SIEMENS

Data sheet

6AG1217-1AG40-5XB0

SIMATIC S7-1200, CPU 1217C, CPU 1217C DC/DC/DC based on 6ES7217-1AG40-0XB0 with conformal coating -40...+60 °C . compact CPU, 2 PROFINET port onboard I/O: 10 DI 24 V DC; 4 DI RS-422/485; 6 DO 24 V DC; 0.5 A; 4 DO RS-422/485; 2 AI 0-10 V DC, 2 AO 0-20 mA power supply: DC 20.4-28.8V DC, program/data memory 150 KB 20.4-28.8V DC, program/data memory 150 KB



General information	
Product type designation	CPU 1217C DC/DC/DC
based on	6ES7217-1AG40-0XB0
Engineering with	
 Programming package 	STEP 7 V17 or higher
 STEP 7 TIA Portal configurable/integrated from version 	see entry ID: 109746275
Supply voltage	
Rated value (DC)	
• 24 V DC	Yes
permissible range, lower limit (DC)	20.4 V
permissible range, upper limit (DC)	28.8 V
Reverse polarity protection	Yes
Load voltage L+	
 Rated value (DC) 	24 V
 permissible range, lower limit (DC) 	20.4 V
• permissible range, upper limit (DC)	28.8 V
Input current	
Current consumption (rated value)	600 mA; CPU only
Current consumption, max.	1 600 mA; CPU with all expansion modules
Inrush current, max.	12 A; at 28.8 V DC
l²t	0.5 A ² ·s
Output current	
for backplane bus (5 V DC), max.	1 600 mA; Max. 5 V DC for SM and CM
Encoder supply	
24 V encoder supply	
• 24 V	L+ minus 4 V DC min.
Power loss	
Power loss, typ.	12 W
Memory	
Work memory	
integrated	150 kbyte
Load memory	
integrated	4 Mbyte
 Plug-in (SIMATIC Memory Card), max. 	with SIMATIC memory card
Backup	
• present	Yes
maintenance-free	Yes
without battery	Yes
CPU processing times	
for bit operations, typ.	0.08 µs; / instruction

Number of blocks (total) DBs, FCs, FBs, counters and timers. The maximum number of addressable blocks ranges from 16 6555. There is no restriction, the entire working memory can be used 0B • Number, max. Limited only by RAM for code Otal areas and thoir retentivity Retentive data area (incl. timers, counters, flags), max. 14 kbyte Flag • Size, max. 8 kbyte; Size of bit memory address area Local data • ep priority class, max. 16 kbyte; Priority class 1 (program cycle): 16 KB, priority class 2 to 26: 6 KB Address aras • Number of modules per system, max. 16 kbyte; Priority class 1 (program cycle): 16 KB, priority class 2 to 26: 6 KB Address aras • Number of modules per system, max. 3 comm. modules, 1 signal board, 8 signal modules Process image • Ikbyte 1 kbyte • Outputs, adjustable 1 kbyte • Modules per system, max. 3 comm. modules, 1 signal board, 8 signal modules Time of day 1 Clock • Idativare clock (real-time) • Idativare clock (real-time) Yes • Idativare clock (real-time) • Yes • Idativare clock (real-time) 0 (real-time) • Idativare clock (real-time) Yes		
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bokas ranges from 1 to 65555. There is no restriction, the online working memory carbon be used memory and head memory and hea	CPU-blocks	
• Number, max. Limited only by RAM for code Data arrays and their retentivity It A keybe Petertive data area (not. timer, counters, flags), max. 14 keybe Flag It A keybe Flag It A keybe Soze, max. 8 keyte: Size of bit memory address area Local data It A keybe • per priority class, max. 16 keybe; Priority class 1 (program cycle): 16 KB, priority class 2 to 26 6 KB. Address area It A keybe Process image It keybe • local data, adjustable 1 keybe • local data, adjustable 1 keybe • local data, adjustable 3 comm. modules, 1 signal board, 8 signal modules • lacakog fine 480 h; Typical • Backog fine 480 h; Typical • Backog fine 480 h; Typical • Develation per datay, max. 14 hitegrafed • Or data data clock (real-fine) 480 h; Typical • Develation per day, max. 14 hitegrafed • Or data data clock (real-fine) 6 hitechnological functions • Or data data clock (real-fine) 6 hitechnological functions • or adia fin	Number of blocks (total)	blocks ranges from 1 to 65535. There is no restriction, the entire working
