## **SIEMENS**

## Data sheet

## 6ES7215-1AF40-0XB0

SIMATIC S7-1200F, CPU 1215 FC, compact CPU, DC/DC/DC, 2 PROFINET ports, onboard I/O: 14 DI 24 V DC; 10 DO 24 V DC; 0.5A; 2 AI 0-10 V DC, 2 AO 0-20 mA DC, Power supply: DC 20.4-28.8V DC, Program/data memory 150 KB



General information	
Product type designation	CPU 1215FC DC/DC/DC
Firmware version	V4.2
Engineering with	
Programming package	STEP 7 V14 or higher
Supply voltage	
Rated value (DC)	
• 24 V DC	Yes
permissible range, lower limit (DC)	20.4 V
permissible range, upper limit (DC)	28.8 V
Reverse polarity protection	Yes
Load voltage L+	
Rated value (DC)	24 V
<ul> <li>permissible range, lower limit (DC)</li> </ul>	20.4 V
<ul> <li>permissible range, upper limit (DC)</li> </ul>	28.8 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
l²t	0.5 A²·s
Output current for backplane bus (5 V DC), max.	1 600 mA; Max. 5 V DC for SM and CM
Tot backplane bus (5 v bc), max.	1 000 IIIA, MAX. 3 V DO IOI SIW AND CIVI
Encoder supply	
24 V encoder supply	
• 24 V	L+ minus 4 V DC min.
Power loss	
Power loss, typ.	12 W
Momony	
Memory Work memory	
• integrated	150 kbyte
• expandable	No
Load memory	
• integrated	4 Mbyte
Plug-in (SIMATIC Memory Card), max.	with SIMATIC memory card
Backup	
• present	Yes
maintenance-free	Yes
without battery	Yes
·	
CPU processing times for bit operations, typ.	0.08 μs; / instruction
for word operations, typ.	1.7 μs; / instruction
for floating point arithmetic, typ.	2.3 µs; / instruction
	2.0 ps, / motidation
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	10 kbyto
Retentive data area (incl. timers, counters, flags), max.	10 kbyte
Flag	
• Number, max.	8 kbyte; Size of bit memory address area
Local data	
per priority class, max.	16 kbyte; Priority class 1 (program cycle): 16 KB, priority class 2
•	to 26: 6 KB
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
	14; Integrated 6; HSC (High Speed Counting)
<ul> <li>of which inputs usable for technological functions</li> </ul>	o, noc (night 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	Yes; 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 @ 100 kHz & 3 @ 30 kHz, differential: 3 @ 80 kHz & 3 @ 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
• of which high-speed outputs	4; 100 kHz Pulse Train Output
Limitation of inductive shutdown voltage to	L+ (-48 V)
Switching capacity of the outputs	
• with resistive load, max.	0.5 A

