SIEMENS

Data sheet

6ES7212-1AE40-0XB0



SIMATIC S7-1200, CPU 1212C, compact CPU, DC/DC/DC, onboard I/O: 8 DI 24 V DC; 6 DO 24 V DC; 2 AI 0-10 V DC, power supply: DC 20.4-28.8 V DC, program/data memory 100 KB

Figure similar

General information		
Product type designation	CPU 1212C DC/DC/DC	
Firmware version	V4.7	
Engineering with		
 Programming package 	STEP 7 V20 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)	400 mA; CPU only	
Current consumption, max.	1 200 mA; CPU with all expansion modules	
Inrush current, max.	12 A; at 28.8 V DC	
l²t	0.5 A ² ·s	
Output current		
for backplane bus (5 V DC), max.	1 000 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.	9 W	
Memory		
Work memory		
 integrated 	100 kbyte	
Load memory		
 integrated 	2 Mbyte	
 Plug-in (SIMATIC Memory Card), max. 	with SIMATIC memory card	
Backup		
• present	Yes	
maintenance-free	Yes	

a without bottom	Yes	
without battery	Tes	
CPU processing times		
for bit operations, typ.	0.08 µs; / instruction	
for word operations, typ.	1.7 μs; / instruction	
for floating point arithmetic, typ.	2.3 µs; / instruction	
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.	14 kbyte	
Flag		
• Size, max.	4 kbyte; Size of bit memory address area	
Local data	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
 per priority class, max. 	16 kbyte; Priority class 1 (program cycle): 16 KB, priority class 2 to 26: 6 KB	
Address area		
Process image		
Inputs, adjustable	1 kbyte	
Outputs, adjustable	1 kbyte	
	i kuyte	
Hardware configuration	2 comm modulos 1 signal based 2 signal modulas	
Number of modules per system, max.	3 comm. modules, 1 signal board, 2 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	8; 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.	8	
Input voltage		
Rated value (DC)	24 V	
• for signal "0"	5 V DC at 1 mA	
• for signal "1"	15 V DC at 2.5 mA	
Input delay (for rated value of input voltage)		
for standard inputs		
— parameterizable	0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 ms	
— at "0" to "1", min.	0.2 ms	
— at "0" to "1", max.	12.8 ms	
for interrupt inputs		
— parameterizable	Yes	
for technological functions		
— parameterizable	Single phase: 3 @ 100 kHz & 3 @ 30 kHz, differential: 3 @ 80 kHz & 3 @ 30 kHz	
Cable length		
 shielded, max. 	500 m; 50 m for technological functions	
• unshielded, max.	300 m; for technological functions: No	
Digital outputs		
Number of digital outputs	6	
 of which high-speed outputs 	4; 100 kHz Pulse Train Output	
Limitation of inductive shutdown voltage to	L+ (-48 V)	
Switching capacity of the outputs		
• with resistive load, max.	0.5 A	
• on lamp load, max.	5 W	
Output voltage		

• for signal Trip max.0.1 V with 10 kOhm load• for signal Trip max.20 V• for signal Trip escula current, max.0.1 mA• for signal Trip escula current, max.0.1 mA• for trip Trip max.1 µa• 'Th 'D' Tri, max.1 µa• 'Th 'D' Trip max.5 µa• of the price volute. with reselve load, max.5 µa• of the price volute. with reselve load, max.6 µa• of the price volute. with reselve load, max.100 hUzReader degrid.•• with load for a with the reselve load, max.100 hUz• with load for a with the reselve load, max.100 n• with load for a with the reselve load, max.100 n• with load for a with the reselve load, max.100 n• with load for a with the reselve load (max.100 n• with load for a with the reselve load (max.100 n• with load for a with the reselve load (max.100 n• with load for a with the reselve load (max.100 n• with load for a with the reselve load (max.0• with load for a with load (max.0• with load for a with load for a with load (max.0• with load for a with load for a with load (max.0• with load for a with load for a with load (max.0• with load for a with load for a with load (max.0• with load for a with load for a with load (max.0• with load for a with load for a with load (max.0• with load for a with loa	e for signal "0" may	0.1 V/; with 10 kOhm load
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Interface types • RJ 45 (Ethernet) Yes • Number of ports 1 • integrated switch No • Protocols • PROFINET IO Controller Yes • PROFINET IO Device Yes • SIMATIC communication Yes; Optionally also encrypted • Open IE communication Yes; Optionally also encrypted • Web server Yes; Optionally also encrypted • Media redundancy Yes • Transmission rate, max. 100 Mbit/s Services - PG/OP communication Yes; encryption with TLS V1.3 pre-selected - IRT No - IRT No - PROFIenergy No - ProFienergy No - Prioritized startup Yes	Autonegotiation	Yes
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- Prioritized startup Yes		No
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- Number of IO devices with prioritized startup, max. 16	-	
	 Number of IO devices with prioritized startup, max. 	16

