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) 20.4 V permissible range, upper limit (DC) 28.8 V Reverse polarity protection Yes Load voltage L+ Pated value (DC) permissible range, lower limit (DC) 20.4 V permissible range, lower limit (DC) 20.4 V permissible range, upper limit (DC) 20.4 V Input current Current consumption (rated value) 400 mA; CPU only Current consumption, max. 1 200 mA; CPU with all expansion modules linush current, max. 1 22, 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 L+ minus 4 V DC min. Power loss Power loss, typ. 9W Memory Work memory integrated 75 kbyte expandable No integrated 2 Mbyte Plug-in (SIMATIC Memory Card), max. with SIMATIC memory card Backup i present Yes maintenance-free viithout battery Yes | General information | |
|--|---|-------------------------------------|
| Engineering with ● Programming package Sypply voltage Rated value (DC) • 24 V DC permissible range, lower limit (DC) • 28 8 V Reverse polarity protection Load voltage L+ • Rated value (DC) • permissible range, lower limit (DC) permissible range, upper limit (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) • permissible range, lower limit (DC) • 24 V • permissible range, lower limit (DC) • 28.8 V Input current Current consumption (rated value) • 1200 mA; CPU only • 1200 mA; CPU with all expansion modules Inrush current, max. I 1 200 mA; CPU with all expansion modules Inrush current for backplane bus (5 V DC), max. I 1 000 mA; Max. 5 V DC for SM and CM Encoder supply • 24 V | 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, upper limit (DC) permissible range, upper limit (DC) • Reverse polarity protection Load voltage L+ • Rated value (DC) • permissible range, lower limit (DC) permissible range, upper limit (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) permissible range, upp | Firmware version | V4.5 |
| Rated value (DC) • 24 V DC permissible range, lower limit (DC) permissible range, upper limit (DC) Reverse polarity protection Rated value (DC) • permissible range, upper limit (DC) Reverse polarity protection Rated value (DC) • permissible range, lower limit (DC) • permissible range, upper limit (DC) • permissible range, lower limit (DC) • permissible range, upper li | Engineering with | |
| Rated value (DC) • 24 V DC permissible range, lower limit (DC) permissible range, upper limit (DC) Reverse polarity protection Ves Load voltage L+ • Rated value (DC) • permissible range, lower limit (DC) 22 4 V • permissible range, lower limit (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) 28.8 V Input current Current consumption (rated value) Current consumption (rated value) 400 mA; CPU only Current consumption, max. 1 200 mA; CPU with all expansion modules Inrush current, max. 12 4, sat 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 • expandable No Load memory • integrated • Plug-in (SIMATIC Memory Card), max. Backup • present • pr | Programming package | STEP 7 V17 or higher |
| e 24 V DC 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, lower limit (DC) 20.4 V • permissible range, upper limit (DC) 20.8 V input current Current consumption (rated value) 400 mA; CPU only Current consumption, max. 1 200 mA; CPU with all expansion modules Inrush current, max. 1 22 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 24 V L+ minus 4 V DC min. 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 • present • maintenance-free Yes | Supply voltage | |
| permissible range, lower limit (DC) permissible range, upper limit (DC) Reverse polarity protection 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) Input current Current consumption (rated value) Current consumption (rated value) A00 mA; CPU only 120 mA; CPU with all expansion modules Inrush current, max. 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 24 V encoder supply 24 V encoder supply 9 W Memory Work memory integrated So kbyte Power loss Power loss Power loss (5 V DC), max. Power loss Power loss (5 V DC) Power loss (6 V DC) Power loss (7 V BC) Power loss (8 V BC) Power los | Rated value (DC) | |
| permissible range, upper limit (DC) Reverse polarity protection Load voltage L+ Rated value (DC) permissible range, lower limit (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) per | • 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) 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. Wemmory Work memory • integrated • expandable Load memory • integrated • expandable Load memory • integrated • Plug-in (SIMATIC Memory Card), max. Wes • present • present • present • present • present • maintenance-free 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. 1 200 mA; CPU only Current consumption, max. 1 2 A; at 28.8 V Inrush current, max. 12 A; at 28.8 V Output current for backplane bus (5 V DC), max. 1 1 000 mA; Max. 5 V DC for SM and CM Encoder supply 24 V encoder supply • 24 V • 24 V • L+ minus 4 V DC min. Power loss Power loss Power loss, typ. 9 W Memory Work memory • integrated • expandable • expandable Load memory • integrated • expandable Load memory • integrated • Plug-in (SIMATIC Memory Card), max. Backup • present • maintenance-free Yes | permissible range, upper limit (DC) | 28.8 V |
| 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. 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 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 buscoder supply 24 V buscoder supply Power loss Power loss, typ. 9 W Memory Work memory integrated expandable No Load memory integrated expandable No Load memory integrated Plug-in (SIMATIC Memory Card), max. Backup present Present Yes maintenance-free Yes | Reverse polarity protection | 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 Output current for backplane bus (5 V DC), max. Intush current for backplane bus (5 V DC), max. Intush current for backplane bus (5 V DC), max. Intush current Intush | Load voltage L+ | |
