SIEMENS

Data sheet

6AG1215-1AF40-5XB0





SIPLUS S7-1200 CPU 1215FC DC/DC/DC based on 6ES7215-1AF40-0XB0 with conformal coating, -25...+55 °C, compact CPU, DC/DC/DC, 2 PROFINET ports, onboard I/O: 14 DI 24 V DC; 10 DQ 24 V DC 0.5 A; 2 AI 0-10 V DC, 2 AQ 0-20 mA DC, power supply: DC 20.4 - 28.8 V DC, program/data memory 150 KB



General information			
Product type designation	CPU 1215FC DC/DC/DC		
based on	6ES7215-1AF40-0XB0		
Engineering with			
STEP 7 TIA Portal configurable/integrated from version	see entry ID: 109746275		
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		
Load voltage L+			
 Rated value (DC) 	24 V		
 permissible range, lower limit (DC) 	5 V		
 permissible range, upper limit (DC) 	250 V		
Input current			
Current consumption (rated value)	500 mA; CPU only		
Current consumption, max.	1 500 mA; CPU with all expansion modules		
Inrush current, max.	12 A; at 28.8 V DC		
l²t	0.5 A ² ·s		
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	L+ minus 4 V DC min.		
Power loss			
Power loss, typ.	12 W		
Memory			
Work memory			
• integrated	150 kbyte		
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 word operations, typ. for floating point arthmetic, by. CPL Debots Number of blocks (otal) OBL FCS, FSB, counters and teners. The mealman number of addressable blocks frages from 1 to 6553. There is no restriction, the entire working memory can be used. **Number max.** Data areas and their retentivity Resemble data area (ind. inners, counters, flags), max. Flag **Size, max.** Local date **Per priority class, deptacle **Per prior		0.005
For floating point arithmetic, typ. CPLIABACKS Number of blocks (total) B Number of blocks (total) Number of blocks (total) B Number of blocks (total) Number of blocks (total) Number of blocks (total) S Number of blocks (total) Number of blocks (total) Number of blocks area (total times, counters, flags), max. S Number of blocks area (total times, counters, flags), max. S Number of blocks (total times, counters, flags), max. S Number of blocks (total times) Number of blocks (total times) Number of modules per system, max. S S S S S S S S S S S S S	for bit operations, typ.	0.085 µs; / instruction
Care Disclores		
Blocks ranges from 1 to 6535. There is no restriction, the entire working memory, can be used 8		2.3 µs; / instruction
• Number, max. Data arrass and their retentivity Relentive data area (not *smers, counters, flags), max. 10 kityte Riag • Size, max. 10 kityte, Size of bit memory address area ***Process image ***Process image ***Inputs, adjustable • Uputputs, adjustable • Ikbyte ***Inmort day ***Cook • Faratrivare clock (real-time) • Beakup time • Deviation per day, max. ***Upital inputs ***Number of digital inputs • of which inputs usable for technological functions Sourcesink flipput • Ves ***Number of simultaneously controllable inputs all mounting positions — up to 40 °C, max. Input voltage • Raid value (DC) • or signal ***Or or signa	Number of blocks (total)	blocks ranges from 1 to 65535. There is no restriction, the entire working
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Retentive data area (incl. timers, counters, flaga), max. Figgr Size, max. 16 kbyte. Size of bit memory address area 17 coedidata 18 kbyte. Size of bit memory address area 18 kbyte. Priority class 1 (program cycle): 16 KB, priority class 2 to 26: 6 KB 18 kdyte. Priority class 1 (program cycle): 16 KB, priority class 2 to 26: 6 KB 18 kdyte. Priority class 1 (program cycle): 16 KB, priority class 2 to 26: 6 KB 18 kdyte. Priority class 1 (program cycle): 16 KB, priority class 2 to 26: 6 KB 18 kdyte. Priority class 1 (program cycle): 16 KB, priority class 2 to 26: 6 KB 18 kdyte. Priority class 1 (program cycle): 16 KB, priority class 2 to 26: 6 KB 18 kdyte. Size of bit memory address area 19 coeding the complete complete class of the clas	Number, max.	Limited only by RAM for code
