SIEMENS

Data sheet

6ES7215-1AG40-0XB0



SIMATIC S7-1200, CPU 1215C, compact CPU, DC/DC/DC, 2 PROFINET ports, onboard I/O: 14 DI 24 V DC; 10 DO 24 V DC; 0.5A; 2 AI 0-10 V DC, 2 AO 0-20 mA DC, Power supply: DC 20.4-28.8V DC, Program/data memory 125 KB

General information	
Product type designation	CPU 1215C DC/DC/DC
Firmware version	V4.4
Engineering with	
 Programming package 	STEP 7 V16 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)	500 mA
Current consumption, max.	1 500 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	125 kbyte
expandable	No
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
for word operations, typ. for floating point arithmetic, typ.	1.7 μs; / instruction
- 1.	2.3 µs; / instruction
CPU-blocks	
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.	10 kbyte
Flag	
Number, max.	8 kbyte; Size of bit memory address area
Local data	
• per priority class, max.	16 kbyte
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, 8 signal modules
Time of day	
Clock	
Hardware clock (real-time)	Yes
Backup time	480 h; Typical
Digital inputs	100 II, Typical
	14: Integrated
Number of digital inputs of which inputs usable for technological functions	14; Integrated
Source/sink input	6; HSC (High Speed Counting) Yes
Number of simultaneously controllable inputs	165
all mounting positions	
— up to 40 °C, max.	14
Input voltage	14
	24 V
Rated value (DC)for signal "0"	5 V DC at 1 mA
• for signal "1"	15 V DC at 1111A
Input delay (for rated value of input voltage)	10 V DO dt 2.0 H/M
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
— ραιαποισπέαδιο	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	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
 , 	

• In lamp Gad, max. • Or signal 1", max. • For signal 1", max. • For signal 1", max. • For signal 1" rated value • For signal 1" rate	and language languages.	E 14/
• for signal ""1" min. • for signal ""1" min. • for signal ""1 rated value • for signal "1" rated val	• on lamp load, max.	5 W
	· · ·	
Output delay with resistive load • for signal "1" rated value • for signal "0" residual current, max. 0.1 mA Output delay with resistive load • "0" to "1", max. • "1" to "0", max. \$ 1 μs • "1" to "0", max. \$ 1 μs • "1" to "0", max. \$ 1 μs • "1" to "0", max. • 100 kHz Relay outputs • Number of relay outputs • sheided, max. • unsheided, max. • unsheided, max. • unsheided, max. • "150 m Analog inputs Number of analog inputs • 100 kHz Input ranges • 101 kHz Input ranges • 101 kHz Input ranges • 101 kHz Input ranges (relete values), voltages • 101 kHz Input ranges (releted values), voltages • 101 kHz • 102 kHz • 103 kHz • 103 kHz • 104 kHz • 104 kHz • 105 kHz •		
Or or signal "1" rated value of or signal "0" residual current, max Output design with resistive boad O" 10" 1", max 1		20 V
• for signal "O' residual current, max. Output delay with resistive load • "O" to "1", max. • "1" to "0", max. • full to "0", max. • Number of relay outputs • Number of relay outputs • Number of relay outputs • shielded, max. • soo m • unshielded, max. • soo m • unshielded, max. • full to "0", max. • full t	·	
Output delay with resistive load 1 μs		0.5 A
• "1" to "1", max,		0.1 mA
• "1" to "0", max. • of the pulse outputs, with resistive load, max. **Relay outputs • Number of relay outputs • shelefed, max. • shelefed, max. • shelefed, max. • unshielded, max. **Number of analog inputs **Number of analog inputs • Voltage Input ranges • Voltage Input ranges (rated values), voltages • 0 to +10 V — Input resistance (0 to 10 V) **Zalole length • shelefed, max. **Number of analog outputs Output ranges (rated values), voltages • 0 to +10 V — Input resistance (0 to 10 V) **Zalole length • shelefed, max. **Number of analog outputs **Number of analog outputs **Output ranges, current • 0 to 20 mA **Analog value generation for the inputs Integration and conversion time/resolution per channel • Resolution with overrange (lot including sign), max. • Integration and conversion time/resolution per channel • Resolution with overrange (lot including sign), max. • Integration and conversion time/resolution per channel • Resolution with overrange (lot including sign), max. • Integration and conversion time/resolution per channel • Resolution with overrange (lot including sign), max. • Integration and conversion time/resolution per channel • Resolution with overrange (lot including sign), max. • PROFINET Solated Yes 1.Interface Interface type • 2-wive sensor Yes 1.Interface Interface type • 2-Wive sensor Yes 1.Interface Interface types • RJ 45 (Cithernet) • Yes • Interface types • RJ 45 (Cithernet) • Number of ports • Integrated switch Yes • PROFINET IO Controller • PROFINET IO Communication • Yes • SubMATIC communication • Yes • Open IE communication • Yes • SubMATIC communication • Yes • Open IE communication • Yes • Open IE communication • Yes • Open IE communication	Output delay with resistive load	
Switching frequency of the pulse outputs, with resistive load, max. Relay outputs Number of relay outputs obsideded, max. ounshielded, max. ounshielded, max. Integration and conversion time fresolution per channel of analog outputs Number of analog outputs output ranges outputs Number of analog outputs Output ranges, current output ranges, c		1 μs
e of the pulse outputs, with resistive load, max. Relay outputs Number of relay outputs shelded, max. o shelded, max. 150 m Analog inputs Number of analog inputs voltage voltage to to 10 v V Yes Input ranges voltage Input ranges (rated values), voltages voltage Input resistance (0 to 10 V) — Input resistance (0 to 10 V) Shelded, max. Analog outputs Number of analog outputs 0 to 20 mA Analog value generation for the Inputs Integration and conversion time/resolution per channel Resolution with overrange (bit including sign), max. integration and conversion time/resolution per channel Resolution with overrange (bit including sign), max. integration and conversion time (resolution per channel Resolution with overrange (bit including sign), max. integration and conversion time (resolution per channel) Resolution with overrange (bit including sign), max. integration and conversion time (resolution per channel) Resolution with overrange (bit including sign), max. Integration and conversion time (resolution per channel) Resolution with overrange (bit including sign), max. Integration and conversion time/resolution per channel Resolution with overrange (bit including sign), max. Integration and conversion time/resolution per channel Resolution with overrange (bit including sign), max. Integrated the performance of the outputs Integrated subset of the outputs Integrated subset of transmission rate Ves Autorocopolitation Yes Autorocopolitation Yes PROFINET IC Controller PROFINET I	• "1" to "0", max.	5 μs
Relay outputs Number of relay outputs Shiekted, max. So 00 m shiekted, max. Is 0 m Analog inputs Number of analog inputs Potage Ves Input ranges Voltage Ves Input ranges Voltage Ves Input ranges (rated values), voltages Ves Input ranges (rated values), voltages Ves Input ranges (rated values), voltages Ves Integration and conversion time fresolution per channel Resolution with overrange (bit including sign), max. Ves Conversion time (per channel) Resolution with overrange (bit including sign), max. Ves Conversion time (per channel) Resolution with overrange (bit including sign), max. Ves Ves Integration and conversion time/resolution per channel Resolution with overrange (bit including sign), max. Ves Ves Integration and conversion time/resolution per channel Resolution with overrange (bit including sign), max. Ves Ves Integration and conversion time/resolution per channel Resolution with overrange (bit including sign), max. Ves Ves Integrates ensor Ves	Switching frequency	
