SIEMENS

Data sheet

6AG1214-1AG40-4XB0

SIPLUS S7-1200 CPU 1214C DC/DC/DC FOR MEDIAL STRESS WITH CONFORMAL COATING BASED ON 6ES7214-1AG40-0XB0 . COMPACT CPU, DC/DC/DC, ONBOARD I/O: 14 DI 24V DC 10 DO 24 V DC 2 AI 0 - 10V DC, POWER SUPPLY: DC 20.4 - 28.8 V DC, PROGRAM/DATA MEMORY: 75 KB

General information	
Product type designation	CPU 1214C DC/DC/DC
Display	
with display	No
Supply voltage	
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; CPU only
Current consumption, max.	1 500 mA; CPU with all expansion modules
Inrush current, max.	12 A; at 28.8 V DC
Encoder supply	
24 V encoder supply	
• 24 V	L+ minus 4 V DC min.
Output current	
for backplane bus (5 V DC), max.	1 600 mA; Max. 5 V DC for SM and CM
Power loss	
Power loss, typ.	12 W
Memory Work memory	
integrated	100 kbyte
• expandable	No
Load memory	
Loud monory	

 Integrated and the second secon	● integrated	4 Mbyte
Backup • present • without battery • processing times O 085 µs; / instruction for bit operations, typ O 085 µs; / instruction for word operations, typ O 085 µs; / instruction for word operations, typ O 085 µs; / instruction for floating point arithmetic, typ. 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 in total (incl. times, counters, flag) • Number, max. B kbyte; Size of bit memory address area Local data • Per priority class, max. • Per priority class, max. 16 kbyte; Priority class 1 (program cycle); 16 KB, priority class 2 • Doutputs, adjustable 1 kbyte	-	
Present Ves; maintenance-free Ves without battery Ves CPU processing times for bit operations, typ. 0.085 µs; / instruction for word operations, typ. 1.7 µs; / instruction for floating point arithmetic, typ. 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 in total (incl. times, counters, flags), max. Flag Number, max. Limited only by RAM for code Data areas and their retentivity retentive data area in total (incl. times, counters, flags), max. Flag Number, max. Limited only by RAM for code Data areas and their retentivity retentive data area in total (incl. times, counters, flags), max. Flag Number, max. B kbyte: Size of bit memory address area Local data oper priority class, max. if kbyte: Priority class 1 (program cycle): 16 KB, priority class 2 to 26: 6 KB Address area Process image Inputs, adjustable 1 kbyte Inputs, adjustable I 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 clock) Yes Backup time Deviation per day, max. 60 s/month at 25 °C Data area functions integrated channels (DI)		
• without battery Yes CPU processing times 0.085 µs; / instruction for bit operations, typ. 1.7 µs; / instruction for word operations, typ. 1.7 µs; / instruction for floating point arithmetic, typ. 2.3 µs; / instruction CPU-blocks 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 in total (incl. times, counters, flags), max. Flag • Number, max. Local data • Number, max. B 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 • Deviation per day, max. 3 comm. modules, 1 signal board, 8 signal modules Time of day 14 Integrated		Yes: maintenance-free
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integrated channels (DI) 14	 of which inputs usable for technological 	6; HSC (High Speed Counting)
	functions	
m/p-reading Yes	integrated channels (DI)	14
	m/p-reading	Yes