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Digital inputs 14; Integrated • of which inputs usable for technological functions 6; HSC (High Speed Counting) Source/sink input Yes Number of simultaneously controllable inputs 14 Input voltage - up to 40 °C, max. • Rated value (CC) 24 V • for signal °0° 5 V DC at 1 mA • for signal °1° 15 V DC at 2.5 mA Input voltage - at °0' to °1°, min. - at °0' to °1°, min. 0.2 ms, 0.4 ms, 0.8 ms, 1.6 ms, 3.2 ms, 6.4 ms and 12.8 ms, selectable in groups of four - at °0' to °1°, min. 0.2 ms - at °0' to °1°, max. 12.8 ms for interrupt inputs Yes - parameterizable Yes for technological functions Single phase: 3 @ 100 kHz & 3 @ 30 kHz & 4 (100 kHz Pulse Train Output Limitation of inductive shutdown voltage to L+ (48 V) Switching capacity of the outputs 10 • of which high-speed outputs 4, 100 kHz Pulse Train Output Limitation of inductive shutdown voltage to L+ (48 V) Switching capacity of the outputs 5W Output voltage <td>•</td> <td>480 h; Typical</td>	•	480 h; Typical
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• for signal "0" 5 V DC at 1 mA • for signal "1" 15 V DC at 2.5 mA Input delay (for rated value of input voltage)	Input voltage	
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at "0" to "1", max.12.8 msfor interrupt inputsYes parameterizableYesor technological functionsSingle phase: 3 @ 100 kHz & 3 @ 30 kHz, differential: 3 @ 80 kHz & 3 @ 30 kHzCable lengthSingle phase: 3 @ 100 kHz & 3 @ 30 kHz, differential: 3 @ 80 kHz & 3 @ 30 kHzCable length500 m; 50 m for technological functions• unshielded, max.500 m; 50 m for technological functions: NoDigital outputs00 m; for technological functions: No• of which high-speed outputs10• of which high-speed outputs4; 100 kHz Pulse Train OutputLimitation of inductive shutdown voltage toL+ (48 V)Switching capacity of the outputs0.5 A• on lamp load, max.5 WOutput voltage5 WOutput voltage5 W• for signal "0", max.0.1 V; with 10 kOhm load• for signal "1", min.20 V	— parameterizable	
for interrupt inputs Yes for technological functions Single phase: 3 @ 100 kHz & 3 @ 30 kHz, differential: 3 @ 80 kHz & 3 @ 30 kHz Cable length Single phase: 3 @ 100 kHz & 3 @ 30 kHz, differential: 3 @ 80 kHz & 3 @ 30 kHz Cable length 500 m; 50 m for technological functions • shielded, max. 500 m; 50 m for technological functions • unshielded, max. 300 m; for technological functions: No Digital outputs 10 • of which high-speed outputs 4; 100 kHz Pulse Train Output Limitation of inductive shutdown voltage to L + (-48 V) Switching capacity of the outputs 0.5 A • on lamp load, max. 0.5 A • on lamp load, max. 5 W Output voltage 5 W • or signal "0", max. 0.1 V; with 10 kOhm load • for signal "0", max. 0.1 V; with 10 kOhm load		0.2 ms
- parameterizable Yes for technological functions Single phase: 3 @ 100 kHz & 3 @ 30 kHz, differential: 3 @ 80 kHz & 3 @ 30 kHz Cable length Single phase: 3 @ 100 kHz & 3 @ 30 kHz, differential: 3 @ 80 kHz & 3 @ 30 kHz • shielded, max. 500 m; 50 m for technological functions • unshielded, max. 300 m; for technological functions: No Digital outputs 10 • of which high-speed outputs 4; 100 kHz Pulse Train Output Limitation of inductive shutdown voltage to L + (-48 V) Switching capacity of the outputs 0.5 A • on lamp load, max. 0.5 A • on lamp load, max. 5 W Output voltage 5 W • for signal "0", max. 0.1 V; with 10 kOhm load • for signal "1", min. 20 V	— at "0" to "1", max.	12.8 ms
