## Data sheet



SIPLUS S7-1200 CPU 1215C AC/DC/relay -40...+70°C with conformal coating based on 6ES7215-1BG40-0XB0 . compact CPU, AC/DC/relay, 2 PROFINET Port,onboard I/O: 14 DI 24 VDC 10 DO relay 2 A 2 AI 0-10 VDC 2 AO 0-20 mA DC Power supply: 85-264V AC @ 47-63 Hz, Program/data memory 125 KB

General information	
Product type designation	CPU 1215C AC/DC/relay
Firmware version	V4.1
Engineering with	
Programming package	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	
• permissible range, lower limit	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

**PNAP** 

6AG1215-1BG40-2XB0

Encoder august.	
Encoder supply 24 V encoder supply	
• 24 V	20.4 to 28.8V
- 24 V	20.11.0 20.00
Power loss	
Power loss, typ.	12 W
Memory	
Work memory	
• integrated	100 kbyte
• expandable	No
Load memory	
• integrated	4 Mbyte
<ul> <li>Plug-in (SIMATIC Memory Card), max.</li> </ul>	with SIMATIC memory card
Backup	
• present	Yes; maintenance-free
<ul><li>without battery</li></ul>	Yes
ODU.	
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
tor noating point antimetic, typ.	2.3 µ3, / manucion
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	restriction, the entire working memory can be used
• Number, max.	Limited only by RAM for code
Number, max.	Elimica city by to an ior 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	
● Inputs, adjustable	1 kbyte
Outputs, adjustable	1 kbyte
Hardware configuration	
Number of modules per system, max.	3 communication modules, no signal board can be used, 8 signal
	modules
Time of day	
Clock	
Hardware clock (real-time)	Yes
\ /	



