

SIMATIC HMI TP700 COMFORT OUTDOOR, COMFORT PANEL, TOUCH OPERATION, 7" WIDESCREEN-TFT-DISPLAY, 16 MIL. COLORS, PROFINET INTERFACE, MPI/PROFIBUS DP INTERFACE, 12 MB USER MEMORY, WINDOWS CE 6.0, CONFIGURABLE FROM WINCC COMFORT V13 SP1, HSP



General information

Product type designation	SIMATIC HMI TP700 Comfort Outdoor
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Display

Design of display	TFT
Screen diagonal	7 in
Display width	152.4 mm
Display height	91.4 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)	50 000 h
• Backlight dimmable	Yes; LED, can be dimmed manually or automatically

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
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)	32
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)	0.7 A
Starting current inrush I ² t	0.5 A ² ·s
Power	
Power consumption, typ.	17 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	
<ul style="list-style-type: none"> • retentive 	Yes; Back-up duration typically 6 weeks
<ul style="list-style-type: none"> • synchronizable 	Yes
Interfaces	
Number of industrial Ethernet interfaces	2
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	
<ul style="list-style-type: none"> • Industrial Ethernet status LED 	2
<ul style="list-style-type: none"> • Number of ports of the integrated switch 	2
Protocols	
PROFINET	Yes
Supports protocol for PROFINET IO	Yes
IRT	Yes; WinCC V13 SP1 HSP or higher
MRP	Yes; WinCC V13 SP1 HSP or higher
PROFIBUS	Yes
MPI	Yes
Protocols (Ethernet)	
<ul style="list-style-type: none"> • TCP/IP 	Yes
<ul style="list-style-type: none"> • DHCP 	Yes
<ul style="list-style-type: none"> • SNMP 	Yes
<ul style="list-style-type: none"> • DCP 	Yes
<ul style="list-style-type: none"> • LLDP 	Yes
WEB characteristics	
<ul style="list-style-type: none"> • HTTP 	Yes
<ul style="list-style-type: none"> • HTTPS 	No
<ul style="list-style-type: none"> • HTML 	Yes
<ul style="list-style-type: none"> • XML 	No
<ul style="list-style-type: none"> • CSS 	Yes
<ul style="list-style-type: none"> • Active X 	No
<ul style="list-style-type: none"> • JavaScript 	Yes
<ul style="list-style-type: none"> • 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)	IP66
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; Available soon
• American Bureau of Shipping (ABS)	Yes; Available soon
• Bureau Veritas (BV)	Yes; Available soon
• Det Norske Veritas (DNV)	Yes; Available soon
• Lloyds Register of Shipping (LRS)	Yes; Available soon
• Nippon Kaiji Kyokai (Class NK)	Yes; Available soon
• Polski Rejestr Statkow (PRS)	Yes; Available soon
• Compass working clearance	5 m
Use in hazardous areas	
• ATEX Zone 2	Yes; Available soon
• ATEX Zone 22	Yes; Available soon
• IECEx Zone 2	Yes; Available soon
• IECEx Zone 22	Yes; Available soon
• cULus Class I Zone 1	No
• cULus Class I Zone 2, Division 2	Yes; Available soon
• FM Class I Division 2	Yes; Available soon
Ambient conditions	
Ambient temperature during operation	
• Operation (vertical installation)	
— For vertical installation, min.	-30 °C
— For vertical installation, max.	60 °C; (55 °C, see entry ID:64847814)

<ul style="list-style-type: none"> • Operation (max. tilt angle) <ul style="list-style-type: none"> — At maximum tilt angle, min. -30 °C — At maximum tilt angle, min. 50 °C • Operation (vertical installation, portrait format) <ul style="list-style-type: none"> — For vertical installation, min. -30 °C — For vertical installation, max. 50 °C • Operation (max. tilt angle, portrait format) <ul style="list-style-type: none"> — At maximum tilt angle, min. -30 °C — At maximum tilt angle, min. 45 °C 	
Ambient temperature during storage/transportation	
<ul style="list-style-type: none"> • min. -30 °C • max. 70 °C 	
Air pressure acc. to IEC 60068-2-13	
<ul style="list-style-type: none"> • Installation altitude above sea level, max. 3 000 m 	
Relative humidity	
<ul style="list-style-type: none"> • Operation, max. 90 %; no condensation 	
Operating systems	
proprietary	No
pre-installed operating system	
<ul style="list-style-type: none"> • Windows CE 	Yes
Configuration	
Message indicator	Yes
Alarm logging system (incl. buffer and acknowledgment)	Yes
Process value display (output)	Yes
Process value default (input) possible	Yes
Configuration software	
<ul style="list-style-type: none"> • STEP 7 Basic (TIA Portal) • STEP 7 Professional (TIA Portal) • WinCC flexible Compact • WinCC flexible Standard • WinCC flexible Advanced • WinCC Basic (TIA Portal) • WinCC Comfort (TIA Portal) • WinCC Advanced (TIA Portal) • WinCC Professional (TIA Portal) 	<ul style="list-style-type: none"> No No No No No No Yes; WinCC V13 SP1 Update 7 + HSP or higher Yes; WinCC V13 SP1 Update 7 + HSP or higher Yes; WinCC V13 SP1 Update 7 + HSP 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

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	70
Message system	
• Number of alarm classes	32
• Bit messages	
— Number of bit messages	4 000
• 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	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
• Structures	Yes
• Arrays	Yes
Images	
• Number of configurable images	500
• Permanent window/default	Yes
• Global image	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 display	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 fonts	
— US English	Yes
Transfer (upload/download)	
• MPI/PROFIBUS DP	Yes
• USB	Yes
• Ethernet	Yes
• using external storage medium	Yes; Backup/restore
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

- Backup/Restore manually Yes
- Backup/Restore automatically Yes
- Simulation Yes
- Device switchover Yes

Peripherals/Options

Peripherals

- Printer Yes
- SIMATIC HMI MM memory card: Multi Media Card Yes
- SIMATIC HMI SD memory card: Secure Digital memory card Yes
- SIMATIC HMI CF memory card Compact Flash Card No
- USB memory Yes
- SIMATIC IPC USB Flashdrive (USB stick) Yes
- SIMATIC HMI USB stick Yes
- Network camera Yes

Mechanics/material

Enclosure material (front)

- Plastic No
- Aluminum Yes; Powder-coated, UV resistant
- Stainless steel No

Dimensions

Width of the housing front	214 mm
Height of housing front	158 mm
Mounting cutout, width	197 mm
Mounting cutout, height	141 mm
Overall depth	67 mm

Weights

Weight without packaging	1.5 kg
Weight incl. packaging	1.7 kg

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