for technological functions — parameterizable Single phase: 3 @ 100 kHz & 3 @ 30 kHz, differential: 3 @ 80 kHz & 3 @ 30 kHz Cable length • shielded, max. 500 m; 50 m for technological functions • unshielded, max. 300 m; for technological functions: No Digital outputs 0 • of which high-speed outputs 10 • Limitation of inductive shutdown voltage to 4; 100 kHz Pulse Train Output Switching capacity of the outputs 0.5 A • on lamp load, max. 5W Output voltage 5W Output voltage 5W Output voltage 5W Output voltage 5.4 • for signal "0", max. 0.1 V; with 10 kOhm load • for signal "1", min. 20 V		
— parameterizableSingle phase: 3 @ 100 kHz & 3 @ 30 kHz, differential: 3 @ 80 kHz & 3 @ 30 kHzCable length• shielded, max.500 m; 50 m for technological functions• unshielded, max.300 m; for technological functions: NoDigital outputs10• of which high-speed outputs4; 100 kHz Pulse Train OutputLimitation of inductive shutdown voltage to4; 400 kHz Pulse Train OutputSwitching capacity of the outputs0.5 A• on lamp load, max.5 WOutput voltage5 WOutput voltage5 WOutput voltage5 WOutput voltage0.1 V; with 10 kOhm load• for signal "0", max.0.2 V	— parameterizable	Yes
kHz Cable length • shielded, max. • unshielded, max. ounshielded, max. 300 m; for technological functions: No Digital outputs Number of digital outputs 10 • of which high-speed outputs 4; 100 kHz Pulse Train Output Limitation of inductive shutdown voltage to L+ (-48 V) Switching capacity of the outputs • with resistive load, max. 0.5 A o n lamp load, max. 0.5 A Output voltage • for signal "0", max. • for signal "1", min. 20 V	for technological functions	
• shielded, max.500 m; 50 m for technological functions• unshielded, max.300 m; for technological functions: NoDigital outputs10• of which high-speed outputs10• of which high-speed outputs4; 100 kHz Pulse Train OutputLimitation of inductive shutdown voltage toL+ (-48 V)Switching capacity of the outputs0.5 A• with resistive load, max.5 WOutput voltage5 WOutput voltage0.1 V; with 10 kOhm load• for signal "0", max.20 V	— parameterizable	
• unshielded, max.300 m; for technological functions: NoDigital outputs10• of digital outputs4; 100 kHz Pulse Train Output• of which high-speed outputs4; 100 kHz Pulse Train OutputLimitation of inductive shutdown voltage toL+ (-48 V)Switching capacity of the outputs0.5 A• with resistive load, max.5 WOutput voltage• for signal "0", max.0.1 V; with 10 kOhm load• for signal "1", min.20 V	Cable length	
Digital outputs 10 Number of digital outputs 10 • of which high-speed outputs 4; 100 kHz Pulse Train Output Limitation of inductive shutdown voltage to L+ (-48 V) Switching capacity of the outputs 0.5 A • with resistive load, max. 0.5 A • on lamp load, max. 5 W Output voltage 0.1 V; with 10 kOhm load • for signal "0", max. 20 V	 shielded, max. 	500 m; 50 m for technological functions
Number of digital outputs 10 • of which high-speed outputs 4; 100 kHz Pulse Train Output Limitation of inductive shutdown voltage to L+ (-48 V) Switching capacity of the outputs 0.5 A • with resistive load, max. 0.5 A • on lamp load, max. 5 W Output voltage 0.1 V; with 10 kOhm load • for signal "0", max. 20 V		300 m; for technological functions: No
• of which high-speed outputs4; 100 kHz Pulse Train OutputLimitation of inductive shutdown voltage toL+ (-48 V)Switching capacity of the outputs0.5 A• with resistive load, max.0.5 A• on lamp load, max.5 WOutput voltage• for signal "0", max.0.1 V; with 10 kOhm load• for signal "1", min.20 V	Digital outputs	
