SIEMENS

Data sheet

6ES7215-1AF40-0XB0



SIMATIC S7-1200F, CPU 1215 FC, compact CPU, DC/DC/DC, 2 PROFINET ports, onboard I/O: 14 DI 24 V DC; 10 DO 24 V DC; 0.5A; 2 AI 0-10 V DC, 2 AO 0-20 mA DC, Power supply: DC 20.4-28.8V DC, Program/data memory 150 KB

General information	
Product type designation	CPU 1215FC 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 DC
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	150 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 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. Flag	14 kbyte
• 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	
 Hardware clock (real-time) 	Yes
Backup time	480 h; Typical
Deviation per day, max.	±60 s/month at 25 °C
Digital inputs	
Number of digital inputs	14; Integrated
 of which inputs usable for technological functions 	6; HSC (High Speed Counting)
Source/sink input	Yes
Number of simultaneously controllable inputs	
all mounting positions	
— up to 40 °C, max.	14
Input voltage	
 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 0.2 ms
— at "0" to "1", min. — 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	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

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 for signal "0" residual current, max. 	0.1 mA
Output delay with resistive load	0.1111A
• "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	2
Output ranges, current	
• 0 to 20 mA	Yes
Analog value generation for the inputs	
Integration and conversion time/resolution per channel	
Resolution with overrange (bit including sign), max.	10 bit
Integration time, parameterizable	Yes
Conversion time (per channel)	625 μs
Analog value generation for the outputs	·
Integration and conversion time/resolution per channel	
Integration and conversion time/resolution per channel Besolution with overrange (bit including sign) max	10 hit
Resolution with overrange (bit including sign), max.	10 bit
Resolution with overrange (bit including sign), max. Encoder	10 bit
Resolution with overrange (bit including sign), max. Encoder Connectable encoders	
Resolution with overrange (bit including sign), max. Encoder Connectable encoders 2-wire sensor	10 bit Yes
Resolution with overrange (bit including sign), max. Encoder Connectable encoders 2-wire sensor 1. Interface	Yes
Resolution with overrange (bit including sign), max. Encoder Connectable encoders 2-wire sensor 1. Interface Interface type	Yes PROFINET
Resolution with overrange (bit including sign), max. Encoder Connectable encoders 2-wire sensor 1. Interface Interface type Isolated	Yes PROFINET Yes
Resolution with overrange (bit including sign), max. Encoder Connectable encoders 2-wire sensor I. Interface Interface type Isolated automatic detection of transmission rate	Yes PROFINET Yes Yes
Resolution with overrange (bit including sign), max. Encoder Connectable encoders 2-wire sensor I.Interface Interface type Isolated automatic detection of transmission rate Autonegotiation	Yes PROFINET Yes Yes Yes
Resolution with overrange (bit including sign), max. Encoder Connectable encoders 2-wire sensor I. Interface Interface type Isolated automatic detection of transmission rate Autonegotiation Autocrossing	Yes PROFINET Yes Yes
Resolution with overrange (bit including sign), max. Encoder Connectable encoders 2-wire sensor I. Interface Interface type Isolated automatic detection of transmission rate Autonegotiation Autocrossing Interface types	Yes PROFINET Yes Yes Yes Yes
Resolution with overrange (bit including sign), max. Encoder Connectable encoders 2-wire sensor I. Interface Interface type Isolated automatic detection of transmission rate Autonegotiation Autocrossing Interface types RJ 45 (Ethernet)	Yes PROFINET Yes Yes Yes Yes
Resolution with overrange (bit including sign), max. Encoder Connectable encoders 2-wire sensor I. Interface Interface type Isolated automatic detection of transmission rate Autonegotiation Autocrossing Interface types RJ 45 (Ethernet) Number of ports	Yes PROFINET Yes Yes Yes Yes Yes 2
