SIEMENS

Data sheet

6ES7214-1BE30-0XB0



Spare part SIMATIC S7-1200, CPU 1214C, compact CPU, AC/DC/relay, onboard I/O: 14 DI 24 V DC; 10 DO relay 2 A; 2 AI 0-10 V DC, Power supply: AC 85-264 V AC at 47-63 Hz, Program/data memory 50 KB

Product type designation CPU 1214C AC/DC/relay Engineering with • • Programming package STEP 7 V10.5 or higher Supply voltage • Rated value (AC) • • 230 V AC Yes • 220 V AC Yes • permissible range, tower limit (AC) 85 V permissible range, tower limit (AC) 264 V Line frequency • • permissible range, tower limit (AC) 24 V • permissible range, tower limit (BC) 250 V Input current 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. 20 and at 120 V AC; 150 mA at 240 V AC Insub current, max. 20 At 264 V Output current • 24 V Permissible range: 20.4V to 28.8V Power loss • Power loss • Power loss, typ. 14 W Memory • • integrated 50 kbyte • expandable No Laad memory 24 Mbyte; with SIMATIC memory	General information	
• Programming package STEP 7 V10.5 or higher Supply voltage Rated value (AC) • (20 V AC • 200 V AC Yes permissible range, lower limit (AC) B5 V permissible range, upper limit (AC) 264 V Line frequency 47 Hz • permissible range, upper limit 63 Hz Load voltage L+ 63 Hz Current consumption (rated value) 100 mA at 120 V AC; 50 mA at 240 V AC Current consumption, max. 200 mA at 120 V AC; 50 mA at 240 V AC Current consumption, max. 200 mA at 120 V AC; 50 mA at 240 V AC Invush current, max. 20 A; at 264 V Output current Tot max, 1600 mA; Max, 5 V DC for SM and CM Encodor supply - • 424 V Permissible range: 20.4V to 28.8V Power loss, typ. 14 W Memory 50 kbyte • integrated 50 kbyte • integrated 50 kbyte • integrated 24 Waye Permissible range; tot, max. 1600 mA; Max, 5 V DC for SM and CM	Product type designation	CPU 1214C AC/DC/relay
Supply votage 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 47 Hz • permissible range, lower limit 63 Hz Load voltage L+ • Rated value (DC) 24 V • permissible range, lower limit (DC) 55 V • permissible range, lower limit (DC) 250 V Input current Current consumption (rated value) 100 mA at 120 V AC; 50 mA at 240 V AC Inrush current, max. 700 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 Power loss, typ. Power loss, typ. Power loss, typ. Vork memory • integrated • expandable Load memory • integrated 2 Mbyte	Engineering with	
Rated value (AC) 120 V AC 230 V AC Yes 230 V AC Yes permissible range, lower limit (AC) 264 V Line frequency permissible range, upper limit (AC) 264 V Line frequency permissible range, upper limit 47 Hz permissible range, upper limit 63 Hz Load voltage L* 	 Programming package 	STEP 7 V10.5 or higher
• 120 V AC Yes • 230 V AC Yes permissible range, lower limit (AC) 85 V permissible range, upper limit (AC) 264 V Line frequency • • permissible range, lower limit 63 Hz Load voltage L+ • • Rated value (DC) 24 V • permissible range, upper limit 63 Hz Load voltage L+ • • Rated value (DC) 24 V • permissible range, upper limit (DC) 250 V Input current 100 mA at 120 V AC; 50 mA at 240 V AC Current consumption, max. 20 A; at 264 V Output current 1600 mA; Max. 5 V DC for SM and CM Encoder supply 24 V 24 V Permissible range: 20.4V to 28.8V Power loss Power loss Power loss typ. 14 W Memory • • integrated 50 kbyte • expandable No Load memory • • integrated 2 Mbyte • Plug-in (SIMATIC Memory Card), max. 24 Mbyte; with SIMATIC memory card Backup • • present Yes; Entire project maintenance-free in the integral EEPROM	Supply voltage	
