SIEMENS

Data sheet

6ES7214-1AG40-0XB0



SIMATIC S7-1200, CPU 1214C, compact CPU, DC/DC/DC, onboard I/O: 14 DI 24 V DC; 10 DO 24 V DC; 2 AI 0-10 V DC, Power supply: DC 20.4-28.8V DC, Program/data memory 100 KB

Figuresimilar	
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General information				
Product type designation	CPU 1214C DC/DC/DC			
Firmware version	V4.5			
Engineering with				
 Programming package 	STEP 7 V17 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	0.5 A ² ·s			
Output current				
for backplane bus (5 V DC), max.	1 600 mA; Max. 5 V DC for SM and CM			
Encoder supply				
24 V encoder supply				
• 24 V	L+ minus 4 V DC min.			
Power loss				
Power loss, typ.	12 W			
Memory				
Work memory				
 integrated 	100 kbyte			
expandable	No			
Load memory				
 integrated 	4 Mbyte			
 Plug-in (SIMATIC Memory Card), max. 	with SIMATIC memory card			
Backup				
• present	Yes			
maintenance-free	Yes			
 without battery 	Yes			
CPU processing times				

for hit operations, two	0.00 ver linetruction				
r bit operations, typ. 0.08 µs; / instruction					
for word operations, typ. for floating point arithmetic, typ.	1.7 μs; / instruction 2.3 μs; / instruction				
CPU-blocks	DD. F.O. FD. constant and finant. The maximum number of				
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.	8 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 comm. modules, 1 signal board, 8 signal modules				
Time of day					
Clock					
	Voc				
Hardware clock (real-time) Rockup time	Yes				
Backup timeDeviation per day, max.	480 h; Typical ±60 s/month at 25 °C				
Digital inputs					
Number of digital inputs	14; Integrated				
of which inputs usable for technological functions	6; HSC (High Speed Counting)				
Source/sink input	Yes				
Number of simultaneously controllable inputs					
all mounting positions	14				
— up to 40 °C, max. 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)					
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 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				
Cabla lanath	@ 30 kHz				
Cable length	E00 m E0 m far tachaglaris - I fur stime				
 shielded, max. 	500 m; 50 m for technological functions				
• unshielded, max.	300 m; for technological functions: No				
Digital outputs					
Number of digital outputs	10				
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 "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 "1" rated value for signal "0" residual current, max. 	0.5 A 0.1 mA
• for signal or residual current, max. 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	
	Yes
 Z-wire sensor 	
2-wire sensor	
1. Interface	
1. Interface Interface type	PROFINET
1. Interface Interface type Isolated	PROFINET Yes
1. Interface Interface type Isolated automatic detection of transmission rate	PROFINET Yes Yes
1. Interface Interface type Isolated automatic detection of transmission rate Autonegotiation	PROFINET Yes
1. Interface Interface type Isolated automatic detection of transmission rate	PROFINET Yes Yes Yes
1. Interface Interface type Isolated automatic detection of transmission rate Autonegotiation Autocrossing	PROFINET Yes Yes Yes
1. Interface Interface type Isolated automatic detection of transmission rate Autonegotiation Autocrossing Interface types	PROFINET Yes Yes Yes Yes
1. Interface Interface type Isolated automatic detection of transmission rate Autonegotiation Autocrossing Interface types • RJ 45 (Ethernet)	PROFINET Yes Yes Yes Yes
1. Interface Interface type Isolated automatic detection of transmission rate Autonegotiation Autocrossing Interface types • RJ 45 (Ethernet) • Number of ports	PROFINET Yes Yes Yes Yes 1
1. Interface Interface type Isolated automatic detection of transmission rate Autonegotiation Autocrossing Interface types • RJ 45 (Ethernet) • Number of ports • integrated switch	PROFINET Yes Yes Yes Yes 1
1. Interface Interface type Isolated automatic detection of transmission rate Autonegotiation Autocrossing Interface types • RJ 45 (Ethernet) • Number of ports • integrated switch Protocols • PROFINET IO Controller • PROFINET IO Device	PROFINET Yes Yes Yes Yes 1 No Yes Yes Yes
1. Interface Interface type Isolated automatic detection of transmission rate Autonegotiation Autocrossing Interface types • RJ 45 (Ethernet) • Number of ports • integrated switch Protocols • PROFINET IO Controller • SIMATIC communication	PROFINET Yes Yes Yes Yes 1 No Yes Yes Yes Yes
1. Interface Interface type Isolated 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	PROFINET Yes Yes Yes Yes 1 No Yes Yes Yes Yes Yes; Optionally also encrypted
1. Interface Interface type Isolated 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	PROFINET Yes Yes Yes Yes 1 No Yes Yes Yes Yes Yes; Optionally also encrypted Yes
1. Interface Interface type Isolated 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 • Web server • Media redundancy	PROFINET Yes Yes Yes Yes 1 No Yes Yes Yes Yes Yes; Optionally also encrypted
