SIEMENS

Data sheet

6AG1214-1BG40-4XB0



SIPLUS S7-1200 CPU 1214C AC/DC/relay based on 6ES7214-1BG40-0XB0 with conformal coating, -20...+60 °C, 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

Figure similar

General Information Product type designation CPU 1214C AC/DC/relay Firmware version V4.1 based on 6ES2124-1BC40-0XB0 Engineering with * • STEP 7 TIA Portal configurable/integrated from version see entry ID: 109746275 Supply voltage * Rated value (AC) Yes • 120 V AC Yes • 230 V AC Yes permissible range, lower limit (AC) 264 V Line frequency * • permissible range, upper limit (AC) 264 V Current consumption (rated value) 100 mA at 120 V AC; 50 mA at 240 V AC; Current consumption (rated value) 100 mA at 120 V AC; 50 mA at 240 V AC; Current consumption, max. 20 A at 264 V Unput current * for 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 100 kbyte Load		
Firmware version V4.1 based on 6E52214.1BC40-0XB0 Engineering with see entry ID: 109746275 Supply voltage see entry ID: 109746275 Rated value (AC) (AC) • 120 V AC Yes • 230 V AC Yes permissible range, upper limit (AC) 264 V Line frequency 264 V Uhr for backplane barrier (AC) 264 V Line frequency 264 V Uhr for backplane barrier (AC) 264 V Line frequency 00 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 Insush current, max. 20 A; at 264 V Output current for backplane bus (5 V DC), max. for backplane bus (5 V DC), max. 1600 mA; Max. 5 V DC for SM and CM Encoder supply 24 V 24 V 20.4 to 28.8V Power loss 100 kbyte Vers integrated 100 kbyte Load memory 100 kbyte • integrated 100 kbyte • Prog-in (SIMATIC Memory Card), max. with SIMATIC memory card • present Yes • Procesing times Yes 6PU proces	General information	
based on GESZ214-1BC40-0X8Q Engineering with see entry ID: 109746275 Supply voitage Rated value (AC) • STEP 7 TIA Portal configurable/integrated from version see entry ID: 109746275 Rated value (AC) Yes • 230 V AC Yes permissible range, lower limit (AC) 26 V Line frequency • • permissible range, lower limit 47 Hz • permissible range, upper limit 63 Hz Input current Current consumption (rated value) Current consumption, max. 200 mA at 120 V AC; 150 mA at 240 V AC Current consumption, max. 200 mA at 120 V AC; 150 mA at 240 V AC Current consumption, 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 4 Mbyte • Prover loss, typ. Yes; mainte		
Engineering with • STEP 7 TIA Portal configurable/integrated from version Supply voltage Supply voltage Rated value (AC) • 120 V AC • 230 V AC permissible range, lower limit (AC) 285 V permissible range, lower limit (AC) 286 V Line frequency • permissible range, lower limit 40 HT • permissible range, lower limit 63 Hz Input current Current consumption (rated value) 100 mA at 120 V AC; 50 mA at 240 V AC Current consumption, max. 20 A; at 284 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 Vence loss Power loss, typ. Power loss, typ. • integrated 100 kbyte Load memory • integrated • present • without battery Yes; maintenance-free • without battery Yes; mai		
• STEP 7 TIA Portal configurable/integrated from version see entry ID: 109746275 Supply voltage Pression Rated value (AC) Yes • 220 V AC Yes permissible range, uover limit (AC) 268 V permissible range, uover limit (AC) 264 V Line frequency 47 Hz • permissible range, uover limit 40 Hz Current consumption (rated value) 100 mA at 120 V AC; 50 mA at 240 V AC Current torsumption max. 20 A; at 264 V Output current 1 for backplane bus (5 VDC), max. 1 # Ave code supply 24 V 24 V encoder supply 20.4 to 28.8V Power loss, typ.	based on	6ES7214-1BG40-0XB0
Stupply voltage Rated value (AC) • 120 V AC • 120 V AC permissible range, lower limit (AC) permissible range, upper limit (AC) 284 V Line frequency • permissible range, upper 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. 00 uppt current for backplane bus (6 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. 4 Work memory • integrated 100 kbyte Load memory • integrated • Prosent loss, typ. • losset • present • present • present • with SIMATIC Memory Card), max. with SIMATIC Memory Card), max. <tr< td=""><td></td><td></td></tr<>		
Rated value (AC) Yes • 120 V AC Yes • 220 V AC Yes permissible range, lower limit (AC) 85 V permissible range, upper limit (AC) 264 V Line frequency 47 Hz • permissible range, upper limit 63 Hz Input current 00 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 244 V Output current 100 mA; Max. 5 V DC for SM and CM Encoder supply 24 V 24 V encoder supply 20.4 to 28.8V Power loss Power loss, typ. Power loss, typ. 14 W Memory • integrated • integrated 100 kbyte Load memory • with SIMATIC Memory Card), max. • present Yes; maintenance-free • without battery Yes CPU processing times 0.005 µs; / instruction for bit operations, typ. 1.7 µs; / instruction		see entry ID: 109746275
