## **Data sheet**

6ES7215-1BG40-0XB0



SIMATIC S7-1200, CPU 1215C, compact CPU, AC/DC/relay, 2 PROFINET ports, 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: AC 85-264 V AC at 47-63 Hz, program/data memory 200 KB

General information	
Product type designation	CPU 1215C AC/DC/relay
Firmware version	V4.6
Engineering with	
<ul> <li>Programming package</li> </ul>	STEP 7 V18 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
<ul> <li>permissible range, upper limit</li> </ul>	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
l²t	0.8 A <sup>2</sup> ·s
Output current	
for backplane bus (5 V DC), max.	1 600 mA; Max. 5 V DC for SM and CM
Encoder supply	
24 V encoder supply	
• 24 V	20.4 to 28.8V
Power loss	
Power loss, typ.	14 W
Memory	
Work memory	
• integrated	200 kbyte
Load memory	
• integrated	4 Mbyte
<ul> <li>Plug-in (SIMATIC Memory Card), max.</li> </ul>	with SIMATIC memory card
Backup	
• present	Yes
• maintenance-free	Yes
<ul><li>without battery</li></ul>	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	
Number, max.	Limited only by RAM for code
Data areas and their retentivity	
Retentive data area (incl. timers, counters, flags), max.	14 kbyte
Flag	
• Size, max.	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
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
Deviation per day, max.	±60 s/month at 25 °C
Digital inputs	
Number of digital inputs	14; Integrated
of which inputs usable for technological functions	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	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	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; Relays
Switching capacity of the outputs	
with resistive load, max.	2 A
on lamp load, max.	30 W with DC, 200 W with AC
Output delay with resistive load	
• "0" to "1", max.	10 ms; max.
• "1" to "0", max.	10 ms; max.
Relay outputs	40
Number of relay outputs	10
Number of operating cycles, max.	mechanically 10 million, at rated load voltage 100 000
Cable length	
<ul><li>shielded, max.</li></ul>	500 m

• unshielded, max.	150 m
Analog inputs	
Number of analog inputs	2
	2
Input ranges	V
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), max.</li> </ul>	10 bit
Integration time, parameterizable	Yes
Conversion time (per channel)	625 µs
Encoder	
Connectable encoders	
2-wire sensor	Yes
1. Interface	
Interface type	PROFINET
Isolated	Yes
automatic detection of transmission rate	Yes
	Yes
Autonegotiation	
Autocrossing	Yes
Interface types	v.
• RJ 45 (Ethernet)	Yes
Number of ports	2
integrated switch	Yes
Protocols	
PROFINET IO Controller	Yes
PROFINET IO Device	Yes
<ul> <li>SIMATIC communication</li> </ul>	Yes
Open IE communication	Yes; Optionally also encrypted
Web server	Yes
Media redundancy	Yes
PROFINET IO Controller	
<ul> <li>Transmission rate, max.</li> </ul>	100 Mbit/s
Services	
— PG/OP communication	Yes; encryption with TLS V1.3 pre-selected
— Isochronous mode	No
— IRT	No
— PROFlenergy	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.  - Number of connectable IO Devices for RT, max.	16
— of which in line, max.	16
— Of Which in line, max.      — Activation/deactivation of IO Devices	Yes
<ul> <li>Number of IO Devices that can be simultaneously activated/deactivated, max.</li> </ul>	8
— 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
DDOEINET IO Davice	of configured user data.