1. Interface Interface type Isolated automatic detection of transmission rate Autonegotiation Autocrossing Interface types • RJ 45 (Ethernet) • Number of ports • integrated switch Protocols • PROFINET IO Controller • SIMATIC communication • Web server • Media redundancy PROFINET IO Controller	PROFINET Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes
1. Interface Interface type Isolated automatic detection of transmission rate Autonegotiation Autorossing 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.	PROFINET Yes Yes Yes Yes 1 No Yes Yes Yes Yes Yes; Optionally also encrypted Yes
1. Interface Interface type Isolated 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	PROFINET Yes Yes Yes Yes 1 No Yes Yes Yes Yes; Optionally also encrypted Yes No
1. Interface Interface type Isolated 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	PROFINET Yes Yes Yes Yes 1 No Yes Yes Yes Yes; Optionally also encrypted Yes No 100 Mbit/s Yes; encryption with TLS V1.3 pre-selected
1. Interface Interface type Isolated 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 — Isochronous mode	PROFINET Yes Yes Yes Yes 1 No Yes Yes Yes; Optionally also encrypted Yes No 100 Mbit/s Yes; encryption with TLS V1.3 pre-selected No
1. Interface Interface type Isolated 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 — Isochronous mode — IRT	PROFINET Yes Yes Yes Yes 1 No Yes Yes Yes Yes; Optionally also encrypted Yes No 100 Mbit/s Yes; encryption with TLS V1.3 pre-selected No No
1. Interface Interface type Isolated 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 — IRT — PROFIenergy	PROFINET Yes Yes Yes Yes Yes Yes Yes Yes
1. Interface Interface type Isolated 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 — IRT — PROFIenergy — Prioritized startup	PROFINET Yes Yes Yes Yes Yes Yes 1 No Yes Yes Yes; Optionally also encrypted Yes Yes No 100 Mbit/s Yes; encryption with TLS V1.3 pre-selected No No No No Yes
1. Interface Interface type Isolated 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 — IRT — PROFIenergy	PROFINET Yes Yes Yes Yes Yes Yes Yes Yes
1. Interface Interface type Isolated 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 — IRT — PROFIenergy — Prioritized startup — Number of IO devices with prioritized startup,	PROFINET Yes Yes Yes Yes Yes Yes 1 No Yes Yes Yes; Optionally also encrypted Yes Yes No 100 Mbit/s Yes; encryption with TLS V1.3 pre-selected No No No No Yes
1. Interface Interface type Isolated 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 — IRT — PROFIenergy — Prioritized startup — Number of IO devices with prioritized startup, max.	PROFINET Yes Yes Yes Yes Yes Yes Yes Yes Yes Yes
1. Interface Interface type Isolated 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 - IRT - PROFIenergy - Prioritized startup - Number of IO devices with prioritized startup, max. - Number of connectable IO Devices, max. - Number of connectable IO Devices for RT, max.	PROFINET Yes Yes Yes Yes 1 No Yes Yes Yes Yes Yes; Optionally also encrypted Yes No 100 Mbit/s Yes; encryption with TLS V1.3 pre-selected No No No No No No No No No No
1. Interface Interface type Isolated 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 — IRT — PROFIenergy — Prioritized startup — Number of IO devices with prioritized startup, max. — Number of connectable IO Devices, max. — Number of connectable IO Devices for RT,	PROFINET Yes Yes Yes Yes Yes Yes Yes Yes

simulationally advanced/deactivated, max. 	— Number of IO Devices that can be	8				
PROFINET IO Device encomponent set for PROFINET IC, on the number of IO devices and the quantity of configured user data. PROFINET IO Device Services - PGOP communication Yes, encryption with TLS V1.3 pre-selected - HRT No - PROFINET OF Device Yes, - HRT No - PROFINET OF Device Yes, - HRT No - PROFINET OF Device Yes, - Mumber of IO Controllers with shared device, - Mumber of IO Controllers with shared device, - Mumber of IO Controllers with shared device, - Mumber of IO Controllers with shared device, - TOPIP - TOPIP - Drope - OPP <t< td=""><td>simultaneously activated/deactivated, max.</td><td colspan="5">The minimum value of the undete time also depende on the</td></t<>	simultaneously activated/deactivated, max.	The minimum value of the undete time also depende on the				
devices and the quantity of configured user data. PROFINET 10 Device Services	— Updating time					
Services						
		Very energian with TLOV/4.2 are extended				
IRT No PROFIDency Yes Shared device Yes Number of IO Controllers with shared device, 2 Bared device 2 Supports protocol for PROFINET IO 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 AS-Interface Yes: CM 1243-2 required PROFIBUS Yes: CM 1243-2 required OPC UA Sec: CM 1243-2 required AS-Interface Yes: CM 1243-2 required PROFIBUS Yes OPC UA Yes OPC IDP Yes • DPCP Yes • DPCP Yes Rodination Yes • SNMP Yes Open Elscommunication Yes • Optal length, max. 8 kkyte • SO-on-ICP (RFC1006) Yes • Optal length, max. 8 kkyte • SD-on-ICP (RFC1006) Yes • Optal length, max. 8 kkyte • So-on-ICP (RFC1006) Yes • Optal length, max. 1022 byte Web server Yes (data access (read, write, subscribe), method call, runtime license required • Optal length, max. 1000 ms						
