SIEMENS

Data sheet

6ES7211-1AE40-0XB0



SIMATIC S7-1200, CPU 1211C, compact CPU, DC/DC/DC, onboard I/O: 6 DI 24 V DC; 4 DO 24 V DC; 2 AI 0-10 V DC, power supply: DC 20.4-28.8 V DC, program/data memory 75 KB

Figure similar

General information	
Product type designation	CPU 1211C DC/DC/DC
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)	300 mA; CPU only
Current consumption, max.	900 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.	750 mA; Max. 5 V DC for CM
Encoder supply	
24 V encoder supply	
• 24 V	L+ minus 4 V DC min.
Power loss	
Power loss, typ.	8 W
Memory	
Work memory	
integrated	75 kbyte
Load memory	
• integrated	1 Mbyte
 Plug-in (SIMATIC Memory Card), max. 	with SIMATIC memory card
Backup	
present	Yes
maintenance-free	Yes

without battery	Yes
CPU processing times	
for bit operations, typ.	0.08 µs; / instruction
	1.7 µs; / instruction
for word operations, typ.	
for floating point arithmetic, typ. CPU-blocks	2.3 µs; / instruction
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
Hardware configuration	
Number of modules per system, max.	3 communication modules, 1 signal board
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	6; 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.	6
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 current	
● for signal "1", typ.	4 mA; nominal
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	Nee.
— parameterizable	Yes
for technological functions	Single phase : 2 @ 100 kHz differential: 2 @ 00 kHz
parameterizable	Single phase : 3 @ 100 kHz, differential: 3 @ 80 kHz
Cable length	500 m for technological functions
 shielded, max. unshielded, max. 	500 m; 50 m for technological functions
unshielded, max.	300 m; for technological functions: No
Digital outputs	4
Number of digital outputs	4
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	0.5.4
with resistive load, max.	0.5 A
 on lamp load, max. 	5 W

