## **SIEMENS**

## **Data sheet**

## 6ES7214-1HG40-0XB0





SIMATIC S7-1200, CPU 1214C, compact CPU, DC/DC/relay, onboard I/O: 14 DI 24 V DC; 10 DO relay 2 A; 2 AI 0-10 V DC, power supply: DC 20.4-28.8 V DC, program/data memory 150 KB

SITMENS:  SUMTIC ST-1200	
Figure similar	
General information	
Product type designation	CPU 1214C DC/DC/relay
Firmware version	V4.6
Engineering with	
Programming package	STEP 7 V18 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
• permissible range, lower limit (DC)	20.4 V
• permissible range, upper limit (DC)	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
l²t	0.8 A <sup>2</sup> ·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
<ul> <li>Plug-in (SIMATIC Memory Card), max.</li> </ul>	with SIMATIC memory card
Backup	
• present	Yes
maintenance-free	Yes

without battery	Yes
CPU processing times	100
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
CPU-blocks	2.5 μ5, / πιστιαστιστι
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	
<ul> <li>Number, max.</li> </ul>	Limited only by RAM for code
Data areas and their retentivity	
Retentive data area (incl. timers, counters, flags), max.	14 kbyte
Flag	
• Size, max.	8 kbyte; Size of bit memory address area
Local data	
<ul> <li>per priority class, max.</li> </ul>	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	250 5/11/6/11/11 (1/20 5
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 delay (for rated value of input voltage)	10 7 50 4(2.5 11)
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
Participated	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
Oakla lawath	kHz
Cable length	
• shielded, max.	500 m; 50 m for technological functions
• unshielded, max.	300 m; for technological functions: No
Digital outputs	40.2.1
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	
Number of relay outputs	10
Number of relay outputs     Number of operating cycles, max.	mechanically 10 million, at rated load voltage 100 000
Cable length	mediamenty to million, actated load voltage 100 000
shielded, max.	500 m
• unshielded, max.	150 m
Analog inputs	100 111
Number of analog inputs	2
Input ranges	2
• Voltage	Yes
Input ranges (rated values), voltages	103
• 0 to +10 V	Yes
— Input resistance (0 to 10 V)	≥100k ohms
Cable length	L TOOK OHIIIS
• shielded, max.	100 m; twisted and shielded
Analog outputs	100 III, twisted and silicided
Number of analog outputs	0
Analog value generation for the inputs	·
Integration and conversion time/resolution per channel	10 hit
Resolution with overrange (bit including sign), max.	10 bit
Integration time, parameterizable     Conversion time (per channel)	Yes 625 us
Conversion time (per channel)	625 µs
Encoder	
Connectable encoders	Vec
• 2-wire sensor	Yes
. Interface	
Interface type	PROFINET
Isolated	Yes
automatic detection of transmission rate	Yes
Autoregotiation	Yes
Autocrossing Interface types	Yes
• RJ 45 (Ethernet)	Yes
Number of ports	1
• integrated switch	No
Protocols	NO
PROFINET IO Controller	Yes
PROFINET TO Controller      PROFINET TO Device	Yes
SIMATIC communication	Yes
Open IE communication	Yes; Optionally also encrypted
Web server	Yes Optionally also encrypted
Media redundancy	No
PROFINET IO Controller	110
Transmission rate, max.	100 Mbit/s
Services	100 male
— PG/OP communication	Yes; encryption with TLS V1.3 pre-selected
FG/OF communication     Isochronous mode	No
— IRT	No
— PROFlenergy	No
Prioritized startup	Yes
Number of IO devices with prioritized startup, max.	16
Number of connectable IO Devices, max.	16
Number of connectable IO Devices for RT, max.	16
— of which in line, max.	16
	Yes
— Activation/deactivation of IO Devices	100
Activation/deactivation of IO Devices	8
<ul> <li>Activation/deactivation of IO Devices</li> <li>Number of IO Devices that can be simultaneously activated/deactivated, max.</li> </ul>	8
— Number of IO Devices that can be simultaneously	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.