PROFINET IO Device	
Services	W 710
— PG/OP communication	Yes; encryption with TLS V1.3 pre-selected
<ul> <li>Isochronous mode</li> </ul>	No

— IRT	No
— IRT — PROFlenergy	Yes
— PROPIETIETY      — Shared device	Yes
	2
Number of IO Controllers with shared device, max.  Protocols	2
Supports protocol for PROFINET IO	Yes
PROFIsafe	No
PROFIBUS	Yes; CM 1243-5 (master) or CM 1242-5 (slave) required
OPC UA	Yes; OPC UA Server
AS-Interface	Yes; CM 1243-2 required
Protocols (Ethernet)	res, OW 1240-2 required
• TCP/IP	Yes
• DHCP	No
• SNMP	Yes
• DCP	Yes
• LLDP	Yes
Redundancy mode	
Media redundancy	
— MRP	Yes; as MRP redundancy manager and/or MRP client
Open IE communication	. 55, 55 mm - rodandanoj managor anaron mm - olione
• 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	1 112 5310
• supported	Yes
User-defined websites	Yes
OPC UA	
Runtime license required	Yes; "Basic" license required
OPC UA Server	Yes; data access (read, write, subscribe), method call, runtime license required
Application authentication	Available security policies: None, Basic128Rsa15, Basic256Rsa15,
	Basic256Sha256
<ul><li>User authentication</li></ul>	"anonymous" or by user name & password
<ul><li>Number of sessions, max.</li></ul>	10
<ul> <li>Number of subscriptions per session, max.</li> </ul>	5
<ul><li>— Sampling interval, min.</li></ul>	100 ms
<ul><li>— Publishing interval, min.</li></ul>	200 ms
<ul> <li>Number of server methods, max.</li> </ul>	20
<ul> <li>Number of monitored items, recommended max.</li> </ul>	1 000
<ul> <li>Number of server interfaces, max.</li> </ul>	2
<ul> <li>Number of nodes for user-defined server interfaces,</li> </ul>	2 000
max.	
Further protocols	Ver
MODBUS	Yes
communication functions / header	
S7 communication	V
• supported	Yes
as server	Yes
as client	Yes
User data per job, max.	See online help (S7 communication, user data size)
Number of connections	DO Connectional Assessment 14 INVIOLENT CO.
overall	PG Connections: 4 reserved / 4 max; HMI Connections: 12 reserved / 18 max; S7 Connections: 8 reserved / 14 max; Open User Connections: 8 reserved / 14 max; Web Connections: 2 reserved / 30 max; OPC UA Connections: 0 reserved
<del>-</del> ,	/ 10 max; Total Connections: 34 reserved / 64 max
Test commissioning functions	
Status/control	
Status/control variable	Yes
• Variables	Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters
Forcing	

# Profing	• Foreign	Voc
* Number of configurable Traces  * Number of positions are status in formation  Diagnosis indication IED  * RINISTOR IED  * NAMP IED  * Namber of positions controlled positioning awas, max.  * Namber of positioning on the status of status in the status of status in the status of status of status in the status of	Forcing  Diagnostic buffer	Yes
Number of configurable Traces   2		Voo
Number of configuration Traces   2		Yes
**Memory size per france, max  **Dispression indicated in this information  **Dispression indicated in the information  **Pression in the information in the informat		2
Interruptidiagnosticalization IED  - RINNSTOP IED Yes  - RRORN EED Yes  Integrated Functions  Frequency measurement  - Ves  - Controlled positioning axes via pulse-direction interface  - PD controller PD controller  - Yes  - Number of positioning axes via pulse-direction interface  - PD controller  - Yes  - Number of positioning axes via pulse-direction interface  - PD controller  - Yes  - Number of positioning axes via pulse-direction interface  - PD controller  - Yes  - PD controller  - Yes  - PD controller  - Potential separation digital inputs  - Potential separation digital inputs  - Potential separation digital inputs  - Potential separation digital outputs  - Potential separation  -	<u> </u>	
Diagnostics indication LED		512 kbyte
■ ENROR LED ■ ERROR LED ■ ERROR LED ■ ERROR LED ■ Yes ■ MAINT LED ■ Yes ■ Maint LED ■ Yes ■ Maint LED ■ Yes ■ Frequency measurement □ Yes □ Controlled positioning ■ Yes ■ Mumber of positioning axes, max. ■ 6 ■ Mumber of positioning axes vary pulse-direction interface ■ Up to 4 with Siß 1222 ■ PID controller ■ Yes ■ Mumber of alarm inputs ■ Potential separation odiplial inputs ■ Potential separation diplial outputs ■ Potential separation ■ Potential sep		
FRROR LED		v
### Hospitable Functions    Frequency measurement   Yes		
Trequency measurement		
