

SIPLUS HMI TP1500 Comfort based on 6AV2124-0QC02-0AX1 with conformal coating, 0...+50 °C, Comfort Panel, touch operation, 15" widescreen TFT display, 16 million colors, PROFINET interface, MPI/PROFIBUS DP interface, 24 MB configuration memory, WEC 2013, configurable as of WinCC Comfort V14 SP1 with HSP



Figure similar

General information	
Product type designation	TP1500 Comfort
Display	
Design of display	TFT
Screen diagonal	15.4 in
Display width	331.2 mm
Display height	207 mm
Number of colors	16 777 216
Resolution (pixels)	
• Horizontal image resolution	1 280 pixel
• Vertical image resolution	800 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
— Number of function keys with LEDs	0
• Keys with LED	No
• System keys	No
• Numeric keyboard	Yes; Onscreen keyboard
• alphanumeric keyboard	Yes; Onscreen keyboard
Touch operation	
• Design as touch screen	Yes; Analog-resistive
Expansions for operator control of the process	
• Direct keys (touch buttons as S7 input I/O)	40
Installation type/mounting	
Mounting position	vertical
Mounting in portrait format possible	Yes
Mounting in landscape format possible	Yes
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)	1.7 A

Starting current inrush I <sup>2</sup> t	0.5 A <sup>2</sup> ·s
<b>Power</b>	
Active power input, typ.	41 W
<b>Processor</b>	
Processor type	X86
<b>Memory</b>	
Flash	Yes
RAM	Yes
Memory available for user data	24 Mbyte
<b>Type of output</b>	
Info LED	No
Power LED	No
Error LED	No
Acoustics	
• Buzzer	No
• Speaker	Yes
<b>Time of day</b>	
Clock	
• Hardware clock (real-time)	Yes
• Software clock	Yes
• retentive	Yes; Back-up duration typically 6 weeks
• synchronizable	Yes
<b>Interfaces</b>	
Number of industrial Ethernet interfaces	2; 2 ports (switch) + independent port
Number of RS 485 interfaces	1; RS 422 / 485 combined
Number of RS 422 interfaces	0; together with RS 485
Number of RS 232 interfaces	0
Number of USB interfaces	2; USB 2.0
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
<b>Industrial Ethernet</b>	
• Industrial Ethernet status LED	3
• Number of ports of the integrated switch	2
<b>Protocols</b>	
PROFINET	Yes
Supports protocol for PROFINET IO	Yes
IRT	Yes
PROFIBUS	Yes
EtherNet/IP	Yes
MPI	Yes
<b>Protocols (Ethernet)</b>	
• TCP/IP	Yes
• DHCP	Yes
• SNMP	Yes
• DCP	Yes
• LLDP	Yes
<b>WEB characteristics</b>	
• HTTP	Yes
• HTTPS	Yes
• HTML	Yes
• XML	Yes
• CSS	Yes
• Active X	Yes
• JavaScript	Yes
• Java VM	No
<b>Redundancy mode</b>	
Media redundancy	
— MRP	Yes
<b>Further protocols</b>	

