SIEMENS

Data sheet

6AG1215-1HG40-4XB0



SIPLUS S7-1200 CPU 1215C DC/DC/relay based on 6ES7215-1HG40-0XB0 with conformal coating, -20...+60 °C, compact CPU, DC/DC/relay, 2 PROFINET ports, onboard I/O: 14 DI 24 V DC 10 DQ relay 2 A, 2 AI 0-10 V DC 2 AQ 0-20 mA DC, power supply: DC 20.4-28.8 V DC, program/data memory 125 KB

Figure similar

General information			
Product type designation	CPU 1215C DC/DC/relay		
Firmware version	V4.1		
based on	6ES7215-1HG40-0XB0		
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		
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	125 kbyte		
Load memory			
integrated	4 Mbyte		
 Plug-in (SIMATIC Memory Card), max. 	with SIMATIC memory card		
Backup			
• present	Yes; maintenance-free		
without battery	Yes		
CPU processing times			
for bit operations, typ.	0.085 µs; / instruction		
for word operations, typ.	1.7 µs; / instruction		

for floating point arithmetic, typ.	2.5 μs; / instruction		
CPU-blocks			
Number of blocks (total)	DBs, FCs, FBs, counters and timers. The maximum number of addressable blocks ranges from 1 to 65535. There is no restriction, the entire working memory can be used		
OB			
Number, max.	Limited only by RAM for code		
Data areas and their retentivity			
Retentive data area (incl. timers, counters, flags), max.	10 kbyte		
Flag			
• Size, max.	8 kbyte; Size of bit memory address area		
Address area			
Process image			
Inputs, adjustable	1 kbyte		
Outputs, adjustable	1 kbyte		
Hardware configuration			
Number of modules per system, max.	3 comm. modules, 1 signal board, 8 signal modules		
Time of day			
Clock			
Hardware clock (real-time)	Yes		
Backup time	480 h; Typical		
Deviation per day, max.	± 60 s/month at 25 °C		
Digital inputs			
Number of digital inputs	14; Integrated		
of which inputs usable for technological functions	6; HSC (High Speed Counting)		
Source/sink input	Yes		
Number of simultaneously controllable inputs			
all mounting positions			
— up to 40 °C, max.	14		
Input voltage	14		
Rated value (DC)	24 V		
• for signal "0"	5 V DC at 1 mA		
• for signal "1"	15 V DC at 2.5 mA		
Input current	13 V DO dt 2.5 mA		
• for signal "1", typ.	1 mA		
Input delay (for rated value of input voltage)			
for standard inputs			
— parameterizable	0.2 ms, 0.4 ms, 0.8 ms, 1.6 ms, 3.2 ms, 6.4 ms and 12.8 ms, selectable in		
parameterizable	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	Yes; Single phase : 3 at 100 kHz & 3 at 30 kHz, differential: 3 at 80 kHz & 3 at		
	30 kHz		
Cable length			
 shielded, max. 	500 m; 50 m for technological functions		
unshielded, max.	300 m; for technological functions: No		
Digital outputs			
Number of digital outputs			
Switching capacity of the outputs	10; Relays		
with resistive load, max.	2 A		
• on lamp load, max.			
• on lamp load, max. Output delay with resistive load	2 A 30 W with DC, 200 W with AC		
 on lamp load, max. Output delay with resistive load "0" to "1", max. 	2 A 30 W with DC, 200 W with AC 10 ms; max.		
 on lamp load, max. Output delay with resistive load "0" to "1", max. "1" to "0", max. 	2 A 30 W with DC, 200 W with AC		
 on lamp load, max. Output delay with resistive load "0" to "1", max. 	2 A 30 W with DC, 200 W with AC 10 ms; max.		
 on lamp load, max. Output delay with resistive load "0" to "1", max. "1" to "0", max. 	2 A 30 W with DC, 200 W with AC 10 ms; max.		
 on lamp load, max. Output delay with resistive load "0" to "1", max. "1" to "0", max. Switching frequency 	2 A 30 W with DC, 200 W with AC 10 ms; max. 10 ms; max.		

Number of operating evolve, max	machanically 10 million at rated load voltage 100 000		
Number of operating cycles, max. Cable length	mechanically 10 million, at rated load voltage 100 000		
shielded, max.	500 m		
• unshielded, max.	500 m 150 m		
Analog inputs	150 11		
	2		
Number of analog inputs	2		
Input ranges • Voltage	Yes		
Input ranges (rated values), voltages			
• 0 to +10 V	Yes		
- Input resistance (0 to 10 V)	≥100k ohms		
Cable length			
• shielded, max.	100 m; twisted and shielded		
Analog outputs	Too m, twisted and shielded		
	2		
Number of analog outputs	2		
Output ranges, current	Nee.		
• 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		
Protocols			
PROFINET IO Controller	Yes		
PROFINET IO Device	Yes; Also simultaneously with IO-Device functionality		
PROFINET IO Controller			
Transmission rate, max.	100 Mbit/s		
Services			
 Number of connectable IO Devices, max. 	16		
PROFINET IO Device			
Services			
— Shared device	Yes		
- Number of IO Controllers with shared device, max.	2		
Protocols			
Supports protocol for PROFINET IO	Yes		
PROFIsafe	No		
PROFIBUS	Yes; CM 1243-5 required		
AS-Interface	Yes		
Protocols (Ethernet)			
• TCP/IP	Yes		
Open IE communication			
• TCP/IP	Yes		
ISO-on-TCP (RFC1006)	Yes		
• UDP	Yes		
Web server			
supported	Yes		

