

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

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 |
| • Vertical image resolution | 480 |

Backlighting

- | | |
|--------------------------------|--------------|
| • MTBF backlighting (at 25 °C) | 80 000 h |
| • Dimmable backlight | Yes; 0-100 % |

Control elements

Keyboard

- | | |
|------------------------------|------------------------|
| • 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 |

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 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
Inrush current A ² s	0.5 A ² 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)
 - in vertical mounting position, minimum 0 °C
 - in vertical mounting position, maximum 50 °C; (55 °C, see entry ID:64847814)
- Operation (max. tilt angle)
 - at maximum tilt angle, minimum 0 °C
 - at maximum tilt angle, maximum 40 °C
- Operation (vertical installation, portrait format)

— in vertical mounting position, minimum	0 °C
— in vertical mounting position, maximum	40 °C
• Operation (max. tilt angle, portrait format)	
— at maximum tilt angle, minimum	0 °C
— at maximum tilt angle, maximum	35 °C

Storage/transport temperature	
• Min.	-20 °C
• max.	60 °C

Relative humidity	
• Operation, max.	90 %

Operating systems

Pre-installed operating system	
• Windows CE	Yes
proprietary	No

Configuration

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

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; from V11
• WinCC Advanced (TIA Portal)	Yes; from V11
• WinCC Professional (TIA Portal)	Yes; from V11

Languages

Online languages	
• Number of online/runtime languages	32

Languages	
• 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
Recipe administration	
• 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
Variables	
• Number of variables per device	2 048
• Number of variables per screen	400
• Limit values	Yes
• Multiplexing	Yes
• Structs	Yes
• Arrays	Yes
Images	
• 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
Image objects	
• 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
Complex image objects	

• 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
Lists	
• 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
Archiving	
• 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
Security	
• 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
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