SIEMENS

Data sheet

6ES7212-1AE40-0XB0



SIMATIC S7-1200, CPU 1212C, compact CPU, DC/DC/DC, onboard I/O: 8 DI 24 V DC; 6 DO 24 V DC; 2 AI 0-10 V DC, Power supply: DC 20.4-28.8V DC, Program/data memory 75 KB

General information	
Product type designation	CPU 1212C DC/DC/DC
Firmware version	V4.5
Engineering with	
 Programming package 	STEP 7 V17 or higher
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)	400 mA; CPU only
Current consumption, max.	1 200 mA; CPU with all expansion modules
Inrush current, max.	12 A; at 28.8 V DC
² t	0.5 A ² ·s
Output current	
for backplane bus (5 V DC), max.	1 000 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.	9 W
Memory	
Work memory	
 integrated 	75 kbyte
expandable	No
Load memory	
integrated	2 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
for word operations, typ.	 1.7 μs; / instruction
for floating point arithmetic, typ.	2.3 μs; / instruction
CPU-blocks	2.5 µ3,7 m3truction
Number of blocks (total)	DBs, FCs, FBs, counters and timers. The maximum number of addressable blocks ranges from 1 to 65535. There is no restriction, the entire working memory can be used
OB	
Number, max.	Limited only by RAM for code
Data areas and their retentivity	
Retentive data area (incl. timers, counters, flags), max.	14 kbyte
Flag	
• Size, max.	4 kbyte; Size of bit memory address area
Local data	
 per priority class, max. 	16 kbyte; Priority class 1 (program cycle): 16 KB, priority class 2 to 26: 6 KB
Address area	
Process image	
Inputs, adjustable	1 kbyte
Outputs, adjustable	1 kbyte
Hardware configuration	
Number of modules per system, max.	3 comm. modules, 1 signal board, 2 signal modules
Time of day	
Clock	
Hardware clock (real-time)	Yes
Backup time	480 h; Typical
 Deviation per day, max. 	± 60 s/month at 25 °C
Digital inputs	9: Integrated
Number of digital inputs	8; Integrated
of which inputs usable for technological functions Source/sink input	6; HSC (High Speed Counting) Yes
Number of simultaneously controllable inputs	100
all mounting positions	
— up to 40 °C, max.	8
Input voltage	
Rated value (DC)	24 V
• 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)	
for standard inputs	
— parameterizable	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	
— parameterizable	Yes
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	
Number of digital outputs	6
 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
 on lamp load, max. 	5 W

Output voltage	
	0.1 V: with 10 kOhm load
 for signal "0", max. for signal "1", min.	0.1 V; with 10 kOhm load 20 V
-	20 V
Output current	0.5.4
• for signal "1" rated value	0.5 A
for signal "0" residual current, max.	0.1 mA
Output delay with resistive load	4.00
• "0" to "1", max.	1 µs
• "1" to "0", max.	5 µs
Switching frequency	
• of the pulse outputs, with resistive load, max.	100 kHz
Relay outputs	•
Number of relay outputs	0
Cable length	
• shielded, max.	500 m
unshielded, max.	150 m
Analog inputs	
Number of analog inputs	2
Input ranges	
Voltage	Yes
Input ranges (rated values), voltages	
• 0 to +10 V	Yes
— Input resistance (0 to 10 V)	≥100k ohms
Cable length	
 shielded, max. 	100 m; twisted and shielded
Analog outputs	
Number of analog outputs	0
Analog value generation for the inputs	
Integration and conversion time/resolution per channel	
 Resolution with overrange (bit including sign), max. 	10 bit
Integration time, parameterizable	Yes
Conversion time (per channel)	625 µs
Encoder	
Connectable encoders	
2-wire sensor	Yes
1. Interface	
	DDOFINET
Interface type	PROFINET
Isolated	Yes
automatic detection of transmission rate	Yes
Autonegotiation	Yes
Autocrossing	Yes
Interface types	Vee
RJ 45 (Ethernet)	Yes
Number of ports	1
integrated switch	No
Protocols	
PROFINET IO Controller	Yes
PROFINET IO Device	Yes
SIMATIC communication	Yes
Open IE communication	Yes; Optionally also encrypted
Web server	Yes
Media redundancy	No
PROFINET IO Controller	
 Transmission rate, max. 	100 Mbit/s
Services	
— PG/OP communication	Yes; encryption with TLS V1.3 pre-selected
— Isochronous mode	No
— IRT	No
— PROFlenergy	No

