

SIPLUS HMI TP1500 OUTDOOR T1 RAIL -25 ... +60°C with conformal coating BasedOn: 6AV2124-0QC13-0AX0 . touch operation, 15" 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	SIPLUS HMI TP1500 Comfort Outdoor RAIL
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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 fonts

• Function keys	
— Number of function keys	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
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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°

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 I ² t	0.5 A ² ·s

Power

Active power input, typ.	32 W
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Processor

Processor type	X86
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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
MRP	Yes
PROFIBUS	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
Further protocols	
• CAN	No
• EtherNet/IP	Yes
• MODBUS	Yes
Isolation	
Isolation tested with	707 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
Enclosure Type 4 at the front	Yes
Enclosure Type 4x at the front	Yes
IP (rear)	IP20
Standards, approvals, certificates	
CE mark	Yes
Railway application	
<ul style="list-style-type: none"> • EN 50121-3-2 • EN 50121-4 • EN 50124-1 • EN 50125-1 • EN 50125-2 • EN 50125-3 • EN 50155 • EN 61373 	<p>Yes; EMC for rail vehicles</p> <p>Yes; EMC for signal and telecommunications systems</p> <p>Yes; Railway applications - overvoltage category OV2; pollution degree PD2; rated surge voltage UNi = 0.5 kV; UNm = 24 V DC</p> <p>Yes; Rail vehicles - see ambient conditions</p> <p>Yes; Stationary electrical equipment - see ambient conditions</p> <p>Yes; Signal and telecommunications systems - see ambient conditions; vibrations and shocks: Application point outside of tracks (1 m to 3 m away from track)</p> <p>Yes; Rail vehicles - temperature class T1, horizontal and vertical mounting position, salt spray class ST2</p> <p>Yes; Rail vehicles - vibrations and shocks: Category 1 Class A/B</p>
Ambient conditions	
Ambient temperature during operation	
<ul style="list-style-type: none"> • Operation (vertical installation) <ul style="list-style-type: none"> — For vertical installation, min. — For vertical installation, max. • Operation (max. tilt angle) <ul style="list-style-type: none"> — At maximum tilt angle, min. — At maximum tilt angle, min. • Operation (vertical installation, portrait format) <ul style="list-style-type: none"> — For vertical installation, min. — For vertical installation, max. • Operation (max. tilt angle, portrait format) <ul style="list-style-type: none"> — At maximum tilt angle, min. — At maximum tilt angle, min. 	<p>-30 °C</p> <p>60 °C; (55 °C, see entry ID: 64847814)</p> <p>-30 °C</p> <p>50 °C</p> <p>-30 °C</p> <p>50 °C</p> <p>-30 °C</p> <p>45 °C</p>
Ambient temperature during storage/transportation	
<ul style="list-style-type: none"> • min. • max. 	<p>-30 °C</p> <p>70 °C</p>
Altitude during operation relating to sea level	
<ul style="list-style-type: none"> • Installation altitude above sea level, max. • Ambient air temperature-barometric pressure-altitude 	<p>2 000 m</p> <p>Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m)</p>
Relative humidity	

<ul style="list-style-type: none"> • With condensation, tested in accordance with IEC 60068-2-38, max. 	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)
Resistance	
Coolants and lubricants	
— Resistant to commercially available coolants and lubricants	Yes
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 50155 (ST2); *
— to mechanically active substances according to EN 60721-3-5	Yes; Class 5S3 incl. sand, dust; *
from supply voltage 1L+	
— Note regarding classification of environmental conditions acc. to EN 60721	* The supplied plug covers must remain in place over the unused interfaces during operation!
Operating systems	
proprietary	No
pre-installed operating system	
<ul style="list-style-type: none"> • 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	
<ul style="list-style-type: none"> • STEP 7 Basic (TIA Portal) 	No
<ul style="list-style-type: none"> • STEP 7 Professional (TIA Portal) 	No
<ul style="list-style-type: none"> • WinCC flexible Compact 	No
<ul style="list-style-type: none"> • WinCC flexible Standard 	No
<ul style="list-style-type: none"> • WinCC flexible Advanced 	No
<ul style="list-style-type: none"> • WinCC Basic (TIA Portal) 	No
<ul style="list-style-type: none"> • WinCC Comfort (TIA Portal) 	Yes
<ul style="list-style-type: none"> • WinCC Advanced (TIA Portal) 	Yes

- WinCC Professional (TIA Portal)

Yes

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
- Pocket Word
- Pocket Excel
- PDF Viewer
- Media Player
- SIMATIC WinCC Sm@rtServer
- SIMATIC WinCC Audit

Yes

Yes

Yes

Yes

Yes

Yes

Yes

Number of Visual Basic Scripts

Yes

Task planner

- time-controlled
- task-controlled

Yes

Yes

Help system

- Number of characters per info text

70

Message system

- Number of alarm classes
- Bit messages
 - Number of bit messages
- Analog messages
 - Number of analog messages
- S7 alarm number procedure
- System messages HMI
- System messages, other (SIMATIC S7, Sinumerik, Simotion, etc.)
- Number of characters per message
- Number of process values per message
- Acknowledgment groups
- Message indicator
- Message buffer
 - Number of entries
 - Circulating buffer
 - retentive
 - maintenance-free

32

4 000

200

Yes

Yes

Yes

80

8

Yes

Yes

1 024

Yes

Yes

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
• 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
• 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; See FAQ Entry ID: 62383298 and entry ID: 65647473

Mechanics/material

Enclosure material (front)

- Plastic
- Aluminum
- Stainless steel

No

Yes; Powder-coated, UV resistant

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	77 mm

Weights

Weight without packaging	4 kg
Weight incl. packaging	6.2 kg

Other

Note:

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

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