**Data sheet** 

SIPLUS HMI KP700 Comfort based on 6AV2124-1GC01-0AX0 with conformal coating, 0...+50  $^{\circ}\text{C},$ 



Figure similar

General information	
Product type designation	KP700 Comfort
based on	6AV2124-1GC01-0AX0
Display	
Design of display	TFT
Screen diagonal	7 in
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
Vertical image resolution	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>	
<ul> <li>Number of function keys</li> </ul>	24
<ul> <li>Number of function keys with LEDs</li> </ul>	24
<ul> <li>Keys with LED</li> </ul>	Yes
System keys	Yes
Numeric keyboard	Yes
alphanumeric keyboard	Yes; similar to mobile phone
Touch operation	
Design as touch screen	No; without
Expansions for operator control of the process	
<ul> <li>DP direct LEDs (LEDs as S7 output I/O)</li> </ul>	
— F1Fx	24
<ul> <li>Direct keys (keys as S7 input I/O)</li> </ul>	
— F1Fx	24
Direct keys (touch buttons as S7 input I/O)	0
Installation type/mounting	
Mounting position	vertical
Wall mounting/direct mounting	No
Mounting in portrait format possible	No
Mounting in landscape format possible	Yes
maximum permissible angle of inclination without external ventilation	35°

Supply voltage	
Type of supply voltage	DC
	24 V
Rated value (DC)	19.2 V
permissible range, lower limit (DC) permissible range, upper limit (DC)	19.2 V 28.8 V
	28.8 V
Input current	0.5.4
Current consumption (rated value)	0.5 A
Starting current inrush I²t	0.5 A <sup>2</sup> ·s
Power	40.11
Active power input, typ.	12 W
Processor	Vaa
Processor type	X86
Memory	
Flash	Yes
RAM	Yes
Memory available for user data	12 Mbyte
Type of output	
Info LED	Yes
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
synchronizable	Yes
Interfaces	
Number of industrial Ethernet interfaces	2
Number of industrial Ethernet interfaces  Number of RS 485 interfaces	1; RS 422 / 485 combined
Number of industrial Ethernet interfaces  Number of RS 485 interfaces  Number of RS 422 interfaces	1; RS 422 / 485 combined 1
Number of industrial Ethernet interfaces  Number of RS 485 interfaces  Number of RS 422 interfaces  Number of RS 232 interfaces	1; RS 422 / 485 combined 1 0
Number of industrial Ethernet interfaces  Number of RS 485 interfaces  Number of RS 422 interfaces  Number of RS 232 interfaces  Number of USB interfaces	1; RS 422 / 485 combined 1 0 2; USB 2.0
Number of industrial Ethernet interfaces  Number of RS 485 interfaces  Number of RS 422 interfaces  Number of RS 232 interfaces  Number of USB interfaces  • USB Mini B	1; RS 422 / 485 combined 1 0 2; USB 2.0 1; 5-pole
Number of industrial Ethernet interfaces  Number of RS 485 interfaces  Number of RS 422 interfaces  Number of RS 232 interfaces  Number of USB interfaces  • USB Mini B  Number of 20 mA interfaces (TTY)	1; RS 422 / 485 combined 1 0 2; USB 2.0 1; 5-pole 0
Number of industrial Ethernet interfaces  Number of RS 485 interfaces  Number of RS 422 interfaces  Number of RS 232 interfaces  Number of USB interfaces  • USB Mini B  Number of 20 mA interfaces (TTY)  Number of parallel interfaces	1; RS 422 / 485 combined 1 0 2; USB 2.0 1; 5-pole 0
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Number of industrial Ethernet interfaces  Number of RS 485 interfaces  Number of RS 422 interfaces  Number of RS 232 interfaces  Number of USB interfaces  • USB Mini B  Number of 20 mA interfaces (TTY)  Number of parallel interfaces  Number of other interfaces  Number of SD card slots	1; RS 422 / 485 combined 1 0 2; USB 2.0 1; 5-pole 0 0
Number of industrial Ethernet interfaces  Number of RS 485 interfaces  Number of RS 422 interfaces  Number of RS 232 interfaces  Number of USB interfaces  • USB Mini B  Number of 20 mA interfaces (TTY)  Number of parallel interfaces  Number of other interfaces  Number of SD card slots  With software interfaces	1; RS 422 / 485 combined  1 0 2; USB 2.0 1; 5-pole 0 0
Number of industrial Ethernet interfaces  Number of RS 485 interfaces  Number of RS 422 interfaces  Number of RS 232 interfaces  Number of USB interfaces  • USB Mini B  Number of 20 mA interfaces (TTY)  Number of parallel interfaces  Number of other interfaces  Number of SD card slots  With software interfaces  Industrial Ethernet	1; RS 422 / 485 combined  1 0 2; USB 2.0 1; 5-pole 0 0 0 2
Number of industrial Ethernet interfaces  Number of RS 485 interfaces  Number of RS 422 interfaces  Number of RS 232 interfaces  Number of USB interfaces  USB Mini B  Number of 20 mA interfaces (TTY)  Number of parallel interfaces  Number of other interfaces  Number of SD card slots  With software interfaces  Industrial Ethernet  Industrial Ethernet status LED	1; RS 422 / 485 combined  1 0 2; USB 2.0 1; 5-pole 0 0 2 No
Number of industrial Ethernet interfaces  Number of RS 485 interfaces  Number of RS 422 interfaces  Number of RS 232 interfaces  Number of USB interfaces  USB Mini B  Number of 20 mA interfaces (TTY)  Number of parallel interfaces  Number of other interfaces  Number of SD card slots  With software interfaces  Industrial Ethernet  Industrial Ethernet status LED  Number of ports of the integrated switch	1; RS 422 / 485 combined  1 0 2; USB 2.0 1; 5-pole 0 0 0 2
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Number of industrial Ethernet interfaces  Number of RS 485 interfaces  Number of RS 422 interfaces  Number of RS 232 interfaces  Number of USB interfaces  USB Mini B  Number of 20 mA interfaces (TTY)  Number of parallel interfaces  Number of other interfaces  Number of SD card slots  With software interfaces  Industrial Ethernet  Industrial Ethernet status LED  Number of ports of the integrated switch  Protocols  PROFINET  Supports protocol for PROFINET IO	1; RS 422 / 485 combined 1 0 2; USB 2.0 1; 5-pole 0 0 2 No  Yes Yes
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Number of industrial Ethernet interfaces  Number of RS 485 interfaces  Number of RS 422 interfaces  Number of RS 232 interfaces  Number of USB interfaces  • USB Mini B  Number of 20 mA interfaces (TTY)  Number of parallel interfaces  Number of other interfaces  Number of SD card slots  With software interfaces  Industrial Ethernet  • Industrial Ethernet status LED  • Number of ports of the integrated switch  Protocols  PROFINET  Supports protocol for PROFINET IO  IRT  PROFIBUS  EtherNet/IP  MPI	1; RS 422 / 485 combined  1 0 2; USB 2.0 1; 5-pole 0 0 0 2 No  Yes Yes Yes; With WinCC, subsequent version Yes
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Number of industrial Ethernet interfaces  Number of RS 485 interfaces  Number of RS 422 interfaces  Number of RS 232 interfaces  Number of USB interfaces  • USB Mini B  Number of 20 mA interfaces (TTY)  Number of parallel interfaces  Number of SD card slots  With software interfaces  Industrial Ethernet  • Industrial Ethernet status LED  • Number of ports of the integrated switch  Protocols  PROFINET  Supports protocol for PROFINET IO  IRT  PROFIBUS  EtherNet/IP  MPI  Protocols (Ethernet)  • TCP/IP  • DHCP  • SNMP  • DCP  • LLDP	1; RS 422 / 485 combined 1 0 2; USB 2.0 1; 5-pole 0 0 0 2 No  Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye

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CSS Active X Active	• HTML	Yes	
Active X  InvasCript  InvasCr	• XML	No	
- Java's VM - Moder ordundancy - Java's VM - MNP - Ves' With WinCC, subsequent version  - CAN - NO - MODBUS - CAN - NO - Diagnosis information readable - Diagnosis information readable - Plant disas S, for use in industrial areas - Limit disas S, for use in industrial areas - Limit disas S, for use in industrial areas - Limit disas S, for use in industrial areas - Limit disas S, for use in industrial areas - Limit disas S, for use in industrial areas - Limit disas S, for use in industrial areas - Limit disas S, for use in industrial areas - No - Stepse and class of protection - IP (at the front) - IP (at the front) - Press of protection - Press of p	• CSS	Yes	
Redundancy mode  Media redundancy	Active X	No	
Redundancy mode  Media redundancy	<ul> <li>JavaScript</li> </ul>	Yes	
Media redundancy — MRP — Yes; With WinCC, subsequent version  Futher protection  • CAN • MODBUS • MODBUS	• Java VM	No	
Further protocols  - CAN  - MODEUS  - Diagnoses  - Unit class 8, for use in industrial areas  - Unit class 9, for use in industrial areas  - Unit class 9, for use in industrial areas  - Unit class 9, for use in industrial areas  - Unit class 9, for use in industrial areas  - Unit class 9, for use in industrial areas  - Unit class 9, for use in industrial areas  - Unit class 9, for use in industrial areas  - Unit class 9, for use in industrial areas  - Unit class 9, for use in industrial areas  - Unit class 9, for use in industrial areas  - Unit class 9, for use in residential areas  - No  - Per venticul installation  - Enclosure Type 4 at the front  - For ventical installation  - For ventical installation  - For ventical installation, min.  - For ventical	Redundancy mode		
Further protocols  • CAN • MODBUS • Mod	Media redundancy		
CAN  MODBUS  MICHAEL STATE STATE  Ambient temperature during operation, min.  — For vertical installation, min. — At maximum tilt angle, min. — At maximum tilt angle, min. — For vertical installation, more tild from to max.  Operation (were all the stallation) — For vertical installation, min. — For vertical installation, more tild from to min. — For vertical installation, more tild from to min. — For vertical installation, more tild from the max.  Operation (vertical installation, min. — For vertical installation, more tild from to max.  Operation (vertical installation, more tild from to max.  Operation (vertical installation, more tild from to max.  Operation (vertical installation, more tild from to max.  Operation (max. till angle, min. — For vertical installation, more tild from to max.  Operation (max. till angle, min. — For vertical installation, more tild from tild from tild angle, min. — For vertical installation, more tild from tild from tild from tild angle, min. — For vertical installation, more tild from tild from tild from tild from tild angle, min. — For vertical installation, min. — For vertical installation, more tild from tild f	— MRP	Yes; With WinCC, subsequent version	
MODBUS   Yes	Further protocols		
Interrupts/diagnostics/status information	• CAN	No	
Diagnostic information readable Yes; \$7 controller  EMC  Emission of radio interference acc. to EN 55 011  • Limit class B, for use in industrial areas Yes • Limit class B, for use in residential areas • No  Degree and class of protection  IP (at the front)  IP (at the front) • Enclosure Type 4 at the front • Yes  Suited for indoor use  No  Ambient temperature during operation • Operation (wax. titl angle)  — At maximum titl angle, max.  Operation (vertical installation, max.  Operation (vertical installation, min.  — For vertical installation	• MODBUS	Yes	
Diagnostic information readable EMC Emission of radio interference acc. to EN 55 011  Limit class A, for use in industrial areas No Degree and class of protection IP (at the front) IP (at the front) IP (at the front) Enclosure Type 4 at the front Enclosure Type 4 at the fron	Interrupts/diagnostics/status information		
Emission of radio interference acc. to EN 55 011  • Limit class R, for use in industrial areas • Limit class B, for use in residential areas  • Limit class B, for use in residential areas  Popere and class of protection  IP (at the front) IP (at	Diagnoses		
Emission of radio interference acc. to EN 55 011  Limit class A, for use in industrial areas Limit class B, for use in industrial areas No  Degroe and class of protection  IP (at the front) From the Enclosure Type 4 at the front Enclosure Type 4	<ul> <li>Diagnostic information readable</li> </ul>	Yes; S7 controller	
Limit class A, for use in industrial areas Limit class B, for use in residential areas Popere and class of protection  IP (at the front) IP (rear) IP (at the front) IP (rear) IP (rear) IP (at the front) IP (rear) IP	EMC		
■ Limit class B, for use in residential areas  Degree and class of protection  IP (at the front)  IP (ever)  NEMA (front)  ■ Enclosure Type 4 at the front ■ Yes  Ambient conditions  Suited for indoor use  Anbient emperature during operation Operation (restrict installation) ■ For vertical installation, min. ■ For vertical installation, max.  Operation (rest. bit angle) ■ At maximum tilt angle, min. ■ For vertical installation, portrait format) ■ For vertical installation, min. ■ For vertica	Emission of radio interference acc. to EN 55 011		
■ Limit class B, for use in residential areas  Degree and class of protection  IP (at the front)  IP (ever)  NEMA (front)  ■ Enclosure Type 4 at the front ■ Yes  Ambient conditions  Suited for indoor use  Anbient emperature during operation Operation (restrict installation) ■ For vertical installation, min. ■ For vertical installation, max.  Operation (rest. bit angle) ■ At maximum tilt angle, min. ■ For vertical installation, portrait format) ■ For vertical installation, min. ■ For vertica		Yes	
Degree and class of protection		No	
IP (at the front) IP (rear) IP (rea			
IPP (rear)		IP65	
NEMA (front)  • Enclosure Type 4 at the front  Ambient conditions  Suited for indoor use  Suited for indoor use  Ambient temperature during operation  Operation (vertical installation, min.  — For vertical installation, max.  — For vertical installation, max.  Operation (max. tilt angle)  — At maximum tilt angle, min.  — At maximum tilt angle, min.  — For vertical installation, portrait format)  — For vertical installation, portrait format)  — For vertical installation, min.  — For vertical installation, min.  — For vertical installation, min.  — For vertical installation, max.  Operation (wax. tilt angle, portrait format)  — At maximum tilt angle, min.  — At maximum tilt angle, max.  33 °C; = Tmin  Anthemetre temperature during storage/transportation  • min.  • max.  Antible during operation relating to sea level  • Installation altitude above sea level, max.  • Ambient air temperature-barometric pressure-altitude  • Installation altitude above sea level, max.  • Ambient air temperature-barometric pressure-altitude  • Non  Relative humidity  • With condensation, tested in accordance with IEC 60068-  2-38, max.  Resistance  Coolants and lubricants  — Resistant to commercially available coolants and lubricants  — Resistant to commercially available coolants and lubricants  — Resistant ocommercially available coolants and lubricants  — Resistant ocommercially available coolants and lubricants  Ves; Incl. diesel and oil droplets in the air			
