## **SIEMENS**

## Data sheet

## 6AG1124-0GC01-4AX0

SIPLUS HMI TP700 COMFORT FOR medial stress with conformal coating based on 6AV2124-0GC01-0AX0



Figure similar

General information	
Product type designation	TP700 Comfort
Display	
Design of display	TFT
	7 in
Screen diagonal	
Display width	152.4 mm
Display height	91.4 mm
Number of colors	16 777 216
Resolution (pixels)	
<ul> <li>Horizontal image resolution</li> </ul>	800 Pixel
<ul> <li>Vertical image resolution</li> </ul>	480 Pixel
Backlighting	
<ul> <li>MTBF backlighting (at 25 °C)</li> </ul>	80 000 h
Backlight dimmable	Yes; 0-100 %
Control elements	

Keyboard fonts

<ul> <li>Function keys</li> </ul>	
— Number of function keys	0
- Number of function keys with LEDs	0
<ul> <li>Keys with LED</li> </ul>	No
System keys	No
Numeric keyboard	Yes; Onscreen keyboard
<ul> <li>alphanumeric keyboard</li> </ul>	Yes; Onscreen keyboard
Touch operation	
Design as touch screen	Yes
Expansions for operator control of the process	
<ul> <li>DP direct LEDs (LEDs as S7 output I/O)</li> </ul>	
— F1Fx	0
<ul> <li>Direct keys (keys as S7 input I/O)</li> </ul>	
— F1Fx	0
<ul> <li>Direct keys (touch buttons as S7 input I/O)</li> </ul>	32
Installation type/mounting	unitian
Mounting position	vertical
Wall mounting/direct mounting Mounting in portrait format possible	No Yes
Mounting in landscape format possible	Yes
maximum permissible angle of inclination without	35°
external ventilation	
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)	0.5 A
Starting current inrush I <sup>2</sup> t	0.5 A <sup>2</sup> ·s
Power	
	12 W
Active power input, typ.	12 W
Active power input, typ. Processor	
Active power input, typ.	12 W  X86
Active power input, typ. Processor	
Active power input, typ. Processor Processor type	
Active power input, typ. Processor Processor type Memory	X86
Active power input, typ. Processor Processor type Memory Flash	X86 Yes
Active power input, typ.  Processor Processor type  Memory Flash RAM Memory available for user data	X86 Yes Yes
Active power input, typ. Processor Processor type Memory Flash RAM	X86 Yes Yes

Error LEDNoAcoustics-• BuzzerNo• SpeakerYesClock• Indrware clock (real-time)Yes• Isdrware clock (real-time)Yes• Software clockNo• Software clockYes• Software clock2Number of NS 422 interfaces0Number of NS 422 interfaces0Number of Software clock2• USB Min B1.5 poleNumber of Darallel interfaces0Number of Software interfaces0Industrial Ethernet2• Industrial Ethernet istatus LED2• Number of POROFINET IOYesSupports protocol for PROFINET IOYesPROFIBUSYesMPIYes• DirtyPiYes• DirtyPiYes• DirtyPiYes• DirtyPiYes• DirtyPiYes	Power LED	No
• BuzzarNo• SpeakerYesTime of dayClockClockYes• Andware clock (real-time)Yes• Software clockNo• Software clockYes• InterfaceYesInterfaces• Synchronizable2VerberYesNumber of RS 445 interfaces1Number of RS 445 interfaces1Number of RS 445 interfaces0Number of RS 422 interfaces0Number of SS 422 interfaces0Number of USB interfaces0• USB Mini B1:5 poleNumber of JOS and interfaces (TTY)0• USB Mini B1:5 poleNumber of SD and slots2• Number of SD and slots0• Number of SD and slots2• Number of SD and slots2• Number of Dard slots2• Number of parts of the integrated switch2• ProtocolsYesPROFINETYes• Supports protocol for PROFINET IOYes Not WinCC V12• RPOFINETYes• Supports protocol for PROFINET IOYes• PROFIBUSYes• ProtocolsYes• TCP/PYes• DUCPYes• SUMPYes• DUCPYes• LUDPYes• LUDPYes• LUDPYes• HTTPYes• HTTPYes	Error LED	No
• SpeakerYesClock• Hardware clock (real-time)Yes• Software clock (real-time)Yes• Software clock (real-time)Yes• Software clock (real-time)Yes• sterntiveYes• synchronizableYesNumber of Industrial Ethernet interfaces2Number of RS 485 interfaces1: RS 422 / 485 combinedNumber of RS 422 interfaces0Number of RS 422 interfaces0Number of S 232 interfaces0Number of S 10 interfaces (TTY)0Number of D parallel interfaces0Number of S 10 card slots2Vith software interfaces0Number of S 10 card slots2Protocol2ProtocolYesSupports protocol for PROFINET IOYes As of WinCC V12PROFIBUSYes As of WinCC V12PROFIBUSYes• DHCPYes• SNMPYes• DHCPYes• SNMPYes• DHCPYes• SNMPYes• DCPYes• DCPYes• DCPYes• DLCPYes• NUMPYes• DCPYes• SNMPYes• DCPYes• NUMPYes•	Acoustics	
Time of day           Clock           • Hardware clock (real-time)         Yes           • Software clock         No           • software clock         No           • stentive         Yes; Back-up duration typically 6 weeks           • synchronizable         Yes           Interfaces         2           Number of Industrial Ethernet interfaces         1, RS 422 / 485 combined           Number of RS 425 interfaces         1           Number of RS 232 interfaces         0           Number of RS 232 interfaces         0           Number of SD tentfaces         2, USB 2.0           • USB Mini B         1; 5-pole           Number of 20 mA interfaces (TTY)         0           Number of SD card slots         2           Number of SD card slots         2           Number of solt interfaces         0           Number of other interfaces         0           Number of ports of the integrated switch         2           Protocol         2           PROFINET         Yes           Supports protocol for PROFINET 10         Yes As of WinCC V12           PROFIBUS         Yes           Protocols (Ethernet)         Yes           • TCP/IP         Yes     <	• Buzzer	No
Clock     Ves          • Hardware clock (real-time)     Yes          • Software clock No     No       • retentive     Yes; Back-up duration typically 6 weeks       • synchronizable     Yes       Interfaces     2       Number of Industrial Ethernet interfaces     1       Number of RS 485 interfaces     1       Number of RS 422 interfaces     1       Number of RS 423 interfaces     2       • USB Ninfa     1; S-pole       Number of 20 mA interfaces (TTY)     0       Number of SD card slots     2       Number of SD card slots     2       Vith software interfaces     0       Number of Dorts of the integrated switch     2       • Industrial Ethernet     2       • Industrial Ethernet status LED     2       • Number of ports of the integrated switch     2       • Number of ports of the integrated switch     2       • Number of ports of the integrated switch     2       • Number of SD card slots     2       • Number of ports of the integrated switch     2       • Number of ports of the integrated switch     2       • Number of ports of the integrated switch     2       • Number of SD card slots     2       • Number of ports of the integrated switch     2       • Number of po	• Speaker	Yes
