

SIPLUS HMI TP2200 COMFORT 22" FOR MEDICAL STRESS WITH CONFORMAL COATING BASED ON 6AV2124-0XC02-0AX0



Product type designation

Display

Design of display	TFT
Screen diagonal	21.5 in
Display width	495.6 mm
Display height	292.2 mm
Number of colors	16 777 216

Resolution (pixels)

- | | |
|-------------------------------|-------|
| • Horizontal image resolution | 1 920 |
| • Vertical image resolution | 1 080 |

Backlighting

- | | |
|--------------------------------|--------------|
| • MTBF backlighting (at 25 °C) | 30 000 h |
| • Dimmable backlight | Yes; 0-100 % |

Control elements

Keyboard

- | | |
|------------------------------|----|
| • Number of function keys | 0 |
| • Keys with LED | No |
| • System keys | No |
| • Numeric/alphabetical input | |

— Numeric keyboard	Yes
— Alphanumeric keyboard	Yes
Touch operation	
• Design as touch screen	Yes
Expansions for operator control of the process	
• Direct keys (touch buttons as S7 input I/O)	40
Installation type/mounting	
Mounting in portrait format possible	Yes
Mounting in landscape format possible	Yes
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)	2.2 A
Inrush current A ² s	0.5 A ² s
Power	
Power consumption, typ.	53 W
Memory	
Flash	Yes
RAM	Yes
Usable memory for user data	24 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 clock)	Yes
• Software clock	No
• Battery-backed	Yes; Back-up duration typically 6 weeks
• Synchronizable	Yes
Interfaces	
Number of RS 485 interfaces	1; RS 422/485 combined
Number of USB interfaces	2; USB 2.0
Number of USB Mini B interfaces	1; 5-pole
Number of SD card slots	2

Number of parallel interfaces	0
Number of 20 mA interfaces (TTY)	0
Number of RS 232 interfaces	0
Number of RS 422 interfaces	1
Number of other interfaces	0
With software interfaces	No
Industrial Ethernet	
• Number of industrial Ethernet interfaces	3
• Industrial Ethernet status LED	3
• Number of ports of the integrated switch	2
Protocols	
PROFINET	Yes
PROFINET IO	Yes
IRT supported	Yes; As of WinCC V12
MRP supported	Yes
PROFIBUS	Yes
MPI	Yes
Protocols (Ethernet)	
• TCP/IP	Yes
• DHCP	Yes
• SNMP	Yes
• DCP	Yes
• LLDP	Yes
WEB characteristics	
• HTTP	Yes
• HTTPS	Yes
• HTML	Yes
• XML	Yes
• CSS	Yes
• Active X	Yes
• JavaScript	Yes
• Java VM	No
Further protocols	
• CAN	No
• MODBUS	Yes
• Supports protocol for EtherNet/IP	Yes
Interrupts/diagnostics/status information	
Diagnostic messages	
• Diagnostic information readable	Yes; S7 controller
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)	IP65
Enclosure Type 4 at the front	Yes
Enclosure type 4x at the front	Yes
IP (rear)	IP20
Standards, approvals, certificates	
CE mark	Yes
KC approval	Yes
cULus	Yes
RCM (formerly C-TICK)	Yes
Marine approval	
<ul style="list-style-type: none"> • Germanischer Lloyd (GL) • American Bureau of Shipping (ABS) • Bureau Veritas (BV) • Det Norske Veritas (DNV) • Lloyds Register of Shipping (LRS) • Nippon Kaiji Kyokai (Class NK) • Polski Rejestr Statkow (PRS) 	No
Use in hazardous areas	
<ul style="list-style-type: none"> • ATEX Zone 2 • ATEX Zone 22 • cULus Class I Zone 1 • cULus Class I Zone 2, Division 2 • FM Class I Division 2 	No No No Yes No
Ambient conditions	
Mounting position	vertical
maximum permissible angle of inclination without external ventilation	35°
Operating temperature	
<ul style="list-style-type: none"> • Operation (vertical installation) <ul style="list-style-type: none"> — in vertical mounting position, minimum — in vertical mounting position, maximum • Operation (max. tilt angle) <ul style="list-style-type: none"> — at maximum tilt angle, minimum — at maximum tilt angle, maximum • Operation (vertical installation, portrait format) <ul style="list-style-type: none"> — in vertical mounting position, minimum — in vertical mounting position, maximum • Operation (max. tilt angle, portrait format) <ul style="list-style-type: none"> — at maximum tilt angle, minimum — at maximum tilt angle, maximum 	0 °C; = Tmin 45 °C; = Tmax 0 °C; = Tmin 40 °C; = Tmax 0 °C; = Tmin 40 °C; = Tmax 0 °C; = Tmin 35 °C; = Tmax
Storage/transport temperature	
<ul style="list-style-type: none"> • Min. 	-20 °C

