SIEMENS

Data sheet 6AG2124-0QC13-1AX0

Figure similar

SIPLUS HMI TP1500 outdoor rail based on 6AV2124-0QC13-0AX0 with conformal coating, -30…+60 °C, OT1 with ST1/2 (+70 °C für 10 minutes), touch operation, 15" widescreen TFT display, 16 million colors,PROFINET interface,MPI/PROFIBUS DP interface, 12 MB configuration memory, Windows CE 6.0, configurable WinCC Comfort V13 SP1 and higher, HSP

General information	
Product type designation	TP1500 Comfort Outdoor
based on	6AV2124-0QC13-0AX0
Display	
Design of display	TFT, bonded, daylight-readable
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)	50 000 h
● Backlight dimmable	Yes; LED, can be dimmed manually or automatically
Control elements	
Keyboard	
● 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)	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°

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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 I²t	0.5 A²·s
Power	
Active power input, typ.	32 W
Processor	
Processor type	X86
Storage	
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	

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● HTTP	Yes
● HTTPS	No
● HTML	Yes
● XML	No
● CSS	Yes
● Active X	No
● JavaScript	Yes
● Java VM	No
Redundancy mode	
Media redundancy	
— MRP	Yes; WinCC V13 SP1 HSP or higher
Further protocols	
● CAN	No
● MODBUS	Yes
Isolation	
Isolation tested with	750 V DC (type test) and according to EN 50155 (routine test)
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
IP (rear)	IP20
NEMA (front)	
● Enclosure Type 4 at the front	Yes
● Enclosure Type 4x at the front	Yes
Standards, approvals, certificates	
Railway application	
● EN 50121-3-2	Yes; EMC for rail vehicles
● EN 50121-4	Yes; EMC for signal and telecommunications systems
● EN 50124-1	Yes; Railway applications - overvoltage category OV2; pollution degree PD2; rated surge voltage UNi = 0.5 kV; UNm = 24 V DC
● EN 50125-1	Yes; Rail vehicles - see ambient conditions
● EN 50125-2	Yes; Stationary electrical equipment - see ambient conditions
● EN 50125-3	Yes; Signal and telecommunications systems - see ambient conditions; vibrations and shocks: Application point outside of tracks (1 m to 3 m away from track)
● EN 50155	Yes; rail vehicles - temperature class OT1, ST1/ST2, horizontal at vertical mounting position
● EN 61373	Yes; Rail vehicles - vibrations and shocks: Category 1 Class A/B
● Fire protection acc. to EN 45545-2	Yes; For proof of conformity, see Service & Support
Ambient conditions	
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 (incl. condensation/frost)
— For vertical installation, max.	60 °C; = Tmax; +70 °C for 10 min (OT1, ST1/ST2 acc. to EN 50155)
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

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Altitude during operation relating to sea level	
● Installation altitude above sea level, max.	2 000 m
● Ambient air temperature-barometric pressure-altitude	Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m)
Relative humidity	
● With condensation, tested in accordance with IEC 60068-2-38, max.	100 %; RH incl. condensation/frost (no commissioning when condensation present), horizontal at vertical mounting position
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 land craft, rail vehicles and special-purpose vehicles	
— to biologically active substances according to EN 60721-3-5	Yes; Class 5B2 mold, fungus and dry rot spores (with the exception of fauna); Class 5B3 on request
— to chemically active substances according to EN 60721-3-5	Yes; Class 5C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
— to mechanically active substances according to EN 60721-3-5	Yes; Class 5S3 incl. sand, dust; *
— Against contaminant acc. to EN 60721-3-5	Yes; Class 5F3 (excluding gasoline)
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-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)
Remark	
— 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!
Conformal coating	
● Coatings for printed circuit board assemblies acc. to EN 61086	Yes; Class 2 for high reliability
● Protection against fouling acc. to EN 60664-3	Yes; Type 1 protection
● Electronic equipment on rolling stock acc. to EN 50155	Yes; Class PC2 protective coating acc. to EN 50155:2017
● Military testing according to MIL-I-46058C, Amendment 7	Yes; Discoloration of coating possible during service life
● Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A	Yes; Conformal coating, Class A
Operating systems	
proprietary	No
pre-installed operating system	
● Windows CE	Yes
Configuration	
Message indicator	Yes
Alarm system (incl. buffer and acknowledgment)	Yes
Process value display (output)	Yes
Process value default (input) possible	Yes
Recipe management	Yes
Configuration software	
● 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; WinCC V13 SP1 Update 7 + HSP or higher
● WinCC Advanced (TIA Portal)	Yes; WinCC V13 SP1 Update 7 + HSP or higher

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● WinCC Professional (TIA Portal)	Yes; WinCC V13 SP1 Update 7 + HSP or higher
Languages	
Online languages	
● Number of online/runtime languages	32
Project languages	
● 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 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
Recipe management	
● 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

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● 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
● IP camera display	Yes; Webcam type see FAQs
● 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

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● 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 (Host Link)	Yes
● Modicon (Modbus TCP/IP)	Yes
● Modicon (Modbus RTU)	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	
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
Accessories	
extension 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
Mechanics/material	
Enclosure material (front)	
● Plastic	No
● Aluminum	Yes; Powder-coated, UV resistant
● Stainless steel	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
mounting depth	73.2 mm
Weights	
Weight (without packaging)	4 kg

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Weight (with packaging)	6.2 kg

Other

Note:	for use in railway applications, also observe the product information "SIPLUS extreme RAIL" A5E37661960A, Online Support article 109736776

Classifications

	Version	Classification
eClass	16	27-33-02-01
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
IDEA	4	6607
UNSPSC	15	43-21-15-06

Approvals / Certificates

General Product Approval

Manufacturer Declaration

China RoHS

General Product Approval	EMV	Railway
China RoHS		Confirmation

last modified: 10/23/2025

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