■ Enclosure Type 4x at the front ■ Pes  Ambient conditions  Suited for indoor use  Ambient temperature during operation  Operation (vertical installation, min. — For vertical installation, max.  Operation (max. tilt angle, min. — At maximum tilt angle, max.  Operation (vertical installation, min. — At maximum tilt angle, max.  Operation (vertical installation, min. — At maximum tilt angle, min. — At maximum tilt angle, min. — For vertical installation, min. — At maximum tilt angle, min. — Oo "C; = Tmin  Ambient temperature during storage/transportation  ■ min. ■ min. ■ (20 °C ■ Oo "C  Altitude during operation relating to sea level ■ Installation altitude above sea level, max. ■ Ambient air temperature-barometric pressure-altitude ■ Installation altitude above sea level, max. ■ Ambient air temperature-barometric pressure-altitude ■ (N) air 795 hPa 658 hPa (+2 000 m +2 000 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.  Resistance  Coolants and lubricants — Resistant to commercially available coolants and lubricants  Yes; Incl. diesel and oil droplets in the air			
Enclosure Type 4x at the front  Ambient conditions  Suited for indoor use Suited for outdoor use No  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. — For vertical installation, min. — For vertical installation, portrait format)  — For vertical installation, portrait format)  — For vertical installation, min. — For vertical installation, min. — For vertical installation, max.  Operation (max. tilt angle, min. — For vertical installation, max.  Operation (max. tilt angle, min. — At maximum tilt angle, min. — To vertical installation and tilt angle, min. — At maximum tilt angle, min. — To vertical installation, min. — To vertical in		Yes	
Suited for indoor use  Suited for outdoor use  Ambient temperature during operation  Operation (vertical installation, min.  For vertical installation, max.  Operation (max. tilt angle)  — At maximum tilt angle, min. — At maximum tilt angle, min. — At maximum tilt angle, min. — For vertical installation, min.  — For vertical installation, printing max.  Operation (vertical installation, printing max.  Operation (vertical installation, printing max.  — For vertical installation, min. — For vertical installation, min. — For vertical installation, min. — For vertical installation, max.  Operation (max. tilt angle, printing max.  Operation (max. tilt angle, printing max.  — At maximum tilt angle, min. — Thin. — At maximum tilt angle, min. — Thin. — T	**		
Suited for indoor use  Suited for outdoor use  Ambient temperature during operation  Operation (vertical installation)  — For vertical installation, max.  Operation (max. tilt angle)  — At maximum tilt angle, min. — At maximum tilt angle, max.  Operation (vertical installation, max.  Operation (max. tilt angle, min. — At maximum tilt angle, min. — At maximum tilt angle, max.  Operation (vertical installation, portrait format)  — For vertical installation, portrait format)  — For vertical installation, min. — At maximum tilt angle, min. — At maximum tilt angle, min. — At maximum tilt angle, max.  Ambient temperature during storage/transportation  • min. • max.  Ambient temperature during storage/transportation  • min. • max.  Ambient air temperature-barometric pressure-altitude  • Installation altitude above sea level, max. • Ambient air temperature-barometric pressure-altitude  • Installation altitude above sea level, max. • Ambient air temperature-barometric pressure-altitude  • Installation altitude above sea level, max. • Ambient air temperature-barometric pressure-altitude  • Installation altitude above sea level, max. • Ambient air temperature-barometric pressure-altitude  • Installation altitude above sea level, max. • Ambient air temperature-barometric pressure-altitude  • Installation altitude above sea level, max. • Ambient air temperature-barometric pressure-altitude  • Installation altitude above sea level max. • Ambient air temperature-barometric pressure-altitude  • Installation altitude above sea level max. • Ambient air temperature-barometric pressure-altitude  • Installation altitude above sea level max. • Ambient air temperature-barometric pressure-altitude  • Installation altitude above sea level max. • Ambient air temperature-barometric pressure-altitude  • Installation altitude above sea level max. • Ambient air temperature during storage/framsportation • Installation altitude above sea leve			
Suited for outdoor use  Ambient temperature during operation  Operation (vertical installation)  — For vertical installation, min. — For vertical installation, max.  Operation (max. tilt angle, min. — At maximum tilt angle, min. — At maximum tilt angle, max.  Operation (vertical installation, portrait format)  — For vertical installation, portrait format)  — For vertical installation, min. — For vertical installation, max.  Operation (max. tilt angle, portrait format)  — At maximum tilt angle, portrait format)  — At maximum tilt angle, min. — At maximum tilt angle, max.  Ambient temperature during storage/transportation  • min. • on "C." • max.  Ambient temperature during storage/transportation  • min. • and "C." • max.  Antitude during operation relating to sea level  • Installation altitude above sea level, max. • Ambient air temperature-barometric pressure-altitude  • Installation altitude above sea level, max. • Ambient air temperature-barometric pressure-altitude  • Mith condensation, tested in accordance with IEC 60068-2-38, max.  Resistance  Coolants and lubricants — Resistant to commercially available coolants and lubricants  — Resistant to commercially available coolants and lubricants  Ves; Incl. diesel and oil droplets in the air		Vac	
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Operation (vertical installation)  For vertical installation, min For vertical installation, max.  Operation (max. tilt angle)  At maximum tilt angle, min At maximum tilt angle, max.  Operation (vertical installation, portrait format)  For vertical installation, portrait format)  For vertical installation, min For vertical installation, max.  Operation (max. tilt angle, portrait format)  For vertical installation, max.  Operation (max. tilt angle, portrait format)  At maximum tilt angle, min Timpa tilt temperature during storage/transportation  min 20 °C C C C C Altitude during operation relating to sea level  Installation altitude above sea level, max Ambient air temperature-barometric pressure-altitude  Installation altitude above sea level, max Ambient air temperature-barometric pressure-altitude  Ambient air temperature-barometric pressure-altitude In tilt of the properties of the pro		140	
