## **SIEMENS**

## **Data sheet**

6ES7212-1HE40-0XB0



Figure similar

SIMATIC S7-1200, CPU 1212C, compact CPU, DC/DC/relay, onboard I/O: 8 DI 24 V DC; 6 DO relay 2 A; 2 AI 0-10 V DC, Power supply: DC 20.4-28.8V DC, Program/data memory 75 KB

Product type designation CPU 1212C DC/DC/relay Firmware version V4.5 Engineering with  Programming package STEP 7 V17 or higher  Supply voltage  Rated value (DC)  24 V DC  permissible range, lower limit (DC) 28.8 V  Reverse polarity protection Yes  Cad volume (DC)  Permissible range, lower limit (DC) 24 V  permissible range, lower limit (DC) 28.8 V  Reverse polarity protection Yes  Cad voltage L+  Rated value (DC)  Permissible range, lower limit (DC) 24 V  Permissible range, lower limit (DC) 24 V  Permissible range, lower limit (DC) 28.8 V  Input current  Current consumption (rated value) 400 mA; CPU only  Current consumption (rated value) 120 mA; CPU with all expansion modules  Insus current, max. 120 mA; CPU with all expansion modules  Insus current, max. 12 A; at 28.8 V  Pt 0.8 A²s  Output current  for backplane bus (5 V DC), max. 1 000 mA; Max. 5 V DC for SM and CM  Encoder supply  24 V encoder supply  26 V Expandable No  No  Momory  Work memory  Integrated 75 kbyte  Prosent 75 kbyte  Pros	General information	
Engineering with  ● Programming package STEP 7 V17 or higher Supply votage  Rated value (DC)  ● 24 V DC Yes permissible range, lower limit (DC) 28.8 V Reverse polarity protection Yes  Load voltage L+  ● Rated value (DC)  ● permissible range, lower limit (DC) 28.8 V Reverse polarity protection Yes  Load voltage L+  ● Rated value (DC)  ● permissible range, lower limit (DC) 20.4 V  ● permissible range, lower limit (DC) 20.4 V  ● permissible range, lower limit (DC) 20.4 V  ■ permissible range, upper limit (DC) 20.4 V  ■ permi	Product type designation	CPU 1212C DC/DC/relay
• Programming package  Supply voltage  Rated value (DC) • 24 V DC permissible range, lower limit (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) permissible range, upper limit (DC) permissible range, lower limit (DC)	Firmware version	V4.5
Rated value (DC)  • 24 V DC  permissible range, lower limit (DC) permissible range, upper limit (DC) permissible range, upper limit (DC) Reverse polarity protection Yes  Load voltage L+  • Rated value (DC) • permissible range, lower limit (DC) permissible range, upper limit (DC) • permissible range, upper limit (DC)  • permissible range, upper limit (DC) • permissible ran	Engineering with	
Rated value (DC)  • 24 V DC  permissible range, lower limit (DC) permissible range, upper limit (DC) Reverse polarity protection  Rated value (DC) • 28.8 V  Reverse polarity protection  Pes  Load voltage L+  • Rated value (DC) • permissible range, lower limit (DC) • permissible range, lower limit (DC) • permissible range, lower limit (DC) • permissible range, upper limit (DC) • permissible range, lower limit	<ul> <li>Programming package</li> </ul>	STEP 7 V17 or higher
• 24 V DC permissible range, lower limit (DC) permissible range, upper limit (DC) Reverse polarity protection Yes Load voltage L+  • Rated value (DC) • permissible range, lower limit (DC) permissible range, lower limit (DC) • permissible range, lower limit (DC) • permissible range, lower limit (DC) • permissible range, upper limit (DC) 28.8 V  Input current  Current consumption (rated value) Current consumption, max. 1 200 mA; CPU only Current consumption, max. 1 22 A; at 28.8 V  Pri 0.8 A²-s  Output current  for backplane bus (5 V DC), max. 1 000 mA; Max. 5 V DC for SM and CM  Encoder supply 24 V encoder supply • 24 V  • L+ minus 4 V DC min.  Power loss  Power loss, typ. 9 W  Memory  Work memory • integrated • expandable No  Load memory • integrated • Plug-in (SIMATIC Memory Card), max.  Backup • present • maintenance-free • without battery  Yes	Supply voltage	
permissible range, lower limit (DC) permissible range, upper limit (DC) Permissible range, lower limit (DC) Permissible range, lower limit (DC) Permissible range, lower limit (DC) Permissible range, upper limit	Rated value (DC)	
permissible range, upper limit (DC) Reverse polarity protection  Pes  Load voltage L+  Rated value (DC) permissible range, lower limit (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) permissible range, upper limit (DC) permissible range, upper limit (DC) Reverse polarity protection  Current consumption (rated value) Current consumption (rated value) Current consumption, max. 1 200 mA; CPU only Current consumption, max. 1 200 mA; CPU with all expansion modules Inrush current, max. 1 2 A; at 28.8 V Poutput current  for backplane bus (5 V DC), max. 1 000 mA; Max. 5 V DC for SM and CM  Encoder supply 24 V encoder supply 24 V	• 24 V DC	Yes
Reverse polarity protection  Load voltage L+  • Rated value (DC)  • permissible range, lower limit (DC)  • permissible range, lower limit (DC)  • permissible range, upper limit (DC)  • permissible range, upper limit (DC)  28.8 V  Input current  Current consumption (rated value)  Current consumption, max.  1 200 mA; CPU only  Current consumption, max.  1 200 mA; CPU with all expansion modules  Inrush current, max.  12 A; at 28.8 V  Output current  for backplane bus (5 V DC), max.  1 000 mA; Max. 5 V DC for SM and CM  Encoder supply  24 V encoder supply  • 24 V  L+ minus 4 V DC min.  Power loss  Power loss, typ.  9 W  Memory  • integrated  • expandable  Load memory  • integrated  • expandable  Load memory  • integrated  • Plug-in (SIMATIC Memory Card), max.  Backup  • present  • maintenance-free  • without battery  Yes	permissible range, lower limit (DC)	20.4 V