Services	
<ul> <li>PG/OP communication</li> </ul>	Yes; encryption with TLS V1.3 pre-selected
— Isochronous mode	No
— IRT	No
— PROFlenergy	Yes
— Shared device	Yes
<ul> <li>Number of IO Controllers with shared device, max.</li> </ul>	2
Protocols	
Supports protocol for PROFINET IO	Yes
PROFIsafe	No
PROFIBUS	Yes; CM 1243-5 (master) or CM 1242-5 (slave) required
OPC UA	Yes; OPC UA Server
AS-Interface	Yes; CM 1243-2 required
Protocols (Ethernet)	
• TCP/IP	Yes
• DHCP	No
• SNMP	Yes
• DCP	Yes
• LLDP	Yes
Redundancy mode	
Media redundancy	
— MRP	No
— MRPD	No
SIMATIC communication	
	Yes
• 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	
• supported	Yes
User-defined websites	Yes
OPC UA	
Runtime license required	Yes; "Basic" license required
OPC UA Server	Yes; data access (read, write, subscribe), method call, runtime license required
	Available security policies: None, Basic128Rsa15, Basic256Rsa15,
Application authentication	Basic256Sha256
<ul><li>User authentication</li></ul>	"anonymous" or by user name & password
Number of sessions, max.	10
Number of subscriptions per session, max.	5
— Sampling interval, min.	100 ms
— Publishing interval, min.	200 ms
Number of server methods, max.	20
<ul> <li>Number of monitored items, recommended max.</li> </ul>	1 000
<ul> <li>Number of server interfaces, max.</li> </ul>	2
<ul> <li>Number of nodes for user-defined server interfaces,</li> </ul>	2 000
max.	
Further protocols	
• MODBUS	Yes
communication 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	222 2 (5. 55sinouton, door data of20)
overall	PG Connections: 4 reserved / 4 max; HMI Connections: 12 reserved / 18 max;
- Overall	S7 Connections: 8 reserved / 14 max; Open User Connections: 8 reserved / 14
	max; Web Connections: 2 reserved / 30 max; OPC UA Connections: 0 reserved

Tost commissioning functions  Statisticontrol variable  * Statisticontrol variable  * Variables  Forcing  * Ves  * When for configurable Traces  * Number of position traces  * Number of position confoled positioning avex max.  * Positioning avery average and the positioning avex max.  * Position sign and or opinin inputs  * Potential sign and or opinin inputs  * Potential sign and or opinin inputs  * Potential sign and or opinin inputs  * No  * Potential sign and or opinin inputs  *		/ 10 max; Total Connections: 34 reserved / 64 max
Status control  Status control or stable  Variables  Forcing  Forc	Test commissioning functions	TO Max, Total Colliculotics. OF Teachived / OF Max
Status Scort for Variable Variables Forcing F		
Availables   Inputs'outputs, memory bits, DBs, distributed I/Os, timers, counters		Voc
Forcing Forcin		
Forming Yes  Diagnosis buffer  Present Yes  Traces  Number of configurable Traces  Remony size per trace, max  Number of configurable traces  Remony size per trace, max		inputs/outputs, memory bits, DBs, distributed 1/Os, timers, counters
Diagnostic buffer  present  present  Aumber of configurable Traces  Counter  Aum Strop LED  Aum Strop LED  Aum Strop LED  Aumber of counters  Aumber of counters  Aumber of counters  Aumber of counters  Aumber of positioning  Aumber of positioning  Aumber of positioning axes (max.)  Aum Aumber of position		Von
revisent Yes  * Number of configurable Traces  * Remore yaze per taxe, max  * Number of contests elected in the manufacture of the manufacture		res
Number of configurable Traces   2		Von
Number of configurable Traces  Memory size per trace, max.  Interrupticides/prostses/stratus information  Diagnostics indication LED  RUNSTOP LED  REROR LED  REROR LED  Per Serror LED  Counter  Counter  Counter  Counting frequency, max.  Frequency measurement  Controlled positioning axes yet make direction interface  Countrolled positioning axes yet make direction interface  PiD controller  Number of position-controlled positioning axes, max.  Number of position-controlled positioning axes, max.  Number of position-controlled positioning axes, max.  Number of position-controlled positioning axes yet make direction interface  PiD controller  Number of position-controlled positioning axes yet make direction interface  PiD controller  Number of position-controlled positioning axes yet make direction interface  PiD controller  Number of position-controlled positioning axes yet make direction interface  PiD controller  Number of position-controlled positioning axes yet make direction interface  PiD controller  Number of position-controlled positioning axes yet make direction interface  PiD controller  Position disparation  Potential separation digital clouds  Potential separation		res
Memory size per trace, max   512 kbyte		2
Interrupts/Giagnostics indector in ED		