Number of simultaneously controllable inputs	
all mounting positions	
— up to 40 °C, max.	14
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 counter/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	
Digital outputs Number of digital outputs	10
Number of digital outputs of which high-speed outputs 	4; 100 kHz Pulse Train Output
Number of digital outputs of which high-speed outputs integrated channels (DO)	4; 100 kHz Pulse Train Output 10
Number of digital outputs • of which high-speed outputs integrated channels (DO) Limitation of inductive shutdown voltage to	4; 100 kHz Pulse Train Output
Number of digital outputs • of which high-speed outputs integrated channels (DO) Limitation of inductive shutdown voltage to Switching capacity of the outputs	4; 100 kHz Pulse Train Output 10 L+ (-48 V)
Number of digital outputs • of which high-speed outputs integrated channels (DO) Limitation of inductive shutdown voltage to Switching capacity of the outputs • with resistive load, max.	4; 100 kHz Pulse Train Output 10 L+ (-48 V) 0.5 A
Number of digital outputs • of which high-speed outputs integrated channels (DO) Limitation of inductive shutdown voltage to Switching capacity of the outputs • with resistive load, max. • on lamp load, max.	4; 100 kHz Pulse Train Output 10 L+ (-48 V)
Number of digital outputs • of which high-speed outputs integrated channels (DO) Limitation of inductive shutdown voltage to Switching capacity of the outputs • with resistive load, max. • on lamp load, max. Output voltage	4; 100 kHz Pulse Train Output 10 L+ (-48 V) 0.5 A 5 W
Number of digital outputs • of which high-speed outputs integrated channels (DO) Limitation of inductive shutdown voltage to Switching capacity of the outputs • with resistive load, max. • on lamp load, max. Output voltage • for signal "0", max.	4; 100 kHz Pulse Train Output 10 L+ (-48 V) 0.5 A 5 W 0.1 V; with 10 kOhm load
Number of digital outputs • of which high-speed outputs integrated channels (DO) Limitation of inductive shutdown voltage to Switching capacity of the outputs • with resistive load, max. • on lamp load, max. Output voltage • for signal "0", max. • for signal "1", min.	4; 100 kHz Pulse Train Output 10 L+ (-48 V) 0.5 A 5 W
Number of digital outputs • of which high-speed outputs integrated channels (DO) Limitation of inductive shutdown voltage to Switching capacity of the outputs • with resistive load, max. • on lamp load, max. Output voltage • for signal "0", max. • for signal "1", min. Output current	4; 100 kHz Pulse Train Output 10 L+ (-48 V) 0.5 A 5 W 0.1 V; with 10 kOhm load 20 V
Number of digital outputs • of which high-speed outputs integrated channels (DO) Limitation of inductive shutdown voltage to Switching capacity of the outputs • with resistive load, max. • on lamp load, max. Output voltage • for signal "0", max. • for signal "1", min. Output current • for signal "1" rated value	4; 100 kHz Pulse Train Output 10 L+ (-48 V) 0.5 A 5 W 0.1 V; with 10 kOhm load 20 V 0.5 A
Number of digital outputs • of which high-speed outputs integrated channels (DO) Limitation of inductive shutdown voltage to Switching capacity of the outputs • with resistive load, max. • on lamp load, max. Output voltage • for signal "0", max. • for signal "1", min. Output current • for signal "1" rated value • for signal "0" residual current, max.	4; 100 kHz Pulse Train Output 10 L+ (-48 V) 0.5 A 5 W 0.1 V; with 10 kOhm load 20 V
Number of digital outputs • of which high-speed outputs integrated channels (DO) Limitation of inductive shutdown voltage to Switching capacity of the outputs • with resistive load, max. • on lamp load, max. • on lamp load, max. • for signal "0", max. • for signal "1", min. Output current • for signal "1" rated value • for signal "0" residual current, max. Output delay with resistive load	4; 100 kHz Pulse Train Output 10 L+ (-48 V) 0.5 A 5 W 0.1 V; with 10 kOhm load 20 V 0.5 A 0.1 mA
Number of digital outputs • of which high-speed outputs integrated channels (DO) Limitation of inductive shutdown voltage to Switching capacity of the outputs • with resistive load, max. • on lamp load, max. • on lamp load, max. Output voltage • for signal "0", max. • for signal "0", max. • for signal "1", min. Output current • for signal "1" rated value • for signal "0" residual current, max. Output delay with resistive load • "0" to "1", max.	4; 100 kHz Pulse Train Output 10 L+ (-48 V) 0.5 A 5 W 0.1 V; with 10 kOhm load 20 V 0.5 A 0.1 mA 1 μs
Number of digital outputs • of which high-speed outputs integrated channels (DO) Limitation of inductive shutdown voltage to Switching capacity of the outputs • with resistive load, max. • on lamp load, max. • on lamp load, max. Output voltage • for signal "0", max. • for signal "1", min. Output current • for signal "1" rated value • for signal "1" rated value • for signal "0" residual current, max. Output delay with resistive load • "0" to "1", max. • "1" to "0", max.	4; 100 kHz Pulse Train Output 10 L+ (-48 V) 0.5 A 5 W 0.1 V; with 10 kOhm load 20 V 0.5 A 0.1 mA
Number of digital outputs • of which high-speed outputs integrated channels (DO) Limitation of inductive shutdown voltage to Switching capacity of the outputs • with resistive load, max. • on lamp load, max. • on lamp load, max. Output voltage • for signal "0", max. • for signal "1", min. Output current • for signal "1" rated value • for signal "1" rated value • for signal "0" residual current, max. Output delay with resistive load • "0" to "1", max. • "1" to "0", max. Switching frequency	4; 100 kHz Pulse Train Output 10 L+ (-48 V) 0.5 A 5 W 0.1 V; with 10 kOhm load 20 V 0.5 A 0.1 mA 1 μs 5 μs
Number of digital outputs • of which high-speed outputs integrated channels (DO) Limitation of inductive shutdown voltage to Switching capacity of the outputs • with resistive load, max. • on lamp load, max. • on lamp load, max. Output voltage • for signal "0", max. • for signal "1", min. Output current • for signal "1" rated value • for signal "1" rated value • for signal "0" residual current, max. Output delay with resistive load • "0" to "1", max. • "1" to "0", max. Switching frequency • of the pulse outputs, with resistive load, max.	4; 100 kHz Pulse Train Output 10 L+ (-48 V) 0.5 A 5 W 0.1 V; with 10 kOhm load 20 V 0.5 A 0.1 mA 1 μs
Number of digital outputs • of which high-speed outputs integrated channels (DO) Limitation of inductive shutdown voltage to Switching capacity of the outputs • with resistive load, max. • on lamp load, max. • on lamp load, max. Output voltage • for signal "0", max. • for signal "1", min. Output current • for signal "1" rated value • for signal "1" rated value • for signal "0" residual current, max. Output delay with resistive load • "0" to "1", max. • "1" to "0", max. Switching frequency	4; 100 kHz Pulse Train Output 10 L+ (-48 V) 0.5 A 5 W 0.1 V; with 10 kOhm load 20 V 0.5 A 0.1 mA 1 μs 5 μs