• 120 V AC Yes • 230 V AC Yes permissible range, lower limit (AC) 85 V permissible range, upper limit (AC) 264 V Line frequency 63 Hz • permissible range, upper limit 63 Hz Input current 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 00 mA, inx. 5 V DC for SM and CM Encoder supply 24 V • 24 V 20.4 to 28.8V Power loss, typ. 14 W Memory 100 kbyte • integrated 100 kbyte Load memory 4 Mbyte • integrated 100 kbyte Load memory 4 Mbyte • integrated 4 Mbyte • present Yes; maintenance-free • without battery Yes CPU processing times Yes; / instruction	Supply voltage	
• 230 V AC Yes 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) 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 61 BZ for backplane bus (5 V DC), max. 1600 mA; Max. 5 V DC for SM and CM Encoder supply 24 V 24 V encoder supply 20.4 to 28.8V Power loss, typ. 14 W Memory • integrated 100 kbyte Load memory 4 Mbyte • integrated 4 Mbyte • present Yes; maintenance-free • without battery Yes CPU processing times for bit.joperations, typ.	Rated value (AC)	
permissible range, lower limit (AC) 85 V permissible range, upper limit (AC) 264 V Line frequency 47 Hz • permissible range, upper limit 63 Hz Input current 60 mA at 120 V AC; 50 mA at 240 V AC Current consumption (rated value) 100 mA at 120 V AC; 50 mA at 240 V AC Current consumption, max. 20 Ar at 264 V Output current 300 mA at 120 V AC; 150 mA at 240 V AC Inrush current, max. 20 Ar, at 264 V Output current 7 for 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, typ. 14 W Memory - • Integrated 100 kbyte Load 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 - • Processing times - • Ord operations, typ. 0.085 µs; / instruction for bit operations, typ. 0.085 µs; / instruction	• 120 V AC	Yes
permissible range, upper limit (AC) 264 V Line frequency 264 V • permissible range, lower limit 47 Hz • permissible range, upper limit 63 Hz Input current 63 Hz 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 67 backplane bus (5 V DC), max. for backplane bus (5 V DC), max. 1 600 mA; Max. 5 V DC for SM and CM Encoder supply 24 V 24 V encoder supply 20.4 to 28.8V Power loss Power loss, typ. Power loss, typ. 14 W Memory . • integrated 100 kbyte Load memory . • integrated 100 kbyte Load memory . • integrated 4 Mbyte • present Yes; maintenance-free • without battery Yes Coder supplice . • processing times Yes; / instruction for bit operations, typ. 0.085 µs; / instruction	• 230 V AC	Yes
Line frequency • permissible range, lower limit 47 Hz • permissible range, upper limit 63 Hz Input current 63 Hz 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 1 600 mA; Max. 5 V DC for SM and CM Encoder supply 24 V encoder supply 24 V encoder supply 20.4 to 28.8V Power loss, typ. 14 W Memory integrated integrated 100 kbyte Load memory • • present Yes; maintenance-free • without battery Yes CPU processing times 7 mstruction for bid operations, typ. 0.085 µs; / instruction	permissible range, lower limit (AC)	85 V
• permissible range, lower limit 47 Hz • permissible range, upper limit 63 Hz Input current 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 700 mA; Max. 5 V DC for SM and CM For backplane bus (5 V DC), max. 1 600 mA; Max. 5 V DC for SM and CM Encoder supply 20.4 to 28.8V • 24 V 20.4 to 28.8V Power loss 1 Power loss, typ. 14 W Memory 100 kbyte • integrated 100 kbyte Load memory 100 kbyte • integrated 100 kbyte Plug-in (SIMATIC Memory Card), max. with SIMATIC memory card • integrated 4 Mbyte • present Yes; maintenance-free • without battery Yes CPU processing times 0.085 µs; / instruction for bit operations, typ. 0.885 µs; / instruction	permissible range, upper limit (AC)	264 V
• 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; 50 mA at 240 V AC Current consumption, 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 Power loss Power loss, typ. 14 W Memory Vork memory integrated 100 kbyte Load memory integrated 100 kbyte vithout battery Yes; maintenance-free vithout battery Yes CPU processing times for bit operations, typ. 1.7 µs; / instruction 1.7 µs; / instruction	Line frequency	
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. Encoder supply 24 V encoder supply • 24 V Power loss, typ. Power loss, typ. Vork memory • integrated • integrated • plug-in (SIMATIC Memory Card), max. • present • without battery Yes; maintenance-free • without battery Yes; CPU processing times for bit operations, typ.	permissible range, lower limit	47 Hz