Frequency measurement		Yes
controlled positioning axes, max.  Number of position-controlled positioning axes, max.  Number of positioning axes via pulse-direction interface  PIC controller  Number of alarm inputs  Potential separation digital inputs  • Potential separation digital inputs  • Potential separation digital inputs  • Potential separation digital outputs  • Potential separation d	-	
Number of position-controlled positioning axes, max.  Number of positioning axes via pulse-direction interface  PID controller  PID controller  Potential separation digital inputs Potential separation digital inputs Potential separation digital inputs Potential separation digital inputs Potential separation digital outputs Potential separation digital separation of separation outputs Potential separation digital ou		
Number of positioning axes via pulse-direction interface PID controller Ves Number of alarm inputs 4 Potential separation Potential separation digital inputs • Potential separation digital inputs • Potential separation digital outputs • Detween the channels, in groups of • Pes • Interference immunity against discharge of static electricity • Interference immunity on supply lines acc. to IEC 61000- • Pes • Interference immunity against voltage surge • Interference immunity against night-frequency radiation • Interference immunity against night-frequency radiation • Pes • Limit dass B, for use in reidential areas		
PID controller Number of alarm inputs A Potential separation Potential separation digital inputs  • Potential separation digital inputs  • Determinal separation digital inputs  • Determinal separation digital inputs  • Determinal separation digital outputs  • Potential separation digit		
Number of alarm inputs 4  Potential separation digital inputs  Potential separation digital inputs  Potential separation digital inputs  Potential separation digital inputs  Potential separation digital diputs  Potential separation digital diputs  Potential separation digital diputs  Potential separation digital outputs  Potential separation digital discharge of static electricity  Potential separation digital discharge of static electricity  Potential separation digital outputs  Potential separation digital discharge of static electricity  Potential separation digital discharge of static electricity  Potential separation digital discharge of static electricity  Potential separation digital outputs  Potential separation digital discharge of static electricity  Potential separation digital discharge of static electricity  Potential separation digital discharge of static electricity  Potential s		·
Potential separation digital injuts  Potential separation digital injuts  Potential separation digital injuts  Every separation digital outputs  Potential separation digital separation		
Potential separation digital inputs  Potential separation digital inputs  Potential separation digital inputs  Potential separation digital outputs  Potential separation digital separation  Potential separation digital separation  Potential separation digital separation  Potential separation digital separation  Potential separation di	·	4
Potential separation digital inputs between the channels, in groups of Potential separation digital outputs Potential separation digital separation di		
between the channels, in groups of Potential separation digital outputs Potential separation digital outputs between the channels between the channels between the channels between the channels, in groups of  EMC  Interference immunity against discharge of static electricity Interference immunity against discharge of static electricity act. bit Ec flood-4-2 Test voltage at air discharge Test voltage at contact discharge First voltage at contact discharge Interference immunity to cable-borne interference Interference immunity to supply lines acc. to IEC 61000-4-4 Interference immunity on supply lines acc. to IEC 61000-4-4 Interference immunity against voltage surge Interference immunity against voltage surge Interference immunity against voltage surge Interference immunity against conducted variable disturbance induced by high-frequency fields Interference immunity against high-frequency radiation acc. to IEC 61000-4-5 Interference