−Number of ID Controllers with shared device, max. 2 Protocols Supports protocol for PROFINET IO Yes PROFISUS Yes, CM 1243-5 (master) or CM 1242-5 (slave) required OPC UA OPC UA Yes, CM 1243-5 (master) or CM 1242-5 (slave) required OPC UA OPC UA Yes, CM 1243-5 (master) or CM 1242-5 (slave) required OPC UA OPC UA Yes, CM 1243-2 required OPC UA Protocols (Ensent) Yes No • TCP/IP Yes No • SNMP Yes Yes • DCP Yes Yes OPC UA Yes Yes OPC ID Constructed from PRO No No • SNMP Yes Yes OPC ID Communication Yes Yes • Data length, max. 8 ktyle No • SOLAN Yes Yes OPC ID Communication Yes Yes • Data length, max. 8 ktyle Yes • Data length, max. 1472 byle Yes • UPC ID Server Yes, 'Basic' license requ						
max. Supports protocol for PROFINET 10 Yes PROFIBade PROTEBUS Yes: CM 1243-5 (master) or CM 1242-5 (slave) required PROTEBUS Yes: CM 1243-5 (master) or CM 1242-5 (slave) required PROTEBUS Yes: CM 1243-2 required Protocols (Ethernet) TCP/P Yes DFCP Yes DFCP Yes DCP						
Supports protocol for PROFINET IO Yes PROFIsate No PROFISATE No PROFISATE Yes, CM 1243-5 (slave) required OPC UA Yes, CM 1243-2 required Protocols (Ethernet) Yes • TCP/IP Yes • DLCP Yes • DLCP Yes • DCP Yes • DCP Yes • MRP Yes • MRP Yes • OPCIP Yes • StiMATIC communication Yes • STrouting Yes Open IE communication Yes • TCP/IP Yes • Data length, max. 8 kbyte • IDO - Data length, max. 8 kbyte • Data length, max. 1472 byte Web server Yes • Data length, max. 1472 byte Web server Yes • CPIP Yes • CPU UA Server Yes • OPC UA Yes • OPC UA Server Yes		-				
PROFISATE 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 (master) or CM 1242-5 (slave) required Protocols (Ethernet) Yes: CM 1243-2 (master) or CM 1242-5 (slave) required • DHOP Yes • DHOP Yes • DHOP Yes • DHOP Yes • DECP Yes • DECP Yes • LDP Yes Redundancy mode Media redundancy - MRP No SIMMIC communication Yes • Strouting Yes Open IC communication Yes • Data length, max. 8 kbyte • ISO-on-TCP (RFC1006) Yes • Data length, max. 8 kbyte • UDP Yes - Data length, max. 8 kbyte • UDP Yes - Data length, max. 1422 byte • UDP Yes - Data length, max. 1422 byte • Nonher of sab	Protocols					
PROFIBUS Yes: CM 1243-5 (master) or CM 1242-5 (slave) required OPC UA Yes: CD 1243-2 (required Protocols (Ethernet) Yes: CM 1243-2 (required • CP/P Yes: CM 1243-2 (required • DHCP No • SIMAP Yes • SIMAP Yes • LDP Yes • CP Yes • LDP Yes • MRP No - MRP No - MRPD No SIMATIC communication - • TCP/IP Yes • Data length, max. 8 kbyte • ISO-on-CPC (RFC1006) Yes • Data length, max. 1472 byte • Web server Yes • Data length, max. 1472 byte • User-defined websites Yes • OPC UA Yes: data access (read, write, subscribe), method call, runtime license required • OPC UA Server Yes: data access (read, write, subscribe), method call, runtime license required • Number of subscriptions per session, max. 1 • Application authentication 'anonymoust' or by user name & password • Number of subscriptions per session, max. 5 • Number of subscriptions per session, max. 5 • Number of server interfaces, max. 20	Supports protocol for PROFINET IO	Yes				
OPC UA Yes; OPC UA Server AS-Interface Yes; CPC UA Server Protocols (Ethernet) Yes; CPC UA Server • TCP/IP Yes; CPC UA Server • OHCP No • SIMAP Yes • ULOP Yes • ULOP Yes • Redundancy mode Media redundancy - MRP No - MRPD No SIMATIC communication Yes • ST routing Yes Open IC communication Yes • Data length, max. 8 kbyte • IDP Yes - Data length, max. 8 kbyte • UDP Yes - Data length, max. 1472 byte Web server Yes; data access (read, write, subscribe), method call, runtime license required • OPC UA Server Yes; data access (read, write, subscribe), method call, runtime license required • OPC UA Server Yes; data access (read, write, subscribe), method call, runtime license required • OPC UA Server Yes; data access (read, write, subscribe), method call, runtime license required • OPC UA Server Yes; data access (read, write, subscribe), method call, runtime license required • OPC UA Server Yes; data access (read, write, subscribe), method call, runtime license required • Number of server methods,	PROFIsafe	No				
AS-Interface Yes; CM 1243-2 required Protocols (Ehrenet) • TCP/IP • TCP/IP Yes • DHCP No • SINAP Yes • DCP Yes • MRP No - MRPD No - MRPD No ST 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. 8 kbyte • UDP 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 • UDP Yes - Data length, max. 8 kbyte • UDP Yes - Application authentication Yes; 'Basic" license required • OPC UA Yes • User aut	PROFIBUS	Yes; CM 1243-5 (master) or CM 1242-5 (slave) required				