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 1600 mA; Max. 5 V DC for SM and CM Encoder supply 20.4 to 28.8V Power loss 9 Power loss, typ. 14 W Memory 100 kbyte Load memory 100 kbyte e integrated 100 kbyte Load memory 4 Mbyte • present Yes; maintenance-free • without battery Yes CPU processing times 0.085 µs; / instruction for bit operations, typ. 1.7 µs; / instruction	permissible range, upper limit	63 Hz
Current consumption, max.300 mA at 120 V AC; 150 mA at 240 V ACInrush current, max.20 A; at 264 VOutput currentImage: constraint of the second seco	Input current	
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 20.4 to 28.8V Power loss, typ. 14 W Memory 100 kbyte • integrated 100 kbyte Load memory 4 Mbyte • integrated 4 Mbyte • Plug-in (SIMATIC Memory Card), max. with SIMATIC memory card Backup Yes; maintenance-free • present Yes; maintenance-free • without battery Yes CPU processing times 0.085 µs; / instruction for bit operations, typ. 1.7 µs; / instruction	Current consumption (rated value)	100 mA at 120 V AC; 50 mA at 240 V AC
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 20.4 to 28.8V Power loss 20.4 to 28.8V Power loss, typ. 14 W Memory 100 kbyte Vork memory 100 kbyte • integrated 100 kbyte Load memory 4 Mbyte • Plug-in (SIMATIC Memory Card), max. with SIMATIC memory card Backup Yes; maintenance-free • present Yes; maintenance-free • without battery Yes CPU processing times 0.085 µs; / instruction for bit operations, typ. 0.74 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 24 V encoder supply 20.4 to 28.8V Power loss Power loss, typ. Power loss, typ. 14 W Memory Vork memory • integrated 100 kbyte Load memory • integrated • integrated 4 Mbyte • Plug-in (SIMATIC Memory Card), max. with SIMATIC memory card • present Yes; maintenance-free • without battery Yes CPU processing times 0.085 µs; / instruction for bit operations, typ. 1.7 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 • Integrated • Plug-in (SIMATIC Memory Card), max. with SIMATIC memory card Backup • present • without battery 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	Output current	
24 V encoder supply 20.4 to 28.8V Power loss 14 W Memory 14 W Work memory 00 kbyte Load memory 4 Mbyte • 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 0.085 µs; / instruction for bit operations, typ. 1.7 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 14 W Memory 14 W Work memory 00 kbyte • integrated 100 kbyte Load memory 4 Mbyte • integrated 4 Mbyte • Plug-in (SIMATIC Memory Card), max. with SIMATIC memory card • present Yes; maintenance-free • without battery Yes CPU processing times 0.085 μs; / instruction for bit operations, typ. 1.7 μs; / instruction	Encoder supply	
Power loss Power loss, typ. 14 W Memory Memory Work memory integrated integrated 100 kbyte Load memory 4 Mbyte e integrated 4 Mbyte or Plug-in (SIMATIC Memory Card), max. with SIMATIC memory card Backup Ves; maintenance-free • without battery Yes CPU processing times 0.085 μs; / instruction for bit operations, typ. 1.7 μs; / instruction	24 V encoder supply	
Power loss, typ. 14 W Memory Memory • integrated 100 kbyte Load memory 100 kbyte • integrated 4 Mbyte • Plug-in (SIMATIC Memory Card), max. with SIMATIC memory card Backup • present • without battery Yes; maintenance-free • without battery Yes CPU processing times 0.085 μs; / instruction for bit operations, typ. 1.7 μs; / instruction	• 24 V	20.4 to 28.8V
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 0.085 μs; / instruction for bit operations, typ. 1.7 μs; / instruction	Power loss	
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 0.085 μs; / instruction for bit operations, typ. 1.7 μs; / instruction	Power loss, typ.	14 W
• 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		
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	Work memory	
• integrated 4 Mbyte • Plug-in (SIMATIC Memory Card), max. with SIMATIC memory card Backup	integrated	100 kbyte
• 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	Load memory	
Backup Yes; maintenance-free • present Yes; maintenance-free • without battery Yes CPU processing times for bit operations, typ. for word operations, typ. 0.085 µs; / instruction for word operations, typ. 1.7 µs; / instruction	integrated	4 Mbyte
• present Yes; maintenance-free • without battery Yes CPU processing times CPU processing times for bit operations, typ. 0.085 μs; / instruction for word operations, typ. 1.7 μs; / instruction	• Plug-in (SIMATIC Memory Card), max.	with SIMATIC memory card
• without battery Yes CPU processing times for bit operations, typ. 0.085 μs; / instruction for word operations, typ. 1.7 μs; / instruction	Backup	