Skbyte: Size of bit memory address area	Data areas and their retentivity	
Size, max	Retentive data area (incl. timers, counters, flags), max.	10 kbyte
Local data - per priority class, max. - Address area Process image - Inputs, adjustable - Outputs, adjustable - Number of modules per system, max. Time of day Clock - Hardware clock (real-time) - Backup time - Backup time - Deviation per day, max Oil which inputs usable for technological functions Source-slink input - Oil of dy (Hardware clock) - Oil of dy (Hardware clock) - First path of dy (Hardware clock) - Oil of dy (Hardware clock) - Hardware clock (real-time) - Deviation per day, max Oil which inputs usable for technological functions - Oil of dy (Hardware clock) - Oil of the clock (real-time) - Oil of 01', max Oil of 01', max Oil of 1', max O	Flag	
per priority class, max. Address area Process image in liputs, adjustable in libyte Hardware configuration Number of modules per system, max. Time of day Clock Hardware clock (real-lime) Backup time Beakup time time time time time time time time	• Size, max.	8 kbyte; Size of bit memory address area
Process image Injust, adjustable 1 kbyte	Local data	
Process image Inputs, adjustable Outputs, adjustable Outputs, adjustable Outputs, adjustable Outputs, adjustable It kbyte Hardware configuration Number of modules per system, max. Time of dry Clock Hardware dook (real-time) Backup time Obviotion per day, max. Over day for per day, max. Over day for day for per day, max. Over day for day for per day, max. Over day for	 per priority class, max. 	16 kbyte; Priority class 1 (program cycle): 16 KB, priority class 2 to 26: 6 KB
In Inputs, adjustable Outputs, adjustable Hardware configuration Number of modules per system, max: 1	Address area	
- Outputs, adjustable 1 kbyte	Process image	
Number of modules per system. max. 3 comm. modules, 1 signal board, 8 signal modules	 Inputs, adjustable 	1 kbyte
Number of modules per system, max. Time of day Clock Hardware clock (real-time) Backup time Devalation per day, max. Output of digital inputs Number of digital inputs Number of digital inputs Number of digital inputs Number of signal flow of which inputs usable for technological functions Source/sink input Number of signal modules on treatment of the control of the cont	Outputs, adjustable	1 kbyte
Time of day	Hardware configuration	
Clock Hardware clock (real-time) Yes Backup time 480 h; Typical 60 s/month at 25 °C	Number of modules per system, max.	3 comm. modules, 1 signal board, 8 signal modules
Hardware clock (real-time) Backup time Devailation per day, max. Digital inputs Number of digital inputs of digital inputs of which inputs usable for technological functions Source/sink input Hardware clock (real-time) of which inputs usable for technological functions Source/sink input Of which inputs usable for technological functions Source/sink input Of which inputs usable for technological functions Source/sink input Yes Number of simultaneously controllable inputs all mounting positions — up to 40 °C, max. 14 Input voltage Rated value (DC) of or signal "0" of or signal "1" 15 V DC at 1 mA 15 V DC at 2.5 mA Input delay (for rated value of input voltage) for standard inputs — parameterizable — at "0" to "1", min. — at "0" to "1", max. 12.8 ms For interrupt inputs — parameterizable for technological functions — parameterizable for technological functions — parameterizable Single phase: 3 @ 100 kHz & 3 @ 30 kHz, differential: 3 @ 80 kHz & 3 @ 30 kHz Cable length • shielded, max. • on simplicad, max. • on shielded, max. 10, Relays Switching capacity of the outputs • with resistive load, max. • on lamp load, max. 10 ms; max. 10 ms; max. Paraw. Paraw. Paraw. Parameterizable Or "0", max. 10 ms; max. Parameterizable Or "0", "max. 10 ms; max. Parameterizable Parameterizab	Time of day	