Limitation of inductive shutdown voltage to L+ (-48 V) Switching capacity of the outputs 0.5 A • with resistive load, max. 0.5 A • on lamp load, max. 5 W Output voltage 0.1 V; with 10 kOhm load • for signal "0", max. 0.1 V; with 10 kOhm load • for signal "1", min. 20 V	Number of digital outputs	10
Switching capacity of the outputs • with resistive load, max. 0.5 A • on lamp load, max. 5 W Output voltage • for signal "0", max. 0.1 V; with 10 kOhm load • for signal "1", min. 20 V	 of which high-speed outputs 	4; 100 kHz Pulse Train Output
• with resistive load, max. 0.5 A • on lamp load, max. 5 W Output voltage 0.1 V; with 10 kOhm load • for signal "0", max. 0.1 V; with 10 kOhm load • for signal "1", min. 20 V	Limitation of inductive shutdown voltage to	L+ (-48 V)
• on lamp load, max. 5 W Output voltage 0.1 V; with 10 kOhm load • for signal "0", max. 0.1 V; with 10 kOhm load • for signal "1", min. 20 V	Switching capacity of the outputs	
Output voltage 0.1 V; with 10 kOhm load • for signal "0", max. 0.1 V; with 10 kOhm load • for signal "1", min. 20 V	 with resistive load, max. 	0.5 A
• for signal "0", max. 0.1 V; with 10 kOhm load • for signal "1", min. 20 V	• on lamp load, max.	5 W
• for signal "1", min. 20 V	Output voltage	
• for signal "1", min. 20 V	● for signal "0", max.	0.1 V; with 10 kOhm load
	-	
	Output current	

0.5 A
0.1 mA
1 µs
5 µs
100 kHz
0
500 m
150 m
2
Yes
Tes
Ver
Yes
≥100k ohms
100 m; twisted and shielded
2
Yes
10 bit
Yes
Yes 625 us
Yes 625 µs
625 μs
625 μs
625 μs 10 bit
625 μs
625 μs 10 bit Yes
625 μs 10 bit
625 μs 10 bit Yes
625 μs 10 bit Yes PROFINET
625 μs 10 bit Yes PROFINET Yes
625 μs 10 bit Yes PROFINET Yes Yes
625 μs 10 bit Yes PROFINET Yes Yes Yes
625 μs 10 bit Yes PROFINET Yes Yes Yes
625 μs 10 bit Yes PROFINET Yes Yes Yes Yes
625 μs 10 bit Yes PROFINET Yes Yes Yes Yes
625 μs 10 bit Yes PROFINET Yes Yes Yes Yes Yes Yes
625 μs 10 bit Yes PROFINET Yes Yes Yes Yes Yes Yes
625 μs 10 bit 10 bit Yes PROFINET Yes Yes Yes Yes Yes Yes Yes Yes
625 μs 10 bit Yes PROFINET Yes Yes Yes 2 Yes 2 Yes
625 μs 10 bit 10 bit Yes PROFINET Yes Yes Yes Yes Yes Yes Yes Yes
625 μs 10 bit 10 bit Yes PROFINET Yes Yes Yes 2 Yes 2 Yes 2 Yes 2 Yes 2 Yes 2 Yes
625 μs 10 bit 10 bit Yes PROFINET Yes Yes Yes Yes 2 Yes 2 Yes 2 Yes
625 μs 10 bit 10 bit Yes PROFINET Yes Yes Yes 2 Yes 2 Yes 2 Yes 2 Yes 2 Yes 2 Yes
625 μs 10 bit 10 bit Yes PROFINET Yes
625 μs 10 bit 10 bit Yes PROFINET Yes Yes Yes Yes 2 Yes 2 Yes 2 Yes 2 Yes
625 µs 10 bit 10 bit Yes PROFINET Yes Yes Yes Yes Yes Yes Yes Yes 2 Yes Yes 10 offinally also encrypted Yes Yes Yes 100 Mbit/s
625 µs 10 bit 10 bit Yes Yes PROFINET Yes Yes Yes Yes Yes Yes Yes 2 Yes 2 Yes 100 Mbit/s 100 Mbit/s Yes; encryption with TLS V1.3 pre-selected
625 µs 10 bit 10 bit Yes
625 µs 10 bit 10 bit Yes Yes PROFINET Yes Yes Yes Yes Yes Yes Yes 2 Yes 2 Yes 2 Yes 100 Mbit/s Yes; encryption with TLS V1.3 pre-selected

— Prioritized startup	Yes
 Number of IO devices with prioritized startup, max. 	16
 Number of connectable IO Devices, max. 	16
 — Number of connectable IO Devices for RT, max. 	16
— of which in line, max.	16
 Activation/deactivation of IO Devices 	Yes
- Number of IO Devices that can be simultaneously	8
activated/deactivated, max.	°
— Updating time	The minimum value of the update time also depends on the communication component set for PROFINET IO, on the number of IO devices and the quantity of configured user data.