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ef configured user data. PROFINET to Device Services - PGOP communication Ves: encryption with TLS VI.3 pre-selected - Isdoctrorous mode No - IRT No - PROFILE No - PROFILE No - Readed device Yes - Number of IO Controllers with shared device, max 2 Protocols - Supports protocol for PROFINET IO Yes PROFISIO Yes OPCOLA Yes: OPC UA Server - Number of IO Controllers with shared device, max 2 Protocols Yes: OPC UA Server - OPC UA Yes: OPC UA Server - OPC IPA Yes - OPCOP Yes - OPCOP Yes - OPCOP Yes - OPCOP Yes - MRP No - MRP No - MRP No - MRP No - Data Inright, max. & Kryle - Data Inright, max. & Kryle	— Updating time	
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AS-Interface Yes; CM 1243-2 required Protocols (Ethemet) • TCP/IP Yes • DHCP No • SNMP Yes • DCP Yes • DCP Yes • DLDP Yes • DCP Yes • Communication Ves • MRP No - MRPD No SMMTIC communication Ves • S7 routing Yes Open IE communication Ves • Data length, max. 8 kbyte - several passive connections per port, supported Yes • ISO-on-TCP (RFC1006) Yes - Data length, max. 8 kbyte • UDP Yes - Data length, max. 8 kbyte • UDP Yes - Data length, max. 8 kbyte • UDP Yes - Data length, max. 8 kbyte • USP-onflew exbites Yes • Data length, max. 8 kbyte • USP - Data length, max. 8 kbyte • User-defined websites Yes		
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SIMATIC communication Yes Open IE communication ************************************		
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- Data length, max.8 kbyte• UDPYes- Data length, max.1 472 byteWeb server-• supportedYes• supportedYes• USer-defined websitesYesOPC UA-• Runtime license requiredYes; "Basic" license required• OPC UA ServerYes; data access (read, write, subscribe), method call, runtime license required- Application authentication"anonymous" or by user name & password- Number of sessions, max.10- Number of subscriptions per session, max.5- Sampling interval, min.200 ms- Number of server methods, max.20- Number of server interfaces, max.2- Number of nondes for user-defined server interfaces, max.2- Number of nodes for user-defined server interfaces, max.2- Number of nodes for user-defined server interfaces, max.2		
• UDP Yes - Data length, max. 1 472 byte Web server		
— Data length, max. 1 472 byte Web server • supported Yes • User-defined websites Yes OPC UA Yes; "Basic" license required • Runtime license required Yes; data access (read, write, subscribe), method call, runtime license required • OPC UA Yes; data access (read, write, subscribe), method call, runtime license required • OPC UA Yes; data access (read, write, subscribe), method call, runtime license required • Application authentication Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 — User authentication "anonymous" or by user name & password • Number of sessions, max. 10 • Number of subscriptions per session, max. 5 • Sampling interval, min. 200 ms • Number of server methods, max. 1000 • Number of server interfaces, max. 2 • Number of nonitored items, recommended max. 1000 • Number of nodes for user-defined server interfaces, max. 2 • Number of nodes for user-defined server interfaces, max. 2 • Number of nodes for user-defined server interfaces, max. 2	-	
Web server • supported Yes • User-defined websites Yes OPC UA Yes; "Basic" license required • OPC UA Yes; data access (read, write, subscribe), method call, runtime license required • Application authentication Yes; data access (read, write, subscribe), method call, runtime license required - Application authentication Yes; data access (read, write, subscribe), method call, runtime license required - Number of sessions, max. 10 - Number of subscriptions per session, max. 5 - Sampling interval, min. 100 ms - Number of server methods, max. 20 - Number of server methods, max. 20 - Number of nonitored items, recommended max. 1000 - Number of nodes for user-defined server interfaces, max. 2 - Number of nodes for user-defined server interfaces, max. 2		
• supported Yes • User-defined websites Yes OPC UA • Runtime license required • OPC UA Server Yes; "Basic" license required • Application authentication Yes; data access (read, write, subscribe), method call, runtime license required - Application authentication Yes; data access (read, write, subscribe), method call, runtime license required - Application authentication "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 - Number of nonitored items, recommended max. 1000 - Number of nonitored items, recommended max. 2000 - Number of nonitored items, recommended max. 2000		1 472 Uyle
User-defined websites Yes OPC UA Runtime license required OPC UA Server Application authentication Application authentication Ves; data access (read, write, subscribe), method call, runtime license required Application authentication User authentication Number of sessions, max. Number of subscriptions per session, max. Sampling interval, min. Publishing interval, min. Number of server methods, max. Number of server methods, max. Number of server methods, max. Number of server interfaces, max. Number of server interfaces, max. OU ons Number of server interfaces, max. OU ons Number of server interfaces, max. OU ons OU ons		Voc