 Resolution with overrange (bit including sign), max. Encoder Connectable encoders 2-wire sensor Interface Interface type Isolated automatic detection of transmission rate Autorcossing Interface types RJ 45 (Ethernet) Number of ports integrated switch 	Yes PROFINET Yes Yes Yes Yes
Resolution with overrange (bit including sign), max. Encoder Connectable encoders 2-wire sensor I. Interface Interface type Isolated automatic detection of transmission rate Autonegotiation Autocrossing Interface types RJ 45 (Ethernet) Number of ports	Yes PROFINET Yes Yes Yes Yes Yes 2
Resolution with overrange (bit including sign), max. Encoder Connectable encoders 2-wire sensor I.Interface Interface type Isolated automatic detection of transmission rate Autonegotiation Autocrossing Interface types RJ 45 (Ethernet) Number of ports integrated switch Protocols	Yes PROFINET Yes Yes Yes Yes Yes Yes
Resolution with overrange (bit including sign), max. Encoder Connectable encoders 2-wire sensor 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	Yes PROFINET Yes Yes Yes Yes Yes 2 Yes
Resolution with overrange (bit including sign), max. Encoder Connectable encoders 2-wire sensor I.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	Yes PROFINET Yes Yes Yes Yes Yes 2 Yes Yes
Resolution with overrange (bit including sign), max. Encoder Connectable encoders 2-wire sensor 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	Yes PROFINET Yes Yes Yes Yes Yes Yes Yes
Resolution with overrange (bit including sign), max. Encoder Connectable encoders 2-wire sensor I. 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	Yes PROFINET Yes Yes Yes Yes Yes Yes Yes Yes
Resolution with overrange (bit including sign), max. Encoder Connectable encoders 2-wire sensor 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	Yes PROFINET Yes Yes Yes Yes Yes Yes Yes Yes
Resolution with overrange (bit including sign), max. Encoder Connectable encoders 2-wire sensor 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	Yes PROFINET Yes Yes Yes Yes Yes Yes Yes Yes
 Resolution with overrange (bit including sign), max. Encoder Connectable encoders 2-wire sensor 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 	Yes PROFINET Yes
 Resolution with overrange (bit including sign), max. Encoder Connectable encoders 2-wire sensor 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 	Yes PROFINET Yes
 Resolution with overrange (bit including sign), max. Encoder Connectable encoders 2-wire sensor Interface Interface type Isolated automatic detection of transmission rate Autoregotiation 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 Jsochronous mode 	Yes PROFINET Yes
 Resolution with overrange (bit including sign), max. Encoder Connectable encoders 2-wire sensor 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 	Yes PROFINET Yes
 Resolution with overrange (bit including sign), max. Encoder Connectable encoders 2-wire sensor 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 PROFIenergy 	Yes PROFINET Yes
Resolution with overrange (bit including sign), max. Encoder Connectable encoders 2-wire sensor 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 IO Controller Transmission rate, max. Services — PG/OP communication — Isochronous mode — IRT — PROFIenergy — Prioritized startup	Yes PROFINET Yes
 Resolution with overrange (bit including sign), max. Encoder Connectable encoders 2-wire sensor 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 PROFIenergy 	Yes PROFINET Yes

 — Number of connectable IO Devices, max. 	
	16
 — Number of connectable IO Devices for RT, 	16
max.	
— of which in line, max.	16
 Activation/deactivation of IO Devices 	Yes
— Number of IO Devices that can be	8
simultaneously activated/deactivated, max.	0
— Updating time	The minimum value of the update time also depends on the
	communication component set for PROFINET IO, on the number of IO
	devices and the quantity of configured user data.
PROFINET IO Device	
Services	
	Very enerytian with TLS V(1.2 pro-collected
— PG/OP communication	Yes; encryption with TLS V1.3 pre-selected
 — Isochronous mode 	No
— IRT	No
— PROFlenergy	Yes
— Shared device	Yes
 — Number of IO Controllers with shared device, 	2
max.	