Backup time Deviation per day, max. Digital inputs Number of digital inputs of which input usable for technological functions Source/sink input Number of digital inputs of which inputs usable for technological functions Source/sink input Number of simultaneously controllable inputs all mounting positions — up to 40 °C, max. 14 Input voltage Rated value (DC) for signal °C' for signal °C' for signal °C' for signal °C' of or signal °C' for signal °C' of or signal °C' for signal °C' of or signal °C' of or signal °C' for signal °C' of or signal °C' for signal °C' of or signal °C' for signal °C' of or signal °C' sig	Clock	
Digital inputs Number of digital inputs of which inputs usable for technological functions Source/sink input Number of simultaneously controllable inputs all mounting positions — up to 40 °C, max.	Hardware clock (real-time)	Yes
Number of digital inputs of which inputs usable for technological functions Source/sink input Possible for inputs usable for technological functions Source/sink input Number of simultaneously controllable inputs all mounting positions — up to 40 °C, max. Input voltage • Rated value (DC) • for signal °0° • for signal 1° 15 V DC at 2.5 mA Input delay (for rated value of input voltage) for standard inputs — parameterizable — at "0" to "1", min. — at "0" to "1", max. for interrupt inputs — parameterizable Yes for technological functions — 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. • shielded, max. • unshielded, max. • on lamp load, max. • on	Backup time	480 h; Typical
Number of digital inputs • of which inputs usable for technological functions Source/sink input Number of simultaneously controllable inputs all mounting positions — up to 40 °C, max.	Deviation per day, max.	60 s/month at 25 °C
• of which inputs usable for technological functions Source/sink input Number of simultaneously controllable inputs all mounting positions — up to 40 °C, max. Input voltage • Rated value (DC) • for signal °0' • for signal °1' Input delay (for rated value of input voltage) for standard inputs — parameterizable — at °0' to "1", min. — at "0" to "1", max. for interrupt inputs — parameterizable Yes for technological functions — 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. • unshielded, max. • unshielded, max. • unshielded, max. • unshielded, max. • on lamp load, max. • "1" to "0", max. 10 ms; max. Relay outputs Relay outputs Relay outputs Relay outputs Pyes 10 ms; max. 10 ms; max. Relay outputs	Digital inputs	
• of which inputs usable for technological functions Source/sink input Number of simultaneously controllable inputs all mounting positions — up to 40 °C, max. Input voltage • Rated value (DC) • for signal "0" • for signal "1" Input delay (for rated value of input voltage) for standard inputs — parameterizable — parameterizable — at "0" to "1", min. — at "0" to "1", max. for interrupt inputs — parameterizable — yes for technological functions — parameterizable yes for technological functions — parameterizable Single phase: 3 @ 100 kHz & 3 @ 30 kHz, differential: 3 @ 80 kHz & 3 @ 30 k	Number of digital inputs	14; Integrated
Source/sink input Number of simultaneously controllable inputs all mounting positions — up to 40 °C, max. Input voltage • Rated value (DC) • for signal "0" • for signal "1" 15 V DC at 2.5 mA Input delay (for rated value of input voltage) for standard inputs — parameterizable — parameterizable — at "0" to "1", min. — at "0" to "1", max. for interrupt inputs — parameterizable for technological functions — parameterizable Single phase: 3 @ 100 kHz & 3 @ 30 kHz, differential: 3 @ 80 kHz & 3 @ 30 kHz Cable length • shielded, max. • unshielded, max. •		•