Obligation of the large of the control of the large of the control of the contro	 of the pulse outputs, with resistive load, max. 	100 kHz
Cable length • shielded, max. • unshielded, max. 150 m Analog inputs Number of analog inputs • Voltage • Voltage • Voltage • Voltages • Olto +10 V — Input resistance (0 to 10 V) — Input resistance (0 to 10 V) — Input resistance (0 to 10 V) — Shielded, max. 100 m; twisted and shielded Analog outputs • Shielded, max. 100 m; twisted and shielded Analog outputs Oto 20 mA Analog value generation for the inputs Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Integration time, parameter/zable • Conversion time (per channel) • Resolution with overrange (bit including sign), max. • Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. 10 bit Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. 10 bit Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. 10 bit Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. 10 bit Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. 10 bit Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. 10 bit Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. 10 bit Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. 10 bit Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. 10 bit Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. 10 bit Integration and conversion time/resolution per channel • Resolut	Relay outputs	
shielded, max.	 Number of relay outputs 	0
• unshielded, max. Analog inputs Number of analog inputs • Votage • Votage • Votages • Votages • Votages • Votages • 10 to +10 V — Input resistance (0 to 10 V) Cable length • shielded, max. Number of analog outputs Ves Output ranges, current • 0 to 20 mA Analog value generation for the inputs Integration and conversion time/resolution per channel • Resolution with overange (bit including sign), max. • Integration and conversion time/resolution per channel • Resolution with overange (bit including sign), max. • Integration and conversion time/resolution per channel • Resolution with overange (bit including sign), max. • Integration and conversion time/resolution per channel • Resolution with overange (bit including sign), max. • Integration and conversion time/resolution per channel • Resolution with overange (bit including sign), max. • 10 bit Encoder Connectable encoders • 2-wire sensor • 2-wire sensor • Yes Autorossing interface type Interface type Interface type Interface type • RA 45 (Ethernet) • Yes Autorossing interface types • RI 45 (Ethernet) • Number of ports • PROFINET IO Controller • PROFINET IO Device • SIMATIC communication • Yes • SIMATIC communication • Yes • SIMATIC communication • Yes • Open IE communication • Yes • Open IE communication • Yes • Open IE communication	Cable length	
Analog inputs Number of analog inputs 2	• shielded, max.	500 m
Number of analog inputs Input ranges	unshielded, max.	150 m
Number of analog inputs Input ranges		
Input ranges • Voltage • Voltages • O to +10 V Yes — Input resistance (0 to 10 V) Yes — Input resistance (0 to 10 V) Yes — Input resistance (0 to 10 V) Yes — Input resistance (0 to 10 V) Yes — Input resistance (0 to 10 V) Yes — Input resistance (0 to 10 V) Yes — Input resistance (0 to 10 V) Yes — Ves Manier Vested and shielded Analog outputs Vested Analog outputs		2
Voltage		
Input ranges (rated values), voltages		Yes
O to +10 V Yes — Input resistance (0 to 10 V) 2 t00k ohms Cable length • shielded, max.		