Clock     Ves          • Hardware clock (real-time)     Yes          • Software clock No     No       • retentive     Yes; Back-up duration typically 6 weeks       • synchronizable     Yes       Interfaces     2       Number of Industrial Ethernet interfaces     1       Number of RS 485 interfaces     1       Number of RS 422 interfaces     1       Number of RS 423 interfaces     2       • USB Ninfa     1; S-pole       Number of 20 mA interfaces (TTY)     0       Number of SD card slots     2       Number of SD card slots     2       Vith software interfaces     0       Number of Dorts of the integrated switch     2       • Industrial Ethernet     2       • Industrial Ethernet status LED     2       • Number of ports of the integrated switch     2       • Number of ports of the integrated switch     2       • Number of ports of the integrated switch     2       • Number of SD card slots     2       • Number of ports of the integrated switch     2       • Number of ports of the integrated switch     2       • Number of ports of the integrated switch     2       • Number of SD card slots     2       • Number of ports of the integrated switch     2       • Number of po	Time of day	
<ul> <li>Software clock</li> <li>No</li> <li>retentive</li> <li>synchronizable</li> <li>Yes: Back-up duration typically 6 weeks</li> <li>synchronizable</li> <li>Yes</li> <li>Interfaces</li> <li>Number of Industrial Ethernet interfaces</li> <li>R X22 / 485 combined</li> <li>Number of RS 425 interfaces</li> <li>1, RS 422 / 485 combined</li> <li>Number of RS 425 interfaces</li> <li>0</li> <li>Number of RS 232 interfaces</li> <li>0</li> <li>Number of S2 232 interfaces</li> <li>2, USB 2.0</li> <li>USB Mini B</li> <li>1, 5-pole</li> <li>Number of Other interfaces</li> <li>2, USB 2.0</li> <li>USB Mini B</li> <li>1, 5-pole</li> <li>Number of Other interfaces</li> <li>0</li> <li>Number of other interfaces</li> <li>No</li> <li>Industrial Ethernet</li> <li>Industrial Ethernet status LED</li> <li>2</li> <li>Number of ports of the integrated switch</li> <li>2</li> <li>PROFINET</li> <li>Ves</li> <li>Supports protocol for PROFINET IO</li> <li>Yes</li> <li>Supports protocol for PROFINET IO</li> <li>Yes</li> <li>PROFIBUS</li> <li>Yes</li> <li>PROFINET</li> <li>Yes</li> <li>PROFINET</li> <li>Yes</li> <li>PROFINET</li> <li>Yes</li> <li>PROFINET</li> <li>Yes</li> <li>UDP</li> <li>Yes</li> </ul>		
InstantionYes; Back-up duration typically 6 weeks• relentiveYes• synchronizableYesInterfaces2Number of Industrial Ethernet interfaces1; RS 422 / 485 combinedNumber of RS 485 interfaces1; RS 422 / 485 combinedNumber of RS 422 Interfaces0Number of RS 232 Interfaces0• USB Mini B1; 5-poleNumber of USB interfaces0• USB Mini B1; 5-poleNumber of Dari Interfaces0Number of Dari Interfaces2Protocol2Protocol Interfaces2Protocol InterfaceYes; As of WinCC V12PROFINETYes; As of WinCC V12Protocol (Ethernet)Yes• TCP/IPYes• DHCPYes• DHCPYes• DHCPYes• DLDPYes• ULDPYesWEB characteristicsYes• HTTPYes <td><ul> <li>Hardware clock (real-time)</li> </ul></td> <td>Yes</td>	<ul> <li>Hardware clock (real-time)</li> </ul>	Yes
• synchronizableYesNumber of industrial Ethernet interfaces2Number of IS 485 interfaces1. RS 422 / 485 combinedNumber of RS 422 interfaces1Number of RS 232 interfaces0Number of RS 232 interfaces2. USB 2.0• USB Mini B1.5-poleNumber of Darallel interfaces0Number of Darat slots2Protocar slots2Protocol Darat slots2PROFINETYesSupports protocol for PROFINET IOYesPROFIBUSYesProtocol (Ethernet)Yes• TCP/IPYes• DHOPYes• DHOPYes• DHOPYes• DLOPYes• DLOPYes• LDPYes• WEB characteristorsYes• HTTPYes	Software clock	No
Interfaces         2           Number of Industrial Ethernet interfaces         1: RS 422 / 485 combined           Number of RS 435 interfaces         1: RS 422 / 485 combined           Number of RS 432 interfaces         0           Number of RS 232 interfaces         0           Number of USB interfaces         2: USB 2.0           • USB Mini B         1; 5-pole           Number of QD mA interfaces (TTY)         0           Number of Other interfaces         0           Number of SD card slots         2           With software interfaces         0           Number of ports of the integrated switch         2           Protocols         2           Protocol for PROFINET IO         Yes           Supports protocol for PROFINET IO         Yes           PROFIBUS         Yes           MPI         Yes           PHCP         Yes           PICOP         Yes           SIMP         Yes           SIMP         Yes           UCP         Yes           ULDP         Yes           WEB characteristics         Yes	retentive	Yes; Back-up duration typically 6 weeks
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 422 interfaces     1       Number of RS 422 interfaces     2; USB 2.0       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 5D card slots     2       With software interfaces     0       Number of DC ard slots     2       Vith software interfaces     0       Industrial Ethernet     2       Industrial Ethernet status LED     2       • Number of ports of the integrated switch     2       PROFINET     Yes       Supports protocol for PROFINET IO     Yes       IRT     Yes; As of WinCC V12       PROFIBUS     Yes       MPI     Yes       • DHCP     Yes       • SIMP     Yes       • DLCP     Yes       • LLDP     Yes       WEB characteristics     Yes	synchronizable	Yes
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 422 interfaces     1       Number of RS 422 interfaces     2; USB 2.0       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 5D card slots     2       With software interfaces     0       Number of DC ard slots     2       Vith software interfaces     0       Industrial Ethernet     2       Industrial Ethernet status LED     2       • Number of ports of the integrated switch     2       PROFINET     Yes       Supports protocol for PROFINET IO     Yes       IRT     Yes; As of WinCC V12       PROFIBUS     Yes       MPI     Yes       • DHCP     Yes       • SIMP     Yes       • DLCP     Yes       • LLDP     Yes       WEB characteristics     Yes	Interfaces	
