SIEMENS

Data sheet

6ES7214-1AG40-0XB0

SIMATIC S7-1200, CPU 1214C, 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: 100 KB



General information	
Product type designation	CPU 1214C DC/DC/DC
Firmware version	V4.2
Engineering with	
Programming package	STEP 7 V14 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; CPU only
Current consumption, max.	1 500 mA; CPU with all expansion modules

Output current for backplane bus (5 V DC), max. I 1600 mA; Max. 5 V DC for SM and CM Encoder supply 24 V encoder supply 24 V encoder supply 24 V encoder supply 28 V encoder supply 29 V encoder supply 29 V encoder supply 29 V encoder supply 29 V encoder supply 20 V encoder supply 20 V encoder supply 20 V encoder supply 20 V encoder supply 21 V Entine SV DC min. Power loss Power loss. Power loss, typ. 12 W Memory 100 kbyte 20 expandable No Load memory 20 integrated 21 V Myte 21 V Myte 22 V Entine SV SMATIC memory card 23 V Encoder SV SMATIC memory card Backup 24 Mbyte 25 Ves 26 Ves 27 Ves 27 Ves 27 Ves 27 Ves 28 Vinstruction 29 Ves 29 Ves 29 Vinstruction 29 Ves 29 Ves 29 Vinstruction 29 Ves 20 Ves 29 Ves 29 Ves 29 Ves 20 Ves 29 Ves 20 Ves 29 Ves 20 Ves 29 Ves 20 V	Inrush current, max.	12 A; at 28.8 V
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. Power loss, typ. 12 W Memory Work memory • integrated • expandable Load memory • integrated • Plug-in (SIMATIC Memory Card), max. Backup • present • maintenance-free • without battery Pos OPU processing times for bit operations, typ. for word operations, typ. for word operations, typ. for word operations, typ. for word operations, typ. for floating point arithmetic, typ. DBs, FCs, FBs, counters and timers. The maximum number of addressable blocks ranges from 1 to 85536. There is no restriction, the entire working memory can be used OB • Number, max. Limited only by RAM for code B kbyte; Size of bit memory address area		
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24 V encoder supply • 24 V L+ minus 4 V DC min. Power loss Power loss, typ. 12 W Memory Work memory • integrated • expandable Load memory • integrated • Plug-in (SIMATIC Memory Card), max. Backup • present • maintenance-free • without battery Press for bit operations, typ. for word operations, typ. for word operations, 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. Data areas and their retentivity Retentive data area (incl. timers, counters, flags), max. Flag • Number, max. 8 kbyte; Size of bit memory address area	Encoder supply	
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Backup	• integrated	4 Mbyte
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CPU processing times for bit operations, typ. for word operations, typ. for floating point arithmetic, typ. 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. Flag Number, max. 8 kbyte; Size of bit memory address area	maintenance-free	Yes
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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. Flag Number, max. 8 kbyte; Size of bit memory address area	for word operations, typ.	1.7 µs; / instruction
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. Flag Number, max. 8 kbyte; Size of bit memory address area	for floating point arithmetic, typ.	2.3 μs; / instruction
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. Flag Number, max. 8 kbyte; Size of bit memory address area	CPU-blocks	
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Retentive data area (incl. timers, counters, flags), max. Flag • Number, max. 8 kbyte; Size of bit memory address area	• Number, max.	Limited only by RAM for code
max. Flag ● Number, max. 8 kbyte; Size of bit memory address area	Data areas and their retentivity	
Flag ● Number, max. 8 kbyte; Size of bit memory address area	Retentive data area (incl. timers, counters, flags),	10 kbyte
Number, max. 8 kbyte; Size of bit memory address area		
Local data		8 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 	 per priority class, max. 	16 kbyte; Priority class 1 (program cycle): 16 KB, priority class 2 to 26: 6 KB
Address area	Address area	
Process image	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
Deviation per day, max.	+/- 60 s/month at 25 °C
Digital inputs	
Number of digital inputs	14; Integrated
of which inputs usable for technological	6; HSC (High Speed Counting)
functions	c,c (g epoca coag)
Source/sink input	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
ot 11011 to 11411 min	0.2 ms
— at "0" to "1", min. — at "0" to "1", max.	12.8 ms
	12.0 110
for interrupt inputs	Yes
— parameterizable	165
for counter/technological functions	Cingle phases 2 @ 100 kHz 8 2 @ 20 kHz differentials 2 @ 90
— 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