- Input resistance (0 to 10 V) Cable length ● shielded, max. Analog outputs Number of analog outputs 0 to 20 mA Analog value generation for the inputs Integration and conversion time/resolution per channel ● Resolution with overrange (bit including sign), max. ● Integration time, parameterizable ● Conversion time (per channel) Analog value generation for the outputs Integration and conversion time/resolution per channel ● Resolution with overrange (bit including sign), max. ■ Integration and conversion time/resolution per channel ● Resolution with overrange (bit including sign), max. Encoder Connectable encoders ● 2-wire sensor 1. Interface Interface type Isolated Autonegotiation Autocrossing Nes Autonegotiation Yes Autorossing Interface types ● RJ 45 (Ethernet) • RJ 45 (Ethernet) • Integrated switch Protocols ● PROFINET IO Controller • PROFINET IO Controller • PROFINET IO Device • SIMATIC communication Yes • Open IE communication Yes; Optionally also encrypted		Voc
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Protocols PROFINET IO Controller PROFINET IO Device SIMATIC communication Open IE communication Yes; Optionally also encrypted	Resolution with overrange (bit including sign), max. Encoder Connectable encoders 2-wire sensor 1. Interface Interface type Isolated automatic detection of transmission rate Autoregotiation Autocrossing Interface types RJ 45 (Ethernet)	Yes PROFINET Yes Yes Yes Yes Yes
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Open IE communication Yes; Optionally also encrypted	Resolution with overrange (bit including sign), max. Encoder Connectable encoders 2-wire sensor Interface Interface type Isolated automatic detection of transmission rate Autonegotiation Autocrossing Interface types RJ 45 (Ethernet) Number of ports integrated switch Protocols PROFINET IO Controller	Yes PROFINET Yes Yes Yes Yes Yes Yes Yes Yes Yes
	Resolution with overrange (bit including sign), max. Encoder Connectable encoders 2-wire sensor 1. Interface Interface type Isolated automatic detection of transmission rate Autonegotiation Autocrossing Interface types RJ 45 (Ethernet) Number of ports integrated switch Protocols PROFINET IO Controller PROFINET IO Device	Yes PROFINET Yes Yes Yes Yes Yes Yes Yes Yes 2 Yes
Web server Yes	 Resolution with overrange (bit including sign), max. Encoder Connectable encoders 2-wire sensor Interface Interface type Isolated automatic detection of transmission rate Autonegotiation Autocrossing Interface types RJ 45 (Ethernet) Number of ports integrated switch Protocols PROFINET IO Controller PROFINET IO Device SIMATIC communication 	Yes PROFINET Yes Yes Yes Yes Yes Yes Yes Ye
	Resolution with overrange (bit including sign), max. Encoder Connectable encoders 2-wire sensor Interface Interface Interface type Isolated automatic detection of transmission rate Autonegotiation Autocrossing Interface types RJ 45 (Ethernet) Number of ports integrated switch Protocols PROFINET IO Controller PROFINET IO Device SIMATIC communication Open IE communication	Yes PROFINET Yes Yes Yes Yes Yes Yes Yes Ye

Media redundancy	Yes; as MRP client
PROFINET IO Controller	
Transmission rate, max.	100 Mbit/s
Services	
— PG/OP communication	Yes
— Isochronous mode	No
— IRT	No
— PROFlenergy	No
Prioritized startup	Yes
Number of IO devices with prioritized startup,	16
max.	
 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
	8
 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
— opeding time	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
— Isochronous mode	No
— IRT	No
— PROFlenergy	Yes
— Shared device	Yes
Number of IO Controllers with shared device,	2
max.	2
Protocols	
Supports protocol for PROFINET IO	Yes
PROFIBUS	Yes; CM 1243-5 (master) or CM 1242-5 (slave) required
AS-Interface	Yes; CM 1243-2 required
Protocols (Ethernet)	
• TCP/IP	Yes
• DHCP	No
• SNMP	Yes
SNMPDCP	Yes Yes
• DCP	Yes
• DCP • LLDP	Yes
DCP LLDP Redundancy mode	Yes
DCP LLDP Redundancy mode Media redundancy	Yes Yes
