6AG1215-1HG40-5XB0

Data sheet



SIPLUS S7-1200 CPU 1215C DC/DC/relay based on 6ES7215-1HG40-0XB0 with conformal coating, -40...+60 °C, start up -25 °C, compact CPU, DC/DC/relay, 2 PROFINET ports, onboard I/O: 14 DI 24 V DC; 10 DQ relay 2 A; 2 AI 0-10 V DC, power supply: DC 20.4-28.8 V DC, program/data memory 125 KB

Figure similar

Product type designation	General information	
Engineering with STEP 7 TIA Portal configurable/integrated from version Supply voltage Rated value (DC) 24 V DC permissible range, lower limit (DC) 20.4 V permissible range, lower limit (DC) 20.4 V permissible range, lower limit (DC) 24 V OC permissible range, lower limit (DC) 25.8 V Load voltage L+ Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) permissible range, uper limit (DC) permissible range	Product type designation	CPU 1215C DC/DC/relay
• STEP 7 TIA Portal configurable/integrated from version Supply voltage Rated value (DC) • 24 V DC Yes permissible range, lower limit (DC) • permissible range, upper limit (DC) • permissible range, lower limit (DC) • permissible range, uper limit (DC) • permissible range lower limit (DC) • permissible range lower limit (DC) • permissible range lower lower lower lower lower lower lower lower lower l	Firmware version	V4.1
Version Supply voltage Rated value (DC) • 24 V DC permissible range, lower limit (DC) • 28.8 V Load voltage L+ • Rated value (DC) • permissible range, ower limit (DC) • permissible range, upper limit (DC) • pour consumption (rated value) Current consumption, max. 1 500 mA; CPU only Current consumption, max. 1 500 mA; CPU only 24 V act 28.8 V DC Encoder supply • 24 V	Engineering with	
Rated value (DC) • 24 V DC permissible range, lower limit (DC) permissible range, upper limit (DC) 28.8 V Load voltage L+ • Rated value (DC) • permissible range, lower limit (DC) permissible range, upper limit (DC) • permissible range, lower limit (DC) • permissible range, lower limit (DC) • permissible range, upper limit (DC) per	version	see entry ID: 109746275
• 24 V DC Yes permissible range, lower limit (DC) 20.4 V permissible range, upper limit (DC) 28.8 V Load voltage L + • Rated value (DC) 24 V • permissible range, lower limit (DC) 5 V • permissible range, upper limit (DC) 250 V Input current Current consumption (rated value) 500 mA; CPU only Current consumption, max. 1 500 mA; CPU with all expansion modules Inrush current, max. 12 A; at 28.8 V DC Encoder supply • 24 V L+ minus 4 V DC min. Power loss Power loss Power loss, typ. 12 W Memory Work memory • integrated 100 kbyte • expandable No 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.	Supply voltage	
permissible range, lower limit (DC) permissible range, upper limit (DC) Lad voltage L+ Rated value (DC) permissible range, lower limit (DC) permissible range, lower limit (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) permissible ra	Rated value (DC)	
permissible range, upper limit (DC) Load voltage L+ • Rated value (DC) • permissible range, lower limit (DC) • permissible range, lower limit (DC) • permissible range, upper limit (DC) • permissible range, upper limit (DC) permissible range, upper limit (DC) permissible range, upper limit (DC) 250 V Input current Current consumption (rated value) Current consumption (rated value) 500 mA; CPU only Current consumption, max. 1 500 mA; CPU with all expansion modules Inrush current, max. 12 A; at 28.8 V DC Encoder supply 24 V encoder supply • 24 V L+ minus 4 V DC min. Power loss Power loss, typ. 12 W Memory • integrated • cypandable No Load memory • integrated • Plug-in (SIMATIC Memory Card), max. Backup • present • present • present • without battery for bit operations, typ. 0.085 µs; / instruction 1.7 µs; / instruction	• 24 V DC	Yes
Load voltage L+ Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) permissible range, upper limit (DC) Input current Current consumption (rated value) Current consumption, max. 1 500 mA; CPU only Current consumption, max. 1 2 A; at 28.8 V DC Encoder supply 24 V encoder supply 24 V encoder supply 24 V b L+ minus 4 V DC min. Power loss Power loss, typ. 12 W Memory Work memory integrated expandable No Load memory integrated Plug-in (SIMATIC Memory Card), max. Backup present present present present present processing times for bit operations, typ. 0.085 µs; / instruction for word operations, typ. 0.085 µs; / instruction 1.7 µs; / instruction	permissible range, lower limit (DC)	20.4 V
 Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) 250 V Input current Current consumption (rated value) 500 mA; CPU only Current consumption, max. 1 500 mA; CPU with all expansion modules Inrush current, max. 12 A; at 28.8 V DC Encoder supply 24 V encoder supply 24 V L+ minus 4 V DC min. Power loss Power loss, typ. 12 W Memory Work memory integrated expandable No Load memory integrated Plug-in (SIMATIC Memory Card), max. Backup present yes; maintenance-free without battery CPU processing times for bit operations, typ. 1.7 μs; / instruction for bot operations, typ. 0.085 μs; / instruction 1.7 μs; / instruction	permissible range, upper limit (DC)	28.8 V
• permissible range, lower limit (DC) • permissible range, upper limit (DC) • permissible range, upper limit (DC) Input current Current consumption (rated value) Current consumption, max. 1 500 mA; CPU only Current consumption, max. 1 500 mA; CPU with all expansion modules Inrush current, max. 12 A; at 28.8 V DC Encoder supply 24 V encoder supply 24 V encoder supply 29 V L+ minus 4 V DC min. Power loss Power loss, typ. 12 W Memory Work memory integrated expandable No Load memory integrated Plug-in (SIMATIC Memory Card), max. Backup present with out battery Yes; maintenance-free without battery CPU processing times for bit operations, typ. 1.7 µs; / instruction 1.7 µs; / instruction	Load voltage L+	
permissible range, upper limit (DC) Input current Current consumption (rated value) Current consumption, max. Inrush current, max. Inrush current, max. 12 A; at 28.8 V DC Encoder supply 24 V encoder supply 24 V L+ minus 4 V DC min. Power loss Power loss, typ. 12 W Memory Work memory integrated expandable No Load memory integrated Plug-in (SIMATIC Memory Card), max. Backup present processing times for bit operations, typ. 100 MBy instruction	Rated value (DC)	24 V
Input current Current consumption (rated value) Current consumption, max. Inrush current, max. Inrush curre	 permissible range, lower limit (DC) 	5 V
Current consumption (rated value) Current consumption, max. Inrush current, max. Inru	 permissible range, upper limit (DC) 	250 V
Current consumption, max. Inrush current, max. 1 2 A; at 28.8 V DC Encoder supply 24 V encoder supply • 24 V L+ minus 4 V DC min. Power loss Power loss, typ. 12 W Memory Work memory • integrated • expandable Load memory • integrated • Plug-in (SIMATIC Memory Card), max. Backup • present • without battery CPU processing times for bit operations, typ. 1 500 mA; CPU with all expansion modules 1 2 A; at 28.8 V DC L+ minus 4 V DC min. 1 2 W Memory At W DC min. 1 2 W Memory 4 W Memory 4 W Myte • expandable Vesymantable 4 Mbyte • Plug-in (SIMATIC Memory Card), max. With SIMATIC memory card Backup • present • without battery Yes CPU processing times for bit operations, typ. 1.7 µs; / instruction 1.7 µs; / instruction	Input current	
Inrush current, max. Encoder supply 24 V encoder supply • 24 V	Current consumption (rated value)	500 mA; CPU only
Encoder supply 24 V encoder supply 24 V L+ minus 4 V DC min. Power loss Power loss, typ. 12 W Memory Work memory integrated expandable No 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 1.7 µs; / instruction	Current consumption, max.	1 500 mA; CPU with all expansion modules
24 V encoder supply 24 V L+ minus 4 V DC min. Power loss Power loss, typ. 12 W Memory Work memory integrated 100 kbyte expandable No 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 1.7 µs; / instruction	Inrush current, max.	12 A; at 28.8 V DC
L+ minus 4 V DC min. Power loss Power loss, typ. 12 W Memory Work memory integrated expandable No Load memory integrated Plug-in (SIMATIC Memory Card), max. Backup present vithout battery Yes; maintenance-free without battery Yes CPU processing times for bit operations, typ. 12 W 12 W Memory 14 W With SIMATIC memory 4 Mbyte with SIMATIC memory card Yes; maintenance-free Yes CPU processing times 1.7 μs; / instruction	Encoder supply	
Power loss Power loss, typ. 12 W Memory Work memory integrated expandable No Load memory integrated Plug-in (SIMATIC Memory Card), max. Backup epresent ewithout battery for bit operations, typ. 12 W Memory 100 kbyte No 100 kbyte No 4 Mbyte Ves; maintenance-free Yes; maintenance-free Yes 100 kbyte No 100 kbyt	24 V encoder supply	
Power loss, typ. Memory Work memory integrated expandable Load memory integrated Plug-in (SIMATIC Memory Card), max. Backup present expresent expresent expresent expresent for bit operations, typ. 12 W 12 W Memory 100 kbyte No No Load memory 4 Mbyte with SIMATIC memory card Yes; maintenance-free Yes CPU processing times for word operations, typ. 1.7 µs; / instruction	• 24 V	L+ minus 4 V DC min.