Number of RS 422 interfaces1Number of RS 232 interfaces0Number of USB interfaces2; USB 2.0• USB Mini B1; 5-poleNumber of 20 mA interfaces (TTY)0Number of 20 mA interfaces0Number of stallel interfaces0Number of SD card slots2With software interfacesNoIndustrial Ethernet2• Industrial Ethernet status LED2• Number of ports of the integrated switch2PROFINETYesSupports protocol for PROFINET IOYesIRTYes; As of WinCC V12PROFIBUSYesMPIYes• DHCPYes• SIMPYes• ULCPYes• ULCPYes <td></td> <td>2</td>		2
Number of RS 232 interfaces0Number of USB interfaces2; USB 2.0• USB Mini B1; 5-poleNumber of 20 mA interfaces (TTY)0Number of parallel interfaces0Number of other interfaces0Number of other interfaces0Number of SD card slots2Vith software interfacesNoIndustrial Ethernet2• Industrial Ethernet status LED2• Number of ports of the integrated switch2PROFINETYesSupports protocol for PROFINET IOYes; As of WinCC V12PROFIBUSYesMPIYes• TCP/IPYes• TCP/IPYes• DHCPYes• SINMPYes• DLCPYes• LLDPYes• WEB characteristicsYes• HTTPYes	Number of RS 485 interfaces	1; RS 422 / 485 combined
Number of USB interfaces2; USB 2.0• USB Mini B1; 5-poleNumber of 20 mA interfaces (TTY)0Number of parallel interfaces0Number of other interfaces0Number of SD card slots2With software interfacesNoIndustrial Ethernet2• Industrial Ethernet status LED2• Number of ports of the integrated switch2Protocols2PROFINETYesSupports protocol for PROFINET IOYesIRTYes; As of WinCC V12PROFIBUSYesMPIYes• TCP/IPYes• DHCPYes• SINMPYes• DCPYes• LLDPYesWEB characteristicsYes• HTTPYes	Number of RS 422 interfaces	1
• USB Mini B1: 5-poleNumber of 20 mA interfaces (TTY)0Number of 20 mA interfaces0Number of parallel interfaces0Number of other interfaces0Number of SD card slots2With software interfacesNoIndustrial Ethernet2• Industrial Ethernet status LED2• Number of ports of the integrated switch2ProtocolsYesPROFINETYes; As of WinCC V12PROFIBUSYes; As of WinCC V12PROFIBUSYes• TCP/IPYes• TCP/IPYes• SNMPYes• DHCPYes• SIMPYes• LLDPYes• ULDPYes• NUMPYes• TCP/IPYes• TCP/IPYes• TCP/IPYes• TCP/IPYes• DHCPYes• DICPYes• DICPYes• HTTPYes• HTTPYes	Number of RS 232 interfaces	0
Number of 20 mA interfaces (TTY)0Number of parallel interfaces0Number of other interfaces0Number of SD card slots2With software interfacesNoIndustrial Ethernet2• Industrial Ethernet status LED2• Number of ports of the integrated switch2Protocols2ProtocolsYesIRTYes; As of WinCC V12PROFIBUSYesMPIYes• TCP/IPYes• TCP/IPYes• DHCPYes• SNMPYes• DLCPYes• LLDPYes• MIPIYes• DCPYes• TCP/IPYes• NUMPYes• TCP/IPYes• DHCPYes• DLCPYes• LLDPYes• HTTPYes	Number of USB interfaces	2; USB 2.0
Number of parallel interfaces0Number of other interfaces0Number of SD card slots2With software interfacesNoIndustrial Ethernet2• Industrial Ethernet status LED2• Number of ports of the integrated switch2ProtocolsPROFINETPROFINETYesSupports protocol for PROFINET IOYesIRTYes; As of WinCC V12PROFIBUSYesMPIYesProtocols (Ethernet)Yes• TCP/IPYes• DHCPYes• SNMPYes• DLCPYes• LLDPYesWEB characteristicsYes• HTTPYes	• USB Mini B	1; 5-pole
Number of other interfaces0Number of SD card slots2With software interfacesNoIndustrial Ethernet2• Industrial Ethernet status LED2• Number of ports of the integrated switch2ProtocolsYesPROFINETYesSupports protocol for PROFINET IOYesIRTYes; As of WinCC V12PROFIBUSYesMPIYes• TCP/IPYes• DHCPYes• SNMPYes• DCPYes• LLDPYesWEB characteristicsYes• HTTPYes	Number of 20 mA interfaces (TTY)	0
Number of SD card slots2With software interfacesNoIndustrial Ethernet2Industrial Ethernet status LED2• Number of ports of the integrated switch2Protocols2PROFINETYesSupports protocol for PROFINET IOYes; As of WinCC V12PROFIBUSYes; As of WinCC V12PROFIBUSYesMPIYes• TCP/IPYes• DHCPYes• DHCPYes• SNMPYes• DLCPYes• DLCPYes	Number of parallel interfaces	0
With software interfacesNoIndustrial EthernetVIndustrial Ethernet status LED2• Number of ports of the integrated switch2ProtocolsYesPROFINETYesSupports protocol for PROFINET IOYesIRTYes; As of WinCC V12PROFIBUSYesMPIYes• TCP/IPYes• DCPYes• SIMMPYes• DCPYes• LLDPYesWEB characteristicsYes• HTTPYes	Number of other interfaces	0
Industrial EthernetImage: Constraint of the integrated switch2Protocols2ProtocolsYesSupports protocol for PROFINET IOYes (As of WinCC V12)IRTYes; As of WinCC V12PROFIBUSYesMPIYes• TCP/IPYes• TCP/IPYes• DCPYes• DCPYes• DCPYes• DCPYes• HTTPYes• HTTPYes	Number of SD card slots	2
• Industrial Ethernet status LED2• Number of ports of the integrated switch2Protocols2PROFINETYesSupports protocol for PROFINET IOYes (As of WinCC V12IRTYes (As of WinCC V12PROFIBUSYesMPIYes• TCP/IPYes• TCP/IPYes• DHCPYes• SNMPYes• DLCPYes• DLCPYes• NMPYes• DLCPYes• NMPYes• DLCPYes• DLCPYes• HTTPYes	With software interfaces	No
• Number of ports of the integrated switch2ProtocolsPROFINETYesSupports protocol for PROFINET IOYesIRTYes; As of WinCC V12PROFIBUSYesMPIYes• TCP/IPYes• TCP/IPYes• DHCPYes• SNMPYes• DCPYes• LLDPYesWEB characteristicsYes• HTTPYes	Industrial Ethernet	
Protocols       PROFINET     Yes       Supports protocol for PROFINET IO     Yes       IRT     Yes; As of WinCC V12       PROFIBUS     Yes       MPI     Yes       Protocols (Ethernet)     Yes       • TCP/IP     Yes       • DHCP     Yes       • SNMP     Yes       • DCP     Yes       • LLDP     Yes       WEB characteristics     Yes	<ul> <li>Industrial Ethernet status LED</li> </ul>	2
PROFINETYesSupports protocol for PROFINET IOYesIRTYes; As of WinCC V12PROFIBUSYesMPIYesProtocols (Ethernet)Yes• TCP/IPYes• DHCPYes• SNMPYes• DCPYes• LLDPYesWEB characteristicsYes• HTTPYes	<ul> <li>Number of ports of the integrated switch</li> </ul>	2
Supports protocol for PROFINET IOYesIRTYes; As of WinCC V12PROFIBUSYesMPIYesProtocols (Ethernet)Yes• TCP/IPYes• DHCPYes• SNMPYes• DCPYes• LLDPYesWEB characteristicsYes• HTTPYes	Protocols	