all mounting positions — up to 40 °C, max. 14 Input voltage • Rated value (ICC) • for signal "0" • for signal "1" 15 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 — at "0" to "1", min. — at "0" to "4", max. 12.8 ms for interrupt inputs — parameterizable Yes for stendard inputs — parameterizable Yes for interrupt inputs — parameterizable Single phase: 3 @ 100 kHz & 3 @ 30 kHz, differential: 3 @ 80 kHz & 3 @ 30 kHz Cable length • shielded, max. • unshielded, max. • unshielded, max. • on lamp load, max. • on lamp load, max. • on lamp load, max. • on lamp load, max. • on lamp load, max. • 10 ms; max. • 11 ms; max. 10 ms; max. Relay outputs 10 ms; max. Relay outputs 10 ms; max. Relay outputs	Source/sink input	Yes
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", 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 Number of digital 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.	Number of simultaneously controllable inputs	
Input voltage • Rated value (DC) • for signal "0" • for signal "1" Input delay (for rated value of input voltage) for standard inputs - parameterizable - at "0" to "1", min at "0" to "1", max. 12.8 ms for interrupt inputs - parameterizable	all mounting positions	
Rated value (DC) • for signal "0" • for signal "1" 15 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 — parameterizable — at "0" to "1", min. — 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 & 3	— up to 40 °C, max.	14
• for signal "0" • for signal "1" Input delay (for rated value of input voltage) for standard inputs — parameterizable — at "0" to "1", min. — at "0" to "4", max. — parameterizable Yes 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. • unshielded, max. unshielded, max. ounshielded, max. ounshielded, max. • with resistive load, max. • with resistive load, max. • on lamp load, max. Output delay with resistive load • "0" to "1", max. • "1" to "0", max. Pelay outputs Relay outputs Relay outputs Relay outputs Relay outputs Relay outputs Possible to A to A to B to B to B to B to B to B	Input voltage	
of ror signal "1" 15 ∨ 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; Relays Switching capacity of the outputs • with resistive load, max. 2 A • on lamp load, max. 30 W with DC, 200 W with AC Output delay with resistive load • "0" to "1", max. 10 ms; max. • "1" to "0", max. 10 ms; max. Relay outputs	Rated value (DC)	24 V
Input delay (for rated value of input voltage) for standard inputs	• for signal "0"	5 V DC at 1 mA
for standard inputs	• for signal "1"	15 V DC at 2.5 mA
— parameterizable — at "0" to "1", min. — at "0" to "1", min. — at "0" to "1", max. for interrupt inputs — parameterizable — 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. • unshielded, max. 10; Relays Switching capacity of the outputs • with resistive load, max. • on lamp load, max. 10 ms; max. Parameterizable Yes 10, Rms, 0.8 ms, 1.6 ms, 3.2 ms, 6.4 ms and 12.8 ms, selectable in groups of four 0.2 ms 12.8 ms Yes Single phase: 3 @ 100 kHz & 3 @ 30 kHz, differential: 3 @ 80 kHz & 3 @ 30 kHz Number of digital outputs 10; Relays Switching capacity of the outputs • with resistive load, max. • on lamp load, max. 10 ms; max. 10 ms; max. Relay outputs	Input delay (for rated value of input voltage)	
groups of four at "0" to "1", min. at "0" to "1", max. for interrupt inputs parameterizable for technological functions parameterizable Single phase: 3 @ 100 kHz & 3 @ 30 kHz, differential: 3 @ 80 kHz & 3 @ 30 kHz Cable length • shielded, max. • shielded, max. 500 m; 50 m for technological functions • unshielded, max. 500 m; 50 m for technological functions No Digital outputs Number of digital outputs Switching capacity of the outputs • with resistive load, max. • on lamp load, max. • on lamp load, max. • "1" to "0", max. Relay outputs Relay outputs Relay outputs 10 ms; max. 10 ms; max. Relay outputs	for standard inputs	
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for interrupt inputs	— at "0" to "1", min.	0.2 ms