immunity against ligh-frequency radiation acc. to IEC 61000-4-6 Interference immunity against ligh-frequency radiation acc. to IEC 61000-4-5 Interference immunity against ligh-frequency radiation acc. to IEC 61000-4-6 Interference immunity against ligh-frequency radiation acc. to IEC 61000-4-6 Interference immunity against ligh-frequency radiation acc. to IEC 61000-4-6 Interference immunity against ligh-frequency radiation acc. to IEC 61000-4-6 Interference immunity against ligh-frequency radiation acc. to IEC 61000-4-6 Interference immunity against ligh-frequency radiation acc. to IEC 61000-4-6 Interference immunity against ligh-frequency radiation acc. to IEC 61000-4-6 Interference immunity against ligh-frequency radiation acc. to IEC 61000-4-6 Interference immunity against ligh-frequency radiation acc. to IEC 61000-4-6 Interference immunity against ligh-frequency radiation acc. to IEC 61000-4-6 Interference immunity against ligh-frequency radiation acc. to IEC 61000-4-6 Interference immunity against ligh-frequency radiation acc. to IEC 61000-4-6 Interference immunity against li	· · · · · · · · · · · · · · · · · · ·	
Potential separation digital outputs  Potential separation digital outputs Potential separation digital set of static electricity Potential separation digital set of static description Potential separati		
Potential separation digital outputs between the channels between the channels between the channels, in groups of between the channels, in groups of  EMC  Interference immunity against discharge of static electricity interference immunity against discharge of static electricity acc. to IEC 6 1000-4-2  — Test voltage at contact discharge — Test voltage at contact discharge 6 kV  Interference immunity to cable-borne interference interference immunity on supply lines acc. to IEC 61000-4-4 Interference immunity on signal cables acc. to IEC 61000-4-4 Interference immunity against voltage surge Ves Interference immunity against voltage surge Interference immunity against voltage surge Ves Interference immunity against voltage surge Ves Interference immunity against voltage variety radiation acc. to IEC 61000-4-6  Emission of radio interference acc. to EN 55 011  Eurission of radio interference acc. to EN 55 011  Ves: Group 1  Ves: Group 1  Ves: Group 1  Ves: When appropriate measures are used to ensure compliance with the limits for Class B according to EN 55011  Degree and class of protection IP degree of protect		1
between the channels between the channels, in groups of 2  EMC  Interference immunity against discharge of static electricity  Interference immunity against discharge of static electricity  Interference immunity against discharge of static electricity acc. to IEC 61000-4-2  — Test voltage at air discharge 6 kV  Interference immunity on supply lines acc. to IEC 61000-4-4  Interference immunity on signal cables acc. to IEC 61000-4-4  Interference immunity on signal cables acc. to IEC 61000-4-5  Interference immunity and signal stondage surge  Interference immunity against voltage surge  Interference immunity against voltage surge  Interference immunity against conducted variable disturbance induced by high-frequency fields  Interference immunity against sonducted 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  Interference and class of protection  IP degree of protection  IP degree of protection  IP 20  Standards, approvals, certificates  CE mark  Yes  FM approval  Yes  FM approval  Yes  KC approval  Yes  Ambient temperature during operation	· · · ·	
between the channels, in groups of  EMC  Interference immunity against discharge of static electricity     Interference immunity against discharge of static electricity acc. to IEC 61000-4-2     — Test voltage at air discharge		
