6AG1214-1BG40-2XB0

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 • 230 V AC permissible range, lower limit (AC) • permissible range, upper limit (AC) • permissible range, tower limit • permissible range, upper limit • promover to consumption, max. 20 0 at 120 V AC; 50 mA at 240 V AC Input 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 • 14 W Memory Work memory • integrated • Plug-in (SIMATIC Memory Card), max. Backup • Present • without battery • yes: maintenance-free • without battery Yes: maintenance-free • without battery CPU processing times for bit operations, typ. 1 7 ys; / instruction for word operations, typ. 1 7 ys; / instruction for floating point arithmetic, typ.	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 • 230 V AC permissible range, lower limit (AC) permissible range, upper limit (AC) permissible range, upper limit 47 Hz • permissible range, upper limit • permissible range, upper limit 63 Hz Input current Current consumption (rated value) Current consumption (rated value) Current consumption, max. 100 mA at 120 V AC; 50 mA at 240 V AC Current, max. 20 A; at 264 V Output current, max. 20 A; at 264 V Cutent consumption (rated value) 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. Memory Work memory • Integrated 100 kbyte Load memory • Integrated 100 kbyte Load memory • Integrated • Plug-in (SIMATIC Memory Card), max. Backup • present • yes; maintenance-free • without battery Yes CPU procossing times for bit operations, typ. for floating point arithmetic, typ. 2.3 µs; / instruction for floating point arithmetic, typ. 2.3 µs; / instruction	based on	6ES7214-1BG40-0XB0
Rated value (AC)	Engineering with	
Rated value (AC) • 120 V AC • 120 V AC • 230 V AC permissible range, lower limit (AC) permissible range, upper limit (AC) Line frequency • permissible range, lower limit (AC) permissible range, upper limit (AC) permissible range, upper limit (AC) Line frequency • permissible range, upper limit • permissible range, upper limit for lack part on sumption (rated value) Current consumption (rated value) Current consumption, max. 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 Linush current, max. 20 A; at 264 V Cutput 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 22 V 20.4 to 28.8V Power loss. Power loss, typ. 14 W Memory Work memory • Integrated 100 kbyte Load memory • Integrated 100 kbyte Load memory • Integrated 100 kbyte Backup • Present • Without battery Pes: maintenance-free • without battery Yes: maintenance-free • without battery Yes: maintenance-free • without battery Yes: maintenance-free • Without battery For U processing times for bit operations, typ. 1.7 µs; / instruction for word operations, typ. 1.7 µs; / instruction for word operations, typ. 1.7 µs; / instruction	 STEP 7 TIA Portal configurable/integrated from version 	see entry ID: 109746275
120 V AC 230 V AC Yes 230 V AC Yes Permissible range, lower limit (AC) Permissible range, lower limit (AC) Permissible range, upper limit (AC) Permissible range, upper limit (AC) Permissible range, lower limit Permissible range, upper limited, value Permissible range, value Permissible range, value Permissible range, upper limited, value Permissible range, va	Supply voltage	
230 V AC permissible range, lower limit (AC) permissible range, upper limit (AC) 264 V Line frequency • permissible range, lower limit 47 Hz • permissible range, lower limit 47 Hz • 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, typ. 14 W Memory • Integrated 100 kbyte Load memory • Integrated 100 kbyte Load memory • Integrated 4 Mbyte • Plug-in (SIMATIC Memory Card), max. Backup • present • yes; maintenance-free • without battery 7 Yes; maintenance-free • without battery 7 Yes; minternance-free • without battery 7 Typs; / Instruction for bot operations, typ. 1.7 yps; / Instruction for floating point arithmetic, typ. 1.7 yps; / Instruction for floating point arithmetic, typ. 2.3 yps; / Instruction	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) 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 (6 V DC), max. 1600 mA; Max. 5 V DC for SM and CM Encoder supply 24 V encoder supply 22 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 bid operations, typ. 0.085 µs; / instruction for word 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 20.4 to 28.8V Power loss. Power loss, typ. 14 W Memory • integrated 100 kbyte Load memory • integrated 100 kbyte Load memory • integrated 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. 1.30 µs; / instruction for floating point arithmetic, typ. 2.3 µs; / instruction	permissible range, lower limit (AC)	85 V
