## **SIEMENS**

## Data sheet

## 6AG1215-1BG40-4XB0

SIPLUS S7-1200 CPU 1215C AC/DC/relay for medial exposure with conformal coating based on 6ES7215-1BG40-0XB0 . compact CPU, AC/DC/relay, onboard I/O: 14 DI 24 V DC 10 DO relay 2 A 2 AI 0-10 V DC 2 AO 0-20 mA DC Power supply: 85-264V AC @ 47-63 Hz, Program/data memory 100 KB



General information	
Product type designation	CPU 1215C AC/DC/relay
Firmware version	V4.1
Engineering with	
<ul> <li>Programming package</li> </ul>	STEP 7 V13 SP1 or higher
Supply voltage	
Rated value (AC)	
• 120 V AC	Yes
• 230 V AC	Yes
permissible range, lower limit (AC)	85 V
permissible range, upper limit (AC)	265 V
Line frequency	
<ul> <li>permissible range, lower limit</li> </ul>	47 Hz
• permissible range, upper limit	63 Hz
Input current	
Current consumption (rated value)	100 mA at 120 V AC; 50 mA at 240 V AC
Current consumption, max.	300 mA at 120 V AC; 150 mA at 240 V AC
Inrush current, max.	20 A; at 264 V

Encoder supply	
24 V encoder supply	
• 24 V	20.4 to 28.8V
Power loss	
Power loss Power loss, typ.	12 W
	12 **
Memory	
Work memory	
<ul> <li>integrated</li> </ul>	125 kbyte
• expandable	No
Load memory	
<ul> <li>integrated</li> </ul>	4 Mbyte
<ul> <li>Plug-in (SIMATIC Memory Card), max.</li> </ul>	with SIMATIC memory card
Backup	
• present	Yes; maintenance-free
• without battery	Yes
CPU processing times	
for bit operations, typ.	0.085 μs; / instruction
for word operations, typ.	1.7 µs; / instruction
for floating point arithmetic, typ.	2.5 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),	10 kbyte
max.	
Flag	
• Number, max.	8 kbyte; Size of bit memory address area
Address area	
Process image	
<ul> <li>Inputs, adjustable</li> </ul>	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	
<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	14: Interneted
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	
<ul> <li>Rated value (DC)</li> </ul>	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	Yes; 0.2 ms, 0.4 ms, 0.8 ms, 1.6 ms, 3.2 ms, 6.4 ms and 12.8 ms, selectable in groups of four
— at "0" to "1", min.	0.2 ms
— at "0" to "1", max.	12.8 ms
for interrupt inputs	
— parameterizable	Yes
for technological functions	
— parameterizable	Yes; Single phase : 3 at 100 kHz & 3 at 30 kHz, differential: 3 at 80 kHz & 3 at 30 kHz
Cable length	
<ul> <li>shielded, max.</li> </ul>	500 m; 50 m for technological functions
• unshielded, max.	300 m; For technological functions: No
Digital outputs	10: Delaur
Number of digital outputs	10; Relays
Switching capacity of the outputs	2 A
• with resistive load, max.	
• on lamp load, max.	30 W with DC, 200 W with AC
Output delay with resistive load	10
• "0" to "1", max.	10 ms; max.
• "1" to "0", max.	10 ms; max.
Switching frequency	
• of the pulse outputs, with resistive load, max.	1 Hz
Relay outputs	
<ul> <li>Number of relay outputs</li> </ul>	10
Number of operating cycles, max.	mechanically 10 million, at rated load voltage 100 000
Cable length	

• shielded, max.	500 m
• unshielded, max.	150 m
Analog inputs	
Number of analog inputs	2
Input ranges	
Voltage	Yes
Input ranges (rated values), voltages	
• 0 to +10 V	Yes
Input resistance (0 to 10 V)	≥100k ohms
Cable length	
• shielded, max.	100 m; twisted and shielded
Analog outputs	
Number of analog outputs	2
Output ranges, current	
• 0 to 20 mA	Yes
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
Analog value generation for the outputs	
Integration and conversion time/resolution per channel	
<ul> <li>Resolution with overrange (bit including sign),</li> </ul>	10 bit
max.	