Protocols	
	Yes
Supports protocol for PROFINET IO	
PROFIsafe	Yes
PROFIBUS	Yes; CM 1243-5 (master) or CM 1242-5 (slave) required
OPC UA	Yes; OPC UA Server
AS-Interface	Yes; CM 1243-2 required
Protocols (Ethernet)	
• TCP/IP	Yes
• DHCP	No
• SNMP	Yes
• DCP	Yes
• LLDP	Yes
Redundancy mode	
Media redundancy	
— MRP	Yes; as MRP redundancy manager and/or MRP client
— MRPD	No
SIMATIC communication	
S7 routing	Yes
Open IE communication	
• TCP/IP	Yes
— Data length, max.	8 kbyte
	•
-	Vac
ISO-on-TCP (RFC1006)	Yes
 ISO-on-TCP (RFC1006) — Data length, max. 	8 kbyte
 ISO-on-TCP (RFC1006) — Data length, max. UDP 	8 kbyte Yes
 ISO-on-TCP (RFC1006) — Data length, max. 	8 kbyte
 ISO-on-TCP (RFC1006) — Data length, max. UDP 	8 kbyte Yes
 ISO-on-TCP (RFC1006) — Data length, max. UDP — Data length, max. 	8 kbyte Yes
 ISO-on-TCP (RFC1006) Data length, max. UDP Data length, max. Web server 	8 kbyte Yes 1 472 byte
 ISO-on-TCP (RFC1006) Data length, max. UDP Data length, max. Web server supported 	8 kbyte Yes 1 472 byte Yes
 ISO-on-TCP (RFC1006) Data length, max. UDP Data length, max. Web server supported User-defined websites OPC UA 	8 kbyte Yes 1 472 byte Yes Yes
 ISO-on-TCP (RFC1006) Data length, max. UDP Data length, max. Web server supported User-defined websites OPC UA Runtime license required 	8 kbyte Yes 1 472 byte Yes Yes Yes; "Basic" license required
 ISO-on-TCP (RFC1006) Data length, max. UDP Data length, max. Web server supported User-defined websites OPC UA 	8 kbyte Yes 1 472 byte Yes Yes Yes; "Basic" license required Yes; data access (read, write, subscribe), method call, runtime license
 ISO-on-TCP (RFC1006) Data length, max. UDP Data length, max. Web server supported User-defined websites OPC UA Runtime license required OPC UA Server 	8 kbyte Yes 1 472 byte Yes Yes Yes; "Basic" license required Yes; data access (read, write, subscribe), method call, runtime license required
 ISO-on-TCP (RFC1006) Data length, max. UDP Data length, max. Web server supported User-defined websites OPC UA Runtime license required 	8 kbyte Yes 1 472 byte Yes Yes Yes Yes; "Basic" license required Yes; data access (read, write, subscribe), method call, runtime license required Available security policies: None, Basic128Rsa15, Basic256Rsa15,
 ISO-on-TCP (RFC1006) Data length, max. UDP Data length, max. Web server supported User-defined websites OPC UA Runtime license required OPC UA Server Application authentication 	8 kbyte Yes 1 472 byte Yes Yes Yes Yes; "Basic" license required Yes; "Basic" license required Yes; data access (read, write, subscribe), method call, runtime license required Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256
 ISO-on-TCP (RFC1006) Data length, max. UDP Data length, max. Web server supported User-defined websites OPC UA Runtime license required OPC UA Server Application authentication User authentication 	8 kbyte Yes 1 472 byte Yes Yes Yes Yes; "Basic" license required Yes; data access (read, write, subscribe), method call, runtime license required Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 "anonymous" or by user name & password
 ISO-on-TCP (RFC1006) Data length, max. UDP Data length, max. Web server supported User-defined websites OPC UA Runtime license required OPC UA Server Application authentication User authentication Number of sessions, max. 	8 kbyte Yes 1 472 byte Yes Yes Yes Yes Yes; "Basic" license required Yes; data access (read, write, subscribe), method call, runtime license required Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 "anonymous" or by user name & password 10
 ISO-on-TCP (RFC1006) Data length, max. UDP Data length, max. Web server supported User-defined websites OPC UA Runtime license required OPC UA Server Application authentication User authentication Number of sessions, max. Number of subscriptions per session, max. 	8 kbyte Yes 1 472 byte Yes Yes Yes Yes Yes; "Basic" license required Yes; data access (read, write, subscribe), method call, runtime license required Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 "anonymous" or by user name & password 10 5