Memory Work memory • integrated • expandable	Power loss	
Work memory integrated expandable Load memory integrated Plug-in (SIMATIC Memory Card), max. With SIMATIC memory card Backup present ves; maintenance-free without battery CPU processing times for bit operations, typ. 0.085 μs; / instruction 1.7 μs; / instruction	Power loss, typ.	12 W
 integrated expandable No Load memory integrated Plug-in (SIMATIC Memory Card), max. with SIMATIC memory card Backup present without battery CPU processing times for bit operations, typ. 0.085 µs; / instruction for word operations, typ. 1.7 µs; / instruction 1.7 µs; / instruction 1.7 µs; / instruction	Memory	
 expandable Load memory integrated Plug-in (SIMATIC Memory Card), max. Backup present with SIMATIC memory card Present without battery CPU processing times for bit operations, typ. 0.085 µs; / instruction 1.7 µs; / instruction 	Work memory	
Load memory	integrated	100 kbyte
 integrated Plug-in (SIMATIC Memory Card), max. with SIMATIC memory card Backup present without battery CPU processing times for bit operations, typ. for word operations, typ. 1.7 µs; / instruction 1.7 µs; / instruction 1.7 µs; / instruction	• expandable	No
 Plug-in (SIMATIC Memory Card), max. Backup present with SIMATIC memory card Yes; maintenance-free without battery Yes CPU processing times for bit operations, typ. for word operations, typ. 1.7 µs; / instruction 	Load memory	
Backup	integrated	4 Mbyte
 present without battery CPU processing times for bit operations, typ. for word operations, typ. 1.7 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	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 word operations, typ. 1.7 µs; / instruction	CPU processing times	
	for bit operations, typ.	0.085 μs; / instruction
for floating point arithmetic, typ. 2.5 µs; / instruction	for word operations, typ.	1.7 µs; / instruction
	for floating point arithmetic, typ.	2.5 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	
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 current	
for signal "1", typ.	1 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	V
— parameterizable	Yes
for technological functions	Voc. Single phase 12 at 100 kHz 9.2 at 20 kHz differential, 2 at 20 kHz
— 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	.0,0.0,0
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	
Switching frequency • of the pulse outputs, with resistive load, max.	1 Hz
of the pulse outputs, with resistive load, max. Relay outputs	1 Hz

- Number of apprehing avalog many	manakamiaally 40 maillian, at rated land valters 400,000
Number of operating cycles, max. Cable largeth	mechanically 10 million, at rated load voltage 100 000
Cable length • shielded, max.	500 m
unshielded, max.	150 m
	130 111
Analog inputs	
Number of analog inputs	2
Input ranges	Yes
Voltage Input ranges (rated values), voltages	165
• 0 to +10 V	Yes
— Input resistance (0 to 10 V)	≥100k ohms
Cable length	_ 100K 011110
• shielded, max.	100 m; twisted and shielded
Analog outputs	
Number of analog outputs	2
Output ranges, current	
• 0 to 20 mA	Yes
Analog value generation for the inputs	
Integration and conversion time/resolution per channel	
Resolution with overrange (bit including sign), max.	10 bit
Integration time, parameterizable	Yes
Conversion time (per channel)	625 µs
Analog value generation for the outputs	
Integration and conversion time/resolution per channel	
Resolution with overrange (bit including sign), max.	10 bit
Encoder	
Connectable encoders	
2-wire sensor	Yes
1. Interface	
Ti mitoriaco	
Interface type	PROFINET
Interface type	PROFINET Yes
Isolated	Yes
Isolated automatic detection of transmission rate	Yes Yes
Isolated automatic detection of transmission rate Autonegotiation	Yes Yes Yes
Isolated automatic detection of transmission rate Autonegotiation Autocrossing	Yes Yes
Isolated automatic detection of transmission rate Autonegotiation Autocrossing Interface types	Yes Yes Yes
Isolated automatic detection of transmission rate Autonegotiation Autocrossing	Yes Yes Yes Yes
Isolated automatic detection of transmission rate Autonegotiation Autocrossing Interface types • RJ 45 (Ethernet)	Yes Yes Yes Yes
Isolated automatic detection of transmission rate Autonegotiation Autocrossing Interface types • RJ 45 (Ethernet) Protocols	Yes Yes Yes Yes Yes
Isolated automatic detection of transmission rate Autonegotiation Autocrossing Interface types • RJ 45 (Ethernet) Protocols • PROFINET IO Controller	Yes Yes Yes Yes Yes Yes