Encoder	
Connectable encoders	
• 2-wire sensor	Yes
1. Interface	
Interface type	PROFINET
Physics	Ethernet
Isolated	Yes
automatic detection of transmission rate	Yes
Autonegotiation	Yes
Autocrossing	Yes
Protocols	
PROFINET IO Controller	Yes
PROFINET IO Device	Yes; Also simultaneously with IO-Device functionality
PROFINET IO Controller	
<ul> <li>Transmission rate, max.</li> </ul>	100 Mbit/s

Services	
— Number of connectable IO Devices, max.	16
PROFINET IO Device	
Services	
— Shared device	Yes
<ul> <li>— Number of IO Controllers with shared device, max.</li> </ul>	2
Protocols	
Supports protocol for PROFINET IO	Yes
PROFIBUS	Yes; CM 1243-5 required
AS-Interface	Yes
Protocols (Ethernet)	
• TCP/IP	Yes
Open IE communication	
• TCP/IP	Yes
<ul> <li>ISO-on-TCP (RFC1006)</li> </ul>	Yes
• UDP	Yes
Web server	
<ul> <li>supported</li> </ul>	Yes
<ul> <li>User-defined websites</li> </ul>	Yes
Further protocols	
• MODBUS	Yes
Communication functions	
S7 communication	
supported	Yes
• as server	Yes
• as client	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	
<ul> <li>Number of configurable Traces</li> </ul>	2; Up to 512 KB of data per trace are possible
Integrated Functions	

Contribution of equation (counter) max.         100 kHz           Frequency measurement         Yes           controlled positioning axes, max.         8           Number of positioning axes via pulse-direction interface         Up to 4 with SB 1222           FilD controller         Yes           Number of positioning axes via pulse-direction interface         Up to 4 with SB 1222           FilD controller         Yes           Number of positioning axes via pulse-direction interface         1           FilD controller         Yes           Number of positioning axes via pulse-direction         4           Potential separation digital inputs         500V AC for 1 minute           • between the channels, in groups of         1           Potential separation digital outputs         Relays           • between the channels         No           • between the channels         No           • between the channels         Ves           - Test voltage at air discharge of static electricity         Yes           - Test voltage at air discharge of static electricity         Freference immunity against discharge of kV           Interference immunity on signal cables acc. to IEC 6 1000-42         Yes           • Interference immunity on signal cables acc. to IEC 6 1000-44         Yes           • Interference immunit	Number of counters	6
Frequency measurement         Yes           controlled positioning axes, max.         8           Number of position-controlled positioning axes, max.         8           Number of positioning axes via pulse-direction interface         Up 6 4 with SB 1222           PID controller         Yes           Number of positioning axes via pulse-direction interface         Vp 6 4 with SB 1222           PID controller         Yes           Number of alarm inputs         4           Potential separation digital inputs         500V AC for 1 minute           • Potential separation digital outputs         Relays           • Potential separation digital outputs         8           • Potential separation digital outputs         1           • Potential separation digital outputs         Relays           • between the channels, in groups of         2           Potential separation digital outputs         Yes           • heterference immunity against discharge of static electricity         Yes           • Interference immunity against discharge of static electricity         Yes           • Interference immunity against discharge         Yes           • Interference immunity against discharge         Yes           • Interference immunity against discharge         Yes           • Interference immunity against discharge <td></td> <td></td>		
controlled positioning         Yes           Number of position-controlled positioning axes, max.         8           Number of positions gaxes via pulse-direction interface         Up to 4 with SB 1222           Pite controller         Yes           Number of alarm inputs         4           Potential separation digital inputs         500V AC for 1 minute           • Potential separation digital outputs         Folential separation digital outputs           • Potential separation digital outputs         Relays           • Potential separation digital outputs         Relays           • Potential separation digital outputs         Relays           • Potential separation digital outputs         No           • Determents, in groups of         2           EMC         Yes           Interference immunity against discharge of static electricity         Yes           • Interference immunity against discharge of static electricity         Yes           • 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 signal cables acc. to IEC 61000-4-4         Yes           • Interference immunity on signal cables acc. to IEC 61000-4-4         Yes           • Interference immunity against high-frequency radiation acc.		Yes