Output voitage  • for signal "0", max. • for signal "1", min.  Output current  • for signal "1" rated value • for signal "0" residual current, max.  Output delay with resistive load • "0" to "1", max. • "1" to "0", max.  Switching frequency • of the pulse outputs, with resistive load, max.  Relay outputs • Number of relay outputs  O Cable length • shelded, max. • unshielded, max. • unshielded, max.  Analog inputs  Number of analog inputs  2 linput ranges • Voltage Input ranges (rated values), voltages • O to +10 V — Input resistance (0 to 10 V)  Cable length • shielded, max.  100 m; twisted and shielded  Analog outputs  Number of analog outputs • Shielded, max.  100 m; twisted and shielded  Analog outputs  Number of analog outputs • Shielded, max.  100 m; twisted and shielded  Analog outputs  Number of analog outputs • Shielded, max.  100 m; twisted and shielded  Analog outputs  Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max.  Analog value generation for the inputs Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max.  Analog value generation for the outputs Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max.	• on lamp load, max.	5 W
• for signal "1", min.  Output current  • for signal "0" residual current, max.  Out signal "0" residual current, max.  Output delay with resistive load  • "0" to "1", max.  • "1" to "0", max.  • "1" to "0", max.  Switching frequency  • of the pulse outputs, with resistive load, max.  Relay outputs  • Number of relay outputs  • Number of relay outputs  • shelded, max.  • unshielded, max.  • unshielded, max.  Iso m   Analog inputs  Number of analog inputs  Input ranges  • Voltage    Not to +10 V	Output voltage	
Output current  • for signal "1" rated value • for signal "0" residual current, max.  Output dealy with resistive load  • "0" to "1", max.  • "1" to "0", max.  Switching frequency • of the pulse outputs, with resistive load, max.  Number of relay outputs  • Number of relay outputs  OCable length • shielded, max. • unshielded, max.  150 m  Analog inputs  Number of analog inputs  1put ranges • Voltage  Input ranges (rated values), voltages  • 0 to +10 V  — Input resistance (0 to 10 V)  Cable length • shielded, max.  100 m: twisted and shielded  Analog outputs  Number of analog outputs  Oto 20 mA  Yes  Number of analog outputs  • shielded, max.  100 m: twisted and shielded  Analog value generation for the inputs  Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max.  • Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), linegration and conversion time/resolution per channel • Resolution with overrange (bit including sign), linegration and conversion time/resolution per channel • Resolution with overrange (bit including sign), linegration and conversion time/resolution per channel • Resolution with overrange (bit including sign), linegration and conversion time/resolution per channel • Resolution with overrange (bit including sign), linegration and conversion time/resolution per channel • Resolution with overrange (bit including sign), linegration and conversion time/resolution per channel • Resolution with overrange (bit including sign), linegration and conversion time/resolution per channel	• for signal "0", max.	0.1 V; with 10 kOhm load
• for signal "1" rated value • for signal "0" residual current, max.  Output delay with resistive load • "0" to "1", max. • "1" to "0", max.  Switching frequency • of the pulse outputs, with resistive load, max.  Relay outputs • Number of relay outputs  • Number of relay outputs  • shielded, max. • unshielded, max.  • unshielded, max.  • Unshielded, max.  • Voltage  Input ranges • Voltage  Input ranges • Voltage  Input ranges (rated values), voltages • 0 to +10 V  — Input resistance (0 to 10 V)  Cable length • shielded, max.  100 kHz  Relay outputs  Outputs  Outputs  Outputs  Cable length • ot to +10 V  — Input resistance (0 to 10 V)  Cable length • shielded, max.  100 m; twisted and shielded  Analog outputs  Number of analog outputs  Output ranges, current • 0 to 20 mA  Analog value generation for the inputs  Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Integration time, parameterizable • Conversion time (per channel) • Resolution with overrange (bit including sign), max. • Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), lobit	• for signal "1", min.	20 V
• for signal "0" residual current, max.  Output delay with resistive load  • "0" to "1", max. • "1" to "0", max.  5 µs  Switching frequency  • of the pulse outputs, with resistive load, max.  Relay outputs  • Number of relay outputs  • Number of relay outputs  • Shielded, max. • ushielded, max.  150 m   Analog inputs  Number of analog inputs  2 linput ranges  • Voltage  • Voltage  Input ranges (rated values), voltages  • 0 to +10 V — Input resistance (0 to 10 V)  Cable length  • shielded, max.  100 m; twisted and shielded  Analog outputs  Number of analog outputs  Cable length  • shielded, max.  100 m; twisted and shielded  Analog outputs  Number of analog outputs  Couput 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.  • Integration and conversion time/resolution per channel  • Resolution with overrange (bit including sign), max.  • Integration and conversion time/resolution per channel  • Resolution with overrange (bit including sign), max.  • Integration and conversion time/resolution per channel  • Resolution with overrange (bit including sign), max.  • Integration and conversion time/resolution per channel  • Resolution with overrange (bit including sign), max.  • Integration and conversion time/resolution per channel  • Resolution with overrange (bit including sign), max.  • Integration and conversion time/resolution per channel  • Resolution with overrange (bit including sign), 10 bit	Output current	
Output delay with resistive load  • "0" to "1", max. 5 µs  Switching frequency  • of the pulse outputs, with resistive load, max. 100 kHz  Relay outputs  • Number of relay outputs 0  Cable length • shielded, max. 500 m • shielded, max. 150 m  Analog inputs  Number of analog inputs 2  Input ranges • Votage Yes  Input ranges (arted values), voltages • 10 to +10 V Yes — Input resistance (0 to 10 V) 2100k ohms  Cable length • shielded, max. 100 m; twisted and shielded  Analog outputs  Number of analog outputs 2  Coutput 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. • 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. • 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. • Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), 10 bit	• for signal "1" rated value	0.5 A
• "0" to "1", max. 1 µs • "1" to "0", max. 5 µs  Switching frequency • of the pulse outputs, with resistive load, max. 100 kHz  Relay outputs • Number of relay outputs 0  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) 2100k ohms  Cable length • 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. • Integration time, parameterizable Yes • Conversion time (per channel) • Resolution with overrange (bit including sign), max. • Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), integration and conversion time/resolution per channel	• for signal "0" residual current, max.	0.1 mA
• "1" to "0", max. 5 µs  Switching frequency • of the pulse outputs, with resistive load, max. 100 kHz  Relay outputs • Number of relay outputs 0  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) 2100k ohms  Cable length • shielded, max. 100 m; twisted and shielded  Analog outputs  Number of analog outputs 2  Analog outputs  Number of analog outputs 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. • 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. • Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), integration and conversion time/resolution per channel	Output delay with resistive load	
