## **SIEMENS**

## **Data sheet**



SIPLUS S7-1200 CPU 1214C AC/DC/relay based on 6ES7214-1BG40-0XB0 with conformal coating, -40...+70 °C, start up -25 °C, signal board: 0, compact CPU, AC/DC/relay, onboard I/O: 14 DI 24 V DC 10 DQ relay 2 A 2 AI 0-10 V DC, power supply: AC 85-264 V AC @ 47-63 Hz, program/data memory 100 KB

Product type designation	General information	
based on Engineering with  STEP 7 TIA Portal configurable/integrated from version  Supply voltage  Rated value (AC)  120 V AC  230 V AC  Permissible range, lower limit (AC)  Permissible range, upper limit (AC)  Pount consumption (rated value)  100 mA at 120 V AC; 50 mA at 240 V AC  Intuitions description (AC)  Pount consumption (rated value)  100 mA at 120 V AC; 50 mA at 240 V AC  Intuition (AC)  Pount consumption (rated value)  20 A; at 254 V  20 A to 28.8V  Power loss, typ.  14 W  Memory  Power loss, typ.  14 W  Memory  Power loss, typ.  14 W  Memory  Power loss, typ.  100 kbyte  Pulpy-incliniant (AC)  Poesent  Present  Pr	Product type designation	CPU 1214C AC/DC/relay
Engineering with	Firmware version	V4.1
STEP 7 TIA Portal configurable/integrated from version  Supply voltage  Rated value (AC)  • 120 V AC  • 230 V AC  permissible range, lower limit (AC)  permissible range, upper limit (AC)  permissible range, upper limit (AC)  permissible range, upper limit  • 23 Hz  Input current  Current consumption (rated value)  100 mA at 120 V AC; 50 mA at 240 V AC  Current consumption, max.  100 mA at 120 V AC; 150 mA at 240 V AC  Output current  • 1 600 mA; Max. 5 V DC for SM and CM  Encoder supply  • 24 V	based on	6ES7214-1BG40-0XB0
Rated value (AC)  • 120 V AC  • 230 V AC  • 230 V AC  permissible range, lower limit (AC)  permissible range, lower limit (AC)  permissible range, lower limit (AC)  • permissible range, lower limit (AC)  • permissible range, lower limit  63 Hz  Imput 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; 50 mA at 240 V AC  Inrush current, max.  20 A, at 264 V  Output current  for backplane bus (5 V DC), max.  1 600 mA; Max. 5 V DC for SM and CM  Encoder supply  24 V encoder supply  • 14 W  Memory  Work memory  • integrated  • Integrated  • Plug-in (SIMATIC Memory Card), max.  Backup  • present  • without battery  • yes  CPU processing times  for bit operations, typ.  0 .085 µs; / instruction  for word operations, typ.  1.7 µs; / instruction  for word operations, typ.  for floating point arithmetic, typ.  2.3 µs; / instruction	Engineering with	
Rated value (AC)  • 120 V AC  • 120 V AC  • 230 V AC  permissible range, lower limit (AC)  permissible range, upper limit (AC)  permissible range, upper limit (AC)  • 264 V  Line frequency  • permissible range, lower limit  • permissible range, lower limit  • permissible range, upper limit  • 31 Hz  • permissible range, upper limit  • 20 Na at 120 V AC; 50 mA at 240 V AC  Current consumption, max.  • 300 mA at 120 V AC; 50 mA at 240 V AC  Current consumption, max.  • 20 A; at 264 V  Output current  • 6r backplane bus (5 V DC), max.  • 1 600 mA; Max. 5 V DC for SM and CM  Encoder supply  • 24 V  • 20.4 to 28.8V  Power loss  Power loss, typ.  • 14 W  Memory  • Integrated  • Plug-in (SIMATIC Memory Card), max.  with SIMATIC memory card  Backup  • present  • without battery  • present  • without battery  • yes; maintenance-free  • without battery  • yes  CPU processing times  • for bit operations, typ.  • 1.7 ys; / instruction  for word operations, typ.  • 1.7 ys; / instruction  for word operations, typ.  • for floating point arithmetic, typ.  • 17 ys; / instruction	<ul> <li>STEP 7 TIA Portal configurable/integrated from version</li> </ul>	see entry ID: 109746275
