

SIMATIC HMI TP700 COMFORT, 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 V11



## General information

Product type designation	SIMATIC HMI TP700 Comfort
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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) | 80 000 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; Onscreen keyboard
— alphanumeric keyboard	Yes; Onscreen keyboard
<b>Touch operation</b>	
• Design as touch screen	Yes
<b>Expansions for operator control of the process</b>	
• 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
<b>Installation type/mounting</b>	
Mounting position	vertical
Mounting in portrait format possible	Yes
Mounting in landscape format possible	Yes
maximum permissible angle of inclination without external ventilation	35°
<b>Supply voltage</b>	
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
<b>Input current</b>	
Current consumption (rated value)	0.5 A
Starting current inrush I <sup>2</sup> t	0.5 A <sup>2</sup> ·s
<b>Power</b>	
Active power input, typ.	12 W
<b>Processor</b>	
Processor type	X86
<b>Memory</b>	
Flash	Yes
RAM	Yes
Memory available for user data	12 Mbyte
<b>Type of output</b>	
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 RS485
Number of RS 232 interfaces	0
Number of USB interfaces	2; USB 2.0
<ul style="list-style-type: none"> <li>• USB Mini B</li> </ul>	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
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 Yes
- HTML Yes
- XML Yes

• CSS	Yes
• Active X	Yes
• JavaScript	Yes
• Java VM	No
<b>Further protocols</b>	
• CAN	No
• EtherNet/IP	Yes
• MODBUS	Yes

## EMC

<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

## 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

<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>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

## Ambient conditions

Ambient temperature during operation
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<ul style="list-style-type: none"> <li>• Operation (vertical installation) <ul style="list-style-type: none"> <li>— For vertical installation, min. 0 °C</li> <li>— For vertical installation, max. 50 °C; (55 °C, see entry ID:64847814)</li> </ul> </li> <li>• Operation (max. tilt angle) <ul style="list-style-type: none"> <li>— At maximum tilt angle, min. 0 °C</li> <li>— At maximum tilt angle, min. 40 °C</li> </ul> </li> <li>• Operation (vertical installation, portrait format) <ul style="list-style-type: none"> <li>— For vertical installation, min. 0 °C</li> <li>— For vertical installation, max. 40 °C</li> </ul> </li> <li>• Operation (max. tilt angle, portrait format) <ul style="list-style-type: none"> <li>— At maximum tilt angle, min. 0 °C</li> <li>— At maximum tilt angle, min. 35 °C</li> </ul> </li> </ul>	
<b>Ambient temperature during storage/transportation</b>	
<ul style="list-style-type: none"> <li>• min. -20 °C</li> <li>• max. 60 °C</li> </ul>	
<b>Relative humidity</b>	
<ul style="list-style-type: none"> <li>• Operation, max. 90 %; no condensation</li> </ul>	
<b>Operating systems</b>	
proprietary	No
<b>pre-installed operating system</b>	
<ul style="list-style-type: none"> <li>• Windows CE Yes</li> </ul>	
<b>Configuration</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>	
<ul style="list-style-type: none"> <li>• STEP 7 Basic (TIA Portal) No</li> <li>• STEP 7 Professional (TIA Portal) No</li> <li>• WinCC flexible Compact No</li> <li>• WinCC flexible Standard No</li> <li>• WinCC flexible Advanced No</li> <li>• WinCC Basic (TIA Portal) No</li> <li>• WinCC Comfort (TIA Portal) Yes; from V11</li> <li>• WinCC Advanced (TIA Portal) Yes; from V11</li> <li>• WinCC Professional (TIA Portal) Yes; from V11</li> </ul>	
<b>Languages</b>	
<b>Online languages</b>	
<ul style="list-style-type: none"> <li>• Number of online/runtime languages 32</li> </ul>	
<b>Project languages</b>	

- Languages per project

32

## Functionality under WinCC (TIA Portal)

Libraries	Yes
Applications/options	
<ul style="list-style-type: none"> <li>• Web browser</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Pocket Word</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Pocket Excel</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• PDF Viewer</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Media Player</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• SIMATIC WinCC Sm@rtServer</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• SIMATIC WinCC Audit</li> </ul>	Yes
Number of Visual Basic Scripts	Yes
Task planner	
<ul style="list-style-type: none"> <li>• time-controlled</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• task-controlled</li> </ul>	Yes
Help system	
<ul style="list-style-type: none"> <li>• Number of characters per info text</li> </ul>	70
<b>Message system</b>	
<ul style="list-style-type: none"> <li>• Number of alarm classes</li> </ul>	32
<ul style="list-style-type: none"> <li>• Bit messages <ul style="list-style-type: none"> <li>— Number of bit messages</li> </ul> </li> </ul>	4 000
<ul style="list-style-type: none"> <li>• Analog messages <ul style="list-style-type: none"> <li>— Number of analog messages</li> </ul> </li> </ul>	200
<ul style="list-style-type: none"> <li>• S7 alarm number procedure</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• System messages HMI</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• System messages, other (SIMATIC S7, Sinumerik, Simotion, etc.)</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Number of characters per message</li> </ul>	80
<ul style="list-style-type: none"> <li>• Number of process values per message</li> </ul>	8
<ul style="list-style-type: none"> <li>• Acknowledgment groups</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Message indicator</li> </ul>	Yes
<ul style="list-style-type: none"> <li>• Message buffer <ul style="list-style-type: none"> <li>— Number of entries</li> <li>— Circulating buffer</li> <li>— retentive</li> <li>— maintenance-free</li> </ul> </li> </ul>	1 024 Yes Yes Yes
<b>Recipe management</b>	
<ul style="list-style-type: none"> <li>• Number of recipes</li> </ul>	300
<ul style="list-style-type: none"> <li>• Data records per recipe</li> </ul>	500
<ul style="list-style-type: none"> <li>• Entries per data record</li> </ul>	1 000
<ul style="list-style-type: none"> <li>• Size of internal recipe memory</li> </ul>	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
<b>Peripherals/Options</b>	
<b>Peripherals</b>	
• 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)

- |                   |     |
|-------------------|-----|
| • Plastic         | No  |
| • Aluminum        | Yes |
| • 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	63 mm

## Weights

Weight without packaging	1.4 kg
Weight incl. packaging	1.6 kg

**last modified:** 04/24/2017