IRTYes; As of WinCC V12PROFIBUSYesMPIYesProtocols (Ethernet)Yes• TCP/IPYes• DHCPYes• SNMPYes• DCPYes• LLDPYesWEB characteristicsYes	PROFINET	Yes
PROFIBUSYesMPIYesProtocols (Ethernet)Yes• TCP/IPYes• DHCPYes• SNMPYes• DCPYes• LLDPYesWEB characteristicsYes	Supports protocol for PROFINET IO	Yes
MPIYesProtocols (Ethernet)Yes• TCP/IPYes• DHCPYes• SNMPYes• DCPYes• LLDPYesWEB characteristicsYes	IRT	Yes; As of WinCC V12
Protocols (Ethernet)         • TCP/IP       Yes         • DHCP       Yes         • SNMP       Yes         • DCP       Yes         • LLDP       Yes         WEB characteristics       Yes	PROFIBUS	Yes
• TCP/IPYes• DHCPYes• SNMPYes• DCPYes• LLDPYes• KTPYes	MPI	Yes
• DHCPYes• SNMPYes• DCPYes• LLDPYesWEB characteristicsYes	Protocols (Ethernet)	
• SNMPYes• DCPYes• LLDPYesWEB characteristicsYes	• TCP/IP	Yes
• DCP     Yes       • LLDP     Yes       WEB characteristics     Yes       • HTTP     Yes	• DHCP	Yes
<ul> <li>LLDP Yes</li> <li>WEB characteristics</li> <li>HTTP Yes</li> </ul>	• SNMP	Yes
WEB characteristics       • HTTP       Yes	• DCP	Yes
• HTTP Yes	• LLDP	Yes
	WEB characteristics	
• HTTPS No	• HTTP	Yes
	• HTTPS	No

• HTML	Yes
• XML	No
• CSS	Yes
Active X	No
● JavaScript	Yes
● Java VM	No
Redundancy mode	
Media redundancy	
— MRP	Yes; As of WinCC V12
Further protocols	
• CAN	No
EtherNet/IP	Yes
• MODBUS	Yes
Interrupts/diagnostics/status information	
Diagnoses	
Diagnostic information readable	Yes; S7 controller
-	
EMC	
Emission of radio interference acc. to EN 55 011	
<ul> <li>Limit class A, for use in industrial areas</li> </ul>	Yes
<ul> <li>Limit class B, for use in residential areas</li> </ul>	No
Degree and class of protection	
Degree and class of protection IP (at the front)	IP65
	IP65 IP20
IP (at the front)	
IP (at the front) IP (rear)	
IP (at the front) IP (rear) NEMA (front)	IP20
IP (at the front) IP (rear) NEMA (front) • Enclosure Type 4 at the front • Enclosure Type 4x at the front	IP20 Yes
IP (at the front) IP (rear) NEMA (front) • Enclosure Type 4 at the front	IP20 Yes
IP (at the front) IP (rear) NEMA (front) • Enclosure Type 4 at the front • Enclosure Type 4x at the front Ambient conditions	IP20 Yes Yes
IP (at the front) IP (rear) NEMA (front) • Enclosure Type 4 at the front • Enclosure Type 4x at the front Ambient conditions Suited for indoor use	IP20 Yes Yes
IP (at the front) IP (rear) NEMA (front) • Enclosure Type 4 at the front • Enclosure Type 4x at the front Ambient conditions Suited for indoor use Suited for outdoor use	IP20 Yes Yes
IP (at the front) IP (rear) NEMA (front) • Enclosure Type 4 at the front • Enclosure Type 4x at the front Ambient conditions Suited for indoor use Suited for outdoor use Ambient temperature during operation	IP20 Yes Yes
IP (at the front) IP (rear) NEMA (front) • Enclosure Type 4 at the front • Enclosure Type 4x at the front Ambient conditions Suited for indoor use Suited for outdoor use Ambient temperature during operation • Operation (vertical installation)	IP20 Yes Yes No
IP (at the front) IP (rear) NEMA (front) • Enclosure Type 4 at the front • Enclosure Type 4x at the front Ambient conditions Suited for indoor use Suited for outdoor use Ambient temperature during operation • Operation (vertical installation) — For vertical installation, min.	IP20 Yes Yes No 0 °C; = Tmin
IP (at the front) IP (rear) NEMA (front) • Enclosure Type 4 at the front • Enclosure Type 4x at the front Ambient conditions Suited for indoor use Suited for outdoor use Ambient temperature during operation • Operation (vertical installation) — For vertical installation, min. — For vertical installation, max.	IP20 Yes Yes No 0 °C; = Tmin
IP (at the front) IP (rear) NEMA (front) • Enclosure Type 4 at the front • Enclosure Type 4x at the front Ambient conditions Suited for indoor use Suited for outdoor use Ambient temperature during operation • Operation (vertical installation) — For vertical installation, min. — For vertical installation, max. • Operation (max. tilt angle)	IP20 Yes Yes No 0 °C; = Tmin 50 °C; = Tmax
IP (at the front) IP (rear) NEMA (front) • Enclosure Type 4 at the front • Enclosure Type 4 at the front Ambient conditions Suited for indoor use Suited for outdoor use Ambient temperature during operation • Operation (vertical installation) — For vertical installation, min. — For vertical installation, max. • Operation (max. tilt angle) — At maximum tilt angle, min.	IP20 Yes Yes No 0 °C; = Tmin 50 °C; = Tmax 0 °C; = Tmin
IP (at the front) IP (rear) NEMA (front) • Enclosure Type 4 at the front • Enclosure Type 4 at the front <b>Ambient conditions</b> Suited for indoor use Suited for outdoor use Ambient temperature during operation • Operation (vertical installation) — For vertical installation, min. — For vertical installation, max. • Operation (max. tilt angle) — At maximum tilt angle, min. — At maximum tilt angle, min. • Operation (vertical installation, portrait format)	IP20 Yes Yes No 0 °C; = Tmin 50 °C; = Tmax 0 °C; = Tmin
IP (at the front) IP (rear) NEMA (front) • Enclosure Type 4 at the front • Enclosure Type 4 at the front <b>Ambient conditions</b> Suited for indoor use Suited for outdoor use Ambient temperature during operation • Operation (vertical installation) — For vertical installation, min. — For vertical installation, max. • Operation (max. tilt angle) — At maximum tilt angle, min. — At maximum tilt angle, min. • Operation (vertical installation, portrait format) — For vertical installation, min.	IP20 Yes Yes No 0 °C; = Tmin 50 °C; = Tmax 0 °C; = Tmin 40 °C; = Tmax
IP (at the front) IP (rear) NEMA (front) • Enclosure Type 4 at the front • Enclosure Type 4 at the front <b>Ambient conditions</b> Suited for indoor use Suited for outdoor use Ambient temperature during operation • Operation (vertical installation) — For vertical installation, min. — For vertical installation, max. • Operation (max. tilt angle) — At maximum tilt angle, min. — At maximum tilt angle, min. • Operation (vertical installation, portrait format)	IP20 Yes Yes No 0 °C; = Tmin 50 °C; = Tmax 0 °C; = Tmin 40 °C; = Tmax 0 °C; = Tmin