Number of positioning axes via pulse-direction interface         Up to 4 with SB 1222           PID controller         Yes           Number of alarm inputs         4           Potential separation digital inputs         500V AC for 1 minute           • Potential separation digital outputs         500V AC for 1 minute           • Potential separation digital outputs         Foldential separation digital outputs           • Potential separation digital outputs         Relays           • Potential separation digital outputs         Relays           • between the channels, in groups of         2           Potential separation digital outputs         Relays           • between the channels, in groups of         2           Potential separation digital outputs         Relays           • between the channels, in groups of         2           Potential separation digital outputs         Relays           • between the channels, in groups of         2           Potential separation digital outputs         Relays           • between the channels, in groups of         4           Interference immunity against discharge of static electricity ac. to IEC 61000-4-2         Yes           • Test voltage at air discharge         8 kV           • Interference immunity on supply lines acc. to IEC 61000-4-5         Yes		Yes
Number of positioning axes via pulse-direction interface         Up to 4 with SB 1222           PID controller         Yes           Number of alarm inputs         4           Potential separation digital inputs         500V AC for 1 minute           • Potential separation digital outputs         500V AC for 1 minute           • Potential separation digital outputs         Foldential separation digital outputs           • Potential separation digital outputs         Relays           • Potential separation digital outputs         Relays           • between the channels, in groups of         2           Potential separation digital outputs         Relays           • between the channels, in groups of         2           Potential separation digital outputs         Relays           • between the channels, in groups of         2           PID         PID           • Interference immunity against discharge of static electricity 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 61000-4-5         Yes           • Interference immunity against conducted variable disturbance induced by high-frequency fields         Yes           • Interference immunity against conducted variable disturbance induced by high-frequency fields         Yes		8
PID controller         Yes           Number of alarm inputs         4           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         Relays           • Potential separation digital outputs         Relays           • between the channels, in groups of         2           • Interference immunity against discharge of static electricity acc. to IEC 61000-4-2         Yes           • Interference immunity on signal cables acc. to IEC 61000-4-2         8 kV           • Test voltage at air discharge         Yes           • Interference immunity on signal cables acc. to IEC 61000-4-4         Yes           • Interference immunity against toitage surge         Yes           • Interference immunity against toitage surge         Yes           • Interference immunity against ingh-frequency fields         Yes           Interference immunity a	· · · · · · · · · · · · · · · · · · ·	Up to 4 with SB 1222
Aurobe of alarm inputs         4           Potential separation         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         Relays           • between the channels, in groups of         2           Potential separation digital outputs         No           • between the channels         No           • between the channels         No           • between the channels         No           • Interference immunity against discharge of static electricity         Yes           - Test voltage at in discharge         8 kV           - Test voltage at contact discharge         6 kV           Interference immunity on signal cables acc. to IEC 61000-4.5         Yes           Interference immunity against voltage surge         Yes           • on the supply lines acc. to IEC 61000-4.5         Yes           Interference immunity against voltage surge         Yes           • Interference immunity against high-frequency radiation acc. to IEC 61000-4.6         Yes	interface	
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       Relays         • Potential separation digital outputs       Relays         • between the channels       No         • between the channels, in groups of       2         EMC       Yes         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 signal cables acc. to IEC 6 1000-4-4       Yes         • Interference immunity on signal cables acc. to IEC 6 1000-4-4       Yes         • Interference immunity against voltage surge       on the supply lines acc. to EC 6 1000-4-5       Yes         Interference immunity against conducted variable disturbute cincluced by high-frequency fields       Interference immunity against high-frequency radiation acc. to IEC 6 1000-4-8       Yes         Emission of radio interference acc. to EN 55 011       Yes       Yes         Interference immunity against individial areas       Yes; When appropriate measures are used to ensure compliance with the limits for Class B according to EN 5	PID controller	Yes