Protocols (Ethemet) Yes • TCP/IP Yes • DHCP No • SIMAP Yes • LDP Yes • LDP Yes • LDP Yes • Media redundancy mode Media redundancy MRP No MRPD No SIMATIC communication Yes • TCP/IP Yes Open Ic Communication Yes • ISO-on-TCP (RFC1006) Yes Data length, max. 8 kbyte • 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 • UDP Yes • OPC UA Yes OPC UA Yes OPC UA Server Yes (data access (read, write, subscribe), method call, runtime license required - Application authentication Available security policies: None, Basic 258Rsa15, Basic 256Rsa15, Basic 256Rsa15, Basic 256Rsa15, Basic 256Rsa26 - User authentication "anonymous" or by user name & password - Number of server methods, max. 20 <	OPC UA	Yes; OPC UA Server				
• ICP/IP Yes • DHCP No • SIMP Yes • DCP Yes • LCP Yes Redundancy mode No MRP No MRPD No SIMATIC communication - • S7 routing Yes Open IE communication - • TCP/IP Yes - Data length, max. 8 kbyte • IDP 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. 9 Kes • UDP Yes - Data length, max. 1472 byte Web server Yes • Upported Yes • Upported Yes • User-defined websites Yes OPC UA Server • Application authentication Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Rsa256 - User authentication		Yes; CM 1243-2 required				
• DHCPNo• SINUPYes• LDPYes• Redundancy modeYesMedia redundancyImage: Strate Str		N/				
• SNMPYes• DCPYes• MCPYesRedundancy mode•Media redundancy•- MRPNo- MRPNo- MRPONoSIMATIC communication•• TCP/IPYes• Data length, max.8 kbyte• ICP/IPYes- Data length, max.8 kbyte• UDPYes- Data length, max.8 kbyte• UDPYes- Data length, max.1 472 byteWeb server•• UDPYes- Data length, max.1 472 byte• UDPYes• UDPYes• UDP determineYes• Number of sessions, max.10• Number of sessions, max.5• Number of server interfaces, max.20• Number of server interfaces, max.20• Number of onsict for user-defined server2000• Num						
 DCP Ves Pedundancy mode Media redundancy MRP MRP MRPD No StMATIC communication SToromunication Stronger (red, max, ecommended max, ecommended max, exported for some some some some some some some some						
• LLDP Yes Redundancy mode						
Redundancy mode MRP No MRPD No SIMATIC communication • 57 routing • 57 routing Yes Open IIE communication • 1000 • TCPJP Yes - Data length, max. 8 kbyte • ISO-on-TCP (RFC1006) Yes - Data length, max. 8 kbyte • UDP Yes - Data length, max. 1472 byte Web server • UBP • User-defined websites Yes OPC UA Yes, "Basic" license required • OPC UA Yes, 'data access (read, write, subscribe), method call, runtime license required • OPC UA Server Yes, 'data access (read, write, subscribe), method call, runtime license required • OPC UA Server Yes, 'data access (read, write, subscribe), method call, runtime license required • Application authentication "anonymous" or by user name & password - Number of subscriptions per session, max. 5 - Sampling interval, min. 200 - Number of server interfaces, max. 2 - Number of server interfaces, max. 2 - Number of server interfaces, max. 2 </td <td></td> <td></td>						
Media redundancy - MRPD No SMATIC communication Ves STrouting Yes Open IE communication Kkyte - Data length, max. 8 kkyte - ISO-on-TCP (RFC1006) Yes - Data length, max. 8 kkyte - 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 - Application authentication Yes: "Basic" license required - Application authentication Yes: data access (read, write, subscribe), method call, runtime license required - Mumber of sessions, max. 10 - Number of subscriptions per session, max. 5 - Sampling interval, min. 200 ms - Number of server interfaces, max. 20 - 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 - Number of nodes for user-defined server interfaces, max. 2 - Number of nodes for user-defined server interfaces, max. 2		165				
MRP No MRPD No SIMATIC communication - • S7 routing Yes Open IE communication - • TCP/IP Yes - Data length, max. 8 kbyte • ISO-on-TCP (RFC1006) Yes - Data length, max. 8 kbyte • UDP Yes - Data length, max. 1472 byte Web server - • Supported Yes • User-defined websites Yes OPC UA - • Runtime license required Yes; "Basic" license required • OPC UA - • Runtime license required Yes; "Basic" license required • OPC UA - • Runtime license required Yes; "Basic" license required • OPC UA - • User authentication Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Bsa256 - User authentication "anonymous" or by user name & password - Number of subscriptions per session, max. 5 - Sampling interval, min. 200 - Number of server interfaces, max. 2 - Number of nonitored items, recommended max. 2 - Number of server interfaces, max. 2 - Number of nodes for user						
MRPD No SIMATIC communication Yes Open IE communication Yes • TCP/IP Yes - Data length, max. 8 kbyte • ISO-on-TCP (RFC1006) Yes - Data length, max. 8 kbyte • UDP Yes - Data length, max. 1472 byte Web server Yes - Data length, max. 1472 byte Web server Yes - Data length ax Yes - Data length Yes - OPC UA Yes - Runtime license required Yes; "basic" license required - Application authentication Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Bsa15, Basic2	· · · · · · · · · · · · · · · · · · ·	No				