• 120 V AC • 230 V AC • 230 V AC Pes • 230 V AC Pes  - 230 V AC Pes  - 230 V AC Pes  - 286 V	Supply voltage	
Permissible range, lower limit (AC)     Permissible range, upper limit (AC)     Permissible range, upper limit (AC)     Permissible range, lower limit     Permissible range, lower limit     Permissible range, lower limit     Permissible range, lower limit     Permissible range, upper limit     Permissible range, upper limit     Permissible range, upper limit     Permissible range, upper limit     Permissible range, lower limits     Permissible range, lower limits     Permissible range, lower limits     Permissible range, lower limits     Permissible range later     Permissible range later     Permissible range later     Permissible range later     Permissible range la	Rated value (AC)	
permissible range, lower limit (AC) 85 V permissible range, upper limit (AC) 264 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  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 100 kbyte  Load memory  • integrated 4 Mbyte  • Plug-in (SIMATIC Memory Card), max. 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. 2.3 µs; / instruction	• 120 V AC	Yes
permissible range, upper limit (AC) Line frequency  • permissible range, lower limit • permissible range, upper limit  Current  Current consumption (rated value)  Current consumption, max.  300 mA at 120 V AC; 50 mA at 240 V AC  Inrush current, max.  20 A; at 264 V  Output current  for backplane bus (6 V DC), max.  1 600 mA; Max. 5 V DC for SM and CM  Encoder supply 24 V encoder supply  224 V 20.4 to 28.8V  Power loss, typ.  Vork memory  • integrated  100 kbyte  Load memory  • integrated  4 Mbyte • Plug-in (SIMATIC Memory Card), max.  with SIMATIC memory card  akup  • present • yes; maintenance-free • without battery  CPU processing times  for word operations, typ.  for bot operations, typ.  1.7 µs; / instruction  for floating point arithmetic, typ.  2.3 µs; / instruction	• 230 V AC	Yes
Line frequency  • permissible range, lower limit • 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  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 A to 28 8V  Power loss  Power loss, typ. 14 W  Memory  wintegrated 100 kbyte  Load memory • integrated 100 kbyte  Load memory • integrated 4 Mbyte • Plug-in (SIMATIC Memory Card), max.  Backup • present • without battery  CPU processing times for bit operations, typ. 0.085 µs; / instruction for word operations, typ. 1.7 µs; / instruction for floating point arithmetic, typ. 100 mA at 240 V AC 10 ma at 240 V A	permissible range, lower limit (AC)	85 V
permissible range, lower limit proverse provided by the permissible range, upper limit  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  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 encoder supply 24 V encoder supply 24 V encoder supply  14 W  Memory  Work memory integrated 100 kbyte  Load memory integrated 4 Mbyte Plug-in (SIMATIC Memory Card), max.  Backup present present yes; maintenance-free without battery  CPU processing times for bit operations, typ. 1.7 µs; / instruction  for word operations, typ. 1.7 µs; / instruction  for floating point arithmetic, typ. 2.3 µs; / instruction	permissible range, upper limit (AC)	264 V
permissible range, upper limit  for backplane bus (5 V DC), max.  Involver loss  Power loss  Power loss, typ.  Integrated  Load memory  integrated  Plug-in (SIMATIC Memory Card), max.  Backup  present  present  prover loss  Prover lossent  prover lossent  present  present  prover lossent  prover lossent  present  present  present  prover lossent  present  present  present  present  prover lossent  present  prese	Line frequency	