Backup time	480 h; Typical
• Deviation per day, max.	±60 s/month at 25 °C

Number of digital inputs  ● of which inputs usable for technological functions  Source/sink input  Yes  Number of simultaneously controllable inputs  all mounting positions  — up to 40 °C, max.  Input voltage  ● Rated value (DC)  ● for signal "0"  ● for signal "1"  Input delay (for rated value of input voltage)  for standard inputs	Digital inputs				
of which inputs usable for technological functions     Source/sink input     Number of simultaneously controllable inputs  all mounting positions     — up to 40 °C, max.     Input voltage      Rated value (DC)     of r signal °0"     of r signal °0"     of r signal °1"     of r si		14: Integrated			
functions  SourceSink input  Number of simultaneously controllable inputs all mounting positions  — up to 40 °C, max.  Input voltage  • Rated value (DC) • for signal "0" • for signal "1"  15 V DC at 1 mA • for signal "1"  Input delay (for rated value of input voltage)  for standard inputs  — parameterizable — parameterizable — at "0" to "1", min. — at "0" to "1", max.  for interrupt inputs — parameterizable  * Yes  for stechnological functions — parameterizable  * Yes  * Single phase : 3 at 100 kHz & 3 at 30 kHz, differential: 3 at 80 kHz & 3 at 30 kHz.  * United ength  • shielded, max. • unshielded, max. • unshielded, max.  • unshielded, max.  • unithread, max.  • unit					
Number of simultaneously controllable inputs  all mounting positions  — up to 40 °C, max.  Input voltage  • Rated value (DC) • for signal "0" • for signal "0" • for signal "1"  Input delay (for rated value of input voltage)  for standard inputs  — parameterizable — at "0" to "1", min. — at "0" to "1", max. — at "0" to "1", max.  for interrupt inputs — parameterizable  *Yes **One tenhological functions  — parameterizable  **One technological functions  — parameterizable  **One technological functions  **One technological f	-	, ( 5 1 6)			
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 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  • shielded, max. 500 m; 50 m for technological functions: No  Digital outputs  Number of digital outputs 10; Relays  Switching capacity of the outputs  • with resistive load, max. 30 W with DC, 200 VV with AC  Output delay with resistive load  • "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  • Number of relay outputs  • Number of perating cycles, max. mechanically 10 million, at rated load voltage 100 000	Source/sink input	Yes			
	Number of simultaneously controllable inputs				
Input voltage  • Rated value (DC) • for signal "0" • for signal "1"  parameterizable  — parameterizable  — parameterizable  — at "0" to "1", min.  — at "0" to "1", max.  for interrupt inputs  — parameterizable  Yes  for technological functions  — parameterizable  • shielded, max.  • unshielded, max.  • unshielded, max.  • unshielded, max.  • on lamp load, max.  • o''' to "1", max.  • "10" to "0", max.  Switching capacity of the outputs  • "0" to "1", max.  • "10" ms; max.  • "10" ms; max.  Switching frequency  • of the pulse outputs, with resistive load, max.  • Number of relay outputs  • Number of perating cycles, max.  10 mechanically 10 million, at rated load voltage 100 000	all mounting positions				
Rated value (DC)  for signal "0"  for signal "1"  15 V DC at 2.5 mA  Input delay (for rated value of input voltage)  for standard inputs	— up to 40 °C, max.	14			
For signal "0"	Input voltage				
for signal "1"	Rated value (DC)	24 V			
Input delay (for rated value of input voltage)  for standard inputs	● for signal "0"	5 V DC at 1 mA			
for standard inputs	• for signal "1"	15 V DC at 2.5 mA			
Personance experiments and 12.8 ms, selectable in groups of four  - at "0" to "1", min at "0" to "1", max.  12.8 ms  for interrupt inputs - parameterizable Personance experiments at 3 at 100 kHz & 3 at 30 kHz, differential: 3 at 80 kHz & 3 at 30 kHz.  Cable length Shielded, max. Unshielded,	Input delay (for rated value of input voltage)				
selectable in groups of four  - at "0" to "1", min at "0" to "1", max.  for interrupt inputs  - parameterizable 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  • shielded, max. • unshielded, max.  • unshielded, max.  Sou m; 50 m for technological functions: No  Digital outputs  Number of digital outputs  10; Relays  Switching capacity of the outputs  • with resistive load, max. • on lamp load, max.  • on lamp load, max.  10 ms; max.  • "1" to "0", max.  10 ms; max.  10 ms; max.  Switching frequency  • of the pulse outputs, with resistive load, max.  1 Hz  Relay outputs  • Number of operating cycles, max.  mechanically 10 million, at rated load voltage 100 000	for standard inputs				