— Prioritized startup	Yes
 Number of IO devices with prioritized startup, 	16
max.	10
— 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 activated/deactivated, max. 	8
— 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, 	2
max.	
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	No
— MRPD	No
SIMATIC communication	
S7 routing	Yes
Open IE communication	
• TCP/IP	Yes
— Data length, max.	8 kbyte
 — several passive connections per port, supported 	Yes
• ISO-on-TCP (RFC1006)	Yes
	8 kbyte
— Data length, max.• UDP	Yes
— Data length, max. Web server	1 472 byte
	Yes
 supported User-defined websites 	Yes
OPC UA	
	Vee: "Paeie" license required
 Runtime license required OPC UA Server 	Yes; "Basic" license required
ULC ON SEIVEL	Yes; data access (read, write, subscribe), method call, runtime license required
— Application authentication	Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256
— User authentication	"anonymous" or by user name & password
- Number of sessions, max.	10
— Number of subscriptions per session, max.	50
— Sampling interval, min.	100 ms
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 - Publishing interval, min. 20 ms - Number of annor methods, nax. 20 - Number of annor methods, nax. 20 - Number of annor methods, nax. 20 - Number of annor methods for user-defined sorver interfaces, max. 2000 - Number of annor methods. - Overall - Proceeding functions. - Overall - Proceeding functions. - Overall - Proceeding functions. - Proceeding. - Overall - Proceeding. - Proceeding. - Overall - Proceeding. - Procemethol. - Proceeding. - Proceeding		
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 	, -	
Interfaces, max,		
Fundamental constructions Yes communication Yes sa sorver Yes • as sorver Yes • as sorver Yes • as sorver Yes • as client Yes • user data per job, max. See online help (S7 communication, user data size) Number of connections Present • overall PG Connections - 4 reserved / 4 max; Web Connections: 12 reserved / 30 max; OPC UA • overall PG Connections - 6 reserved / 4 max; Web Connections: 12 reserved / 64 max • Status/control Status/control • Status/control Yes • Present Yes • Number of configurable Traces 2 • Number of configurable Traces 2 • Renory size per trace, max 512 koyte • Interrorpts/diagon/clica/status information Yes		2 000
• MODBUS Yes • supported Yes • as server Yes • as a client Yes • as a client Yes • Se ommunication lue help (S7 communication, user data size) Number of connections PG Connections: 4 reserved / 4 max: HMI Connections: 12 reserved / 18 max; Open User Variations • overall PG Connections: 4 reserved / 10 max; Open Userver/ 30 max; OPC UA Connections: 3 reserver / 10 max; Open Userver/ 30 max; OPC UA Connections: 30 reserver / 10 max; Open Userver/ 30 max; OPC UA Connections: 0 reserver / 10 max; Total Connections: 34 reserved / 64 max • Status/control • Status/control • Status/control • Yes • Status/control • Yes • Status/control Yes • Number of configurable Traces 2 • Number of configurable Traces 2 • Number of configurable Traces 2 • RONT PLED Yes • RONT PLED Yes • RONT PLED Yes • Number of contigrasts information Diagnostic Inclaidus 100 kHz • Countier 4 • Number of positioning axes v pluse-direction interface 4		
communication functions / header SF communication • supported Yes • as server Yes • as clent Yes • as clent Yes • User data per job, max. See online help (S7 communication, user data size) Number of connections • coverall • overall PG Connections: 4 reserved / 4 max. HMI Connections: 12 reserved / 64 reserved / served / 10 max, Total Connections: 34 reserved / 64 reserved / 10 max, Total Connections: 34 reserved / 64 reserved / 10 max, Total Connections: 34 reserved / 64 reserved / 10 max, Total Connections: 34 reserved / 64 reserved / 10 max, Total Connections: 34 reserved / 64 reserved / 10 max, Total Connections: 34 reserved / 64 reserved / 10 max, Total Connections: 34 reserved / 64 reserved / 10 max, Total Connections: 34 reserved / 64 reserved / 10 max, Total Connections: 34 reserved / 64 reserved / 25 total Potoning • Forcing Yes Diagnostic buffer • proceing • Forcing • Forcing • RUNSTOP LED • RUNSTOP LED • RUNSTOP LED • RUNBEr of counters 6 • Counting frequency, max • Counted frequency, max		Vec
S7 communication Yes • supported Yes • as client Yes • as client Yes • User data per job, max. See online help (S7 communication, user data size) Number of connections PG Connections: 4 reserved / 4 max; CPU decrementions: 8 reserved / 4 max; CPU decrementions: 8 reserved / 14 max; CPU decrementions: 3 reserved / 30 max; CPU decrementions: 34 reserved / 40 max; CPU decrementions: 34 reserved / 64 max • Overall Yes • Status/control Yes • Status/control Yes • Variables Yes • Variables Yes • Variables Yes • Diagnostic buffer Yes • present Yes • Romory size per trace, max 512 kbyte Interrupt/diagnostics/status information Diagnostic indication LED • RUNDEr of configurable Traces 2 • Memory size per trace, max 512 kbyte Interrupt/diagnostics/status information Diagnostics indication LED • RUNDEr of counters 6 • Counter 6 • Number of counters 6 • Counter 6 • Number of positioning axes max 8 • Number of positioning axe		Yes