• 230 V AC Yes permissible range, lower limit (AC) 264 V Line frequency • permissible range, lower limit 47 Hz • permissible range, lower limit 47 Hz • permissible range, lower limit 63 Hz Load voltage L+ • Rated value (DC) • Rated value (DC) 24 V • permissible range, lower limit (DC) 5 V • permissible range, lower limit (DC) 250 V Input current Current consumption (rated value) 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 300 mA at 120 V AC; 150 mA at 240 V AC Current consumption, max. 20 A; at 264 V Output current 1 for backplane bus (5 V DC), max. 1 Encoder supply 24 V 24 V Permissible range: 20.4V to 28.8V Power loss Power loss, typ. Power loss, typ. 14 W Memory • • integrated 50 kbyte • expandable No Load memory 2 Mbyte • integrated 2 Mbyte • plug-in (SIMATIC Memory Card), max. 24 Mbyte; with SIMATIC memory card Backup	Rated value (AC)	
permissible range, lower limit (AC) 85 V permissible range, upper limit (AC) 264 V Line frequency 47 Hz • permissible range, lower limit 47 Hz • permissible range, upper limit 63 Hz Load voltage L+ • • Rated value (DC) 24 V • permissible range, lower limit (DC) 5 V • permissible range, upper limit (DC) 250 V Input current 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 Output current 300 mA at 120 V AC; 50 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 Prover loss, typ. 14 W Memory • 24 V Power loss, typ. 14 W Memory • 14 W Memory • 14 W Memory • 14 W • Plug-in (SIMATIC Memory Card), max. 24 Mbyte; with SIMATI	• 120 V AC	Yes
permissible range, upper limit (AC) 264 V Line frequency 47 Hz • permissible range, lower limit 47 Hz • permissible range, lower limit 63 Hz Load voltage L+ 7 Hz • Rated value (DC) 24 V • permissible range, lower limit (DC) 5 V • permissible range, lower limit (DC) 250 V Input current 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 20 A; at 264 V Output current 100 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 24 V • 24 V Permissible range: 20.4V to 28.8V Power loss, typ. 14 W Memory 50 kbyte • integrated 50 kbyte • expandable No Load memory 24 Mbyte; with SIMATIC memory card • integrated 2 Mbyte • plug-in (SIMATIC Memory Card), max. 24 Mbyte; with SIMATIC memory card	• 230 V AC	Yes
Line frequency • permissible range, lower limit 47 Hz • permissible range, upper limit 63 Hz Load voltage L+ • Rated value (DC) 24 V • permissible range, lower limit (DC) 5 V • permissible range, upper limit (DC) 5 V • permissible range, upper limit (DC) 250 V Input current 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. 20 A; 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 Permissible range: 20.4V to 28.8V Power loss - Power loss, typ. 14 W Memory - • integrated 50 kbyte • expandable No Load memory - • integrated 2 Mbyte • Plug-in (SIMATIC Memory Card), max. 24 Mbyte; with SIMATIC memory card Backup - - • present Yes; Entire project maintenance-free in t	permissible range, lower limit (AC)	85 V
• permissible range, lower limit 47 Hz • permissible range, upper limit 63 Hz Load voltage L+ - • Rated value (DC) 24 V • permissible range, lower limit (DC) 5 V • permissible range, upper limit (DC) 5 V • permissible range, upper limit (DC) 250 V 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 Permissible range: 20.4V to 28.8V Power loss - Power loss, typ. 14 W Memory - • integrated 50 kbyte • expandable No Load memory - • integrated 2 Mbyte • Plug-in (SIMATIC Memory Card), max. 24 Mbyte; with SIMATIC memory card Backup - - • present Yes; Entire proje	permissible range, upper limit (AC)	264 V
• permissible range, upper limit 63 Hz Load voltage L+ • • Rated value (DC) 24 V • permissible range, lower limit (DC) 5 V • permissible range, upper limit (DC) 250 V Input current 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 Permissible range: 20.4V to 28.8V Power loss • Power loss, typ. 14 W Memory • • integrated 50 kbyte • expandable No Load memory • • integrated 24 Mbyte; with SIMATIC memory card Backup • • plug-in (SIMATIC Memory Card), max. 24 Mbyte; with SIMATIC memory card	Line frequency	