e of the pulse outputs, with resistive load, max.  Relay outputs  • Number of relay outputs  • Number of relay outputs  • Shielded, max.  • Unshielded, max.  • Unshielded, max.  • Unshielded, max.  • Voltage  Input ranges  • Voltage  Input ranges (rated values), voltages  • U to +10 V — Input resistance (0 to 10 V)  Cable length  • shielded, max.  100 ms  Analog outputs  Number of analog outputs  • Ot to +20 mA  Analog outputs  Number of analog outputs  Pessolution with overrange (bit including sign), max.  • Integration and conversion time/resolution per channel  • Conversion time (per channel)  • Resolution with overrange (bit including sign), max.  • Integration and conversion time/resolution per channel  • Conversion time (per channel)  • Resolution with overrange (bit including sign), max.  • Integration and conversion time/resolution per channel  • Conversion time (per channel)	• "0" to "1", max.	1 µs
of the pulse outputs, with resistive load, max.  Relay outputs      Number of relay outputs      shielded, max.     unshielded, max.     unshielded, max.      unshielded, max.      voltage  Input ranges      Voltage  Input ranges      voltage  Input ranges (rated values), voltages           ot to +10 V	• "1" to "0", max.	5 μs
Relay outputs  Number of relay outputs  shielded, max. unshielded, max.  Som  Analog inputs  Number of analog inputs  Voltage  Input ranges  Voltage  Input ranges (rated values), voltages  Oto +10 V  Input resistance (0 to 10 V)  Cable length  shielded, max.  100 m; twisted and shielded  Analog outputs  Number of analog outputs  Quiput ranges  Ves  Input ranges (rated values), voltages  Ves  Input ranges (rated values), voltages  Ves  Input ranges (rated values), voltages  Output ranges, created values), voltages  Analog outputs  Number of analog outputs  Quiput ranges, current  O to 20 mA  Yes  Analog value generation for the inputs Integration and conversion time/resolution per channel  Resolution with overrange (bit including sign), max.  Integration time, parameterizable  Conversion time (per channel)  Analog value generation for the outputs Integration and conversion time/resolution per channel  Resolution with overrange (bit including sign), integration and conversion time/resolution per channel  Resolution with overrange (bit including sign), integration and conversion time/resolution per channel  Resolution with overrange (bit including sign), integration and conversion time/resolution per channel	Switching frequency	
Number of relay outputs     Solo m     shielded, max.     unshielded, max.     150 m   Analog inputs  Number of analog inputs      Voltage     Input ranges     • Voltage     Input ranges (rated values), voltages     • 0 to +10 V     — Input resistance (0 to 10 V)  Cable length     • shielded, max.      100 m; twisted and shielded  Analog outputs  Number of analog outputs  Quiput ranges, current     • 0 to 20 mA  Analog value generation for the inputs  Integration and conversion time/resolution per channel     • Resolution with overrange (bit including sign), max.     • Integration time, parameterizable     • Conversion time (per channel)  Analog value generation for the outputs  Integration and conversion time/resolution per channel     • Resolution with overrange (bit including sign), max.  Analog value generation for the outputs  Integration and conversion time/resolution per channel     • Resolution with overrange (bit including sign), max.  Analog value generation for the outputs  Integration and conversion time/resolution per channel     • Resolution with overrange (bit including sign), max.  Analog value generation for the outputs  Integration and conversion time/resolution per channel     • Resolution with overrange (bit including sign), max.  Analog value generation for the outputs  Integration and conversion time/resolution per channel     • Resolution with overrange (bit including sign), max.	• of the pulse outputs, with resistive load, max.	100 kHz
Cable length  • shielded, max.  • unshielded, max.  150 m   Analog inputs  Number of analog inputs  • Voltage  Input ranges (rated values), voltages  • 0 to +10 V  — Input resistance (0 to 10 V)  Cable length  • 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.  • Integration time, parameterizable  • Conversion time (per channel)  • Resolution with overrange (bit including sign), integration and conversion time/resolution per channel  • Resolution with overrange (bit including sign), integration and conversion time/resolution per channel  • Resolution with overrange (bit including sign), integration and conversion time/resolution per channel  • Resolution with overrange (bit including sign), integration and conversion time/resolution per channel	Relay outputs	
• shielded, max. • unshielded, max.  150 m  Analog inputs  Number of analog inputs  • Voltage  • Voltage  Input ranges (rated values), voltages  • 0 to +10 V  — Input resistance (0 to 10 V)  Cable length • shielded, max.  100 m; twisted and shielded  Analog outputs  Number of analog outputs  2  Output ranges, current • 0 to 20 mA  Analog value generation for the inputs Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Integration and conversion time (per channel) • Conversion time (per channel)  Analog value generation for the outputs Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max. • Integration time, parameterizable Yes • Conversion time (per channel) • Resolution with overrange (bit including sign), max.  Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), max.  Analog value generation for the outputs Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), 10 bit	Number of relay outputs	0
unshielded, max.  Analog inputs  Number of analog inputs  2 Input ranges (atted values), voltages      • Voltage   Yes Input ranges (rated values), voltages      • Uo 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   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.     • Integration time, parameterizable   Yes   €25 μs  Analog value generation for the outputs Integration and conversion time/resolution per channel     • 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), mode of the outputs Integration and conversion time/resolution per channel     • Resolution with overrange (bit including sign), mode of the outputs Integration and conversion time/resolution per channel     • Resolution with overrange (bit including sign), mode of the outputs Integration and conversion time/resolution per channel     • Resolution with overrange (bit including sign), mode of the outputs Integration and conversion time/resolution per channel     • Resolution with overrange (bit including sign), mode of the outputs Integration and conversion time/resolution per channel	Cable length	
Number of analog inputs  Number of analog inputs  Voltage  Input ranges  Voltage  Input ranges (rated values), voltages  Oto +10 V  Input resistance (0 to 10 V)  Cable length  Shielded, max.  Vas  Number of analog outputs  Output ranges, current  Oto 20 mA   Analog value generation for the inputs  Integration and conversion time/resolution per channel  Resolution with overrange (bit including sign), max.  Integration and conversion time (per channel)  Conversion time (per channel)  Analog value generation for the outputs  Integration and conversion time (per channel)  Resolution with overrange (bit including sign), max.  Integration and conversion time/resolution per channel  Resolution with overrange (bit including sign), max.  Integration and conversion time/resolution per channel  Resolution with overrange (bit including sign), 10 bit	• shielded, max.	500 m