PROFINET IO Device	
Services	
— PG/OP communication	Yes; encryption with TLS V1.3 pre-selected
— Isochronous mode	No
— IRT	No
- PROFlenergy	Yes
— Shared device	Yes
 — Number of IO Controllers with shared device, max. 	2
Protocols	
Supports protocol for PROFINET IO	Yes
PROFIsafe	No
PROFIBUS	
	Yes; CM 1243-5 (master) or CM 1242-5 (slave) required
OPC UA	Yes; OPC UA Server
AS-Interface	Yes; CM 1243-2 required
Protocols (Ethernet)	
• TCP/IP	Yes
• DHCP	No
• SNMP	Yes
• DCP	Yes
• LLDP	Yes
Redundancy mode	
Media redundancy	
— MRP	Yes; as MRP redundancy manager and/or MRP client
- MRPD	No
SIMATIC communication	
S7 routing	Yes
Open IE communication	
• TCP/IP	Yes
— Data length, max.	8 kbyte
• ISO-on-TCP (RFC1006)	Yes
— Data length, max.	8 kbyte
• UDP	Yes
— Data length, max.	1 472 byte
Web server	
• supported	Yes
supportedUser-defined websites	Yes Yes
supported	
supportedUser-defined websites	
supported User-defined websites OPC UA	Yes
 supported User-defined websites OPC UA Runtime license required 	Yes; "Basic" license required
supported User-defined websites OPC UA Runtime license required OPC UA Server	Yes Yes; "Basic" license required Yes; data access (read, write, subscribe), method call, runtime license required Available security policies: None, Basic128Rsa15, Basic256Rsa15,
 supported User-defined websites OPC UA Runtime license required OPC UA Server Application authentication 	Yes Yes; "Basic" license required Yes; data access (read, write, subscribe), method call, runtime license required Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256
 supported User-defined websites OPC UA Runtime license required OPC UA Server Application authentication User authentication 	Yes Yes; "Basic" license required Yes; data access (read, write, subscribe), method call, runtime license required Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 "anonymous" or by user name & password
 supported User-defined websites OPC UA Runtime license required OPC UA Server Application authentication User authentication Number of sessions, max. Number of subscriptions per session, max. 	Yes Yes; "Basic" license required Yes; data access (read, write, subscribe), method call, runtime license required Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 "anonymous" or by user name & password 10 5
 supported User-defined websites OPC UA Runtime license required OPC UA Server Application authentication User authentication Number of sessions, max. Number of subscriptions per session, max. Sampling interval, min. 	Yes Yes; "Basic" license required Yes; data access (read, write, subscribe), method call, runtime license required Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 "anonymous" or by user name & password 10 5 100 ms
 supported User-defined websites OPC UA Runtime license required OPC UA Server Application authentication User authentication Number of sessions, max. Number of subscriptions per session, max. Sampling interval, min. Publishing interval, min. 	Yes Yes; "Basic" license required Yes; data access (read, write, subscribe), method call, runtime license required Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 "anonymous" or by user name & password 10 5 100 ms 200 ms
 supported User-defined websites OPC UA Runtime license required OPC UA Server Application authentication User authentication Number of sessions, max. Number of subscriptions per session, max. Sampling interval, min. Publishing interval, min. Number of server methods, max. 	Yes Yes; "Basic" license required Yes; data access (read, write, subscribe), method call, runtime license required Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 "anonymous" or by user name & password 10 5 100 ms 200 ms 20
 supported User-defined websites OPC UA Runtime license required OPC UA Server Application authentication User authentication Number of sessions, max. Number of subscriptions per session, max. Sampling interval, min. Publishing interval, min. Number of server methods, max. Number of monitored items, recommended max. 	Yes Yes; "Basic" license required Yes; data access (read, write, subscribe), method call, runtime license required Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 "anonymous" or by user name & password 10 5 100 ms 200 ms 20 1 000