Load voltage L+  Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) permissible range, upper limit (DC) 28.8 V  Input current  Current consumption (rated value) Current consumption, max. 1200 mA; CPU only Current consumption, max. 12 A; at 28.8 V  Pt 0.8 A²-s  Output current for backplane bus (5 V DC), max. 1 000 mA; Max. 5 V DC for SM and CM  Encoder supply 24 V encoder supply 24 V encoder supply  24 V L+ minus 4 V DC min.  Power loss Power loss, typ. 9 W  Memory  Work memory integrated perpandable No  Load memory  integrated Plug-in (SIMATIC Memory Card), max.  With SIMATIC memory card maintenance-free present person raintenance-free pitched person yes	permissible range, upper limit (DC)	28.8 V
Rated value (DC)  permissible range, lower limit (DC)  permissible range, upper limit (DC)  20.4 V  permissible range, upper limit (DC)  28.8 V  Input current  Current consumption (rated value)  Current consumption, max.  1 200 mA; CPU only  Current consumption, max.  1 200 mA; CPU with all expansion modules  Inrush current, max.  12 A; at 28.8 V  Pt  0.8 A²-s  Output current  for backplane bus (5 V DC), max.  1 000 mA; Max. 5 V DC for SM and CM  Encoder supply  24 V encoder supply  24 V encoder supply  24 V		Yes
• permissible range, lower limit (DC)     • permissible range, upper limit (DC)     • permissible range, upper limit (DC)  Input current  Current consumption (rated value)  Current consumption, max.  Inrush current, max.  I²t  0.8 A²·s  Output current  for backplane bus (5 V DC), max.  Incoder supply  24 V encoder supply  24 V \	Load voltage L+	
permissible range, upper limit (DC)  Input current  Current consumption (rated value)  Current consumption, max.  1 200 mA; CPU with all expansion modules  Inrush current, max.  1 20 mA; CPU with all expansion modules  Inrush current, max.  1 20,8 A²-s  Output current  for backplane bus (5 V DC), max.  1 000 mA; Max. 5 V DC for SM and CM  Encoder supply  24 V encoder supply  24 V encoder supply  • 24 V  L+ minus 4 V DC min.  Power loss  Power loss  Power loss, typ.  9 W  Memory  Work memory  • integrated • expandable  Load memory  • integrated • present • plug-in (SIMATIC Memory Card), max.  Backup  • present • maintenance-free • without battery  Yes	<ul><li>Rated value (DC)</li></ul>	24 V
Input current  Current consumption (rated value) Current consumption, max.  Inrush current, max.  It a t 28.8 V  It 0.8 A2-s  Output current  for backplane bus (5 V DC), max.  Inrush cursent was.  Inrush current  Inrush cu	• • • • • • • • • • • • • • • • • • • •	
Current consumption (rated value)  Current consumption, max.  Inrush current, max.  It and the second of the secon	permissible range, upper limit (DC)	28.8 V
Current consumption, max.  Inrush current, max.  It is at 28.8 V  It is at 28.8 V  Output current  for backplane bus (5 V DC), max.  Inrush current  for backplane bus (5 V DC), max.  Inrush current  Inrush current  Inrush current  Inrush current  Inrush current  Inrush current, max.  Inrush current  Inrush current, max.  Inrush current  I	Input current	
Inrush current, max.  I²t 0.8 A²-s  Output current  for backplane bus (5 V DC), max. 1 000 mA; Max. 5 V DC for SM and CM  Encoder supply  24 V encoder supply  • 24 V	Current consumption (rated value)	400 mA; CPU only
Pt	Current consumption, max.	1 200 mA; CPU with all expansion modules
Output current  for backplane bus (5 V DC), max.  I 000 mA; Max. 5 V DC for SM and CM  Encoder supply  24 V encoder supply  • 24 V  L+ minus 4 V DC min.  Power loss  Power loss, typ.  9 W  Memory  Work memory  • integrated • expandable  No  Load memory  • integrated • Plug-in (SIMATIC Memory Card), max.  Backup  • present • maintenance-free • without battery  Yes	Inrush current, max.	12 A; at 28.8 V
for backplane bus (5 V DC), max.  1 000 mA; Max. 5 V DC for SM and CM  Encoder supply  24 V encoder supply  • 24 V	l²t	0.8 A <sup>2</sup> ·s
Encoder supply  24 V encoder supply  24 V  L+ minus 4 V DC min.  Power loss  Power loss, typ.  9 W  Memory  Work memory  integrated  expandable  No  Load memory  integrated  Plug-in (SIMATIC Memory Card), max.  Backup  present  present  maintenance-free  without battery  Yes	Output current	
24 V encoder supply  24 V L+ minus 4 V DC min.  Power loss  Power loss, typ. 9 W  Memory  Work memory  integrated  expandable  No  Load memory  integrated  Plug-in (SIMATIC Memory Card), max.  Backup  present  maintenance-free  without battery  Yes	for backplane bus (5 V DC), max.	1 000 mA; Max. 5 V DC for SM and CM
L+ minus 4 V DC min.  Power loss  Power loss, typ.  9 W  Memory  Work memory  integrated expandable No  Load memory  integrated Plug-in (SIMATIC Memory Card), max.  Backup  present maintenance-free maintenance-free without battery  L+ minus 4 V DC min.  9 W  Whency  9 W  Whency Skyte Ves With SIMATIC memory  Yes Ves With SIMATIC memory card  Yes Ves Without battery  Yes	Encoder supply	
Power loss Power loss, typ. 9 W  Memory  Work memory  integrated 75 kbyte expandable No  Load memory  integrated 2 Mbyte Plug-in (SIMATIC Memory Card), max. with SIMATIC memory card  Backup  present Yes maintenance-free Yes without battery Yes	24 V encoder supply	
Power loss, typ.  Memory  Work memory  integrated expandable  Load memory  integrated Plug-in (SIMATIC Memory Card), max.  Backup  present maintenance-free without battery  9 W  Memory 9 W  8 W  8 W  8 W  8 W  8 W  8 W  8 W	• 24 V	L+ minus 4 V DC min.