CPU processing times for bit operations, typ. 0.085 µs; / instruction for word operations, typ. 1.7 µs; / instruction	• present	Yes; maintenance-free
for bit operations, typ. 0.085 μs; / instruction for word operations, typ. 1.7 μs; / instruction	without battery	Yes
for bit operations, typ. 0.085 μs; / instruction for word operations, typ. 1.7 μs; / instruction	CPU processing times	
for word operations, typ. 1.7 µs; / instruction		0.085 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
OB	memory can be used
Number, max.	Limited only by PAM for code
Data areas and their retentivity	Limited only by RAM for code
	40 lbs to
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	
Number of modules per system, max.	3 comm. modules, 1 signal board, 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
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
	12.0 1115
for interrupt inputs	Van
— 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	10
Number of operating cycles, max.	mechanically 10 million, at rated load voltage 100 000
Cable length	
• shielded, max.	500 m
, -	

• unshielded, max.	150 m
Analog inputs	
Number of analog inputs	2
Input ranges	-
Voltage	Yes
Input ranges (rated values), voltages	
• 0 to +10 V	Yes
— Input resistance (0 to 10 V)	≥100k ohms
Cable length	
• shielded, max.	100 m; twisted and shielded
Analog outputs	
Number of analog outputs	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	
	PROFINET
Interface type Isolated	Yes
automatic detection of transmission rate	Yes
Autonegotiation	Yes
Autoregoliation	Yes
Interface types	
	Yes
RJ 45 (Ethernet) Protocols	
PROFINET IO Controller	Yes
PROFINET IO Device	Yes; Also simultaneously with IO-Device functionality
	res, Also simulateously with to-bevice functionality
PROFINET IO Controller	100 Mbit/s
Transmission rate, max.	100 Mbit/s
Transmission rate, max. Services	
 Transmission rate, max. Services — Number of connectable IO Devices, max. 	100 Mbit/s 16
Transmission rate, max. Services — Number of connectable IO Devices, max. PROFINET IO Device	
Transmission rate, max. Services — Number of connectable IO Devices, max. PROFINET IO Device Services	16
Transmission rate, max. Services — Number of connectable IO Devices, max. PROFINET IO Device Services — Shared device	16 Yes
Transmission rate, max. Services — Number of connectable IO Devices, max. PROFINET IO Device Services — Shared device — Number of IO Controllers with shared device, max.	16
Transmission rate, max. Services — Number of connectable IO Devices, max. PROFINET IO Device Services — Shared device — Number of IO Controllers with shared device, max. Protocols	16 Yes 2
Transmission rate, max. Services — Number of connectable IO Devices, max. PROFINET IO Device Services — Shared device — Number of IO Controllers with shared device, max. Protocols Supports protocol for PROFINET IO	16 Yes 2 Yes
Transmission rate, max. Services — Number of connectable IO Devices, max. PROFINET IO Device Services — Shared device — Number of IO Controllers with shared device, max. Protocols Supports protocol for PROFINET IO PROFIsafe	16 Yes 2 Yes No
Transmission rate, max. Services — Number of connectable IO Devices, max. PROFINET IO Device Services — Shared device — Number of IO Controllers with shared device, max. Protocols Supports protocol for PROFINET IO PROFIsafe PROFIBUS	16 Yes 2 Yes No Yes; CM 1243-5 required
Transmission rate, max. Services — Number of connectable IO Devices, max. PROFINET IO Device Services — Shared device — Number of IO Controllers with shared device, max. Protocols Supports protocol for PROFINET IO PROFIsafe PROFIBUS AS-Interface	16 Yes 2 Yes No
Transmission rate, max. Services — Number of connectable IO Devices, max. PROFINET IO Device Services — Shared device — Number of IO Controllers with shared device, max. Protocols Supports protocol for PROFINET IO PROFIBUS AS-Interface Protocols (Ethernet)	16 Yes 2 Yes No Yes; CM 1243-5 required Yes
Transmission rate, max. Services — Number of connectable IO Devices, max. PROFINET IO Device 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	16 Yes 2 Yes No Yes; CM 1243-5 required
Transmission rate, max. Services — Number of connectable IO Devices, max. PROFINET IO Device 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	16 Yes 2 Yes No Yes; CM 1243-5 required Yes Yes
Transmission rate, max. Services — Number of connectable IO Devices, max. PROFINET IO Device 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	16 Yes 2 Yes No Yes; CM 1243-5 required Yes Yes