Load voltage L+ • Rated value (DC) 24 V • permissible range, lower limit (DC) 5 V • permissible range, upper limit (DC) 250 V Input current 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 Inrush current, max. 20 A; at 264 V Output current 00 mA; Max. 5 V DC for SM and CM Encoder supply 24 V 24 V encoder supply Permissible range: 20.4V to 28.8V Power loss Power loss, typ. Power loss, typ. 14 W Memory • integrated • integrated 50 kbyte • expandable No Load memory 2 Mbyte • Plug-in (SIMATIC Memory Card), max. 2 Mbyte; with SIMATIC memory card • present Yes; Entire project maintenance-free in the integral EEPROM	 permissible range, lower limit 	47 Hz
• Rated value (DC) 24 V • permissible range, lower limit (DC) 5 V • permissible range, upper limit (DC) 250 V Input current 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 0 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 Permissible range: 20.4V to 28.8V Power loss Power loss, typ. Power loss, typ. 14 W Memory integrated • integrated 50 kbyte • expandable No Load memory 2 Mbyte • integrated 2 Mbyte • Plug-in (SIMATIC Memory Card), max. 24 Mbyte; with SIMATIC memory card • present Yes; Entire project maintenance-free in the integral EEPROM	 permissible range, upper limit 	63 Hz
e permissible range, lower limit (DC) 5 V e permissible range, upper limit (DC) 250 V 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 Permissible range: 20.4V to 28.8V Power loss Power loss, typ. 14 W Memory integrated 50 kbyte expandable No Load memory integrated 2 Mbyte expandable No Encoder supply integrated 2 Mbyte; with SIMATIC memory card Backup ersent Yes; Entire project maintenance-free in the integral EEPROM	Load voltage L+	
• permissible range, upper limit (DC)250 VInput currentCurrent consumption (rated value)100 mA at 120 V AC; 50 mA at 240 V ACCurrent consumption, max.300 mA at 120 V AC; 150 mA at 240 V ACInrush current, max.20 A; at 264 VOutput currentfor backplane bus (5 V DC), max.1 600 mA; Max. 5 V DC for SM and CMEncoder supply24 V encoder supply• 24 VPermissible range: 20.4V to 28.8VPower lossPower loss, typ.14 WMemory• integrated50 kbyte• expandableNoLoad memory• integrated2 Mbyte• Plug-in (SIMATIC Memory Card), max.2 Mbyte; with SIMATIC memory cardBackupYes; Entire project maintenance-free in the integral EEPROM	 Rated value (DC) 	24 V
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 60 mA; Max. 5 V DC for SM and CM Encoder supply 24 V encoder supply • 24 V Permissible range: 20.4V to 28.8V Power loss 9 Power loss, typ. 14 W Memory 14 W Vork memory 50 kbyte • expandable No Load memory 9 • Integrated 20 Mbyte • Pilig-in (SIMATIC Memory Card), max. 24 Mbyte; with SIMATIC memory card • present Yes; Entire project maintenance-free in the integral EEPROM	 permissible range, lower limit (DC) 	5 V
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. for backplane bus (5 V DC), max. 1 600 mA; Max. 5 V DC for SM and CM Encoder supply 24 V expendence supply - 24 V Power loss Power loss, typ. Power loss, typ. 14 W Memory integrated o integrated 50 kbyte expandable No Load memory 2 Mbyte eintegrated 2 Mbyte eintegrated 2 Mbyte expandable No Load memory 24 Mbyte; with SIMATIC memory card Backup Yes; Entire project maintenance-free in the integral EEPROM	 permissible range, upper limit (DC) 	250 V
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. 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 Permissible range: 20.4V to 28.8V Power loss Power loss, typ. Power loss, typ. 14 W Memory integrated • integrated 50 kbyte • expandable No Load memory integrated • Plug-in (SIMATIC Memory Card), max. 24 Mbyte; with SIMATIC memory card Backup Yes; Entire project maintenance-free in the integral EEPROM	Input current	