Fundamental partnerses Prescription of a partnerse set	User-defined websites	Yes
• ACODEUS Yes communication (minicipity / header) F • Acode (minicipity / header) Yes • Same of the instance of the inst		
S7 communication Yes • signated Yes • as server Yes • as server Yes • as server Yes • Number of connections 16, dynamically • Controls for functions Statuscontrol • Statuscontrol Yes • Present Yes • Resent Yes • Number of counters 0 • Outrieg frequency, max. 100 MHz • Present Yes Number of positioning axes, max. 8 Number of positioning axes, max. 8 Number of positioning axes, max. 9 • Potential separation digital inputs 500 V AC for 1 minute • Potential separation digital inputs 500 V AC for 1 minute • Potential separation digital inputs 500 V AC for 1 minute • Potential separation digital inputs 500 V AC for 1 minute • Potential separation digital inp	· · · · · · · · · · · · · · · · · · ·	Yes
• supported Yes • sa server Yes • as client Yes • coval 0. dynamically Test commissioning functions Statustocontrol variable Yes • Variables Inpubliculuots, memory bils, DBs, distributed I/Os, timers, counters • Stratase Inpubliculuots, memory bils, DBs, distributed I/Os, timers, counters • Forcing Yes • Number of configurable Traces 2. Up to 512 KB of data per trace are possible History, max 100 kHz • Counting frequency, max. 100 kHz • Forcing Yes • Number of positioning axes vap abcd-direction interface Up to 4 with SB 1222 • Posterint apprato Yes • Number of positioning axes vap abcd-direction interface Up to 4 with SB 1222 • Poterintial separation diptial inputs 500 V AC for 1 minute • Poterintial separation diptial inputs 500 V AC for 1 minute • Poterintial separation diptial inputs 500 V AC for 1 minute • Poterintial separation diptial inputs 500 V AC for 1 minute • Poterintial separation diptial inputs 500 V AC for 1 minute	communication functions / header	
• as server Yes • overall 16. dynamically • overall 16. dynamically • Stratis control variable Yes • Dagnostic buffer • • Precent Yes • Number of configurable Traces 2. Up to 512 KB of data per trace are possible Integer • • Number of configurable Traces 8 • Countrol Registers/, max. 100 MHz • Frequency measurement. Yes • Countrol Registers/, max. 100 MHz • Preduction control de positioning axes, max. 8 • Number of positioning axes, max. 8 • Preductial separation digital inputs 500 VA C for 1 minute • Evential separation digital outputs	S7 communication	
• size client Yes Number of connectors 10: dynamically Test connectors 10: dynamically Test connectors 10: dynamically Situats control virable Yes Number of configurable Traces 2. Up to 512 KB of data per trace are possible Integrated Functions 5 Countrol S Situats controls S Situats controls S Situats controls S Situats controls Yes Number of possition controls of posticoling axes in a public-direction interface Up to 4 will SB 1222 Picontrols of aim inputs S00 V AC for 1 minute Solventh tic channels No Solvetrates inmunuty against discharge of statati celectricity	supported	Yes
Number of connections restarcontrol solution functions Tests:::::::::::::::::::::::::::::::::::	• as server	Yes
everall 16; dynamically Test commissioning functions Imposed on the second of	• as client	Yes
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Statuscontrol Yes • Subuscontrol variable Inputs/outputs, memory bits, DBs, distributed VDs, timers, counters Forcing Yes Diagnosts buffer Yes • Procing Yes Imagender Functions 2, Up to 512 KB of data per trace are possible <i>Counter</i> 8 • Counting frequency, max. 100 MHz Frequency measurement Yes Number of postioning axes, via value-direction interface Up to 412 KB of data per trace are possible Number of postion-controlled postioning axes, max. 8 Number of postioning axes via pulse-direction interface Up to 4 with SB 1222 PDic controler Yes Number of adminipuds 4 Potential separation digital inpuds 500 VAC for 1 minute • Detential separation digital inpuds 500 VAC for 1 minute • Detential separation digital inpuds 500 VAC for 1 minute • Detential separation digital inpuds 500 VAC for 1 minute • Detential separation digital inpuds 500 VAC for 1 minute • Detential separation digital inpuds 500 VAC for 1 minute • Detential separation digital inpuds 500 VAC for 1 minute • Detential separation digital inpuds 1 • Detential separation digital inpuds 1 • Detential separation di	• overall	16; dynamically
• Status/control variable Yes • Forcing Ves • Forcing Yes • Forcing Yes • Diagnosate buffer ************************************	Test commissioning functions	
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Forcing Yes • Forcing Yes Diagnostic further • • Number of configurable Traces 2: Up to 512 KB of data per trace are possible Integrade Functions 6 • Counting 6 • Number of configurable Traces 6 • Counting frequency max. 100 kHz Frequency measurement Yes • Number of positioning axes, max. 8 Potential separation digital inputs 4 Potential separation digital inputs 500 V AC for 1 minute • Detwent the channels. In groups of 1 • Detwent the channels. In groups of 1 • Detwent the channels. In groups of 2 Etwo 1 Interference Immunity against discharge of static electricity 4 Interference Immunity against discharge of static electricity 4 Interference Immunity against discharge of static electricity 1 Interference Immunity against discharge of static electricity 1 Interference Immunity against discharge of static electricity 4 Interference Immunity against discharge of static electricity 4 Int	Status/control variable	Yes