Transmission rate, max. Services — Number of connectable IO Devices, max. PROFINET IO Device 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)	16 Yes 2 Yes No Yes; CM 1243-5 required Yes Yes
 Transmission rate, max. Services Number of connectable IO Devices, max. PROFINET IO Device Services Services Shared device Number of IO Controllers with shared device, max. Protocols Supports protocol for PROFINET IO PROFIBUS AS-Interface Protocols (Ethernet) TCP/IP Open IE communication TCP/IP ISO-on-TCP (RFC1006) UDP 	16 Yes 2 Yes No Yes; CM 1243-5 required Yes Yes
 Transmission rate, max. Services Number of connectable IO Devices, max. PROFINET IO Device Services Services Supports 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 	16 Yes 2 Yes No Yes; CM 1243-5 required Yes Yes Yes
 Transmission rate, max. Services Number of connectable IO Devices, max. PROFINET IO Device Services 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 	16 Yes 2 Yes No Yes; CM 1243-5 required Yes Yes Yes
 Transmission rate, max. Services Number of connectable IO Devices, max. PROFINET IO Device Services 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 	16 Yes 2 Yes No Yes; CM 1243-5 required Yes Yes Yes
 Transmission rate, max. Services Number of connectable IO Devices, max. PROFINET IO Device 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 	16 Yes 2 Yes No Yes; CM 1243-5 required Yes Yes Yes Yes Yes
 Transmission rate, max. Services Number of connectable IO Devices, max. PROFINET IO Device Services 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 	16 Yes 2 Yes No Yes; CM 1243-5 required Yes Yes Yes
 Transmission rate, max. Services Number of connectable IO Devices, max. PROFINET IO Device Services Services Shared device Number of IO Controllers with shared device, max. Protocols Supports protocol for PROFINET IO 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 	16 Yes 2 Yes No Yes; CM 1243-5 required Yes Yes Yes Yes Yes
 Transmission rate, max. Services Number of connectable IO Devices, max. PROFINET IO Device Services Services Shared device Number of IO Controllers with shared device, max. Protocols Supports protocol for PROFINET IO 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 	16 Yes 2 Yes No Yes; CM 1243-5 required Yes Yes Yes Yes Yes Yes Yes
 Transmission rate, max. Services Number of connectable IO Devices, max. PROFINET IO Device Services Shared device Number of IO Controllers with shared device, max. Protocols Supports protocol for PROFINET IO 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 S7 communication supported supported supported 	16 Yes 2 Yes No Yes; CM 1243-5 required Yes Yes Yes Yes Yes Yes Yes
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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	
Counter	
Number of counters	6
 Counting frequency, max. 	100 kHz
Frequency measurement	Yes
controlled positioning	Yes
Number of position-controlled positioning axes, max.	8
Number of positioning axes via pulse-direction interface	Up to 4 with SB 1222
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	
 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	Vee
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	Very Group 4
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 Ambient conditions	IP20
Free fall	
	0.3 m; five times, in product package
 Fall height, max. Ambient temperature during operation 	0.3 m; five times, in product package
min.	-20 °C; = Tmin (incl. condensation/frost); start-up @ 0 °C
• max.	60 °C; = Tmax
 At cold restart, min. 	0°0
At cold restart, min. Ambient temperature during storage/transportation	0 °C
 At cold restart, min. Ambient temperature during storage/transportation min. 	0 °C -40 °C

● max.	70 °C
Altitude during operation relating to sea level	
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/s ²) wall mounting, 1 g (m/s ²) DIN rail
Operation, tested according to IEC 60068-2-6	Yes
Shock testing	Very IEO 00, Dert 0.07 helf sizes store still af the sheak 4E s (seek using)
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 — Resistant to commercially available coolants and	Yes; Incl. diesel and oil droplets in the air
lubricants	
Use in stationary industrial systems	
 — to biologically active substances according to EN 60721-3-3 	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request
 — to chemically active substances according to EN 60721-3-3 	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *
 — to mechanically active substances according to EN 60721-3-3 	Yes; Class 3S4 incl. sand, dust, *
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 Weights	75 mm
Weights Weight, approx.	455 g
last modified:	455 g 5/29/2024 🔽