Memory  Work memory  integrated expandable  Load memory  integrated Plug-in (SIMATIC Memory Card), max.  Backup  present maintenance-free without battery  Yes	Power loss	
Work memory  integrated  expandable  No  Load memory  integrated  Plug-in (SIMATIC Memory Card), max.  with SIMATIC memory card  Backup  present  maintenance-free  without battery  Yes	Power loss, typ.	9 W
<ul> <li>integrated</li> <li>expandable</li> <li>No</li> </ul> Load memory <ul> <li>integrated</li> <li>Plug-in (SIMATIC Memory Card), max.</li> <li>Backup</li> <li>present</li> <li>maintenance-free</li> <li>with Old Market</li> </ul> Yes <ul> <li>without battery</li> </ul> 75 kbyte <ul> <li>No</li> </ul> Whyte <ul> <li>with SIMATIC memory card</li> </ul> Yes <ul> <li>without battery</li> </ul> Yes <ul></ul>	Memory	
<ul> <li>expandable</li> <li>Load memory</li> <li>integrated</li> <li>Plug-in (SIMATIC Memory Card), max.</li> <li>Backup</li> <li>present</li> <li>maintenance-free</li> <li>with SIMATIC memory card</li> </ul> Yes <ul> <li>without battery</li> </ul>	Work memory	
Load memory  • integrated 2 Mbyte  • Plug-in (SIMATIC Memory Card), max. with SIMATIC memory card  Backup  • present Yes  • maintenance-free Yes  • without battery Yes	integrated	75 kbyte
<ul> <li>integrated</li> <li>Plug-in (SIMATIC Memory Card), max.</li> <li>Backup</li> <li>present</li> <li>maintenance-free</li> <li>with SIMATIC memory card</li> </ul> Yes <ul> <li>without battery</li> </ul>	<ul><li>expandable</li></ul>	No
<ul> <li>Plug-in (SIMATIC Memory Card), max.</li> <li>Backup</li> <li>present</li> <li>maintenance-free</li> <li>with SIMATIC memory card</li> <li>Yes</li> <li>without battery</li> <li>Yes</li> </ul>	Load memory	
Backup  • present  • maintenance-free  • without battery  Yes  Yes	<ul><li>integrated</li></ul>	2 Mbyte
<ul> <li>present</li> <li>maintenance-free</li> <li>without battery</li> <li>Yes</li> <li>Yes</li> <li>Yes</li> </ul>	<ul> <li>Plug-in (SIMATIC Memory Card), max.</li> </ul>	with SIMATIC memory card
<ul> <li>maintenance-free</li> <li>without battery</li> <li>Yes</li> </ul>	Backup	
• without battery Yes	<ul><li>present</li></ul>	Yes
	<ul> <li>maintenance-free</li> </ul>	Yes
CPU processing times	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.	14 kbyte
Flag	
• Size, max.	4 kbyte; Size of bit memory address area
Local data	
<ul><li>per priority class, max.</li></ul>	16 kbyte; Priority class 1 (program cycle): 16 KB, priority class 2 to 26: 6 KB
Address area	
Process image	
Inputs, adjustable	1 kbyte
Outputs, adjustable	1 kbyte
Hardware configuration	
Number of modules per system, max.	3 comm. modules, 1 signal board, 2 signal modules
Time of day	
Clock	
Hardware clock (real-time)	Yes
Backup time	480 h; Typical
Deviation per day, max.	±60 s/month at 25 °C
Digital inputs	200 0
	9: Integrated
Number of digital inputs	8; Integrated
<ul> <li>of which inputs usable for technological functions</li> <li>Source/sink input</li> </ul>	6; HSC (High Speed Counting) Yes
Number of simultaneously controllable inputs	1 65
all mounting positions	
— up to 40 °C, max.	8
Input voltage	
Rated value (DC)	24 V
• for signal "0"	5 V DC at 1 mA
• for signal "1"	15 V DC at 2.5 mA
Input delay (for rated value of input voltage)	10 1 2 0 d. 2 10 11 W
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
F	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
— parameterizable	Single phase: 3 @ 100 kHz & 3 @ 30 kHz, differential: 3 @ 80 kHz & 3 @ 30 kHz
— parameterizable  Cable length	@ 30 kHz
— parameterizable  Cable length  • shielded, max.	@ 30 kHz 500 m; 50 m for technological functions
— parameterizable  Cable length  • shielded, max.  • unshielded, max.	@ 30 kHz
<ul> <li>— parameterizable</li> <li>Cable length <ul> <li>shielded, max.</li> <li>unshielded, max.</li> </ul> </li> <li>Digital outputs</li> </ul>	@ 30 kHz 500 m; 50 m for technological functions 300 m; for technological functions: No
— parameterizable  Cable length  • shielded, max.  • unshielded, max.  Digital outputs  Number of digital outputs	@ 30 kHz 500 m; 50 m for technological functions
— parameterizable  Cable length  • shielded, max.  • unshielded, max.  Digital outputs  Number of digital outputs  Switching capacity of the outputs	@ 30 kHz 500 m; 50 m for technological functions 300 m; for technological functions: No 6; Relays
— parameterizable  Cable length  • shielded, max.  • unshielded, max.  Digital outputs  Number of digital outputs  Switching capacity of the outputs  • with resistive load, max.	@ 30 kHz  500 m; 50 m for technological functions 300 m; for technological functions: No  6; Relays
— parameterizable  Cable length  • shielded, max.  • unshielded, max.  Digital outputs  Number of digital outputs  Switching capacity of the outputs  • with resistive load, max.  • on lamp load, max.	@ 30 kHz 500 m; 50 m for technological functions 300 m; for technological functions: No 6; Relays
— parameterizable  Cable length  • shielded, max.  • unshielded, max.  Digital outputs  Number of digital outputs  Switching capacity of the outputs  • with resistive load, max.  • on lamp load, max.  Output delay with resistive load	@ 30 kHz  500 m; 50 m for technological functions 300 m; for technological functions: No  6; Relays  2 A 30 W with DC, 200 W with AC
— parameterizable  Cable length  • shielded, max.  • unshielded, max.  Digital outputs  Number of digital outputs  Switching capacity of the outputs  • with resistive load, max.  • on lamp load, max.  Output delay with resistive load  • "0" to "1", max.	@ 30 kHz  500 m; 50 m for technological functions 300 m; for technological functions: No  6; Relays  2 A 30 W with DC, 200 W with AC