Number of analog inputs 2   Input ranges 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 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.  • 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), 10 bit	• unshielded, max.	150 m
Number of analog inputs 2   Input ranges 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 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.  • 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), 10 bit	Analog inputs	
Input ranges  • Voltage Input ranges (rated values), voltages  • 0 to +10 V — Input resistance (0 to 10 V)  Cable length • 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. • Integration time, parameterizable • Conversion time (per channel)  Analog value generation for the outputs  Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), 10 bit  Analog value generation for the outputs  Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), 10 bit		2
• Voltage     Input ranges (rated values), voltages     • 0 to +10 V		
Input ranges (rated values), voltages  ● 0 to +10 V — Input resistance (0 to 10 V)  Cable length  ● shielded, max.  100 m; twisted and shielded  Analog outputs  Number of analog outputs  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.  ● Integration time, parameterizable  ● Conversion time (per channel)  Analog value generation for the outputs  Integration and conversion time/resolution per channel  ● Resolution with overrange (bit including sign), 10 bit  Analog value generation for the outputs  Integration and conversion time/resolution per channel  ● Resolution with overrange (bit including sign), 10 bit		Yes
• 0 to +10 V — Input resistance (0 to 10 V)  Cable length • 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. • Integration time, parameterizable • Conversion time (per channel)  Analog value generation for the outputs Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), for the outputs Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), for the outputs Integration and conversion time/resolution per channel • Resolution with overrange (bit including sign), for the outputs Integration and conversion time/resolution per channel		
Cable length  • shielded, max.  Analog outputs  Number of analog outputs  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.  • Integration time, parameterizable  • Conversion time (per channel)  Analog value generation for the outputs  Integration and conversion time/resolution per channel  • Resolution with overrange (bit including sign), 10 bit		Yes
Cable length  • shielded, max.  Analog outputs  Number of analog outputs  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.  • Integration time, parameterizable  • Conversion time (per channel)  Analog value generation for the outputs  Integration and conversion time/resolution per channel  • Resolution with overrange (bit including sign), 10 bit	— Input resistance (0 to 10 V)	≥100k ohms
• shielded, max.  Analog outputs  Number of analog outputs  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.  • Integration time, parameterizable  • Conversion time (per channel)  Analog value generation for the outputs  Integration and conversion time/resolution per channel  • Resolution with overrange (bit including sign),  Integration and conversion time/resolution per channel  • Resolution with overrange (bit including sign),  Integration and conversion time/resolution per channel		
Number of analog outputs  Output ranges, current  O to 20 mA  Yes  Analog value generation for the inputs Integration and conversion time/resolution per channel  Resolution with overrange (bit including sign), max.  Integration time, parameterizable  Conversion time (per channel)  Yes  Conversion time (per channel)  Analog value generation for the outputs Integration and conversion time/resolution per channel  Resolution with overrange (bit including sign), 10 bit		100 m; twisted and shielded
Number of analog outputs  Output ranges, current  O to 20 mA  Yes  Analog value generation for the inputs Integration and conversion time/resolution per channel  Resolution with overrange (bit including sign), max.  Integration time, parameterizable  Conversion time (per channel)  Yes  Conversion time (per channel)  Analog value generation for the outputs Integration and conversion time/resolution per channel  Resolution with overrange (bit including sign), 10 bit	O mala manutanta	
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.  • Integration time, parameterizable Yes  • Conversion time (per channel)  Analog value generation for the outputs Integration and conversion time/resolution per channel  • Resolution with overrange (bit including sign), 10 bit		2
<ul> <li>• 0 to 20 mA</li> <li>Analog value generation for the inputs</li> <li>Integration and conversion time/resolution per channel</li> <li>• Resolution with overrange (bit including sign), max.</li> <li>• Integration time, parameterizable Yes</li> <li>• Conversion time (per channel)</li> <li>Analog value generation for the outputs</li> <li>Integration and conversion time/resolution per channel</li> <li>• Resolution with overrange (bit including sign),</li> <li>10 bit</li> </ul>		2
Analog value generation for the inputs  Integration and conversion time/resolution per channel  Resolution with overrange (bit including sign), max.  Integration time, parameterizable Yes  Conversion time (per channel)  Analog value generation for the outputs  Integration and conversion time/resolution per channel  Resolution with overrange (bit including sign),  10 bit		Yes
Integration and conversion time/resolution per channel  Resolution with overrange (bit including sign), max.  Integration time, parameterizable Yes  Conversion time (per channel)  Analog value generation for the outputs  Integration and conversion time/resolution per channel  Resolution with overrange (bit including sign),  10 bit	0 to 20 m/t	
<ul> <li>Resolution with overrange (bit including sign), max.</li> <li>Integration time, parameterizable Yes</li> <li>Conversion time (per channel)</li> <li>Analog value generation for the outputs</li> <li>Integration and conversion time/resolution per channel</li> <li>Resolution with overrange (bit including sign),</li> <li>10 bit</li> </ul>		
max.  • Integration time, parameterizable  • Conversion time (per channel)  Analog value generation for the outputs  Integration and conversion time/resolution per channel  • Resolution with overrange (bit including sign),		
• Conversion time (per channel)  Analog value generation for the outputs  Integration and conversion time/resolution per channel  • Resolution with overrange (bit including sign),  10 bit		10 bit
Analog value generation for the outputs  Integration and conversion time/resolution per channel  • Resolution with overrange (bit including sign),  10 bit	• Integration time, parameterizable	Yes
Integration and conversion time/resolution per channel  • Resolution with overrange (bit including sign),  10 bit	• Conversion time (per channel)	625 µs
• Resolution with overrange (bit including sign),	Analog value generation for the outputs	
3.07	Integration and conversion time/resolution per channel	
max.	<ul> <li>Resolution with overrange (bit including sign),</li> </ul>	10 bit
	max.	