Output voltage	
• for signal "0", max.	0.1 V; with 10 kOhm load
• for signal "1", min.	20 V
Output current	
 for signal "1" rated value 	0.5 A
 for signal "0" residual current, max. 	0.1 mA
Output delay with resistive load	
• "0" to "1", max.	1 µs
• "1" to "0", max.	5 µs
Switching frequency	
 of the pulse outputs, with resistive load, max. 	100 kHz
Relay outputs	
Number of relay outputs	0
Cable length	
• shielded, max.	500 m
• unshielded, max.	150 m
Analog inputs	
Number of analog inputs	2
Input ranges	
Voltage	Yes
Input ranges (rated values), voltages	
• 0 to +10 V	Yes
— Input resistance (0 to 10 V)	≥100k ohms
Cable length	
shielded, max.	100 m; twisted and shielded
Analog outputs	
Number of analog outputs	0
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
Encoder	
Connectable encoders	
• 2-wire sensor	Yes
1. Interface	
Interface type	PROFINET
Isolated	TROTINET
Isolated	Ves
	Yes
automatic detection of transmission rate	Yes
automatic detection of transmission rate Autonegotiation	Yes Yes
automatic detection of transmission rate Autonegotiation Autocrossing	Yes
automatic detection of transmission rate Autonegotiation Autocrossing Interface types	Yes Yes Yes
automatic detection of transmission rate Autonegotiation Autocrossing Interface types • RJ 45 (Ethernet)	Yes Yes Yes
automatic detection of transmission rate Autonegotiation Autocrossing Interface types • RJ 45 (Ethernet) • Number of ports	Yes Yes Yes 1
automatic detection of transmission rate Autonegotiation Autocrossing Interface types • RJ 45 (Ethernet) • Number of ports • integrated switch	Yes Yes Yes
automatic detection of transmission rate Autonegotiation Autocrossing Interface types • RJ 45 (Ethernet) • Number of ports • integrated switch Protocols	Yes Yes Yes 1 No
automatic detection of transmission rate Autonegotiation Autocrossing Interface types • RJ 45 (Ethernet) • Number of ports • integrated switch Protocols • PROFINET IO Controller	Yes Yes Yes 1 No Yes
automatic detection of transmission rate Autonegotiation Autocrossing Interface types • RJ 45 (Ethernet) • Number of ports • integrated switch Protocols • PROFINET IO Controller • PROFINET IO Device	Yes Yes Yes 1 No Yes Yes
automatic detection of transmission rate Autonegotiation Autocrossing Interface types • RJ 45 (Ethernet) • Number of ports • integrated switch Protocols • PROFINET IO Controller	Yes Yes Yes 1 No Yes
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automatic detection of transmission rate Autonegotiation Autocrossing Interface types • RJ 45 (Ethernet) • Number of ports • integrated switch Protocols • PROFINET IO Controller • PROFINET IO Device • SIMATIC communication • Open IE communication • Web server	Yes Yes Yes Yes 1 No Yes Yes Yes Yes Yes Yes Yes
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automatic detection of transmission rate Autonegotiation Autocrossing Interface types • RJ 45 (Ethernet) • Number of ports • integrated switch Protocols • PROFINET IO Controller • SIMATIC communication • Open IE communication • Web server • Media redundancy PROFINET IO Controller • Transmission rate, max. Services	Yes Yes Yes Yes 1 No Yes Yes Yes Yes Yes; Optionally also encrypted Yes No
automatic detection of transmission rate Autonegotiation Autocrossing Interface types • RJ 45 (Ethernet) • Number of ports • integrated switch Protocols • PROFINET IO Controller • PROFINET IO Device • SIMATIC communication • Open IE communication • Web server • Media redundancy PROFINET IO Controller • Transmission rate, max. Services - PG/OP communication - Nether in the image.	Yes Yes Yes Yes 1 No Yes Yes Yes Yes Yes; Optionally also encrypted Yes No Yes; Optionally also encrypted Yes No
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	- Number of connectable IO Devices, max.	16
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PROFINET IO. on the number of IO. devices and the quantity of compared user data. PROFINET IO. TO evice Services - PCOP communication - Iso the number of IO. devices and the quantity of compared with TLS V1.3 pre-selected - No - PROF company - Shared device - Number of ID. Controllers with shared device, max 2 Protocols Supports protocol for PROFINET IO Yes - Number of ID. Controllers with shared device, max 2 Protocols Supports protocol for PROFINET IO Yes OPC UA Yes (CM 1243.5 (matter) or CM 1242.5 (stave) required OPC UA Yes OPC ID Yes OPC P Yes OPC P <t< td=""><td></td><td>8</td></t<>		8
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Number of IO Controllers with shared device, max. 2 Protocol Supports protocol for PROFINET IO Yes PROFIBUS No PROFIBUS OPC UA Yes; OPT 243-5 (master) or CM 1242-5 (slave) required OPC UA PROFIBUS Yes; OPC UA Server AsInterface ASInterface Yes; OPC UA Server ASINPP Yes • CP/IP Yes • OHOP No • SINPP Yes • SINPP Yes • CP/IP Yes • CP/IP Yes • LDP Yes Patientiation Yes • MRP No - MRP No • OTORING Yes Open IE communication Yes • Data length, max. 8 ktyle - several passive connections per port, supported Yes • Data length, max. 1472 byle • UDP Yes • Data length, max. 1472 byle • UDP Yes • Data length, max. 147	- PROFlenergy	Yes
Protocols Supports protocol for PROFINET IO Yes PROFlase No PROFlase Yes, OPC UA Server AS-Interface Yes; CM 1243-5 (master) or CM 1242-5 (slave) required OPC UA Yes; CM 1243-2 required PROFlase Yes; CM 1243-2 required Protocols (Elternet) Yes • CP/PP Yes • DHCP No • DHCP Yes • DHCP Yes • DCP Yes • COPIE Yes • MRP No • MRPD No • Strouting Yes • Data length, max. B ktyle • Strouting Yes • Data length, max. 1472 byle • UDP Yes • Data length, max. 1472 byle • UDP Yes • Data length, max.		
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PROFisie No PROFise Yes; CM 1243-5 (master) of CM 1242-5 (slave) required OPC UA Yes; OPC UA Server As-Interface Yes; CM 1243-2 required Protocols (Ethernet) • • CP(I)P Yes • CP(I)P Yes • CP(I)P Yes • CP Yes Redundancy mode Yes Media redundancy - - MRPD No SiMMTC communication Yes • CP/IP Yes • Data length, max. 4 Kkyle - several passive connections per port, supported Yes • Skoyle Skkyle - bata length, max. 142 byle • UDP Yes - Data length, max. 142 byle • UDP Yes • User-defined webales Yes • Uported Yes		
PROFIBUS Yes; CM 1243-5 (master) or CM 1242-5 (slave) required OPC UA Yes; CM 1243-5 (master) or CM 1242-5 (slave) required Protocols, Ethernet) Yes; CM 1243-2 required Protocols, Ethernet) Yes • TCP/IP Yes • DCP No • SNMP Yes • LDP Yes • LDP Yes • MRP Yes • LDP Yes Reduradnary mode Yes - MRP No - MRPD No - MRPD No - MRPD No SIMMITC communication * • S7 routing Yes Open IE communication Yes • Data length, max. 8 kbyte - sort PCP (RFC1005) Yes - Data length, max. 1472 byte Web server Yes • UDP Yes - Data length, max. 1472 byte Web server Yes • UDP CU AS Server Yes • UDP CU AS Server Yes: Basic? Tilense required • OPC UA Server Yes: Basic? Tilense required • OPC UA Server Yes: Basic? Tilense required • OPC UA Server Yes: Basic? Tilense required • USe		