— parameterizable  Cable length  • shielded, max. • unshielded, max.  Digital outputs  Number of digital outputs  Switching capacity of the outputs  • with resistive load, max. • on lamp load, max.  Output delay with resistive load • "0" to "1", max. • "1" to "0", max.	@ 30 kHz  500 m; 50 m for technological functions 300 m; for technological functions: No  6; Relays  2 A 30 W with DC, 200 W with AC
— parameterizable  Cable length  • shielded, max.  • unshielded, max.  Digital outputs  Number of digital outputs  Switching capacity of the outputs  • with resistive load, max.  • on lamp load, max.  Output delay with resistive load  • "0" to "1", max.  • "1" to "0", max.  Relay outputs	@ 30 kHz  500 m; 50 m for technological functions 300 m; for technological functions: No  6; Relays  2 A 30 W with DC, 200 W with AC  10 ms; max. 10 ms; max.
— parameterizable  Cable length  • shielded, max.  • unshielded, max.  Digital outputs  Number of digital outputs  Switching capacity of the outputs  • with resistive load, max.  • on lamp load, max.  Output delay with resistive load  • "0" to "1", max.  • "1" to "0", max.	@ 30 kHz  500 m; 50 m for technological functions 300 m; for technological functions: No  6; Relays  2 A 30 W with DC, 200 W with AC  10 ms; max.

Cable length	
<ul><li>shielded, max.</li></ul>	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	400
• 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	
<ul> <li>Resolution with overrange (bit including sign), max.</li> </ul>	10 bit
<ul> <li>Integration time, parameterizable</li> </ul>	Yes
Conversion time (per channel)	625 µs
Encoder	
Connectable encoders	
• 2-wire sensor	Yes
1. Interface	
Interface type	PROFINET
Isolated	Yes
automatic detection of transmission rate	Yes
Autonegotiation	Yes
Autocrossing	Yes
Interface types	
<ul> <li>RJ 45 (Ethernet)</li> </ul>	Yes
<ul> <li>Number of ports</li> </ul>	1
integrated switch	No
Protocols	
<ul> <li>PROFINET IO Controller</li> </ul>	Yes
<ul> <li>PROFINET IO Device</li> </ul>	Yes
SIMATIC communication	Yes
Open IE communication	Yes; Optionally also encrypted
Web server	Yes
Media redundancy	No
PROFINET IO Controller	400 MI W
Transmission rate, max.  Services	100 Mbit/s
Services	Voc. openintian with TLC \// 2 are calcuted
— PG/OP communication	Yes; encryption with TLS V1.3 pre-selected
Isochronous mode  IRT	No No
— IRT — PROFlenergy	No No
Profilenergy      Prioritized startup	Yes
·	16
<ul> <li>Number of IO devices with prioritized startup, max.</li> </ul>	10
Number of connectable IO Devices, max.	16
Number of connectable IO Devices for RT,	16
max.	
— of which in line, max.	16
<ul> <li>Activation/deactivation of IO Devices</li> </ul>	Yes
Number of IO Devices that can be	8
simultaneously activated/deactivated, max.	The minimum ratio of the state
— 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	
— PG/OP communication	Yes; encryption with TLS V1.3 pre-selected
— Isochronous mode	No
— IRT	No

- PROFerency - Shared device - Shared device - Number of IO Controllers with shared device, - Shared device - Number of IO Controllers with shared device, - Supports protocol for PROFINET IO - PROFISIAN - Shared Shared - Number of Research Shared - Number of sever infelaces - Shared Shared - Number of sever-defined server - Shared shared - Number of sever-defined server - Number of sever-defin	DDOFlonoray	Voo
	— PROFlenergy	Yes
max. Protocols Supports protocol for PROFINET IO PROFIEUS OPE UA PROFIEUS OPE UA PROFIEUS OPE UA Profieus SUPPORT SUPP OPE UA Profieus OPE UA Profieus OPE UA Profieus OPE UA Profieus OPE UA Server O		
Supports protocol for PROFINET IO PROFISUS PROFI	•	2
PROFilation PROFIL	Protocols	
PROFisals PROFisals PROFisals PROFisals PROFisals PROFisals PROFisals PROFisals PROFisals Protections (Ethernet) Protections (Ethernet) PROFID	Supports protocol for PROFINET IO	Yes
OPC UA Server  **S.Interface Protocols (Ethernet)  • CPCPIP  • DHCP  • DHCP  • No  • SNMP  • LIDP  Redundancy mode  Media redundancy  — MRP  — MRP  — MRP  — MRP  — Data length, max.  • SPOP (PR-CTUG)  • UDP  • UDP  • USB  — Data length, max.  • USB  • Data length, max.  • USB  • DECIDE  • USB  • USB  • DECIDE  • USB  • Work  • No  SMATIC communication  • ST rouling  Ves  OPC UA  • Runtime license required  • OPC UA Server  — Application authentication  — Number of sessions, max.  — Number of server methods, max.  — Number of server methods, max.  — Number of server interfaces, max.  — N		
AS-Interface Protocols (Ethernet)  **TOPIP** **OPICP** **OPICP** **ONIMP** **OCCP** **ONIMP** **OCCP** **ONIMP** **OCCP** **OCCP** **ONIMP** **OCCP** **ONIMP** **OCCP** **ONIMP** **OCCP** **ONIMP** **OCCP** **ONIMP**	PROFIBUS	Yes; CM 1243-5 (master) or CM 1242-5 (slave) required
Protocols (Ethernet)	OPC UA	Yes; OPC UA Server
OFFICP OFFI	AS-Interface	Yes; CM 1243-2 required
OHCP     SNMP     SNMP     SNMP     Ves	Protocols (Ethernet)	
SMMP ODP ILIDP Yes Peduadnary mode  Media redundancy  — MRPP MRPD No SIMATIC communication STrouting Open IE communication  • TCP/RP — Data length, max. • ISD on-TCP (RFC1006) — Data length, max. • UDP — Data length, max. • UUP — Data length, max. • USP — Data length, max. • Samported • User-defined websites  OPC UA  • Runtime license required • OPC UA Server — Application authentication — Number of subscriptions per session, max. — Number of subscriptions per session, max. — Number of sessions, max. — Number of sever interfaces, max. — Number of server interfaces, max. — Number of serv		
ODP		
Redundancy mode  Media redundancy  - MRPP		
Redundancy mode Media redundancy		
Media redundancy		165
	·	
- MRPD  Similar Communication  Strouting  Pers   Yes  Open   E communication  TOP/IP  - Data length, max. SiSO-on-TCP (RFC1006) - Data length, max. UDP - Data length, max. Sisyo-on-TCP (RFC1006) - UDP - Data length, max. Sisyo-on-TCP (RFC1006) - USE on the sisyo-on-TCP (RFC1006) - USE on t	·	No