For vertical installation, min For vertical installation, max.  Operation (max. tilt angle) At maximum tilt angle, min At maximum tilt angle, max.  Operation (vertical installation, portrait format) For vertical installation, min For vertical installation, min For vertical installation, max.  Operation (max. tilt angle, portrait format) For vertical installation, max For vertical installation, min For vertical installation, max For vertical installation, max For vertical installation, min For vertical installation, min For vertical installation, min For vertical installation, min For vertical installation, max For vertical inst			
- For vertical installation, max.  Operation (max. tilt angle)  - At maximum tilt angle, min.  - At maximum tilt angle, min.  - At maximum tilt angle, max.  Operation (vertical installation, portrait format)  - For vertical installation, min.  - For vertical installation, min.  - For vertical installation, max.  Operation (max. tilt angle, portrait format)  - At maximum tilt angle, min.  - At maximum tilt angle, min.  - At maximum tilt angle, max.  Ambient temperature during storage/transportation  • min.  • max.  Ambient air temperature-barometric pressure-altitude  • Installation altitude above sea level, max.  • Ambient air temperature-barometric pressure-altitude  • With condensation, tested in accordance with IEC 60068-2-38, max.  Resistance  Coolants and lubricants  - Resistant to commercially available coolants and lubricants  Use in stationary industrial systems		0°C: - Tmin	
Operation (max. tilt angle)  — At maximum tilt angle, min. — At maximum tilt angle, max.  Operation (vertical installation, portrait format)  — For vertical installation, min. — For vertical installation, max.  Operation (max. tilt angle, portrait format)  — At maximum tilt angle, min. — At maximum tilt angle, min. — At maximum tilt angle, max.  Ambient temperature during storage/transportation  • min. • max.  Ambient air temperature during to sea level  • Installation altitude above sea level, max.  • Ambient air temperature-barometric pressure-altitude  • Installation altitude above sea level, max.  • Ambient air temperature-barometric pressure-altitude  • With condensation, tested in accordance with IEC 60068-2-38, max.  Resistance  Coolants and lubricants  — Resistant to commercially available coolants and lubricants  Use in stationary industrial systems	,		
- At maximum tilt angle, min At maximum tilt angle, max.  Operation (vertical installation, portrait format) - For vertical installation, min For vertical installation, min For vertical installation, max For Timin For Timin.		30 C, - IIIIax	
- At maximum tilt angle, max.  Operation (vertical installation, portrait format)  - For vertical installation, min For vertical installation, max.  Operation (max. tilt angle, portrait format)  - At maximum tilt angle, min At maximum tilt angle, min At maximum tilt angle, max.  Ambient temperature during storage/transportation  • min 20 °C • max.  Altitude during operation relating to sea level  • Installation altitude above sea level, max. • Ambient air temperature-barometric pressure-altitude  • Mith condensation, tested in accordance with IEC 60068-2-38, max.  Resistance  Coolants and lubricants  - Resistant to commercially available coolants and lubricants  Use in stationary industrial systems	· · · · · · · · · · · · · · · · · · ·	0°C: - Tmin	
Operation (vertical installation, portrait format)  — For vertical installation, min.  — For vertical installation, max.  Operation (max. tilt angle, portrait format)  — At maximum tilt angle, min.  — At maximum tilt angle, max.  Ambient temperature during storage/transportation  • min.  • max.  Altitude during operation relating to sea level  • Installation altitude above sea level, max.  • Ambient air temperature-barometric pressure-altitude  • Installation altitude above sea level, max.  • Ambient air temperature-barometric pressure-altitude  • With condensation, tested in accordance with IEC 60068-2-38, max.  Resistance  Coolants and lubricants  — Resistant to commercially available coolants and lubricants  Use in stationary industrial systems	_		
- For vertical installation, min For vertical installation, max.  Operation (max. tilt angle, portrait format)  - At maximum tilt angle, min At maximum tilt angle, max.  Ambient temperature during storage/transportation  • min. • max.  Altitude during operation relating to sea level  • Installation altitude above sea level, max. • Ambient air temperature-barometric pressure-altitude  • Installation altitude above sea level, max. • Ambient air temperature-barometric pressure-altitude  • With condensation, tested in accordance with IEC 60068-2-38, max.  Resistance  Coolants and lubricants  - Resistant to commercially available coolants and lubricants  Use in stationary industrial systems	<u> </u>	40 C, - IIIIdx	
- For vertical installation, max.  Operation (max. tilt angle, portrait format)  - At maximum tilt angle, min.  - At maximum tilt angle, max.  Ambient temperature during storage/transportation  • min.  • max.  Altitude during operation relating to sea level  • Installation altitude above sea level, max.  • Ambient air temperature-barometric pressure-altitude  • Installation altitude above sea level, max.  • Ambient air temperature-barometric pressure-altitude  • With condensation, tested in accordance with IEC 60068-2-38, max.  Resistance  Coolants and lubricants  - Resistant to commercially available coolants and lubricants  Use in stationary industrial systems  40 °C; = Tmax  0 °C; = Tmax   70 °C; = Tmax  140 °C; = Tmax  150 °C °C  150 °C		0 °C: - Tmin	
Operation (max. tilt angle, portrait format)  — At maximum tilt angle, min. — At maximum tilt angle, max.  Ambient temperature during storage/transportation  • min. • max.  Altitude during operation relating to sea level  • Installation altitude above sea level, max. • Ambient air temperature-barometric pressure-altitude  • Installation altitude above sea level, max. • Ambient air temperature-barometric pressure-altitude  • With condensation, tested in accordance with IEC 60068-2-38, max.  Resistance  Coolants and lubricants  — Resistant to commercially available coolants and lubricants  Use in stationary industrial systems  O °C; = Tmin  35 °C; = Tmax   5 °C; = Tmax   5 °C; = Tmax   5 °C; = Tmax   40 °C  40 °C  40 °C  40 °C  40 °C  41 **Tmin Tmax at 1 140 hPa 795 hPa (-1 000 m +2 000 m) // Tmin (Tmax -10 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.  Yes; Incl. diesel and oil droplets in the air			