• unshielded, max.	150 m
Analog inputs	
Number of analog inputs	2
integrated channels (AI)	2; 0 to 10V
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	
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	
	Yes
Connectable encoders 2-wire sensor 	Yes
Connectable encoders	Yes PROFINET
Connectable encoders 2-wire sensor 1. Interface	
Connectable encoders 2-wire sensor 1. Interface Interface type	PROFINET
Connectable encoders 2-wire sensor 1. Interface Interface type Physics 	PROFINET Ethernet
Connectable encoders • 2-wire sensor 1. Interface Interface type Physics Isolated	PROFINET Ethernet Yes
Connectable encoders • 2-wire sensor 1. Interface Interface type Physics Isolated automatic detection of transmission rate	PROFINET Ethernet Yes Yes
Connectable encoders • 2-wire sensor 1. Interface Interface type Physics Isolated automatic detection of transmission rate Autonegotiation	PROFINET Ethernet Yes Yes Yes
Connectable encoders • 2-wire sensor 1. Interface Interface type Physics Isolated automatic detection of transmission rate Autonegotiation Autocrossing	PROFINET Ethernet Yes Yes Yes
Connectable encoders • 2-wire sensor 1. Interface Interface type Physics Isolated automatic detection of transmission rate Autonegotiation Autocrossing Functionality	PROFINET Ethernet Yes Yes Yes Yes
Connectable encoders • 2-wire sensor 1. Interface Interface type Physics Isolated automatic detection of transmission rate Autonegotiation Autocrossing Functionality • PROFINET IO Controller	PROFINET Ethernet Yes Yes Yes Yes
Connectable encoders • 2-wire sensor 1. Interface Interface type Physics Isolated automatic detection of transmission rate Autonegotiation Autocrossing Functionality • PROFINET IO Controller • PROFINET IO Device	PROFINET Ethernet Yes Yes Yes Yes
Connectable encoders • 2-wire sensor 1. Interface Interface type Physics Isolated automatic detection of transmission rate Autonegotiation Autocrossing Functionality • PROFINET IO Controller • PROFINET IO Device • Open IE communication	PROFINET Ethernet Yes Yes Yes Yes Yes Yes
Connectable encoders • 2-wire sensor 1. Interface Interface type Physics Isolated automatic detection of transmission rate Autonegotiation Autocrossing Functionality • PROFINET IO Controller • PROFINET IO Device • Open IE communication • Web server	PROFINET Ethernet Yes Yes Yes Yes Yes Yes
Connectable encoders • 2-wire sensor 1. Interface Interface type Physics Isolated automatic detection of transmission rate Autonegotiation Autocrossing Functionality • PROFINET IO Controller • PROFINET IO Device • Open IE communication • Web server PROFINET IO Controller • Transmission rate, max.	PROFINET Ethernet Yes Yes Yes Yes Yes Yes Yes
Connectable encoders • 2-wire sensor 1. Interface Interface type Physics Isolated automatic detection of transmission rate Autonegotiation Autocrossing Functionality • PROFINET IO Controller • PROFINET IO Device • Open IE communication • Web server PROFINET IO Controller • Transmission rate, max. Services	PROFINET Ethernet Yes Yes Yes Yes Yes Yes Yes
Connectable encoders • 2-wire sensor 1. Interface Interface type Physics Isolated automatic detection of transmission rate Autonegotiation Autocrossing Functionality • PROFINET IO Controller • PROFINET IO Device • Open IE communication • Web server PROFINET IO Controller • Transmission rate, max. Services — Number of connectable IO Devices, max.	PROFINET Ethernet Yes Yes Yes Yes Yes Yes Yes Yes
Connectable encoders • 2-wire sensor 1. Interface Interface type Physics Isolated automatic detection of transmission rate Autonegotiation Autocrossing Functionality • PROFINET IO Controller • PROFINET IO Device • Open IE communication • Web server PROFINET IO Controller • Transmission rate, max. Services	PROFINET Ethernet Yes Yes Yes Yes Yes Yes Yes Yes