 supported User-defined websites OPC UA Runtime license required OPC UA Server Application authentication User authentication Number of sessions, max. Number of subscriptions per session, max. Sampling interval, min. Publishing interval, min. Number of server methods, max. Number of monitored items, recommended max. Number of server interfaces, max. 	Yes Yes; "Basic" license required Yes; data access (read, write, subscribe), method call, runtime license required Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 "anonymous" or by user name & password 10 5 100 ms 200 ms 20
 supported User-defined websites OPC UA Runtime license required OPC UA Server Application authentication User authentication Number of sessions, max. Number of subscriptions per session, max. Sampling interval, min. Publishing interval, min. Number of server methods, max. Number of monitored items, recommended max. 	Yes Yes; "Basic" license required Yes; data access (read, write, subscribe), method call, runtime license required Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 "anonymous" or by user name & password 10 5 100 ms 200 ms 20 1 000

Further protocols	
MODBUS	Yes
communication functions / header	
S7 communication	
• supported	Yes
as server	Yes
as client	Yes
• User data per job, max.	See online help (S7 communication, user data size)
Number of connections	See online help (S7 continunication, user data size)
overall	PG Connections: 4 reserved / 4 max; HMI Connections: 12 reserved / 18 max;
• Overall	S7 Connections: 8 reserved / 14 max; Open User Connections: 8 reserved / 14 max; Web Connections: 2 reserved / 30 max; OPC UA Connections: 0 reserved / 10 max; Total Connections: 34 reserved / 64 max
Test commissioning functions	
Status/control	
 Status/control variable 	Yes
Variables	Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters
Forcing	
Forcing	Yes
Diagnostic buffer	
• present	Yes
Traces	
Number of configurable Traces	2
Memory size per trace, max.	512 kbyte
Interrupts/diagnostics/status information	
Diagnostics indication LED	
RUN/STOP LED	Yes
• ERROR LED	Yes
MAINT LED	Yes
Integrated Functions	
Counter	
Number of counters	6
Counting frequency, max.	1 MHz
Frequency measurement	Yes
controlled positioning	Yes
Number of position-controlled positioning axes, max.	8
Number of positioning axes via pulse-direction interface	4; With integrated outputs
PID controller	Yes
Number of alarm inputs	4
Number of pulse outputs	4
Limit frequency (pulse)	1 MHz
Potential separation	
Potential separation digital inputs	
Potential separation digital inputs	No
between the channels, in groups of	1
Potential separation digital outputs	
Potential separation digital outputs	Yes
between the channels	No
between the channels, in groups of	1
EMC	
Interference immunity against discharge of static electricity	
 Interference immunity against discharge of static electricity acc. to IEC 61000-4-2 	Yes
— Test voltage at air discharge	8 kV
— Test voltage at contact discharge	6 kV
Interference immunity to cable-borne interference	
 Interference immunity on supply lines acc. to IEC 61000- 4-4 	Yes
 Interference immunity on signal cables acc. to IEC 61000- 4-4 	Yes
Interference immunity against voltage surge	
 Interference immunity on supply lines acc. to IEC 61000- 	Yes

4-5	
Interference immunity against conducted variable disturbance indu	uced by high-frequency fields
Interference immunity against high-frequency radiation acc. to IEC 61000-4-6	Yes
Emission of radio interference acc. to EN 55 011	
 Limit class A, for use in industrial areas 	Yes; Group 1
• Limit class B, for use in residential areas	Yes; When appropriate measures are used to ensure compliance with the limits for Class B according to EN 55011
egree and class of protection	
IP degree of protection	IP20
tandards, approvals, certificates	
CE mark	Yes
mbient conditions	
Free fall	
• Fall height, max.	0.3 m; five times, in product package
Ambient temperature during operation	
• min.	-40 °C; = Tmin; Startup @ -25 °C
• max.	60 °C; = Tmax; Tmax > 55 °C number of simultaneously switched-on digital inputs 5, current sinking/current sourcing (no adjacent points) and 4 differential inputs with horizontal mounting position; Tmax > 55 °C number of simultaneously switched-on digital inputs 3, current sinking (no adjacent points) and 4 differential outputs with horizontal mounting position