OPC UA • Runtime license required • OPC UA Server - Application authentication - Application authentication - User authentication - Number of sessions, max. - Number of subscriptions per session, max. - Sampling interval, min. - Publishing interval, min. - Number of server methods, max. - Number of server methods, max. - Number of server methods, max. - Number of server interfaces, max. 20 - Number of server interfaces, max. 21 - Number of nodes for user-defined server interfaces, max. 22 - Number of nodes for user-defined server interfaces, max. 20		
 Runtime license required OPC UA Server Application authentication User authentication Number of sessions, max. Sampling interval, min. Publishing interval, min. Number of server methods, max. Number of server methods, max. Number of server interfaces, max. 		
 OPC UA Server Application authentication Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 User authentication Number of sessions, max. Number of subscriptions per session, max. Sampling interval, min. Publishing interval, min. Number of server methods, max. Number of server methods, max. Number of server interfaces, max. Number of nodes for user-defined server interfaces, max. 		Vac: "Paoia" license required
Application authenticationAvailable security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256- User authentication"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- Number of server interfaces, max.2- Number of nodes for user-defined server interfaces, max.200		
Basic256Sha256 — User authentication "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 — Number of server interfaces, max. 1000 — Number of server interfaces, max. 2 — Number of nonitored items, recommended max. 2000 — Number of nodes for user-defined server interfaces, max. 2 — Number of nodes for user-defined server interfaces, max. 2000		
- 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- Number of server interfaces, max.1 000- Number of server interfaces, max.2- Number of nodes for user-defined server interfaces, max.2		Basic256Sha256
Number of subscriptions per session, max.5 Sampling interval, min.100 ms Publishing interval, min.200 ms Number of server methods, max.20 Number of monitored items, recommended max.1 000 Number of server interfaces, max.2 Number of nodes for user-defined server interfaces, max.2 000		
Sampling interval, min.100 ms Publishing interval, min.200 ms Number of server methods, max.20 Number of monitored items, recommended max.1 000 Number of server interfaces, max.2 Number of nodes for user-defined server interfaces, max.2 000		
— Publishing interval, min. 200 ms — Number of server methods, max. 20 — Number of monitored items, recommended max. 1 000 — Number of server interfaces, max. 2 — Number of nodes for user-defined server interfaces, max. 2		
Number of server methods, max. 20 Number of monitored items, recommended max. 1 000 Number of server interfaces, max. 2 Number of nodes for user-defined server interfaces, max. 2 000		
Number of monitored items, recommended max. 1 000 Number of server interfaces, max. 2 Number of nodes for user-defined server interfaces, max. 2 000	-	
 Number of server interfaces, max. Number of nodes for user-defined server interfaces, max. 2 000 		
 — Number of nodes for user-defined server interfaces, max. 2 000 		1 000
max.	 — Number of server interfaces, max. 	2
Further protocols		2 000
	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	
• 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 / 10 max; Total Connections: 34 reserved / 68 max
Test commissioning functions	
Status/control	
Status/control variable	Yes
Variables	Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters
Forcing	$[\cdots, +, +, +, +, +, +, +, +, +, +, +, +, +,$
• Forcing	Yes
Diagnostic buffer	
• present	Yes
Traces	
Number of configurable Traces	2
Memory size per trace, max.	512 kbyte
Interrupts/diagnostics/status information	
Diagnostics indication LED	Ver
RUN/STOP LED	Yes
	Yes
• MAINT LED	Yes
Integrated Functions	
Counter	
Number of counters	6
 Counting frequency, max. 	100 kHz
Frequency measurement	Yes
controlled positioning	Yes
Number of position-controlled positioning axes, max.	8
Number of positioning axes via pulse-direction interface	4; With integrated outputs
PID controller	Yes
Number of alarm inputs	4
Number of pulse outputs	4
Limit frequency (pulse)	100 kHz
Potential separation	
Potential separation digital inputs	
 Potential separation digital inputs 	No
 between the channels, in groups of 	1
Potential separation digital outputs	
 Potential separation digital outputs 	Yes
between the channels	No
 between the channels, in groups of 	1
EMC	
Interference immunity against discharge of static electricity	
Interference immunity against discharge of static	Yes
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 	Yes
 Interference immunity on signal cables acc. to IEC 61000- 4-4 	Yes
Interference immunity against voltage surge	
 Interference immunity on supply lines acc. to IEC 61000- 4-5 	Yes