Interference immunity against discharge of static electricity  Interference immunity against discharge of static electricity acc. to IEC 61000-4-2  — Test voltage at air discharge 6 kV  Interference immunity to cable-borne interference  Interference immunity on supply lines acc. to IEC 61000-4-4  Interference immunity on supply lines acc. to IEC 61000-4-4  Interference immunity on signal cables acc. to IEC 61000-4-4  Interference immunity against voltage surge  Interference immunity against injb-frequency radiation acc. to IEC 61000-4-5  Interference immunity against injb-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  Pes; Group 1  Limit class A, for use in residential areas  Pes; When appropriate measures are used to ensure compliance with the limits for Class B according to EN 55011  Pegree and class of protection  IP20  Standards, approvals, certificates  CE mark  Yes  CLUus  Yes  FM approval  Yes  RCM (formerly C-TICK)  Yes  KC approval  Yes  Ambient conditions  Free fall  Fall height, max.  O.3 m; five times, in product package		
Interference immunity against discharge of static electricity  Interference immunity against discharge of static electricity act to IEC 610004-2  — Test voltage at air discharge 6 kV  Interference immunity to cable-bome interference  Interference immunity on supply lines acc. to IEC 61000-4-4  Interference immunity on supply lines acc. to IEC 61000-4-4  Interference immunity against voltage surge  Interference immunity against high-frequency radiation acc. to IEC 61000-4-5  Interference immunity against high-frequency radiation acc. to IEC 61000-4-6  Emission of radio interference acc. to IEN 55 011  Elimit class A, for use in industrial areas  Yes; Group 1  Limit class B, for use in residential areas  Yes; When appropriate measures are used to ensure compliance with the limits for Class B according to EN 55011  Degree and class of protection  IP degree of pr		2
Interference immunity against discharge of static electricity acc. to IEC 61000-42  — Test voltage at air discharge		
electricity act. to IEC 61000-4-2  — Test voltage at air discharge — Test voltage at contact discharge — Test voltage at contact discharge 6 kV  Interference immunity to cable-borne interference  • Interference immunity on supply lines acc. to IEC 61000- 4-4  • Interference immunity against voltage surge • Interference immunity against voltage surge  • Interference immunity against voltage surge • Interference immunity against voltage surge • Interference immunity against voltage surge • 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 substitution 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 • Limit class B, for use in residential areas  • Limit class of protection  IP degree and class of protection  IP degree of protection  IP degree of protection  IP 20  Standards, approvals, certificates  CE mark  Yes  UL approval  Yes  FM approval  Yes  FM approval  Yes  RCM (formerty C-TICK)  Yes  Marine approval  Ambient conditions  Free fall  • Fall height, max.  Ambient temperature during operation	· · · · · · · · · · · · · · · · · · ·	
— Test voltage at air discharge — Test voltage at contact discharge — Test voltage at contact discharge — 6 kV — Test voltage at contact discharge — 6 kV — Test voltage at contact discharge — 6 kV — Test voltage at contact discharge — 6 kV — Test voltage at contact discharge — 6 kV — Test voltage at air discharge — 6 kV — Test voltage at air discharge — 6 kV — Test voltage at air discharge — 6 kV — Test voltage at air discharge — 6 kV — Test voltage at air discharge — 6 kV — Test voltage at air discharge — 6 kV — Test voltage at air discharge — 6 kV — Test voltage at air discharge — 6 kV — Test voltage at air discharge — 6 kV — Test voltage — 7 kes — Test voltage at air discharge — 7 kes — 7		Yes
Interference immunity to cable-borne interference  Interference immunity on supply lines acc. to IEC 61000- 4-4  Interference immunity on signal cables acc. to IEC 61000- 4-4  Interference immunity against voltage surge  Interference immunity against conducted variable disturbance induced by high-frequency fields  Interference immunity against high-frequency radiation acc. to IEC 61000- 4-5  Interference immunity against high-frequency radiation acc. to IEC 61000- 4-5  Interference immunity against high-frequency radiation acc. to IEC 61000- 4-5  Interference immunity against high-frequency radiation acc. to IEC 61000- 4-5  Interference immunity against high-frequency radiation acc. to IEC 61000- 4-5  Interference immunity against high-frequency radiation acc. to IEC 61000- 4-5  Interference immunity against high-frequency radiation acc. to IEC 61000- 4-5  Interference immunity against voltage acc. to IEC 61000- 4-5  Interference immunity against