Operator panels
Advanced HMI – Panel-based
Comfort Panels

SIMATIC HMI Comfort Panels Outdoor

■ Overview

SIMATIC HMI Comfort Panels Outdoor

Special HMI Panels have been developed which are designed to withstand outdoor environments.

It's not only extreme temperatures which call for robust hardware. Direct sunlight, too, must not be allowed to impair display readability and the panel front must be protected from UV radiation. The specially-bonded outdoor fronts and the rugged hardware of the Outdoor Panels make the SIMATIC HMI Comfort Panels Outdoor a reliable partner in this environment.

- For outdoor operation without additional measures
- 7" and 15" daylight-readable display, widescreen
- Automatic, central or manual dimming of the backlight, with integrated sensor
- Panel front 100% UV protected
- Front resistant to salt mist
- Front IP66 and Nema4 x (indoor/outdoor)
- Numerous explosion protection and shipbuilding certifications
- Extended operating temperature range: from -30 °C to +60 °C at 3 000 m installation altitude
- TIA Portal central engineering tool (WinCC V13 SP1&HSP or higher)
- Comfort Panel functionality and performance

Notice:

The 7" Comfort Panel Outdoor corresponds to a 7" Comfort Panel Standard, the 15" Comfort Panel Outdoor corresponds to a 12" Comfort Panel Standard in respect of performance, functionality and quantity structure.

http://www.siemens.com/comfort-panels-outdoor

■ Technical specifications

Article number	**6AV2124-0GC13-0AX0**	**6AV2124-0QC13-0AX0**
	SIMATIC HMI TP700 Comfort Outdoor	SIMATIC HMI TP1500 Comfort Outdoor
General information		
Product type designation	TP700 Comfort Outdoor	TP1500 Comfort Outdoor
Display		
Design of display	TFT, bonded, daylight-readable	TFT, bonded, daylight-readable
Screen diagonal	7 in	15.4 in
Display width	152.4 mm	331.2 mm
Display height	91.4 mm	207 mm
Number of colors	16 777 216	16 777 216
Resolution (pixels)		
• Horizontal image resolution	800 Pixel	1 280 Pixel
• Vertical image resolution	480 Pixel	800 Pixel
Backlighting		
• MTBF backlighting (at 25 °C)	50 000 h	50 000 h
• Backlight dimmable	Yes; LED, can be dimmed manually or automatically	Yes; LED, can be dimmed manually or automatically
Control elements		
Keyboard fonts		
• Function keys		
- Number of function keys	0	0
Touch operation		
• Design as touch screen	Yes; analog, resistive	Yes; analog, resistive
Installation type/mounting		
Mounting position	vertical	vertical
Mounting in portrait format possible	Yes	Yes
Mounting in landscape format possible	Yes	Yes
maximum permissible angle of inclination without external ventilation	35°	35°

■ **Technical specifications** (continued)

Article number	6AV2124-0GC13-0AX0	6AV2124-0QC13-0AX0
	SIMATIC HMI TP700 Comfort Outdoor	SIMATIC HMI TP1500 Comfort Outdoor
Supply voltage		
Type of supply voltage	DC	DC
Rated value (DC)	24 V	24 V
permissible range, lower limit (DC)	19.2 V	19.2 V
permissible range, upper limit (DC)	28.8 V	28.8 V
Memory		
Flash	Yes	Yes
RAM	Yes	Yes
Memory available for user data	12 Mbyte	12 Mbyte
Type of output		
Acoustics		
• Speaker	Yes	Yes
Time of day		
Clock		
• Hardware clock (real-time)	Yes	Yes
• Software clock	No	No
• retentive	Yes; Back-up duration typically 6 weeks	Yes; Back-up duration typically 6 weeks
• synchronizable	Yes	Yes
Interfaces		
Number of industrial Ethernet interfaces	2	2
Number of RS 485 interfaces	1; RS 422 / 485 combined	1; RS 422 / 485 combined
Number of USB interfaces	2; USB 2.0	2; USB 2.0
• USB Mini B	1; 5-pole	1; 5-pole
Number of SD card slots	2	2
Industrial Ethernet		
• Industrial Ethernet status LED	2	2
• Number of ports of the integrated switch	2	2
Protocols		
PROFINET	Yes	Yes
Supports protocol for PROFINET IO	Yes	Yes
IRT	Yes; WinCC V13 SP1 HSP or higher	Yes; WinCC V13 SP1 HSP or higher
PROFIBUS	Yes	Yes
MPI	Yes	Yes
Redundancy mode		
Media redundancy		
- MRP	Yes; WinCC V13 SP1 HSP or higher	Yes; WinCC V13 SP1 HSP or higher
Degree and class of protection		
IP (at the front)	IP66	IP66
IP (rear)	IP20	IP20
NEMA (front)		
• Enclosure Type 4 at the front	Yes	Yes
Standards, approvals, certificates		
CE mark	Yes	Yes
cULus	Yes	Yes
RCM (formerly C-TICK)	Yes	Yes
KC approval	Yes	Yes
Use in hazardous areas		
• ATEX Zone 2	Yes; For inscription on device rating plate	Yes; For inscription on device rating plate
• ATEX Zone 22	Yes; For inscription on device rating plate	Yes; For inscription on device rating plate
• IECEx Zone 2	Yes; For inscription on device rating plate	Yes; For inscription on device rating plate
• IECEx Zone 22	Yes; For inscription on device rating plate	Yes; For inscription on device rating plate
• cULus Class I Zone 1	No	No
• cULus Class I Zone 2, Division 2	Yes; For inscription on device rating plate	Yes; For inscription on device rating plate
• FM Class I Division 2	Yes; For inscription on device rating plate	Yes; For inscription on device rating plate