Inrush current, max. 20 A; at 264 V Output current I 600 mA; Max. 5 V DC for SM and CM Encoder supply 24 V encoder supply • 24 V Permissible range: 20.4V to 28.8V Power loss Power loss, typ. Power loss, typ. 14 W Memory • integrated • expandable No Load memory • integrated • integrated 2 Mbyte • Plug-in (SIMATIC Memory Card), max. 24 Mbyte; with SIMATIC memory card Backup • present • present Yes; Entire project maintenance-free in the integral EEPROM	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 24 V encoder supply • 24 V • 24 V Permissible range: 20.4V to 28.8V Power loss Power loss, typ. Power loss, typ. 14 W Memory • integrated • integrated 50 kbyte • expandable No Load memory • integrated • Integrated 2 Mbyte • Plug-in (SIMATIC Memory Card), max. 24 Mbyte; with SIMATIC memory card Backup • present Yes; Entire project maintenance-free in the integral EEPROM	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 Permissible range: 20.4V to 28.8V Power loss Power loss, typ. Power loss, typ. 14 W Memory • Work memory • • integrated 50 kbyte • expandable No Load memory • • integrated 2 Mbyte • Plug-in (SIMATIC Memory Card), max. 24 Mbyte; with SIMATIC memory card Backup • present • present Yes; Entire project maintenance-free in the integral EEPROM	Inrush current, max.	20 A; at 264 V
Encoder supply 24 V encoder supply • 24 V Permissible range: 20.4V to 28.8V Power loss Power loss Power loss, typ. 14 W Memory Vork memory • integrated 50 kbyte • expandable No Load memory 2 Mbyte • integrated 2 Mbyte • Plug-in (SIMATIC Memory Card), max. 24 Mbyte; with SIMATIC memory card Backup Yes; Entire project maintenance-free in the integral EEPROM	Output current	
24 V encoder supply • 24 V Permissible range: 20.4V to 28.8V Power loss Power loss, typ. 14 W Memory work memory • integrated 50 kbyte • expandable No Load memory • integrated 2 Mbyte • Plug-in (SIMATIC Memory Card), max. 24 Mbyte; with SIMATIC memory card Backup Yes; Entire project maintenance-free in the integral EEPROM	for backplane bus (5 V DC), max.	1 600 mA; Max. 5 V DC for SM and CM
• 24 V Permissible range: 20.4V to 28.8V Power loss 14 W Power loss, typ. 14 W Memory 14 W Work memory 50 kbyte • integrated 50 kbyte • expandable No Load memory 2 Mbyte • integrated 2 Mbyte • Plug-in (SIMATIC Memory Card), max. 24 Mbyte; with SIMATIC memory card Backup Yes; Entire project maintenance-free in the integral EEPROM	Encoder supply	
Power loss 14 W Memory 14 W Work memory 50 kbyte • integrated 50 kbyte • expandable No Load memory 2 Mbyte • integrated 2 Mbyte • Plug-in (SIMATIC Memory Card), max. 24 Mbyte; with SIMATIC memory card Backup Yes; Entire project maintenance-free in the integral EEPROM	24 V encoder supply	
Power loss, typ. 14 W Memory Vork memory • integrated 50 kbyte • expandable No Load memory • integrated • integrated 2 Mbyte • Plug-in (SIMATIC Memory Card), max. 24 Mbyte; with SIMATIC memory card Backup • present Yes; Entire project maintenance-free in the integral EEPROM	• 24 V	Permissible range: 20.4V to 28.8V
Memory Work memory • integrated 50 kbyte • expandable No Load memory • integrated • integrated 2 Mbyte • Plug-in (SIMATIC Memory Card), max. 24 Mbyte; with SIMATIC memory card Backup • present Yes; Entire project maintenance-free in the integral EEPROM	Power loss	
Work memory • integrated 50 kbyte • expandable No Load memory • integrated • integrated 2 Mbyte • Plug-in (SIMATIC Memory Card), max. 24 Mbyte; with SIMATIC memory card Backup • present Yes; Entire project maintenance-free in the integral EEPROM	Power loss, typ.	14 W
• integrated 50 kbyte • expandable No Load memory Integrated • integrated 2 Mbyte • Plug-in (SIMATIC Memory Card), max. 24 Mbyte; with SIMATIC memory card Backup Integrated • present Yes; Entire project maintenance-free in the integral EEPROM	Memory	
expandable No Load memory • integrated 2 Mbyte • Plug-in (SIMATIC Memory Card), max. 24 Mbyte; with SIMATIC memory card Backup • present Yes; Entire project maintenance-free in the integral EEPROM	Work memory	
Load memory • integrated 2 Mbyte • Plug-in (SIMATIC Memory Card), max. 24 Mbyte; with SIMATIC memory card Backup	integrated	50 kbyte