— Shared device	Yes
— Number of IO Controllers with shared	2
device, max.	
Protocols	
Supports protocol for PROFINET IO	Yes
PROFIBUS	Yes; CM 1243-5 required
AS-Interface	Yes
Protocols (Ethernet)	
• TCP/IP	Yes
Further protocols	
• MODBUS	Yes
Communication functions	
S7 communication	
• supported	Yes
• as server	Yes
● as client	Yes
Open IE communication	
• TCP/IP	Yes
• ISO-on-TCP (RFC1006)	Yes
• UDP	Yes
Web server	
• supported	Yes
 User-defined websites 	Yes
Number of connections	
• overall	16; dynamically
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; Up to 512 KB of data per trace are possible
Integrated Functions	
Number of counters	6
Counting frequency (counter) max.	100 kHz
Frequency meter	Yes
controlled positioning	Yes

Number of position-controlled positioning axes, max. 8 Number of positioning axes via pulse-direction interface 4; With integrated DO PID controller Yes Number of alarm inputs 4 Number of pulse outputs 4 Limit frequency (pulse) 100 kHz Potential separation digital inputs 500V AC for 1 minute • Potential separation digital inputs 500V AC for 1 minute • between the channels, in groups of 1 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 8 kV - Test voltage at air discharge 6 kV Interference immunity to cable-borne interference Yes • Interference immunity on supply lines acc. to IEC 61000-4-4 Yes	
interface Yes PID controller Yes Number of alarm inputs 4 Number of pulse outputs 4 Limit frequency (pulse) 100 kHz Potential separation digital inputs Potential separation digital inputs 500V AC for 1 minute • 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, 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 Yes • Interference immunity on supply lines acc. to Yes	
Number of alarm inputs 4 Number of pulse outputs 4 Limit frequency (pulse) 100 kHz Potential separation Potential separation digital inputs 500V AC for 1 minute • Potential separation digital outputs 500V AC for 1 minute • between the channels, in groups of 1 Potential separation digital outputs Yes • between the channels, in groups of 1 EMC Interference immunity against discharge of static electricity • Interference immunity against discharge KV — Test voltage at air discharge 8 kV — Test voltage at ontact discharge 6 kV Interference immunity on supply lines acc. to IEC 61000-4-2 Yes • Interference immunity on supply lines acc. to IEC 61000-4-2 Yes	
Number of pulse outputs 4 Limit frequency (pulse) 100 kHz Potential separation Potential separation digital inputs 500V AC for 1 minute • Potential separation digital inputs 500V AC for 1 minute • 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 - Test voltage at air discharge 8 kV - Test voltage at air discharge 6 kV Interference immunity or supply lines acc. to IEC 61000-4-2 Yes • Interference immunity on supply lines acc. to IEC 61000-4-4 Yes	
Limit frequency (pulse) 100 kHz Potential separation Potential separation digital inputs 500V AC for 1 minute • Potential separation digital outputs 500V AC for 1 minute • between the channels, in groups of 1 Potential separation digital outputs Yes • Potential separation digital outputs Yes • between the channels, in groups of 1 EMC Interference immunity against discharge of static electricity • Interference immunity against discharge of static electricity Yes • Interference immunity against discharge 8 kV - Test voltage at air discharge 6 kV Interference immunity to cable-borne interference Yes • Interference immunity on supply lines acc. to IEC 61000-4-4 Yes • Interference immunity on supply lines acc. to IEC 61000-4-4 Yes	
Potential separation digital inputs 500V AC for 1 minute • Potential separation digital inputs 500V AC for 1 minute • 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 • Interference immunity against discharge 8 kV — Test voltage at air discharge 6 kV Interference immunity to cable-borne interference Yes • Interference immunity on supply lines acc. to Yes IEC 61000-4-4 Yes	
Potential separation digital inputs 500V AC for 1 minute • Potential separation digital inputs 500V AC for 1 minute • 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 - Test voltage at air discharge 8 kV - Test voltage at contact discharge 6 kV Interference immunity to cable-borne interference Yes • Interference immunity on supply lines acc. to Yes Interference immunity on signal cables acc. to Yes	