Diagnostics indication LED  • RWNSTOP LED • CRRR (LED • CRRR (LED • CRRR (LED • CRRR (LED • Ves • Counter • Number of counters • Counting frequency, max. • Counting frequency, max. • Counting frequency, max. • Counting frequency measurement • Ves • Counting frequency max • Responsibilities • Polectical separation digital puts • Detential separation • Potential separation • Potential separation digital inputs • Detential separation digital outputs • Detential separation digital outp		512 kbyte
RUNSTOP LED ERROR LED SMANT LED Yes Manny LED Number of counters Ocounters Number of counters Ocounting frequency, max. Frequency measurement Yes Controlled positioning Number of position controlled positioning axes, max Number of position controlled positioning axes, max Number of position controlled positioning axes, max Number of alarm inputs Pilo centroller Yes Number of alarm inputs Potential separation digital outputs Po		
ERROR LED  NAINT LED  NETURATOR COUNTER  Number of counters  Counting frequency, max.  100 kHz  Frequency measurement  Yes  Controlled positioning  Yes  Number of position-controlled positioning axes, max.  8  No Octorial publication axes, pu	-	V
Integrated Functions  Counter  Number of counters  Counting frequency, max.  Frequency measurement  Yes  Counting frequency, max.  Frequency measurement  Yes  Number of positioning axes, max.  Regulation overhilded positioning axes, max.  Regulation overhilded positioning axes, max.  Regulation overhilded positioning axes, max.  Regulation of positioning axes via pulse-direction interface.  PiD controller  Yes  Number of positioning axes via pulse-direction interface.  PiD controller  Number of alarm inputs  Potential separation digital unputs  Potential separation digital inputs  Potential separation digital unputs  Potential separation digital unputs  Potential separation digital unputs  Potential separation digital outputs  Potential separation  Pot		
Integrated Functions  Courter  Number of counters  Counting frequency, max.  Frequency measurement  Frequency fields		
Counter  Number of counters Controlled positioning axes max. Frequency measurement Controlled positioning axes max.  Number of position-controlled positioning axes wax.  Number of positioning axes via pulse-direction interface PID controller Yes Number of alarm inputs 4  Potential separation Potential separation digital inputs Potential separation digital inputs Potential separation digital inputs Potential separation digital outputs Potential separation Potential separation digital outputs Potential separation Pot		Yes
Counting frequency, max.  Frequency measurement  Personary max  Frequency measurement  Ves  Controlled positioning Aves in the Section of Position Controlled positioning axes, max  Number of position controlled positioning axes, max  Number of position of P		
Counting frequency, max.  Frequency measurement Overs Controlled positioning Number of positioning axes via pulse-direction interface PID controlled PID controlled PID controlled PID controlled POtential separation digital inputs Potential separation digital inputs Potential separation digital inputs Potential separation digital inputs Potential separation digital outputs Poten		
Frequency measurement Controlled positioning axes, max.  Number of position-controlled positioning axes, max.  Number of positioning axes via pulse-direction interface PID controller Yes Number of alarm inputs 4  Potential separation inputs 4  Potential separation digital inputs • Determinal separation digital outputs • Determinal separation digital inputs • Determinal separation digi		
controlled positioning axes, max.  Number of position-controlled positioning axes, max.  8  Number of positioning axes via pulse-direction interface  PID controller  Yes  Number of alarm inputs  Potential separation  Potential separation digital inputs  • Potential separation digital outputs  • Interference immunity against discharge of static electricity  • Interference immunity on supply lines acc. to IEC 61000-  4-1  • Interference immunity on supply lines acc. to IEC 61000-  4-3  Interference immunity on supply lines acc. to IEC 61000-  4-5  Interference immunity against voltage surge  • Interference immunity a		
Number of position-controlled positioning axes, max.  Number of positioning axes via pulse-direction interface  PID controller  Number of alarm inputs  Potential separation digital outputs		