attitude       Tmin (Tmax - 10 K) at 795 hPa 658 hPa (+2 000 m) // Tmin (Tmax -20 K) at 658 hPa 540 hPa (+3 000 m)         Relative humidity       • With condensation, tested in accordance with IEC 60068-2-38, max.         • With condensation, tested in accordance with IEC 60068-2-38, max.       100 %; RH incl. condensation/frost (no commissioning condensation conditions)         Resistance       100 %; RH incl. condensation/frost (no commissioning condensation conditions)         Resistance       Yes; Incl. diesel and oil droplets in the air         - Resistant to commercially available coolants and lubricants       Yes; Incl. diesel and oil droplets in the air         - to biologically active substances according to EN 60721-3-3       Yes; Class 3B2 mold, fungus and dry rot spores (with 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 52 (severity degree 3); *         Use on ships/at sea       Yes; Class 6B2 mold and fungal spores (excluding fau 6B3 on request         - to indopically active substances according to EN 60721-3-6       Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 52 (severity degree 3); *         - to mechanically active substances according to EN 60721-3-6       Yes; Class 6S3 incl. sand, dust; *         - to mechanically active substances according to EN 60721-3-6       Yes; Class 6S3 incl. sand, dust; *         - to mechanically active substances accc. to EN 60654-4       Yes; Class 6S3 incl. sa			
Ambient temperature during storage/transportation       -20 °C         • max.       60 °C         Altitude during operation relating to see level       5 000 m         • Installation altitude above see level, max.       5 000 m         • Ambient air temperature-barometric pressure- altitude       5 000 m         • Ambient air temperature-barometric pressure- altitude       5 000 m         • Mith condensation, tested in accordance with IEC 60068-2-38, max.       100 %; RH incl. condensation/frost (no commissioning coolens and lubricants         • Resistance       100 %; RH incl. condensation/frost (no commissioning coolens and lubricants         • Not biologically active substances according to EN 60721-3-3       Yes; Class 3B2 mold, fungus and dry rot spores (with exception of fauna); Class 3B3 on request         • to biologically active substances according to EN 60721-3-3       Yes; Class 3B2 mold, fungus and dry rot spores (with exception of fauna); Class 3B3 on request         • to mechanically active substances according to EN 60721-3-6       Yes; Class 3B2 mold and fungal spores (excluding fau B3 on request         • to chemically active substances according to EN 60721-3-6       Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 52 (severity degree 3);*         • to mechanically active substances according to EN 60721-3-6       Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 52 (severity degree 3);*         • to mechanically active substances according to EN 60721-3-6       Yes; Class 623 incl. sand, dust;*<			-
<ul> <li>min.</li> <li>max.</li> <li>60 °C</li> <li>Altitude during operation relating to sea level</li> <li>installation altitude above sea level, max.</li> <li>Ambient air temperature-barometric pressure- altitude</li> <li>Armbient air temperature-barometric pressure- altitude</li> <li>With condensation, tested in accordance with IEC 60068-2-38, max.</li> <li>Resistance</li> <li>Coolants and lubricants</li> <li>Use in stationary industrial systems</li> <li>to biologically active substances according to EN 60721-3-3</li> <li>to chemically active substances according to EN 60721-3-3</li> <li>Use on ships/at sea</li> <li>to mechanically active substances according to EN 60721-3-3</li> <li>to mechanically active substances according to EN 60721-3-3</li> <li>to mechanically active substances according to EN 60721-3-3</li> <li>to the mically active substances according to EN 60721-3-6</li> <li>Ves; Class GBZ mold and fungal spores (excluding fau GB3 on request</li> <li>Yes; Class 6BZ mold and fungal spores (excluding fau GB3 on request</li> <li>Yes; Class 6C3 (RH &lt; 75 %) incl. salt spray acc. to EN 52 (severity degree 3).*</li> <li>Yes; Class 6S3 incl. sand, dust, *</li> <li>Scas 6S3 incl. sand, dust, *</li> <li>Sc</li></ul>		35 °C; = 1 max	
mm.         60 °C           Attitude during operation relating to sea level         5000 m           • Installation altitude above sea level, max.         5 000 m           • Ambient air temperature-barometric pressure- altitude         Tmin (Tmax 1 140 hPa 795 hPa (-1 000 m +4) Tmin (Tmax -10 K) at 795 hPa 658 hPa (+2 000 m) // Tmin (Tmax -20 K) at 658 hPa 540 hPa (+3 000 m)           Relative humidity         00 %; RH incl. condensation/frost (no commissioning condensation conditions)           Relative humidity         100 %; RH incl. condensation/frost (no commissioning condensation conditions)           Resistance         100 %; RH incl. condensation/frost (no commissioning condensation conditions)           Resistance         Yes; Iclass 3B2 mold, fungus and dry rot spores (with exception of fauna); Class 3B3 on request           - to biologically active substances according to EN 60721-3.3         Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 52 (severity degree 3); *           - to biologically active substances according to EN 60721-3.6         Yes; Class 6B2 mold and fungal spores (excluding fau 6B3 on request           - to mechanically active substances according to EN 60721-3.6         Yes; Class 6B2 mold and fungal spores (excluding fau 6B3 on request           - to mechanically active substances according to EN 60721-3.6         Yes; Class 6S3 incl. sand, dust; *           - to mechanically active substances according to EN 60721-3.6         Yes; Class 6S3 incl. sand, dust; *           U			Ambient temperature during storage/transportation
Altitude during operation relating to sea level <ul> <li>Installation altitude above sea level, max.</li> <li>Ambient air temperature-barometric pressurealtitude</li> <li>Installation altitude above sea level, max.</li> <li>Ambient air temperature-barometric pressurealtitude</li> <li>Tmin (Tmax + 10 K) at 795 hPa (-1 000 m +2 Tmin (Tmax + 20 K) at 658 hPa (+2 000 m) // Tmin (Tmax - 20 K) at 658 hPa 540 hPa (+2 000 m) // Tmin (Tmax - 20 K) at 65</li></ul>			• min.