voltage acc. to IEC 61000- 4-5  Interference immunity against voltage acc. to IEC 61000- 4-5  Interference immunity against voltage acc. to IEC 61000- 4-5  Interference immunity against voltage acc. to IEC 61000- 4-5  Interference immunity against voltage acc. to IEC 61000- 4-5  Interference immunity against voltage acc. to IEC 61000- 4-5  Interference immunity against voltage acc. to IEC 61000- 4-5  Interference immunity against voltage acc. to IEC 61000- 4-5  Interference immunity against voltage acc. to IEC 61000- 4-5  Interference immunity against voltage acc. to IEC 61000- 4-5  Interference immunity against voltage acc. to IEC 61000- 4-5  Interference immunity against voltage acc. to IEC 61000- 4-5  Interference immunity against voltage acc. to IEC 61000- 4-5  Interference immunity against voltage acc. to IEC 61000- 4-8  Interference immunity against conducted voltage acc. to IEC 61000- 4-8  Interference immunity against conducted		8 kV
Interference immunity to cable-borne interference  Interference immunity on supply lines acc. to IEC 61000- 4-4  Interference immunity against voltage surge  Interference immunity against voltage surge  Interference immunity against voltage surge  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 tonducted 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  Yes; 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  IP20  Standards, approvals, certificates  CE mark  Yes  UL approval  Yes  CULus  Yes  RCM (formerly C-TICK)  Yes  RCM (formerly C-TICK)  Yes  Marine approval  Ambient conditions  Free fall  Fall height, max.  Ambient temperature during operation	-	
Interference immunity on supply lines acc. to IEC 61000- 4-4 Interference immunity against voltage surge  Interference immunity against voltage surge  Interference immunity against voltage surge  Interference immunity against conducted variable disturbance induced by high-frequency fields  Interference immunity against high-frequency radiation acc. to IEC 61000-4-5  Interference immunity against high-frequency radiation acc. to IEC 61000-4-6  Emission of radio interference acc. to EN 55 011  Limit class B, for use in industrial 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  IP degree of protection  IP 20  Standards, approvals, certificates  CE mark  Yes  UL approval  Yes  CLlus  Yes  FM approval  Yes  RCM (formerly C-TICK)  Yes  Marine approval  Yes  Ambient conditions  Free fall  Fall height, max.  Ambient temperature during operation		
Interference immunity on signal cables acc. to IEC 61000- 4-4  Interference immunity against voltage surge  Interference immunity against voltage surge  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  Yes; Group 1  Yes; When appropriate measures are used to ensure compliance with the limits for Class B according to EN 55011  Pegree and class of protection  IP degree of protection  IP20  Standards, approvals, certificates  CE mark  Yes  UL approval  Yes  CULus  Yes  FM approval  Yes  RCM (formerly C-TICK)  Yes  Marine approval  Yes  Marine approval  Yes  Ambient conditions  Free fall  Fall height, max.  O.3 m; five times, in product package		Yes
Interference immunity against voltage surge  Interference immunity on 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  Yes; 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  IP degree of protection  IP degree of protection  IP 20  Standards, approvals, certificates  CE mark  Yes  UL approval  Yes  CULus  Yes  FM approval  Yes  RCM (formerly C-TICK)  Yes  RCM (formerly C-TICK)  Yes  Marine approval  Yes  Ambient conditions  Free fall  Free fall  Fall height, max.  0.3 m; five times, in product package  Ambient temperature during operation		
Interference immunity against voltage surge  Interference immunity on 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  Yes; Group 1  Yes; When appropriate measures are used to ensure compliance with the limits for class B according to EN 55011  Pegree and class of protection  IP degree of protection  IP degree of protection  Ves  Lapproval, certificates  CE mark  Yes  CULus  Yes  FM approval  Yes  RCM (formerly C-TICK)  Yes  Marine approval  Yes  Marine approval  Ambient conditions  Free fall  Fall height, max.  O.3 m; five times, in product package  Ambient temperature during operation	, 0	Yes