- At maximum tilt angle, min At maximum tilt angle, max.  Ambient temperature during storage/transportation  ● min 20 °C  ● max.  Altitude during operation relating to sea level  ● Installation altitude above sea level, max.  ● Ambient air temperature-barometric pressure-altitude  Ambient air temperature-barometric pressure-altitude  ■ Relative humidity  ■ With condensation, tested in accordance with IEC 60068-2-38, max.  Resistance  Coolants and lubricants  - Resistant to commercially available coolants and lubricants  Use in stationary industrial systems  O °C; = Tmin  35 °C; = Tmax   500 °C  60 °C  Attitude  - 20 °C  60 °C  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)  100 %; RH incl. condensation/frost (no commissioning under condensation conditions)  Yes; Incl. diesel and oil droplets in the air	·	40 C, - IIIIax	
- At maximum tilt angle, max.  Ambient temperature during storage/transportation  • min.  • max.  60 °C  Altitude during operation relating to sea level  • Installation altitude above sea level, max.  • 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 558 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.  **Resistance**  Coolants and lubricants*  - Resistant to commercially available coolants and lubricants*  Use in stationary industrial systems  35 °C; = Tmax  35 °C; = Tmax  40 °C  40 °C  Tmin Tmax at 1 140 hPa 795 hPa (-1 000 m +2 000 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 -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 under condensation conditions)  **Yes; Incl. diesel and oil droplets in the air	i i i i i i i i i i i i i i i i i i i	0.°C. – Train	
Ambient temperature during storage/transportation  • min.  • max.  Altitude during operation relating to sea level  • Installation altitude above sea level, max.  • Ambient air temperature-barometric pressure-altitude  • Installation altitude above sea level, max.  • 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 540 hPa (+3 500 m +5 000 m)  Relative humidity  • With condensation, tested in accordance with IEC 60068-2-38, max.  Resistance  Coolants and lubricants  — Resistant to commercially available coolants and lubricants  Use in stationary industrial systems			
<ul> <li>min.</li> <li>-20 °C</li> <li>max.</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>Ambient air temperature-barometric pressure-altitude</li> <li>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)</li> <li>Relative humidity</li> <li>With condensation, tested in accordance with IEC 60068-2-38, max.</li> <li>Resistance</li> <li>Coolants and lubricants</li> <li>Resistant to commercially available coolants and lubricants</li> <li>Use in stationary industrial systems</li> </ul>		35 C, = 1111ax	
<ul> <li>◆ max.</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>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)</li> <li>Relative humidity</li> <li>◆ With condensation, tested in accordance with IEC 60068-2-38, max.</li> <li>Resistance</li> <li>Coolants and lubricants</li> <li>— Resistant to commercially available coolants and lubricants</li> <li>Use in stationary industrial systems</li> </ul>		00.00	
Altitude during operation relating to sea level  Installation altitude above sea level, max.  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)  Relative humidity  With condensation, tested in accordance with IEC 60068-2-38, max.  Resistance  Coolants and lubricants  Resistant to commercially available coolants and lubricants  Use in stationary industrial systems			
<ul> <li>Installation altitude above sea level, max.</li> <li>Ambient air temperature-barometric pressure-altitude</li> <li>Tmin Tmax at 1 140 hPa 795 hPa (-1 000 m +2 000 m) // Tmin (Tmax -10 K) at 795 hPa 658 hPa 540 hPa (+3 500 m +5 000 m)</li> <li>Relative humidity</li> <li>With condensation, tested in accordance with IEC 60068-2-38, max.</li> <li>Resistance</li> <li>Coolants and lubricants</li> <li>Resistant to commercially available coolants and lubricants</li> <li>Use in stationary industrial systems</li> </ul>		60 °C	
<ul> <li>Ambient air temperature-barometric pressure-altitude</li> <li>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)</li> <li>Relative humidity</li> <li>With condensation, tested in accordance with IEC 60068-2-38, max.</li> <li>Resistance</li> <li>Coolants and lubricants</li> <li>Resistant to commercially available coolants and lubricants</li> <li>Use in stationary industrial systems</li> </ul> Tmin Tmax at 1 140 hPa 795 hPa (-1 000 m +2 000 m) // Tmin (Tmax -20 K) at 658 hPa 540 hPa (+3 500 m +5 000 m) 100 %; RH incl. condensation/frost (no commissioning under condensation conditions) Yes; Incl. diesel and oil droplets in the air	· · · · · · · · · · · · · · · · · · ·		
- 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.  Resistance  Coolants and lubricants  — Resistant to commercially available coolants and lubricants  Use in stationary industrial systems  - 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)  100 %; RH incl. condensation/frost (no commissioning under condensation conditions)			
With condensation, tested in accordance with IEC 60068- 2-38, max.  Resistance  Coolants and lubricants  — Resistant to commercially available coolants and lubricants  Use in stationary industrial systems  100 %; RH incl. condensation/frost (no commissioning under condensation conditions)  Yes; Incl. diesel and oil droplets in the air	Ambient air temperature-barometric pressure-altitude	- 10 K) at 795 hPa 658 hPa (+2 000 m +3 500 m) // Tmin (Tmax -20 K)	
With condensation, tested in accordance with IEC 60068- 2-38, max.  Resistance  Coolants and lubricants  — Resistant to commercially available coolants and lubricants  Use in stationary industrial systems  100 %; RH incl. condensation/frost (no commissioning under condensation conditions)  Yes; Incl. diesel and oil droplets in the air	Relative humidity		
Coolants and lubricants  — Resistant to commercially available coolants and lubricants  Use in stationary industrial systems  Yes; Incl. diesel and oil droplets in the air		· · · · · · · · · · · · · · · · · · ·	
Resistant to commercially available coolants and lubricants  Use in stationary industrial systems  Yes; Incl. diesel and oil droplets in the air	Resistance		
lubricants Use in stationary industrial systems	Coolants and lubricants		
		Yes; Incl. diesel and oil droplets in the air	
	Use in stationary industrial systems		
— to biologically active substances according to EN  Yes; Class 3B2 mold, fungus and dry rot spores (with the 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 the exception of fauna); Class 3B3 on request	
— to chemically active substances according to EN  Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *			
— to mechanically active substances according to EN  Yes; Class 3S4 incl. sand, dust, *  60721-3-3	— to mechanically active substances according to EN		