 ISO-on-TCP (RFC1006) Data length, max. UDP Data length, max. Web server supported User-defined websites OPC UA Runtime license required OPC UA Server Application authentication User authentication Number of sessions, max. Number of subscriptions per session, max. Sampling interval, min. 	8 kbyte Yes 1 472 byte Yes Yes Yes Yes Yes; "Basic" license required Yes; data access (read, write, subscribe), method call, runtime license required Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 "anonymous" or by user name & password 10
 ISO-on-TCP (RFC1006) Data length, max. UDP Data length, max. Web server supported User-defined websites OPC UA Runtime license required OPC UA Server Application authentication User authentication Number of sessions, max. Number of subscriptions per session, max. 	8 kbyte Yes 1 472 byte Yes Yes Yes Yes Yes; "Basic" license required Yes; data access (read, write, subscribe), method call, runtime license required Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 "anonymous" or by user name & password 10 5
 ISO-on-TCP (RFC1006) Data length, max. UDP Data length, max. Web server supported User-defined websites OPC UA Runtime license required OPC UA Server Application authentication User authentication Number of sessions, max. Number of subscriptions per session, max. Sampling interval, min. 	8 kbyte Yes 1 472 byte Yes Yes Yes Yes Yes; "Basic" license required Yes; data access (read, write, subscribe), method call, runtime license required Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 "anonymous" or by user name & password 10 5 100 ms
 ISO-on-TCP (RFC1006) Data length, max. UDP Data length, max. Web server supported User-defined websites OPC UA Runtime license required OPC UA Server Application authentication User authentication Number of sessions, max. Number of subscriptions per session, max. Sampling interval, min. Publishing interval, min. 	8 kbyte Yes 1 472 byte Yes Yes Yes Yes; "Basic" license required Yes; "Basic" license required Yes; data access (read, write, subscribe), method call, runtime license required Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 "anonymous" or by user name & password 10 5 100 ms 200 ms
 ISO-on-TCP (RFC1006) Data length, max. UDP Data length, max. Web server supported User-defined websites OPC UA Runtime license required OPC UA Server 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. 	8 kbyte Yes 1 472 byte Yes Yes Yes Yes; "Basic" license required Yes; "Basic" license required Yes; data access (read, write, subscribe), method call, runtime license required Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 "anonymous" or by user name & password 10 5 100 ms 200 ms 20
 ISO-on-TCP (RFC1006) Data length, max. UDP Data length, max. Web server supported User-defined websites OPC UA Runtime license required OPC UA Server 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 monitored items, recommended 	8 kbyte Yes 1 472 byte Yes Yes Yes Yes; "Basic" license required Yes; "Basic" license required Yes; data access (read, write, subscribe), method call, runtime license required Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 "anonymous" or by user name & password 10 5 100 ms 200 ms 20
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 ISO-on-TCP (RFC1006) Data length, max. UDP Data length, max. Web server supported User-defined websites OPC UA Runtime license required OPC UA Server 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 monitored items, recommended max. Number of server interfaces, max. 	8 kbyte Yes 1 472 byte Yes Yes Yes Yes; "Basic" license required Yes; data access (read, write, subscribe), method call, runtime license required Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 "anonymous" or by user name & password 10 5 100 ms 200 ms 20 1 000