permissible range, lower limit provided the permissible range, upper limit provided value (and value) 100 mA at 120 V AC; 50 mA at 240 V AC Current consumption (rated value) 100 mA at 120 V AC; 150 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 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. for floating point arithmetic, typ. 2.3 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. Incoder supply 24 V encoder supply 24 V 20.4 to 28.8V Power loss Power loss, typ. Integrated Load memory integrated Load memory integrated Plug-in (SIMATIC Memory Card), max. Backup present prover loss Prover posent prover loss (Plug-in (SIMATIC Memory Card), max. Backup Prover loss Pour loss (Plug-in (SIMATIC Memory Card), max. Backup prover loss (Plug-in (SIMATIC Memory Card), max. Backup prover loss (Plug-in (SIMATIC Memory Card), max. Backup prover loss (Plug-in (SIMATIC Memory Card), max. prove	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 encoder supply • 24 V 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 • 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	 permissible range, lower limit 	47 Hz
Current consumption (rated value) Current consumption, max. 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. Backup • present • without battery Yes; maintenance-free • without battery for bid operations, typ. 0.085 µs; / instruction for word operations, typ. 1.7 µs; / instruction for floating point arithmetic, typ. 20.4 to 28.8V Power loss 1 600 mA; Max. 5 V DC for SM and CM Encoder supply 20.4 to 28.8V Power loss, typ. 4 W W 8 With SIMATIC Memory card 9 Ves; maintenance-free 9 Ves; maintenance-free 10 Ves; maintenance-free 10 Ves; mintruction 1.7 µs; / instruction	 permissible range, upper limit 	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 • 24 V 20.4 to 28.8V Power loss Power loss, typ. Work memory • integrated Industrial to the supply • integrated Industrial to the supply • integrated Industrial to the supple t	Input current	
Inrush current, max. 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. Backup • present • without battery Yes; maintenance-free • without battery 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 20.4 to 28.8V Power loss, typ. Power loss, typ. Work memory ● integrated 100 kbyte Load memory 4 Mbyte ● Plug-in (SIMATIC Memory Card), max. with SIMATIC memory card Backup Present ● 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 Yes; maintenance-free • without battery For bit operations, typ. 1.7 µs; / instruction for word operations, typ. 1.3 µs; / instruction 1.4 µs; / instruction 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 224 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 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 Power loss, typ. 14 W Memory Work memory integrated look byte Load memory integrated Plug-in (SIMATIC Memory Card), max. Backup present present with out battery Yes; maintenance-free without battery Yes CPU processing times for bit operations, typ. for word operations, typ. for floating point arithmetic, typ. 14 W MW WH WH WH WH WH WH WH WH W	24 V encoder supply	
Power loss, typ. Memory Work memory integrated loo kbyte Load memory integrated Plug-in (SIMATIC Memory Card), max. Backup present present without battery Yes; maintenance-free without battery Yes CPU processing times for bit operations, typ. for word operations, typ. for floating point arithmetic, typ. 14 W With With With With With With With With	• 24 V	20.4 to 28.8V
Memory ● integrated 100 kbyte Load memory 4 Mbyte ● Plug-in (SIMATIC Memory Card), max. with SIMATIC memory card Backup Yes; maintenance-free ● without battery Yes CPU processing times Yes 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
integrated Load memory • integrated	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 4 Mbyte 4 Mbyte 9 Without SIMATIC memory card 9 Wes; maintenance-free 9 Without battery 1 Yes CPU processing times 1.7 µs; / instruction 1.7 µs; / instruction 2.3 µs; / instruction	Work memory	
 integrated Plug-in (SIMATIC Memory Card), max. Backup present with SIMATIC memory card Present 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 	• integrated	100 kbyte
 Plug-in (SIMATIC Memory Card), max. Backup present with SIMATIC memory card Present without battery Yes CPU processing times for bit operations, typ. for word operations, typ. for word operations, typ. for floating point arithmetic, typ. with SIMATIC memory card Yes CPU processing times for bit operations, typ. 1.7 µs; / instruction for floating point arithmetic, typ. 2.3 µs; / instruction 	Load memory	
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	• integrated	4 Mbyte
Present 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. $0.085 \mu s; / instruction$ for word operations, typ. $1.7 \mu s; / instruction$ for floating point arithmetic, typ. $2.3 \mu s; / instruction$	 without battery 	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		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 hoyte
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.	1.116
Relay outputs	
Relay outputs	10
Number of relay outputs	10 mechanically 10 million, at rated load voltage 100 000
Number of relay outputsNumber of operating cycles, max.	10 mechanically 10 million, at rated load voltage 100 000
 Number of relay outputs Number of operating cycles, max. Cable length	mechanically 10 million, at rated load voltage 100 000
Number of relay outputsNumber of operating cycles, max.	