Number of positioning axes via pulse-direction interface PID controller Yes Number of alarm inputs 4 Potential separation Potential separation digital inputs • Potential separation digital outputs • Detween 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 — Test voltage at air discharge • Interference immunity to cable-borne interference • Interference immunity to cable-borne interference • Interference immunity on signal cables acc. to IEC 61000-4-4 • Interference immunity against voltage surge • Interference immunity against voltage surge • Interference immunity against voltage surge • Interference immunity against conducted variable disturbance induced by high-frequency fields • Interference immunity against conducted variable disturbance induced by high-frequency fields • Interference immunity against point areas • Limit class A, for use in residential areas • Limit class B, for use in residential areas • Limit class B, for use in residential areas • Limit class B, for use in industrial areas • Limit class B, for use in residential areas • Limit class B, for use in residential areas • Limit class B, for use in residential areas • Limit class B, for use in residential areas • Limit class B, for use in residential areas • Limit class B, for use in residential areas • Limit class B, for use in residential areas • Limit class B, for use in residential areas • Limit class B, for use in residential areas • Limit class B, for use in residential areas • Limit class B, for use in residential areas • Limit class B, for use in residential areas		
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Number of alarm inputs 4  Potential separation digital inputs  Potential separation digital inputs  Potential separation digital inputs  Potential separation digital outputs  Potential separation digital celetics  Potential separation digital celetics  Potential separation digital celetics  Potential separation digital celetics  Poten		
Potential separation  Potential separation digital inputs  • Potential separation digital inputs  • between the channels, in groups of  Potential separation digital outputs  • between the channels • between the channels • between the channels • 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  — Test voltage at air discharge — Test voltage at air discharge — Test voltage at contact discharge 6 kV  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 61000-4-5  Interference immunity against voltage surge • Interference immunity against toolucted variable disturbance induced by high-frequency fields • Interference immunity against toolucted variable disturbance induced by high-frequency fields • Interference immunity against not 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; Group 1  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  IP degree of protection  IP degree of protection  Siemens Eco Profile (SEP)  Siemens Eco Profile (SEP)  Siemens Eco Profile (SEP)  Siemens Eco Profile (SEP)		
Potential separation digital inputs  Potential separation digital inputs  between the channels, in groups of  Potential separation digital outputs  Potential separation digital inputs  Potential separation digital outputs  Potential separation digital culputs  Potential separation digital outputs  Potential separation digital culputs  Potential		4
Potential separation digital inputs between the channels, in groups of  Potential separation digital outputs Potential separation digital outputs Potential separation digital outputs  Potential separation digital outputs  Potential separation digital outputs Potential		
between the channels, in groups of Potential separation digital outputs     Potential separation digital outputs     between the channels     between the channels     between the channels, in groups of     2  EMC  Interference immunity against discharge of static electricity      Interference immunity against discharge of static electricity ac. to IEC 61000-4-2     — Test voltage at air discharge     — Test voltage at air discharge     — Test voltage at contact discharge  Interference immunity to cable-borne interference      • Interference immunity on supply lines acc. to IEC 61000-4-4      • Interference immunity against voltage surge      • 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 conducted variable disturbance induced by high-frequency fields      • 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 B, for use in residential areas      • Limit class B, for use in residential areas      • Limit class B, for use in residential areas      • Limit class B, for use in residential areas      • Limit class B, for use in residential areas      • Limit class B, for use in residential areas      • Limit class B, for use in residential areas      • Limit class B, for use in residential areas      • Limit class B, for use in residential areas      • Limit class B, for use in residential areas      • Limit class B, for use in residential areas      • Limit class B, for use in residential areas      • Limit class B, for use in residential areas      • Limit class B, for use in residential areas      • Limit class B, for use in residential areas      • Limit class B, for use in residential areas      • Limit		