Potential separation digital inputs       500V AC for 1 minute         • Potential separation digital outputs       500V AC for 1 minute         • Potential separation digital outputs       Relays         • Potential separation digital outputs       Relays         • between the channels, in groups of       2         • Dotential separation digital outputs       Relays         • between the channels, in groups of       2         EMC       Interference immunity against discharge of static electricity         • Interference immunity against discharge       Yes         • Test voltage at air discharge       8 kV         • Test voltage at air discharge       6 kV         Interference immunity on supply lines acc. to IEC 61000-4-4       Yes         • Interference immunity on supply lines acc. to IEC 61000-4-4       Yes         • Interference immunity against voltage surge       • on the supply lines acc. to IEC 61000-4-5         • Interference immunity against voltage surge       • on the supply lines acc. to IEC 61000-4-6         Emission of radio interference acc. to EN 55 011       Yes         Interference immunity against high-frequency radiation acc. to IEC 61000-4-6       Yes; Group 1         Emission of radio interference acc. to EN 55 011       Yes; When appropriate measures are used to ensure compliance with the limits for Class B according to EN 55011         D	Number of alarm inputs	4
• Potential separation digital inputs       500V AC for 1 minute         • between the channels, in groups of       1         Potential separation digital outputs       Relays         • between the channels       No         • between the channels, in groups of       2         EMC       Interference immunity against discharge of static electricity acc. to IEC 61000-4-2         • Interference immunity on supply lines acc. to IEC 61000-4-2       Yes         • Test voltage at air discharge       8 kV         • Test voltage at contact discharge       6 kV         Interference immunity on supply lines acc. to IEC 61000-4-4       Yes         • Interference immunity on supply lines acc. to IEC 61000-4-4       Yes         • Interference immunity against colduced surable discurate       Yes         • Interference immunity against colduced surable discurate       Yes         • Interference immunity against colduced variable discurate       Yes         • Interference immunity against colduced variable discurate       Yes         • Interference immunity against colduced variable discurate       Yes         • Interference immunity against ingh-frequency       Yes         • Interference immunity against conduced variable discurate       Yes         • Interference immunity against ingh-frequency       Yes         Interference immunity against i	Potential separation	
between the channels, in groups of 1 Potential separation digital outputs Potential separation digital disturber output disturber output digital disturber output digital events Potential separation digital conducted variable disturber output digital outputs Potential separation digital areas Perison of radio interference acc. to EN 55 011 Potential class A, for use in residential areas Perison of radio interference acc. to EN 55 011 Potential class A for use in residential areas Perison of radio interference acc. to EN 55 011 Potential class A for use in residential areas Perison of radio interference acc. to EN 55 011 Potential class A for use in residential areas Per	Potential separation digital inputs	
Potential separation digital outputs       Relays         Potential separation digital outputs       Relays         No       2         ENEW       2         Interference immunity against discharge of static electricity       Yes         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       6 kV         Interference immunity on supply lines acc. to IEC 61000-4-4       Yes         Interference immunity on supply lines acc. to IEC 61000-4-5       Yes         Interference immunity on signal cables acc. to IEC 61000-4-6       Yes         Interference immunity against voltage surge       • on the supply lines acc. to IEC 61000-4-5       Yes         Interference immunity against voltage surge       • on the supply lines acc. to IEC 61000-4-6       Yes         Interference immunity against high-frequency radiation acc. to IEC 61000-4-6       Yes       Yes         Interference immunity against bigh-frequency radiation acc. to IEC 61000-4-6       Yes       Yes         Interference immunity against conducted variable disturbure inducted by high-frequency fields       Interference immunity against high-frequency fields         Interference immunity against on the field	<ul> <li>Potential separation digital inputs</li> </ul>	500V AC for 1 minute
• Potential separation digital outputs       Relays         • between the channels       No         • between the channels, in groups of       2         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 ontact discharge       6 kV         Interference immunity to cable-borne interference       Ves         • Interference immunity on signal cables acc. to IEC 61000-4-4       Yes         • Interference immunity on signal cables acc. to IEC 61000-4-5       Yes         • Interference immunity against voltage surge       Ves         • on the supply lines acc. to IEC 61000-4-5       Yes         • Interference immunity against conducted variable disturtance induced by high-frequency fields       Interference immunity against conducted variable disturtance         • Interference immunity against high-frequency radiation acc. to IEC 6100-4-5       Yes         • Interference immunity against stop against high-frequency fields       Ves         • 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 of protection acc. t	<ul> <li>between the channels, in groups of</li> </ul>	1