selectable in groups of four  - at "0" to "1", min at "0" to "1", max.  12.8 ms  for interrupt inputs  - parameterizable 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  • shielded, max. • unshielded, max.  100 m; 50 m for technological functions  Number of digital outputs  10; Relays  Switching capacity of the outputs  • with resistive load, max. • on lamp load, max.  10 ms; max. • "1" to "0", max.  10 ms; max.  Switching frequency • of the pulse outputs, with resistive load, max.  10 ms; max.  Number of relay outputs, with resistive load, max.  10 ms; max.  10 ms; max.  10 ms; max.  10 ms; max.  Mild The pulse outputs, with resistive load, max.  10 ms; max.  11 Hz  Relay outputs  Number of relay outputs  Number of relay outputs  Number of operating cycles, max.  mechanically 10 million, at rated load voltage 100 000	— parameterizable	Yes; 0.2 ms, 0.4 ms, 0.8 ms, 1.6 ms, 3.2 ms, 6.4 ms and 12.8 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  • 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.  Switching frequency • of the pulse outputs, with resistive load, max. 1 Hz  Relay outputs  • Number of relay outputs • Number of operating cycles, max. mechanically 10 million, at rated load voltage 100 000	·	selectable in groups of four			
for interrupt inputs  — parameterizable 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  • shielded, max.  • unshielded, max.  500 m; 50 m for technological functions  • unshielded, max.  500 m; 50 m for technological functions  300 m; for technological functions: No  Digital outputs  Number of digital outputs  10; Relays  Switching capacity of the outputs  • with resistive load, max.  • on lamp load, max.  • on lamp load, 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  • Number of relay outputs  • Number of relay outputs  • Number of operating cycles, max.  mechanically 10 million, at rated load voltage 100 000	— at "0" to "1", min.	0.2 ms			
reparameterizable yes  for technological functions	— at "0" to "1", max.	12.8 ms			
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  • shielded, max.  • unshielded, max.  100 m; 50 m for technological functions  300 m; for technological functions: No  Digital outputs  Number of digital outputs  10; Relays  Switching capacity of the outputs  • with resistive load, max.  • on lamp load, max.  • on lamp load, 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  • Number of relay outputs  • Number of operating cycles, max.  mechanically 10 million, at rated load voltage 100 000	for interrupt inputs				
Parameterizable  Yes; Single phase: 3 at 100 kHz & 3 at 30 kHz, differential: 3 at 80 kHz & 3 at 30 kHz  Cable length  • shielded, max. • unshielded, max.  10; Relays  Switching capacity of the outputs  • with resistive load, max.  • on lamp load, max.  10 ms; max.  • "1" to "0", max.  • of the pulse outputs, with resistive load, max.  Switching frequency  • of the pulse outputs, with resistive load, max.  1 Hz  Relay outputs  Number of elay outputs  10  Number of operating cycles, max.  10  Number of operating cycles, max.  10  Mechanically 10 million, at rated load voltage 100 000	— parameterizable	Yes			
Cable length  • shielded, max. • unshielded, max.  • unshielded, max.  • unshielded, max.  • unshielded, max.  500 m; 50 m for technological functions: No  Digital outputs  Number of digital outputs  10; Relays  Switching capacity of the outputs  • with resistive load, max.  • on lamp load, max.  • on lamp load, max.  • "0" to "1", max.  • "1" to "0", max.  10 ms; max.  10 ms; max.  Switching frequency  • of the pulse outputs, with resistive load, max.  1 Hz  Relay outputs  • Number of relay outputs  • Number of operating cycles, max.  mechanically 10 million, at rated load voltage 100 000	for technological functions				
Cable length  • shielded, max.  • unshielded, max.  300 m; for technological functions: No  Digital outputs  Number of digital outputs  • with resistive load, max.  • on lamp load, max.  • on lamp load, max.  • "0" to "1", max.  • "1" to "0", max.  • "1" to "0", max.  Switching frequency  • of the pulse outputs, with resistive load, max.  • Number of relay outputs  • Number of operating cycles, max.  10 ms; max.  11 Hz  Relay outputs  Number of operating cycles, max.  10 ms; max.  10 ms; max.  10 ms; max.	— parameterizable	Yes; Single phase : 3 at 100 kHz & 3 at 30 kHz, differential: 3 at			
shielded, max.     unshielded, max.  Origital outputs  Number of digital outputs  10; Relays  2 A  on lamp load, max.  2 A  on lamp load, max.  10 ms; max.  10 ms; max.  10 ms; max.  Number of relay outputs, with resistive load, max.  11 Hz  Relay outputs  Number of operating cycles, max.  Number of operating cycles, max.  Number of operating cycles, max.  Number of number of operating cycles, max.  Number of operating cycles, max.  Number of relay outputs  Number of operating cycles, max.		80 kHz & 3 at 30 kHz			
unshielded, max.  300 m; for technological functions: No  Digital outputs  Number of digital outputs  Switching capacity of the outputs  • with resistive load, max.  • on lamp load, max.  • on lamp load, max.  10 ms; max.  • "1" to "0", max.  Switching frequency  • of the pulse outputs, with resistive load, max.  • Number of relay outputs  • Number of operating cycles, max.  300 m; for technological functions: No  10; Relays  2 A  30 W with DC, 200 W with AC  10 ms; max.  10 ms; max.  11 Hz  Relayoutputs  • Number of relay outputs  • Number of operating cycles, max.  10 ms; max.  11 Hz  Relayoutputs  • Number of operating cycles, max.  10 ms; max.	Cable length				