## Connectable encoders • 2-wire sensor Yes Interface type **PROFINET Physics** Ethernet Isolated Yes automatic detection of transmission rate Yes Autonegotiation Yes Yes Autocrossing Interface types 2 • Number of ports • integrated switch Yes Protocols Yes • PROFINET IO Controller • PROFINET IO Device Yes Yes • SIMATIC communication • Open IE communication Yes Yes • Web server • Media redundancy Yes; as MRP client PROFINET IO Controller 100 Mbit/s • Transmission rate, max. Services Yes - PG/OP communication Yes - S7 routing No - Isochronous mode Yes — Open IE communication — IRT No Yes; as MRP client - MRP No - MRPD No - PROFlenergy Yes - Prioritized startup 16 - Number of IO devices with prioritized startup, max. 16 - Number of connectable IO Devices, max. - Number of connectable IO Devices for RT, 16 max. 16 - of which in line, max. Yes - Activation/deactivation of IO Devices 8 - Number of IO Devices that can be simultaneously activated/deactivated, max.

— Updating time	The minimum value of the update time also depends on the communication component set for PROFINET IO, on the number of IO devices and the quantity of configured user data.
PROFINET IO Device	
Services	
— PG/OP communication	Yes
— S7 routing	Yes
— Isochronous mode	No
<ul> <li>Open IE communication</li> </ul>	Yes
— IRT	No
— MRP	Yes; as MRP client
— MRPD	No
— PROFlenergy	Yes
— Shared device	Yes
<ul> <li>Number of IO Controllers with shared</li> </ul>	2
device, max.	
Protocols	
Supports protocol for PROFINET IO	Yes
PROFIBUS	Yes; CM 1243-5 (master) or CM 1242-5 (slave) required
AS-Interface	Yes; CM 1243-2 required
Protocols (Ethernet)	
• TCP/IP	Yes
• DHCP	No
• SNMP	Yes
• DCP	Yes
• LLDP	Yes
Open IE communication	
• TCP/IP	Yes
— Data length, max.	8 kbyte
• ISO-on-TCP (RFC1006)	Yes
— Data length, max.	8 kbyte
• UDP	Yes
— Data length, max.	1 472 byte
Web server	
• supported	Yes
<ul> <li>User-defined websites</li> </ul>	Yes
Further protocols	
• MODBUS	Yes
Communication functions	
S7 communication	
• supported	Yes

