

SIMATIC HMI TP900 COMFORT, COMFORT PANEL, TOUCH OPERATION, 9" WIDESCREEN-TFT-DISPLAY, 16 MIL. COLORS, PROFINET INTERFACE, MPI/PROFIBUS DP INTERFACE, 12 MB USER MEMORY, WINDOWS CE 6.0, CONFIGURABLE FROM WINCC COMFORT V11



General information	
Product type designation	SIMATIC HMI TP900 Comfort
Display	
Design of display	TFT
Screen diagonal	9 in
Display width	195 mm
Display height	117 mm
Number of colors	16 777 216
Resolution (pixels)	
• Horizontal image resolution	800 Pixel
• Vertical image resolution	480 Pixel
Backlighting	
• MTBF backlighting (at 25 °C)	80 000 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; 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>	
• 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
<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)	0.75 A
Starting current inrush I <sup>2</sup> t	0.5 A <sup>2</sup> ·s
<b>Power</b>	
Active power input, typ.	18 W
<b>Processor</b>	
Processor type	X86
<b>Memory</b>	
Flash	Yes
RAM	Yes
Memory available for user data	12 Mbyte
<b>Type of output</b>	
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	1; 2 ports (switch)
Number of RS 485 interfaces	1; RS 422/485 combined
Number of RS 422 interfaces	0; together with RS485
Number of RS 232 interfaces	0
Number of USB interfaces	2; USB 2.0
• USB Mini B	1; 5-pole
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	2
• 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; As of WinCC V12
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
<b>Further protocols</b>	
• CAN	No
• EtherNet/IP	Yes
• MODBUS	Yes

## EMC

<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

## 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)	Yes
• American Bureau of Shipping (ABS)	Yes
• Bureau Veritas (BV)	Yes
• Det Norske Veritas (DNV)	Yes
• Lloyds Register of Shipping (LRS)	Yes
• Nippon Kaiji Kyokai (Class NK)	Yes
• Polski Rejestr Statkow (PRS)	No

## 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
• FM Class I Division 2	Yes

## Ambient conditions

Ambient temperature during operation	
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<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> <li>• Operation (vertical installation, portrait format) <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, portrait format) <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>50 °C; (55 °C, see entry ID:64847814)</p> <p>0 °C</p> <p>40 °C</p> <p>0 °C</p> <p>40 °C</p> <p>0 °C</p> <p>35 °C</p>
<b>Ambient temperature during storage/transportation</b>	
<ul style="list-style-type: none"> <li>• min.</li> <li>• max.</li> </ul>	<p>-20 °C</p> <p>60 °C</p>
<b>Relative humidity</b>	
<ul style="list-style-type: none"> <li>• Operation, max.</li> </ul>	90 %; no condensation
<b>Operating systems</b>	
proprietary	No
<b>pre-installed operating system</b>	
<ul style="list-style-type: none"> <li>• Windows CE</li> </ul>	Yes
<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>	
<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> <li>• WinCC Professional (TIA Portal)</li> </ul>	<p>No</p> <p>No</p> <p>No</p> <p>No</p> <p>No</p> <p>No</p> <p>Yes; from V11</p> <p>Yes; from V11</p> <p>Yes; from V11</p>
<b>Languages</b>	
<b>Online languages</b>	
<ul style="list-style-type: none"> <li>• Number of online/runtime languages</li> </ul>	32
<b>Project languages</b>	

- Languages per project

32

## Functionality under WinCC (TIA Portal)

Libraries	Yes
Applications/options	
<ul style="list-style-type: none"> <li>• Web browser</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Pocket Word</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Pocket Excel</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• PDF Viewer</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Media Player</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• SIMATIC WinCC Sm@rtServer</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• SIMATIC WinCC Audit</li> </ul>	Yes
Number of Visual Basic Scripts	Yes
Task planner	
<ul style="list-style-type: none"> <li>• time-controlled</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• task-controlled</li> </ul>	Yes
Help system	
<ul style="list-style-type: none"> <li>• Number of characters per info text</li> </ul>	70
<b>Message system</b>	
<ul style="list-style-type: none"> <li>• Number of alarm classes</li> </ul>	32
<ul style="list-style-type: none"> <li>• Bit messages <ul style="list-style-type: none"> <li>— Number of bit messages</li> </ul> </li> </ul>	4 000
<ul style="list-style-type: none"> <li>• Analog messages <ul style="list-style-type: none"> <li>— Number of analog messages</li> </ul> </li> </ul>	200
<ul style="list-style-type: none"> <li>• S7 alarm number procedure</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• System messages HMI</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• System messages, other (SIMATIC S7, Sinumerik, Simotion, etc.)</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Number of characters per message</li> </ul>	80
<ul style="list-style-type: none"> <li>• Number of process values per message</li> </ul>	8
<ul style="list-style-type: none"> <li>• Acknowledgment groups</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Message indicator</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Message buffer <ul style="list-style-type: none"> <li>— Number of entries</li> <li>— Circulating buffer</li> <li>— retentive</li> <li>— maintenance-free</li> </ul> </li> </ul>	1 024 Yes Yes Yes
<b>Recipe management</b>	
<ul style="list-style-type: none"> <li>• Number of recipes</li> </ul>	300
<ul style="list-style-type: none"> <li>• Data records per recipe</li> </ul>	500
<ul style="list-style-type: none"> <li>• Entries per data record</li> </ul>	1 000
<ul style="list-style-type: none"> <li>• Size of internal recipe memory</li> </ul>	2 Mbyte

• Recipe memory expandable	Yes
<b>Variables</b>	
• Number of variables per device	2 048
• Number of variables per screen	400
• Limit values	Yes
• Multiplexing	Yes
• Structures	Yes
• Arrays	Yes
<b>Images</b>	
• Number of configurable images	500
• 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	400
• 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	20
• 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	20 000
• 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
• 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>	
<b>Peripherals</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

## Mechanics/material

### Enclosure material (front)

- |                   |     |
|-------------------|-----|
| • Plastic         | No  |
| • Aluminum        | Yes |
| • Stainless steel | No  |

## Dimensions

Width of the housing front	274 mm
Height of housing front	190 mm
Mounting cutout, width	251 mm
Mounting cutout, height	166 mm
Overall depth	63 mm

## Weights

Weight without packaging	1.9 kg
Weight incl. packaging	2.6 kg

**last modified:** 04/28/2017