<ul style="list-style-type: none"> <li>• CAN</li> <li>• MODBUS</li> </ul>	<p>No</p> <p>Yes</p>
<b>Interrupts/diagnostics/status information</b>	
Diagnoses	
<ul style="list-style-type: none"> <li>• Diagnostic information readable</li> </ul>	Yes; S7 controller
<b>EMC</b>	
Emission of radio interference acc. to EN 55 011	
<ul style="list-style-type: none"> <li>• Limit class A, for use in industrial areas</li> <li>• Limit class B, for use in residential areas</li> </ul>	<p>Yes</p> <p>No</p>
<b>Degree and class of protection</b>	
IP (at the front)	IP65
IP (rear)	IP20
NEMA (front)	
<ul style="list-style-type: none"> <li>• Enclosure Type 4 at the front</li> <li>• Enclosure Type 4x at the front</li> </ul>	<p>Yes</p> <p>Yes</p>
<b>Ambient conditions</b>	
Suited for indoor use	Yes
Suited for outdoor use	No
Ambient temperature during 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, max.	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, max.	40 °C
Ambient temperature during storage/transportation	
<ul style="list-style-type: none"> <li>• min.</li> <li>• max.</li> </ul>	<p>-20 °C</p> <p>60 °C</p>
Altitude during operation relating to sea level	
<ul style="list-style-type: none"> <li>• Installation altitude above sea level, max.</li> <li>• Ambient air temperature-barometric pressure-altitude</li> </ul>	<p>5 000 m</p> <p>Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax -20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m)</p>
Relative humidity	
<ul style="list-style-type: none"> <li>• With condensation, tested in accordance with IEC 60068-2-38, max.</li> </ul>	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)
Resistance	
Coolants and lubricants	
— Resistant to commercially available coolants and lubricants	Yes; Incl. diesel and oil droplets in the air
Use in stationary industrial systems	
— to biologically active substances according to EN 60721-3-3	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request
— to chemically active substances according to EN 60721-3-3	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
— to mechanically active substances according to EN 60721-3-3	Yes; Class 3S4 incl. sand, dust, *
Use on ships/at sea	
— to biologically active substances according to EN 60721-3-6	Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request
— to chemically active substances according to EN 60721-3-6	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
— to mechanically active substances according to EN 60721-3-6	Yes; Class 6S3 incl. sand, dust; *
Usage in industrial process technology	
— Against chemically active substances acc. to EN 60654-4	Yes; Class 3 (excluding trichlorethylene)
— Environmental conditions for process, measuring and control systems acc. to ANSI/ISA-	Yes; Level GX group A/B (excluding trichlorethylene; harmful gas concentrations up to the limits of EN 60721-3-3 class 3C4 permissible);

71.04	level LC3 (salt spray) and level LB3 (oil)
<b>Remark</b>	
— Note regarding classification of environmental conditions acc. to EN 60721, EN 60654-4 and ANSI/ISA-71.04	* The supplied plug covers must remain in place over the unused interfaces during operation!
<b>Conformal coating</b>	
<ul style="list-style-type: none"> <li>• Coatings for printed circuit board assemblies acc. to EN 61086</li> <li>• Protection against fouling acc. to EN 60664-3</li> <li>• Military testing according to MIL-I-46058C, Amendment 7</li> <li>• Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A</li> </ul>	<p>Yes; Class 2 for high reliability</p> <p>Yes; Type 1 protection</p> <p>Yes; Discoloration of coating possible during service life</p> <p>Yes; Conformal coating, Class A</p>
<b>Operating systems</b>	
proprietary	No
<b>pre-installed operating system</b>	
<ul style="list-style-type: none"> <li>• Windows CE</li> </ul>	Yes; Windows Embedded Compact 2013
<b>configuration / header</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)</li> <li>• STEP 7 Professional (TIA Portal)</li> <li>• WinCC flexible Compact</li> <li>• WinCC flexible Standard</li> <li>• WinCC flexible Advanced</li> <li>• WinCC Basic (TIA Portal)</li> <li>• WinCC Comfort (TIA Portal)</li> <li>• WinCC Advanced (TIA Portal)</li> <li>• WinCC Professional (TIA Portal)</li> </ul>	<p>No</p> <p>No</p> <p>No</p> <p>No</p> <p>No</p> <p>No</p> <p>Yes; V14 SP1 HSP and higher</p> <p>Yes; V14 SP1 HSP and higher</p> <p>Yes; V14 SP1 HSP and higher</p>
<b>Languages</b>	
<b>Online languages</b>	
<ul style="list-style-type: none"> <li>• Number of online/runtime languages</li> </ul>	32
<b>Project languages</b>	
<ul style="list-style-type: none"> <li>• Languages per project</li> </ul>	32
<b>Functionality under WinCC (TIA Portal)</b>	
Libraries	Yes
Applications/options	
<ul style="list-style-type: none"> <li>• Web browser</li> <li>• Pocket Word</li> <li>• Pocket Excel</li> <li>• PDF Viewer</li> <li>• Media Player</li> <li>• SIMATIC WinCC Sm@rtServer</li> <li>• SIMATIC WinCC Audit</li> </ul>	<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>
Number of Visual Basic Scripts	Yes
Task planner	
<ul style="list-style-type: none"> <li>• time-controlled</li> <li>• task-controlled</li> </ul>	<p>Yes</p> <p>Yes</p>
<b>Message system</b>	
<ul style="list-style-type: none"> <li>• Number of alarm classes</li> <li>• Bit messages <ul style="list-style-type: none"> <li>— Number of bit messages</li> </ul> </li> <li>• Analog messages <ul style="list-style-type: none"> <li>— Number of analog messages</li> </ul> </li> <li>• S7 alarm number procedure</li> <li>• System messages HMI</li> <li>• System event, more (SIMATIC S7, SINUMERIK, SIMOTION, ... )</li> <li>• Number of characters per message</li> </ul>	<p>32</p> <p>6 000</p> <p>200</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>80</p>

