

SIMATIC HMI TP1900 Comfort Pro, support arm, 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 from WinCC Comfort V14 SP1 with HSP

### General information

Product type designation	TP1900 Comfort PRO
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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

- |                         |                        |
|-------------------------|------------------------|
| • 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
maximum permissible angle of inclination without external ventilation	35°

### Supply voltage

Type of supply voltage	DC
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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
Starting current inrush I <sup>2</sup> t	0.5 A <sup>2</sup> ·s

### Power

Active power input, typ.	36 W
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### Processor

Processor type	X86
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### 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)	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
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

## Redundancy mode

- MRP Yes

## Further protocols

- CAN No
- 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
IP (rear)	IP65
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	No; Available soon
EAC (formerly Gost-R)	No; Available soon

### Ambient conditions

Suited for indoor use	Yes
Suited for outdoor use	No

### Ambient temperature during operation

<ul style="list-style-type: none"> <li>• Operation (vertical installation)           <ul style="list-style-type: none"> <li>— For vertical installation, min.</li> <li>— For vertical installation, max.</li> </ul> </li> <li>• Operation (max. tilt angle)           <ul style="list-style-type: none"> <li>— At maximum tilt angle, min.</li> <li>— At maximum tilt angle, min.</li> </ul> </li> </ul>	<p>0 °C</p> <p>45 °C</p> <p>0 °C</p> <p>40 °C</p>
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### Ambient temperature during storage/transportation

<ul style="list-style-type: none"> <li>• min.</li> <li>• max.</li> </ul>	<p>-20 °C</p> <p>60 °C</p>
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### Relative humidity

<ul style="list-style-type: none"> <li>• Operation, max.</li> </ul>	90 %; no condensation
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### Operating systems

proprietary	No
pre-installed operating system	
<ul style="list-style-type: none"> <li>• Windows CE</li> </ul>	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

<ul style="list-style-type: none"> <li>• STEP 7 Basic (TIA Portal)</li> <li>• STEP 7 Professional (TIA Portal)</li> <li>• WinCC flexible Compact</li> <li>• WinCC flexible Standard</li> <li>• WinCC flexible Advanced</li> <li>• WinCC Basic (TIA Portal)</li> <li>• WinCC Comfort (TIA Portal)</li> <li>• WinCC Advanced (TIA Portal)</li> </ul>	<p>No</p> <p>No</p> <p>No</p> <p>No</p> <p>No</p> <p>No</p> <p>Yes; V14 SP1 HSP and higher</p> <p>Yes; V14 SP1 HSP and higher</p>
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- 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
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
• 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 (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>	
Enclosure material (front)	
• Plastic	No
• Aluminum	Yes
• Stainless steel	No
<b>Dimensions</b>	
Width of the housing front	462 mm
Height of housing front	296 mm; Without basic adapter
Overall depth	101 mm; Without basic adapter
<b>Weights</b>	
Weight without packaging	7.4 kg
<b>last modified:</b>	03/26/2020