 ISO-on-TCP (RFC1006) Data length, max. UDP Data length, max. Web server supported User-defined websites OPC UA Runtime license required OPC UA Server 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 interfaces, max. Number of noitored items, recommended max. Number of nodes for user-defined server 	8 kbyte Yes 1 472 byte Yes Yes Yes Yes; "Basic" license required Yes; data access (read, write, subscribe), method call, runtime license required Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256 "anonymous" or by user name & password 10 5 100 ms 200 ms 20 1 000

communication functions / header Yes S7 communication Yes • sacker Yes • as solver Yes • sacker Yes • overrall PG Contrections: 4 researced / 4 max; HMI Contrections: 12 reserved / rest • overrall PG Contrections: 4 researced / 4 max; HMI Contrections: 12 reserved / rest • overrall PG Contrections: 4 researced / 4 max; HMI Contrections: 12 reserved / rest • overrall PG Contrections: 0 reserved / 10 max; Total Connections: 34 reserved / 64 max; HMI Contrections: 34 reserved / 76 max; • Status/control variable Yes • Variables Inputs/outputs, bit memories, DBs, peripheral I/Os (without fail-safe) Diagosto: buffer • • Persont Yes • Number of configurable Traces 2 • Momory Status Information Diagosto: buffer • Persont Yes • RUNSTOP IED Yes • RUNSTOP IED Yes • RUNSTOP IED Yes • RUNSTOP IED Yes • REGRING acounted is positioning axes, max. 8 Number of positioning is axes a, max. 8	MODBUS	Yes
S7 communication • supported Yes • as server Yes Yes • as clent Yes Yes • Outer data per job, max. See contine help (S7 communication, user data size) Number of connections PG Connections 4 reserved / 4 max. (Hell Connections: 12 reserved / 30 max. CPC: UA Connections: 27 reserved / 30 max. CPC: UA Connections: 37 reserved / 64 max. Test commissioning functions Yes • Statuscontrol variable Yes • Variables Yes • Forcing Yes_ peripheral I/Os (without fail-safe). Diagnostic buffer • present • Procent Yes • Render Gondgurable Traces 2		
Supported Yes sa sorver Yes sa client Yes sa client Yes sa client Yes Supported Yes Supported Yes Supported Yes Supported Yes Supported Yes Supported Yes		
 as server as clenit yes as clenit yes User data per job, max. See online help (S7 communication, user data size) Number of connections: Poveral Passaved / 14 max; Veb Connections: 27 reserved / 20 max; OPC UA Connections: 0 reserved / 10 max; OPC UA Connetore 0 reserved		Yes
 as cliont, Yes User data size) Number of commedication, user data size) Number of commedications Performations of communication, user data size) Number of commedications of reserved / 14 max; VML Commedications: 12 reserved / 14 max; VML Commedications: 8 reserved / 10 max; Open User Commedications: 8 reserved / 10 max; Open User Commedications: 8 reserved / 10 max; Total Commedications: 3 reserved / 10 max; Total Commedications: 0 reserved / 10 reserved /		
User data per job, max. See online help (\$7 communication, user data size) Number of connections: P6 Connections: 4 reserved / 4 max: VMI Connections: 2 reserved / 30 max; OPC UA Image: Signal Si		
Number of connections PG Connections: 4 reserved / 4 max; PH All Connections: 2 reserved / 1 max; S7 Connections: 8 reserved / 4 max; Ope Of CVA Connections: 9 reserved / 30 max; OPC VA Connections: 0 reserved / 10 max; Total Connections: 34 reserved / 4 max; Opt OPC VA Connections: 0 reserved / 10 max; Total Connections: 0 reserved / 10 max; Total Connections: 34 reserved / 64 max; * Status/control * * Status/control * * Status/control without fail-safe), trimes, counters * * Forcing Yes; peripheral inputs/outputs (without fail-safe), trimes, counters * Number of configuratie Traces 2 * Main T LED Yes * Integrated Functions Yes * RUNSTOP LED Yes * RUNSTOP LED Yes * Number of pation-contolled positioning axes, max. 8 * Number of pation dipits outputs 4		