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■ **Technical specifications** (continued)

Article number	**6AV2124-0GC13-0AX0**	**6AV2124-0QC13-0AX0**
	SIMATIC HMI TP700 Comfort Outdoor	SIMATIC HMI TP1500 Comfort Outdoor
Marine approval		
• Germanischer Lloyd (GL)	Yes	Yes
• American Bureau of Shipping (ABS)	Yes	Yes
• Bureau Veritas (BV)	Yes; Available soon	Yes; Available soon
• Det Norske Veritas (DNV)	Yes	Yes
• Korean Register of Shipping (KRS)	No; Available soon	No; Available soon
• Lloyds Register of Shipping (LRS)	Yes	Yes
• Nippon Kaiji Kyokai (Class NK)	Yes; Available soon	Yes; Available soon
• Polski Rejestr Statkow (PRS)	No	No
• Chinese Classification Society (CCS)	Yes; Available soon	Yes; Available soon
• Compass working clearance	5 m	5 m
Ambient conditions		
Suited for indoor use	Yes	Yes
Suited for outdoor use	Yes; Powder-coated, UV resistant	Yes; Powder-coated, UV resistant
Ambient temperature during operation		
• Operation (vertical installation)		
- For vertical installation, min.	-30 °C	-30 °C
- For vertical installation, max.	60 °C; (55 °C, see entry ID: 64847814)	60 °C; (55 °C, see entry ID: 64847814)
Altitude during operation relating to sea level		
• Installation altitude above sea level, max.	3 000 m; Depending on the operating temperature	3 000 m; Depending on the operating temperature
Relative humidity		
• Operation, max.	90 %; no condensation	90 %; no condensation
Configuration		
Configuration software		
• WinCC Comfort (TIA Portal)	Yes; WinCC V13 SP1 Update 7 + HSP or higher	Yes; WinCC V13 SP1 Update 7 + HSP or higher
Languages		
Online languages		
• Number of online/runtime languages	32	32
Functionality under WinCC (TIA Portal)		
Libraries	Yes	Yes
Applications/options		
• Web browser	Yes	Yes
• Pocket Word	Yes	Yes
• Pocket Excel	Yes	Yes
• PDF Viewer	Yes	Yes
• Media Player	Yes	Yes
• SIMATIC WinCC Sm@rtServer	Yes	Yes
• SIMATIC WinCC Audit	Yes	Yes
Number of Visual Basic Scripts	Yes	Yes
Task planner		
• time-controlled	Yes	Yes
• task-controlled	Yes	Yes
Help system		
• Number of characters per info text	70	70

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■ **Technical specifications** (continued)

Article number	6AV2124-0GC13-0AX0	6AV2124-0QC13-0AX0
	SIMATIC HMI TP700 Comfort Outdoor	SIMATIC HMI TP1500 Comfort Outdoor
Message system		
• Bit messages		
- Number of bit messages	4 000	4 000
• Analog messages		
- Number of analog messages	200	200
• Message buffer		
- Number of entries	1 024	1 024
- Circulating buffer	Yes	Yes
- retentive	Yes	Yes
Recipe management		
• Number of recipes	300	300
• Size of internal recipe memory	2 Mbyte	2 Mbyte
• Recipe memory expandable	Yes	Yes
Variables		
• Number of variables per device	2 048	2 048
• Number of variables per screen	400	400
Images		
• Number of configurable images	500	500
Archiving		
• Number of archives per device	50	50
Security		
• Number of user groups	50	50
• Number of users	50	50
• SIMATIC Logon	Yes	Yes
Logging through printer		
• Alarms	Yes	Yes
• Report (shift log)	Yes	Yes
• Hardcopy	Yes	Yes
• Electronic print to file	Yes; PDF, HTML	Yes; PDF, HTML
Transfer (upload/download)		
• MPI/PROFIBUS DP	Yes	Yes
• Ethernet	Yes	Yes
Process coupling		
• S7-1200	Yes	Yes
• S7-1500	Yes	Yes
• S7-200	Yes	Yes
• S7-300/400	Yes	Yes
• LOGO!	Yes	Yes
• WinAC	Yes	Yes
• SINUMERIK	Yes; with SINUMERIK option package	Yes; with SINUMERIK option package
• SIMOTION	Yes	Yes
• Allen Bradley (EtherNet/IP)	Yes	Yes
• Allen Bradley (DF1)	Yes	Yes
• Mitsubishi (MC TCP/IP)	Yes	Yes
• Mitsubishi (FX)	Yes	Yes
• OMRON (FINS TCP)	No	No
• OMRON (LINK/Multilink)	Yes	Yes
• Modicon (Modbus TCP/IP)	Yes	Yes
• Modicon (Modbus)	Yes	Yes
• OPC UA Client	Yes	Yes
• OPC UA Server	Yes	Yes