- parameterizable for technological functions - parameterizable Single phase: 3 @ 100 kHz & 3 @ 30 kHz, differential: 3 @ 80 kHz & 3 @ 30 kHz Cable length • shielded, max. • unshielded, max. • unshielded, max. 10; Relays Switching capacity of the outputs • with resistive load, max. • on lamp load, max. 2 A • on lamp load, max. Output delay with resistive load • "0" to "1", max. • "1" to "0", max. Relay outputs Single phase: 3 @ 100 kHz & 3 @ 30 kHz, differential: 3 @ 80 kHz & 3 @ 30 kHz & 4 & 3 @ 30 kHz & 4 & 4 & 4 & 4 & 4 & 4 & 4 & 4 & 4 &	— at "0" to "1", max.	12.8 ms
for technological functions — parameterizable Single phase: 3 @ 100 kHz & 3 @ 30 kHz, differential: 3 @ 80 kHz & 3 @ 30 kHz Cable length • shielded, max. • unshielded, max. 500 m; 50 m for technological functions 300 m; for technological functions: No Digital outputs Number of digital outputs 10; Relays Switching capacity of the outputs • with resistive load, max. • on lamp load, max. 30 W with DC, 200 W with AC Output delay with resistive load • "0" to "1", max. • "1" to "0", max. Relay outputs Single phase: 3 @ 100 kHz & 3 @ 30 kHz, differential: 3 @ 80 kHz & 3 @ 30 kHz & 3 @	for interrupt inputs	
Single phase: 3 @ 100 kHz & 3 @ 30 kHz, differential: 3 @ 80 kHz & 3 @ 30 kHz Cable length shielded, max. unshielded, max. 500 m; 50 m for technological functions 300 m; for technological functions: No Digital outputs Number of digital outputs 10; Relays Switching capacity of the outputs with resistive load, max. on lamp load, max. 10 ms; max. e "1" to "0", max. Relay outputs Single phase: 3 @ 100 kHz & 3 @ 30 kHz, differential: 3 @ 80 kHz & 3 @ 30	·	Yes
Cable length • shielded, max. • unshielded, max. • unshielded, max. Soo m; 50 m for technological functions 300 m; for technological functions: No Digital outputs Number of digital outputs • with resistive load, max. • on lamp load, max. • on lamp load, max. Output delay with resistive load • "0" to "1", max. • "1" to "0", max. Relay outputs KHz kHz kHz kHz kHz		
Cable length • shielded, max. • unshielded, max. Soo m; 50 m for technological functions • unshielded, max. Digital outputs Number of digital outputs Switching capacity of the outputs • with resistive load, max. • on lamp load, max. • on lamp load, max. Output delay with resistive load • "0" to "1", max. • "1" to "0", max. Relay outputs Soo m; 50 m for technological functions: No 10; Relays 2 A 2 A 10 ms; max. 10 ms; max.	— parameterizable	
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 unshielded, max. Digital outputs Number of digital outputs Switching capacity of the outputs with resistive load, max. on lamp load, max. Output delay with resistive load "0" to "1", max. "1" to "0", max. Relay outputs 	-	500 m; 50 m for technological functions
Digital outputs Number of digital outputs Switching capacity of the outputs with resistive load, max. on lamp load, max. 10 ms; max. "1" to "0", max. Relay outputs		-
Number of digital outputs Switching capacity of the outputs with resistive load, max. on lamp load, max. Output delay with resistive load "0" to "1", max. "1" to "0", max. Relay outputs	·	
Switching capacity of the outputs • with resistive load, max. • on lamp load, max. Output delay with resistive load • "0" to "1", max. • "1" to "0", max. Relay outputs 2 A 30 W with DC, 200 W with AC 10 ms; max. 10 ms; max.		10; Relays
 with resistive load, max. on lamp load, max. 30 W with DC, 200 W with AC Output delay with resistive load "0" to "1", max. "1" to "0", max. Relay outputs 2 A 30 W with DC, 200 W with AC 10 ms; max. 10 ms; max. 10 ms; max. 10 ms; max. Relay outputs		
 on lamp load, max. Output delay with resistive load "0" to "1", max. "1" to "0", max. Relay outputs 30 W with DC, 200 W with AC 10 ms; max. 10 ms; max. 10 ms; max. 		2 A
Output delay with resistive load • "0" to "1", max. • "1" to "0", max. Relay outputs 10 ms; max. 10 ms; max.		
• "0" to "1", max. • "1" to "0", max. Relay outputs 10 ms; max. 10 ms; max.		
• "1" to "0", max. Relay outputs 10 ms; max.		10 ms; max.
Relay outputs		
▼ INUITIDEL OFFEIGN OUTDUES	Number of relay outputs	10