• integrated 2 Mbyte • Plug-in (SIMATIC Memory Card), max. 24 Mbyte; with SIMATIC memory card Backup 4 Mbyte; with SIMATIC memory card • present Yes; Entire project maintenance-free in the integral EEPROM	• expandable	No
• Plug-in (SIMATIC Memory Card), max. 24 Mbyte; with SIMATIC memory card Backup	Load memory	
Backup Yes; Entire project maintenance-free in the integral EEPROM	integrated	2 Mbyte
present Yes; Entire project maintenance-free in the integral EEPROM	Plug-in (SIMATIC Memory Card), max.	24 Mbyte; with SIMATIC memory card
	Backup	
without battery Yes	• present	Yes; Entire project maintenance-free in the integral EEPROM
	 without battery 	Yes

CPU processing times	
for bit operations, typ.	0.1 µs; / Operation
for word operations, typ.	$\frac{12 \ \mu s; \ / \ Operation}{12 \ \mu s; \ / \ Operation}$
for floating point arithmetic, typ.	18 μs; / Operation
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.	2 048 byte
Flag	
• Size, max.	8 kbyte; Size of bit memory address area
Address area	
I/O address area	
Inputs	1 024 byte
Outputs	1 024 byte
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	240 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
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	
— parameterizable	Yes
for technological functions	
— parameterizable	Single phase: 3 at 100 kHz & 1 at 30 kHz, differential: 3 at 80 kHz & 1 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
Short-circuit protection	No; to be provided externally
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	10 mg, mux.
 of the pulse outputs, with resistive load, max. 	1 Hz
Relay outputs	1.1.164
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
Cable length	
• shielded, max.	100 m; shielded, twisted pair
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	
1. Interface Interface type	PROFINET
1. Interface Interface type Isolated	PROFINET Yes
1. Interface Interface type Isolated automatic detection of transmission rate	PROFINET Yes Yes
1. Interface Interface type Isolated automatic detection of transmission rate Autonegotiation	PROFINET Yes Yes Yes
1. Interface Interface type Isolated automatic detection of transmission rate Autonegotiation Autocrossing	PROFINET Yes Yes
1. Interface Interface type Isolated automatic detection of transmission rate Autonegotiation Autocrossing Interface types	PROFINET Yes Yes Yes Yes
1. Interface Interface type Isolated automatic detection of transmission rate Autonegotiation Autocrossing Interface types • RJ 45 (Ethernet)	PROFINET Yes Yes Yes
1. Interface Interface type Isolated automatic detection of transmission rate Autonegotiation Autocrossing Interface types	PROFINET Yes Yes Yes Yes
1. Interface Interface type Isolated automatic detection of transmission rate Autonegotiation Autocrossing Interface types • RJ 45 (Ethernet) Protocols • PROFINET IO Controller	PROFINET Yes Yes Yes Yes
1. Interface Interface type Isolated automatic detection of transmission rate Autonegotiation Autocrossing Interface types • RJ 45 (Ethernet) Protocols • PROFINET IO Controller Protocols	PROFINET Yes Yes Yes Yes
1. Interface Interface type Isolated automatic detection of transmission rate Autonegotiation Autocrossing Interface types • RJ 45 (Ethernet) Protocols • PROFINET IO Controller	PROFINET Yes Yes Yes Yes Yes
1. Interface Interface type Isolated automatic detection of transmission rate Autonegotiation Autocrossing Interface types • RJ 45 (Ethernet) Protocols • PROFINET IO Controller Protocols Supports protocol for PROFINET IO	PROFINET Yes Yes Yes Yes Yes Yes
1. Interface Interface type Isolated automatic detection of transmission rate Autonegotiation Autocrossing Interface types • RJ 45 (Ethernet) Protocols • PROFINET IO Controller Protocols Supports protocol for PROFINET IO PROFIsafe	PROFINET Yes Yes Yes Yes Yes Yes