Potential separation digital outputs  • Potential separation digital outputs • between the channels • between the channels • between the channels, in groups of 2  EMC  Interference immunity against discharge of static electricity • Interference immunity against discharge of static electricity • Interference immunity act in EC 61000-4-2 — Test voltage at air discharge • Test voltage at contact discharge • 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 against voltage surge • Interference immunity against conducted variable disturbance induced by high-frequency fields • Interference immunity against conducted variable disturbance induced by high-frequency fields • Interference immunity against conducted variable disturbance induced by high-frequency fields • Interference immunity against conducted variable disturbance induced by high-frequency fields • Interference immunity against conducted variable disturbance induced by high-frequency fields • Interference immunity against conducted variable disturbance induced by high-frequency fields • Interference immunity against conducted variable disturbance induced by high-frequency fields • Interference immunity against conducted variable disturbance induced by high-frequency fields • Interference immunity against tigh-frequency radiation acc. to IEC 61000-4-6  Emission of radio interference acc. to EN 55 011 • Limit class B, for use in industrial areas • Limit class B, for use in industrial areas • Limit class B, for use in industrial areas • Limit class B, for use in residential areas • Limit class B, for use in residential areas • Limit class B, for use in residential areas • Limit class B, for use in residential areas • Limit class B, for use in residential areas • Limit class B, for use in residential areas • Limit class B, for use in residential areas • Limit class B		500 V AC for 1 minute
Potential separation digital outputs between the channels between the channels between the channels, in groups of  EMC  Interference immunity against discharge of static electricity Interference immunity against discharge of static electricity acc. to IEC 61000-4-2  — Test voltage at air discharge — Test voltage at contact discharge — Test voltage at contact discharge — Interference immunity to cable-borne interference  Interference immunity on supply lines acc. to IEC 61000-4-4  Interference immunity against voltage surge  Interference immunity against voltage surge  Interference immunity against voltage surge  Interference immunity against conducted variable disturbance induced by high-frequency fields  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  Pes; 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  IP 20  Stemens Eco Profile (SEP)  Siemens Eco Profile (SEP)		1
between the channels		
between the channels, in groups of  EMC  Interference immunity against discharge of static electricity      • Interference immunity against discharge of static electricity acc. to IEC 61000-4-2      — Test voltage at air discharge		
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  — Test voltage at air 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 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 61000-4-5  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 IP20  Standards, approvals, certificates  Siemens Eco Profile (SEP) Siemens EcoTech  CE mark Yes		
Interference immunity against discharge of static electricity  Interference immunity against discharge of static electricity acc. to IEC 61000-4-2  — Test voltage at air discharge — Test voltage at contact discharge — Test voltage at contact discharge  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 against voltage surge  Interference immunity against conducted variable disturbance induced by high-frequency fields  Interference immunity against high-frequency radiation acc. to IEC 61000-4-5  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; Group 1  Yes; When appropriate measures are used to ensure compliance with the limits for Class B according to EN 55011  Degree and class of protection  IP degree of protection  IP20  Standards, approvals, certificates  Siemens Eco Profile (SEP)  Siemens EcoTech  CE mark  Yes		2
Interference immunity against discharge of static electricity acc. to IEC 61000-4-2  — Test voltage at air discharge — Test voltage at contact discharge — 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 against voltage surge Interference immunity against conducted variable disturbance induced by high-frequency fields 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 B, for use in residential areas Siemens Eco Profile (SEP)  Siemens Eco Profile (SEP) Siemens EcoTech CE mark  Yes	EMC	
electricity acc. to IEC 61000-4-2  — Test voltage at air discharge — 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 against voltage surge • Interference immunity against voltage surge • Interference immunity against supply lines acc. to IEC 61000-4-5  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  Pegree and class of protection  IP degree of protection  IP20  Standards, approvals, certificates  Siemens Eco Profile (SEP)  Siemens EcoTech  Yes		