• on lamp load, max.	5 W
Output voltage	
• for signal "0", max.	0.1 V; with 10 kOhm load
• for signal "1", min.	20 V
Output current	
• for signal "1" rated value	0.5 A
• for signal "0" residual current, max.	0.1 mA
Output delay with resistive load	
• "0" to "1", max.	1 μs
• "1" to "0", max.	5 μs
Switching frequency	
• of the pulse outputs, with resistive load, max.	100 kHz
Cable length	
• shielded, max.	500 m
• unshielded, max.	150 m
Analog inputs	
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
Number of analog outputs	O
Analog value generation for the inputs	
Integration and conversion time/resolution per channel	
 Resolution with overrange (bit including sign), 	10 bit
max.	
 Integration time, parameterizable 	Yes
 Conversion time (per channel) 	625 μs
Encoder	
Connectable encoders	
• 2-wire sensor	Yes
1. Interface	
Interface type	PROFINET
Physics	Ethernet
Isolated	Yes
automatic detection of transmission rate	Yes

Autocrossing Yes Interface types • Number of ports 1 • integrated switch No Functionality • PROFINET IO Controller Yes • PROFINET IO Device Yes • SiMATIC communication Yes • SiMATIC communication Yes • Web server Yes • Media redundancy No PROFINET IO Controller • Transmission rate, max. 100 Mbit/s Services - PC/OP communication Yes - Simatic formunication Yes - Strouting Yes - Isochronous mode No - Open IE communication Yes - IRT No - MRPD No - MRPD No - PROFInergy No - PROFilerergy No - Prioritized startup Yes - Number of IO devices with prioritized startup, max. 16 - Number of connectable IO Devices, max. 16 - Number of connectable IO Devices, max. 16 - Number of connectable IO Devices for RT, max. 16 - Activation/deactivation of IO Devices Yes - Number of IO Devices that can be simultaneously activated/deactivated, max. 16 - Activation/deactivation of IO Devices Yes - Number of IO Devices that can be simultaneously activated/deactivated, max. 17 - 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 - PC/OP communication Yes - Sochronous mode No - Open IE communication Yes	Autonegotiation	Yes
Interface types • Number of ports • integrated switch Finctionality • PROFINET IO Controller • PROFINET IO Device • SIMATIC communication • Web server • Media redundancy • Media redundancy • PROFINET IO Controller • Transmission rate, max. Services - PG/OP communication - S7 routing - Isochronous mode - Open IE communication - Yes - IRT - MRP - MRP - MRPD - PROFINET - Profitized startup - Profitized startup - Profitized startup - Number of IO devices with prioritized startup, max. - Number of connectable IO Devices, max Of which in line, max of which in line, max Of which in line, max Updating time PROFINET IO Device Services - PG/OP communication - S7 routing - Transmission rate, max 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 - S7 routing - Isochronous mode - Services - PG/OP communication - S7 routing - Isochronous mode - Yes - Services - PG/OP communication - S7 routing - Isochronous mode - Yes - In 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.		
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Functionality PROFINET IO Device Yes PROFINET IO Device Yes SIMATIC communication Yes Open IE communication Yes Media redundancy No PROFINET IO Controller Transmission rate, max. 100 Mbit/s Services — PG/OP communication Yes — Isochronous mode No — Open IE communication Yes — IRT No — MRP No — MRP No — PROFlenergy No — PROFlenergy No — Prioritized startup Yes — Number of IO devices with prioritized startup, max. — Number of connectable IO Devices, max. — Number of connectable IO Devices for RT, max. — Of which in line, max. — Activation/deactivation of IO Devices Yes — Number of IO Devices that can be simultaneously activated/deactivated, max. — Updating time PROFINET IO Device Services — PG/OP communication Yes — PG/OP communication Yes PROFINET IO Device Services — PG/OP communication Yes — No — PROFINET IO Devices — PG/OP communication Yes — S7 routing Yes — Isochronous mode	·	No
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Open IE communication Web server No Media redundancy No PROFINET IO Controller Transmission rate, max. Services		Yes
Media redundancy No PROFINET IO Controller Transmission rate, max. 100 Mbit/s Services — PG/OP communication — S7 routing — Isochronous mode — Open IE communication — IRT — MRP — MRP — MRPD — PGOFlenergy — Prioritized startup — Prioritized startup — Number of IO devices with prioritized startup, max. — Number of connectable IO Devices, max. — of which in line, max. — of which in line, max. — Updating time PROFINET IO Device Services PG/OP communication Yes — S7 routing — Isochronous mode No		Yes
Media redundancy **Transmission rate, max.** **PG/OP communication** - \$7 routing	•	Yes
PROFINET IO Controller		No
