

SIMATIC HMI TP1900 COMFORT, COMFORT PANEL, TOUCH OPERATION, 19" WIDESCREEN-TFT-DISPLAY, 16 MIL. COLORS, PROFINET INTERFACE, MPI/PROFIBUS DP INTERFACE, 24 MB USER MEMORY, WINDOWS CE 6.0, CONFIGURABLE FROM WINCC COMFORT V11 SP2



General information

Product type designation	SIMATIC HMI TP1900 Comfort
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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

- | | |
|---------------------------|---|
| • Function keys | |
| — Number of function keys | 0 |

• Keys with LED	No
• System keys	No
• Numeric/alphabetical input	
— Numeric keyboard	Yes
— alphanumeric keyboard	Yes
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)	1.3 A
Starting current inrush I ² t	0.5 A ² ·s
Power	
Power consumption, typ.	32 W
Processor	
Processor type	X86
Memory	
Flash	Yes
RAM	Yes
nutzbarer Speicher für Anwenderdaten	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 clock) Yes
- Software clock Yes
- retentive 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	0; together with RS485
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; 2 ports (switch) + independent port
- Industrial Ethernet status LED 3
- 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
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
Further protocols	
• CAN	No
• MODBUS	Yes
• EtherNet/IP	Yes

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

Use in hazardous areas	
• ATEX Zone 2	No
• ATEX Zone 22	No
• IECEx Zone 2	No
• IECEx Zone 22	No
• 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

<ul style="list-style-type: none"> • Operation (vertical installation) <ul style="list-style-type: none"> — For vertical installation, min. 0 °C — For vertical installation, max. 45 °C • Operation (max. tilt angle) <ul style="list-style-type: none"> — At maximum tilt angle, min. 0 °C — At maximum tilt angle, min. 40 °C • Operation (vertical installation, portrait format) <ul style="list-style-type: none"> — For vertical installation, min. 0 °C — For vertical installation, max. 40 °C • Operation (max. tilt angle, portrait format) <ul style="list-style-type: none"> — At maximum tilt angle, min. 0 °C — At maximum tilt angle, min. 35 °C 	
Ambient temperature during storage/transportation	
<ul style="list-style-type: none"> • min. -20 °C • max. 60 °C 	
Relative humidity	
<ul style="list-style-type: none"> • Operation, max. 90 %; no condensation 	
Operating systems	
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	
<ul style="list-style-type: none"> • 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; V11 SP2 or higher • WinCC Advanced (TIA Portal) Yes; V11 SP2 or higher • WinCC Professional (TIA Portal) Yes; V11 SP2 or higher 	
Languages	
Online languages	
<ul style="list-style-type: none"> • Number of online/runtime languages 32 	
Project languages	
<ul style="list-style-type: none"> • Languages per project 32 	

• Project 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	
• 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 administration	
• 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
• Start screen configurable	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
• 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	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
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 fonts	
— US English	Yes
• Fonts	
— Tahoma	Yes
— Arial	Yes
— Courier New	Yes
— WinCC Standard	Yes
— Ideographic languages	Yes
• Font size freely scalable	Yes
• additional character sets loadable	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
• 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

Service tools/configuration aids

- Clean screen Yes
- Touch calibration Yes
- Backup/Restore manually Yes
- Backup/Restore automatically Yes
- Simulation Yes
- Device switchover Yes
- Delta transfer Yes

Peripherals/Options

Peripherals

- Printer Yes
- Multimedia Card Yes
- SD card Yes
- USB memory Yes
- Network camera Yes

Mechanics/material

Material des Gehäuses (frontseitig)

- Plastic No
- Aluminum Yes
- Stainless steel No

Dimensions

Width of the housing front	483 mm
Height of housing front	337 mm
Mounting cutout, width	465 mm
Mounting cutout, height	319 mm
Overall depth	75 mm

Weights

Weight without packaging	6.5 kg
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last modified: 14.08.2015