N. J. C. W. J.	1 1 1 40 111
Number of operating cycles, max.	mechanically 10 million, at rated load voltage 100 000
Cable length	F00 m
• shielded, max.	500 m
unshielded, max. Analog inputs	150 m
Analog inputs Number of analog inputs	2
Input ranges	2
Voltage	Yes
Input ranges (rated values), voltages	165
• 0 to +10 V	Yes
— Input resistance (0 to 10 V)	≥100k ohms
Cable length	2100K 01IIII0
shielded, max.	100 m; twisted and shielded
Analog outputs	,,
Number of analog outputs	2
Output ranges, current	
• 0 to 20 mA	Yes
Analog value generation for the inputs	
Integration and conversion time/resolution per channel	
Resolution with overrange (bit including sign), max.	10 bit
• Integration time, parameterizable	Yes
Conversion time (per channel)	625 µs
Analog value generation for the outputs	
Integration and conversion time/resolution per channel	
Resolution with overrange (bit including sign), max.	10 bit
Encoder	
Connectable encoders	
• 2-wire sensor	Yes
1. Interface	
Interface type	PROFINET
Isolated	Yes
automatic detection of transmission rate	Yes
Autonegotiation	Yes
Autocrossing	Yes
Interface types	
• RJ 45 (Ethernet)	Yes
 Number of ports 	2
integrated switch	Yes
Protocols	
PROFINET IO Controller	Yes
PROFINET IO Device	Yes
SIMATIC communication	Yes
Open IE communication	Yes
Web server	Yes
Media redundancy PROFINET IO Controller	Yes; as MRP client
PROFINET IO Controller	400 Mb:Ha
Transmission rate, max. Sanitase	100 Mbit/s
Services	Von
— PG/OP communication	Yes
— Isochronous mode — IRT	No No
— IRT — PROFlenergy	No
PROFilenergy Prioritized startup	Yes
— Prioritized startup — Number of IO devices with prioritized startup, max.	Yes 16
Number of 10 devices with phornized startup, max. Number of connectable IO Devices, max.	16
Number of connectable IO Devices, max. Number of connectable IO Devices for RT, max.	16
— number of connectable to Devices for RT, max. — of which in line, max.	16
Of which in line, max. Activation/deactivation of IO Devices	Yes
Number of IO Devices that can be simultaneously activated/deactivated, max.	8
— 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
— Isochronous mode	No
— IRT	No
— PROFlenergy	Yes
— Shared device	Yes
 Number of IO Controllers with shared device, max. 	2
rotocols	
Supports protocol for PROFINET IO	Yes
PROFIsafe	Yes
PROFIBUS	Yes; CM 1243-5 required
AS-Interface	Yes; CM 1243-2 required
Protocols (Ethernet)	163, ON 1240-2 required
	Yes
• TCP/IP	
• DHCP	No
• SNMP	Yes
• DCP	Yes
• LLDP	Yes
Redundancy mode	
Media redundancy	
— MRP	Yes; as MRP client
— MRPD	No
SIMATIC communication	
S7 routing	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	1 112 0310
• supported	Yes
User-defined websites	Yes
	165
Further protocols • MODBUS	Voc
	Yes
ommunication functions / header	
S7 communication	
• supported	Yes
• as server	Yes
• as client	Yes
User data per job, max.	See online help (S7 communication, user data size)
Number of connections	
overall	16; dynamically
est commissioning functions	
Status/control Status/control	
Status/control variable	Yes
Variables	Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters
Forcing	,,,,,,,
• Forcing	Yes
Diagnostic buffer	160
-	Voc
• present	Yes
Traces	
Number of configurable Traces	2
Memory size per trace, max.	512 kbyte
ntegrated Functions	
Counter	