Input current  Current consumption (rated value)  Current consumption, max.  300 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  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  Load memory  integrated  Plug-in (SIMATIC Memory Card), max.  Backup  present  present  present  yes; maintenance-free  without battery  CPU processing times  for bit operations, typ.  1.7 µs; / instruction  for word operations, typ.  1.7 µs; / instruction  for floating point arithmetic, typ.  2.3 µs; / instruction	<ul> <li>permissible range, lower limit</li> </ul>	47 Hz
Current consumption (rated value)  Current consumption, max.  300 mA at 120 V AC; 50 mA at 240 V AC  Inrush current, max.  20 A; at 264 V  Output current  for backplane bus (5 V DC), max.  1 600 mA; Max. 5 V DC for SM and CM  Encoder supply  24 V encoder supply  24 V encoder supply  • 24 V 20.4 to 28.8V  Power loss, typ.  Power loss, typ.  14 W  Memory  Work memory  • integrated  Load memory  • integrated  • Plug-in (SIMATIC Memory Card), max.  Backup  • present  • without battery  for bid operations, typ.  0.085 µs; / instruction  for floating point arithmetic, typ.  100 mA at 120 V AC; 50 mA at 240 V AC  300 mA at 120 V AC  4 W V  4 W  4 W  4 W  4 W  4 W  4 W  4	<ul> <li>permissible range, upper limit</li> </ul>	63 Hz
Current consumption, max.  Inrush current, max.  20 A; at 264 V  Output current  for backplane bus (6 V DC), max.  Incoder supply  24 V encoder supply  24 V encoder supply  24 V encoder supply  14 W  Power loss  Power loss, typ.  Work memory  integrated  Int	Input current	
Inrush current, max.  Output current  for backplane bus (5 V DC), max.  I 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  Power loss, typ.  14 W  Memory  Work memory  • integrated 100 kbyte  Load memory  • integrated 4 Mbyte  • Plug-in (SIMATIC Memory Card), max.  Backup  • present 4 yes; maintenance-free  • without battery  CPU processing times  for bit operations, typ.  0.085 µs; / instruction  for word operations, typ.  1.7 µs; / instruction  for floating point arithmetic, typ.  2.3 µs; / instruction	Current consumption (rated value)	100 mA at 120 V AC; 50 mA at 240 V AC
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, typ.       Power loss, typ.     14 W       Memory       Work memory     • integrated       Load memory     4 Mbyte       • Plug-in (SIMATIC Memory Card), max.     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.     2.3 μs; / instruction	Current consumption, max.	300 mA at 120 V AC; 150 mA at 240 V AC
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  Load memory  • integrated  • Plug-in (SIMATIC Memory Card), max.  Backup  • present  • without battery  CPU processing times  for bit operations, typ.  100 kbyte  100 kbyte  100 kbyte  4 Mbyte  • Plug-in (SIMATIC Memory Card), max.  With SIMATIC memory card  Yes; maintenance-free  • without battery  Yes  CPU processing times  for bit operations, typ.  1.7 µs; / instruction  for word operations, typ.  1.7 µs; / instruction  for floating point arithmetic, typ.  2.3 µs; / instruction	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, typ. 14 W  Memory  Work memory  integrated 100 kbyte  Load memory  integrated 4 Mbyte Plug-in (SIMATIC Memory Card), max. 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. 2.3 µs; / instruction	Output current	
24 V encoder supply  • 24 V 20.4 to 28.8V  Power loss, typ. 14 W  Memory  Work memory  • integrated 100 kbyte  Load memory  • integrated 4 Mbyte  • Plug-in (SIMATIC Memory Card), max. 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. 2.3 µs; / instruction	for backplane bus (5 V DC), max.	1 600 mA; Max. 5 V DC for SM and CM
