

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



Product type designation	
<b>Display</b>	
Design of display	TFT
Screen diagonal	9 in
Display width	195 mm
Display height	117 mm
Number of colors	16 777 216
<b>Resolution (pixels)</b>	
• Horizontal image resolution	800
• Vertical image resolution	480
<b>Backlighting</b>	
• MTBF backlighting (at 25 °C)	80 000 h
• Dimmable backlight	Yes; 0-100 %
<b>Control elements</b>	
<b>Keyboard</b>	
• 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

### 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 in portrait format possible	Yes
Mounting in landscape format possible	Yes
Mounting position	vertical
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

Power consumption, typ.	18 W
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### Processor

Processor type	X86
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### Memory

Flash	Yes
RAM	Yes
Usable memory 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 clock)	Yes
• Software clock	No
• Battery-backed	Yes; Back-up duration typically 6 weeks

- Synchronizable

Yes

## Interfaces

Number of RS 485 interfaces	1; RS 422/485 combined
Number of USB interfaces	2; USB 2.0
Number of USB Mini B interfaces	1; 5-pole
Number of 20 mA interfaces (TTY)	0
Number of RS 232 interfaces	0
Number of RS 422 interfaces	1
Number of parallel interfaces	0
Number of other interfaces	0
Number of SD card slots	2
With software interfaces	No

## Industrial Ethernet

- Number of industrial Ethernet interfaces 2
- Industrial Ethernet status LED 2
- Number of ports of the integrated switch 2

## Protocols

PROFINET	Yes
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 No
- HTML Yes
- XML No
- CSS Yes
- Active X No
- JavaScript Yes
- Java VM No

## Further protocols

- CAN No
- MODBUS Yes

- Supports protocol for EtherNet/IP

Yes

## EMC

### Emission of radio interference acc. to EN 55 011

- Limit class A, for use in industrial areas
- Limit class B, for use in residential areas

Yes

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

KC approval Yes

cULus Yes

RCM (formerly C-TICK) 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 in operation

- Operation (vertical installation)
  - For vertical installation, min. 0 °C
  - For vertical installation, max. 50 °C; (55 °C, see entry ID:64847814)
- 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
<b>Storage/transport temperature</b>	
• Min.	-20 °C
• max.	60 °C
<b>Relative humidity</b>	
• Operation, max.	90 %
<b>Operating systems</b>	
Pre-installed operating system	
• Windows CE	Yes
proprietary	No
<b>Configuration</b>	
Message indicator	Yes
Alarm logging system (incl. buffer and acknowledgment)	Yes
Process value display (output)	Yes
Process value default (input) possible	Yes
Recipe administration	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>Languages</b>	
• Languages per project	32
• Languages	
— D	Yes
— GB	Yes
— F	Yes
— I	Yes

— E	Yes
— Chinese traditional	Yes
— Chinese simplified	Yes
— DK	Yes
— FIN	Yes
— GR	Yes
— J	Yes
— KP / ROK	Yes
— NL	Yes
— N	Yes
— PL	Yes
— P	Yes
— RUS	Yes
— S	Yes
— CZ	Yes
— SK	Yes
— TR	Yes
— H	Yes

#### Functionality under WinCC (TIA Portal)

Libraries	Yes
Applications/options	
• Internet Explorer	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	70
Message system	
• Number of alarm classes	32
• 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
<b>Recipe administration</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
• Structs	Yes
• Arrays	Yes
<b>Images</b>	
• Number of configurable images	500
• Permanent window/default	Yes
• Global image	Yes
• Start screen configurable	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 view	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
• 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



Logging through printer	
• Alarms	Yes
• Report (shift log)	Yes
• Hardcopy	Yes
• Electronic print to file	Yes; pdf, html
Character sets	
• Keyboard	
— US American (English)	Yes
• Character sets	
— Tahoma	Yes
— Arial	Yes
— Courier New	Yes
— WinCC flexible Standard	Yes
— Ideographic languages	Yes
• Font size freely scalable	Yes
• Additional character sets can be loaded	Yes
Transfer (upload/download)	
• MPI/PROFIBUS DP	Yes
• USB	Yes
• Ethernet	Yes
• using external storage medium	No
Process coupling	
• S7-1200	Yes
• S7-1500	Yes
• S7-200	Yes
• S7-300/400	Yes
• LOGO!	Yes
• Win AC	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
Service tools/configuration aids	

• Clean screen	Yes
• Touch calibration	Yes
• Backup/restore	Yes
• Backup/Restore automatically	Yes
• Simulation	Yes
• Device switchover	Yes
• Delta transfer	Yes

#### I/O / Options

I/O devices	
• Printer	Yes
• MultiMediaCard	Yes
• SD card	Yes
• USB memory	Yes
• Network camera	Yes

#### Mechanics/material

Type of housing (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
Device depth	63 mm

#### Weights

Without packaging	1.9 kg
With packaging	2.6 kg

**last modified:** 12.03.2015