Number of counters

Counter

Counting frequency may	100 kHz
Counting frequency, max. Frequency measurement	Yes
controlled positioning	Yes
	8
Number of position-controlled positioning axes, max.	
Number of positioning axes via pulse-direction interface	Up to 4 with SB 1222
PID controller	Yes
Number of alarm inputs	4
Potential separation	
Potential separation digital inputs	
 Potential separation digital inputs 	500 V AC for 1 minute
between the channels, in groups of	1
Potential separation digital outputs	
 Potential separation digital outputs 	Relays
 between the channels 	No
 between the channels, in groups of 	2
EMC	
Interference immunity against discharge of static electricity	
 Interference immunity against discharge of static electricity acc. to IEC 61000-4-2 	Yes
— Test voltage at air discharge	8 kV
Test voltage at contact discharge	6 kV
Interference immunity to cable-borne interference	
 Interference immunity on supply lines acc. to IEC 61000- 4-4 	Yes
 Interference immunity on signal cables acc. to IEC 61000- 4-4 	Yes
Interference immunity against voltage surge	
 Interference immunity on supply lines acc. to IEC 61000- 4-5 	Yes
Interference immunity against conducted variable disturbance indu	ced 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	io. ciaco 2 doceranig to 21. docer.
IP degree of protection	IP20
Standards, approvals, certificates	
Siemens Eco Profile (SEP)	Siemens EcoTech
·	
KC approval	Yes
Marine approval	Yes
Ecological footprint	V
environmental product declaration	Yes
Global warming potential	400.1
— global warming potential, (total) [CO2 eq]	106 kg
 global warming potential, (during production) [CO2 	18.5 kg
eq] — global warming potential, (during operation) [CO2	88.2 kg
eq] — global warming potential, (during operation) [CO2 eq] — global warming potential, (after end of life cycle)	88.2 kg -1.12 kg
eq] — global warming potential, (during operation) [CO2 eq] — global warming potential, (after end of life cycle) [CO2 eq]	
eq] — global warming potential, (during operation) [CO2 eq] — global warming potential, (after end of life cycle) [CO2 eq] Highest safety class achievable in safety mode	-1.12 kg
eq] — global warming potential, (during operation) [CO2 eq] — global warming potential, (after end of life cycle) [CO2 eq] Highest safety class achievable in safety mode • Performance level according to ISO 13849-1	-1.12 kg
eq] — global warming potential, (during operation) [CO2 eq] — global warming potential, (after end of life cycle) [CO2 eq] Highest safety class achievable in safety mode • Performance level according to ISO 13849-1 • SIL acc. to IEC 61508	-1.12 kg
eq] — global warming potential, (during operation) [CO2 eq] — global warming potential, (after end of life cycle) [CO2 eq] Highest safety class achievable in safety mode • Performance level according to ISO 13849-1 • SIL acc. to IEC 61508 Ambient conditions	-1.12 kg
eq] — global warming potential, (during operation) [CO2 eq] — global warming potential, (after end of life cycle) [CO2 eq] Highest safety class achievable in safety mode • Performance level according to ISO 13849-1 • SIL acc. to IEC 61508 Ambient conditions Free fall	-1.12 kg PLe SIL 3
eq] — global warming potential, (during operation) [CO2 eq] — global warming potential, (after end of life cycle) [CO2 eq] 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.	-1.12 kg
eq] — global warming potential, (during operation) [CO2 eq] — global warming potential, (after end of life cycle) [CO2 eq] Highest safety class achievable in safety mode • Performance level according to ISO 13849-1 • SIL acc. to IEC 61508 Ambient conditions Free fall	-1.12 kg PLe SIL 3 0.3 m; five times, in product package
eq] — global warming potential, (during operation) [CO2 eq] — global warming potential, (after end of life cycle) [CO2 eq] 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.	-1.12 kg PLe SIL 3
eq] — global warming potential, (during operation) [CO2 eq] — global warming potential, (after end of life cycle) [CO2 eq] 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	-1.12 kg PLe SIL 3 0.3 m; five times, in product package
eq] — global warming potential, (during operation) [CO2 eq] — global warming potential, (after end of life cycle) [CO2 eq] 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 • min.	-1.12 kg PLe SIL 3 0.3 m; five times, in product package -25 °C; = Tmin