OPC UA Yes; OPC UA Server AS-Interface Yes; CM 1245-2 required Protocols (Ethernet) Yes • TCP/IP Yes • OHCP No • SIMAP Yes • OCP Yes • LLDP Yes • CDP Yes • LLDP Yes • MRP No - MRP No - MRPD No • STroting Yes Open IE communication Yes • TCP/IP Yes • OPE (RFC1006) Yes • Stroting Yes Open IE communication Yes • Stroting Yes • OPE (RFC1006) Yes • Data length, max. 8 kbyte - several passive connections per port, supported Yes • Stortor (RFC1006) Yes • UDP Yes • Juported Yes • UDP Yes • Strotefind websites Yes OPC UA Yes • USe defined		
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• TCP/IPYes• DHCPNo• SIMMPYes• DCPYes• LLDPYes• Media redundancyYes- MRPNo- MRPDNoSIMATIC communicationYes• TCP/IPYes• Data length, max.8 ktyle• Data length, max.1472 byle• SuportedYes, 'Basic' license required• Available security publicis: None, Basic128Rsa15, Basic256Rsa15, Ba		Yes; CM 1243-2 Tequired
• DHCPNo• SNMPYes• CDPYes• LLDPYes• Redundancy modeNo• MRPNo- MRPNo- MRPDNo• STATIC communicationYes• ST routingYes• Deta length, max.8 kbyte- several passive connections per port, supportedYes• Data length, max.8 kbyte- bata length, max.8 kbyte- bata length, max.8 kbyte- bata length, max.8 kbyte- bata length, max.8 kbyte- Data length, max.8 kbyte- Data length, max.8 kbyte- bata length, max.8 kbyte- bata length, max.8 kbyte- Data length, max.9 ks- Number of subscriptions per session, max.10 ks- Number of subscriptions per session, max.10 ks- Number of subscriptions per session, max.2 kasic>- Number		Vac
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• LLDP Yes Redundancy mode		
Redundancy mode Media redundancy MRP No MRPD No SIMATIC communication Yes Open IE communication Yes • TCP/IP Yes - 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. 1472 byte Web server Yes • UDP Yes - Data length, max. 1472 byte Web server Yes • UDP Yes - Data length, max. 1472 byte Web server Yes • User-defined websites Yes OPC UA Yes • User defined websites Yes: Data access (read, write, subscribe), runtime license required • OPC UA Severer • Suptication authentication "anonymous" or by user name & password - Number of sessions, max. 10		
Media redundancy MRP No MRPD No SIMATIC communication Ves Open IE communication Yes Open IE communication Ves Data length, max. 8 kbyte several passive connections per port, supported Yes Data length, max. 8 kbyte Several passive connections per port, supported Yes Data length, max. 8 kbyte Data length, max. 8 kbyte Data length, max. 1472 byte • UDP Yes Data length, max. 1472 byte • User-defined websites Yes OPC UA Yes • Supported Yes; "Basic" license required • OPC UA Yes; Data access (read, write, subscribe), runtime license required • OPC UA Yes; Data access (read, write, subscribe), runtime license required • OPC UA Server Yes; Data access (read, write, subscribe), runtime license required • Application authentication "anonymous" or by user name & password - Number of sessions, max. 10 - Number of sessions, max. 5		
MRP No SIMATIC communication No SIMATIC communication Yes Open IE communication Yes - Data length, max. 8 kbyte - several passive connections per port, supported Yes - Data length, max. 8 kbyte - Data length, max. 1472 byte Veb server Yes - Data length, max. Yes - Data length, max. 1472 byte Veb server Yes - Supported Yes - Supported Yes - OPC UA Yes: "Basic" license required - OPC UA Server Yes: Data access (read, write, subscribe), runtime license required - Application authentication "anonymous" or by user name & password - Number of sessions, max. 10 - Number of sessions, max. 10 or ms - Sampling interval, min. 100 rms - Number of server methods, max. 20 - Number of server interfaces, max. 2 <t< td=""><td></td><td></td></t<>		
MRPD No SIMATIC communication • S7 routing Yes Open IE communication • TCP/IP Yes - 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. 1472 byte • Data length, max. 1472 byte • UDP Yes - Data length, max. 1472 byte • User-defined websites Yes • User-defined websites Yes • OPC UA Yes • Runtime license required Yes; "Basic" license required • OPC UA Server Yes; "Basic" license required • Application authentication "anonymous" or by user name & password - Number of sessions, max. 10 - Number of sever methods, max. 5 - Sampling interval, min. 200 ms - Number of server methods, max. 20 - Number of server interfaces, max. 20 - Number of server interfaces, max.	-	No
SIMATIC communication • S7 routing Yes Open IE communication • TCP/IP Yes - 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. 1 472 byte Web server Yes • UDP Yes - Data length, max. 1 472 byte Web server Yes • User-defined websites Yes OPC UA Yes: "Basic" license required • OPC UA Server Yes: "Data access (read, write, subscribe), runtime license required - Application authentication "anonymous" or by user name & password - Number of sessions, max. 10 - Number of sessions, max. 5 - Sampling interval, min. 200 ms - Publishing interval, min. 200 ms - Number of server methods, max. 20 - Number of server interfaces, max. 2 - Number of server interfaces, max. 2 - Number of server interfaces, max.		
• S7 routing Yes Open IE communication * • TCP/IP Yes - 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. 1472 byte Web server Yes • User-defined websites Yes • User-defined websites Yes OPC UA Yes; "Basic" license required • OPC UA Yes; "Basic" license required • OPC UA Yes; "Data access (read, write, subscribe), runtime license required • OPC UA Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 - User authentication "anonymous" or by user name & password - Number of subscriptions per session, max. 10 - Number of subscriptions per session, max. 5 - Sampling interval, min. 200 ms - Number of server interfaces, max. 20 - Number of server interfaces, max. 2		
Open IE communication • TCP/IP Yes - 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. 1472 byte Web server Yes • supported Yes • UDP Yes • UBer-defined websites Yes OPC UA Yes • Runtime license required Yes; "Basic" license required • OPC UA Yes; Data access (read, write, subscribe), runtime license required • Application authentication "anonymous" or by user name & password - User authentlication "anonymous" or by user name & password - Number of subscriptions per session, max. 10 - Sampling interval, min. 100 ms - Sumber of server methods, max. 20 - Number of server interfaces, max. 20 - Number of server interfaces, max. 2		Yes