• \$7 routing Yes Open IE communication ************************************						
Open IE communication Yes • 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 Yes • User-defined websites Yes • User-defined websites Yes OPC UA Yes; "Basic" license required • OPC UA Server Yes; data access (read, write, subscribe), method call, runtime license required • OPC UA Server Yes; data access (read, write, subscribe), method call, runtime license required • OPC UA Server Yes; data access (read, write, subscribe), method call, runtime license required • OPC UA Server Yes; data access (read, write, subscribe), method call, runtime license required • OPC UA Server 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 subscriptions per session, max. 5 • Sampling interval, min. 100 ms • Number of server methods, ma	SIMATIC communication					
• TCP/IP Yes — Data length, max. 8 kbyte • ISC-on-TCP (RFC1006) Yes — Data length, max. 8 kbyte • UDP Yes — Data length, max. 1 472 byte Web server 1 472 byte • supported Yes • supported Yes • UDP Yes • supported Yes • CPC UA Yes • Runtime license required Yes; "Basic" license required • OPC UA Server Yes; data access (read, write, subscribe), method call, runtime license required - Application authentication Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Rsa256 — User authentication "anonymous" or by user name & password — Number of subscriptions per session, max. 10 — Number of server methods, max. 20 — Number of server methods, max. 20 — Number of server interfaces, max. 2 — Number of onolitored items, recommended max. 1000 — Number of nonitored items, recommended max. 2000 — Number of nodes for user-defined server interfaces, max. 2 — Number of n	S7 routing	Yes				
Data length, max.8 kbyteISO-on-TCP (RFC1006)Yes Data length, max.8 kbyteUDPYes Data length, max.1 472 byteWeb server• Data length, max.1 472 byteWeb server• User-defined websitesYesUser-defined websitesYesOPC UAYes; "Basic" license required• OPC UA ServerYes; data access (read, write, subscribe), method call, runtime license required• OPC UA ServerYes; data access (read, write, subscribe), method call, runtime license required- Application authenticationAvailable security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256R	Open IE communication					
· ISO-on-TCP (RFC1006)Yes- Data length, max.8 kbyte· UDPYes- Data length, max.1 472 byteWeb server/• supportedYes• User-defined websitesYesOPC UAYes; "Basic" license required• Runtime license requiredYes; data access (read, write, subscribe), method call, runtime license required• OPC UA ServerYes; data access (read, write, subscribe), method call, 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 sessions, max.100 ms- Sampling interval, min.200 ms- Number of server methods, max.20- Number of server interfaces, max.2- Number of server interfaces, max.2	• TCP/IP	Yes				
Data length, max.8 kbyte· UDPYes Data length, max.1472 byteWeb server• supportedYes• User-defined websitesYesOPC UAYes; "Basic" license required• OPC UA ServerYes; data access (read, write, subscribe), method call, runtime license required- Application authenticationYes; data access (read, write, subscribe), method call, runtime license required- Application authentication"anonymous" or by user name & password- 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 server methods, max.20- Number of server interfaces, max.2 000- Number of server interfaces, max.2 000- Number of server interfaces, max.2 000- Number of nodes for user-defined server interfaces, max.2 000- SupportedYes• MODBUSYes• MODBUSYes• SupportedYes	— Data length, max.	8 kbyte				
• UDP Yes - 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 Server 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. 20 - Number of nonitored items, recommended max. 1000 - Number of nonitored items, recommended max. 2 - 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 • MODBUS Yes communication functions / header Yes <td></td> <td>Yes</td>		Yes				
— Data length, max. 1 472 byte Web server supported • supported Yes • User-defined websites Yes OPC UA	-	8 kbyte				
Web server • supported Yes • User-defined websites Yes OPC UA • Runtime license required • OPC UA Server Yes; "Basic" license required • OPC UA Server 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. 100 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 nonitored items, recommended max. 1000 - Number of server interfaces, max. 2 - Number of nonitored items, recommended max. 1000 - Number of nonitored items, recommended max. 1000 - Number of nonitored items, recommended max. 2 - Number of nonitored items, recommended max. 2 • MODBUS Yes						