SIMATIC communication  ST routing Pen IE communication  TCP/IP Data length, max.  ISO-on-TCP (RFC1006) Data length, max.  ISO-on-TCP (RFC1006) Data length, max.  UDP Yes Data length, max.  UDP Yes Data length, max.  UDP Yes Data length, max.  Ves Ves Ves Ves Ves Ves Ves Ves Ves Ve		
Open IE communication  • TCP/IP  — Data length, max. • ISO-on-TCP (RFC1006) — Data length, max. • ISO-on-TCP (RFC1006) — Data length, max. • UDP — Data length, max. • UDP — Data length, max. • UDP — Data length, max.  • UDP — Data length, max.  • UDP — Data length, max.  • UDP — Data length, max.  • UDP — Data length, max.  • UDP — Data length, max.  • Supported • User-defined websites  OPC UA • Runtime license required • OPC UA Server — Application authentication — Author of Server authentication — Number of sessions, max. — Number of subscriptions per session, max. — Number of sessions, max. — Publishing interval, min. — Publishing interval, min. — Publishing interval, min. — Number of server methods, max. — Number of server methods, max. — Number of server interfaces, max. — Number of server interfaces, max.  PNumber of server interfaces, max.  Publishing interval, min. — Search of Server interfaces, max.  ONUMBER of Server interfaces, max.  PNumber of codes for user-defined server interfaces, max.  PNumber of server interfaces, max.  Publisher of Server interfaces, max.  Publisher of Server interfaces, max.  Pommunication functions / header  7 communication functions / header  7 communication functions / header  8 ce online help (S7 communication, user data size)  PG Connections: 4 reserved / 4 max; HMI Connections: 12 reserved / 18 max; S7 Connections: 8 reserved / 10 max; Total Connections: 34 reserved / 64 max; S7 Server dr / 10 max; Total Connections: 34 reserved / 64 max; S7 Server dr / 10 max; Total Connections: 34 reserved / 64 max; S7 Server dr / 10 max; Total Connections: 34 reserved / 64 max; S7 Server dr / 10 max; Total Connections: 34 reserved / 64 max; S7 Server dr / 10 max; Total Connections: 34 reserved / 64 max; S7 Server dr / 10 max; Total Connections: 34 reserved / 64 max; S7 Server dr / 10 max; Total Connections: 34 reserved / 64 max; S7 Server dr / 10 max; Total Connections: 34 res		
Text communication  Text communication  Text communication  Text communication  Function  For Communication  Supported  A Text communication  Supported  A Subyte  Yes  Subyte  Yes  Subyte  Yes  Subyte  Yes  1 472 byte  Yes  1 472 byte  Yes  Yes  Po Data length, max.  Yes  Yes  Yes  Yes  Yes  Yes  Po Data length, max.  Yes  Yes  Yes  Yes  Yes  Yes  Yes  Ye	S7 routing	Yes
- Data length, max.  • ISO-on-TCP (RFC1006) - Data length, max.  • UDP - Data length, max.  • UPP - Data length, max.  • Upp - Data length, max.  • Supported • User-defined websites  OPC UA • Runtime license required • OPC UA Server  - Application authentication - Application authentication - Application authentication - Number of sessions, max Number of subscriptions per session, max Number of subscriptions per session, max Sampling interval, min Publishing interval, min Publishing interval, min Number of server methods, max Number of server interfaces, max Number of nonitored items, recommended max Number of server interfaces, max Number of hordes for user-defined server interfaces, max.  Further protocols • MODBUS  communication functions / header  ST communication  • supported • as client • User data per job, max.  Number of connections  • overall  PG Connections: 4 reserved / 4 max; HMI Connections: 12 reserved / 18 max; ST Connections: 8 reserved / 14 max; Uppen User Connections: 8 reserved / 14 max; Open User Connections: 34 reserved / 64 max  Test commissioning functions	Open IE communication	
ISO-on-TCP (RFC1006) Data length, max. Skbyte UDP Data length, max. Skbyte  Data length, max.  I 1472 byte  Web server Supported User-defined websites Ves PCUA  Runtime license required OPC UA Server Application authentication Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Rsa15, Basic256Rsa256  User authentication Available security policies: None, Basic128Rsa15, Basic256Rsa15, Ba	• TCP/IP	Yes
■ Data length, max.  ■ UDP  — Data length, max.  ■ USP  — Data length, max.  ■ Supported  ■ User-defined websites  ● OPC UA  ■ Runtime license required  ● OPC UA Server  — Application authentication  — Application authentication  — Number of sessions, max.  — Number of subscriptions per session, max.  — Publishing interval, min.  — Publishing interval, min.  — Number of server methods, max.  — Number of server interfaces, max.  — Number of nodes for user-defined server interfaces, max.  — Number of nodes for user-defined server interfaces, max.  Further protocols  ● MODBUS  ▼es  ■ OPC User at the mit of server interfaces, max.  — Number of nondes for user-defined server interfaces, max.  Equipation intervals in the communication functions / header  ST communication functions / header  ■ St communication functions / header  ■ St communication functions / header  ■ OPC Connections: 4 reserved / 4 max; HMI Connections: 12 reserved / 18 max; S7 Connections: 8 reserved / 14 max; (Pope User Connections: 8 reserved / 14 max; (Pope User Connections: 34 reserved / 64 max max max). (Poc User Connections: 94 reserved / 16 max; Ope Connections: 05 reserved / 10 max; Total Connections: 34 reserved / 64 max  Test commissioning functions  Test commissioning functions  Test commissioning functions		