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■ Technical specifications (continued)

Article number	6AV2124-0GC13-0AX0	6AV2124-0QC13-0AX0
	SIMATIC HMI TP700 Comfort Outdoor	SIMATIC HMI TP1500 Comfort Outdoor
Peripherals/Options		
Printer	Yes	Yes
SIMATIC HMI MM memory card: Multi Media Card	Yes	Yes
SIMATIC HMI SD memory card: Secure Digital memory card	Yes	Yes
SIMATIC HMI CF memory card Compact Flash Card	No	No
USB memory	Yes; e.g. USB RFID reader, see FAQ entry ID: 99808171	Yes; e.g. USB RFID reader, see FAQ entry ID: 99808171
SIMATIC IPC USB Flashdrive (USB stick)	Yes	Yes
SIMATIC HMI USB stick	Yes	Yes
Network camera	Yes; See FAQ Entry ID: 62383298 and entry ID: 65647473	Yes; See FAQ Entry ID: 62383298 and entry ID: 65647473
Accessories		
Expansion module	Optional e.g. USB RFID reader, see FAQ entry ID: 99808171	Optional e.g. USB RFID reader, see FAQ entry ID: 99808171
Further accessories are available	Yes; Mounting clips and 2-pin power supply connector	Yes; Mounting clips and 2-pin power supply connector
Mechanics/material		
Enclosure material (front)		
• Plastic	No	No
• Aluminum	Yes; Powder-coated, UV resistant	Yes; Powder-coated, UV resistant
• Stainless steel	No	No
Dimensions		
Width of the housing front	214 mm	415 mm
Height of housing front	158 mm	310 mm
Mounting cutout, width	197 mm	396 mm
Mounting cutout, height	141 mm	291 mm
Overall depth	67 mm	77 mm
Weights		
Weight without packaging	1.5 kg	4 kg
Weight incl. packaging	1.7 kg	6.2 kg
Other		
Note:	Power, quantity structure and performance correspond to a standard 7" Comfort Panel	Power, quantity structure and performance correspond to a standard 12" Comfort Panel

Ordering data	Article No.
SIMATIC HMI Comfort Panels Outdoor	
SIMATIC TP700 Comfort Panel Outdoor 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 from WinCC Comfort V13, SP1, HSP	**6AV2124-0GC13-0AX0**
SIMATIC TP1500 Comfort Panel Outdoor Touch operation, 15" widescreen TFT display, 16 million colors, PROFINET interface, MPI/PROFIBUS DP interface, 12 MB configuration memory, Windows CE 6.0, configurable as from WinCC Comfort V13, SP1, HSP	**6AV2124-0QC13-0AX0**
Starter kit for SIMATIC HMI TP700 Comfort Panel Outdoor Contents: • 1x touch panel • 1x SD system outdoor card • 1x touch pen system • 1x SIMATIC WinCC Comfort	**6AV2124-0GC10-0SA0**
Starter kit for SIMATIC HMI TP1500 Comfort Panel Outdoor Contents: • 1x touch panel • 1x SD system outdoor card • 1x touch pen system • 1x SIMATIC WinCC Comfort	**6AV2124-0QC10-0SA0**
Accessories	See "Operator Control and Monitoring Systems SIMATIC HMI" -> "Accessories"

More information

More information is available on the Internet at:

http://www.siemens.com/comfort-panels-outdoor

Note:

The TP700 Comfort Panel Outdoor is comparable with the TP700 Comfort Panel Standard.

The TP1500 Comfort Panel Outdoor is comparable with the TP1200 Comfort Panel Standard with a 15" display.

A TP1500 Comfort Standard unit with the maximum possible configuration cannot be installed on a TP1500 Comfort Panel Outdoor.