• Forcing Yes Diagnostic buildr • present Yes Traces - - • Number of configurable Traces 2: Up to 512 KB of data per trace are possible Integrated Functions 6 Counter 6 • Number of counters 6 • Counting frequency, max 100 kHz Prequency measurement Yes controlled positioning axes, max 8 Number of costion-controlled positioning axes, max 8 Number of aniton-controlled positioning axes, max 8 Number of aniton-controlled positioning axes, max 8 Potential separation digital inputs 500 V AC for 1 minute • Potential separation digital inputs 500 V AC for 1 minute • Potential separation digital outputs Relays • Potential separation digital outputs Relays • Evitatial separation digital outputs Yes • Potential separation digital outputs Yes • Evitatial separation digital outputs Relays • Evitatial separation digital outputs Relays • Evitatial separation digital outputs	Variables	Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters
Diagnostic buffer Yes • present Yes Traces 2: Up to 512 KB of data per trace are possible Interpreted Functions 00 kHz Countier 6 • Counting frequency, max. 100 kHz Frequency measurement Yes Number of positioning axes, via. 8 Number of positioning axes via pulse-direction interface Up to 4 with SB 1222 PID controller Yes Number of positioning axes via pulse-direction interface Up to 4 with SB 1222 PID controller Yes Number of positioning axes via pulse-direction interface Up to 4 with SB 1222 PID controller Yes Number of positioning axes via pulse-direction interface Up to 4 with SB 1222 Plotential separation digital inputs 500 V AC for 1 minute • Determent is separation digital inputs 500 V AC for 1 minute • Determent is separation digital outputs Relays • between the channels, in groups of 2 EME Interference immunity against discharge of static electricity • Interference immunity against discharge of static electricity Interferenc	Forcing	
• present Yes • Number of configurable Traces 2: Up to 512 KB of data per trace are possible Integrated Functions - Counter 6 • Number of counters 6 • Counting frequency, max. 100 kHz Frequency measurement Yes controlled positioning axes, max. 8 Number of positioning axes, max. 8 Number of positioning axes via pulse-direction interface Up to 4 with SB 1222 PID controller Yes Number of pastion-controlled positioning axes, max. 8 Number of pastion-controlled positioning axes, max. 8 Potential separation digital post Yes Potential separation digital post 500 V AC for 1 minute • Potential separation digital outputs Relays • between the channels, in groups of 1 • Potential separation digital outputs No • between the channels, in groups of 2 • Potential separation digital outputs Relays • between the channels, in groups of 2 • Potential separation digital outputs No	Forcing	Yes
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Integrated Functions 6 Counter 6 • Counting frequency, max. 100 kHz Frequency measurement Yes controlled positioning axes, vance 8 Number of positioning axes vance 9 to 4 with SB 1222 PID controlled Yes Number of alarm inputs 4 Potential separation digital inputs 500 V AC for 1 minute • Potential separation digital inputs 500 V AC for 1 minute • Detween the channels, in groups of 1 • Potential separation digital outputs Relays • between the channels, in groups of 2 • Detential separation digital outputs Relays • between the channels, in groups of 2 • Detential separation digital outputs Yes • between the channels, in groups of 2 • Interference immunity against discharge of static electricity 4 • Interference immunity against discharge 8 kV • Test voltage at air discharge 6 kV Interference immunity on signal cables acc. to IEC 61000- 44 Yes • Interference immunity on signal cables acc. to IEC 61000- 45 Yes • Interference immunity against conducted variable disturbance induced by high-frequency fields Yes • Interference immunity against conducted variable disturbance indu		
Counter 6 • Counting Frequency, max. 100 kHz Frequency measurement Yes controlled positioning areas, max. 8 Number of position-controlled positioning axes, max. 8 Number of atom inputs 4 Potential separation Yes Potential separation digital inputs 500 VAC for 1 minute • Potential separation digital outputs 6 • Potential separation digital outputs 8 • Potential separation digital outputs 8 • Detential separation digital outputs 8 • Detential separation digital outputs 8 • Detential separation digital outputs 7 • between the channels, in groups of 2 EMC 1 Interference immunity against discharge of static electricity Yes • Interference immunity against discharge 8 kV - Test voltage at air discharge 8 kV - Test voltage at air discharge 6 kV Interference immunity on supply lines acc. to IEC 61000- 44 Yes • Interference immunity against voltage surge Yes	-	2; Up to 512 KB of data per trace are possible
• Number of counters 6 • Counting frequency, max. 100 kHz Frequency measurement Yes controlled positioning axes, max. 8 Number of position-controlled positioning axes, max. 8 Number of positioning axes via pulse-direction interface Up to 4 with SB 1222 PID controller Yes Number of positioning axes via pulse-direction interface Up to 4 with SB 1222 PID controller Yes Number of parametion 4 Potential separation digital inputs 500 V AC for 1 minute • Detential separation digital outputs 500 V AC for 1 minute • Detential separation digital outputs Relays • Detential separation digital outputs Relays • between the channels, in groups of 2 EMC Interference immunity against discharge of static electricity • Interference immunity act discharge 8 kV - Test voltage at oristic-discharge 8 kV - Test voltage at oristic-discharge 8 kV • Interference immunity on signal cables acc. to IEC 61000- 4-5 Yes • Interference immunity on signal cables acc. to IEC 61000- 4-5 Yes • Interference immunity on signal cables acc. to IEC 61000- 4-5 Yes • Interference immunity against high-frequency radiation acc. to IEC 61000-4- 4-5	Integrated Functions	