UDP     Data length, max.     1472 byte  Web server     supported     User-defined websites     Ves     User-defined websites     OPC UA     Runtime license required     OPC UA Server     — Application authentication     — Application authentication     — Number of sessions, max.     — Number of sessions, max.     — Number of sessions per session, max.     — Publishing interval, min.     — Number of monitored items, recommended max.     — Number of souser-defined server interfaces, max.     — Number of nodes for user-defined server interfaces, max.     — Number of nodes for user-defined server interfaces, max.     — NoDBUS     Yes  Further protocols     • MODBUS     Ves     as a client     • Overall  PG Connections: 4 reserved / 4 max; HMI Connections: 12 reserved / 8 max     Furce of max; Total Connections: 34 reserved / 64 max     Security funds; 10 max; Total Connections: 34 reserved / 64 max     Reserved / 10 max; Total Connections: 34 reserved / 64 max     Reserved / 10 max; Total Connections: 34 reserved / 64 max     Reserved / 10 max; Total Connections: 34 reserved / 64 max     Reserved / 10 max; Total Connections: 34 reserved / 64 max     Reserved / 10 max; Total Connections: 34 reserved / 64 max     Test commissioning functions		
— Data length, max.  Web server  ■ supported ■ User-defined websites  Pes  OPC UA  Runtime license required ● OPC UA Server  — Application authentication — Number of sessions, max. — Number of subscriptions per session, max. — Publishing interval, min. — Publishing interval, min. — Publishing interval max. — Number of server methods, max. — Number of nondes for user-defined server interfaces, max. — Number of nondes for user-defined server interfaces, max.  — Number of server interfaces, max. — Number of server interfaces, max. — Sampling interval, min. — Publishing interval, min. — Number of server methods, max. — Number of server interfaces, max. — Surpher of nodes for user-defined server interfaces, max.  Further protocols ■ MOBBUS  ■ MOBBUS  ■ Wes  ■ Server ■ as client ■ User data per job, max.  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 / 18 max; S7 connections: 2 reserved / 18 max; S7 connections: 0 reserved / 110 max; Total Connections: 34 reserved / 64 max  Test commissioning functions		
* supported		
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.  Number of foundations  Number of sever methods, max.  Number of nonlitored items, recommended max.  Number of nonlitored items, recommended max.  Number of nodes for user-defined server interfaces, max.  Secommunication functions / header  Sommunication  Somm		1 472 byte
User-defined websites  OPC UA  Runtime license required  OPC UA Server  - Application authentication  - Application authentication  - Number of sessions, max.  - Number of subscriptions per session, max.  - Sampling interval, min.  - Publishing interval, min.  - Number of server methods, max.  - Number of server methods, max.  - Number of server interfaces, max.  - Number of server interfaces, max.  - Number of sever interfaces, max.  - Number of sever interfaces, max.  - Number of nodes for user-defined server interfaces, max.  - Supported  • as server  • as client  • User data per job, max.  Number of connections  • overall  PG Connections: 8 reserved / 14 max; Web Connections: 12 reserved / 64 max; Open User Connections: 8 reserved / 10 max; Total Connections: 34 reserved / 64 max; Open User Connections: 8 reserved / 10 max; Total Connections: 34 reserved / 64 max; Open User Connections: 8 reserved / 10 max; Total Connections: 34 reserved / 64 max; Open User Connections: 8 reserved / 10 max; Total Connections: 34 reserved / 64 max; Total Conne		Von
PC UA  Runtime license required  PC UA Server  Application authentication  Application authentication  Number of sessions, max.  Number of subscriptions per session, 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.  Number of nodes for user-defined server interfaces, max.  Number of nodes for user-defined server interfaces, max.  Poported  Sommunication  Sommunication  Supported  Sas server  See online help (S7 communication, user data size)  Number of connections  PG Connections: 4 reserved / 4 max; HMI Connections: 12 reserved / 8 max; S7 connections: 8 reserved / 14 max; Open User Connections: 8 reserved / 14 max; Open User Connections: 8 reserved / 14 max; Open User Connections: 8 reserved / 14 max; Total Connections: 34 reserved / 64 max  Test commissioning functions	• •	
<ul> <li>Runtime license required</li> <li>OPC UA Server</li> <li>— Application authentication</li> <li>— User authentication</li> <li>— Number of sessions, max.</li> <li>— Number of subscriptions per session, max.</li> <li>— Sampling interval, min.</li> <li>— Publishing interval, min.</li> <li>— Number of server methods, max.</li> <li>— Number of server interfaces, max.</li> <li>— Number of ondes for user-defined server interfaces, max.</li> <li>— Number of ondes for user-defined server interfaces, max.</li> <li>— Romunication functions / header</li> <li>S7 communication</li> <li>● supported</li> <li>● as server</li> <li>● as client</li> <li>● User data per job, max.</li> <li>Number of connections</li> <li>● overall</li> <li>PG Connections: 8 reserved / 14 max; Open User Connections: 8 reserved / 10 max; Total Connections: 34 reserved / 64 max</li> <li>Test commissioning functions</li> <li>Test commissioning functions</li> </ul>		165
Yes; data access (read, write, subscribe), method call, runtime license required      — Application authentication     — User authentication     — Number of sessions, max.     — Number of subscriptions per session, max.     — Sampling interval, min.     — Publishing interval, min.     — Number of server methods, max.     — Number of server interfaces, max.     — Number of server interfaces, max.     — Number of nodes for user-defined server interfaces, max.  Further protocols     • MODBUS     Sas server     • as a client     • User data per job, max.  Number of connections      • Overall  Yes     Overall  Yes     Connections: 4 reserved / 4 max; HMI Connections: 12 reserved / 18 max; 57 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  Yes  Yes  Yes  Yes  Overall		Yes; "Basic" license required