18 max, S7 Connections: 8 reserved / 14 max, Cope User Connections: 34 reserved / 30 max, OPC USecond Test commissioning functions Status/control • Variables • Parcing • Forcing • Status/control • Status/control • Present • Variables • Number of configurable Traces • Renormality as a status/control • Number of configurable Traces • Renormality as a status/control • Present • Number of configurable Traces • RENOR LED • RENOR LED • RENOR LED • Ves • Mumber of position-controlled positioning axes, max. 8 Number of position-controlled positioning axes, max. 9 • Distoning axes via pulse-direction interface • Potential separation • Potential separation • Potential separation digital inputs • Number of position-controlled positioning axes, max. • Number of position-controlled positioning axes, max. • Number of position-controlled positioning axes, max. <		
18 max, S7 Connections: 8 reserved / 14 max, Cope User Connections: 34 reserved / 30 max, OPC USecond Test commissioning functions Status/control • Variables • Parcing • Forcing • Status/control • Status/control • Present • Variables • Number of configurable Traces • Renormality as a status/control • Number of configurable Traces • Renormality as a status/control • Present • Number of configurable Traces • RENOR LED • RENOR LED • RENOR LED • Ves • Mumber of position-controlled positioning axes, max. 8 Number of position-controlled positioning axes, max. 9 • Distoning axes via pulse-direction interface • Potential separation • Potential separation • Potential separation digital inputs • Number of position-controlled positioning axes, max. • Number of position-controlled positioning axes, max. • Number of position-controlled positioning axes, max. <		PG Connections: 4 reserved / 4 max: HMI Connections: 12 reserved /
Status/control Status/control variable Variables Variables inputs/outputs, bit memories, DBs, peripheral I/Os (without fail-safe), times, counters Forcing Forcing Persent Yes persent Yes Number of configurable Traces ERCOR LED Persent Yes Herrorptofalgenostics/status/information Diagnostics indication LED Persent Yes Herrorptofalgenostics/status Persent Yes Number of position-controlled positioning axes, max. Potential separation digital inputs Potential separation dingital inputs No		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
Status/control variable Variables Variable Var	Test commissioning functions	
Variables inputs outputs, bit memories, DBs, peripheral I/Os (without fail-safe), Immes, counters Forcing Yes: peripheral inputs/outputs (without fail-safe) Diagnostic buffer yesent Yes Number of configurable Traces Amenory size per trace, max. S12 kbyte Interrupts/diagnostics/itatus information Traces Main Paratese Para	Status/control	
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61000-4-5 Interference immunity against conducted variable disturbance induced by high-frequency fields		
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Interference immunity against high-frequency Yes		e induced by high-frequency fields
radiation acc. to IEC 61000-4-6	 Interference immunity against high-frequency radiation acc. to IEC 61000-4-6 	Yes

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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
Highest safety class achievable in safety mode	DL -
 Performance level according to ISO 13849-1 SIL acc. to IEC 61508 	PLe
	SIL 3
Ambient conditions	
Free fall	0.3 m; five times, in product package
Fall height, max. Ambient temperature during operation	0.3 m; five times, in product package
min.	0 °C
• max.	55 °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
horizontal installation, min.	0 °C
horizontal installation, max.	55 °C
vertical installation, min.	0 °C
vertical installation, max.	45 °C
Ambient temperature during storage/transportation min. 	-40 °C
• max.	-40 °C
Air pressure acc. to IEC 60068-2-13	10 0
• 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	
 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 60068-2-6 	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; incl. failsafe
— FBD	Yes; incl. failsafe
- SCL	Yes
Know-how protection	Vec
 User program protection/password protection 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	130 mm
Height	100 mm
Depth	75 mm
Weights	
Weight, approx.	500 g

last modified:

7/19/2022 🖸