• Counting frequency, max. 100 kHz Frequency measurement Yes controlled positioning axes, max. 8 Number of position controlled position interface Up to 4 with SB 1222 Piterial separation digital inputs 4 • Obtential separation digital inputs 500 V AC for 1 minute • Interface and ingula outputs Relays • Obtential separation digital outputs Relays • Interference immunity against discharge of static electricity No • Interference immunity against discharge of static electricity Yes • Interference immunity consupply lines acc. to IEC 61000-42 Yes • Interference immunity on supply lines acc. to IEC 61000-44 Yes • Interference immunity against conducted variable disturbance into-text of text or text or to text or text or to text or text or to text or text or text or to text or tex	Counter	
Frequency measurement Yes controlled positioning Yes Number of positioning axes via pulse-direction interface Up to 4 with SB 1222 PID controller Yes Number of alarm inputs 4 Potential separation digital inputs 500 V AC for 1 minute • Evential separation digital inputs 500 V AC for 1 minute • Evential separation digital inputs 500 V AC for 1 minute • Evential separation digital outputs Relays • Evential separation digital outputs Relays • Eventee the channels, in groups of 2 EMC Interference immunity against discharge of static electricity • Interference immunity against discharge of static electricity Yes • Interference immunity against discharge 8 kV - Test voltage at contact discharge 8 kV • Interference immunity on supply lines acc. to IEC 61000-42 Yes • Interference immunity on supply lines acc. to IEC 61000-42 Yes • Interference immunity against voltage surge Yes • Interference immunity against indepleted variable disturbance induced by high-frequency fields Yes Interference immunity against indepleted variable disturbance induced by high-frequency fields Yes Interference immunity against indepleted variable disturbance induced by high-frequency fields Yes	Number of counters	6
controlled positioning Yes Number of position-controlled positioning axes, max. 8 Number of positioning axes via pulse-direction interface Up to with SB 1222 PD controller Yes Number of alarm inputs 4 Potential separation digital inputs 500 V AC for 1 minute • Potential separation digital inputs 500 V AC for 1 minute • Potential separation digital outputs Formation • Potential separation digital outputs Relays • Potential separation digital outputs Relays • between the channels, in groups of 2 • Test voltage at air discharge of static electricity • Interference immunity against discharge of static electricity • Interference immunity on supply lines acc. to IEC 61000-42 Yes • Interference immunity on supply lines acc. to IEC 61000-44 Yes • Interference immunity against conducted variable disturbance induced by high-frequency fields Yes • Interferenc	 Counting frequency, max. 	100 kHz
Number of position-controlled positioning axes, max. 8 Number of positioning axes via pulse-direction interface Up to 4 with SB 1222 PID controller Yes Number of alarm inputs 4 Potential separation 900 VAC for 1 minute • Obtential separation digital inputs 500 V AC for 1 minute • between the channels, in groups of 1 Potential separation digital outputs Relays • between the channels No • thereference immunity against discharge of static electricity Interference immunity against discharge • Interference immunity against discharge 8 kV - Test voltage at contact discharge 8 kV - Test voltage at contact discharge 9 kV Interference immunity against uotage surge Yes • Interference immunity against uotage surge Yes • Interference immunity aga	Frequency measurement	Yes
Number of positioning axes via pulse-direction interface Up to 4 with SB 1222 PID controller Yes Number of alarm inputs 4 Potential separation digital inputs 500 V AC for 1 minute • between the channels, in groups of 1 Potential separation digital outputs Relays • Potential separation digital outputs Relays • between the channels, in groups of 2 EMC Interference immunity against discharge of static electricity • Interference immunity against discharge of static electricity Yes • Interference immunity against discharge 8 kV - Test voltage at air discharge 8 kV - Test voltage at contact discharge 4 • Interference immunity against uber sec. to IEC 6 1000- 4.4 Yes • Interference immunity on supply lines acc. to IEC 6 1000- 4.5 Yes • Interference immunity against uber sec. to IEC 6 1000- 4.5 Yes • Interference immunity against uber sec. to IEC 6 1000- 4.5 Yes • Interference immunity against uber sec. to IEC 6 1000- 4.5 Yes • Interference immunity against uber sec. to IEC 6 1000- 4.5 Yes • Interference immunity against uber sec. to IEC 6 1000- 4.5 Yes • Interference immunity against uber sec. to IEC 6 1000- 4.5 Yes • Interference immunity against ubert sec	controlled positioning	Yes
PID controller Yes Number of alarm inputs 4 Potential separation 500 V AC for 1 minute • Potential separation digital inputs 500 V AC for 1 minute • between the channels, in groups of 1 Potential separation digital outputs Relays • Potential separation digital outputs Relays • Potential separation digital outputs Relays • between the channels, in groups of 2 EMC Interference immunity against discharge of static electricity • Interference immunity acaunist discharge 8 kV - Test voltage at contact discharge 6 kV Interference immunity to cable-borne Interference 6 kV Interference immunity on supply lines acc. to IEC 61000- 4.4 Yes • Interference immunity against voltage surge Yes • Interference immunity against output lines acc. to IEC 61000- 4.5 Yes Interference immunity against conducted variable disturbance induced by high-frequency fields Yes • Interference immunity against ondige surge Yes • Interference immunity against point genery readiation acc. to IEC 61000-4-0 Yes • Interference immunity against conducted variable disturbance induced by high-frequency fields </td <td>Number of position-controlled positioning axes, max.</td> <td>8</td>	Number of position-controlled positioning axes, max.	8