1. Interface Interface type Isolated automatic detection of transmission rate Autonegotiation Autocrossing Interface types • RJ 45 (Ethernet) Protocols • PROFINET IO Controller Protocols Supports protocol for PROFINET IO PROFISATE PROFIBUS	PROFINET Yes Yes Yes Yes Yes Yes
1. Interface Interface type Isolated automatic detection of transmission rate Autonegotiation Autocrossing Interface types • RJ 45 (Ethernet) Protocols • PROFINET IO Controller Protocols Supports protocol for PROFINET IO PROFISATE AS-Interface	PROFINET Yes Yes Yes Yes Yes Yes
1. Interface Interface type Isolated automatic detection of transmission rate Autonegotiation Autocrossing Interface types • RJ 45 (Ethernet) Protocols • PROFINET IO Controller Protocols Supports protocol for PROFINET IO PROFIBUS AS-Interface Protocols (Ethernet)	PROFINET Yes Yes Yes Yes Yes Yes Yes No No </td
1. Interface Interface type Isolated automatic detection of transmission rate Autonegotiation Autocrossing Interface types • RJ 45 (Ethernet) Protocols • PROFINET IO Controller Protocols Supports protocol for PROFINET IO PROFISafe PROFIBUS AS-Interface Protocols (Ethernet) • TCP/IP	PROFINET Yes Yes Yes Yes Yes Yes Yes No No No
1. Interface Interface type Isolated automatic detection of transmission rate Autonegotiation Autocrossing Interface types • RJ 45 (Ethernet) Protocols • PROFINET IO Controller Protocols Supports protocol for PROFINET IO PROFISATE PROFIBUS AS-Interface Protocols (Ethernet) • TCP/IP Open IE communication	PROFINET Yes Yes Yes Yes Yes Yes Yes No No No No Yes
1. Interface Interface type Isolated automatic detection of transmission rate Autonegotiation Autorossing Interface types • RJ 45 (Ethernet) Protocols • PROFINET IO Controller Protocols Supports protocol for PROFINET IO PROFIBUS AS-Interface Protocols (Ethernet) • TCP/IP Open IE communication • TCP/IP	PROFINET Yes Yes Yes Yes Yes Yes Yes No No No No Yes
1. Interface Interface type Isolated automatic detection of transmission rate Autonegotiation Autoressing Interface types • RJ 45 (Ethernet) Protocols • PROFINET IO Controller Protocols Supports protocol for PROFINET IO PROFIBUS AS-Interface Protocols (Ethernet) • TCP/IP Open IE communication • TCP/IP • ISO-on-TCP (RFC1006) Web server • supported	PROFINET Yes Yes
1. Interface Interface type Isolated automatic detection of transmission rate Autonegotiation Autorossing Interface types • RJ 45 (Ethernet) Protocols • PROFINET IO Controller Protocols Supports protocol for PROFINET IO PROFIBUS AS-Interface Protocols (Ethernet) • TCP/IP Open IE communication • TCP/IP • ISO-on-TCP (RFC1006) Web server • supported • User-defined websites	PROFINET Yes Yes
1. Interface Interface type Isolated automatic detection of transmission rate Autonegotiation Autorossing Interface types • RJ 45 (Ethernet) Protocols • PROFINET IO Controller Protocols Supports protocol for PROFINET IO PROFIBUS AS-Interface Protocols (Ethernet) • TCP/IP Open IE communication • TCP/IP • ISO-on-TCP (RFC1006) Web server • supported • User-defined websites Further protocols	PROFINET Yes Yes
1. Interface Interface type Isolated automatic detection of transmission rate Autonegotiation Autocrossing Interface types • RJ 45 (Ethernet) Protocols • PROFINET IO Controller Protocols Supports protocol for PROFINET IO PROFIBUS AS-Interface Protocols (Ethernet) • TCP/IP Open IE communication • TCP/IP • ISO-on-TCP (RFC1006) Web server • supported • User-defined websites Further protocols	PROFINET Yes Yes
1. Interface Interface type Isolated automatic detection of transmission rate Autonegotiation Autocrossing Interface types • RJ 45 (Ethernet) Protocols • PROFINET IO Controller Protocols Supports protocol for PROFINET IO PROFISAFE PROFIBUS AS-Interface Protocols (Ethernet) • TCP/IP Open IE communication • TCP/IP • ISO-on-TCP (RFC1006) Web server • supported • User-defined websites Further protocols • MODBUS communication functions / header	PROFINET Yes Yes