• 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 - Application authentication Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 - User authentication available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 - User authentication available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 - User authentication available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 - User authentication available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 - Number of sessions, max. 10 - Number of sessions, max. 10 - Number of subscriptions per session, max. 2 - 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 nodes for user-defined server interfaces, max. 2 - MODBUS Yes communication functions / header <td>-</td> <td>1 472 byte</td>	-	1 472 byte				
• 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 - Application authentication Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 - User authentication available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 - User authentication available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 - User authentication available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 - 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 server interfaces, max. 2 - Number of ondes for user-defined server interfaces, max. 2 000 - Number of nodes for user-defined server interfaces, max. 2 000 • MODBUS Yes communication functions / header S7 communication Yes		Vec				
OPC UA Runtime license required OPC UA Server Application authentication Application authentication Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 User authentication Number of sessions, max. Number of subscriptions per session, max. Sampling 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. Number of nodes for user-defined server interfaces, max. Further protocols MODBUS Yes Communication Supported						
• Runtime license required Yes; "Basic" license required • OPC UA Server 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. 100 ms - Number of server methods, max. 20 - Number of server methods, max. 20 - Number of nonitored items, recommended max. 1000 - Number of notes 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 - Number of nodes for user-defined server interfaces, max. 2 - MoDBUS Yes communication functions / header Yes		165				
• OPC UA Server 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. 100 ms - Number of server methods, max. 20 - Number of nonitored items, recommended max. 1000 - Number of nonitored items, recommended max. 2 - 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 - MODBUS Yes communication functions / header Yes		Yes; "Basic" 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 methods, max.20- Number of server methods, max.20- Number of server interfaces, max.2- 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.2• MODBUSYescommunicationYesS7 communicationYes		Yes; data access (read, write, subscribe), method call, runtime license				
User authentication"anonymous" or by user name & passwordNumber of sessions, max.10Number of subscriptions per session, max.5Sampling interval, min.100 msPublishing interval, min.200 msNumber of server methods, max.20Number of monitored items, recommended max.1 000Number of server interfaces, max.2Number of server interfaces, max.2Number of nodes for user-defined server interfaces, max.2 000Number of functions / headerYes	— Application authentication	Available security policies: None, Basic128Rsa15, Basic256Rsa15,				
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 monitored items, recommended max.1000 Number of server interfaces, max.2 Number of server interfaces, max.2 Number of nodes for user-defined server interfaces, max.2 Sumber of nodes for user-defined server interfaces, max.2 Sumber of nodes for user-defined server interfaces, max.2 SupportedYes SupportedYes	- User authentication					
- 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 arteriates, max.2 000Further protocols2 000• MODBUSYescommunication functions / header§7 communicationYes						
Sampling interval, min.100 ms Publishing interval, min.200 ms Number of server methods, max.20 Number of monitored items, recommended1 000max Number of server interfaces, max.2 Number of nodes for user-defined server interfaces, max.2 000Further protocolsYescommunication functions / headerYesS7 communication • supportedYes						
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 000Further protocolsYes• MODBUSYesS7 communication • supportedYesYes						
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 000Further protocols2 000• MODBUSYescommunication functions / header\$7 communication • supportedYes						
Number of monitored items, recommended max.1 000 Number of server interfaces, max.2 Number of nodes for user-defined server interfaces, max.2 000Further protocols2 000• MODBUSYescommunication functions / header57 communication• supportedYes	-					
max.Pumber of server interfaces, max.2- Number of nodes for user-defined server interfaces, max.2 000Further protocols2 000• MODBUSYescommunication functions / header57 communication• supportedYes						
Number of nodes for user-defined server interfaces, max. 2 000 Further protocols	max.					