• Number of process values per message	8
• Acknowledgment groups	Yes
• Message indicator	Yes
<b>Recipe management</b>	
• 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
<b>Variables</b>	
• Number of variables per device	4 096
• Number of variables per screen	400
• Limit values	Yes
• Multiplexing	Yes
• Structures	Yes
• Arrays	Yes
<b>Images</b>	
• Number of configurable images	750
• 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	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
<b>Complex image objects</b>	
• 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
• 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	50 000
• Message archive	Yes
• Process value archive	Yes

<ul style="list-style-type: none"> <li>● Archiving methods <ul style="list-style-type: none"> <li>— Sequential archive</li> <li>— Short-term archive</li> </ul> </li> <li>● Memory location <ul style="list-style-type: none"> <li>— Memory card</li> <li>— USB memory</li> <li>— Ethernet</li> </ul> </li> <li>● Data storage format <ul style="list-style-type: none"> <li>— CSV</li> <li>— TXT</li> <li>— RDB</li> </ul> </li> </ul>	<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>
<b>Security</b>	
<ul style="list-style-type: none"> <li>● Number of user groups</li> <li>● Number of user rights</li> <li>● Number of users</li> <li>● Password export/import</li> <li>● SIMATIC Logon</li> </ul>	<p>50</p> <p>32</p> <p>50</p> <p>Yes</p> <p>Yes</p>
<b>Logging through printer</b>	
<ul style="list-style-type: none"> <li>● Alarms</li> <li>● Report (shift log)</li> <li>● Hardcopy</li> <li>● Electronic print to file</li> </ul>	<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes; PDF, HTML</p>
<b>Character sets</b>	
<ul style="list-style-type: none"> <li>● Keyboard fonts <ul style="list-style-type: none"> <li>— US English</li> </ul> </li> </ul>	<p>Yes</p>
<b>Transfer (upload/download)</b>	
<ul style="list-style-type: none"> <li>● MPI/PROFIBUS DP</li> <li>● USB</li> <li>● Ethernet</li> <li>● using external storage medium</li> </ul>	<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>
<b>Process coupling</b>	
<ul style="list-style-type: none"> <li>● S7-1200</li> <li>● S7-1500</li> <li>● S7-200</li> <li>● S7-300/400</li> <li>● LOGO!</li> <li>● WinAC</li> <li>● SINUMERIK</li> <li>● SIMOTION</li> <li>● Allen Bradley (EtherNet/IP)</li> <li>● Allen Bradley (DF1)</li> <li>● Mitsubishi (MC TCP/IP)</li> <li>● Mitsubishi (FX)</li> <li>● OMRON (FINS TCP)</li> <li>● OMRON (LINK/Multilink)</li> <li>● Modicon (Modbus TCP/IP)</li> <li>● Modicon (Modbus)</li> <li>● OPC UA Client</li> <li>● OPC UA Server</li> </ul>	<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes; With SINUMERIK option package as from WinCC V15 or higher</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>No</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>
<b>Service tools/configuration aids</b>	
<ul style="list-style-type: none"> <li>● Backup/Restore manually</li> <li>● Backup/Restore automatically</li> <li>● Simulation</li> <li>● Device switchover</li> </ul>	<p>Yes</p> <p>Yes</p> <p>Yes</p> <p>Yes</p>
<b>Peripherals/Options</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
- Aluminum
- Stainless steel

No  
Yes  
No

## Dimensions

Width of the housing front

415 mm

Height of housing front

310 mm

Mounting cutout, width

396 mm

Mounting cutout, height

291 mm

Overall depth

75 mm

## Weights

Weight (without packaging)

4.4 kg

**last modified:**

10/7/2021 