1. Interface Interface type Isolated automatic detection of transmission rate Autonegotiation Autocrossing Interface types • RJ 45 (Ethernet) Protocols • PROFINET IO Controller Protocols Supports protocol for PROFINET IO PROFIBUS AS-Interface Protocols (Ethernet) • TCP/IP Open IE communication • TCP/IP • ISO-on-TCP (RFC1006) Web server • supported • User-defined websites Further protocols • MODBUS communication functions / header S7 communication	PROFINET Yes No No No No
1. Interface Interface type Isolated automatic detection of transmission rate Autonegotiation Autocrossing Interface types • RJ 45 (Ethernet) Protocols • PROFINET IO Controller Protocols Supports protocol for PROFINET IO PROFISAFE PROFIBUS AS-Interface Protocols (Ethernet) • TCP/IP Open IE communication • TCP/IP • ISO-on-TCP (RFC1006) Web server • supported • User-defined websites Further protocols • MODBUS communication functions / header	PROFINET Yes Yes

Number of connections		
• overall	15; dynamically	
Test commissioning functions		
Status/control		
Status/control variable	Yes	
Variables	Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters	
Forcing	inputs/outputs, memory bits, bbs, distributed i/os, timers, counters	
Forcing	Yes	
Integrated Functions		
Counter		
Number of counters	6	
Counting frequency, max.	100 kHz	
	Yes	
Frequency measurement	Yes	
PID controller	Yes	
Number of alarm inputs	4	
Potential separation	+	
Potential separation digital inputs	No	
Potential separation digital inputs	No	
between the channels, in groups of	1	
Potential separation digital outputs	Vee: Delava	
Potential separation digital outputs	Yes; Relays	
between the channels	No	
between the channels, in groups of	2	
Permissible potential difference		
between different circuits	500 V DC between 24 V DC and 5 V DC	
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 an discharge — Test voltage at contact discharge	6 kV	
Interference immunity to cable-borne interference	0.KV	
Interference immunity to cable-bonne interference Interference immunity on supply lines acc. to IEC	Yes	
61000-4-4	1 55	
 Interference immunity on signal cables acc. to IEC 	Yes	
61000-4-4		
Interference immunity against voltage surge		
 Interference immunity on supply lines acc. to IEC 61000-4-5 	Yes	
Interference immunity against conducted variable disturbance induced by high-frequency fields		
 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		
IP degree of protection	IP20	
Standards, approvals, certificates		
CE mark	Yes	
cULus	Yes	
FM approval	Yes	
RCM (formerly C-TICK)	Yes	
Ambient conditions		
Free fall		
• Fall height, max.	0.3 m; five times, in product package	
Ambient temperature during operation		
• min.	0°C	
• max.	55 °C	
-		

- herizental installation min	0°0
horizontal installation, min.	
horizontal installation, max.	55 °C
vertical installation, min.	0 °C
• vertical installation, max.	45 °C
permissible temperature change	5°C to 55°C, 3°C / minute
Ambient temperature during storage/transportation	40.80
• min.	-40 °C
• max.	70 °C
Air pressure acc. to IEC 60068-2-13	705 D
Operation, min.	795 hPa
• Operation, max.	1 080 hPa
• Storage/transport, min.	660 hPa
Storage/transport, max.	1 080 hPa
Altitude during operation relating to sea level	
Installation altitude, min.	-1 000 m
Installation altitude, max.	2 000 m
Relative humidity	
Operation, max.	95 %; no condensation
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
Pollutant concentrations	
 SO2 at RH < 60% without condensation 	S02: < 0.5 ppm; H2S: < 0.1 ppm; RH < 60% condensation-free
configuration / header	
configuration / programming / header	
Programming language	
— LAD	Yes
— FBD	Yes
— SCL	Yes
programming / cycle time monitoring / header	
adjustable	Yes
Dimensions	
Width	110 mm
Height	100 mm
Depth	75 mm
Weights	
Weight, approx.	455 g
Troight, approx.	100 g
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