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	L TOOK OTHIS
• shielded, max.	100 m; twisted and shielded
Analog outputs	100 m, twisted and similated
Number of analog outputs	0
Analog value generation for the inputs	
Integration and conversion time/resolution per channel	10 bit
Resolution with overrange (bit including sign), max.	Yes
Integration time, parameterizable Conversion time (per channel)	
Conversion time (per channel)	625 μs
Encoder	
Connectable encoders	Voc
2-wire sensor	Yes
1. Interface	PROFINET
Interface type	PROFINET
Isolated	Yes
automatic detection of transmission rate	Yes
Autonegotiation	Yes
Autocrossing	Yes
Interface types	V
RJ 45 (Ethernet)	Yes
Protocols	V
PROFINET IO Controller	Yes
PROFINET IO Device	Yes; Also simultaneously with IO-Device functionality
PROFINET IO Controller	400 AH 111
Transmission rate, max.	100 Mbit/s
Services	40
Number of connectable IO Devices, max.	16
PROFINET IO Device	
Services	V
Services — Shared device	Yes
Services — Shared device — Number of IO Controllers with shared device, max.	Yes 2
Services — Shared device — Number of IO Controllers with shared device, max. Protocols	2
Services — Shared device — Number of IO Controllers with shared device, max. Protocols Supports protocol for PROFINET IO	2 Yes
Services — Shared device — Number of IO Controllers with shared device, max. Protocols Supports protocol for PROFINET IO PROFIsafe	Yes No
Services — Shared device — Number of IO Controllers with shared device, max. Protocols Supports protocol for PROFINET IO PROFIsafe PROFIBUS	Yes No Yes; CM 1243-5 required
Services — Shared device — Number of IO Controllers with shared device, max. Protocols Supports protocol for PROFINET IO PROFISafe PROFIBUS AS-Interface	Yes No
Services — Shared device — Number of IO Controllers with shared device, max. Protocols Supports protocol for PROFINET IO PROFIsafe PROFIBUS AS-Interface Protocols (Ethernet)	Yes No Yes; CM 1243-5 required Yes
Services — Shared device — Number of IO Controllers with shared device, max. Protocols Supports protocol for PROFINET IO PROFIsafe PROFIBUS AS-Interface Protocols (Ethernet) • TCP/IP	Yes No Yes; CM 1243-5 required
Services — Shared device — Number of IO Controllers with shared device, max. Protocols Supports protocol for PROFINET IO PROFIsafe PROFIBUS AS-Interface Protocols (Ethernet) • TCP/IP Open IE communication	Yes No Yes; CM 1243-5 required Yes Yes
Services — Shared device — Number of IO Controllers with shared device, max. Protocols Supports protocol for PROFINET IO PROFIsafe PROFIBUS AS-Interface Protocols (Ethernet) • TCP/IP Open IE communication • TCP/IP	Yes No Yes; CM 1243-5 required Yes Yes
Services — Shared device — Number of IO Controllers with shared device, max. Protocols Supports protocol for PROFINET IO PROFIsafe PROFIBUS AS-Interface Protocols (Ethernet) • TCP/IP Open IE communication • TCP/IP • ISO-on-TCP (RFC1006)	Yes No Yes; CM 1243-5 required Yes Yes Yes
Services — Shared device — Number of IO Controllers with shared device, max. Protocols Supports protocol for PROFINET IO PROFIsafe PROFIBUS AS-Interface Protocols (Ethernet) • TCP/IP Open IE communication • TCP/IP • ISO-on-TCP (RFC1006) • UDP	Yes No Yes; CM 1243-5 required Yes Yes
Services — Shared device — Number of IO Controllers with shared device, max. Protocols Supports protocol for PROFINET IO PROFIsafe PROFIBUS AS-Interface Protocols (Ethernet) • TCP/IP Open IE communication • TCP/IP • ISO-on-TCP (RFC1006) • UDP Web server	Yes No Yes; CM 1243-5 required Yes Yes Yes Yes Yes Yes