• between the channels       No         • between the channels, in groups of       2 <b>ENC</b> Interference immunity against discharge of static electricity         • Interference immunity against discharge of static electricity acc. to IEC 61000-4-2       Yes         • Interference immunity to cable-borne interference       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 IEC 61000-4-4       Yes         • Interference immunity against voltage surge       • on the supply lines acc. to IEC 61000-4-5         • Interference immunity against notlated variable distut-ance induced by high-frequency fields       Interference immunity against high-frequency         • Interference immunity against tonducted variable distut-ance induced by high-frequency fields       Interference immunity against stop forection         • Interference immunity against stop forection       Yes; Group 1         • Limit class A, for use in industrial 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       Yes         Interference inc. to EN 60529       Yes         • IP20       Yes	Potential separation digital outputs	
• between the channels, in groups of       2         ENC       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       Ves         • 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 on signal cables acc. to IEC 61000-4-4       Yes         • Interference immunity against voltage surge       Yes         • on the supply lines acc. to IEC 61000-4-5       Yes         Interference immunity against conducted variable disturbance induced by high-frequency fields       Yes         • Interference immunity against toolucted variable disturbance induced by high-frequency fields       Yes         • Interference immunity against toolucted variable disturbance induced by high-frequency fields       Yes         • Interference immunity against toolucted variable disturbance induced by high-frequency fields       Yes; Group 1         • 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 of protection acc. to EN 60529 <td< td=""><td><ul> <li>Potential separation digital outputs</li> </ul></td><td>Relays</td></td<>	<ul> <li>Potential separation digital outputs</li> </ul>	Relays
Enclose instruction of group of the 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 ontact discharge       6 kV         Interference immunity on cable-borne interference         • Interference immunity on signal cables 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         • on the supply lines acc. to IEC 61000-4-5       Yes       Yes         Interference immunity against totlage surge       • on the supply lines acc. to IEC 61000-4-5       Yes         Interference immunity against conducted variable disturbance induced by high-frequency fields       • Interference inmunity against conducted variable disturbance induced by high-frequency fields         • Interference immunity against high-frequency radiation acc. to IEC 61000-4-5       Yes         Emission of radio interference acc. to EN 55 011       • Exist Class A, for use in industrial 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       Yes       Yes         Degree of protection acc. to EN 60529       Yes         Standards, approv	<ul> <li>between the channels</li> </ul>	No
Interference immunity against discharge of static electricity       Yes         • Interference immunity against discharge       Yes         - Test voltage at air discharge       8 kV         - Test voltage at air discharge       6 kV         Interference immunity to cable-borne interference       6 kV         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       Yes         • on the supply lines acc. to IEC 61000-4-5       Yes         Interference immunity against voltage surge       Yes         • Interference immunity against voltage surge       Yes         Interference immunity against nonducted variable disturbance induced by high-frequency fields       Yes         • Interference immunity against areas       Yes; Group 1         • Limit class A, for use in industrial 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       Yes	<ul> <li>between the channels, in groups of</li> </ul>	2
Interference immunity against discharge of static electricity       Yes         • 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       6 kV         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       Yes         • on the supply lines acc. to IEC 61000-4-5       Yes         Interference immunity against voltage surge       Yes         • Interference immunity against voltage surge       Yes         • Interference immunity against voltage surge       Yes         Interference immunity against voltage surge       Yes         Interference immunity against voltage surge       Yes         • Interference immunity against voltage surge       Yes         Interference immunity against nonducted variable disturbance induced by high-frequency fields       Yes         • Interference immunity against areas       Yes; Group 1         • Limit class A, for use in industrial areas       Yes; When appropriate measures are used to ensure compliance with the limits for Class B according to EN 55011         Degree and class	EMC	