Use on ships/at sea		
<ul> <li>to biologically active substances according to EN 60721-3-6</li> </ul>	Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request	
<ul> <li>to chemically active substances according to EN 60721-3-6</li> </ul>	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); $^{\star}$	
<ul> <li>to mechanically active substances according to EN 60721-3-6</li> </ul>	Yes; Class 6S3 incl. sand, dust; *	
Usage in industrial process technology		
<ul> <li>Against chemically active substances acc. to EN 60654-4</li> </ul>	Yes; Class 3 (excluding trichlorethylene)	
<ul> <li>Environmental conditions for process, measuring and control systems acc. to ANSI/ISA-71.04</li> </ul>	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		
<ul> <li>Note regarding classification of environmental conditions acc. to EN 60721, EN 60654-4 and ANSI/ISA-71.04</li> </ul>	* The supplied plug covers must remain in place over the unused interfaces during operation!	
Conformal coating		
<ul> <li>Coatings for printed circuit board assemblies acc. to EN 61086</li> </ul>	Yes; Class 2 for high reliability	
<ul> <li>Protection against fouling acc. to EN 60664-3</li> </ul>	Yes; Type 1 protection	
Military testing according to MIL-I-46058C, Amendment 7	Yes; Discoloration of coating possible during service life	
<ul> <li>Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC- CC-830A</li> </ul>	Yes; Conformal coating, Class A	
Operating systems		
proprietary	No	
pre-installed operating system		
Windows CE	Yes	
configuration / header		
Message indicator	Yes	
Alarm system (incl. buffer and acknowledgment)	Yes	
Process value display (output)	Yes	
Process value default (input) possible	Yes	
Recipe management	Yes	
Configuration software		
STEP 7 Basic (TIA Portal)	No	
STEP 7 Professional (TIA Portal)	No	
WinCC flexible Compact	No	
WinCC flexible Standard	No	
WinCC flexible Advanced	No	
WinCC Basic (TIA Portal)	No	
WinCC Comfort (TIA Portal)		
WinCC Advanced (TIA Portal)	Yes; from V11	
WinCC Professional (TIA Portal)	Yes; from V11 Yes; from V11	
Languages	100, 110111 1111	
Online languages		
Number of online/runtime languages	32	
Project languages	OL.	
Languages per project	32	
Functionality under WinCC (TIA Portal)	02	
Libraries	Yes	
Applications/options	1.00	
Web browser	Yes	
Pocket Word	Yes	
Pocket Excel	Yes	
PDF Viewer	Yes	
Media Player	Yes	
SIMATIC WinCC Sm@rtServer	Yes	
SIMATIC WINCC SM@rtserver     SIMATIC WINCC Audit	Yes	
Number of Visual Basic Scripts  Task planner	Yes	
time-controlled	Yes	
task-controlled	Yes	

