## **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
<ul><li>permissible range, lower limit (DC)</li></ul>	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
	0.5 A <sup>2</sup> ·s
Output current	4 COO to A. May, E.V. D.C. for CM and CM
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
M	
Memory Work memory	
• integrated	100 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.	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	resultation, the entire working memory can be used
• Number, max.	Limited only by RAM for code
- Number, max.	
Data areas and their retentivity	
Retentive data area (incl. timers, counters, flags),	10 kbyte
max.	
Number, max.	8 kbyte; Size of bit memory address area
Local data	5 may to, to be on the morning additional area
• per priority class, max.	16 kbyte; Priority class 1 (program cycle): 16 KB, priority class 2
por priority diado, max.	to 26: 6 KB
4.11	
Address area Process image	
1 100ess illiage	

Inputs, adjustable	1 kbyte
Outputs, adjustable	1 kbyte
Hardwara configuration	
Hardware configuration  Number of modules per system, max.	3 comm. modules, 1 signal board, 8 signal modules
rumber of modules per system, max.	o comm. modules, i signal board, o signal modules
Time of day	
Clock	
<ul><li>Hardware clock (real-time)</li></ul>	Yes
Backup time	480 h; Typical
<ul><li>Deviation per day, max.</li></ul>	±60 s/month at 25 °C
Digital inputs	
Number of digital inputs	14; Integrated
<ul> <li>of which inputs usable for technological functions</li> </ul>	6; HSC (High Speed Counting)
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
— 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	
Number of digital outputs	10
<ul><li>of which high-speed outputs</li></ul>	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	
<ul> <li>Resolution with overrange (bit including sign),</li> </ul>	10 bit
max.	
<ul> <li>Integration time, parameterizable</li> </ul>	Yes
<ul> <li>Conversion time (per channel)</li> </ul>	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 • Interface types  • Number of ports • PROFINET IO Controller • PROFINET IO Controller • PROFINET IO Device • SIMATIC communication • Open IE communication • Ves • Media redundancy • No  PROFINET IO Controller • Transmission rate, max.  100 Mbit/s  Services  - PG/OP communication - S 7 routing - Isochronous mode - Open IE communication - PROFINET IO Controller  - IRT - MRP - MRP - MRP - MRP - MRP - PROFIlenergy - 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 Activation/deactivation of IO Devices - Number of IO Devices that can be simultaneously activated/ideactivated, max Updating time  PROFINET IO Device  Services  - PG/OP communication - S 7 routing - S 8 routing - S 7 routing - S 7 routing - S 7 routing - S 7 routing - S 9 routing - S 7 routing	Autonegotiation	Yes
Interface types  • Number of ports • integrated switch  FROFINET IO Controller • PROFINET IO Device • SIMATIC communication • Ves • Summarication • Ves • Media redundancy • Media redundancy • Media redundancy • Transmission rate, max.  FROFINET IO Controller • Transmission rate, max.  Services  - PG/OP communication - ST routing - IRT - MRP - MRPD - PROFILE communication - PROFILE communication - PROFILE communication - PROFILE communication - Ves - 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 - 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 - ST routing - Sr r		
Number of ports  Integrated switch  Integrated swi		163
Integrated switch  Functionality  PROFINET IO Controller PROFINET IO Device PROFINET IO Device SiMATIC communication Open IE communication Web server Media redundancy PROFINET IO Controller  Transmission rate, max.  PGOP communication PGOP		1
Functionality  PROFINET IO Device PROFINET IO Device PROFINET IO Device SIMATIC communication Yes Open IE communication Yes Media redundancy No  PROFINET IO Controller Transmission rate, max. 100 Mbit/s  Services PC/C/P communication Yes Services PC/C/P communication Yes No PROFINET IO Controller Transmission rate, max. 100 Mbit/s  Services PC/C/P communication Yes Services PC/C/P communication Yes No PROFINET IO Revision No No PROFINET IO Devices with prioritized startup, max. Number of IO Devices for RT, 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 No No PROFINET IO Device  PROFINET IO Device  Services PC/C/P communication Yes Services PC/C/P communication No	·	
PROFINET IO Controller PROFINET IO Device SiMATIC communication Yes Open IE communication Web server Media redundancy No  PROFINET IO Controller  Transmission rate, max. 100 Mbit/s  Services  PG/OP communication Yes No PROFINET IO Controller  Transmission rate, max. 100 Mbit/s  Services  PG/OP communication Yes Services No No Open IE communication Yes IRT No MRP No MRP No MRP No PROFlenergy No PROFlenergy No Prioritized startup No No No No Prioritized startup No No No No No No No PROFINET IO Devices with prioritized startup No No No No No No Profitized startup No No Profitized startup No No No No No No PROFINET IO Devices with prioritized startup No		
PROFINET IO Device SIMATIC communication Yes Open IE communication Yes Web server Media redundancy No PROFINET IO Controller  Transmission rate, max. 100 Mbit/s  Services  PG/OP communication Yes Services  PROFIle Ic communication Yes Services  PROFIle Ic communication Yes Services  PG/OP communication Yes Services		Yes
SIMATIC communication Open IE communication Ves Web server Media redundancy No  PROFINET IO Controller  Transmission rate, max.  100 Mbit/s  Services  PG/OP communication Yes Sorvices  PROFInergy No No PROFIchenergy No PROFIchenergy No PROFIchenergy No Prioritized startup Prioritized startup Sorvices Number of IO devices with prioritized Sorvices  Number of Connectable IO Devices, max. Sorvices  PEOFINET IO Device  Services  PG/OP communication Yes Sorvices		