Isolated automatic detection of transmission rate Autonegotiation Autocrossing Interface types • RJ 45 (Ethernet) Protocols • PROFINET IO Controller • PROFINET IO Device	Yes Yes Yes Yes Yes Yes
Isolated automatic detection of transmission rate Autonegotiation Autocrossing Interface types • RJ 45 (Ethernet) Protocols • PROFINET IO Controller • PROFINET IO Device PROFINET IO Controller	Yes
Isolated automatic detection of transmission rate Autonegotiation Autocrossing Interface types • RJ 45 (Ethernet) Protocols • PROFINET IO Controller • PROFINET IO Device PROFINET IO Controller • Transmission rate, max.	Yes
Isolated automatic detection of transmission rate Autonegotiation Autocrossing Interface types • RJ 45 (Ethernet) Protocols • PROFINET IO Controller • PROFINET IO Device PROFINET IO Controller • Transmission rate, max. Services	Yes
Isolated automatic detection of transmission rate Autonegotiation Autocrossing Interface types • RJ 45 (Ethernet) Protocols • PROFINET IO Controller • PROFINET IO Device PROFINET IO Controller • Transmission rate, max. Services — Number of connectable IO Devices, max.	Yes
Isolated automatic detection of transmission rate Autonegotiation Autocrossing Interface types • RJ 45 (Ethernet) Protocols • PROFINET IO Controller • PROFINET IO Device PROFINET IO Controller • Transmission rate, max. Services — Number of connectable IO Devices, max. PROFINET IO Device	Yes
Isolated automatic detection of transmission rate Autonegotiation Autocrossing Interface types • RJ 45 (Ethernet) Protocols • PROFINET IO Controller • PROFINET IO Device PROFINET IO Controller • Transmission rate, max. Services — Number of connectable IO Devices, max. PROFINET IO Device Services — Shared device — Number of IO Controllers with shared device,	Yes Yes Yes Yes Yes Yes Yes Yes Yes; Also simultaneously with IO-Device functionality 100 Mbit/s
Isolated automatic detection of transmission rate Autonegotiation Autocrossing Interface types • RJ 45 (Ethernet) Protocols • PROFINET IO Controller • PROFINET IO Device PROFINET IO Controller • Transmission rate, max. Services — Number of connectable IO Devices, max. PROFINET IO Device Services — Shared device — Number of IO Controllers with shared device, max.	Yes Yes Yes Yes Yes Yes Yes Yes; Also simultaneously with IO-Device functionality 100 Mbit/s 16
Isolated automatic detection of transmission rate Autonegotiation Autocrossing Interface types • RJ 45 (Ethernet) Protocols • PROFINET IO Controller • PROFINET IO Device PROFINET IO Controller • 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	Yes Yes Yes Yes Yes Yes Yes Yes Yes; Also simultaneously with IO-Device functionality 100 Mbit/s 16 Yes 2
Isolated automatic detection of transmission rate Autonegotiation Autocrossing Interface types • RJ 45 (Ethernet) Protocols • PROFINET IO Controller • PROFINET IO Device PROFINET IO Controller • 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	Yes Yes Yes Yes Yes Yes Yes Yes; Also simultaneously with IO-Device functionality 100 Mbit/s 16 Yes 2
Isolated automatic detection of transmission rate Autonegotiation Autocrossing Interface types • RJ 45 (Ethernet) Protocols • PROFINET IO Controller • PROFINET IO Device PROFINET IO Controller • 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	Yes Yes Yes Yes Yes Yes Yes Yes; Also simultaneously with IO-Device functionality 100 Mbit/s 16 Yes 2
Isolated automatic detection of transmission rate Autonegotiation Autocrossing Interface types • RJ 45 (Ethernet) Protocols • PROFINET IO Controller • PROFINET IO Device PROFINET IO Controller • 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	Yes Yes Yes Yes Yes Yes Yes Yes; Also simultaneously with IO-Device functionality 100 Mbit/s 16 Yes 2 Yes Yes CM 1243-5 required
Isolated automatic detection of transmission rate Autonegotiation Autocrossing Interface types • RJ 45 (Ethernet) Protocols • PROFINET IO Controller • PROFINET IO Device PROFINET IO Controller • 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	Yes Yes Yes Yes Yes Yes Yes Yes; Also simultaneously with IO-Device functionality 100 Mbit/s 16 Yes 2
Isolated automatic detection of transmission rate Autonegotiation Autocrossing Interface types • RJ 45 (Ethernet) Protocols • PROFINET IO Controller • PROFINET IO Device PROFINET IO Controller • 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)	Yes Yes Yes Yes Yes Yes Yes Yes; Also simultaneously with IO-Device functionality 100 Mbit/s 16 Yes 2 Yes No Yes; CM 1243-5 required Yes
