</b>	

• Plastic	No
• Aluminum	Yes
• Stainless steel	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)	5.6 kg
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**last modified:**9/7/2023 