• Transmission rate, max. Services - PG/OP communication Yes - S7 routing Yes - Isochronous mode No - Open IE communication Yes - IRT No - MRP No - MRPD No - PROFINET IO Device - Number of IO devices suit at an be simultaneously activated/deactivated, max Updating time - PROFINET IO Device Services - PG/OP communication Yes - S7 routing - So routing - S7 routing - S6 Rose - PG/OP communication S Pess - Number of IO Devices Max - S7 routing - S7 routing - S0 Rose - S6 Rose - PG/OP communication S Pess - S6 Rose - PG/OP communication S Pess - S6 Rose - S6 Rose - PG/OP communication Yes - S7 routing - S7	-	
Services - PG/OP communication Yes - S7 routing Yes - Isochronous mode No - Open IE communication Yes - IRT No - MRP No - MRPD No - PROFINET IO Device Services - PG/OP communication I Yes - PG/OP communication Yes - Trouting Yes - PROFINET IO Devices mode - S7 routing Yes - PGOPEN NO - PROFINET IO Devices - S7 routing Yes - PG/OP communication Yes - S7 routing Yes - PG/OP communication Yes - S7 routing Yes - Sorvices - Sorvices - Sorvices - S7 routing Yes - Sorvices - Sorvices - Sorvices - Sorvices - Sorvices - Sorvices - PG/OP communication Yes - Sorvices - Sorvic		100 Mbit/s
- PG/OP communication Yes - S7 routing Yes - Isochronous mode No - Open IE communication Yes - IRT No - MRP No - MRPD No - PROFINET IO Devices - Number of Configured user data. PROFINET IO Devices Services - PG/OP communication - S7 routing - S6 Services - None - S7 routing - PROFINET IO Devices mode - No - S7 routing - Propendation - Yes - None - S7 routing - Propendation - Yes - None - S7 routing - S7 routing - S6 routing - S7 routing - S6 Routing - S7 routing - S6 Routing - S7		
- S7 routing Yes - Isochronous mode No - Open IE communication Yes - IRT No - MRP No - MRPP No - PROFINET IO Device Services - Open IE communication Yes No - Open IE communication No - Yes No - IRT No No - MRPD No No - PROFINET IO Device - S7 routing No - Prioritized startup Yes - Number of IO devices with prioritized 16 - ST nouting Yes - Number of connectable IO Devices, max. 16 - Number of connectable IO Devices for RT, max of which in line, max. 16 - Activation/deactivation of IO Devices Yes - Number of IO Devices that can be simultaneously activated/deactivated, max Updating time The minimum value of the update time also depends on the communication component set for PROFINET IO, on the number of IO devices and the quantity of configured user data. PROFINET IO Device - Services - PG/OP communication Yes - S7 routing Yes - Isochronous mode No		Yes
- Isochronous mode - Open IE communication - IRT - MRP - MRP - MRPD - No - PROFlenergy - Prioritized startup - Prioritized startup - Number of IO devices with prioritized startup, max Number of connectable IO Devices, max Number of connectable IO Devices for RT, max of which in line, max of which in line, max of which in line, max Activation/deactivation of IO Devices - Number of IO Devices that can be simultaneously activated/deactivated, max Updating time - The minimum value of the update time also depends on the communication component set for PROFINET IO, on the number of IO devices and the quantity of configured user data. PROFINET IO Device - Services - PG/OP communication - S7 routing - Isochronous mode - No		Yes
Open IE communication Yes IRT No MRP MRPP No MRPD No PROFlenergy No Prioritized startup Yes Number of IO devices with prioritized startup, max Number of connectable IO Devices, max Number of connectable IO Devices for RT, max of which in line, max of which in line, max Activation/deactivation of IO Devices Yes Number of IO Devices that can be simultaneously activated/deactivated, max Updating time The minimum value of the update time also depends on the communication component set for PROFINET IO, on the number of IO devices and the quantity of configured user data. PROFINET IO Device Services PG/OP communication Yes S7 routing Yes Isochronous mode No		No
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- MRP - MRPD - MRPD No - PROFlenergy No - Prioritized startup - Number of IO devices with prioritized startup, max Number of connectable IO Devices, max Number of connectable IO Devices for RT, max of which in line, max of which in line, max Activation/deactivation of IO Devices - Number of IO Devices that can be simultaneously activated/deactivated, max Updating time - The minimum value of the update time also depends on the communication component set for PROFINET IO, on the number of IO devices and the quantity of configured user data. PROFINET IO Device Services - PG/OP communication - S7 routing - Isochronous mode No		No