• 24 V 20.4 to 28.8V  Power loss, typ. 14 W  Memory  Work memory  • integrated 100 kbyte  Load memory  • integrated 4 Mbyte  • Plug-in (SIMATIC Memory Card), max. 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. 2.3 µs; / instruction	Encoder supply	
Power loss, typ.  Power loss, typ.  14 W  Memory  Work memory  integrated  integrated  integrated  Plug-in (SIMATIC Memory Card), max.  Backup  present  present  with SIMATIC memory card  Yes; maintenance-free  without battery  Yes  CPU processing times  for bit operations, typ.  for word operations, typ.  for floating point arithmetic, typ.  14 W  W  W  Memory  100 kbyte  4 Mbyte  with SIMATIC memory card  Yes; maintenance-free  Yes; maintenance-free  Yes  CPU processing times  for bit operations, typ.  1.7 µs; / instruction  for word operations, typ.  1.7 µs; / instruction	24 V encoder supply	
Power loss, typ.  Memory  Work memory  integrated  Int	• 24 V	20.4 to 28.8V
Memory   Work memory <ul> <li>integrated</li> <li>integrated</li> <li>Plug-in (SIMATIC Memory Card), max.</li> </ul> 4 Mbyte <ul> <li>Plug-in (SIMATIC Memory Card), max.</li> </ul> Backup <ul> <li>present</li> <li>without battery</li> </ul> <ul> <li>CPU processing times</li> </ul> for bit operations, typ. 0.085 μs; / instruction   for word operations, typ. 1.7 μs; / instruction   for floating point arithmetic, typ. 2.3 μs; / instruction	Power loss	
Work memory	Power loss, typ.	14 W
<ul> <li>integrated</li> <li>Load memory</li> <li>integrated</li> <li>Plug-in (SIMATIC Memory Card), max.</li> <li>Backup</li> <li>present</li> <li>with SIMATIC memory card</li> <li>Backup</li> <li>present</li> <li>without battery</li> <li>Yes; maintenance-free</li> <li>without battery</li> <li>Yes</li> <li>CPU processing times</li> <li>for bit operations, typ.</li> <li>for word operations, typ.</li> <li>1.7 µs; / instruction</li> <li>for floating point arithmetic, typ.</li> <li>2.3 µs; / instruction</li> </ul>	Memory	
Load memory  integrated Plug-in (SIMATIC Memory Card), max.  Backup  present without battery  CPU processing times  for bit operations, typ. for word operations, typ.  for word operations, typ. for floating point arithmetic, typ.  4 Mbyte Without SIMATIC memory card  Yes; maintenance-free Yes; maintenance-free Yes  1.7 µs; / instruction  1.7 µs; / instruction  2.3 µs; / instruction	Work memory	
<ul> <li>integrated</li> <li>Plug-in (SIMATIC Memory Card), max.</li> <li>with SIMATIC memory card</li> </ul> Backup <ul> <li>present</li> <li>without battery</li> <li>Yes</li> </ul> CPU processing times <ul> <li>for bit operations, typ.</li> <li>for word operations, typ.</li> <li>for word operations, typ.</li> <li>1.7 µs; / instruction</li> <li>for floating point arithmetic, typ.</li> <li>2.3 µs; / instruction</li> </ul>	• integrated	100 kbyte
<ul> <li>Plug-in (SIMATIC Memory Card), max.</li> <li>Backup</li> <li>present</li> <li>with SIMATIC memory card</li> <li>Present</li> <li>without battery</li> <li>Yes; maintenance-free</li> <li>without battery</li> <li>CPU processing times</li> <li>for bit operations, typ.</li> <li>for word operations, typ.</li> <li>for word operations, typ.</li> <li>1.7 µs; / instruction</li> <li>for floating point arithmetic, typ.</li> <li>2.3 µs; / instruction</li> </ul>	Load memory	
Backup	• integrated	4 Mbyte
Present     Without battery     Yes; maintenance-free     Without battery      Yes  CPU processing times  for bit operations, typ.  for word operations, typ.  1.7 μs; / instruction  for floating point arithmetic, typ.  2.3 μs; / instruction	Plug-in (SIMATIC Memory Card), max.	with SIMATIC memory card
● without battery  CPU processing times  for bit operations, typ.  for word operations, typ.  1.7 μs; / instruction  for floating point arithmetic, typ.  2.3 μs; / instruction	Backup	