<ul> <li>Installation altitude above sea level, max.</li> <li>Ambient air temperature-barometric pressure- altitude</li> <li>Ambient air temperature-barometric pressure- altitude</li> <li>Tmin (Tmax - 10 K) at 795 hPa (-1 000 m +2 Tmin (Tmax - 10 K) at 795 hPa (-2 000 m)// Tmin (Tmax - 20 K) at 658 hPa 540 hPa (+2 000 m) // Tmin (Tmax - 20 K) at 658 hPa 540 hPa (+3 000 m)</li> <li>Relative humidity</li> <li>With condensation, tested in accordance with IEC 60088-2-38, max.</li> <li>Resistance</li> <li>Coolants and lubricants</li> <li>Messitant to commercially available coolants and lubricants</li> <li>Ves: Incl. diesel and oil droplets in the air</li> <li>Use in stationary industrial systems</li> <li>to biologically active substances according to EN 60721-3-3</li> <li>Ves: Class 3B2 mold, fungus and dry rot spores (with exception of fauna); Class 3B3 on request</li> <li>Yes; Class 3C4 (RH &lt; 75 %) incl. salt spray acc. to EN 52 (severity degree 3);*</li> <li>Yes; Class 6C3 (RH &lt; 75 %) incl. salt spray acc. to EN 52 (severity degree 3);*</li> <li>Yes; Class 6C3 (RH &lt; 75 %) incl. salt spray acc. to EN 52 (severity degree 3);*</li> <li>Yes; Class 6C3 (RH &lt; 75 %) incl. salt spray acc. to EN 52 (severity degree 3);*</li> <li>Yes; Class 6C3 (RH &lt; 75 %) incl. salt spray acc. to EN 52 (severity degree 3);*</li> <li>Yes; Class 6C3 (RH &lt; 75 %) incl. salt spray acc. to EN 52 (severity degree 3);*</li> <li>Yes; Class 6C3 (RH &lt; 75 %) incl. salt spray acc. to EN 52 (severity degree 3);*</li> <li>Yes; Class 6C3 (RH &lt; 75 %) incl. salt spray acc. to EN 52 (severity degree 3);*</li> <li>Yes; Class 6C3 (RH &lt; 75 %) incl. salt spray acc. to EN 52 (severity degree 3);*</li> <li>Yes; Class 6C3 (RH &lt; 75 %) incl. salt spray acc. to EN 52 (severity degree 3);*</li> <li>Yes; Class 6C3 (RH &lt; 75 %) incl. salt spray acc. to EN 52 (severity degree 3);*</li> <li>Yes; Class 6C3 (RH &lt; 75 %) incl. salt spray acc. to EN 52</li></ul>		60 °C	
• Ambient air temperature-barometric pressure attitude       Tmin Tmax at 1 140 hPa 795 hPa (-1 000 m +4         • Mobient air temperature-barometric pressure attitude       Tmin (Tmax - 10 K) at 795 hPa ( 658 hPa (+2 000 m) // Tmin (Tmax -20 K) at 658 hPa 540 hPa (+3 000 m)         Relative humidity       •         • With condensation, tested in accordance with IEC 60068-2-38, max.       100 %; RH incl. condensation/frost (no commissioning condensation conditions)         Resistance       •         Coolants and lubricants       100 %; RH incl. condensation/frost (no commissioning condensation conditions)         Vesis instationary industrial systems       •         - to biologically active substances according to EN 60721-3-3       Yes; Class 3B2 mold, fungus and dry rot spores (with exception of fauna); Class 3B3 on request         - to chemically active substances according to EN 60721-3-3       Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 52 (severity degree 3); *			Altitude during operation relating to sea level
atitude       Tmin (Tmax - 10 K) at 795 hPa 658 hPa (+2 000 m) // Tmin (Tmax -20 K) at 658 hPa 540 hPa (+3 000 m)         Relative humidity       (Tmin (Tmax -20 K) at 658 hPa 540 hPa (+3 000 m)         • With condensation, tested in accordance with IEC 60068-2-38, max.       100 %; RH incl. condensation/frost (no commissioning condensation conditions)         Resistance       100 %; RH incl. condensation/frost (no commissioning condensation conditions)         Resistance       Yes; Incl. diesel and oil droplets in the air         Coolants and lubricants       Yes; Incl. diesel and oil droplets in the air         - Resistant to commercially available coolants and lubricants       Yes; Class 3B2 mold, fungus and dry rot spores (with exception of fauna); Class 3B3 on request         - to biologically active substances according to EN 60721-3-3       Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 52 (severity degree 3); *			<ul> <li>Installation altitude above sea level, max.</li> </ul>
• With condensation, tested in accordance with IEC 60068-2-38, max.       100 %; RH incl. condensation/frost (no commissioning condensation conditions)         Resistance       Coolants and lubricants       Yes; Incl. diesel and oil droplets in the air         Coolants and lubricants       Yes; Class 3B2 mold, fungus and dry rot spores (with exception of fauna); Class 3B3 on request         — to biologically active substances according to EN 60721-3-3       Yes; Class 3C4 (RH + 75 %) incl. salt spray acc. to EN 52 (severity degree 3); *         — to thenically active substances according to EN 60721-3-3       Yes; Class 6B2 mold and fungal spores (excluding fau 6B3 on request         — to biologically active substances according to EN 60721-3-6       Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 52 (severity degree 3); *         — to biologically active substances according to EN 60721-3-6       Yes; Class 6B2 mold and fungal spores (excluding fau 6B3 on request         — to mechanically active substances according to EN 60721-3-6       Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 52 (severity degree 3); *         — to mechanically active substances according to EN 60721-3-6       Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 52 (severity degree 3); *         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; f concentrations up	(+2 000 m +3 500	Tmin Tmax at 1 140 hPa 795 hPa (-1 000 m +2 000 Tmin (Tmax - 10 K) at 795 hPa 658 hPa (+2 000 m m) // Tmin (Tmax -20 K) at 658 hPa 540 hPa (+3 500 000 m)	
IEC 60068-2-38, max.       condensation conditions)         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       Yes; Class 3B2 mold, fungus and dry rot spores (with exception of fauna); Class 3B3 on request         — to biologically active substances according to EN 60721-3-3       Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 52 (severity degree 3); *			Relative humidity
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 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 52 (severity degree 3); *	issioning under	100 %; RH incl. condensation/frost (no commissioning und condensation conditions)	
— 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 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 52 (severity degree 3); *			Resistance
coolants and lubricantsvestUse in stationary industrial systems to biologically active substances according to EN 60721-3-3Yes; Class 3B2 mold, fungus and dry rot spores (with exception of fauna); Class 3B3 on request to chemically active substances according to EN 60721-3-3Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 52 (severity degree 3); * to mechanically active substances according to EN 60721-3-3Yes; Class 6B2 mold and fungal spores (excluding fau 6B3 on request to biologically active substances according to EN 60721-3-6Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 6B3 on request to mechanically active substances according to EN 60721-3-6Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 6B3 on request to mechanically active substances according to EN 60721-3-6Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 52 (severity degree 3); * to mechanically active substances according to EN 60721-3-6Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 52 (severity degree 3); * to mechanically active substances according to EN 60721-3-6Yes; Class 6S3 incl. sand, dust; * to mechanically active substances acc. to EN 60654-4Yes; Class 3 (excluding trichlorethylene) Environmental conditions for process, measuring and control systems acc. to ANSI/ISA-71.04Yes; Level GX group A/B (excluding trichlorethylene; h concentrations up to the limits of EN 60721-3-3 class 3 permissible); level LC3 (salt spray) and level LB3 (oil)Remark Note regarding classification of environmental conditions acc. to EN 60721,* The supplied plug covers must remain in p			Coolants and lubricants