interfaces, max. Further protocols • MODBUS Yes communication functions / header S7 communication • supported Yes						
Further protocols • MODBUS Yes communication functions / header S7 communication • supported Yes		2 000				
MODBUS Yes communication functions / header S7 communication supported Yes						
S7 communication • supported Yes	· · · · · · · · · · · · · · · · · · ·	Yes				
• supported Yes	communication functions / header					
	S7 communication					
• as server Yes	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	2			
Number of configurable Traces	2			
Memory size per trace, max.	512 kbyte			
Interrupts/diagnostics/status information				
Diagnostics indication LED				
RUN/STOP LED	Yes			
	Yes			
MAINT LED	Yes			
Integrated Functions				
Frequency measurement	Yes			
controlled positioning	Yes			
Number of position-controlled positioning axes, max.	8 4: With integrated outputs			
Number of positioning axes via pulse-direction interface PID controller	4; With integrated outputs Yes			
Number of alarm inputs	4			
Number of pulse outputs	4			
LIMILITEQUENCY (DUISE)				
Limit frequency (pulse) Potential separation	100 kHz			
Potential separation				
Potential separation Potential separation digital inputs				
Potential separation Potential separation digital inputs • Potential separation digital inputs	No 1			
Potential separation Potential separation digital inputs	No			
Potential separation Potential separation digital inputs Potential separation digital inputs between the channels, in groups of	No			
Potential separation Potential separation digital inputs • Potential separation digital inputs • between the channels, in groups of Potential separation digital outputs	No 1			
Potential separation Potential separation digital inputs • Potential separation digital inputs • between the channels, in groups of Potential separation digital outputs • Potential separation digital outputs	No 1 Yes			
Potential separation Potential separation digital inputs • Potential separation digital inputs • between the channels, in groups of Potential separation digital outputs • Potential separation digital outputs • Potential separation digital outputs • between the channels	No 1 Yes No			
Potential separation Potential separation digital inputs • Potential separation digital inputs • between the channels, in groups of Potential separation digital outputs • Potential separation digital outputs • between the channels	No 1 Yes No			
Potential separation Potential separation digital inputs • Potential separation digital inputs • between the channels, in groups of Potential separation digital outputs • Potential separation digital outputs • Potential separation digital outputs • between the channels • between the channels, in groups of EMC Interference immunity against discharge of static electricity • Interference immunity against discharge of static	No 1 Yes No			
Potential separation Potential separation digital inputs • Potential separation digital inputs • between the channels, in groups of Potential separation digital outputs • Potential separation digital outputs • 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 • Interference immunity against discharge of static	No 1 Yes No 1 Yes			
Potential separation Potential separation digital inputs • Potential separation digital inputs • between the channels, in groups of Potential separation digital outputs • Potential separation digital outputs • Potential separation digital outputs • between the channels • between the channels • 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 • Interference immunity against discharge of static electricity acc. to IEC 61000-4-2 — Test voltage at air discharge	No 1 Yes No 1 Yes 8 kV			
Potential separation Potential separation digital inputs • Potential separation digital inputs • between the channels, in groups of Potential separation digital outputs • Potential separation digital outputs • between the channels • between the channels, in groups of EMC Interference immunity against discharge of static electricity • Interference immunity against discharge of static electricity • Interference immunity against discharge of static • Test voltage at air discharge - Test voltage at contact discharge	No 1 Yes No 1 Yes			
Potential separation Potential separation digital inputs • Potential separation digital inputs • between the channels, in groups of Potential separation digital outputs • Potential separation digital outputs • between the channels • between the channels • 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 • Interference immunity against 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	No 1 Yes No 1 Yes 8 kV			
Potential separation Potential separation digital inputs • Potential separation digital inputs • between the channels, in groups of Potential separation digital outputs • Potential separation digital outputs • between the channels • 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	No 1 Yes No 1 Yes 8 kV 6 kV			
Potential separation Potential separation digital inputs • Potential separation digital inputs • between the channels, in groups of Potential separation digital outputs • Potential separation digital outputs • between the channels • 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 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	No 1 Yes No 1 Yes 8 kV 6 kV			