CPU processing times  for bit operations, typ.  for word operations, typ.  1.7 μs; / instruction  for floating point arithmetic, typ.  2.3 μs; / instruction	• present	Yes; maintenance-free
for bit operations, typ.  for word operations, typ.  for floating point arithmetic, typ.  0.085 μs; / instruction  1.7 μs; / instruction  2.3 μs; / instruction	<ul><li>without battery</li></ul>	Yes
for word operations, typ.  1.7 μs; / instruction  for floating point arithmetic, typ.  2.3 μs; / instruction	CPU processing times	
for floating point arithmetic, typ. 2.3 µs; / instruction	for bit operations, typ.	0.085 μs; / instruction
for floating point arithmetic, typ. 2.3 µs; / instruction	for word operations, typ.	1.7 µs; / instruction
CPU-blocks	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.	10 kbyte
Flag	·
• Size, max.	8 kbyte; Size of bit memory address area
Address area	
Process image	
Inputs, adjustable	1 kbyte
Outputs, adjustable	1 kbyte
Hardware configuration	1 Royte
Number of modules per system, max.	3 communication modules, no signal board can be used, 8 signal modules
	5 communication modules, no signal board can be used, o signal modules
Time of day	
Clock	
Hardware clock (real-time)	Yes
Backup time	480 h; Typical
Deviation per day, max.	60 s/month at 25 °C
Digital inputs	
Number of digital inputs	14; Integrated
of which inputs usable for technological 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	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	
• 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
or the pulse outputs, with resistive load, max.	1.11
Relay outputs	
Relay outputs	10
Number of relay outputs	10 mechanically 10 million, at rated load voltage 100 000
<ul><li>Number of relay outputs</li><li>Number of operating cycles, max.</li></ul>	10 mechanically 10 million, at rated load voltage 100 000
<ul> <li>Number of relay outputs</li> <li>Number of operating cycles, max.</li> </ul> Cable length	mechanically 10 million, at rated load voltage 100 000
<ul><li>Number of relay outputs</li><li>Number of operating cycles, max.</li></ul>	

Analog inputs	
Number of analog inputs	2
Input ranges	
• Voltage	Yes
Input ranges (rated values), voltages	
• 0 to +10 V	Yes
— Input resistance (0 to 10 V)	≥100k ohms
Cable length	
• shielded, max.	100 m; twisted and shielded
Analog outputs	
Number of analog outputs	0
Analog value generation for the inputs	
Integration and conversion time/resolution per channel	
Resolution with overrange (bit including sign), max.	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
Autonegotiation	Yes
Autocrossing	Yes
Interface types	
• RJ 45 (Ethernet)	Yes
Protocols	
PROFINET IO Controller	Yes
PROFINET IO Device	Yes; Also simultaneously with IO-Device functionality
PROFINET IO Controller	
Transmission rate, max.	100 Mbit/s
Services	
<ul> <li>Number of connectable IO Devices, max.</li> </ul>	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
PROFIsafe	No
PROFIBUS	Yes; CM 1243-5 required
AS-Interface	Yes
Protocols (Ethernet)	
• TCP/IP	Yes
,	
• TCP/IP	
TCP/IP Open IE communication	Yes
TCP/IP Open IE communication TCP/IP	Yes
TCP/IP Open IE communication TCP/IP ISO-on-TCP (RFC1006)	Yes Yes Yes
TCP/IP Open IE communication  TCP/IP ISO-on-TCP (RFC1006)  UDP	Yes Yes Yes
TCP/IP Open IE communication TCP/IP ISO-on-TCP (RFC1006) UDP Web server supported User-defined websites	Yes Yes Yes Yes
TCP/IP Open IE communication  TCP/IP ISO-on-TCP (RFC1006) UDP  Web server supported User-defined websites  Further protocols	Yes Yes Yes Yes Yes
TCP/IP Open IE communication  TCP/IP ISO-on-TCP (RFC1006) UDP Web server supported User-defined websites Further protocols MODBUS	Yes Yes Yes Yes Yes