Open IE communication  Web server  Media redundancy  PROFINET IO Controller  Transmission rate, max.  PG/OP communication  Services  - PG/OP communication  Services  - PG/OP communication  Services  - PG/OP communication  Yes  - S7 routing  No  - Open IE communication  IRT  Mo  MRP  MRP  No  - MRPD  PROFInergy  Prioritized startup  Number of IO devices with prioritized startup, max.  - Of which in line, max.  - of which in line, max.  - Updating time  PROFINET IO Device  Services  - PG/OP communication  Yes  - PG/OP communication  Yes  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		
Media redundancy Mo  PROFINET IO Controller  Transmission rate, max.  PG/OP communication Services  PG/OP communication Yes Sorrouting Isochronous mode Open IE communication Yes IRT No MRP MRP No MRPD PROFIenergy 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. Activation/deactivation of IO Devices Number of IO Devices that can be simultaneously activated/deactivated, max. Updating time  PROFINET IO Device  Services  PG/OP communication Yes No No PROFINET IO Device Services  PG/OP communication Yes No		Yes
Media redundancy  * Transmission rate, max.  * Transmission rate, max.  - PG/OP communication - S7 routing - Isochronous mode - Open IE communication - IRT - MRP - MRP - MRPD - PROFIenergy - 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 Updating time  PROFINET IO Device  **Services**  PROFINET IO Device  Services**  PGOP Communication  Yes - PGOP Communication - S7 routing - S7 routing - S7 routing - Isochronous mode  **No Media redundance - Yes - Number of Locuted Power	•	Yes
PROFINET IO Controller  • Transmission rate, max.  Services  - PG/OP communication Yes - S7 routing Yes - Isochronous mode No - Open IE communication Yes - IRT No - MRP No - MRPD No - PROFInergy No - Prioritized startup Yes - Number of IO devices with prioritized startup, max Number of connectable IO Devices, 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 - S7 routing Yes - Isochronous mode  100 Mbit/s  100 Miting  100 Miting 100 Mbit/s  100 Miting 100 Mbit/s  100 Miting 100 Miting 100 Mbit/s  100 Miting 100		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 Devices - Number of IO Devices that can be simultaneously activated/deactivated, max Updating time  PROFINET IO Device  Services - PG/OP communication Yes - S7 routing - So routing - S7 routing - So routing - S7 routing - S0 routing - S7 routing - S0 routing - S	-	
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 - S7 routing Yes - PROFINET IO Devices mode - No - PROFINET IO Devices mode - S7 routing Yes - Sorvices -		100 Mbit/s
PG/OP communication S7 routing S7 routing Isochronous mode Open IE communication IRT MRP MRP MRPD MRPD PROFINET IO Devices Number of IO Devices S7 routing Pupdating time MRP		
S7 routing Yes Isochronous mode No Open IE communication Yes IRT No MRP No MRPD No PROFINET IO Devices S7 routing No S7 routing Yes S7 routing No PROFINET IO Devices mode S7 routing Yes S7 routing Yes S7 routing Yes No S7 routing Yes No S7 routing Yes No S7 routing No S7 routing No		Yes
- Isochronous mode - Open IE communication - IRT - MRP - MRP - MRPD - MRPD - PROFlenergy - 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  PROFINET IO Device  Services - PG/OP communication - S7 routing - Isochronous mode - No		
- Open IE communication - IRT - MRP - MRP - MRPD - 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 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 - PG/OP communication - S7 routing - Isochronous mode - No		No
- IRT No - MRP - MRPD No - PROFlenergy No - Prioritized startup Yes - Number of IO devices with prioritized startup, max 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
- MRP - 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 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		
- MRPD - PROFlenergy - 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
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. 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 Isochronous mode 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
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  16  16  16  17  16  17  16  17  16  17  18  19  19  19  19  19  19  19  19  19		
<ul> <li>Number of connectable IO Devices, max.</li> <li>Number of connectable IO Devices for RT, max.</li> <li>of which in line, max.</li> <li>Activation/deactivation of IO Devices</li> <li>Number of IO Devices that can be simultaneously activated/deactivated, max.</li> <li>Updating time</li> <li>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.</li> </ul> PROFINET IO Device Services <ul> <li>PG/OP communication</li> <li>Yes</li> <li>S7 routing</li> <li>Isochronous mode</li> </ul> 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		16
<ul> <li>— Activation/deactivation of IO Devices</li> <li>— Number of IO Devices that can be simultaneously activated/deactivated, max.</li> <li>— Updating time</li> <li>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.</li> <li>PROFINET IO Device</li> <li>Services</li> <li>— PG/OP communication</li> <li>— S7 routing</li> <li>— Isochronous mode</li> <li>Yes</li> <li>No</li> </ul>		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  No	— 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	<ul> <li>Activation/deactivation of IO Devices</li> </ul>	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
<ul> <li>— PG/OP communication</li> <li>— S7 routing</li> <li>— Isochronous mode</li> <li>Yes</li> <li>No</li> </ul>	PROFINET IO Device	
<ul><li>— S7 routing</li><li>— Isochronous mode</li><li>No</li></ul>	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	2
device, max.	