Isolated automatic detection of transmission rate Autonegotiation Autocrossing Interface types • RJ 45 (Ethernet) Protocols • PROFINET IO Controller • PROFINET IO Device PROFINET IO Controller • 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	Yes Yes Yes Yes Yes Yes Yes Yes; Also simultaneously with IO-Device functionality 100 Mbit/s 16 Yes 2 Yes Yes CM 1243-5 required
Isolated automatic detection of transmission rate Autonegotiation Autocrossing Interface types • RJ 45 (Ethernet) Protocols • PROFINET IO Controller • PROFINET IO Device PROFINET IO Controller • 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	Yes Yes Yes Yes Yes Yes Yes Yes; Also simultaneously with IO-Device functionality 100 Mbit/s 16 Yes 2 Yes No Yes; CM 1243-5 required Yes Yes
Isolated automatic detection of transmission rate Autonegotiation Autocrossing Interface types • RJ 45 (Ethernet) Protocols • PROFINET IO Controller • PROFINET IO Device PROFINET IO Controller • 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	Yes Yes Yes Yes Yes Yes Yes; Also simultaneously with IO-Device functionality 100 Mbit/s 16 Yes 2 Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye
Isolated automatic detection of transmission rate Autonegotiation Autocrossing Interface types • RJ 45 (Ethernet) Protocols • PROFINET IO Controller • PROFINET IO Device PROFINET IO Controller • 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	Yes Yes Yes Yes Yes Yes Yes Yes; Also simultaneously with IO-Device functionality 100 Mbit/s 16 Yes 2 Yes No Yes; CM 1243-5 required Yes Yes

Web server	
• supported	Yes
User-defined websites	Yes
Further protocols	
MODBUS	Yes
communication functions / header	
S7 communication	
	Yes
• supported	Yes
as server as alient	
• as client	Yes
Number of connections	
overall	16; dynamically
est 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
ntegrated Functions	
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
	4
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	
Interference immunity against voltage surge Interference immunity on supply lines acc. to IEC	Yes
61000-4-5	
Interference immunity against conducted variable disturbance	
 Interference immunity against high-frequency radiation acc. to IEC 61000-4-6 	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	

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.	60 °C; = Tmax; Tmax > +55 °C number of simultaneously switched-on digital inputs 7, digital outputs 5, analog inputs 2, analog outputs 2 (no adjacent points) with horizontal mounting position
At cold restart, min.	-25 °C
Ambient temperature during storage/transportation	40.00
• min.	-40 °C
Max. Altitude during expection relating to see level.	70 °C
Altitude during operation relating to sea level	2 000 m
 Installation altitude above sea level, max. Ambient air temperature-barometric pressure- 	Tmin Tmax at 1 140 hPa 795 hPa (-1 000 m +2 000 m) // Tmin
altitude	(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
• tested according to IEC 60068-2-27	Yes; IEC 68, Part 2-27 half-sine: strength of the shock 15 g (peak
Resistance	value), duration 11 ms
Coolants and lubricants	
Resistant to commercially available coolants	Yes; Incl. diesel and oil droplets in the air
and lubricants Use in stationary industrial systems	red, mor. dieser and on dropieto in the air
to biologically active substances according to	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of
EN 60721-3-3 — to chemically active substances according to	fauna); Class 3B3 on request Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52
EN 60721-3-3 — to mechanically active substances according to	(severity degree 3); * Yes; Class 3S4 incl. sand, dust, *
EN 60721-3-3	1 co, Glado do a mol. dana, dade,
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 or 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 Remark	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)
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
onfiguration / header	

configuration / programming / header	
Programming language	
— LAD	Yes
— FBD	Yes
— SCL	Yes
programming / cycle time monitoring / header	
 adjustable 	Yes
Dimensions	
Width	130 mm
Height	100 mm
Depth	75 mm
Weights	
Weight, approx.	585 g