- Application authentication - User authentication - Number of sessions, max Number of subscriptions per session, max Sampling interval, min Publishing interval, min Number of server methods, max Number of server interfaces, max Number of nodes for user-defined server interfaces, max Supported - MODBUS - Yes  communication functions / header  S7 communication  • supported - as server - as client - User data per job, max Overall - PG Connections: 4 reserved / 4 max; HMI Connections: 12 reserved / 18 max; S7 Connections: 8 reserved / 14 max; OPC UA Connections: 0 reserved / 10 max; Total Connections: 34 reserved / 64 max  Test commissioning functions  Test commissioning functions  - Outper of sessions, max Number of sessions, max 10 - 100 ms - 200 ms - 1000 ms - 2000 ms - 1000 ms - 2000 ms		Yes; data access (read, write, subscribe), method call, runtime license
- 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 Number of of server interfaces, max Number of ondes for user-defined server interfaces, max.  Further protocols	<ul> <li>Application authentication</li> </ul>	Available security policies: None, Basic128Rsa15, Basic256Rsa15,
- 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 Number of nodes for user-defined server interfaces, max Number of nodes for user-defined server interfaces, max.  Further protocols  • MODBUS  **Yes**  **Communication functions / header**  S7 communication  • supported • as server • as client • User data per job, max.  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: 9 reserved / 14 max; Open User Connections: 8 reserved / 14 max; Open User Connections: 8 reserved / 14 max; Open User Connections: 9 reserved / 14 max; Open User Connections: 12 reserved	<ul> <li>User authentication</li> </ul>	"anonymous" or by user name & password
- Sampling interval, min Publishing interval, min Number of server methods, max Number of monitored items, recommended max Number of server interfaces, max Number of nodes for user-defined server interfaces, max Number of nodes for user-defined server interfaces, max Number of nodes for user-defined server interfaces, max.  Further protocols  • MODBUS  Yes  communication functions / header  S7 communication  • supported • as server • as client • User data per job, max.  Number of connections  • overall  PG Connections: 4 reserved / 4 max; HMI Connections: 12 reserved / 18 max; S7 Connections: 8 reserved / 14 max; OPC UA Connections: 0 reserved / 10 max; Total Connections: 34 reserved / 64 max  Test commissioning functions	<ul><li>Number of sessions, max.</li></ul>	10
— Publishing interval, min.  — Number of server methods, max.  — Number of monitored items, recommended max.  — Number of server interfaces, max.  — Number of nodes for user-defined server interfaces, max.  — Number of nodes for user-defined server interfaces, max.  2  — Number of nodes for user-defined server interfaces, max.  Further protocols  ■ MODBUS  ▼es  Communication functions / header  S7 communication  ■ supported  ■ as server  ■ as client  ■ User data per job, max.  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: 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	<ul> <li>Number of subscriptions per session, max.</li> </ul>	5
— Number of server methods, max.  — Number of monitored items, recommended max.  — Number of server interfaces, max.  — Number of nodes for user-defined server interfaces, max.  — Number of nodes for user-defined server interfaces, max.  2 000  Event interfaces, max.  Further protocols  ■ MODBUS  ■ MODBUS  Yes  Communication functions / header  S7 communication  ■ supported  ■ as server  ■ as client  ■ User data per job, max.  Number of connections  ■ overall  PG Connections: 4 reserved / 4 max; HMI Connections: 12 reserved / 18 max; S7 Connections: 8 reserved / 14 max; OPC UA Connections: 0 reserved / 10 max; Total Connections: 34 reserved / 64 max  Test commissioning functions		
— Number of monitored items, recommended max.  — Number of server interfaces, max.  — Number of nodes for user-defined server interfaces, max.  2 000  Event protocols  • MODBUS  • MODBUS  • MODBUS  • Steemend functions / header  S7 communication  • supported • as server • as client • User data per job, max.  Number of connections  • overall  PG Connections: 4 reserved / 4 max; HMI Connections: 12 reserved / 18 max; S7 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		
max.  — Number of server interfaces, max.  — Number of nodes for user-defined server interfaces, max.  2 000  Further protocols  • MODBUS  • MODBUS  Yes   communication functions / header  S7 communication  • supported  • as server  • as client  • User data per job, max.  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 / 64 max  Test commissioning functions		
— Number of server interfaces, max.  — Number of nodes for user-defined server interfaces, max.  Further protocols  • MODBUS  Yes  communication functions / header  S7 communication  • supported  • as server  • as client  • User data per job, max.  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		1 000
— Number of nodes for user-defined server interfaces, max.  Further protocols  • MODBUS  Yes  communication functions / header  S7 communication  • supported • as server • as client • User data per job, max.  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 / 64 max  Test commissioning functions		2