supported supported ves sa server ves sa server ves sa server ves se contine help (S7 communication, user data size) Number of connections: 2 reserved / 4 max; HMI Connections: 12 reserved / 19 Ronzections: 3 reserved / 4 max; HMI Connections: 2 reserved / 4 max; MMI Connections: 2 reserved / 64 max reserved / 10 max; Total Connections: 3 reserved / 30 max; OPC UA Connections: 0 reserved / 10 max; Total Connections: 3 reserved / 64 max reserved / 10 max; Total Connections: 3 reserved / 64 max reserved / 10 max; Total Connections: 3 reserved / 64 max reserved / 10 max; Total Connections: 3 reserved / 64 max reserved / 10 max; Total Connections: 3 reserved / 64 max reserved / 10 max; Total Connections: 3 reserved / 64 max reserved / 10 max; Total Connections: 3 reserved / 64 max reserved / 10 max; Total Connections: 3 reserved / 64 max reserved / 10 max; Total Connections: 3 reserved / 64 max reserved / 10 max; Total Connections: 3 reserved / 64 max reserved / 10 max; Total Connections: 3 reserved / 64 max reserved / 10 max; Total Connections: 3 reserved / 64 max reserved / 10 max; Total Connections: 3 reserved / 64 max reserved / 10 max; Total Connections: 3 reserved / 64 max reserved / 10 max; Total Connections: 3 reserved / 64 max reserved / 10 max; Total Connections: 3 reserved / 64 max reserved / 10 max; Total Connections: 3 reserved / 64 max reserved / 10 max; Total Connections reserved / 10 max; Total Connections: 3 reserved / 64 max reserved / 10 max; Total Connections reserved / 10 max; Total Connections: 3 reserved / 64 max reserved / 10 max; Total Connections reserved / 10 max; Total reserved / 10 max; Total rese		
• as server Yes • as client Yes • User data per job, max. See online help (S7 communication, user data size) Number of connections PG Connections: 4 reserved / 4 max; (PA Connections: 2 reserved / 4 max; CPC UA Connections: 3 reserved / 4 max; CPC UA Connection interface		
• is slient Yes • User data per job, max. See online help (S7 communication, user data size) • overall PG Connections: 4 reserved / 4 max; HMI Connections: 12 reserved / 4 max; Web Connections: 3 reserved / 14 max; Voe Domections: 3 reserved / 14 max; Voe Connections: 3 reserved / 10 max. Total Connections: 3 reserved / 10 max. Test commissioning functions Statuscontrol Test commissioning functions Image: Statuscontrol variable • Statuscontrol variable Yes • Statuscontrol variable Yes • Statuscontrol variable Yes • Forcing Yes • Diagnostic buffer Yes • present Yes • Number of configurable Traces 512 kbyte • Number of configurable Traces 512 kbyte • Rencong LED Yes • Encong LED Yes • Encong LED Yes • Mannet of configurable Traces 6 • Counting frequency, max. 100 kHz • Frequency masurement Yes • Number of counters 6 • Counting frequency, max. 100 kHz • Frequency masurement Yes • Protential separation digital inputs 4 • Number of position-controled positioning axes, max. 8 • Number of position-controled positioning axes, max.		
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• overall PG Connections: 4 reserved / 4 max; HMI Concettons: 12 reserved / 30 max; OPC UAs Connections: 0 reserved / 10 max; Total Connections: 34 reserved / 30 max; OPC UA Connections: 0 reserved / 10 max; Total Connections: 34 reserved / 64 max Trace Status/control Status/control variable Yes Variables Forcing • Variables Forcing • Porcing Diagnostic buffer • present Yes Number of configurable Traces 2 • Memory size per trace, max. 512 kbyte Interrupts/diagnostics/status information Diagnostic buffer • present Yes Number of counters • Number of counters • Number of counters • Number of counters • Number of counters * Counting frequency, max. 10 kHz Yes Number of positioning axes, max. 8 Number of positioning axes, max. 8 Number of positioning axes, max. 8 Number of positioning axes, max. 10 kHz Pertential separation digital outputs 4 Number of positioning axes, max. 8 Number of positioning axes, max. 10 kHz Pertential separation digital outputs 4 Number of positioning axes, max. 10 kHz Pertential separation digital outputs 10 kHz Pertential separation digital outputs • Diverse the channels, in groups of 1 Petential separation digital outputs Yes between the channels, in groups of 1 Petertial separation digital outputs Yes between the channels, in groups of 1 Petertial separation digital outputs Yes between the channels, in groups of 1 Petertial separation digital outputs Yes between the channels, in groups of 1 Petertial separation digital outputs Yes between the channels, in groups of 1 Petertial separation digital outputs Yes between the channels, in groups of 1 Petertial separation digital outputs Yes between the channels, in groups of 1 Petertial separation digital outputs Potentia		See online help (S7 communication, user data size)
18 max, S7 Connections: 8 reserved / 14 max, Web Connections: 2 reserved / 64 max. OPC UA Connections: 0 reserved / 10 max; Total Connections: 34 reserved / 64 max. Instructions: Status/control variable • Status/control variable Yes • Status/control variable Yes • Status/control variable Yes • Forcing Yes • Forcing Yes • Diagnostic buffer • yes • present Yes • Number of configurable Traces 2 • Number of configurable Traces 2 • Number of configurable Traces 2 • RONSTOP LED Yes • RUNSTOP LED Yes • MaNT LED Yes • Number of counters 6 • Counter 6 • Number of counters 6 • Counter 4 • Number of positioning axes, max. 100 kHz • Prequency measurement Yes controlled positioning axes vapues-direction interface 4 • Number of positioning axes vapues-direction interface 4 • Number of positioning axes vapues-direction interface 4 • Dietnical separation dig		