• as server	Yes
• as client	Yes
<ul> <li>User data per job, max.</li> </ul>	See online help (S7 communication, user data size)
Number of connections	
• overall	16: dvnamically

Test commissioning functions	
Status/control	
Status/control variable	Yes
<ul> <li>Variables</li> </ul>	Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters
Forcing	
• Forcing	Yes
Diagnostic buffer	
• present	Yes
Traces	
Number of configurable Traces	2
<ul> <li>Memory size per trace, max.</li> </ul>	512 kbyte

Interrupts/diagnostics/status information		
Diagnostics indication LED		
RUN/STOP LED	Yes	
• ERROR LED	Yes	
MAINT LED	Yes	

Integrated Functions	
Number of counters	6
Counting frequency (counter) 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	4; With integrated outputs
PID controller	Yes
Number of alarm inputs	4
Number of pulse outputs	4
Limit frequency (pulse)	100 kHz

Potential separation	
Potential separation digital inputs	
Potential separation digital inputs	No
<ul><li>between the channels, in groups of</li></ul>	1
Potential separation digital outputs	
Potential separation digital outputs	Yes
• between the channels	No

EMC	
Interference immunity against discharge of static electric	city
<ul> <li>Interference immunity against discharge of static electricity acc. to IEC 61000-4-2</li> </ul>	Yes
<ul> <li>Test voltage at air discharge</li> </ul>	8 kV
<ul> <li>Test voltage at contact discharge</li> </ul>	6 kV
Interference immunity to cable-borne interference	
<ul> <li>Interference immunity on supply lines acc. to IEC 61000-4-4</li> </ul>	Yes
<ul> <li>Interference immunity on signal cables acc. to IEC 61000-4-4</li> </ul>	Yes
Interference immunity against voltage surge	
<ul> <li>Interference immunity on supply lines acc. to IEC 61000-4-5</li> </ul>	Yes
Interference immunity against conducted variable distur	bance induced by high-frequency fields
<ul> <li>Interference immunity against high-frequency radiation acc. to IEC 61000-4-6</li> </ul>	Yes
Emission of radio interference acc. to EN 55 011	
<ul> <li>Limit class A, for use in industrial areas</li> </ul>	Yes; Group 1
<ul> <li>Limit class B, for use in residential areas</li> </ul>	Yes; When appropriate measures are used to ensure compliance with the limits for Class B according to EN 55011
Degree and class of protection	
ID degree of protection	IP20
IP degree of protection	IP2U
Standards, approvals, certificates	IP2U
	Yes
Standards, approvals, certificates	
Standards, approvals, certificates CE mark	Yes
Standards, approvals, certificates  CE mark  UL approval	Yes Yes
Standards, approvals, certificates  CE mark  UL approval  cULus  FM approval  RCM (formerly C-TICK)	Yes Yes Yes Yes Yes Yes
Standards, approvals, certificates  CE mark  UL approval  cULus  FM approval  RCM (formerly C-TICK)  KC approval	Yes Yes Yes Yes Yes
Standards, approvals, certificates  CE mark  UL approval  cULus  FM approval  RCM (formerly C-TICK)	Yes Yes Yes Yes Yes Yes
Standards, approvals, certificates  CE mark  UL approval  cULus  FM approval  RCM (formerly C-TICK)  KC approval	Yes Yes Yes Yes Yes Yes Yes Yes Yes
Standards, approvals, certificates  CE mark  UL approval  cULus  FM approval  RCM (formerly C-TICK)  KC approval  Marine approval	Yes
Standards, approvals, certificates  CE mark  UL approval  cULus  FM approval  RCM (formerly C-TICK)  KC approval  Marine approval  Highest safety class achievable in safety mode	Yes Yes Yes Yes Yes Yes Yes Yes Yes
Standards, approvals, certificates  CE mark  UL approval  cULus  FM approval  RCM (formerly C-TICK)  KC approval  Marine approval  Highest safety class achievable in safety mode  • Performance level according to ISO 13849-1	Yes
Standards, approvals, certificates  CE mark  UL approval  cULus  FM approval  RCM (formerly C-TICK)  KC approval  Marine approval  Highest safety class achievable in safety mode  • Performance level according to ISO 13849-1  • SIL acc. to IEC 61508	Yes
Standards, approvals, certificates  CE mark  UL approval  cULus  FM approval  RCM (formerly C-TICK)  KC approval  Marine approval  Highest safety class achievable in safety mode  • Performance level according to ISO 13849-1  • SIL acc. to IEC 61508  Ambient conditions	Yes
Standards, approvals, certificates  CE mark  UL approval  cULus  FM approval  RCM (formerly C-TICK)  KC approval  Marine approval  Highest safety class achievable in safety mode  • Performance level according to ISO 13849-1  • SIL acc. to IEC 61508  Ambient conditions  Free fall	Yes
Standards, approvals, certificates  CE mark  UL approval  cULus  FM approval  RCM (formerly C-TICK)  KC approval  Marine approval  Highest safety class achievable in safety mode  • Performance level according to ISO 13849-1  • SIL acc. to IEC 61508  Ambient conditions  Free fall  • Fall height, max.	Yes
Standards, approvals, certificates  CE mark  UL approval  cULus  FM approval  RCM (formerly C-TICK)  KC approval  Marine approval  Highest safety class achievable in safety mode  • Performance level according to ISO 13849-1  • SIL acc. to IEC 61508  Ambient conditions  Free fall  • Fall height, max.  Ambient temperature during operation	Yes Yes Yes Yes Yes Yes Yes Yes Yes SIL 3