- MRPD - PROFlenergy - Prioritized startup - Prioritized startup - Number of IO devices with prioritized startup, max Number of connectable IO Devices, max Number of connectable IO Devices for RT, max Number of connectable IO Devices for RT, max of which in line, max of which in line, max Activation/deactivation of IO Devices - Number of IO Devices that can be simultaneously activated/deactivated, max Updating time - The minimum value of the update time also depends on the communication component set for PROFINET IO, on the number of IO devices and the quantity of configured user data. PROFINET IO Device - Services - PG/OP communication - S7 routing - Isochronous mode - No		No
Prioritized startup Prioritized startup Number of IO devices with prioritized startup, max. Number of connectable IO Devices, max. Number of connectable IO Devices for RT, max. Of which in line, max. Of which in line, max. Activation/deactivation of IO Devices Number of IO Devices that can be simultaneously activated/deactivated, max. Updating time The minimum value of the update time also depends on the communication component set for PROFINET IO, on the number of IO devices and the quantity of configured user data. PROFINET IO Device Services PG/OP communication Yes Services No		No
- Prioritized startup - Number of IO devices with prioritized startup, max Number of connectable IO Devices, max Number of connectable IO Devices for RT, max Of which in line, max of which in line, max Activation/deactivation of IO Devices - Number of IO Devices that can be simultaneously activated/deactivated, max Updating time The minimum value of the update time also depends on the communication component set for PROFINET IO, on the number of IO devices and the quantity of configured user data. PROFINET IO Device Services - PG/OP communication - S7 routing - Isochronous mode Yes - Isochronous mode No		No
Number of IO devices with prioritized startup, max. Number of connectable IO Devices, max. Number of connectable IO Devices for RT, max. Of which in line, max. of which in line, max. Activation/deactivation of IO Devices Number of IO Devices that can be simultaneously activated/deactivated, max. Updating time 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 S7 routing Isochronous mode 16 Number of Connectable IO Devices yes Ves S7 routing Isochronous mode 16 Number of Connectable IO Devices yes Ves Number of Connectable IO Devices yes Ves Number of IO Devices yes Ves Ves Ves Number of IO Devices yes Ves Ves Ves Number of IO Devices yes Ves Ve		Yes
 Number of connectable IO Devices for RT, max. of which in line, max. Activation/deactivation of IO Devices Number of IO Devices that can be simultaneously activated/deactivated, max. Updating time The minimum value of the update time also depends on the communication component set for PROFINET IO, on the number of IO devices and the quantity of configured user data. PROFINET IO Device Services PG/OP communication Yes S7 routing Isochronous mode No	— Number of IO devices with prioritized	16
max. — of which in line, max. — Activation/deactivation of IO Devices — Number of IO Devices that can be simultaneously activated/deactivated, max. — Updating time The minimum value of the update time also depends on the communication component set for PROFINET IO, on the number of IO devices and the quantity of configured user data. PROFINET IO Device Services — PG/OP communication — S7 routing — Isochronous mode No	— Number of connectable IO Devices, max.	16
 Activation/deactivation of IO Devices Number of IO Devices that can be simultaneously activated/deactivated, max. Updating time The minimum value of the update time also depends on the communication component set for PROFINET IO, on the number of IO devices and the quantity of configured user data. PROFINET IO Device Services PG/OP communication Yes S7 routing Isochronous mode Yes No 		16
— Number of IO Devices that can be simultaneously activated/deactivated, max. — Updating time The minimum value of the update time also depends on the communication component set for PROFINET IO, on the number of IO devices and the quantity of configured user data. PROFINET IO Device Services — PG/OP communication — S7 routing — Isochronous mode 8	— of which in line, max.	16
simultaneously activated/deactivated, max. — Updating time The minimum value of the update time also depends on the communication component set for PROFINET IO, on the number of IO devices and the quantity of configured user data. PROFINET IO Device Services — PG/OP communication — S7 routing — Isochronous mode No	 Activation/deactivation of IO Devices 	Yes
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 - S7 routing - Isochronous mode Yes No		8
Services PG/OP communication Yes S7 routing Yes Isochronous mode No	— Updating time	communication component set for PROFINET IO, on the number
 — PG/OP communication — S7 routing — Isochronous mode Yes No 	PROFINET IO Device	
— S7 routing— Isochronous modeNo	Services	
— Isochronous mode No	— PG/OP communication	Yes
	— S7 routing	Yes
— Open IE communication Yes	— Isochronous mode	No
	 Open IE communication 	Yes