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• Number of counters 6 • Counting frequency, max. 100 kHz 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) 100 kHz Potential separation digital inputs 4 • Potential separation digital inputs No • between the channels, in groups of 1 Potential separation digital outputs Yes • Potential separation digital outputs Yes • Detween the channels, in groups of 1 Potential separation digital outputs Yes • between the channels No • between the channels No • between the channels No • between the channels Yes • between the channels No • between the channels, in groups of 1 Interference immunity against discharge of static electricity Ves <td>Integrated Functions</td> <td></td>	Integrated Functions	
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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) 100 kHz Potential separation 100 kHz Potential separation digital inputs No • Potential separation digital inputs No • between the channels, in groups of 1 Potential separation digital outputs Yes • between the channels No • between the channels Yes • between the channels, in groups of 1 EMC Interference immunity against discharge of static electricity • Interference immunity against discharge of static Yes <td> Counting frequency, max. </td> <td>100 kHz</td>	 Counting frequency, max. 	100 kHz
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) 100 kHz Potential separation Potential separation digital inputs • Potential separation digital inputs No • between the channels, in groups of 1 Potential separation digital outputs Yes • Potential separation digital outputs Yes • between the channels, in groups of 1 Potential separation digital outputs Yes • between the channels No • 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 Yes		Yes
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Number of alarm inputs 4 Number of pulse outputs 4 Limit frequency (pulse) 100 kHz Potential separation Potential separation digital inputs No • Potential separation digital inputs No • between the channels, in groups of 1 Potential separation digital outputs Yes • 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 Yes	Number of positioning axes via pulse-direction interface	4; With integrated outputs
Number of pulse outputs 4 Limit frequency (pulse) 100 kHz Potential separation Potential separation digital inputs No • Potential separation digital inputs No • between the channels, in groups of 1 Potential separation digital outputs Yes • 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 Yes		Yes
Limit frequency (pulse) 100 kHz Potential separation Potential separation digital inputs No • Potential separation digital inputs No • between the channels, in groups of 1 Potential separation digital outputs Yes • Potential separation digital outputs Yes • between the channels No • between the channels Yes • between the channels No • between the channels Yes • between the channels of groups of 1 EMC Interference immunity against discharge of static electricity • Interference immunity against discharge of static Yes	Number of alarm inputs	4
Potential separation Potential separation digital inputs • Potential separation digital inputs • between the channels, in groups of 1 Potential separation digital outputs • between the channels • between the channels, in groups of • between the channels, in groups of • 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	Number of pulse outputs	4
Potential separation digital inputs No • Potential separation digital inputs No • between the channels, in groups of 1 Potential separation digital outputs 1 • 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 Yes	Limit frequency (pulse)	100 kHz
 Potential separation digital inputs between the channels, in groups of Potential separation digital outputs Potential separation digital outputs Yes between the channels between the channels, in groups of 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 	Potential separation	
• between the channels, in groups of 1 Potential separation digital outputs Yes • 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 Yes	Potential separation digital inputs	
Potential separation digital outputs Yes • 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 Yes electricity acc. to IEC 61000-4-2 Yes	 Potential separation digital inputs 	No
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	 between the channels, in groups of 	1
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	Potential separation digital outputs	
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	 Potential separation digital outputs 	Yes
EMC Interference immunity against discharge of static electricity • Interference immunity against discharge of static electricity acc. to IEC 61000-4-2 Yes	between the channels	No
Interference immunity against discharge of static electricity • Interference immunity against discharge of static electricity acc. to IEC 61000-4-2 Yes	 between the channels, in groups of 	1
Interference immunity against discharge of static Yes electricity acc. to IEC 61000-4-2	EMC	
electricity acc. to IEC 61000-4-2	Interference immunity against discharge of static electricity	
— Test voltage at air discharge 8 kV	 Interference immunity against discharge of static 	Yes
	— Test voltage at air discharge	8 kV