 Potential separation digital inputs between the channels, in groups of Potential separation digital outputs Potential separation digital outputs Potential separation digital outputs Yes between the channels 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 Interference immunity against discharge of static electricity Test voltage at air discharge KV Test voltage at contact discharge KV Interference immunity on supply lines acc. to IEC 61000-4-4 Interference immunity on signal cables acc. to Yes 	
 between the channels, in groups of Potential separation digital outputs Potential separation digital outputs Potential separation digital outputs Yes between the channels No between the channels, in groups of	
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 • Interference immunity against discharge 8 kV — Test voltage at air discharge 8 kV — Test voltage at contact discharge 6 kV Interference immunity on supply lines acc. to IEC 61000-4-2 Yes • Interference immunity on supply lines acc. to IEC 61000-4-4 Yes • Interference immunity on supply lines acc. to IEC 61000-4-4 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 Interference immunity against discharge of Static electricity acc. to IEC 61000-4-2 — Test voltage at air discharge 6 KV Interference immunity to cable-borne interference Interference immunity on supply lines acc. to Yes 	
between the channels between the channels, in groups of Interference immunity against discharge of static electricity Interference immunity against discharge of static electricity Interference immunity against discharge Test voltage at air discharge SkV Test voltage at contact discharge SkV Interference immunity to cable-borne interference Interference immunity on supply lines acc. to IEC 61000-4-4 Interference immunity on signal cables acc. to Yes	
• 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 — Test voltage at air discharge — Test voltage at contact discharge 6 kV Interference immunity to cable-borne interference • Interference immunity on supply lines acc. to IEC 61000-4-4 • Interference immunity on signal cables acc. to	
EMC Interference immunity against discharge of static electricity • Interference immunity against discharge of static electricity acc. to IEC 61000-4-2 — Test voltage at air discharge 8 kV — Test voltage at contact discharge 6 kV Interference immunity to cable-borne interference Yes • Interference immunity on supply lines acc. to IEC 61000-4-4 Yes	
Interference immunity against discharge of static electricity • Interference immunity against discharge of static electricity acc. to IEC 61000-4-2 Test voltage at air discharge 8 kV Test voltage at contact discharge 6 kV Interference immunity to cable-borne interference Yes • Interference immunity on supply lines acc. to IEC 61000-4-4 Yes • Interference immunity on signal cables acc. to Yes	
 Interference immunity against discharge of static electricity acc. to IEC 61000-4-2 Test voltage at air discharge Test voltage at contact discharge KV Test voltage at contact discharge KV Interference immunity to cable-borne interference Interference immunity on supply lines acc. to IEC 61000-4-4 Interference immunity on signal cables acc. to Yes 	
static electricity acc. to IEC 61000-4-2 8 kV — Test voltage at air discharge 8 kV — Test voltage at contact discharge 6 kV Interference immunity to cable-borne interference 9 kV • Interference immunity on supply lines acc. to IEC 61000-4-4 Yes • Interference immunity on signal cables acc. to Yes	
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 Yes	
Interference immunity on supply lines acc. to IEC 61000-4-4 Interference immunity on signal cables acc. to Yes	
 IEC 61000-4-4 Interference immunity on signal cables acc. to Yes 	
Interference immunity against voltage surge	
• on the supply lines acc. to IEC 61000-4-5 Yes	
Interference immunity against conducted variable disturbance induced by high-frequency fields	
Interference immunity against high-frequency Yes radiation acc. to IEC 61000-4-6	
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 with the limits for Class B according to EN 55011	compliance
Degree and class of protection	
Degree of protection acc. to EN 60529 IP20 Yes	
Ambient conditions	
Free fall	
• Fall height, max. 0.3 m; five times, in product package	
Ambient temperature during operation	