Interference immunity against voltage surge <ul> <li>Interference immunity against voltage surge</li> <li>Interference immunity against conducted variable disturbance induced by high-frequency fields</li> </ul> Interference immunity against ingh-frequency radiation acc. to EC 61000-4-5         Yes           Interference immunity against voltage surge <ul> <li>Interference immunity against voltage surge</li> <li>Interference immunity against conducted variable disturbance induced by high-frequency fields</li> <li>Interference immunity against conducted variable disturbance induced by high-frequency fields</li> <li>Interference acc. to EN 55 011</li> <li>Limit class A, for use in industrial areas</li> <li>Ves; Group 1</li> <li>Ves; When appropriate measures are used to ensure compliance with the limits for Class B according to EN 55011</li> </ul> <li>Degree of protection acc. to EN 60529         <ul> <li>IP20</li> <li>Yes</li> </ul> </li>		city
- Test voltage at air discharge8 kV- Test voltage at contact discharge6 kVInterference immunity to cable-borne interferenceYes- Interference immunity on supply lines acc. to IEC 61000-4-4Yes- Interference immunity on signal cables acc. to IEC 61000-4-4Yes- Interference immunity against voltage surgeYes- on the supply lines acc. to IEC 61000-4-5YesInterference immunity against conducted variable disturbance induced by high-frequency fields- Interference immunity against conducted variable disturbanceYesInterference immunity against tobs 5011Yes- Interference immunity against high-frequency radiation acc. to IEC 61000-4-6Yes; Group 1- Limit class A, for use in industrial areas - Limit class B, for use in residential areasYes; Group 1 Yes; When appropriate measures are used to ensure compliance with the limits for Class B according to EN 55011Degree of protection acc. to EN 60529 - IP20YesStandards, approvals, certificatesYes	<ul> <li>Interference immunity against discharge of</li> </ul>	Yes
— 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 voltage surge       Yes         • on the supply lines acc. to IEC 61000-4-5       Yes         Interference immunity against voltage surge       Yes         • Interference immunity against conducted variable disturbance induced by high-frequency fields       Yes         • Interference immunity against conducted variable disturbance induced by high-frequency fields       Yes         • Interference immunity against high-frequency radiation acc. to IEC 61000-4-6       Yes; Group 1         • 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       Yes         Degree of protection acc. to EN 60529       Yes         • IP20       Yes	static electricity acc. to IEC 61000-4-2	
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 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         • 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       Yes         Degree of protection acc. to EN 60529 • IP20       Yes	— Test voltage at air discharge	8 kV
• Interference immunity on supply lines acc. to IEC 61000-4-4Yes• Interference immunity on signal cables acc. to IEC 61000-4-4YesInterference immunity against voltage surge• on the supply lines acc. to IEC 61000-4-5Yes• on the supply lines acc. to IEC 61000-4-5YesInterference immunity against conducted variable disturce induced by high-frequency fields• Interference immunity against conducted variable disturce induced by high-frequency fields• Interference immunity against high-frequency radiation acc. to IEC 61000-4-6YesEmission of radio interference acc. to EN 55 011• Sind Cass A, for use in industrial areas ves; When appropriate measures are used to ensure compliance with the limits for Class B according to EN 55011Degree and class of protection Degree of protection acc. to EN 60529 • IP20YesStandards, approvals, certificatesYes	— Test voltage at contact discharge	6 kV
IEC 61000-4-4YesInterference immunity on signal cables acc. to IEC 61000-4-4YesInterference immunity against voltage surge• on the supply lines acc. to IEC 61000-4-5YesInterference immunity against conducted variable disturance induced by high-frequency fields• Interference immunity against conducted variable disturance• Interference immunity against conducted variable disturation acc. to IEC 61000-4-6YesEmission of radio interference acc. to EN 55 011Yes; Group 1• Limit class A, for use in industrial areasYes; When appropriate measures are used to ensure compliance with the limits for Class B according to EN 55011Degree and class of protectionYesDegree of protection acc. to EN 60529 • IP20Yes	Interference immunity to cable-borne interference	
IEC 61000-4-4 Interference immunity against voltage surge on the supply lines acc. to IEC 61000-4-5 Interference immunity against conducted variable disturbance induced by high-frequency fields Interference immunity against conducted variable disturbance induced by high-frequency fields Interference immunity against high-frequency radiation acc. to IEC 61000-4-6 Emission of radio interference acc. to EN 55 011 Limit class A, for use in industrial areas Limit class B, for use in residential areas Ves; Group 1 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		Yes
<ul> <li>on the supply lines acc. to IEC 61000-4-5 Yes</li> <li>Interference immunity against conducted variable disturbance induced by high-frequency fields         <ul> <li>Interference immunity against high-frequency radiation acc. to IEC 61000-4-6</li> <li>Emission of radio interference acc. to EN 55 011</li> <li>Limit class A, for use in industrial areas</li> <li>Limit class B, for use in residential areas</li> <li>Yes; When appropriate measures are used to ensure compliance with the limits for Class B according to EN 55011</li> </ul> </li> <li>Degree and class of protection         <ul> <li>Degree of protection acc. to EN 60529</li> <li>IP20</li> <li>Yes</li> </ul> </li> <li>Standards, approvals, certificates</li> </ul>		Yes