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• ISO-on-TCP (RFC1006)Yes- Data length, max.8 kbyte• UDPYes- Data length, max.1 472 byteWeb serverYes• supportedYes• User-defined websitesYesOPC UAYes; "Basic" license required• CPC UAYes; "Basic" license required• OPC UA ServerYes; "Basic" license required• OPC UA ServerYes; "Basic" license required• OPC UA ServerYes; "Basic" license required• Application authenticationYes; "Basic" license required• Number of sessions, max.10• Number of sessions, max.10• Sampling interval, min.200 ms• Sampling interval, min.200 ms• Number of server methods, max.20• Number of server interfaces, max.2• Number of server interfaces, max.2• Number of server interfaces, max.2• Number of nodes for user-defined server interfaces,2000	— Data length, max.	8 kbyte
- Data length, max.8 kbyte• UDPYes- Data length, max.1 472 byteWeb serverYes• supportedYes• User-defined websitesYesOPC UAYes: "Basic" license required• OPC UAYes: Data access (read, write, subscribe), runtime license required• OPC UAYes: Data access (read, write, subscribe), runtime license required• OPC UAYes: Data access (read, write, subscribe), runtime license required• OPC UAYes: Data access (read, write, subscribe), runtime license required• OPC UAYes: Data access (read, write, subscribe), runtime license required• OPC UAYes: Data access (read, write, subscribe), runtime license required• OPC UAYes: Data access (read, write, subscribe), runtime license required• OPC UAYes: Data access (read, write, subscribe), runtime license required• OPC UAYes: Data access (read, write, subscribe), runtime license required• OPC UAYes: Data access (read, write, subscribe), runtime license required• OPC UAYes: Data access (read, write, subscribe), runtime license required• Number of sessions, max.100• Number of subscriptions per session, max.20• Number of server methods, max.20• Number of server interfaces, max.2	 several passive connections per port, supported 	Yes
• UDPYes- Data length, max.1 472 byteWeb server1 472 byte• supportedYes• User-defined websitesYesOPC UAYes• Runtime license requiredYes; "Basic" license required• OPC UA ServerYes; Data access (read, write, subscribe), runtime license required• OPC UA ServerYes; Data access (read, write, subscribe), runtime 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 server interfaces, max.2- Number of noitored items, recommended max.1000- Number of noitored items, recommended max.1000- Number of noitored items, recommended max.200- Number of nonitored items, recommended max.200- Number of nonitored items, recommended max.200- Number of nodes for user-defined server interfaces, 2000	 ISO-on-TCP (RFC1006) 	Yes
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Web server • supported Yes • User-defined websites Yes OPC UA Yes; "Basic" license required • Runtime license required Yes; "Basic" license required • OPC UA Server Yes; Data access (read, write, subscribe), 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. 100 ms - Publishing interval, min. 200 ms - Number of server methods, max. 1 - Number of nonitored items, recommended max. 1 - Number of server interfaces, max. 2 - Number of nonitored items, recommended max. 1000 - Number of nonitored items, recommended max. 2 - Number of nodes for user-defined server interfaces, 2 - Number of nodes for user-defined server interfaces, 2	• UDP	Yes
• supported • User-defined websitesYesOPC UA• Runtime license required • OPC UA ServerYes; "Basic" license required Yes; Data access (read, write, subscribe), runtime license required Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256- User authentication - Number of sessions, max.10- Number of subscriptions per session, max.5- Sampling interval, min. - Publishing interval, min.200 ms- Number of server methods, max.20- Number of server interfaces, max.2- Number of server interfaces, max.200	— Data length, max.	1 472 byte
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- 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 methods, max.100- Number of server methods, max.200 ms- Number of server interfaces, max.200- Number of nonitored items, recommended max.1000- Number of server interfaces, max.2- Number of nonitored items, recommended max.2000- Number of nonitored items, recommended max.2000	 Runtime license required 	Yes; "Basic" license required
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 nonitored items, recommended max.1000 Number of server interfaces, max.2 Number of nonitored items, recommended max.2000	OPC UA Server	Yes; Data access (read, write, subscribe), runtime license required
- 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 methods, max.20- Number of server interfaces, max.20- Number of server interfaces, max.2- Number of server interfaces, max.2- Number of nodes for user-defined server interfaces,2 000		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,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,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,2 000		
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,2 000		100 ms
Number of monitored items, recommended max. 1 000 Number of server interfaces, max. 2 Number of nodes for user-defined server interfaces, 2 000	— Publishing interval, min.	
Number of server interfaces, max. 2 Number of nodes for user-defined server interfaces, 2 000		
— Number of nodes for user-defined server interfaces, 2 000		
		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; 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 / 64 max
Test commissioning functions	
Status/control	
Status/control variable	Yes
Variables	Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters
Forcing	
• 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	
RUN/STOP LED	Yes
• ERROR LED	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 Potential separation digital inputs	No
 Potential separation digital inputs between the channels, in groups of 	1
, , , , , , , , , , , , , , , , , , , ,	I
Potential separation digital outputs	Vac
Potential separation digital outputs between the channels	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 electricity acc. to IEC 61000-4-2	Yes
— Test voltage at air discharge	8 kV
— Test voltage at contact discharge	6 kV
Interference immunity to cable-borne interference	
 Interference immunity on supply lines acc. to IEC 61000- 4-4 	Yes
 Interference immunity on signal cables acc. to IEC 61000- 4-4 	Yes
Interference immunity against voltage surge	
Interference immunity on supply lines acc. to IEC 61000-	Yes