DCP LLDP Redundancy mode Media redundancy — MRP — MRPD	Yes Yes
DCP LLDP Redundancy mode Media redundancy — MRP — MRPD SIMATIC communication	Yes Yes No
DCP LLDP Redundancy mode Media redundancy — MRP — MRPD SIMATIC communication S7 routing	Yes Yes
DCP LLDP Redundancy mode Media redundancy — MRP — MRPD SIMATIC communication S7 routing Open IE communication	Yes Yes No Yes
DCP LLDP Redundancy mode Media redundancy — MRP — MRPD SIMATIC communication S7 routing Open IE communication TCP/IP	Yes Yes No Yes Yes
DCP LLDP Redundancy mode Media redundancy — MRP — MRPD SIMATIC communication S7 routing Open IE communication TCP/IP — Data length, max.	Yes Yes No Yes Yes Karana Analog An
DCP LLDP Redundancy mode Media redundancy — MRP — MRPD SIMATIC communication S7 routing Open IE communication TCP/IP — Data length, max. ISO-on-TCP (RFC1006)	Yes Yes No Yes Yes Kbyte Yes
DCP LLDP Redundancy mode Media redundancy — MRP — MRPD SIMATIC communication S7 routing Open IE communication TCP/IP — Data length, max. ISO-on-TCP (RFC1006) — Data length, max.	Yes Yes No Yes Yes Yes Kbyte Yes Kbyte
DCP LLDP Redundancy mode Media redundancy — MRP — MRPD SIMATIC communication S7 routing Open IE communication TCP/IP — Data length, max. ISO-on-TCP (RFC1006) — Data length, max. UDP	Yes Yes No Yes Yes Yes Kbyte Yes Kbyte Yes Kbyte Yes
DCP LLDP Redundancy mode Media redundancy — MRP — MRPD SIMATIC communication S7 routing Open IE communication TCP/IP — Data length, max. ISO-on-TCP (RFC1006) — Data length, max. UDP — Data length, max.	Yes Yes No Yes Yes Yes Kbyte Yes Kbyte
DCP LLDP Redundancy mode Media redundancy — MRP — MRPD SIMATIC communication S7 routing Open IE communication TCP/IP — Data length, max. ISO-on-TCP (RFC1006) — Data length, max. UDP — Data length, max. Web server	Yes Yes No Yes Yes Yes 4 kbyte Yes 8 kbyte Yes 8 kbyte Yes 1 472 byte
DCP LLDP Redundancy mode Media redundancy — MRP — MRPD SIMATIC communication S7 routing Open IE communication TCP/IP — Data length, max. ISO-on-TCP (RFC1006) — Data length, max. UDP — Data length, max. Web server supported	Yes Yes No Yes Yes Yes 4 kbyte Yes 8 kbyte Yes 8 kbyte Yes 1 472 byte Yes
DCP LLDP Redundancy mode Media redundancy — MRP — MRPD SIMATIC communication S7 routing Open IE communication TCP/IP — Data length, max. ISO-on-TCP (RFC1006) — Data length, max. UDP — Data length, max. UDP — Data length, max. UDP — Data length, max. USer-defined websites	Yes Yes No Yes Yes Yes 4 kbyte Yes 8 kbyte Yes 8 kbyte Yes 1 472 byte
DCP LLDP Redundancy mode Media redundancy — MRP — MRPD SIMATIC communication S7 routing Open IE communication TCP/IP — Data length, max. ISO-on-TCP (RFC1006) — Data length, max. UDP — Data length, max. Web server supported	Yes Yes No Yes Yes Yes 4 kbyte Yes 8 kbyte Yes 8 kbyte Yes 1 472 byte Yes
DCP LLDP Redundancy mode Media redundancy — MRP — MRPD SIMATIC communication S7 routing Open IE communication TCP/IP — Data length, max. ISO-on-TCP (RFC1006) — Data length, max. UDP — Data length, max. UDP — Data length, max. UDP — Data length, max. USer-defined websites	Yes Yes No Yes Yes Yes 4 kbyte Yes 8 kbyte Yes 8 kbyte Yes 1 472 byte Yes
■ DCP ■ LLDP Redundancy mode Media redundancy — MRP — MRPD SIMATIC communication ■ S7 routing Open IE communication ■ TCP/IP — Data length, max. ■ ISO-on-TCP (RFC1006) — Data length, max. ■ UDP — Data length, max. UDP — Data length, max. Web server ■ supported ● User-defined websites OPC UA	Yes Yes No Yes Yes Yes Yes 4 kbyte Yes 8 kbyte Yes 1 472 byte Yes Yes

 Number of accessible variables, max. 	1 000
 Number of subscriptions per session, max. 	5
— Sampling interval, min.	100 ms
— Publishing interval, min.	200 ms
 Number of monitored items, max. 	500
 Number of server interfaces, max. 	2
 Number of nodes for user-defined server 	1 000
interfaces, max.	