 horizontal installation, min. 	-40 °C; = Tmin; Startup @ -25 °C
 horizontal installation, max. 	60 °C
 vertical installation, min. 	-40 °C; = Tmin; Startup @ -25 °C
 vertical installation, max. 	50 °C
Ambient temperature during storage/transportation	
• min.	-40 °C
• max.	70 °C
Air pressure acc. to IEC 60068-2-13	
 Storage/transport, min. 	660 hPa
 Storage/transport, max. 	1 080 hPa
Altitude during operation relating to sea level	
 Installation altitude, min. 	-1 000 m
 Installation altitude, max. Ambient air temperature-barometric pressure-altitude 	5 000 m; Restrictions for installation altitudes > 2 000 m, see manual Tmin Tmax at 1 080 hPa 795 hPa (-1 000 m +2 000 m) // Tmin (Tmax - 10 K) at 795 hPa 658 hPa (+2 000 m +3 500 m) // Tmin (Tmax - 20 K)
	at 658 hPa 540 hPa (+3 500 m +5 000 m)
Relative humidity	
• With condensation, tested in accordance with IEC 60068- 2-38, max.	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)
Vibrations	
Vibration resistance during operation acc. to IEC 60068- 2-6	2 g (m/s²) wall mounting, 1 g (m/s²) DIN rail
Operation, tested according to IEC 60068-2-6 Shock testing	Yes
• tested according to IEC 60068-2-27	Yes; IEC 68, Part 2-27 half-sine: strength of the shock 15 g (peak value), duration 11 ms
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	
 — to biologically active substances according to EN 60721-3-3 	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request
 — to chemically active substances according to EN 60721-3-3 	Yes; Class 3C4 (RH < 75%) incl. salt spray according to EN 60068-2-52 (degree of severity 3). The supplied connector covers must remain on the unused interfaces during operation!
 — to mechanically active substances according to EN 60721-3-3 	Yes; Class 3S4 incl. sand, dust. The supplied connector covers must remain on the unused interfaces during operation!
Use on ships/at sea	
 — to biologically active substances according to EN 60721-3-6 	Yes; Class 6B2 mold, fungal and dry rot spores (excluding fauna)
 — to chemically active substances according to EN 60721-3-6 	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
 — to mechanically active substances according to EN 	Yes; Class 6S3 incl. sand, dust; *

60654-4 — Environmental conditions for process, measuring and control systems acc. to ANSI/ISA-71.04 Concentrations	excluding trichlorethylene) group A/B (excluding trichlorethylene; harmful gas up to the limits of EN 60721-3-3 class 3C4 permissible); level y) and level LB3 (oil)
 Against chemically active substances acc. to EN 60654-4 Environmental conditions for process, measuring and control systems acc. to ANSI/ISA-71.04 Yes; Class 3 (Yes; Level GX concentrations LC3 (salt sprace) 	group A/B (excluding trichlorethylene; harmful gas s up to the limits of EN 60721-3-3 class 3C4 permissible); level
and control systems acc. to ANSI/ISA-71.04 concentrations LC3 (salt spra	s up to the limits of EN 60721-3-3 class 3C4 permissible); level
Remark	
 Note regarding classification of environmental conditions acc. to EN 60721, EN 60654-4 and ANSI/ISA-71.04 * The supplied during operation 	plug covers must remain in place over the unused interfaces on!
Pollutant concentrations	
• SO2 at RH < 60% without condensation S02: < 0.5 ppr	n; H2S: < 0.1 ppm; RH < 60% condensation-free
Conformal coating	
Coatings for printed circuit board assemblies acc. to EN Yes; Class 2 for 61086	or high reliability
Protection against fouling acc. to EN 60664-3 Yes; Type 1 p	rotection
Military testing according to MIL-I-46058C, Amendment 7 Yes; Discoloration	tion of coating possible during service life
Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC- CC-830A Yes; Conformation	al coating, Class A
configuration / header	
configuration / programming / header	
Programming language	
— LAD Yes	
— FBD Yes	
— SCL Yes	
Know-how protection	
User program protection/password protection Yes	
Copy protection Yes	
Block protection Yes	
Access protection	
protection of confidential configuration data Yes	
Protection level: Write protection Yes	
Protection level: Read/write protection Yes	
Protection level: Complete protection Yes	
programming / cycle time monitoring / header	
• adjustable Yes	
Dimensions	
Width 150 mm	
Height 100 mm	
Depth 75 mm	
Weights	
Weight, approx. 530 g	

last modified:

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