Services — Shared device — Number of IO Controllers with shared device, max. Protocols Supports protocol for PROFINET IO PROFIsafe PROFIBUS AS-Interface Protocols (Ethernet) • TCP/IP Open IE communication • TCP/IP • ISO-on-TCP (RFC1006) • UDP Web server • supported	Yes No Yes; CM 1243-5 required Yes Yes Yes Yes Yes Yes Yes
Services — Shared device — Number of IO Controllers with shared device, max. Protocols Supports protocol for PROFINET IO PROFIsafe PROFIBUS AS-Interface Protocols (Ethernet) • TCP/IP Open IE communication • TCP/IP • ISO-on-TCP (RFC1006) • UDP Web server • supported • User-defined websites	Yes No Yes; CM 1243-5 required Yes Yes Yes Yes Yes Yes
Services — Shared device — Number of IO Controllers with shared device, max. Protocols Supports protocol for PROFINET IO PROFISATE PROFIBUS AS-Interface Protocols (Ethernet) • TCP/IP Open IE communication • TCP/IP • ISO-on-TCP (RFC1006) • UDP Web server • supported • User-defined websites Further protocols	Yes No Yes; CM 1243-5 required Yes Yes Yes Yes Yes Yes Yes Ye
Services — Shared device — Number of IO Controllers with shared device, max. Protocols Supports protocol for PROFINET IO PROFISAGE PROFIBUS AS-Interface Protocols (Ethernet) • TCP/IP Open IE communication • TCP/IP • ISO-on-TCP (RFC1006) • UDP Web server • supported • User-defined websites Further protocols • MODBUS	Yes No Yes; CM 1243-5 required Yes Yes Yes Yes Yes Yes Yes
Services — Shared device — Number of IO Controllers with shared device, max. Protocols Supports protocol for PROFINET IO PROFIsafe PROFIBUS AS-Interface Protocols (Ethernet) • 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 No Yes; CM 1243-5 required Yes Yes Yes Yes Yes Yes Yes Ye
Services — Shared device — Number of IO Controllers with shared device, max. Protocols Supports protocol for PROFINET IO PROFIsafe PROFIBUS AS-Interface Protocols (Ethernet) • 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 No Yes; CM 1243-5 required Yes Yes Yes Yes Yes Yes Yes Ye
Services — Shared device — Number of IO Controllers with shared device, max. Protocols Supports protocol for PROFINET IO PROFIsafe PROFIBUS AS-Interface Protocols (Ethernet) • TCP/IP Open IE communication • TCP/IP • ISO-on-TCP (RFC1006) • UDP Web server • supported • User-defined websites Further protocols • MODBUS communication • supported	Yes No Yes; CM 1243-5 required Yes Yes Yes Yes Yes Yes Yes Ye
Services — Shared device — Number of IO Controllers with shared device, max. Protocols Supports protocol for PROFINET IO PROFISAGE PROFIBUS AS-Interface Protocols (Ethernet) • TCP/IP Open IE communication • TCP/IP • ISO-on-TCP (RFC1006) • UDP Web server • supported • User-defined websites Further protocols • MODBUS communication • supported	Yes No Yes; CM 1243-5 required Yes Yes Yes Yes Yes Yes Yes Ye
Services — Shared device — Number of IO Controllers with shared device, max. Protocols Supports protocol for PROFINET IO PROFIsafe PROFIBUS AS-Interface Protocols (Ethernet) • TCP/IP Open IE communication • TCP/IP • ISO-on-TCP (RFC1006) • UDP Web server • supported • User-defined websites Further protocols • MODBUS communication • supported	Yes No Yes; CM 1243-5 required Yes Yes Yes Yes Yes Yes Yes Ye

• 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	
Counter	
 Number of counters 	6
Counting frequency, max.	100 kHz
Frequency measurement	Yes
controlled positioning	Yes
PID controller	Yes
Number of alarm inputs	4
Potential separation	
Potential separation digital inputs	