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 Relays • between the channels, in groups of 2 EMC No • between the channels, in groups of 2 EMC Interference immunity against discharge of static electricity • Interference immunity against discharge of static electricity Yes - Test voltage at air discharge 8 kV - Test voltage at air discharge 9 kV Interference immunity on supply lines acc. to IEC 61000- 4-4 Yes • Interference immunity on supply lines acc. to IEC 61000- 4-5 Yes Interference immunity against voltage surge Yes • Interference immunity on supply lines acc. to IEC 61000- 4-5 Yes Interference immunity against high-f	Number of positioning axes via pulse-direction interface	Up to 4 with SB 1222
Potential separation digital inputs Potential separation digital inputs • Potential separation digital inputs • Detential separation digital outputs • Detential separation digital outputs • Potential separation digital outputs • Detential separation digital outputs • Interference immunity against discharge of static electricity • Interference immunity on supply lines acc. to IEC 61000- 4-4 • Interference immunity on supply lines acc. to IEC 61000- 4-5 Interference immunity against high-frequency radiation acc. to IEC 61000-4-5 Interference immunity against high-frequency radiation acc. to IEC 61000-4-6 • Interference immunity against high-frequency radiation acc. to IEC 61000-4-6 • Interf	PID controller	Yes
Potential separation digital inputs 500 V AC for 1 minute • Potential separation digital inputs 500 V AC for 1 minute • between the channels, in groups of 1 • Potential separation digital outputs Relays • Potential separation digital outputs Relays • Detential separation digital outputs Relays • between the channels, in groups of 2 EMC Interference immunity against discharge of static electricity • Interference immunity against discharge 8 kV - Test voltage at contact discharge 8 kV - Test voltage at contact discharge 6 kV Interference immunity on supply lines acc. to IEC 61000- 4.4 Yes • Interference immunity on supply lines acc. to IEC 61000- 4.4 Yes • Interference immunity on supply lines acc. to IEC 61000- 4.5 Yes Interference immunity against voltage surge • Interference immunity against onducted variable disturbance induced by high-frequency fields • Interference immunity against high-frequency radiation acc. to IEC 61000-4-3 Yes • Limit class A, for use in industrial areas Yes; Group 1 • Limit class B, for use in industrial areas Yes; When appropriate measures are used to ensure compliance with the limits for Class B according to EN 55011 <td>Number of alarm inputs</td> <td>4</td>	Number of alarm inputs	4
• Potential separation digital inputs 500 V AC for 1 minute • between the channels, in groups of 1 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 Yes - Test voltage at air discharge 8 kV - Test voltage at contact discharge 6 kV Interference immunity to cable-borne interference Yes • 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 on supply lines acc. to IEC 61000- 4.4 Yes • Interference immunity on supply lines acc. to IEC 61000- 4.5 Yes Interference immunity against woltage surge Yes • Interference immunity against indip-frequency radiation acc. to IEC 61000-4.6 Yes Interference immunity against indip-frequency radiation acc. to IEC 61000-4.6 Yes; Group 1 • Limit class A, for use in industrial areas Yes; Group 1 • Limit class B, for use in residential areas Yes; Wen appropriate measures are used to ensure	Potential separation	
• between the channels, in groups of 1 Potential separation digital outputs Relays • Potential separation digital outputs Relays • between the channels No • between the channels No • between the channels 2 EMC Interference immunity against discharge of static electricity • Interference immunity against discharge 8 kV - Test voltage at air discharge 8 kV - Test voltage at air discharge 6 kV Interference immunity on supply lines acc. to IEC 61000-42 Yes • Interference immunity on supply lines acc. to IEC 61000-42 Yes • Interference immunity on supply lines acc. to IEC 61000-42 Yes • Interference immunity on supply lines acc. to IEC 61000-42 Yes • Interference immunity on supply lines acc. to IEC 61000-45 Yes • Interference immunity against conducted variable disturbance induced variab	Potential separation digital inputs	
Potential separation digital outputs Relays • Potential separation digital outputs Relays • between the channels No • between the channels No • between the channels, ingroups of 2 EMC Interference immunity against discharge of static electricity • Interference immunity against discharge of static Yes electricity acc. to IEC 61000-4-2 8 kV - Test voltage at ontact discharge 6 kV Interference immunity on supply lines acc. to IEC 61000-4-4 Yes • Interference immunity on supply lines acc. to IEC 61000-4-4 Yes • Interference immunity on supply lines acc. to IEC 61000-4-4 Yes • Interference immunity on supply lines acc. to IEC 61000-4-5 Yes • Interference immunity on supply lines acc. to IEC 61000-4-5 Yes • Interference immunity on supply lines acc. to IEC 61000-4-5 Yes • Interference immunity against voltage surge Yes • Interference immunity against discharge of table disturbance induced by high-frequency fields Yes • Interference immunity against high-frequency radiation acc. to IEC 61000-4-5 Yes • Interference immunity against high-frequency radiation acc. to IEC 61000-4-5 Yes	 Potential separation digital inputs 	500 V AC for 1 minute