to biologically active substances according to EN 60721-3-3Yes; Class 3B2 mold, fungus and dry rot spores (with exception of fauna); Class 3B3 on request to chemically active substances according to EN 60721-3-3Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 52 (severity degree 3); * to mechanically active substances according to EN 60721-3-3Yes; Class 6B2 mold and fungal spores (excluding fau 6B3 on request to biologically active substances according to EN 60721-3-6Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 6B3 on request to chemically active substances according to EN 60721-3-6Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 6B3 on request to mechanically active substances according to EN 60721-3-6Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 6D3 on request to mechanically active substances according to EN 60721-3-6Yes; Class 6S3 incl. sand, dust; * to mechanically active substances according to EN 60721-3-6Yes; Class 3 (excluding trichlorethylene) Against chemically active substances acc. to EN 60654-4Yes; Class 3 (excluding trichlorethylene) Environmental conditions for process, measuring and control systems acc. to ANSI/ISA-71.04Yes; Level GX group A/B (excluding trichlorethylene; f concentrations up to the limits of EN 60721-3-3 class 3 permissible); level LC3 (salt spray) and level LB3 (oil)Remark Note regarding classification of environmental conditions acc. to EN 60721,* The supplied plug covers must remain in place over interfaces during operation!		Yes; Incl. diesel and oil droplets in the air	-
to EN 60721-3-3exception of fauna); Class 3B3 on request— to chemically active substances according to EN 60721-3-3Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 52 (severity degree 3); *— to mechanically active substances according to EN 60721-3-3Yes; Class 6B2 mold and fungal spores (excluding fau 6B3 on request— to chemically active substances according to EN 60721-3-6Yes; Class 6B2 mold and fungal spores (excluding fau 6B3 on request— to chemically active substances according to EN 60721-3-6Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 6D3 on request— to mechanically active substances according to EN 60721-3-6Yes; Class 6S3 incl. sand, dust; *— to mechanically active substances according to EN 60721-3-6Yes; Class 3 (excluding trichlorethylene)Usage in industrial process technologyYes; Class 3 (excluding trichlorethylene)— Environmental conditions for process, measuring and control systems acc. to ANSI/ISA-71.04Yes; Level GX group A/B (excluding trichlorethylene)Remark— Note regarding classification of environmental conditions acc. to EN 60721,* The supplied plug covers must remain in place over interfaces during operation!			Use in stationary industrial systems
to EN 60721-3-352 (severity degree 3); * to mechanically active substances according to EN 60721-3-3Yes; Class 3S4 incl. sand, dust, *Use on ships/at sea to biologically active substances according to EN 60721-3-6Yes; Class 6B2 mold and fungal spores (excluding fau 6B3 on request to chemically active substances according to EN 60721-3-6Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 52 (severity degree 3); * to mechanically active substances according to EN 60721-3-6Yes; Class 6S3 incl. sand, dust; * to mechanically active substances according to EN 60721-3-6Yes; Class 6S3 incl. sand, dust; *Usage in industrial process technology Against chemically active substances acc. to EN 60654-4Yes; Class 3 (excluding trichlorethylene) Environmental conditions for process, measuring and control systems acc. to ANSI/ISA-71.04Yes; Level GX group A/B (excluding trichlorethylene; h concentrations up to the limits of EN 60721-3-3 class 3 permissible); level LC3 (salt spray) and level LB3 (oil)Remark Note regarding classification of environmental conditions acc. to EN 60721,* The supplied plug covers must remain in place over t interfaces during operation!	res (with the	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request	
according to EN 60721-3-3       Vise on ships/at sea         — to biologically active substances according to EN 60721-3-6       Yes; Class 6B2 mold and fungal spores (excluding faule 6B3 on request         — to chemically active substances according to EN 60721-3-6       Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 52 (severity degree 3); *	acc. to EN 60068-2-	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 600 52 (severity degree 3); *	
<ul> <li>to biologically active substances according to EN 60721-3-6</li> <li>to chemically active substances according to EN 60721-3-6</li> <li>to EN 60721-3-6</li> <li>Yes; Class 6C3 (RH &lt; 75 %) incl. salt spray acc. to EN 52 (severity degree 3); *</li> <li>Yes; Class 6S3 incl. sand, dust; *</li> <li>Yes; Class 6S3 incl. sand, dust; *</li> <li>Yes; Class 3 (excluding trichlorethylene)</li> <li>Yes; Level GX group A/B (excluding trichlorethylene; h concentrations up to the limits of EN 60721-3-3 class 3 (permissible); level LC3 (salt spray) and level LB3 (oil)</li> <li>Remark</li> <li>Note regarding classification of environmental conditions acc. to EN 60721, interfaces during operation!</li> </ul>		Yes; Class 3S4 incl. sand, dust, *	-
to EN 60721-3-66B3 on request— to chemically active substances according to EN 60721-3-6Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 52 (severity degree 3); *— to mechanically active substances according to EN 60721-3-6Yes; Class 6S3 incl. sand, dust; *Usage in industrial process technologyYes; Class 3 (excluding trichlorethylene)— Against chemically active substances acc. to EN 60654-4Yes; Class 3 (excluding trichlorethylene)— Environmental conditions for process, measuring and control systems acc. to ANSI/ISA-71.04Yes; Level GX group A/B (excluding trichlorethylene; P concentrations up to the limits of EN 60721-3-3 class 3 permissible); level LC3 (salt spray) and level LB3 (oil)Remark* The supplied plug covers must remain in place over t interfaces during operation!			Use on ships/at sea
to EN 60721-3-652 (severity degree 3); * to mechanically active substances according to EN 60721-3-6Yes; Class 6S3 incl. sand, dust; *Usage in industrial process technology Against chemically active substances acc. to EN 60654-4Yes; Class 3 (excluding trichlorethylene) Environmental conditions for process, measuring and control systems acc. to ANSI/ISA-71.04Yes; Level GX group A/B (excluding trichlorethylene; H concentrations up to the limits of EN 60721-3-3 class 3 permissible); level LC3 (salt spray) and level LB3 (oil)Remark* The supplied plug covers must remain in place over t interfaces during operation!	uding fauna); Class	Yes; Class 6B2 mold and fungal spores (excluding fauna); 6B3 on request	
according to EN 60721-3-6       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; h concentrations up to the limits of EN 60721-3-3 class 3 permissible); level LC3 (salt spray) and level LB3 (oil)         Remark       Note regarding classification of environmental conditions acc. to EN 60721,       * The supplied plug covers must remain in place over to interfaces during operation!	acc. to EN 60068-2-	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 600 52 (severity degree 3); *	
<ul> <li>Against chemically active substances acc. to EN 60654-4</li> <li>Environmental conditions for process, measuring and control systems acc. to ANSI/ISA-71.04</li> <li>Yes; Class 3 (excluding trichlorethylene)</li> <li>Yes; Level GX group A/B (excluding trichlorethylene; h concentrations up to the limits of EN 60721-3-3 class 3 permissible); level LC3 (salt spray) and level LB3 (oil)</li> <li>Remark</li> <li>Note regarding classification of environmental conditions acc. to EN 60721,</li> <li>* The supplied plug covers must remain in place over to interfaces during operation!</li> </ul>		Yes; Class 6S3 incl. sand, dust; *	-
to EN 60654-4 — Environmental conditions for process, measuring and control systems acc. to ANSI/ISA-71.04 Remark — Note regarding classification of environmental conditions acc. to EN 60721, and the supplied plug covers must remain in place over the interfaces during operation! * The supplied plug covers must remain in place over the interfaces during operation!			Usage in industrial process technology
measuring and control systems acc. to       concentrations up to the limits of EN 60721-3-3 class 3 permissible); level LC3 (salt spray) and level LB3 (oil)         Remark       Note regarding classification of environmental conditions acc. to EN 60721, and the supplied plug covers must remain in place over the interfaces during operation!		Yes; Class 3 (excluding trichlorethylene)	
<ul> <li>Note regarding classification of * The supplied plug covers must remain in place over the interfaces during operation!</li> </ul>	-3 class 3C4	Yes; Level GX group A/B (excluding trichlorethylene; harm concentrations up to the limits of EN 60721-3-3 class 3C4 permissible); level LC3 (salt spray) and level LB3 (oil)	measuring and control systems acc. to
environmental conditions acc. to EN 60721, interfaces during operation!			Remark
EIN 00054-4 and AIN51/15A-71.04	ace over the unused	* The supplied plug covers must remain in place over the u interfaces during operation!	
