



Figure similar

SIPLUS HMI TP700 Comfort Outdoor M based on 6AV2124-0GC13-0AX0 with conformal coating, -30...+60 °C, Comfort Panel, touch operation, 7" widescreen TFT display, 16 million colors, PROFINET interface, MPI/PROFIBUS DP interface, 12 MB configuration memory, Windows CE 6.0, configurable as of WinCC Comfort V13 SP1, HSP

General information	
Product type designation	TP700 Comfort Outdoor
based on	<a href="#">6AV2124-0GC13-0AX0</a>
Display	
Design of display	TFT, bonded, daylight-readable
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
— 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	
• 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 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; operation only with current-compensated reactors (2 x 82 mH) in the umbilical cables as close as possible to the supply terminals
Rated value (DC)	24 V
permissible range, lower limit (DC)	19.2 V
permissible range, upper limit (DC)	28 V
Input current	
Current consumption (rated value)	0.7 A
Starting current inrush I <sup>2</sup> t	0.5 A <sup>2</sup> s
Power	
Active power input, 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	
• Hardware clock (real-time)	Yes
• Software clock	No
• retentive	Yes; Back-up duration typically 6 weeks
• synchronizable	Yes
Interfaces	
Number of industrial Ethernet interfaces	2
Number of RS 485 interfaces	1; RS 422 / 485 combined
Number of RS 422 interfaces	1
Number of RS 232 interfaces	0
Number of USB interfaces	2; USB 2.0
• USB Mini B	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; WinCC V13 SP1 HSP or higher
PROFIBUS	Yes
EtherNet/IP	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
<b>Redundancy mode</b>	
Media redundancy	
— MRP	Yes; WinCC V13 SP1 HSP or higher
<b>Further protocols</b>	
• CAN	No
• MODBUS	Yes
<b>EMC</b>	
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
<b>Degree and class of protection</b>	
IP (at the front)	IP66
IP (rear)	IP20
NEMA (front)	
• Enclosure Type 4 at the front	Yes
• Enclosure Type 4x at the front	Yes
<b>Standards, approvals, certificates</b>	
Marine approval	
• Compass working clearance	5 m
Military use	
• conforms to MIL-STD-461G	Yes; CE101, CE102, CS101, CS109, CS114, CS115, CS116, CS118, RE101, RS101; requirements met for all platforms or installations according to Table V of MIL-STD-461G
— MIL-STD-461G, RE102	Yes; RE102 (radiated emissions, electric field); requirements met for the following platforms or installations according to Table V of MIL-STD-461G: all surface ship applications; submarine applications: internal to pressure hull; aircraft and space system applications: fixed wing internal ≥ 25 meters nose to tail; ground applications: Navy fixed & Air Force
— MIL-STD-461G, RS103	Yes; RS103 (radiated susceptibility, electric field); suitable for max. electric field strength of 200 V/m; requirements met for all platforms or installations according to Table V and XI of MIL-STD-461G
<b>Ambient conditions</b>	
Suited for indoor use	Yes
Suited for outdoor use	Yes; Powder-coated, UV resistant
Ambient temperature during operation	
Operation (vertical installation)	
— For vertical installation, min.	-30 °C; = Tmin
— For vertical installation, max.	60 °C; (55 °C, see entry ID: 64847814)
Operation (max. tilt angle)	
— At maximum tilt angle, min.	-30 °C; = Tmin
— At maximum tilt angle, max.	50 °C; = Tmax
Operation (vertical installation, portrait format)	
— For vertical installation, min.	-30 °C; = Tmin
— For vertical installation, max.	50 °C; = Tmax
Operation (max. tilt angle, portrait format)	
— At maximum tilt angle, min.	-30 °C; = Tmin
— At maximum tilt angle, max.	45 °C; = Tmax
Ambient temperature during storage/transportation	
• min.	-30 °C
• max.	70 °C
Altitude during operation relating to sea level	
• Installation altitude above sea level, max.	5 000 m
• Ambient air temperature-barometric pressure-altitude	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)

<b>Relative humidity</b>	
<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 when condensation present), vertical mounting position
<b>Resistance</b>	
<b>Coolants and lubricants</b>	
— Resistant to commercially available coolants and lubricants	Yes; Incl. diesel and oil droplets in the air
<b>Use in stationary industrial systems</b>	
— 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, *
<b>Use on ships/at sea</b>	
— to biologically active substances according to EN 60721-3-6	Yes; Class 6B2 mold, fungal and dry rot spores (excluding fauna)
— 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; *
<b>Usage in industrial process technology</b>	
— 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-71.04	Yes; Level GX group A/B (excluding trichlorethylene; harmful gas concentrations up to the limits of EN 60721-3-3 class 3C4 permissible); 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
<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)</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; WinCC V13 SP1 Update 7 + HSP or higher</p> <p>Yes; WinCC V13 SP1 Update 7 + HSP or higher</p> <p>Yes; WinCC V13 SP1 Update 7 + HSP or 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>	
• Languages per project	32
<b>Functionality under WinCC (TIA Portal)</b>	
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
<b>Message system</b>	
• 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 event, more (SIMATIC S7, SINUMERIK, SIMOTION, ... )	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
<b>Recipe management</b>	
• 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
<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
• 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; Webcam type see FAQs
• 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>	
<ul style="list-style-type: none"> <li>● Keyboard fonts <ul style="list-style-type: none"> <li>— US English</li> </ul> </li> </ul>	Yes
<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>	Yes Yes Yes Yes; Backup/restore
<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>	Yes Yes Yes Yes Yes Yes Yes; with SINUMERIK option package Yes Yes Yes Yes No Yes Yes Yes Yes Yes Yes
<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>	Yes Yes Yes Yes
<b>Peripherals/Options</b>	
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; e.g. USB RFID reader, see FAQ entry ID: 99808171
SIMATIC IPC USB Flashdrive (USB stick)	Yes
SIMATIC HMI USB stick	Yes
Network camera	Yes; See FAQ Entry ID: 62383298 and entry ID: 65647473
<b>Accessories</b>	
Expansion module	Optional e.g. USB RFID reader, see FAQ entry ID: 99808171
Further accessories are available	Yes; Mounting clips and 2-pin power supply connector
<b>Mechanics/material</b>	
Enclosure material (front) <ul style="list-style-type: none"> <li>● Plastic</li> <li>● Aluminum</li> <li>● Stainless steel</li> </ul>	No Yes; Powder-coated, UV resistant No
<b>Dimensions</b>	
Width of the housing front	214 mm
Height of housing front	158 mm
Mounting cutout, width	198 mm
Mounting cutout, height	142 mm
mounting depth	64.6 mm
<b>Weights</b>	
Weight (without packaging)	1.5 kg
Weight (with packaging)	1.7 kg

Other

Note:

Power, quantity structure and performance correspond to a standard 7" Comfort Panel

Classifications

	Version	Classification
eClass	14	27-33-02-01
eClass	12	27-33-02-01
eClass	9.1	27-33-02-01
eClass	9	27-33-02-01
eClass	8	27-24-23-02
eClass	7.1	27-24-23-02
eClass	6	27-24-23-02
ETIM	10	EC001412
ETIM	9	EC001412
ETIM	8	EC001412
ETIM	7	EC001412

Approvals / Certificates

General Product Approval

EMV

[Manufacturer Declaration](#)



[China RoHS](#)



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