Potential separation Potential separation digital inputs • Potential separation digital inputs • between the channels, in groups of Potential separation digital outputs • Potential separation digital outputs • between the channels • 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	No 1 Yes No 1 Yes 8 kV 6 kV			
Potential separation Potential separation digital inputs • Potential separation digital inputs • between the channels, in groups of Potential separation digital outputs • Potential separation digital outputs • Potential separation digital outputs • 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 • 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 on signal cables acc. to IEC 61000-4-4	No 1 Yes No 1 Yes 8 kV 6 kV Yes Yes			
Potential separation Potential separation digital inputs • Potential separation digital inputs • between the channels, in groups of Potential separation digital outputs • Potential separation digital outputs • Potential separation digital outputs • 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 • 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 on signal cables acc. to IEC 61000-4-4 • Interference immunity on signal cables acc. to IEC 61000-4-4 • Interference immunity on signal cables acc. to IEC 61000-4-4	No 1 Yes No 1 Yes 8 kV 6 kV Yes Yes Yes			
Potential separation Potential separation digital inputs • Potential separation digital inputs • between the channels, in groups of Potential separation digital outputs • Potential separation digital outputs • Detential separation digital outputs • 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 • 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 disturbanc • Interference immunity against conducted variable disturbanc	No 1 Yes No 1 Yes 8 kV 6 kV Yes Yes Yes			
Potential separation Potential separation digital inputs • Potential separation digital inputs • 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 EMC Interference immunity against discharge of static electricity • Interference immunity against discharge of static electricity • Interference immunity against 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 on supply lines acc. to IEC 61000-4-4 • Interference immunity on supply lines acc. to IEC 61000-4-5 Interference immunity on supply lines acc. to IEC 61000-4-5 Interference immunity against conducted variable disturbanc • Interference immunity against conducted variable disturbanc	No 1 Yes No 1 Yes 8 kV 6 kV Yes Yes Yes e induced by high-frequency fields Yes			
Potential separation Potential separation digital inputs • Potential separation digital inputs • 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 EMC Interference immunity against discharge of static electricity • Interference immunity against discharge of static electricity acc. to IEC 61000-4-2	No 1 Yes No 1 Yes 8 kV 6 kV Yes Yes Yes Yes Yes Yes Yes Yes			
Potential separation Potential separation digital inputs • Potential separation digital inputs • between the channels, in groups of Potential separation digital outputs • Potential separation digital outputs • between the channels • 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 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 conducted variable disturbanc • Interference immunity against conducted variable disturbanc • Interference immunity against conducted variable disturbanc • 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	No 1 Yes No 1 Yes 8 kV 6 kV Yes Yes Yes e induced by high-frequency fields Yes			
Potential separation Potential separation digital inputs • Potential separation digital inputs • 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 EMC Interference immunity against discharge of static electricity • Interference immunity against discharge of static electricity acc. to IEC 61000-4-2	No 1 Yes No 1 Yes 8 kV 6 kV Yes Yes Yes Yes Yes Yes Yes Yes			
Potential separation Potential separation digital inputs • Potential separation digital inputs • between the channels, in groups of Potential separation digital outputs • Potential separation digital outputs • between the channels • 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 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 conducted variable disturbanc • Interference immunity against conducted variable disturbanc • Interference immunity against conducted variable disturbanc • 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	No 1 Yes No 1 Yes 8 kV 6 kV Yes Yes Yes Yes Yes Yes Yes Yes			

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				
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; 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				
 horizontal installation, max. 	60 °C				
 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	70510				
• 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	4 999				
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. Vibrations	95 %; no condensation				
Vibrations Vibration resistance during operation acc. to IEC 60068-2-6	2 g (m/s ²) wall mounting, 1 g (m/s ²) DIN rail				
 Operation, tested according to IEC 60068-2-6 	Yes				
Shock testing					
tested according to IEC 60068-2-27	Yes; IEC 68, Part 2-27 half-sine: strength of the shock 15 g (peak value), duration 11 ms				
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	110 mm				
Height	100 mm				
Depth	75 mm				

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Weight, approx.

last modified:

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