Further protocols	
MODBUS	Yes
Communication functions	
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	
• overall	8 connections for open user communication (active or passive): TSEND_C, TRCV_C, TCON, TDISCON, TSEND and TRCV, 8 CPU/CPU connections (Client or Server) for GET/PUT data, 6 connections for dynamic assignment to GET/PUT or open user communication
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	
Number of counters	6
Counting frequency (counter) 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	
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 inimulity against disoriarge or 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 	Yes
61000-4-5	
Interference immunity against conducted variable disturbance	e induced 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
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	
Free fall	0.3 m
• Fall height, max.	0.3 m
Fall height, max. Ambient temperature during operation	
Fall height, max.Ambient temperature during operationmin.	-20 °C
Fall height, max. Ambient temperature during operation	
Fall height, max.Ambient temperature during operationmin.	-20 °C 60 °C; Number of simultaneously activated inputs or outputs 7 or 5 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 14 or 10 at 55 °C
 Fall height, max. Ambient temperature during operation min. max. 	-20 °C 60 °C; Number of simultaneously activated inputs or outputs 7 or 5 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 14 or 10 at 55 °C horizontal or 45 °C vertical
 Fall height, max. Ambient temperature during operation min. max. horizontal installation, min. 	-20 °C 60 °C; Number of simultaneously activated inputs or outputs 7 or 5 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 14 or 10 at 55 °C horizontal or 45 °C vertical -20 °C
 Fall height, max. Ambient temperature during operation min. max. horizontal installation, min. horizontal installation, max. 	-20 °C 60 °C; Number of simultaneously activated inputs or outputs 7 or 5 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 14 or 10 at 55 °C horizontal or 45 °C vertical -20 °C 60 °C
 Fall height, max. Ambient temperature during operation min. max. horizontal installation, min. horizontal installation, max. vertical installation, min. 	-20 °C 60 °C; Number of simultaneously activated inputs or outputs 7 or 5 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 14 or 10 at 55 °C horizontal or 45 °C vertical -20 °C 60 °C -20 °C
 Fall height, max. Ambient temperature during operation min. max. horizontal installation, min. horizontal installation, max. vertical installation, min. vertical installation, max. 	-20 °C 60 °C; Number of simultaneously activated inputs or outputs 7 or 5 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 14 or 10 at 55 °C horizontal or 45 °C vertical -20 °C 60 °C -20 °C
 Fall height, max. Ambient temperature during operation min. max. horizontal installation, min. horizontal installation, max. vertical installation, min. vertical installation, max. Ambient temperature during storage/transportation	-20 °C 60 °C; Number of simultaneously activated inputs or outputs 7 or 5 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 14 or 10 at 55 °C horizontal or 45 °C vertical -20 °C 60 °C -20 °C 50 °C
 Fall height, max. Ambient temperature during operation min. max. horizontal installation, min. horizontal installation, max. vertical installation, min. vertical installation, max. Ambient temperature during storage/transportation min. 	-20 °C 60 °C; Number of simultaneously activated inputs or outputs 7 or 5 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 14 or 10 at 55 °C horizontal or 45 °C vertical -20 °C 60 °C -20 °C 50 °C
 Fall height, max. Ambient temperature during operation min. max. horizontal installation, min. horizontal installation, max. vertical installation, min. vertical installation, max. Ambient temperature during storage/transportation min. max. 	-20 °C 60 °C; Number of simultaneously activated inputs or outputs 7 or 5 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 14 or 10 at 55 °C horizontal or 45 °C vertical -20 °C 60 °C -20 °C 50 °C
 Fall height, max. Ambient temperature during operation min. max. horizontal installation, min. horizontal installation, max. vertical installation, min. vertical installation, max. Ambient temperature during storage/transportation min. max. Air pressure acc. to IEC 60068-2-13 Operation, min. 	-20 °C 60 °C; Number of simultaneously activated inputs or outputs 7 or 5 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 14 or 10 at 55 °C horizontal or 45 °C vertical -20 °C 60 °C -20 °C 50 °C