— IRT	No
— MRP	No
— MRPD	No
— PROFlenergy	Yes
— Shared device	Yes
 Number of IO Controllers with shared device, max. 	2

Protocols	
Supports protocol for PROFINET IO	Yes
PROFIBUS	Yes; CM 1243-5 required
AS-Interface	Yes; CM 1243-2 required
Protocols (Ethernet)	
• TCP/IP	Yes
• DHCP	No
• SNMP	Yes
• DCP	Yes
• LLDP	Yes
Open IE communication	
• TCP/IP	
Data length, max.	8 kbyte
• ISO-on-TCP (RFC1006)	Yes
— Data length, max.	8 kbyte
• UDP	
— Data length, max.	1 472 byte
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)
Open IE communication	
• TCP/IP	Yes
• UDP	Yes
Web server	
• supported	Yes
 User-defined websites 	Yes
Number of connections	
• overall	16; dynamically

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 meter	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	N	
Potential separation digital inputs	No 4	
between the channels, in groups of	1	
Potential separation digital outputs	V	
 Potential separation digital outputs 	Yes	
• between the channels	No	
 between the channels, in groups of 	1	
EMC		
Interference immunity against discharge of static electr		
 Interference immunity against discharge of static electricity acc. to IEC 61000-4-2 	Yes	
 Test voltage at air discharge 	8 kV	

	014/
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	
• on the supply lines acc. to IEC 61000-4-5	Yes
Interference immunity against conducted variable distur	bance 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	
Degree of protection acc. to EN 60529	
• IP20	Yes
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 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
A male is not to see a cost one of original atoms as a function	
Ambient temperature during storage/transportation	
min. min.	-40 °C
	-40 °C 70 °C

Operation, min.	795 hPa
Operation, max.	1 080 hPa
• Storage/transport, min.	660 hPa
• Storage/transport, max.	1 080 hPa
 permissible operating height 	-1000 to 2000 m
Relative humidity	
Operation, max.	95 %; no condensation
Vibrations	
Vibrations	2 g (m/s²) wall mounting, 1 g (m/s²) 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	
Pollutant concentrations	
— SO2 at RH < 60% without condensation	S02: < 0.5 ppm; H2S: < 0.1 ppm; RH < 60% condensation-free
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	110 mm
Height	100 mm
Depth	75 mm
Weights	
Weight, approx.	415 g
last modified:	08/12/2017