Interference immunity against conducted variable disturbance induced by high-frequency fields <ul> <li>Interference immunity against high-frequency radiation acc. to IEC 61000-4-6</li> <li>Emission of radio interference acc. to EN 55 011</li> <li>Limit class A, for use in industrial areas</li> <li>Limit class B, for use in residential areas</li> <li>Ves; When appropriate measures are used to ensure compliance with the limits for Class B according to EN 55011</li> </ul> <ul> <li>Degree and class of protection</li> <li>IP20</li> <li>Yes</li> </ul> Yes           Standards, approvals, certificates         Yes	Interference immunity against voltage surge	
<ul> <li>Interference immunity against high-frequency radiation acc. to IEC 61000-4-6</li> <li>Emission of radio interference acc. to EN 55 011</li> <li>Limit class A, for use in industrial areas</li> <li>Limit class B, for use in residential areas</li> <li>Ves; Group 1</li> <li>Yes; When appropriate measures are used to ensure compliance with the limits for Class B according to EN 55011</li> <li>Degree and class of protection</li> <li>Degree of protection acc. to EN 60529</li> <li>IP20</li> <li>Yes</li> </ul>	<ul> <li>on the supply lines acc. to IEC 61000-4-5</li> </ul>	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 compliance with the limits for Class B according to EN 55011         Degree and class of protection       Person Protection acc. to EN 60529         • IP20       Yes         Standards, approvals, certificates	Interference immunity against conducted variable distur	bance induced by high-frequency fields
<ul> <li>Limit class A, for use in industrial areas</li> <li>Limit class B, for use in residential areas</li> <li>Yes; When appropriate measures are used to ensure compliance with the limits for Class B according to EN 55011</li> <li>Degree and class of protection</li> <li>Degree of protection acc. to EN 60529         <ul> <li>IP20</li> <li>Yes</li> </ul> </li> <li>Standards, approvals, certificates</li> </ul>		Yes
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	Emission of radio interference acc. to EN 55 011	
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	• Limit class A, for use in industrial areas	Yes; Group 1
Degree of protection acc. to EN 60529       • IP20       Yes       Standards, approvals, certificates	<ul> <li>Limit class B, for use in residential areas</li> </ul>	
• IP20 Yes Standards, approvals, certificates	Degree and class of protection	
Standards, approvals, certificates	Degree of protection acc. to EN 60529	
	• IP20	Yes
	Standards, approvals, certificates	
		Yes

Ambient conditions	
Free fall	
<ul> <li>Fall height, max.</li> </ul>	0.3 m; five times, in product package
Ambient temperature during operation	
● 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
Ambient temperature during storage/transportation	
• min.	-40 °C
• max.	70 °C
Altitude during operation relating to sea level	
<ul> <li>Installation altitude above sea level, max.</li> </ul>	2 000 m
• Ambient air temperature-barometric pressure- altitude	Tmin Tmax at 1 140 hPa 795 hPa (-1 000 m +2 000 m) // Tmin (Tmax - 10 K) at 795 hPa 658 hPa (+2 000 m +3 500 m) // Tmin (Tmax - 20 K) at 658 hPa 540 hPa (+3 500 m +5 000 m); above 2 000 m max. 132 V AC
Relative humidity	
<ul> <li>With condensation, tested in accordance with IEC 60068-2-38, max.</li> </ul>	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)
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	
<ul> <li>tested according to IEC 60068-2-27</li> </ul>	Yes; IEC 68, Part 2-27 half-sine: strength of the shock 15 g (peak value), duration 11 ms
Resistance	
Coolants and lubricants	
<ul> <li>Resistant to commercially available coolants and lubricants</li> </ul>	Yes
Use in stationary industrial systems	
<ul> <li>— to biologically active substances according to EN 60721-3-3</li> </ul>	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request
<ul> <li>— to chemically active substances according to EN 60721-3-3</li> </ul>	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2- 52 (severity degree 3); *
<ul> <li>— to mechanically active substances according to EN 60721-3-3</li> </ul>	Yes; Class 3S4 incl. sand, dust, *
Use on ships/at sea	
<ul> <li>— to biologically active substances according to EN 60721-3-6</li> </ul>	Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request
<ul> <li>to chemically active substances according to EN 60721-3-6</li> </ul>	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2- 52 (severity degree 3); *

<ul> <li>to mechanically active substances</li> </ul>	Yes; Class 6S3 incl. sand, dust; *
according to EN 60721-3-6	
Remark	
<ul> <li>— Note regarding classification of</li> </ul>	* The supplied plug covers must remain in place over the unused
environmental conditions acc. to EN 60721	interfaces during operation!
Configuration	
Programming	
Programming language	
— LAD	Yes
— FBD	Yes
— SCL	Yes
Cycle time monitoring	
• adjustable	Yes
Dimensions	
Width	130 mm
Height	100 mm
Depth	75 mm
Weights	
Weight, approx.	550 g
last modified:	07/29/2018