 Fall height, max. Ambient temperature during operation min. max. horizontal installation, min. horizontal installation, max. vertical installation, min. vertical installation, max. Ambient temperature during storage/transportation min. max. Air pressure acc. to IEC 60068-2-13 Operation, min. Operation, max. 	-20 °C 60 °C; Number of simultaneously activated inputs or outputs 7 or 5 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 14 or 10 at 55 °C horizontal or 45 °C vertical -20 °C 60 °C -20 °C 50 °C -40 °C 795 hPa
 Fall height, max. Ambient temperature during operation min. max. horizontal installation, min. horizontal installation, max. vertical installation, min. vertical installation, max. Ambient temperature during storage/transportation min. max. Air pressure acc. to IEC 60068-2-13 Operation, min. Operation, max. Storage/transport, min. 	-20 °C 60 °C; Number of simultaneously activated inputs or outputs 7 or 5 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 14 or 10 at 55 °C horizontal or 45 °C vertical -20 °C 60 °C -20 °C 50 °C -40 °C 795 hPa 1 080 hPa
 Fall height, max. Ambient temperature during operation min. max. horizontal installation, min. horizontal installation, max. vertical installation, min. vertical installation, max. Ambient temperature during storage/transportation min. max. Air pressure acc. to IEC 60068-2-13 Operation, min. Operation, max. Storage/transport, min. Storage/transport, max. Storage/transport, max. Storage/transport, max. 	-20 °C 60 °C; Number of simultaneously activated inputs or outputs 7 or 5 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 14 or 10 at 55 °C horizontal or 45 °C vertical -20 °C 60 °C -20 °C 50 °C -40 °C 70 °C 795 hPa 1 080 hPa 660 hPa
 Fall height, max. Ambient temperature during operation min. max. horizontal installation, min. horizontal installation, max. vertical installation, min. vertical installation, max. Ambient temperature during storage/transportation min. max. Air pressure acc. to IEC 60068-2-13 Operation, min. Operation, max. Storage/transport, min. Storage/transport, max. Altitude during operation relating to sea level	-20 °C 60 °C; Number of simultaneously activated inputs or outputs 7 or 5 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 14 or 10 at 55 °C horizontal or 45 °C vertical -20 °C 60 °C -20 °C 50 °C -40 °C 795 hPa 1 080 hPa 1 080 hPa 1 080 hPa
 Fall height, max. Ambient temperature during operation min. max. horizontal installation, min. horizontal installation, max. vertical installation, min. vertical installation, max. Ambient temperature during storage/transportation min. max. Air pressure acc. to IEC 60068-2-13 Operation, min. Operation, max. Storage/transport, min. Storage/transport, max. Altitude during operation relating to sea level Installation altitude, min. 	-20 °C 60 °C; Number of simultaneously activated inputs or outputs 7 or 5 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 14 or 10 at 55 °C horizontal or 45 °C vertical -20 °C 60 °C -20 °C 50 °C -40 °C 795 hPa 1 080 hPa 1 080 hPa 1 080 hPa
 Fall height, max. Ambient temperature during operation min. max. horizontal installation, min. horizontal installation, max. vertical installation, min. vertical installation, max. Ambient temperature during storage/transportation min. max. Air pressure acc. to IEC 60068-2-13 Operation, min. Operation, max. Storage/transport, min. Storage/transport, max. Altitude during operation relating to sea level Installation altitude, min. Installation altitude, max. 	-20 °C 60 °C; Number of simultaneously activated inputs or outputs 7 or 5 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 14 or 10 at 55 °C horizontal or 45 °C vertical -20 °C 60 °C -20 °C 50 °C -40 °C 795 hPa 1 080 hPa 1 080 hPa 1 080 hPa
 Fall height, max. Ambient temperature during operation min. max. horizontal installation, min. horizontal installation, max. vertical installation, min. vertical installation, max. Ambient temperature during storage/transportation min. max. Air pressure acc. to IEC 60068-2-13 Operation, min. Operation, max. Storage/transport, min. Storage/transport, max. Altitude during operation relating to sea level Installation altitude, min. Installation altitude, max. Relative humidity	-20 °C 60 °C; Number of simultaneously activated inputs or outputs 7 or 5 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 14 or 10 at 55 °C horizontal or 45 °C vertical -20 °C 60 °C -20 °C 50 °C -40 °C 70 °C 795 hPa 1 080 hPa 1 080 hPa 1 080 hPa 1 080 hPa