 vertical installation, min. 	-25 °C; = Tmin	
vertical installation, max.	45 °C; = Tmax	
Ambient temperature during storage/transportation		
• min.	-40 °C	
• max.	70 °C	
Air pressure acc. to IEC 60068-2-13		
Storage/transport, min.	660 hPa	
Storage/transport, max.	1 139 hPa	
Altitude during operation relating to sea level		
 Installation altitude above sea level, max. 	2 000 m	
Ambient air temperature-barometric pressure-altitude	Tmin Tmax at 1 140 hPa 795 hPa (-1 000 m +2 000 m)	
Relative humidity		
 With condensation, tested in accordance with IEC 60068- 2-38, max. 	100 %; incl. condensation / frost permitted (no commissioning under condensation conditions)	
Vibrations		
 Vibration resistance during operation acc. to IEC 60068- 2-6 	2 g (m/s²) wall mounting, 1 g (m/s²) DIN rail	
Operation, tested according to IEC 60068-2-6	Yes	
Shock testing		
• tested according to IEC 60068-2-27	Yes; IEC 68, Part 2-27 half-sine: strength of the shock 15 g (peak value), duration 11 ms	
Resistance		
Coolants and lubricants		
 Resistant to commercially available coolants and lubricants 	Yes	
Use in stationary industrial systems		
 to biologically active substances according to EN 60721-3-3 	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request	
 to chemically active substances according to EN 60721-3-3 	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *	
 to mechanically active substances according to EN 60721-3-3 	Yes; Class 3S4 incl. sand, dust, *	
Use on ships/at sea		
 to biologically active substances according to EN 60721-3-6 	Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request	
 to chemically active substances according to EN 60721-3-6 	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *	
 to mechanically active substances according to EN 60721-3-6 	Yes; Class 6S3 incl. sand, dust; *	
Usage in industrial process technology		
 Against chemically active substances acc. to EN 60654-4 	Yes; Class 3 (excluding trichlorethylene)	
 Environmental conditions for process, measuring and control systems acc. to ANSI/ISA-71.04 	Yes; Level GX group A/B (excluding trichlorethylene; harmful gas concentrations up to the limits of EN 60721-3-3 class 3C4 permissible); level LC3 (salt spray) and level LB3 (oil)	
Remark		
 Note regarding classification of environmental conditions acc. to EN 60721, EN 60654-4 and ANSI/ISA-71.04 	* The supplied plug covers must remain in place over the unused interfaces during operation!	
Conformal coating		
 Coatings for printed circuit board assemblies acc. to EN 61086 	Yes; Class 2 for high reliability	
 Protection against fouling acc. to EN 60664-3 	Yes; Type 1 protection	
 Military testing according to MIL-I-46058C, Amendment 7 	Yes; Discoloration of coating possible during service life	
 Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC- CC-830A 	Yes; Conformal coating, Class A	
configuration / header		
configuration / programming / header		
Programming language		
— LAD	Yes; incl. failsafe	
— FBD	Yes; incl. failsafe	
— SCL	Yes	
Know-how protection		
User program protection/password protection	Yes	
Copy protection	Yes	

Block protection	Yes		
Access protection			
 Protection level: Write protection 	Yes		
 Protection level: Read/write protection 	Yes		
 Protection level: Complete protection 	Yes		
programming / cycle time monitoring / header			
adjustable	Yes		
Dimensions			
Width	130 mm		
Height	100 mm		
Depth	75 mm		
Weights			
Weight, approx.	585 g		
Classifications			
		Varaian	Classification

	Version	Classification
eClass	14	27-24-22-07
eClass	12	27-24-22-07
eClass	9.1	27-24-22-07
eClass	9	27-24-22-07
eClass	8	27-24-22-07
eClass	7.1	27-24-22-07
eClass	6	27-24-22-07
ETIM	9	EC000236
ETIM	8	EC000236
ETIM	7	EC000236
IDEA	4	3565
UNSPSC	15	32-15-17-05

Approvals / Certificates

General Product Approval

Miscellaneous



Manufacturer Declaration





Metrological Approval

EMV

For use in hazardous locations

Functional Saftey

Environment













Environment



last modified:

12/8/2024