• horizortal installation, min.     • vertical installation, min.     • vertical installation, max.     • vertical installation, max.     • vertical installation, max.     • vertical installation, max.  Anbient temperature during storage/transportation  • min.     • max.     • 70 °C  Air pressure acc. to IEC 60068-2-13  • Operation, min.     • Operation, min.     • Operation, min.     • Operation, max.     • Storage/transport, min.     • Storage/transport, min.     • Storage/transport, min.     • Storage/transport, min.     • Operation, max.  * Vibrations  • Vibrations  • Vibrations  • Vibrations  • Vibration resistance during operation acc. to IEC 60068-2-6  • Operation, tested according to IEC 60068-2-6  * Shock testing  • tested according to IEC 60068-2-27  • Ves: IEC 68, Part 2-27 half-sine: strength of the shock 15 g (peak value), duration 11 ms  Pollutant concentrations  • S02 at RH < 60% without condensation  * S02 = Configuration  Programming  Programming  Programming  Programming language  — LAD — FBD — SCL  Know-how protection  • User program protection/password protection  • Protection level: Write protection  • Protection level: Complete protection		
vertical installation, max.  Ambient temperature during storage/transportation      vinin.     · max.	<ul> <li>horizontal installation, max.</li> </ul>	55 °C
Ambient temperature during storage/transportation  • min. • max. • max. • 70 °C  Af pressure acc. to IEC 60068-2-13  • Operation, min. • Operation, max. • Storage/transport, min. • Storage/transport, min. • Storage/transport, min. • Storage/transport, max.  * Operation, max.  * Operation, max.  * Operation, max.  * Operation resistance during operation acc. to IEC 60068-2-6  • Operation, tested according to IEC 60068-2-6  * Operation, tested according to IEC 60068-2-6  * Operation, tested according to IEC 60068-2-8  * Shock testing  • tested according to IEC 60068-2-27  * Ves: IEC 68, Part 2-27 half-sine: strength of the shock 15 g (peak value), duration 11 ms  * SO2 at RH < 60% without condensation  * SO2 at RH < 60% without condensation  * SO2: < 0.5 ppm; H2S: < 0.1 ppm; RH < 60% condensation-free  **Configuration  * Programming  * Programming  * Programming language  - LAD - FBD - SCL - Yes; incl. failsafe - Yes; incl. failsafe - Yes  * Yes  * Copy protection  • User program protection/password protection • User program protection/password protection • Block protection • Block protection • Protection level: Write protection • Protection level: Write protection • Protection level: Read/write protection • Protection level: Complete prote	• vertical installation, min.	0 °C
	• vertical installation, max.	45 °C
• max.         70 °C           Air pressure acc. to IEC 60068-2-13         • Operation, min.         795 hPa           • Operation, max.         1 080 hPa         • Storage/transport, min.         660 hPa           • Storage/transport, max.         1 080 hPa         • Storage/transport, max.           Relative humidity         • Operation, max.         95 %; no condensation           Vibration resistance during operation acc. to IEC 60068-2-6         2 g (m/s²) wall mounting, 1 g (m/s²) DIN rail           IEC 60068-2-6         • Operation, tested according to IEC 60068-2-6         Yes           Shock testing         • tested according to IEC 60068-2-7         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	Ambient temperature during storage/transportation	
Air pressure acc. to IEC 60068-2-13  Operation, min. Operation, max. 1 080 nPa Storage/transport, min. Storage/transport, max. 1 080 nPa Storage/transport, max. 95 %: no condensation  Vibrations  Vibrations Vibrations Vibrations Vibration resistance during operation acc. to IEC 60068-2-6 Shock testing  Ves: IEC 68, Part 2-27 half-sine: strength of the shock 15 g (peak value), duration 11 ms  Pollutant concentrations VSO2 at RH < 60% without condensation SO2: < 0.5 ppm; H2S: < 0.1 ppm; RH < 60% condensation-free  Configuration  Programming Programming language — LAD — FBD — SCL Xnow-how protection Ves: incl. failsafe — SCL Xnow-how protection Ves Block protection Ves Storage Read/write protection Prosper Read/write protection Ves Protection level: Write protection Protection level: Read/write protection Protection level: Read/write protection Protection level: Complete	● min.	-40 °C
Operation, min. Operation, max. Operation, max. Operation, max. Storage/transport, min. Operation, max.  Storage/transport, max.  1 080 hPa 1 080 hPa 1 080 hPa 1 080 hPa  Storage/transport, max.  Polarition, max.  Operation, max. Operation, max.  Operation, max.  Operation, max.  Operation, max.  Operation, max.  Operation, tested according operation acc. to IEC 60068-2-6 Operation, tested according to IEC 60068-2-6  Shock testing Operation, tested according to IEC 60068-2-7  Operation, tested according to IEC 60068-2-7  Yes: IEC 68, Part 2-27 half-sine: strength of the shock 15 g (peak value), duration 11 ms  Pollutant concentrations Operation Operation Operation Programming Programming language  - LAD - FED - SCL Yes: incl. failsafe - Yes; incl. failsafe - Yes; incl. failsafe - Yes  Know-how protection Operation	• max.	70 °C
Operation, max. Storage/transport, min. Storage/transport, min. Storage/transport, max.  Pelative humidity Operation, max.  Vibrations Vibration resistance during operation acc. to IEC 60068-2-6 Operation, tested according to IEC 60068-2-6 Operation, tested according to IEC 60068-2-6 Yes  Shock testing Oteration tested according to IEC 60068-2-7  Yes: IEC 68, Part 2-27 half-sine: strength of the shock 15 g (peak value), duration 11 ms  Pollutant concentrations S02: < 0.5 ppm; H2S: < 0.1 ppm; RH < 60% condensation-free  Configuration  Programming Programming language — LAD — FBD — SCL Know-how protection Occupy protection User program protection/password protection User program protection Protection level: Write protection Protection level: Write protection Protection level: Read/write protection Protection level: Complete protection Protections Protection level: Complete protection Protection level: Complete protection Protections Protections Protections Protections Protections Protections Protections Protection level: Complete protection Protections Protection	Air pressure acc. to IEC 60068-2-13	
Storage/transport, min. Storage/transport, max.  Relative humidity Operation, max.  Operation, max.  Operation, max.  Operation resistance during operation acc. to IEC 60068-2-6 Operation, tested according to IEC 60068-2-6  Operation, tested according to IEC 60068-2-7  Operation, tested according to IEC 60068-2-7  Operation, tested according to IEC 60068-2-7  Operation, tested according to IEC 60068-2-8  Shock testing  Operation, tested according to IEC 60068-2-8  Shock testing  Operation to IEC 60068-2-8  Operation to IEC 60068-2-9  Yes: IEC 68, Part 2-27 half-sine: strength of the shock 15 g (peak value), duration 11 ms  Pollutant concentrations  Operation to Improve the shock operation of the shock 15 g (peak value), duration 11 ms  Programming  Programming  Programming language  — LAD — FBD — SCL — Yes; incl. failsafe — Yes; incl. failsafe — Yes; incl. failsafe — Yes  Operation  Opera	Operation, min.	795 hPa
Storage/transport, max.  Relative humidity  Operation, max.  Polytications  Vibration resistance during operation acc. to IEC 60068-2-6  Operation, tested according to IEC 60068-2-6  Shock testing  Ites tested according to IEC 60068-2-7  Shock testing  Ites tested according to IEC 60068-2-7  Pollutant concentrations  So2 at RH < 60% without condensation  So2: < 0.5 ppm; H2S: < 0.1 ppm; RH < 60% condensation-free  Configuration  Programming  Programming language  LAD  FBD  SCL  Yes  Know-how protection  User program protection/password protection  Copy protection  Plock protection  Protection level: Write protection  Protection level: Read/write protection  Protection level: Read/write protection  Protection level: Complete protection  Yes  Cycle time monitoring  adjustable  Dimensions  Width  130 mm	<ul><li>Operation, max.</li></ul>	1 080 hPa
Relative humidity  Operation, max.  95 %; no condensation  Vibrations  Vibrations  Vibration resistance during operation acc. to IEC 60068-2-6  Operation, tested according to IEC 60068-2-6  Operation, tested according to IEC 60068-2-7  Yes  Shock testing  Itested 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: < 0.5 ppm; H2S: < 0.1 ppm; RH < 60% condensation-free  Configuration  Programming  Programming language  — LAD — FBD — SCL Yes; incl. failsafe — Yes  Know-how protection  User program protection/password protection Yes  Access protection Protection level: Write protection Protection level: Read/write protection Protection level: Complete protection Yes  Cycle time monitoring  adjustable  Pimensions  Width  130 mm	• Storage/transport, min.	660 hPa
Operation, max.  Objections  Operation resistance during operation acc. to IEC 60068-2-6  Operation, tested according to IEC 60068-2-6  Operation, tested according to IEC 60068-2-6  Shock testing  Itested according to IEC 60068-2-7  Ves: IEC 68, Part 2-27 half-sine: strength of the shock 15 g (peak value), duration 11 ms  Pollutant concentrations  S02: < 0.5 ppm; H2S: < 0.1 ppm; RH < 60% condensation-free  Configuration  Programming  Programming language  — LAD — FBD — SCL Ves: incl. failsafe — SCL Know-how protection  User program protection/password protection Suser protection Ves Access protection Protection level: Write protection Protection level: Read/write protection Protection level: Complete protection Protection level: Complete protection Ves  Operations  Width  130 mm	• Storage/transport, max.	1 080 hPa