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SIPLUS Comfort Panels Outdoor

◼ Overview

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It's not only extreme temperatures which call for robust hardware. Direct sunlight, too, must not be allowed to impair display readability and the panel front must be protected from UV radiation. The specially-bonded outdoor fronts and the rugged hardware of the Outdoor Panels make the SIMATIC HMI Comfort Panels Outdoor a reliable partner in this environment.

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- Automatic, central or manual dimming of the backlight, with integrated sensor
- Panel front 100% UV protected
- Front resistant to salt mist
- Front IP66 and Nema4 x (indoor/outdoor)
- Many explosion protection and shipbuilding certifications
- Extended operating temperature range: from -30 °C to +60 °C at 3 000 m installation altitude
- TIA Portal central engineering tool (WinCC V13 SP1&HSP or higher)
- Comfort Panel functionality and performance

Notice:

The SIPLUS HMI 7" Comfort Panel Outdoor corresponds to a SIPLUS HMI 7" Comfort Panel Standard, the SIPLUS HMI 15" Comfort Panel Outdoor corresponds to a SIPLUS HMI 12" Comfort Panel Standard in respect of performance, functionality and quantity structure.

http://www.siemens.com/comfort-panels-outdoor

Note:

SIPLUS extreme products are based on SIMATIC standard products. The contents listed here were taken from the respective standard products. SIPLUS extreme-specific information was added.

◼ Technical specifications

Article number	**6AG1124-0GC13-2AX0** SIPLUS HMI TP700 COMFORT OUTDOOR	**6AG1124-0QC13-2AX0** SIPLUS HMI TP1500 Comfort Outdoor
Ambient conditions		
Suited for indoor use	Yes	Yes
Suited for outdoor use	Yes; Powder-coated, UV resistant	Yes; Powder-coated, UV resistant
Ambient temperature during operation		
• Operation (vertical installation)		
- For vertical installation, min.	-30 °C; = Tmin	-30 °C; = Tmin
- For vertical installation, max.	60 °C; (55 °C, see entry ID: 64847814)	60 °C; (55 °C, see entry ID: 64847814)
Altitude during operation relating to sea level		
• Installation altitude above sea level, max.	5 000 m	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)
		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)

Relative humidity		
• With condensation, tested in accordance with IEC 60068-2-38, max.	100 %; RH incl. condensation/frost (no commissioning when condensation present), vertical mounting position	100 %; RH incl. condensation/frost (no commissioning when condensation present), vertical mounting position
Resistance		
Coolants and lubricants		
- Resistant to commercially available coolants and lubricants	Yes; Incl. diesel and oil droplets in the air	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	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); *	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, *	Yes; Class 3S4 incl. sand, dust, *

Technical specifications (continued)

Article number	6AG1124-0GC13-2AX0	6AG1124-0QC13-2AX0
	SIPLUS HMI TP700 COMFORT OUTDOOR	SIPLUS HMI TP1500 Comfort Outdoor
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	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); *	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; *	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)	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)	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!	* 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	Yes
• Protection against fouling acc. to EN 60664-3	Yes; Type 1 protection	Yes; Type 1 protection
• Military testing according to MIL-I-46058C, Amendment 7	Yes; Discoloration of coating possible during service life	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	Yes; Conformal coating, Class A

Ordering data

	Article No.
SIPLUS HMI Comfort Outdoor Panels	
SIPLUS HMI TP700 Comfort Panel Outdoor	6AG1124-0GC13-2AX0
For areas with extreme exposure to environmental substances (conformal coating); ambient temperature -30 ... +60 °C	
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 from WinCC Comfort V13, SP1, HSP	
SIPLUS HMI TP1500 Comfort Panel Outdoor	6AG1124-0QC13-2AX0
For areas with extreme exposure to environmental substances (conformal coating); ambient temperature -30 ... +60 °C	
Touch operation, 15" widescreen TFT display, 16 million colors, PROFINET interface, MPI/PROFIBUS DP interface, 12 MB configuration memory, Windows CE 6.0, configurable as from WinCC Comfort V13, SP1, HSP	
Accessories	See "Operator Control and Monitoring Systems SIMATIC HMI" -> "Accessories"

More information

Additional information is available on the Internet at:

http://www.siemens.com/comfort-panels-outdoor

Note:

The SIPLUS HMI TP700 Comfort Panel Outdoor is comparable with the SIPLUS HMI TP700 Comfort Panel Standard.

The SIPLUS HMI TP1500 Comfort Panel Outdoor is comparable with the SIPLUS HMI TP1200 Comfort Panel Standard with a 15" display.

A TP1500 Comfort Standard unit with the maximum possible configuration cannot be installed on a SIPLUS HMI TP1500 Comfort Panel Outdoor.