TCP/IP Open IE communication  TCP/IP ISO-on-TCP (RFC1006) UDP  Web server supported User-defined websites  Further protocols	Yes Yes Yes Yes Yes Yes
TCP/IP Open IE communication  TCP/IP ISO-on-TCP (RFC1006) UDP Web server supported User-defined websites Further protocols MODBUS	Yes Yes Yes Yes Yes Yes
TCP/IP Open IE communication  TCP/IP ISO-on-TCP (RFC1006) UDP Web server supported User-defined websites Further protocols MODBUS communication functions / header	Yes Yes Yes Yes Yes Yes
TCP/IP Open IE communication  TCP/IP ISO-on-TCP (RFC1006) UDP Web server supported User-defined websites Further protocols MODBUS communication functions / header S7 communication	Yes Yes Yes Yes Yes Yes Yes Yes
TCP/IP Open IE communication  TCP/IP ISO-on-TCP (RFC1006) UDP Web server supported User-defined websites Further protocols MODBUS communication functions / header S7 communication supported	Yes Yes Yes Yes Yes Yes Yes Yes

• overall	16; dynamically
Test commissioning functions	
Status/control	
Status/control variable	Yes
Variables	Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters
Forcing	inputor outputo, monterly site, 225, and isotronic most, among countries
• Forcing	Yes
Diagnostic buffer	
• present	Yes
Traces	
Number of configurable Traces	2; Up to 512 KB of data per trace are possible
Integrated Functions	
Frequency measurement	Yes
controlled positioning	Yes
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
between the channels, in groups of	2
EMC	
Interference immunity against discharge of static electricity	
<ul> <li>Interference immunity against discharge of static electricity acc. to IEC 61000-4-2</li> </ul>	Yes
<ul> <li>Test voltage at air discharge</li> </ul>	8 kV
Test voltage at contact discharge	6 kV
Interference immunity to cable-borne interference	
<ul> <li>Interference immunity on supply lines acc. to IEC 61000- 4-4</li> </ul>	Yes
<ul> <li>Interference immunity on signal cables acc. to IEC 61000- 4-4</li> </ul>	Yes
Interference immunity against voltage surge	
<ul> <li>Interference immunity on supply lines acc. to IEC 61000-</li> </ul>	Yes
4-5	
Interference immunity against conducted variable disturbance indu	
<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 (no adjacent points) with horizontal mounting position; Tmax > +60 °C number of simultaneously switched-on digital inputs 7, digital outputs 5, analog inputs 1 (no adjacent points) with horizontal mounting position
At cold restart, min.	-25 °C
Ambient temperature during storage/transportation	40.00
• min.	-40 °C
• max.	70 °C
Altitude during operation relating to sea level	2 000 ***
<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	
With condensation, tested in accordance with IEC 60068-	100 %; RH incl. condensation/frost (no commissioning under condensation
2-38, max. Vibrations	conditions)
Vibrations     Vibration resistance during operation acc. to IEC 60068-	2 g (m/s²) wall mounting, 1 g (m/s²) DIN rail
2-6	2 g (III/S ) wall induffilling, 1 g (III/S ) DIN fall
Operation, tested according to IEC 60068-2-6	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); *
<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); $^{\star}$
<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. 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	
Coatings for printed circuit board assemblies acc. to EN 61086	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
configuration / header	
configuration / programming / header	
Programming language	
— LAD	Yes
— FBD	Yes
— SCL	Yes
programming / cycle time monitoring / header	
adjustable	Yes
Dimensions	
Width	110 mm
Height	100 mm
Depth	75 mm
Weights	
Weight, approx.	455 g
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