Interference immunity on supply lines acc. to IEC 61000-4-5  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 Limit class B, for use in residential areas Limit class B, for use in residential areas Pes; 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 IP20  Standards, approvals, certificates CE mark Yes UL approval Yes CULus Yes FM approval Yes FM (formerly C-TICK) Yes KC approval Yes Marine approval Yes Ambient conditions Free fall Fall height, max. O.3 m; five times, in product package  Ambient temperature during operation		
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 Limit class B, for use in residential areas Pegree and class of protection IP degree of protection IP20  Standards, approvals, certificates CE mark Yes UL approval Ves CULus Yes FM approval Yes RCM (formerly C-TICK) Yes KC approval Ambient conditions Free fall Fall height, max. O.3 m; five times, in product package  Ambient temperature during operation	· · · · · ·	Van
● 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  Pegree and class of protection  IP degree of protection  IP degree of protection  IP20  Standards, approvals, certificates  CE mark  UL approval  CULus  FM approval  FM approval  FM (formerly C-TICK)  KC approval  Marine approval  Ambient conditions  Free fall  Fall height, max.  Ambient temperature during operation  Yes  Yes  Yes  Group 1  Yes; Group 1  Yes; When appropriate measures are used to ensure compliance with the limits for Class B according to EN 55011  Yes  Yes  Yes  Yes  Yes  UL approval  Yes  FM approval  Yes  GOULUS  Yes  Marine approval  Ambient temperature during operation		Yes
● 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  Pegree and class of protection  IP degree of protection  IP degree of protection  IP20  Standards, approvals, certificates  CE mark  UL approval  CULus  FM approval  FM approval  FM (formerly C-TICK)  KC approval  Marine approval  Ambient conditions  Free fall  Fall height, max.  Ambient temperature during operation  Yes  Yes  Yes  Group 1  Yes; Group 1  Yes; When appropriate measures are used to ensure compliance with the limits for Class B according to EN 55011  Yes  Yes  Yes  Yes  Yes  UL approval  Yes  FM approval  Yes  GOULUS  Yes  Marine approval  Ambient temperature during operation	Interference immunity against conducted variable disturbance indu	ced by high-frequency fields
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  Pegree and class of protection  IP degree of protection  IP20  Standards, approvals, certificates  CE mark  UL approval  CULus  Yes  FM approval  Yes  RCM (formerly C-TICK)  Yes  Marine approval  Yes  Ambient conditions  Free fall  Fall height, max.  Ambient temperature during operation  Yes; Group 1  Yes; When appropriate measures are used to ensure compliance with the limits for Class B according to EN 55011  Yes; When appropriate measures are used to ensure compliance with the limits for Class B according to EN 55011  Yes; When appropriate measures are used to ensure compliance with the limits for Class B according to EN 55011  Yes  Yes  Ves  UL approval  Yes  FM approval  Yes  Arbient temperature during operation		
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  IP degree of protection  IP20  Standards, approvals, certificates  CE mark  UL approval  Yes  UL us  FM approval  Yes  FM approval  Yes  RCM (formerly C-TICK)  Yes  KC approval  Arbient conditions  Free fall  Fall height, max.  O.3 m; five times, in product package  Ambient temperature during operation		
● Limit class B, for use in residential areas  Yes; When appropriate measures are used to ensure compliance with the limits for Class B according to EN 55011  Degree and class of protection  IP degree of protection  IP20  Standards, approvals, certificates  CE mark  UL approval  Yes  CULus  FM approval  Yes  RCM (formerly C-TICK)  Yes  KC approval  Arbient conditions  Free fall  ● Fall height, max.  O.3 m; five times, in product package	Emission of radio interference acc. to EN 55 011	
for Class B according to EN 55011  Degree and class of protection  IP degree of protection  Standards, approvals, certificates  CE mark  UL approval  cULus  FM approval  RCM (formerly C-TICK)  KC approval  Ambient conditions  Free fall  Fall height, max.  O.3 m; five times, in product package  Ambient temperature during operation	<ul> <li>Limit class A, for use in industrial areas</li> </ul>	Yes; Group 1