Help system	
Number of characters per info text	70
Message system	
Number of alarm classes	32
Bit messages	
<ul> <li>Number of bit messages</li> </ul>	4 000
<ul> <li>Analog messages</li> </ul>	
<ul> <li>Number of analog messages</li> </ul>	200
S7 alarm number procedure	Yes
System messages HMI	Yes
<ul> <li>System event, more (SIMATIC S7, SINUMERIK, SIMOTION,)</li> </ul>	Yes
<ul> <li>Number of characters per message</li> </ul>	80
Number of process values per message	8
Acknowledgment groups	Yes
Message indicator	Yes
Message buffer	4.004
— Number of entries	1 024
— Circulating buffer	Yes Yes
<ul><li>retentive</li><li>maintenance-free</li></ul>	Yes
Recipe management	160
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
<ul> <li>Multiplexing</li> </ul>	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
<ul> <li>Image selection by PLC</li> </ul>	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)      Graphic I/O fields (taut list)	Yes
Symbolic I/O fields (text list)     Data/time fields	Yes
<ul><li>Date/time fields</li><li>Switches</li></ul>	Yes Yes
Switches     Buttons	Yes
Graphic display	
Icons	Yes
- 100110	Yes
	Yes
Geometric objects	
Geometric objects  Complex image objects	Yes Yes
Geometric objects	Yes
Geometric objects     Complex image objects     Number of complex objects per screen	Yes Yes 20
Geometric objects  Complex image objects      Number of complex objects per screen      Alarm view	Yes Yes 20 Yes
Geometric objects  Complex image objects      Number of complex objects per screen      Alarm view      Trend view	Yes Yes  20 Yes Yes
Geometric objects  Complex image objects  Number of complex objects per screen  Alarm view  Trend view  User view  Status/control	Yes Yes  20 Yes Yes Yes Yes
Geometric objects  Complex image objects      Number of complex objects per screen      Alarm view      Trend view      User view	Yes Yes  20 Yes Yes Yes Yes Yes