Digital outputs  Number of digital outputs  Switching capacity of the outputs  • with resistive load, max.  • on lamp load, max.  Output delay with resistive load  • "0" to "1", max.  • "1" to "0", max.  10 ms; max.  Switching frequency  • of the pulse outputs, with resistive load, max.  • Number of relay outputs  • Number of operating cycles, max.  10; Relays  10; Relays  10; Relays  10 ms; max.  11 ms; max.  12 ms; max.  13 ms; max.  14 ms; max.  15 ms; max.  16 ms; max.  17 ms; max.  18 mechanically 10 million, at rated load voltage 100 000	• shielded, max.	500 m; 50 m for technological functions			
Number of digital outputs  Switching capacity of the outputs  with resistive load, max. on lamp load, max.  "0" to "1", max. "1" to "0", max.  "1" to "0", max.  In ms; max.  The pulse outputs, with resistive load, max.  In ms; max.  In max.  In max.  In ms; max.  In max.  In max.  In ms; max.  In max	• unshielded, max.	300 m; for technological functions: No			
Number of digital outputs  Switching capacity of the outputs  with resistive load, max. on lamp load, max.  "0" to "1", max. "1" to "0", max.  "1" to "0", max.  In ms; max.  The pulse outputs, with resistive load, max.  In ms; max.  In max.  In max.  In ms; max.  In max.  In max.  In ms; max.  In max	Digital outputs				
<ul> <li>with resistive load, max.</li> <li>on lamp load, max.</li> <li>30 W with DC, 200 W with AC</li> </ul> Output delay with resistive load <ul> <li>"0" to "1", max.</li> <li>"1" to "0", max.</li> </ul> Switching frequency <ul> <li>of the pulse outputs, with resistive load, max.</li> </ul> Relay outputs <ul> <li>Number of relay outputs</li> <li>Number of operating cycles, max.</li> </ul> 10 <ul> <li>mechanically 10 million, at rated load voltage 100 000</li> </ul>		10; Relays			
on lamp load, max.  Output delay with resistive load      "0" to "1", max.     "1" to "0", max.  Switching frequency  of the pulse outputs, with resistive load, max.  Relay outputs  Number of relay outputs  Number of operating cycles, max.  30 W with DC, 200 W with AC  10 ms; max.  11 ms; max.  11 Hz  12 The control of the pulse outputs, with resistive load, max.  11 Hz  12 The control of the pulse outputs, with resistive load, max.  12 The control of the pulse outputs, with resistive load, max.  13 The control of the pulse outputs, with resistive load, max.  14 The control of the pulse outputs, with resistive load, max.  Minute of the pulse outputs outputs  of the pulse outputs, with resistive load, max.  mechanically 10 million, at rated load voltage 100 000	Switching capacity of the outputs				
Output delay with resistive load  • "0" to "1", max.  • "1" to "0", max.  10 ms; max.  10 ms; max.  Switching frequency  • of the pulse outputs, with resistive load, max.  1 Hz  Relay outputs  • Number of relay outputs  • Number of operating cycles, max.  mechanically 10 million, at rated load voltage 100 000	• with resistive load, max.	2 A			
<ul> <li>"0" to "1", max.</li> <li>"1" to "0", max.</li> <li>Switching frequency</li> <li>of the pulse outputs, with resistive load, max.</li> <li>1 Hz</li> <li>Relay outputs</li> <li>Number of relay outputs</li> <li>Number of operating cycles, max.</li> <li>mechanically 10 million, at rated load voltage 100 000</li> </ul>	● on lamp load, max.	30 W with DC, 200 W with AC			
<ul> <li>"1" to "0", max.</li> <li>Switching frequency</li> <li>of the pulse outputs, with resistive load, max.</li> <li>Relay outputs</li> <li>Number of relay outputs</li> <li>Number of operating cycles, max.</li> <li>mechanically 10 million, at rated load voltage 100 000</li> </ul>	Output delay with resistive load				
Switching frequency  • of the pulse outputs, with resistive load, max.  Relay outputs  • Number of relay outputs  • Number of operating cycles, max.  mechanically 10 million, at rated load voltage 100 000	• "0" to "1", max.	10 ms; max.			
of the pulse outputs, with resistive load, max.  Relay outputs      Number of relay outputs      Number of operating cycles, max.  1 Hz  10  mechanically 10 million, at rated load voltage 100 000	• "1" to "0", max.	10 ms; max.			
Relay outputs  • Number of relay outputs  • Number of operating cycles, max.  mechanically 10 million, at rated load voltage 100 000	Switching frequency				
<ul> <li>Number of relay outputs</li> <li>Number of operating cycles, max.</li> <li>mechanically 10 million, at rated load voltage 100 000</li> </ul>	• of the pulse outputs, with resistive load, max.	1 Hz			
• Number of operating cycles, max. mechanically 10 million, at rated load voltage 100 000	Relay outputs				
	Number of relay outputs	10			
Cable length	<ul> <li>Number of operating cycles, max.</li> </ul>	mechanically 10 million, at rated load voltage 100 000			
	Cable length				