Conformal coating			Conformal coating
Coatings for printed circuit board assemblies Yes; Class 2 for high reliability acc. to EN 61086		Yes; Class 2 for high reliability	

<ul> <li>Protection against fouling acc. to EN 60664-3</li> </ul>	Yes; Type 1 protection
<ul> <li>Military testing according to MIL-I-46058C, Amendment 7</li> </ul>	Yes; Discoloration of coating possible during service life
<ul> <li>Qualification and Performance of Electrical</li> </ul>	Yes; Conformal coating, Class A
Insulating Compound for Printed Board	
Assemblies according to IPC-CC-830A	
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	
<ul> <li>STEP 7 Basic (TIA Portal)</li> </ul>	No
<ul> <li>STEP 7 Professional (TIA Portal)</li> </ul>	No
WinCC flexible Compact	No
WinCC flexible Standard	No
WinCC flexible Advanced	No
WinCC Basic (TIA Portal)	No
WinCC Comfort (TIA Portal)	Yes; from V11
<ul> <li>WinCC Advanced (TIA Portal)</li> </ul>	Yes; from V11
WinCC Professional (TIA Portal)	Yes; from V11
Languages	
Online languages	
<ul> <li>Number of online/runtime languages</li> </ul>	32
Project languages	
<ul> <li>Languages per project</li> </ul>	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
<ul> <li>SIMATIC WinCC Sm@rtServer</li> </ul>	Yes
SIMATIC WinCC Audit	Yes

Number of Visual Basic Scripts	Yes
Task planner	
• time-controlled	Yes
• task-controlled	Yes
Help system	
<ul> <li>Number of characters per info text</li> </ul>	70
Message system	
<ul> <li>Number of alarm classes</li> </ul>	32
• Bit messages	
— Number of bit messages	4 000
<ul> <li>Analog messages</li> </ul>	
— Number of analog messages	200
<ul> <li>S7 alarm number procedure</li> </ul>	Yes
<ul> <li>System messages HMI</li> </ul>	Yes
<ul> <li>System messages, other (SIMATIC S7, Sinumerik, Simotion, etc.)</li> </ul>	Yes
<ul> <li>Number of characters per message</li> </ul>	80
<ul> <li>Number of process values per message</li> </ul>	8
<ul> <li>Acknowledgment groups</li> </ul>	Yes
<ul> <li>Message indicator</li> </ul>	Yes
<ul> <li>Message buffer</li> </ul>	
— 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
<ul> <li>Size of internal recipe memory</li> </ul>	2 Mbyte
<ul> <li>Recipe memory expandable</li> </ul>	Yes
Variables	
<ul> <li>Number of variables per device</li> </ul>	2 048
<ul> <li>Number of variables per screen</li> </ul>	400
• Limit values	Yes
Multiplexing	Yes
Structures	Yes
• Arrays	Yes
Images	
<ul> <li>Number of configurable images</li> </ul>	500
<ul> <li>Permanent window/default</li> </ul>	Yes
Global image	Yes

• Image calestics by PLC	Yes
Image selection by PLC	Yes
Image number in the PLC	Tes
Image objects	400
Number of objects per image	Yes
• Text fields	Yes
I/O fields	Yes
Graphic I/O fields (graphics list)	
• 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	
<ul> <li>Number of complex objects per screen</li> </ul>	20
Alarm view	Yes
• Trend view	Yes
• User view	Yes
Status/control	Yes
<ul> <li>Sm@rtClient view</li> </ul>	Yes
Recipe view	Yes
• f(x) trend view	Yes
<ul> <li>System diagnostics view</li> </ul>	Yes
<ul> <li>Media Player</li> </ul>	Yes
● Bar graphs	Yes
Sliders	Yes
<ul> <li>Pointer instruments</li> </ul>	Yes
<ul> <li>Analog/digital clock</li> </ul>	Yes
Lists	
<ul> <li>Number of text lists per project</li> </ul>	500
<ul> <li>Number of entries per text list</li> </ul>	500
<ul> <li>Number of graphics lists per project</li> </ul>	500
<ul> <li>Number of entries per graphics list</li> </ul>	500
Archiving	
Number of archives per device	50
<ul> <li>Number of entries per archive</li> </ul>	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
<ul> <li>Number of user rights</li> </ul>	32
Number of users	50
<ul> <li>Password export/import</li> </ul>	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
<ul> <li>using external storage medium</li> </ul>	No
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	No; With WinCC, subsequent version
<ul> <li>Allen Bradley (EtherNet/IP)</li> </ul>	Yes
Allen Bradley (DF1)	Yes
Mitsubishi (MC TCP/IP)	Yes
• Mitsubishi (FX)	Yes

• OMRON (FINS TCP)	No
<ul> <li>OMRON (LINK/Multilink)</li> </ul>	Yes
<ul> <li>Modicon (Modbus TCP/IP)</li> </ul>	Yes
<ul> <li>Modicon (Modbus)</li> </ul>	Yes
Service tools/configuration aids	
<ul> <li>Backup/Restore manually</li> </ul>	Yes
<ul> <li>Backup/Restore automatically</li> </ul>	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	Yes
memory card	
USB memory	Yes
Mechanics/material	
Mechanics/material Enclosure material (front)	
	No
Enclosure material (front)	No Yes
Enclosure material (front) <ul> <li>Plastic</li> </ul>	
Enclosure material (front) <ul> <li>Plastic</li> <li>Aluminum</li> </ul>	Yes
Enclosure material (front) <ul> <li>Plastic</li> <li>Aluminum</li> <li>Stainless steel</li> </ul>	Yes
Enclosure material (front)   Plastic  Aluminum  Stainless steel  Dimensions	Yes No
Enclosure material (front)   Plastic  Aluminum  Stainless steel  Dimensions  Width of the housing front	Yes No 214 mm
Enclosure material (front)   Plastic  Aluminum  Stainless steel  Dimensions  Width of the housing front Height of housing front	Yes No 214 mm 158 mm
Enclosure material (front)   Plastic  Aluminum  Stainless steel  Dimensions  Width of the housing front  Height of housing front  Mounting cutout, width	Yes No 214 mm 158 mm 197 mm
Enclosure material (front)   Plastic  Aluminum  Stainless steel  Dimensions  Width of the housing front Height of housing front Mounting cutout, width Mounting cutout, height	Yes No 214 mm 158 mm 197 mm 141 mm
Enclosure material (front)   Plastic  Aluminum  Stainless steel  Dimensions  Width of the housing front  Height of housing front  Mounting cutout, width  Mounting cutout, height  Overall depth	Yes No 214 mm 158 mm 197 mm 141 mm
Enclosure material (front)    Plastic  Aluminum  Stainless steel  Dimensions  Width of the housing front Height of housing front Mounting cutout, width Mounting cutout, height Overall depth  Weights	Yes No 214 mm 158 mm 197 mm 141 mm 63 mm