• max.	60 °C
Extended ambient conditions	
• Relative to ambient temperature-atmospheric pressure-installation altitude	Tmin ... Tmax at 1080 hPa ... 795 hPa (-1000 m ... +2000 m) // Tmin ... (Tmax - 10K) at 795 hPa ... 658 hPa (+2000 m ... +3500 m) // Tmin ... (Tmax - 20K) at 658 hPa ... 540 hPa (+3500 m ... +5000 m)
Relative humidity	
— with condensation, tested in accordance with IEC 60068-2-38, maximum	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)
Resistance	
— against biologically active substances / conformity with EN 60721-3-3	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna). The supplied connector covers must remain on the unused interfaces during operation!
— against chemically active substances / conformity with EN 60721-3-3	Yes; Class 3C4 (RH < 75%) incl. salt spray according to EN 60068-2-52 (degree of severity 3). The supplied connector covers must remain on the unused interfaces during operation!
— against mechanically active substances / conformity with EN 60721-3-3	Yes; Class 3S4 incl. sand, dust. The supplied connector covers must remain on the unused interfaces during operation!
Operating systems	
proprietary	No
Executable with configuration operating system	
• other	No
Configuration	
Message indicator	Yes
With alarm logging system (incl. buffer and acknowledgment)	Yes
Process value display (output)	Yes
Process value default (input) possible	Yes
Recipe administration	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; V11 SP2 or higher
• WinCC Advanced (TIA Portal)	Yes; V11 SP2 or higher
• WinCC Professional (TIA Portal)	Yes; V11 SP2 or higher
Languages	
Online languages	
• Number of online/runtime languages	32
Languages	
• Languages per project	32

• Languages	
— D	Yes
— GB	Yes
— F	Yes
— I	Yes
— E	Yes
— Chinese traditional	Yes
— Chinese simplified	Yes
— DK	Yes
— FIN	Yes
— GR	Yes
— J	Yes
— KP / ROK	Yes
— NL	Yes
— N	Yes
— PL	Yes
— P	Yes
— RUS	Yes
— S	Yes
— CZ	Yes
— SK	Yes
— TR	Yes
— H	Yes

Functionality under WinCC (TIA Portal)

Libraries	Yes
Applications/options	
• Internet Explorer	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	320
Message system	
• Number of alarm classes	32
• Number of bit messages	6 000
• Number of analog messages	200

• S7 alarm number procedure	Yes
• System messages HMI	Yes
• System messages, other (SIMATIC S7, Sinumerik, Simotion, etc.)	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 administration	
• 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
Variables	
• Number of variables per device	4 096
• Number of variables per screen	400
• Limit values	Yes
• Multiplexing	Yes
• Structs	Yes
• Arrays	Yes
Images	
• Number of configurable images	750
• Permanent window/default	Yes
• Global image	Yes
• Start screen configurable	Yes
• Image selection by PLC	Yes
• Image number in the PLC	Yes
Image objects	
• 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 view	Yes

• Icons	Yes
• Geometric objects	Yes
Complex image objects	
• 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
• 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	50 000
• 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	
— US American (English)	Yes
• Character sets	
— Tahoma	Yes
— Arial	Yes
— Courier New	Yes
— WinCC flexible Standard	Yes
— Ideographic languages	Yes
• Font size freely scalable	Yes
• Additional character sets can be loaded	Yes
Transfer (upload/download)	
• MPI/PROFIBUS DP	Yes
• USB	Yes
• Ethernet	Yes
• using external storage medium	No
Process coupling	
• S7-1200	Yes
• S7-1500	Yes
• S7-200	Yes
• S7-300/400	Yes
• LOGO!	Yes
• Win AC	Yes
• SINUMERIK	Yes; with SINUMERIK option package
• SIMOTION	No; With WinCC, subsequent version
• 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	No
Service tools/configuration aids	
• Clean screen	Yes

• Touch calibration	Yes
• Backup/restore	Yes
• Backup/Restore automatically	Yes
• Simulation	Yes
• Device switchover	Yes
• Delta transfer	Yes

I/O / Options

I/O devices

• Printer	Yes
• MultiMediaCard	Yes
• SD card	Yes
• USB memory	Yes
• Network camera	Yes

Mechanics/material

Type of housing (front)

• plastic	No
• aluminum	Yes
• Stainless steel	No

Dimensions

Width of the housing front	560 mm
Height of housing front	380 mm
Mounting cutout/device depth (W x H x T)	
• Mounting cutout, width	542 mm
• Mounting cutout, height	362 mm
Device depth	75 mm

Weights

Without packaging	7.1 kg
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