• Potential separation digital outputs Relays • between the channels No • between the channels, in groups of 2 EMC EMC Interference immunity against discharge of static electricity • Interference immunity against discharge of static electricity • Interference immunity against discharge of static electricity acc. to IEC 61000-4-2 Yes • Test voltage at ontact discharge 8 kV • Test voltage at contact discharge 6 kV Interference immunity to cable-borne interference Yes • Interference immunity on supply lines acc. to IEC 61000-4-4 Yes • Interference immunity on supply lines acc. to IEC 61000-4-5 Yes • Interference immunity on supply lines acc. to IEC 61000-4-5 Yes • Interference immunity on supply lines acc. to IEC 61000-4-5 Yes • Interference immunity on supply lines acc. to IEC 61000-4-5 Yes • Interference immunity on supply lines acc. to IEC 61000-4-5 Yes • Interference immunity against voltage surge Yes • Interference immunity against high-frequency radiation acc. to IEC 61000-4-5 Yes • Interference immunity against high-frequency radiation acc. to IEC 61000-4-5 Yes • Interference immunity against voltage surge	 between the channels, in groups of 	1
• 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 Ves • Interference immunity on supply lines acc. to IEC 61000-4-4 Yes • Interference immunity on signal cables acc. to IEC 61000-4-4 Yes • Interference immunity against voltage surge Interference immunity against voltage surge • Interference immunity against voltage surge Yes • Interference immunity against conducted variable disturbance induced by high-frequency fields Yes • Interference immunity against high-frequency radiation acc. to IEC 61000-4-5 Yes Emission of radio interference acc. to ELC 61000-4-5 Yes • Interference immunity against high-frequency radiation acc. to IEC 61000-4-5 Yes • Interference immunity against conducted variable disturbance induced by high-frequency fields Yes • Interference immunity against conducted variable disturbance induced by high-frequency fields Yes • Interference immunity against h		
• between the channels, in groups of 2 EMC Interference immunity against discharge of static electricity Yes • Interference immunity against discharge 8 kV - Test voltage at air discharge 8 kV - Test voltage at contact discharge 6 kV Interference immunity to cable-borne interference 6 kV • Interference immunity to supply lines acc. to IEC 61000- 4.4 Yes • Interference immunity on supply lines acc. to IEC 61000- 4.4 Yes • Interference immunity against voltage surge Yes • Interference immunity against voltage surge Yes • Interference immunity against high-frequency radiation acc. to IEC 61000-4.6 Yes Interference immunity against high-frequency radiation acc. to IEC 61000-4.6 Yes Emission of radio interference acc. to EN 55 011 Yes; Group 1 • 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 IP20	 Potential separation digital outputs 	Relays
EMC Interference immunity against discharge of static electricity • Interference immunity against discharge of static electricity acc. to IEC 61000-4-2 - Test voltage at contact discharge 6 kV Interference immunity to cable-borne interference • Interference immunity on supply lines acc. to IEC 61000- 4-4 • Interference immunity on supply lines acc. to IEC 61000- 4-4 • Interference immunity on supply lines acc. to IEC 61000- 4-4 • Interference immunity on supply lines acc. to IEC 61000- 4-4 Interference immunity against voltage surge • Interference immunity against conducted variable disturbance induced by high-frequency fields • Interference immunity against toih-frequency radiation acc. to IEC 61000-4-6 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 IP20	between the channels	No
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 Ves • 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 Yes • Interference immunity on supply lines acc. to IEC 61000- 4-5 Yes Interference immunity against voltage surge Yes • Interference immunity on supply lines acc. to IEC 61000- 4-5 Yes Interference immunity against voltage surge Yes • Interference immunity against conducted variable disturbance induced by high-frequency fields Yes • Interference immunity against conducted variable disturbance induced by high-frequency fields Yes • Interference immunity against high-frequency radiation acc. to IEC 61000- 4-5 Yes • 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 <td< td=""><td></td><td>2</td></td<>		2
• Interference immunity against discharge of static Yes Test voltage at air discharge 8 kV Test voltage at contact discharge 6 kV Interference immunity to cable-borne interference 6 kV 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 Yes • Interference immunity on supply lines acc. to IEC 61000- 4-4 Yes • Interference immunity against voltage surge Yes • Interference immunity against conducted variable disturbance induced by high-frequency fields Yes • Interference immunity against conducted variable disturbance induced by high-frequency fields Yes • Interference immunity against high-frequency radiation acc. to IEC 61000- 4-5 Yes Interference immunity against conducted variable disturbance induced by high-frequency fields Yes • Interference immunity against high-frequency radiation acc. to IEC 61000-4-6 Yes Emission of radio interference acc. to EN 55 011 Yes; Group 1 • Limit class A, for use in industrial 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 IP20	EMC	
electricity acc. to IEC 61000-4-2 - 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 • Interference immunity on signal cables acc. to IEC 61000- 4-4 Interference immunity against voltage surge • Interference immunity on supply lines acc. to IEC 61000- 4-5 Interference immunity against voltage surge • Interference immunity on supply lines acc. to IEC 61000- 4-5 Interference immunity against voltage surge • Interference immunity against voltage surge • Interference immunity against conducted variable disturbance induced by high-frequency fields Interference immunity against high-frequency radiation acc. to IEC 61000-4-6 Emission of radio interference acc. to EN 55 011 • Limit class A, for use in industrial areas • Limit class B, for use in residential areas • Limit class B, for use in residential areas • Limit class G protection IP degree of protection		