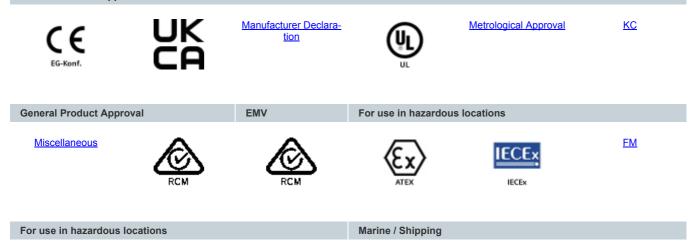
Interference immunity against conducted variable disturbance indu	used by high-fragmency fields
Interference immunity against conducted variable distributice indu	Yes
acc. to IEC 61000-4-6	165
Emission of radio interference acc. to EN 55 011	
 Limit class A, for use in industrial areas 	Yes; Group 1
 Limit class B, for use in residential areas 	Yes; When appropriate measures are used to ensure compliance with the limits
	for Class B according to EN 55011
Degree and class of protection	
IP degree of protection	IP20
Standards, approvals, certificates	
Siemens Eco Profile (SEP)	Siemens EcoTech
CE mark	Yes
UL approval	Yes
cULus	Yes
FM approval	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
Marine approval	Yes
Ecological footprint	
environmental product declaration	Yes; type II acc. to ISO 14021
Global warming potential	
— global warming potential, (total) [CO2 eq]	76.4 kg
 — global warming potential, (during production) [CO2 eq] 	13.8 kg
— global warming potential, (during operation) [CO2 eq]	63.4 kg
	-0.89 kg
Ambient conditions	
Free fall	
 Fall height, max. 	0.3 m; five times, in product package
Ambient temperature during operation	
Ambient temperature during operation • min.	-20 °C
· · · ·	-20 °C 60 °C; Number of simultaneously activated inputs or outputs 4 or 3 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 8 or 6 at 55 °C horizontal or 45 °C vertical
• min.	60 °C; Number of simultaneously activated inputs or outputs 4 or 3 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 8 or 6 at 55 °C horizontal or 45 °C
• min. • max.	60 °C; Number of simultaneously activated inputs or outputs 4 or 3 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 8 or 6 at 55 °C horizontal or 45 °C vertical
 min. max. horizontal installation, min. 	60 °C; Number of simultaneously activated inputs or outputs 4 or 3 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 8 or 6 at 55 °C horizontal or 45 °C vertical -20 °C
 min. max. horizontal installation, min. horizontal installation, max. 	60 °C; Number of simultaneously activated inputs or outputs 4 or 3 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 8 or 6 at 55 °C horizontal or 45 °C vertical -20 °C 60 °C
 min. max. horizontal installation, min. horizontal installation, max. vertical installation, min. 	60 °C; Number of simultaneously activated inputs or outputs 4 or 3 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 8 or 6 at 55 °C horizontal or 45 °C vertical -20 °C 60 °C -20 °C
 min. max. horizontal installation, min. horizontal installation, max. vertical installation, min. vertical installation, max. 	60 °C; Number of simultaneously activated inputs or outputs 4 or 3 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 8 or 6 at 55 °C horizontal or 45 °C vertical -20 °C 60 °C -20 °C
 min. max. horizontal installation, min. horizontal installation, max. vertical installation, min. vertical installation, max. Ambient temperature during storage/transportation	60 °C; Number of simultaneously activated inputs or outputs 4 or 3 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 8 or 6 at 55 °C horizontal or 45 °C vertical -20 °C 60 °C -20 °C 50 °C
 min. max. horizontal installation, min. horizontal installation, max. vertical installation, min. vertical installation, max. Ambient temperature during storage/transportation min. 	60 °C; Number of simultaneously activated inputs or outputs 4 or 3 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 8 or 6 at 55 °C horizontal or 45 °C vertical -20 °C 60 °C -20 °C 50 °C
 min. max. horizontal installation, min. horizontal installation, max. vertical installation, min. vertical installation, max. Ambient temperature during storage/transportation min. max. 	60 °C; Number of simultaneously activated inputs or outputs 4 or 3 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 8 or 6 at 55 °C horizontal or 45 °C vertical -20 °C 60 °C -20 °C 50 °C