	20 °Cr - Trains Startun @ 0 °C
● min.	-20 °C; = Tmin; Startup @ 0 °C
• max.	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
 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
Vibrations	
Vibrations	2G wall mounting, 1G DIN rail
 Operation, tested according to IEC 60068-2-6 	Yes
Shock test	
• 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
Extended ambient conditions	
 relative to ambient temperature-atmospheric pressure-installation altitude 	Tmin Tmax at 1080 hPa 795 hPa (-1000 m +2000 m) // Tmin (Tmax - 10K) at 795 hPa 658 hPa (+2000 m +3500 m) // Tmin (Tmax - 20K) at 658 hPa 540 hPa (+3500 m +5000 m)
Relative humidity	
 With condensation, tested in accordance with IEC 60068-2-38, max. 	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)
Resistance	
 against biologically active substances / conformity with EN 60721-3-3 	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna). The supplied connector covers must remain on the unused interfaces during operation!
 against chemically active substances / conformity with 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!
 against mechanically active substances / conformity with EN 60721-3-3 	Yes; Class 3S4 incl. sand, dust. The supplied connector covers must remain on the unused interfaces during operation!
Configuration	
Programming	
Programming language	
— LAD	Yes
— FBD	Yes
— SCL	Yes
Cycle time monitoring	
● adjustable	Yes
Dimensions	

Width	110 mm
Height	100 mm
Depth	75 mm
Weights	
Weight, approx.	415 g
last modified:	14.05.2016