Potential separation digital inputs	500V AC for 1 minute
between the channels, in groups of	1
Potential separation digital outputs	
Potential separation digital outputs	Relays
between the channels	No
between the channels, in groups of	2
EMC	
Interference immunity against discharge of static electricity	V
 Interference immunity against discharge of static electricity acc. to IEC 61000-4-2 	Yes
Test voltage at air discharge	8 kV
Test voltage at contact discharge	6 kV
Interference immunity to cable-borne interference	
• Interference immunity on supply lines acc. to IEC 61000-4-4	Yes
• Interference immunity on signal cables acc. to IEC 61000- 4-4	Yes
Interference immunity against voltage surge	
 Interference immunity on supply lines acc. to IEC 61000- 4-5 	Yes
Interference immunity against conducted variable disturbance indu	
Interference immunity against high-frequency radiation acc. to IEC 61000-4-6	Yes
Emission of radio interference acc. to EN 55 011	Vesi Creun 4
Limit class A, for use in industrial areas Limit class B, for use in recidential 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	40.00 T. I. (I. I. I
 min. max.	-40 °C; = Tmin (incl. condensation/frost); start-up @ -25 °C 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	
• min.	-40 °C

a may	70 °C
max. Altitude during operation relating to sea level	70 °C
Installation altitude above sea level, max.	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- 2-38, max. 	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)
Vibrations	
 Vibration resistance during operation acc. to IEC 60068- 2-6 	2 g (m/s²) wall mounting, 1 g (m/s²) DIN rail
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	Vest had discal and all drawlets in the six
Resistant to commercially available coolants and lubricants	Yes; Incl. diesel and oil droplets in the air
Use in stationary industrial systems — to biologically active substances according to EN	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna);
— to bloogically active substances according to EN 60721-3-3 — to chemically active substances according to EN	Class 3B3 on request Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity
60721-3-3	degree 3); * Yes; Class 3S4 incl. sand, dust, *
 to mechanically active substances according to EN 60721-3-3 	i es, Gidss 304 iiidi. saiiu, uust,
Use on ships/at sea	
 to biologically active substances according to EN 60721-3-6 	Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request
 to chemically active substances according to EN 60721-3-6 	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
 to mechanically active substances according to EN 60721-3-6 	Yes; Class 6S3 incl. sand, dust; *
Usage in industrial process technology	
 Against chemically active substances acc. to EN 60654-4 	Yes; Class 3 (excluding trichlorethylene)
 Environmental conditions for process, measuring and control systems acc. to ANSI/ISA-71.04 	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	
 Note regarding classification of environmental conditions acc. to EN 60721, EN 60654-4 and ANSI/ISA-71.04 	* 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
 Protection against fouling acc. to EN 60664-3 	Yes; Type 1 protection
• Military testing according to MIL-I-46058C, Amendment 7	Yes; Discoloration of coating possible during service life
 Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC- CC-830A 	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	ASS o
Weight, approx. last modified:	455 g
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