 min. max. horizontal installation, min. horizontal installation, max. vertical installation, min. vertical installation, max. Ambient temperature during storage/transportation min. max. Air pressure acc. to IEC 60068-2-13 Operation, min. Operation, max. 	60 °C; Number of simultaneously activated inputs or outputs 4 or 3 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 8 or 6 at 55 °C horizontal or 45 °C vertical -20 °C 60 °C -20 °C 50 °C
 min. max. horizontal installation, min. horizontal installation, max. vertical installation, max. vertical installation, max. Ambient temperature during storage/transportation min. max. Air pressure acc. to IEC 60068-2-13 Operation, min. Operation, max. Storage/transport, min. 	60 °C; Number of simultaneously activated inputs or outputs 4 or 3 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 8 or 6 at 55 °C horizontal or 45 °C vertical -20 °C 60 °C -20 °C 50 °C -40 °C 70 °C 795 hPa
 min. max. horizontal installation, min. horizontal installation, max. vertical installation, max. vertical installation, max. Ambient temperature during storage/transportation min. max. Air pressure acc. to IEC 60068-2-13 Operation, min. Operation, max. Storage/transport, min. Storage/transport, max. 	60 °C; Number of simultaneously activated inputs or outputs 4 or 3 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 8 or 6 at 55 °C horizontal or 45 °C vertical -20 °C 60 °C -20 °C 50 °C -40 °C 70 °C 795 hPa 1 080 hPa
 min. max. horizontal installation, min. horizontal installation, max. vertical installation, max. vertical installation, max. vertical installation, max. Ambient temperature during storage/transportation min. max. Air pressure acc. to IEC 60068-2-13 Operation, min. Operation, max. Storage/transport, min. Storage/transport, max. Altitude during operation relating to sea level 	60 °C; Number of simultaneously activated inputs or outputs 4 or 3 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 8 or 6 at 55 °C horizontal or 45 °C vertical -20 °C 60 °C -20 °C 50 °C -40 °C 70 °C 795 hPa 1 080 hPa 660 hPa
 min. max. horizontal installation, min. horizontal installation, max. vertical installation, max. vertical installation, max. Ambient temperature during storage/transportation min. max. Air pressure acc. to IEC 60068-2-13 Operation, min. Operation, max. Storage/transport, min. Storage/transport, max. 	60 °C; Number of simultaneously activated inputs or outputs 4 or 3 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 8 or 6 at 55 °C horizontal or 45 °C vertical -20 °C 60 °C -20 °C 50 °C
 min. max. horizontal installation, min. horizontal installation, max. vertical installation, max. vertical installation, max. vertical installation, max. Ambient temperature during storage/transportation min. max. Air pressure acc. to IEC 60068-2-13 Operation, min. Operation, max. Storage/transport, min. Storage/transport, max. Altitude during operation relating to sea level 	60 °C; Number of simultaneously activated inputs or outputs 4 or 3 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 8 or 6 at 55 °C horizontal or 45 °C vertical -20 °C 60 °C -20 °C 50 °C -40 °C 70 °C 795 hPa 1 080 hPa 660 hPa 1 080 hPa
 min. max. horizontal installation, min. horizontal installation, max. vertical installation, max. vertical installation, max. Ambient temperature during storage/transportation min. max. Air pressure acc. to IEC 60068-2-13 Operation, min. Operation, min. Storage/transport, min. Storage/transport, max. Altitude during operation relating to sea level Installation altitude, min. 	60 °C; Number of simultaneously activated inputs or outputs 4 or 3 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 8 or 6 at 55 °C horizontal or 45 °C vertical -20 °C 60 °C -20 °C 50 °C -40 °C 70 °C -70 °C