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	Yes	
— Data length, max.	8 kbyte	
• ISO-on-TCP (RFC1006)	Yes	
— Data length, max.	8 kbyte	
• UDP	Yes	
— Data length, max.	1 472 byte	
Web server		
User-defined websites	Yes	
Further protocols		
• MODBUS	Yes	
Communication functions		
S7 communication		
• supported	Yes	
• as server	Yes	
• as client	Yes	
<ul> <li>User data per job, max.</li> </ul>	See online help (S7 communication, user data size)	
Web server		
• supported	Yes	

Test commissioning functions	
Status/control	
Status/control variable	Yes

16; dynamically

Number of connections

overall

• 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	4; With integrated outputs	
interface		
PID controller	Yes	
Number of alarm inputs	4	
Number of pulse outputs	4	
Limit frequency (pulse)	100 kHz	
Potential separation		
Potential separation digital inputs		
<ul> <li>Potential separation digital inputs</li> </ul>	No	
<ul><li>between the channels, in groups of</li></ul>	1	
Potential separation digital outputs		
<ul> <li>Potential separation digital outputs</li> </ul>	Yes	
<ul> <li>between the channels</li> </ul>	No	
• between the channels, in groups of	1	
EMC		
Interference immunity against discharge of static electric	city	
<ul> <li>Interference immunity against discharge of static electricity acc. to IEC 61000-4-2</li> </ul>	Yes	
Test voltage at air discharge	8 kV	
Test voltage at contact discharge	6 kV	
Interference immunity to cable-borne interference		

<ul> <li>Interference immunity on supply lines acc. to IEC 61000-4-4</li> </ul>	Yes
<ul> <li>Interference immunity on signal cables acc. to IEC 61000-4-4</li> </ul>	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
<ul> <li>Interference immunity against high-frequency radiation acc. to IEC 61000-4-6</li> </ul>	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
Ambient temperature during storage/transportation	
• min.	-40 °C
• max.	70 °C
Air pressure acc. to IEC 60068-2-13	
Operation, min.	795 hPa
Operation, max.	1 080 hPa
•	

Storage/transport, min.	660 hPa
Storage/transport, max.	1 080 hPa
Installation altitude, min.	-1 000 m
Installation altitude, max.	2 000 m
Relative humidity	
Operation, max.	95 %; no condensation
Vibrations	
<ul> <li>Vibration resistance during operation acc. to IEC 60068-2-6</li> </ul>	2 g (m/s²) wall mounting, 1 g (m/s²) DIN rail
<ul> <li>Operation, tested according to IEC 60068-2-6</li> </ul>	Yes
Shock testing	
• tested according to IEC 60068-2-27	Yes; IEC 68, Part 2-27 half-sine: strength of the shock 15 g (peak value), duration 11 ms
Pollutant concentrations	
<ul> <li>SO2 at RH &lt; 60% without condensation</li> </ul>	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	
<ul> <li>User program protection/password protection</li> </ul>	Yes
<ul> <li>Copy protection</li> </ul>	Yes
<ul> <li>Block protection</li> </ul>	Yes
Access protection	
Protection level: Write protection	Yes
<ul><li>Protection level: Read/write protection</li></ul>	Yes
<ul> <li>Protection level: Complete protection</li> </ul>	Yes
Cycle time monitoring	
● adjustable	Yes
Dimensions	
Width	110 mm
Height	100 mm
Depth	75 mm
Weights	
Weight, approx.	415 g
last modified:	11/28/2017