Degree and class of protection  IP degree of protection  Standards, approvals, certificates  CE mark  UL approval  CULus  FM approval  FM approval  FC approval  Yes  RCM (formerly C-TICK)  KC approval  Marine approval  Ambient conditions  Free fall  Fall height, max.  O.3 m; five times, in product package	<ul> <li>Limit class B, for use in residential areas</li> </ul>	
IP degree of protection  Standards, approvals, certificates  CE mark  UL approval  CULus  FM approval  FM approval  FC (formerly C-TICK)  KC approval  Marine approval  Ambient conditions  Free fall  Fall height, max.  O.3 m; five times, in product package	Dogwoo and close of nysteetien	IOI Class B according to EIN 350TT
Standards, approvals, certificates  CE mark  UL approval  Yes  CULus  FM approval  RCM (formerly C-TICK)  KC approval  Marine approval  Ambient conditions  Free fall  Fall height, max.  O.3 m; five times, in product package		IDOO
CE mark  UL approval  Yes  CULus  Yes  FM approval  RCM (formerly C-TICK)  Yes  KC approval  Yes  Marine approval  Ambient conditions  Free fall  Fall height, max.  O.3 m; five times, in product package	<u> </u>	IP2U
UL approval 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		
cULus  FM approval  FM approval  RCM (formerly C-TICK)  Yes  KC approval  Yes  Marine approval  Ambient conditions  Free fall  Fall height, max.  O.3 m; five times, in product package		
FM approval  RCM (formerly C-TICK)  Yes  KC approval  Yes  Marine approval  Ambient conditions  Free fall  Fall height, max.  O.3 m; five times, in product package	· ·	
RCM (formerly C-TICK)  Yes  KC approval  Yes  Marine approval  Ambient conditions  Free fall  • Fall height, max.  O.3 m; five times, in product package  Ambient temperature during operation		
KC approval  Marine approval  Ambient conditions  Free fall  • Fall height, max.  Ambient temperature during operation  Yes  Yes  O.3 m; five times, in product package	· ·	
Marine approval  Ambient conditions  Free fall  • Fall height, max.  Ambient temperature during operation  Yes  O.3 m; five times, in product package	· · · · · · · · · · · · · · · · · · ·	
Ambient conditions  Free fall  • Fall height, max.  Ambient temperature during operation  0.3 m; five times, in product package	· ·	
Free fall  • Fall height, max.  0.3 m; five times, in product package  Ambient temperature during operation		Yes
• Fall height, max.  0.3 m; five times, in product package  Ambient temperature during operation		
Ambient temperature during operation		
		0.3 m; five times, in product package
• min20 °C		00.00
	• min.	-20 °C

• max.	$60~^{\circ}\text{C}$ ; Number of simultaneously activated inputs or outputs 7 or 5 (no adjacent points) at 60 $^{\circ}\text{C}$ horizontal or 50 $^{\circ}\text{C}$ vertical, 14 or 10 at 55 $^{\circ}\text{C}$ horizontal or 45 $^{\circ}\text{C}$ vertical
<ul> <li>horizontal installation, min.</li> </ul>	-20 °C
<ul> <li>horizontal installation, max.</li> </ul>	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
Altitude during operation relating to sea level	
Installation altitude, min.	-1 000 m
Installation altitude, max.	5 000 m; Restrictions for installation altitudes > 2 000 m, see manual
Relative humidity	, , , , , , , , , , , , , , , , , , , ,
Operation, max.	95 %; no condensation
Vibrations	oo 78, 110 contactication
Vibration resistance during operation acc. to IEC 60068- 2-6	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 / header	
configuration / programming / header	
Programming language	
— LAD	Yes
— FBD	Yes
— SCL	Yes
Know-how protection	
<ul> <li>User program protection/password protection</li> </ul>	Yes
Copy protection	Yes
Block protection	Yes
Access protection	
<ul> <li>protection of confidential configuration data</li> </ul>	Yes
<ul> <li>Protection level: Write protection</li> </ul>	Yes
<ul> <li>Protection level: Read/write protection</li> </ul>	Yes
Protection level: Complete protection	Yes
programming / cycle time monitoring / header	
• adjustable	Yes
Dimensions	
Width	130 mm
Height	100 mm
Depth	75 mm
Weights	
Weight, approx.	550 g
<u> </u>	

last modified: 3/12/2024 🖸