4-5	
Interference immunity against conducted variable disturbance indu	iced by high-frequency fields
Interference immunity against high-frequency radiation	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	
IP degree of protection	IP20
Standards, approvals, certificates	
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
Global warming potential	
— global warming potential, (total) [CO2 eq]	69.5 kg
 global warming potential, (during production) [CO2 eq] 	12.6 kg
— global warming potential, (during operation) [CO2 eq]	57.9 kg
 global warming potential, (after end of life cycle) [CO2 eq] 	-1.03 kg
Ambient conditions	
Free fall	
● Fall height, max.	0.3 m; five times, in product package
Ambient temperature during operation	
● min.	-20 °C
• max.	60 °C
 horizontal installation, min. 	-20 °C
 horizontal installation, max. 	0° 00
• vertical installation, min.	-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.	795 hPa
• Operation, max.	1 080 hPa
Storage/transport, min.	660 hPa
Storage/transport, max.	1 080 hPa
Altitude during operation relating to sea level	4 000
Installation altitude, min.	-1 000 m
Installation altitude, max.	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/s ²) wall mounting, 1 g (m/s ²) DIN rail
	No.
Operation, tested according to IEC 60068-2-6	Yes
Shock testingtested 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
configuration / header	
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
programming / cycle time monitoring / header	
adjustable	Yes
Dimensions	
Width	90 mm
Height	100 mm
Depth	75 mm
Weights	
Weight, approx.	370 g

last modified:

10/9/2024 🖸