 min. max. horizontal installation, min. horizontal installation, max. vertical installation, max. vertical installation, max. vertical installation, max. Ambient temperature during storage/transportation min. max. Air pressure acc. to IEC 60068-2-13 Operation, min. Operation, min. Operation, max. Storage/transport, min. Storage/transport, max. Altitude during operation relating to sea level Installation altitude, min. Installation altitude, max. Relative humidity Operation, max. 	60 °C; Number of simultaneously activated inputs or outputs 4 or 3 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 8 or 6 at 55 °C horizontal or 45 °C vertical -20 °C 60 °C -20 °C 50 °C
 min. max. horizontal installation, min. horizontal installation, max. vertical installation, max. vertical installation, max. vertical installation, max. Ambient temperature during storage/transportation min. max. Air pressure acc. to IEC 60068-2-13 Operation, min. Operation, min. Storage/transport, min. Storage/transport, max. Altitude during operation relating to sea level Installation altitude, min. Installation altitude, max. 	60 °C; Number of simultaneously activated inputs or outputs 4 or 3 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 8 or 6 at 55 °C horizontal or 45 °C vertical -20 °C 60 °C -20 °C 50 °C -40 °C 70 °C 795 hPa 1 080 hPa 660 hPa 1 080 hPa -1 000 m 5 000 m; Restrictions for installation altitudes > 2 000 m, see manual 95 %; no condensation
 min. max. horizontal installation, min. horizontal installation, max. vertical installation, max. vertical installation, max. vertical installation, max. vertical installation, max. Ambient temperature during storage/transportation min. max. Air pressure acc. to IEC 60068-2-13 Operation, min. Operation, max. Storage/transport, min. Storage/transport, min. Storage/transport, max. Altitude during operation relating to sea level Installation altitude, min. Installation altitude, max. Relative humidity Operation, max. Vibrations Vibration resistance during operation acc. to IEC 60068-2-6 	60 °C; Number of simultaneously activated inputs or outputs 4 or 3 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 8 or 6 at 55 °C horizontal or 45 °C vertical -20 °C 60 °C -20 °C 50 °C -40 °C 70 °C -70 °C
 min. max. horizontal installation, min. horizontal installation, max. vertical installation, max. vertical installation, max. vertical installation, max. Ambient temperature during storage/transportation min. vertical installation, max. Arbient temperature during storage/transportation min. max. Air pressure acc. to IEC 60068-2-13 Operation, min. Operation, max. Storage/transport, min. Storage/transport, min. Storage/transport, max. Altitude during operation relating to sea level Installation altitude, min. Installation altitude, max. Relative humidity Operation, max. Vibrations Vibration resistance during operation acc. to IEC 60068-2-6 Operation, tested according to IEC 60068-2-6 	60 °C; Number of simultaneously activated inputs or outputs 4 or 3 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 8 or 6 at 55 °C horizontal or 45 °C vertical -20 °C 60 °C -20 °C 50 °C -40 °C 70 °C 795 hPa 1 080 hPa 660 hPa 1 080 hPa -1 000 m 5 000 m; Restrictions for installation altitudes > 2 000 m, see manual 95 %; no condensation
 min. max. horizontal installation, min. horizontal installation, max. vertical installation, max. vertical installation, max. vertical installation, max. Ambient temperature during storage/transportation min. max. Air pressure acc. to IEC 60068-2-13 Operation, min. Operation, min. Operation, max. Storage/transport, min. Storage/transport, max. Altitude during operation relating to sea level Installation altitude, min. Installation altitude, max. Relative humidity Operation, max. Vibrations Vibration resistance during operation acc. to IEC 60068-2-6 Shock testing 	60 °C; Number of simultaneously activated inputs or outputs 4 or 3 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 8 or 6 at 55 °C horizontal or 45 °C vertical -20 °C 60 °C -20 °C 50 °C -40 °C 70 °C 795 hPa 1 080 hPa 660 hPa 1 080 hPa -1 000 m 5 000 m; Restrictions for installation altitudes > 2 000 m, see manual 95 %; no condensation 2 g (m/s²) wall mounting, 1 g (m/s²) DIN rail Yes