Test voltage at contact discharge6 kVInterference immunity to cable-borne interferenceYes• Interference immunity on supply lines acc. to IEC 61000- 4-4Yes• Interference immunity on signal cables acc. to IEC 61000- 4-4Yes• Interference immunity against voltage surgeYes• Interference immunity against voltage surgeYes• Interference immunity against conducted variable disturbance inducted by high-frequency fieldsYesInterference immunity against conducted variable disturbance inducted by high-frequency fieldsYesInterference immunity against high-frequency radiation acc. to IEC 61000-4-6Yes• Interference immunity against high-frequency radiation acc. to IEC 61000-4-6Yes• Interference immunity against high-frequency radiation acc. to IEC 61000-4-6Yes• Interference acc. to EN 55 011Yes• Limit class A, for use in industrial areasYes; Group 1• Limit class B, for use in residential areasYes; Group 1• Limit class G protectionYesIP degree of protectionIP20		Yes
Test voltage at contact discharge6 kVInterference immunity to cable-borne interferenceYes• Interference immunity on supply lines acc. to IEC 61000- 4-4Yes• Interference immunity on signal cables acc. to IEC 61000- 4-4Yes• Interference immunity against voltage surgeYes• Interference immunity against voltage surgeYes• Interference immunity against conducted variable disturbance inducted by high-frequency fieldsYesInterference immunity against conducted variable disturbance inducted by high-frequency fieldsYesInterference immunity against high-frequency radiation acc. to IEC 61000-4-6Yes• Interference immunity against high-frequency radiation acc. to IEC 61000-4-6Yes• Interference immunity against high-frequency radiation acc. to IEC 61000-4-6Yes• Interference acc. to EN 55 011Yes• Limit class A, for use in industrial areasYes; Group 1• Limit class B, for use in residential areasYes; Group 1• Limit class G protectionYesIP degree of protectionIP20	— Test voltage at air discharge	8 kV
• 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 induced by high-frequency fields Yes • Interference immunity against conducted variable disturbance induced by high-frequency fields Yes • Interference immunity against high-frequency radiation acc. to IEC 61000-4-6 Yes Emission of radio interference acc. to EN 55 011 Yes; Group 1 • 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 IP20		6 kV
• 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 induced by high-frequency fields Yes • Interference immunity against conducted variable disturbance induced by high-frequency fields Yes • Interference immunity against high-frequency radiation acc. to IEC 61000-4-6 Yes Emission of radio interference acc. to EN 55 011 Yes; Group 1 • 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 IP20		
4-4 Interference immunity against voltage surge Interference immunity on supply lines acc. to IEC 61000- 4-5 Yes Interference immunity against conducted variable disturbance induced by high-frequency fields Yes Interference immunity against conducted variable disturbance induced by high-frequency fields Yes Interference immunity against high-frequency radiation acc. to IEC 61000-4-6 Yes Emission of radio interference acc. to EN 55 011 Yes; Group 1 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 IP20	• Interference immunity on supply lines acc. to IEC 61000-	Yes
Interference immunity on supply lines acc. to IEC 61000- 4-5 Interference immunity against conducted variable disturbance induced by high-frequency fields Interference immunity against high-frequency radiation acc. to IEC 61000-4-6 Emission of radio interference acc. to EN 55 011 Limit class A, for use in industrial areas Yes; Group 1 Limit class B, for use in residential areas Yes; When appropriate measures are used to ensure compliance with the limits for Class B according to EN 55011 Degree and class of protection IP degree of protection IP20		Yes
4-5 Interference immunity against conducted variable disturbance induced by high-frequency fields • Interference immunity against high-frequency radiation acc. to IEC 61000-4-6 Emission of radio interference acc. to EN 55 011 • Limit class A, for use in industrial areas • Limit class B, for use in residential areas Yes; When appropriate measures are used to ensure compliance with the limits for Class B according to EN 55011 Degree and class of protection IP degree of protection	Interference immunity against voltage surge	
• 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 • Limit class B, for use in residential 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 IP20		Yes
acc. to IEC 61000-4-6 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 IP20	Interference immunity against conducted variable disturbance indu	ced by high-frequency fields
Limit class A, for use in industrial areas Limit class B, for use in residential areas Yes; Group 1 Yes; When appropriate measures are used to ensure compliance with the limits for Class B according to EN 55011 Pegree and class of protection IP degree of protection IP20	 Interference immunity against high-frequency radiation 	
Limit class B, for use in residential areas Yes; When appropriate measures are used to ensure compliance with the limits for Class B according to EN 55011 Degree and class of protection IP degree of protection IP20	Emission of radio interference acc. to EN 55 011	
for Class B according to EN 55011 Degree and class of protection IP degree of protection IP20	• Limit class A, for use in industrial areas	Yes; Group 1
IP degree of protection IP20	• Limit class B, for use in residential areas	
	Degree and class of protection	
Standards, approvals, certificates	IP degree of protection	IP20
	Standards, approvals, certificates	