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• shielded, max.	500 m
• unshielded, max.	150 m

Analog inputs	
Number of analog inputs	2
Input ranges	
<ul> <li>Voltage</li> </ul>	Yes
Input ranges (rated values), voltages	
• 0 to +10 V	Yes
<ul><li>— Input resistance (0 to 10 V)</li></ul>	≥100k ohms
Cable length	
• shielded, max.	100 m; twisted and shielded
Analog outputs	
No contract of a contract of	0

Analog outputs		
Number of a	nalog outputs	2
Output range	es, current	
• 0 to 20	) mA	Yes

Analog value genera	tion for the inputs
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In	tegrat	tion	and	conversion	time	resolu/	ution	per	channe	l
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Resolution with overrange (bit including sign), max.
 Integration time, parameterizable
 Conversion time (per channel)
 10 bit
 Yes
 625 µs

# Analog value generation for the outputs

## Integration and conversion time/resolution per channel

• Resolution with overrange (bit including sign), max.

10 bit

#### Encoder

#### Connectable encoders

• 2-wire sensor Yes

1. Interface	
Interface type	PROFINET
Isolated	Yes
automatic detection of transmission rate	Yes
Autonegotiation	Yes
Autocrossing	Yes
Interface types	
• RJ 45 (Ethernet)	Yes
Protocols	
PROFINET IO Controller	Yes
<ul> <li>PROFINET IO Device</li> </ul>	Yes; Also simultaneously with IO-Device functionality
PROFINET IO Controller	



Transmission rate, max.	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</li> </ul>	2
device, max.	
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
• ISO-on-TCP (RFC1006)	Yes
• UDP	Yes
Web server	
• supported	Yes
User-defined websites	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	
Number of configurable Traces	2; Up to 512 KB of data per trace are possible



Integrated Functions				
Number of counters	6			
Counting frequency (counter) max.	100 kHz			
Frequency measurement	Yes			
controlled positioning	Yes			
Number of position-controlled positioning axes, max.	8			
PID controller	Yes			
Number of alarm inputs	4			
·				
Potential separation				
Potential separation digital inputs				
<ul> <li>Potential separation digital inputs</li> </ul>	500V AC for 1 minute			
between the channels, in groups of	1			
Potential separation digital outputs				
<ul> <li>Potential separation digital outputs</li> </ul>	Relays			
<ul><li>between the channels</li></ul>	No			
<ul><li>between the channels, in groups of</li></ul>	2			
EMC				
Interference immunity against discharge of static electri	city			
<ul> <li>Interference immunity against discharge of</li> </ul>	Yes			
static electricity acc. to IEC 61000-4-2				
<ul> <li>Test voltage at air discharge</li> </ul>	8 kV			
<ul> <li>Test voltage at contact discharge</li> </ul>	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				
<ul> <li>Interference immunity on supply lines acc. to IEC 61000-4-5</li> </ul>	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				
IP degree of protection	IP20			
Ambient conditions				
Free fall				
● Fall height, max.	0.3 m; five times, in product package			



Ambient temperature during operation		
• min.	-40 °C; = Tmin (incl. condensation/frost); start-up @ -25 °C	
• max.	70 °C; = Tmax; Tmax > +55 °C number of simultaneously switched-on digital inputs 7, digital outputs 5, analog inputs 2, analog outputs 2 (no adjacent points) with horizontal mounting position; Tmax > +60 °C number of simultaneously switched-on digital inputs 7, digital outputs 5, analog inputs 1, analog outputs 1 (no adjacent points) with horizontal mounting position	
At cold restart, min.	-25 °C	
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	
<ul> <li>Ambient air temperature-barometric pressure- altitude</li> </ul>	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		
• 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	
Resistance		
Coolants and lubricants		
<ul> <li>Resistant to commercially available coolants and lubricants</li> </ul>	Yes; Incl. diesel and oil droplets in the air	
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); $^{\star}$	
<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); *	



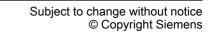
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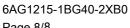
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<ul> <li>to mechanically active substances according to EN 60721-3-6</li> </ul>	Yes; Class 6S3 incl. sand, dust; *
Usage in industrial process technology	
<ul> <li>Against chemically active substances acc.</li> <li>to EN 60654-4</li> </ul>	Yes; Class 3 (excluding trichlorethylene)
<ul> <li>Environmental conditions for process, measuring and control systems acc. to ANSI/ISA-71.04</li> </ul>	Yes; Level GX group A/B (excluding trichlorethylene; harmful gas concentrations up to the limits of EN 60721-3-3 class 3C4 permissible); level LC3 (salt spray) and level LB3 (oil)
Remark	
<ul> <li>Note regarding classification of environmental conditions acc. to EN 60721, EN 60654-4 and ANSI/ISA-71.04</li> </ul>	* The supplied plug covers must remain in place over the unused interfaces during operation!
Conformal coating	
<ul> <li>Coatings for printed circuit board assemblies acc. to EN 61086</li> </ul>	Yes; Class 2 for high reliability
<ul> <li>Protection against fouling acc. to EN 60664-3</li> </ul>	Yes; Type 1 protection
<ul> <li>Military testing according to MIL-I-46058C, Amendment 7</li> </ul>	Yes; Discoloration of coating possible during service life
<ul> <li>Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A</li> </ul>	Yes; Conformal coating, Class A

Assemblies according to IPC-CC-830A	
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:	10/13/2020





**Ö PNAP**