 min. max. horizontal installation, min. horizontal installation, max. vertical installation, max. vertical installation, max. vertical installation, max. Ambient temperature during storage/transportation min. wax. Ari pressure acc. to IEC 60068-2-13 Operation, min. Operation, max. Storage/transport, min. Storage/transport, max. Altitude during operation relating to sea level Installation altitude, max. Relative humidity Operation, max. Vibrations Vibration resistance during operation acc. to IEC 60068-2-6 Operation, tested according to IEC 60068-2-6 	60 °C; Number of simultaneously activated inputs or outputs 4 or 3 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 8 or 6 at 55 °C horizontal or 45 °C vertical -20 °C 60 °C -20 °C 50 °C -40 °C 70 °C -70 °C
 min. max. horizontal installation, min. horizontal installation, max. vertical installation, max. vertical installation, max. Ambient temperature during storage/transportation min. max. Air pressure acc. to IEC 60068-2-13 Operation, min. Operation, max. Storage/transport, min. Storage/transport, max. Altitude during operation relating to sea level Installation altitude, min. Installation altitude, max. Relative humidity Operation, max. Vibrations Vibration resistance during operation acc. to IEC 60068-2-6 Shock testing tested according to IEC 60068-2-27 	60 °C; Number of simultaneously activated inputs or outputs 4 or 3 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 8 or 6 at 55 °C horizontal or 45 °C vertical -20 °C 60 °C -20 °C 50 °C -40 °C 70 °C -70 °C -70 °C -795 hPa 1 080 hPa 660 hPa 1 080 hPa -1 000 m 5 000 m; Restrictions for installation altitudes > 2 000 m, see manual 95 %; no condensation 2 g (m/s ²) wall mounting, 1 g (m/s ²) DIN rail Yes
 min. max. horizontal installation, min. horizontal installation, max. vertical installation, min. vertical installation, max. vertical installation, max. Ambient temperature during storage/transportation min. max. Ari pressure acc. to IEC 60068-2-13 Operation, min. Operation, max. Storage/transport, min. Storage/transport, min. Storage/transport, max. Altitude during operation relating to sea level Installation altitude, max. Relative humidity Operation, max. Vibrations Vibration resistance during operation acc. to IEC 60068-2-6 Shock testing tested according to IEC 60068-2-27 	60 °C; Number of simultaneously activated inputs or outputs 4 or 3 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 8 or 6 at 55 °C horizontal or 45 °C vertical -20 °C 60 °C -20 °C 50 °C -40 °C 70 °C -70 °C -795 hPa 1 080 hPa 660 hPa 1 080 hPa 660 hPa 1 080 hPa 95 %; no condensation 2 g (m/s²) wall mounting, 1 g (m/s²) DIN rail Yes

configuration / programming / header	
Programming language	
— LAD	Yes
— FBD	Yes
— SCL	Yes
Know-how protection	
 User program protection/password protection 	Yes
Copy protection	Yes
Block protection	Yes
Access protection	
 protection of confidential configuration data 	Yes
 Protection level: Write protection 	Yes
 Protection level: Read/write protection 	Yes
 Protection level: Complete protection 	Yes
User administration	Yes; device-wide
Number of users	42
Number of groups	14
Number of roles	20
programming / cycle time monitoring / header	
• adjustable	Yes
Dimensions	
Width	90 mm
Height	100 mm
Depth	75 mm
Weights	
Weight, approx.	370 g
Classifications	

	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



3/13/2025

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last modified:

2/18/2025 🖸