- Test voltage at air discharge		Yes
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 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  Yes; Group 1  Yes; When appropriate measures are used to ensure compliance with the limits for Class B according to EN 55011  Degree and class of protection  IP degree of protection  IP20  Standards, approvals, certificates  Siemens Eco Profile (SEP)  Siemens EcoTech  Yes		8 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 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  Pers; Group 1  Yes; When appropriate measures are used to ensure compliance with the limits for Class B according to EN 55011  Degree and class of protection  IP degree of protection  IP20  Standards, approvals, certificates  Siemens Eco Profile (SEP)  Siemens EcoTech  Yes		
<ul> <li>Interference immunity on supply lines acc. to IEC 61000-4-4</li> <li>Interference immunity on signal cables acc. to IEC 61000-4-4</li> <li>Interference immunity against voltage surge         <ul> <li>Interference immunity on supply lines acc. to IEC 61000-4-5</li> </ul> </li> <li>Interference immunity against conducted variable disturbance induced by high-frequency fields         <ul> <li>Interference immunity against high-frequency radiation acc. to IEC 61000-4-6</li> </ul> </li> <li>Emission of radio interference acc. to EN 55 011         <ul> <li>Limit class A, for use in industrial areas</li> <li>Limit class B, for use in residential areas</li> <li>Yes; When appropriate measures are used to ensure compliance with the limits for Class B according to EN 55011</li> </ul> </li> <li>Degree and class of protection</li> <li>IP20</li> <li>Standards, approvals, certificates</li> <li>Siemens Eco Profile (SEP)</li> <li>Siemens EcoTech</li> <li>Yes</li> </ul>		
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     Pegree and class of protection  IP degree of protection  IP degree of protection  Standards, approvals, certificates  Siemens Eco Profile (SEP)  CE mark  Yes  Yes  Yes  Yes  Yes  Yes  Siemens EcoTech  Yes	·	Yes
Interference immunity against voltage surge  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  Limit class B, for use in residential areas  Limit class B, for use in residential areas  Limit class of protection  IP degree and class of protection  IP degree of protection  IP 20  Standards, approvals, certificates  Siemens Eco Profile (SEP)  Siemens EcoTech  Yes		160
Interference immunity against voltage surge  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  Limit class B, for use in residential areas  Limit class B, for use in residential areas  Limit class of protection  IP degree and class of protection  IP degree of protection  IP 20  Standards, approvals, certificates  Siemens Eco Profile (SEP)  Siemens EcoTech  Yes	• Interference immunity on signal cables acc. to IEC 61000-	Yes
<ul> <li>Interference immunity on supply lines acc. to IEC 61000-4-5</li> <li>Interference immunity against conducted variable disturbance induced by high-frequency fields</li> <li>Interference immunity against high-frequency radiation acc. to IEC 61000-4-6</li> <li>Emission of radio interference acc. to EN 55 011</li> <li>Limit class A, for use in industrial areas</li> <li>Limit class B, for use in residential areas</li> <li>Yes; Group 1</li> <li>Limit class B, for use in residential areas</li> <li>Yes; When appropriate measures are used to ensure compliance with the limits for Class B according to EN 55011</li> <li>Degree and class of protection</li> <li>IP degree of protection</li> <li>IP20</li> <li>Standards, approvals, certificates</li> <li>Siemens Eco Profile (SEP)</li> <li>Siemens EcoTech</li> <li>CE mark</li> </ul>	4-4	
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 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 IP degree of protection Standards, approvals, certificates Siemens Eco Profile (SEP) Siemens EcoTech Yes	, , , , , ,	
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 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 IP degree of protection Standards, approvals, certificates Siemens Eco Profile (SEP) Siemens EcoTech Yes		Yes
<ul> <li>Interference immunity against high-frequency radiation acc. to IEC 61000-4-6</li> <li>Emission of radio interference acc. to EN 55 011</li> <li>Limit class A, for use in industrial areas</li> <li>Limit class B, for use in residential areas</li> <li>Yes; Group 1</li> <li>Yes; When appropriate measures are used to ensure compliance with the limits for Class B according to EN 55011</li> <li>Degree and class of protection</li> <li>IP degree of protection</li> <li>IP20</li> <li>Standards, approvals, certificates</li> <li>Siemens Eco Profile (SEP)</li> <li>CE mark</li> <li>Yes</li> </ul>		load by high fraguancy fields