 Fall height, max. Ambient temperature during operation min. max. horizontal installation, min. horizontal installation, max. vertical installation, min. vertical installation, max. Ambient temperature during storage/transportation min. max. Air pressure acc. to IEC 60068-2-13 Operation, min. Operation, max. Storage/transport, min. Storage/transport, max. Altitude during operation relating to sea level Installation altitude, min. Installation altitude, max. Relative humidity Operation, max. 	-20 °C 60 °C; Number of simultaneously activated inputs or outputs 7 or 5 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 14 or 10 at 55 °C horizontal or 45 °C vertical -20 °C 60 °C -20 °C 50 °C -40 °C 795 hPa 1 080 hPa 1 080 hPa 1 080 hPa
 Fall height, max. Ambient temperature during operation min. max. horizontal installation, min. horizontal installation, max. vertical installation, min. vertical installation, max. Ambient temperature during storage/transportation min. max. Air pressure acc. to IEC 60068-2-13 Operation, min. Operation, max. Storage/transport, min. Storage/transport, max. Altitude during operation relating to sea level Installation altitude, min. Installation altitude, max. Relative humidity Operation, max. Vibrations Vibration resistance during operation acc. to IEC 	-20 °C 60 °C; Number of simultaneously activated inputs or outputs 7 or 5 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 14 or 10 at 55 °C horizontal or 45 °C vertical -20 °C 60 °C -20 °C 50 °C -40 °C 70 °C 795 hPa 1 080 hPa 1 080 hPa 1 080 hPa 1 080 hPa
 Fall height, max. Ambient temperature during operation min. max. horizontal installation, min. horizontal installation, max. vertical installation, min. vertical installation, max. Ambient temperature during storage/transportation min. max. Air pressure acc. to IEC 60068-2-13 Operation, min. Operation, max. Storage/transport, min. Storage/transport, max. Altitude during operation relating to sea level Installation altitude, min. Installation altitude, max. Relative humidity Operation, max. Vibrations Vibration resistance during operation acc. to IEC 60068-2-6 Vibration resistance during operation acc. to IEC 60068-2-6	-20 °C 60 °C; Number of simultaneously activated inputs or outputs 7 or 5 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 14 or 10 at 55 °C horizontal or 45 °C vertical -20 °C 60 °C -20 °C 50 °C -40 °C 70 °C 795 hPa 1 080 hPa 1 080 hPa 1 080 hPa 1 090 m 2 000 m
Fall height, max. Ambient temperature during operation inin. max. horizontal installation, min. horizontal installation, max. vertical installation, min. vertical installation, max. Ambient temperature during storage/transportation min. max. Air pressure acc. to IEC 60068-2-13 Operation, min. Operation, max. Storage/transport, min. Storage/transport, min. Storage/transport, max. Altitude during operation relating to sea level Installation altitude, min. Installation altitude, max. Relative humidity Operation, max. Vibrations Vibrations Operation, tested according to IEC 60068-2-6 Operation, tested according to IEC 60068-2-6	-20 °C 60 °C; Number of simultaneously activated inputs or outputs 7 or 5 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 14 or 10 at 55 °C horizontal or 45 °C vertical -20 °C 60 °C -20 °C 50 °C -40 °C 70 °C 795 hPa 1 080 hPa 660 hPa 1 080 hPa 1 080 hPa 95 %; no condensation
 Fall height, max. Ambient temperature during operation min. max. horizontal installation, min. horizontal installation, max. vertical installation, min. vertical installation, max. Ambient temperature during storage/transportation min. max. Air pressure acc. to IEC 60068-2-13 Operation, min. Operation, max. Storage/transport, min. Storage/transport, max. Altitude during operation relating to sea level Installation altitude, min. Installation altitude, max. Relative humidity Operation, max. Vibrations Vibration resistance during operation acc. to IEC 60068-2-6 Vibration resistance during operation acc. to IEC 60068-2-6	-20 °C 60 °C; Number of simultaneously activated inputs or outputs 7 or 5 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 14 or 10 at 55 °C horizontal or 45 °C vertical -20 °C 60 °C -20 °C 50 °C -40 °C 70 °C 795 hPa 1 080 hPa 660 hPa 1 080 hPa 1 080 hPa 95 %; no condensation

Configuration	
Programming	
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 level: Write protection 	Yes
 Protection level: Read/write protection 	Yes
Protection level: Complete protection	Yes
Cycle time monitoring	
adjustable	Yes
Dimensions	
Width	130 mm
Height	100 mm
Depth	75 mm
Weights	
Weight, approx.	500 g