

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

• Keys with LED	No
• System keys	No
• Numeric keyboard	Yes; Onscreen keyboard
• alphanumeric keyboard	Yes; Onscreen keyboard
<b>Touch operation</b>	
• Design as touch screen	Yes
<b>Expansions for operator control of the process</b>	
• Direct keys (touch buttons as S7 input I/O)	40
<b>Installation type/mounting</b>	
Mounting position	vertical
Mounting in portrait format possible	Yes
Mounting in landscape format possible	Yes
maximum permissible angle of inclination without external ventilation	35°
<b>Supply voltage</b>	
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
<b>Input current</b>	
Current consumption (rated value)	1.7 A
Starting current inrush I <sup>2</sup> t	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>	
<b>Clock</b>	
• Hardware clock (real-time)	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 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

## Protocols

PROFINET	Yes
Supports protocol for PROFINET IO	Yes
IRT	Yes
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
• CSS	Yes
• Active X	Yes
• JavaScript	Yes
• Java VM	No

## Further protocols

• CAN	No
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- EtherNet/IP Yes
- MODBUS Yes

### Interrupts/diagnostics/status information

#### Diagnostic messages

- 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
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
EAC (formerly Gost-R)	Yes

#### 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; 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 Statkow (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, min. 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, min. 35 °C

## Ambient temperature during storage/transportation

- min. -20 °C
- max. 60 °C

## Relative humidity

- Operation, max. 90 %; no condensation

## Operating systems

proprietary No

## pre-installed operating system

- Windows CE Yes; Windows Embedded Compact 2013

## 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

- 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

Languages	
Online languages	
• 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 management	

• 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



Character sets	
<ul style="list-style-type: none"> <li>• Keyboard fonts <ul style="list-style-type: none"> <li>— US English</li> </ul> </li> </ul>	Yes
Transfer (upload/download)	
<ul style="list-style-type: none"> <li>• MPI/PROFIBUS DP</li> <li>• USB</li> <li>• Ethernet</li> <li>• using external storage medium</li> </ul>	Yes Yes Yes Yes
Process coupling	
<ul style="list-style-type: none"> <li>• S7-1200</li> <li>• S7-1500</li> <li>• S7-200</li> <li>• S7-300/400</li> <li>• LOGO!</li> <li>• WinAC</li> <li>• SINUMERIK</li> <li>• SIMOTION</li> <li>• Allen Bradley (EtherNet/IP)</li> <li>• Allen Bradley (DF1)</li> <li>• Mitsubishi (MC TCP/IP)</li> <li>• Mitsubishi (FX)</li> <li>• OMRON (FINS TCP)</li> <li>• OMRON (LINK/Multilink)</li> <li>• Modicon (Modbus TCP/IP)</li> <li>• Modicon (Modbus)</li> <li>• OPC UA Client</li> <li>• OPC UA Server</li> </ul>	Yes Yes Yes Yes Yes Yes Yes; With SINUMERIK option package as from WinCC V15 or higher Yes Yes Yes Yes No Yes Yes Yes Yes Yes
Service tools/configuration aids	
<ul style="list-style-type: none"> <li>• Backup/Restore manually</li> <li>• Backup/Restore automatically</li> <li>• Simulation</li> <li>• Device switchover</li> </ul>	Yes Yes Yes Yes
Peripherals/Options	
<b>Peripherals</b> <ul style="list-style-type: none"> <li>• Printer</li> <li>• SIMATIC HMI MM memory card: Multi Media Card</li> <li>• SIMATIC HMI SD memory card: Secure Digital memory card</li> <li>• SIMATIC HMI CF memory card Compact Flash Card</li> </ul>	Yes Yes; Up to 128 MB Yes; Up to 2 GB 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	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:** 09/21/2018