Siemens Eco Profile (SEP)	Siemens EcoTech
Ecological footprint	
environmental product declaration	Yes
Global warming potential	
— global warming potential, (total) [CO2 eq]	106 kg
— global warming potential, (during production) [CO2	18.5 kg
eq]	10.0 kg
— global warming potential, (during operation) [CO2 eq]	88.2 kg
 global warming potential, (after end of life cycle) [CO2 eq] 	-1.12 kg
Ambient conditions	
Free fall	
Fall height, max.	0.3 m; five times, in product package
Ambient temperature during operation	
• min.	-20 °C; = Tmin (incl. condensation/frost); start-up @ 0 °C
• max.	60 °C; Number of simultaneously activated inputs or outputs 7 or 5 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 14 or 10 at 55 °C horizontal or 45 °C vertical
At cold restart, min.	0° 0
Ambient temperature during storage/transportation	
• min.	-40 °C
• max.	70 °C
Altitude during operation relating to sea level	
 Installation altitude above sea level, max. 	2 000 m
Ambient air temperature-barometric pressure-altitude	Tmin Tmax at 1 140 hPa 795 hPa (-1 000 m +2 000 m) // Tmin (Tmax - 10 K) at 795 hPa 658 hPa (+2 000 m +3 500 m) // Tmin (Tmax - 20 K) at 658 hPa 540 hPa (+3 500 m +5 000 m); above 2 000 m max. 132 V AC
Relative humidity	
 With condensation, tested in accordance with IEC 60068- 2-38, max. 	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)
Vibrations	
 Vibration resistance during operation acc. to IEC 60068- 2-6 	2 g (m/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; Incl. diesel and oil droplets in the air
Use in stationary industrial systems	
 to biologically active substances according to EN 	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna);
60721-3-3 — to chemically active substances according to EN	Class 3B3 on request Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity
60721-3-3 — to mechanically active substances according to EN	degree 3); * Yes; Class 3S4 incl. sand, dust, *
60721-3-3 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	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity
60721-3-6 — to mechanically active substances according to EN	degree 3); * Yes; Class 6S3 incl. sand, dust; *
60721-3-6	
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

• Protection against fouling acc. to EN 60664-3

• Military testing according to MIL-I-46058C, Amendment 7

• Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A

Yes; Class 2 for high reliability

Yes; Type 1 protection

Yes; Discoloration of coating possible during service life

Yes; Conformal coating, Class A

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

Manufacturer Declara-**Miscellaneous** <u>tion</u>





Metrological Approval

Maritime application EMV Environment <u>KC</u> Siemens EcoTech last modified:

12/8/2024 🖸