Vibrations  Vibration resistance during operation acc. to IEC 60068-2-6  Operation, tested according to IEC 60068-2-6  Yes  Shock testing  Ves; 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  Programming  Programming  Programming language  LAD  FBD  SCL  Yes; incl. failsafe  Yes; incl. failsafe  Yes  Know-how protection  User program protection/password protection  Oppy protection  Protection level: Write protection  Protection level: Write protection  Protection level: Complete protection  Yes  Cycle time monitoring  adjustable  Pimensions  Width  130 mm	Relative humidity	
Vibration resistance during operation acc. to IEC 60068-2-6  Operation, tested according to IEC 60068-2-6  Yes  Shock testing  Itested according to IEC 60068-2-7  Ves; 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  Programming  Programming  Programming language  LAD  FBD  SCL  Ves; incl. failsafe  Yes; incl. failsafe  Yes  Know-how protection  User program protection/password protection  Copy protection  Block protection  Protection level: Write protection  Protection level: Write protection  Protection level: Complete protection  Yes  Cycle time monitoring  adjustable  Pinnersions  Width	Operation, max.	95 %; no condensation
IEC 60068-2-6  • Operation, tested according to IEC 60068-2-6  Shock testing  • tested according to IEC 60068-2-27  Pollutant concentrations  • SO2 at RH < 60% without condensation  S02: < 0.5 ppm; H2S: < 0.1 ppm; RH < 60% condensation-free  Configuration  Programming  Programming Ianguage  — LAD — FBD — SCL — SCL — SCL  Know-how protection  • User program protection/password protection • Copy protection • Block protection • Protection level: Write protection • Protection level: Write protection • Protection level: Complete protection	Vibrations	
Shock testing  • tested according to IEC 60068-2-27  • tested according to IEC 60068-2-27  Ves; 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  SO2: < 0.5 ppm; H2S: < 0.1 ppm; RH < 60% condensation-free  Configuration  Programming  Programming language  — LAD — Yes; incl. failsafe — SCL — Yes  Know-how protection  • User program protection/password protection • Copy protection • Block protection • Block protection • Protection level: Write protection • Protection level: Write protection • Protection level: Read/write protection • Protection level: Complete protection • Protection level: Complete protection  Ves  Cycle time monitoring • adjustable  Pimensions  Width  130 mm		2 g (m/s²) wall mounting, 1 g (m/s²) DIN rail
• 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  SO2: < 0.5 ppm; H2S: < 0.1 ppm; RH < 60% condensation-free  Configuration  Programming  Programming language  — LAD — FBD — Yes; incl. failsafe — SCL Yes  Know-how protection  • User program protection/password protection • Copy protection • Block protection  Protection level: Write protection • Protection level: Read/write protection • Protection level: Read/write protection • Protection level: Complete protection • Protection level: Complete protection • Access protection • Protection level: Complete protection	Operation, tested according to IEC 60068-2-6	Yes
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  Programming  Programming language  — LAD Yes; incl. failsafe — FBD Yes; incl. failsafe — SCL Yes  Know-how protection  ● User program protection/password protection Yes ● Block protection Yes  ● Block protection Yes  Access protection  ● Protection level: Write protection Yes ● Protection level: Read/write protection Yes  ● Protection level: Complete protection Yes  Cycle time monitoring  ● adjustable Yes  Dimensions  Width 130 mm	Shock testing	
SO2: < 0.5 ppm; H2S: < 0.1 ppm; RH < 60% condensation-free  Configuration  Programming  Programming language  — LAD — FBD — SCL — Yes; incl. failsafe — SCL  Know-how protection  • User program protection/password protection • Copy protection • Block protection  • Protection level: Write protection  • Protection level: Read/write protection • Protection level: Complete protection	• tested according to IEC 60068-2-27	
Programming  Programming language  — LAD Yes; incl. failsafe — FBD Yes; incl. failsafe — SCL Yes  Know-how protection  • User program protection/password protection • Copy protection Yes • Block protection  • Protection level: Write protection • Protection level: Write protection • Protection level: Read/write protection • Protection level: Complete protection • Protection level: Complete protection • Protection level: Complete protection • Protection level: Omplete protection	Pollutant concentrations	
Programming  Programming language  — LAD — FBD — Yes; incl. failsafe — SCL Yes  Know-how protection  • User program protection/password protection • Copy protection • Block protection  • Protection level: Write protection • Protection level: Read/write protection • Protection level: Complete protection • Protection level: Tomplete protection	SO2 at RH < 60% without condensation	S02: < 0.5 ppm; H2S: < 0.1 ppm; RH < 60% condensation-free
Programming language  — LAD — FBD — Yes; incl. failsafe — SCL Yes  Know-how protection  • User program protection/password protection • Copy protection • Block protection • Block protection • Protection level: Write protection • Protection level: Read/write protection • Protection level: Complete protection • Protection level: Complete protection • Protection level: Tead/write protection		
LAD Yes; incl. failsafe FBD Yes; incl. failsafe SCL Yes  Know-how protection  User program protection/password protection Copy protection Copy protection Block protection Protection level: Write protection Protection level: Read/write protection Protection level: Complete protection Protection level: Complete protection Protection level: Tead/write protection		
FBD Yes; incl. failsafe SCL Yes  Know-how protection  • User program protection/password protection • Copy protection • Block protection • Block protection • Protection level: Write protection • Protection level: Read/write protection • Protection level: Read/write protection • Protection level: Complete protection • Protection level: Tomplete protection	Programming language	
— SCL  Know-how protection  • User program protection/password protection  • Copy protection  • Block protection  • Protection level: Write protection  • Protection level: Read/write protection  • Protection level: Complete protection  • Protection level: Complete protection  • Protection level: Tomplete protection	— LAD	
Know-how protection  • User program protection/password protection  • Copy protection  • Block protection  • Protection level: Write protection  • Protection level: Read/write protection  • Protection level: Complete protection  • Protection level: Complete protection  • Protection level: Tead/write protection	— FBD	Yes; incl. failsafe
User program protection/password protection Copy protection Block protection Yes  Protection Protection level: Write protection Protection level: Read/write protection Protection level: Complete protection Protection level: Complete protection Protection level: Templete protection Protection leve	— SCL	Yes
Copy protection Block protection Yes  Access protection  Protection level: Write protection Protection level: Read/write protection Protection level: Complete protection Protection level: Complete protection Yes Cycle time monitoring adjustable  Pimensions Width  130 mm	Know-how protection	
Block protection  Access protection  Protection level: Write protection Protection level: Read/write protection Protection level: Read/write protection Protection level: Complete protection Yes Cycle time monitoring adjustable  Ves  Dimensions  Width  130 mm	<ul> <li>User program protection/password protection</li> </ul>	Yes
Access protection  Protection level: Write protection Protection level: Read/write protection Protection level: Complete protection Protection level: Complete protection Protection level: Complete protection Yes Cycle time monitoring Adjustable Yes  Dimensions Width 130 mm	Copy protection	Yes
<ul> <li>Protection level: Write protection</li> <li>Protection level: Read/write protection</li> <li>Protection level: Complete protection</li> <li>Yes</li> <li>Cycle time monitoring</li> <li>adjustable</li> <li>Yes</li> <li>Dimensions</li> <li>Width</li> <li>130 mm</li> </ul>	Block protection	Yes
<ul> <li>Protection level: Read/write protection</li> <li>Protection level: Complete protection</li> <li>Cycle time monitoring</li> <li>adjustable</li> <li>Yes</li> <li>Dimensions</li> <li>Width</li> <li>130 mm</li> </ul>	Access protection	
<ul> <li>Protection level: Complete protection</li> <li>Cycle time monitoring</li> <li>adjustable</li> <li>Yes</li> </ul> Dimensions Width <ul> <li>130 mm</li> </ul>	Protection level: Write protection	Yes
Cycle time monitoring	<ul> <li>Protection level: Read/write protection</li> </ul>	Yes
adjustable     Yes  Dimensions  Width     130 mm	<ul> <li>Protection level: Complete protection</li> </ul>	Yes
Dimensions Width 130 mm	Cycle time monitoring	
Width 130 mm	● adjustable	Yes
	Dimensions	
Height 100 mm	Width	130 mm
	Height	100 mm

Depth	75 mm
Weights	
Weight, approx.	585 g
last modified:	03/03/2020