System diagnostics view	Yes
Media Player	Yes
Bar graphs	Yes
• Sliders	Yes
Pointer instruments	Yes
Analog/digital clock	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	
<ul> <li>Number of archives per device</li> </ul>	50
<ul> <li>Number of entries per archive</li> </ul>	20 000
Message archive	Yes
<ul> <li>Process value archive</li> </ul>	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	TCS, T DT , TITIVIL
Keyboard fonts	
— US English	Yes
Transfer (upload/download)	1 65
MPI/PROFIBUS DP	Yes
• WEI/FROFIBUS DF • USB	Yes
Ethernet	Yes
	res No
using external storage medium  Process coupling	IVU
Process coupling	Von
• \$7-1200	Yes
• S7-1500	Yes
• S7-200	Yes
• S7-300/400	Yes
• LOGO!	Yes
• WinAC	Yes
• SINUMERIK	No
• 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
OMRON (LINK/Multilink)	Yes

<ul> <li>Modicon (Modbus TCP/IP)</li> </ul>	Yes
Modicon (Modbus)	Yes
Service tools/configuration aids	
<ul> <li>Backup/Restore manually</li> </ul>	Yes
<ul> <li>Backup/Restore automatically</li> </ul>	Yes
<ul> <li>Simulation</li> </ul>	Yes
Device switchover	Yes
Peripherals/Options	
Printer	Yes
SIMATIC HMI MM memory card: Multi Media Card	Yes
SIMATIC HMI SD memory card: Secure Digital memory card	Yes
USB memory	Yes
Mechanics/material	
Enclosure material (front)	
Enclosure material (front)  • Plastic	No
, ,	No Yes
• Plastic	
<ul><li>Plastic</li><li>Aluminum</li></ul>	Yes
<ul><li>Plastic</li><li>Aluminum</li><li>Stainless steel</li></ul>	Yes
<ul><li>Plastic</li><li>Aluminum</li><li>Stainless steel</li><li>Dimensions</li></ul>	Yes No
<ul> <li>Plastic</li> <li>Aluminum</li> <li>Stainless steel</li> </ul> Dimensions Width of the housing front	Yes No 308 mm
Plastic Aluminum Stainless steel  Dimensions  Width of the housing front Height of housing front	Yes No 308 mm 204 mm
Plastic Aluminum Stainless steel  Dimensions  Width of the housing front Height of housing front Mounting cutout, width	Yes No  308 mm 204 mm 281 mm
Plastic Aluminum Stainless steel  Dimensions  Width of the housing front Height of housing front Mounting cutout, width Mounting cutout, height	Yes No 308 mm 204 mm 281 mm 177 mm
Plastic Aluminum Stainless steel  Dimensions Width of the housing front Height of housing front Mounting cutout, width Mounting cutout, height Overall depth	Yes No 308 mm 204 mm 281 mm 177 mm

	Version	Classification
eClass	14	27-33-02-01
eClass	12	27-33-02-01
eClass	9.1	27-33-02-01
eClass	9	27-33-02-01
eClass	8	27-24-23-02
eClass	7.1	27-24-23-02
eClass	6	27-24-23-02
ETIM	9	EC001412
ETIM	8	EC001412
ETIM	7	EC001412
IDEA	4	6607

Approvals / Certificates

Classifications

General Product Approval

Miscellaneous





Manufacturer Declaration

UNSPSC



15

<u>KC</u>

43-21-15-06

EMV

For use in hazardous locations

Marine / Shipping







CCC-Ex



last modified:

5/29/2024