Further protocols  MODBUS  Yes  communication functions / header  S7 communication  supported as server as client User data per job, max.  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 / 64 max  Test commissioning functions	<ul> <li>Number of nodes for user-defined server</li> </ul>	
MODBUS      communication functions / header  S7 communication      supported     supported     as server     as client     User data per job, max.  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		
S7 communication  • supported • as server • as client • User data per job, max.  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	·	Yes
<ul> <li>supported</li> <li>as server</li> <li>as client</li> <li>User data per job, max.</li> <li>Number of connections</li> <li>overall</li> <li>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</li> <li>Test commissioning functions</li> </ul>	communication functions / header	
as server     as client     Ves     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	S7 communication	
<ul> <li>as client</li> <li>User data per job, max.</li> <li>See online help (S7 communication, user data size)</li> <li>Number of connections</li> <li>overall</li> <li>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</li> <li>Test commissioning functions</li> </ul>	• supported	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	• as server	
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		
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		See online help (S7 communication, user data size)
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		DO Comparison America 1/4 1841 C 11 12
	overall	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	Test commissioning functions	
	Status/control	

Otation/acotanless sinkle	V
<ul><li>Status/control variable</li><li>Variables</li></ul>	Yes
• variables Forcing	Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters
• Forcing	Yes
Diagnostic buffer	103
• 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	
Frequency measurement	Yes
controlled positioning	Yes
Number of position-controlled positioning axes, max.	8
Number of positioning axes via pulse-direction interface	Up to 4 with SB 1222
PID controller	Yes
Number of alarm inputs	4
Potential separation	
Potential separation digital inputs	
Potential separation digital inputs	500V AC for 1 minute
<ul> <li>between the channels, in groups of</li> </ul>	1
Potential separation digital outputs	
Potential separation digital outputs	Relays
<ul> <li>between the channels</li> </ul>	No
<ul> <li>between the channels, in groups of</li> </ul>	2
EMC	
Interference immunity against discharge of static electricity	
Interference immunity against discharge of static	Yes
electricity acc. to IEC 61000-4-2	
<ul> <li>Test voltage at air discharge</li> </ul>	8 kV
Test voltage at contact discharge	6 kV
Interference immunity to cable-borne interference	
<ul> <li>Interference immunity on supply lines acc. to IEC 61000-4-4</li> </ul>	Yes
Interference immunity on signal cables acc. to IEC	Yes
61000-4-4	
Interference immunity against voltage surge	Voc
<ul> <li>Interference immunity on supply lines acc. to IEC 61000-4-5</li> </ul>	Yes
Interference immunity against conducted variable disturbance	e induced by high-frequency fields
Interference immunity against high-frequency	Yes
radiation acc. to IEC 61000-4-6	
Emission of radio interference acc. to EN 55 011	
<ul> <li>Limit class A, for use in industrial areas</li> </ul>	Yes; Group 1
<ul> <li>Limit class B, for use in residential areas</li> </ul>	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
Ambient conditions	
Free fall	
<ul> <li>Fall height, max.</li> </ul>	0.3 m; five times, in product package

Ambient temperature during exerction	
Ambient temperature during operation	00.00
• min.	-20 °C
• max.	60 °C; Number of simultaneously activated inputs or outputs 4 or 3 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 8 or 6 at 55 °C horizontal or 45 °C vertical
<ul> <li>horizontal installation, min.</li> </ul>	-20 °C
<ul> <li>horizontal installation, max.</li> </ul>	60 °C
<ul> <li>vertical installation, min.</li> </ul>	-20 °C
<ul> <li>vertical installation, max.</li> </ul>	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	. 555 111 4
Installation altitude, min.	-1 000 m
<ul> <li>Installation attitude, min.</li> <li>Installation attitude, max.</li> </ul>	
,	5 000 m; Restrictions for installation altitudes > 2 000 m, see manual
Relative humidity	OF 0/ na anadamatian
Operation, max.	95 %; no condensation
Vibrations	
<ul> <li>Vibration resistance during operation acc. to IEC 60068-2-6</li> </ul>	2 g (m/s²) wall mounting, 1 g (m/s²) DIN rail
<ul> <li>Operation, tested according to IEC 60068-2-6</li> </ul>	Yes
Shock testing	
• tested according to IEC 60068-2-27	Yes; IEC 68, Part 2-27 half-sine: strength of the shock 15 g (peak value), duration 11 ms
Pollutant concentrations	
<ul> <li>SO2 at RH &lt; 60% without condensation</li> </ul>	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
	1 63
Know-how protection	Voc
User program protection/password protection	Yes
Copy protection	Yes
Block protection	Yes
Access protection	
<ul> <li>protection of confidential configuration data</li> </ul>	Yes
<ul> <li>Protection level: Write protection</li> </ul>	Yes
<ul> <li>Protection level: Read/write protection</li> </ul>	Yes
<ul> <li>Protection level: Complete protection</li> </ul>	Yes
programming / cycle time monitoring / header	
adjustable	Yes
Dimensions	
Width	90 mm
Height	100 mm
Depth	75 mm
Weights	
Weight, approx.	385 g
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