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  Pegree and class of protection  IP degree of protection  IP20  Standards, approvals, certificates  Siemens Eco Profile (SEP)  CE mark  Yes; Group 1  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  IP20  Siemens EcoTech  Yes	, <u>, , , , , , , , , , , , , , , , , , </u>	
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  Yes; Group 1  Yes; When appropriate measures are used to ensure compliance with the limits for Class B according to EN 55011  Degree and class of protection  IP degree of protection  IP20  Standards, approvals, certificates  Siemens Eco Profile (SEP)  CE mark  Yes		l to
<ul> <li>Limit class A, for use in industrial areas</li> <li>Limit class B, for use in residential areas</li> <li>Yes; Group 1</li> <li>Yes; When appropriate measures are used to ensure compliance with the limits for Class B according to EN 55011</li> <li>Degree and class of protection</li> <li>IP degree of protection</li> <li>IP20</li> <li>Standards, approvals, certificates</li> <li>Siemens Eco Profile (SEP)</li> <li>Siemens EcoTech</li> <li>Yes</li> </ul>		
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  Standards, approvals, certificates  Siemens Eco Profile (SEP)  Siemens EcoTech  Yes		Yes; Group 1
for Class B according to EN 55011  Degree and class of protection  IP degree of protection  Standards, approvals, certificates  Siemens Eco Profile (SEP)  CE mark  for Class B according to EN 55011  IP20  Semans EcoTech  Yes		
IP degree of protection IP20  Standards, approvals, certificates  Siemens Eco Profile (SEP) Siemens EcoTech  CE mark Yes		
Standards, approvals, certificates  Siemens Eco Profile (SEP)  CE mark  Siemens EcoTech  Yes	Degree and class of protection	
Siemens Eco Profile (SEP)  CE mark  Siemens EcoTech  Yes	IP degree of protection	IP20
Siemens Eco Profile (SEP)  CE mark  Siemens EcoTech  Yes	Standards, approvals, certificates	
CE mark Yes	Siemens Eco Profile (SEP)	Siemens EcoTech
UL approval Yes		Yes
	UL approval	Yes

cULus	Yes
FM approval	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
Marine approval	Yes
Ecological footprint	
<ul> <li>environmental product declaration</li> </ul>	Yes
Global warming potential	
<ul><li>— global warming potential, (total) [CO2 eq]</li></ul>	111 kg
<ul> <li>global warming potential, (during production) [CO2</li> </ul>	20.1 kg
eq]	
— global warming potential, (during operation) [CO2	91.5 kg
eq] — global warming potential, (after end of life cycle)	-0.896 kg
[CO2 eq]	-0.000 ng
mbient conditions	
Free fall	
Fall height, max.	0.3 m; five times, in product package
Ambient temperature during operation	, , , , , , , , , , , , , , , , , , ,
• min.	-20 °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
horizontal installation, min.	-20 °C
<ul> <li>horizontal installation, max.</li> </ul>	60 °C
<ul> <li>vertical installation, min.</li> </ul>	-20 °C
vertical installation, max.	50 °C
Ambient temperature during storage/transportation	
• min.	-40 °C
• max.	70 °C
Air pressure acc. to IEC 60068-2-13	
Operation, min.	<b>79</b> 5 hPa
Operation, max.	1 080 hPa
Storage/transport, min.	660 hPa
Storage/transport, max.	1 080 hPa
Altitude during operation relating to sea level	
Installation altitude, min.	-1 000 m
<ul> <li>Installation altitude, max.</li> </ul>	5 000 m; Restrictions for installation altitudes > 2 000 m, see manual
Relative humidity	
Operation, max.	95 %; no condensation
Vibrations	
Vibration resistance during operation acc. to IEC 60068-	2 g (m/s²) wall mounting, 1 g (m/s²) DIN rail
2-6	
<ul> <li>Operation, tested according to IEC 60068-2-6</li> </ul>	Yes
Shock testing	
• tested according to IEC 60068-2-27	Yes; IEC 68, Part 2-27 half-sine: strength of the shock 15 g (peak value),
	duration 11 ms
Pollutant concentrations	
SO2 at RH < 60% without condensation	S02: < 0.5 ppm; H2S: < 0.1 ppm; RH < 60% condensation-free
onfiguration / header	
configuration / programming / header	
Programming language	
— LAD	Yes
— LAD — FBD	Yes Yes
— FBD	Yes
— FBD — SCL	Yes
<ul> <li>— FBD</li> <li>— SCL</li> <li>Know-how protection</li> <li>● User program protection/password protection</li> </ul>	Yes Yes
— FBD — SCL  Know-how protection  • User program protection/password protection  • Copy protection	Yes Yes Yes
FBD SCL  Know-how protection  • User program protection/password protection  • Copy protection  • Block protection	Yes Yes
— FBD — SCL  Know-how protection  • User program protection/password protection  • Copy protection  • Block protection  Access protection	Yes Yes Yes Yes Yes Yes
FBD SCL  Know-how protection  • User program protection/password protection  • Copy protection  • Block protection	Yes Yes Yes

	V
Protection level: Complete protection	Yes
programming / cycle time monitoring / header	
<ul> <li>adjustable</li> </ul>	Yes
Dimensions	
Width	110 mm
Height	100 mm
Depth	75 mm
Weights	
Weight, approx.	435 g

last modified: 12/8/2024 🖸



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