

SIMATIC HMI TP900 Comfort, Comfort Panel, touch operation, 9" widescreen TFT display, 16 million colors, PROFINET interface, MPI/PROFIBUS DP interface, 12 MB configuration memory, Windows CE 6.0, configurable from WinCC Comfort V11



General information	
Product type designation	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
— 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
Expansions for operator control of the process	
• 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
Installation type/mounting	
Mounting position	vertical
Wall mounting/direct mounting	No
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)	0.75 A
Starting current inrush I <sup>2</sup> t	0.5 A <sup>2</sup> ·s
Power	
Active power input, typ.	18 W
Processor	
Processor type	X86
Memory	
Flash	Yes
RAM	Yes
Memory available for user data	12 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	1; 2 ports (switch)
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
• 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
PROFIBUS	Yes
EtherNet/IP	Yes
MPI	Yes
Protocols (Ethernet)	
• 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; As of WinCC V12
<b>Further protocols</b>	
• CAN	No
• MODBUS	Yes
<b>Interrupts/diagnostics/status information</b>	
<b>Diagnoses</b>	
• Diagnostic information readable	Yes; S7 controller
<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)	IP20
<b>NEMA (front)</b>	
• Enclosure Type 4 at the front	Yes
• Enclosure Type 4x at the front	Yes
<b>Standards, approvals, certificates</b>	
CE mark	Yes
cULus	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
<b>Use in hazardous areas</b>	
• 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
<b>Marine approval</b>	
• 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
<b>Ambient conditions</b>	
<b>Ambient temperature during operation</b>	
<b>Operation (vertical installation)</b>	
— For vertical installation, min.	0 °C
— For vertical installation, max.	50 °C; (55 °C, see entry ID: 64847814)
<b>Operation (max. tilt angle)</b>	
— At maximum tilt angle, min.	0 °C
— At maximum tilt angle, min.	40 °C
<b>Operation (vertical installation, portrait format)</b>	

— For vertical installation, min.	0 °C
— For vertical installation, max.	40 °C
<b>Operation (max. tilt angle, portrait format)</b>	
— At maximum tilt angle, min.	0 °C
— At maximum tilt angle, min.	35 °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
<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; from V11
• WinCC Advanced (TIA Portal)	Yes; from V11
• WinCC Professional (TIA Portal)	Yes; from V11
<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>Message system</b>	
• Number of alarm classes	32
• Bit messages	Yes
— Number of bit messages	4 000
• Analog messages	Yes
— Number of analog messages	200
• S7 alarm number procedure	Yes
• System messages HMI	Yes
• System event, more (SIMATIC S7, SINUMERIK,	Yes

SIMOTION, ... )	
• 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	300
• Data records per recipe	500
• Entries per data record	1 000
• Size of internal recipe memory	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

#### Peripherals/Options

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)	
<ul style="list-style-type: none"> <li>• Plastic</li> </ul>	No
<ul style="list-style-type: none"> <li>• Aluminum</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Stainless steel</li> </ul>	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 (with packaging)	2.6 kg

**last modified:** 3/2/2021 