— Test voltage at contact discharge	6 kV
Interference immunity to cable-borne interference	U 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 	Yes
61000-4-5	
Interference immunity against conducted variable disturban	
 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
Degree and class of protection	
IP degree of protection	IP20
Standards, approvals, certificates	
CE mark	Yes
UL approval	Yes
cULus	Yes
FM approval	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
Marine approval	Yes
Ambient conditions	
Free fall	
• Fall height, max.	0.3 m; five times, in product package
Ambient temperature during operation	
● min.	-20 °C
● max.	60 °C; Number of simultaneously activated inputs or outputs 4 or 3 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 8 or 6 at 55 °C horizontal or 45 °C vertical
 horizontal installation, min. 	-20 °C
 horizontal installation, max. 	60 °C
 vertical installation, min. 	-20 °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	705 - D-
Operation, min.	795 hPa
Operation, max. Storage/transport_min	1 080 hPa
Storage/transport, min.	660 hPa
Storage/transport, max. Altitude during operation relating to see level	1 080 hPa
Altitude during operation relating to sea level	-1 000 m
Installation altitude, min.	
Installation altitude, max. Relative humidity	5 000 m; Restrictions for installation altitudes > 2 000 m, see manual
Operation, max.	95 %; no condensation
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 	Yes
Shock testing	
• 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
Pollutant concentrations	
 SO2 at RH < 60% without condensation 	S02: < 0.5 ppm; H2S: < 0.1 ppm; RH < 60% condensation-free
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	90 mm
Height	100 mm
Depth	75 mm
Weights	
Weight, approx.	370 g

last modified:

4/12/2021 🖸