| Permissible range, upper limit (DC) Input current Current consumption (rated value) Current consumption, max. 1 200 mA; CPU only Current consumption, max. 1 2 A; at 28.8 V IPt 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 Power loss Power loss, typ. 9 W Memory Work memory • integrated • expandable • capandable No Load memory • integrated • Plug-in (SIMATIC Memory Card), max. Backup • present • maintenance-free Yes | , | 24 V |
| Input current Current consumption (rated value) 400 mA; CPU only Current consumption, max. 1 200 mA; CPU with all expansion modules Inrush current, max. 12 A; at 28.8 V I*t 0.8 A*2-s Output current for backplane bus (5 V DC), max. 1 000 mA; Max. 5 V DC for SM and CM Encoder supply 24 V encoder supply • 24 V L+ minus 4 V DC min. Power loss Power loss, typ. 9 W Memory Work memory • integrated 75 kbyte • expandable No Load memory • integrated 2 Mbyte • Plug-in (SIMATIC Memory Card), max. with SIMATIC memory card Backup • present Yes • maintenance-free | | 20.4 V |
| Current consumption (rated value) Current consumption, max. Inrush current, max. If 0.8 A²·s Output current for backplane bus (5 V DC), max. Inrush current for backplane bus (5 V DC), max. Inrush 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, max. Inrush current In | 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 Inrush cu | Input current | |
| Inrush current, max. I²t 0.8 A²s 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, typ. 9 W Memory Work memory • integrated 75 kbyte • expandable No Load memory • integrated 2 Mbyte • lug-in (SIMATIC Memory Card), max. Backup • present Yes • maintenance-free Yes | Current consumption (rated value) | 400 mA; CPU only |
| 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, max. | |
| 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 Load memory • integrated • Plug-in (SIMATIC Memory Card), max. Backup • present • maintenance-free 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 encoder supply 24 V 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 Yes | l²t | 0.8 A ² ·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 • expandable Load memory • integrated • Plug-in (SIMATIC Memory Card), max. Backup • present • maintenance-free 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 Load memory • integrated • plug-in (SIMATIC Memory Card), max. Backup • present • maintenance-free 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 75 kbyte expandable No Load memory integrated 2 Mbyte integrated 2 Mbyte plug-in (SIMATIC Memory Card), max. with SIMATIC memory card Backup present Yes | Encoder supply | |
| 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 | 24 V encoder supply | |
| 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 | • 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 Yes | Power loss | |
| 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 | Power loss, typ. | 9 W |
| integrated expandable No Load memory integrated Plug-in (SIMATIC Memory Card), max. Backup present maintenance-free 75 kbyte No With SIMATIC memory card Yes Yes Yes maintenance-free 75 kbyte No No Yes Yes Yes Maintenance-free Yes Yes Yes Yes Yes Yes | Memory | |
| expandable Load memory integrated Plug-in (SIMATIC Memory Card), max. Backup present maintenance-free No 2 Mbyte with SIMATIC memory card Yes Yes | Work memory | |
| Load memory • integrated • Plug-in (SIMATIC Memory Card), max. Backup • present • maintenance-free Yes | integrated | 75 kbyte |
| integrated Plug-in (SIMATIC Memory Card), max. Backup present maintenance-free Yes Yes | expandable | No |
| Plug-in (SIMATIC Memory Card), max. Backup present maintenance-free with SIMATIC memory card Yes Yes | Load memory | |
| Backup | • integrated | |
| present maintenance-free Yes Yes | Plug-in (SIMATIC Memory Card), max. | with SIMATIC memory card |
| • maintenance-free Yes | Backup | |
| | • present | |
| without battery Yes | maintenance-free | Yes |
| | without battery | Yes |
| CPU processing times | CPU processing times | |

| for bit operations, typ. | 0.08 µs; / instruction |
|--|---|
| for word operations, typ. | 1.7 μs; / instruction |
| for floating point arithmetic, typ. | 2.3 μs; / instruction |
| CPU-blocks | |
| Number of blocks (total) | DBs, FCs, FBs, counters and timers. The maximum number of addressable blocks ranges from 1 to 65535. There is no restriction, the entire working memory can be used |
| OB | |
| Number, max. | Limited only by RAM for code |
| Data areas and their retentivity | |
| Retentive data area (incl. timers, counters, flags), max. | 14 kbyte |
| Flag | |
| • Size, max. | 4 kbyte; Size of bit memory address area |
| Local data | |
| per priority class, max. | 16 kbyte; Priority class 1 (program cycle): 16 KB, priority class 2 to 26: 6 KB |
| Address area | |
| Process image | |
| Inputs, adjustable | 1 kbyte |
| Outputs, adjustable | 1 kbyte |
| 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 |
| of which inputs usable for technological functions Source/sink input | 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 |
| — parameterizable Cable length shielded, max. unshielded, max. Digital outputs | @ 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 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 |
| — 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 | |
|---|---|
| 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 | 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 | |
| Resolution with overrange (bit including sign), max. | 10 bit |
| Integration time, parameterizable | Yes |
| Conversion time (per channel) | 625 µs |
| Encoder | |
| Connectable encoders | |
| • 2-wire sensor | Yes |
| 1. Interface | |
| Interface type | PROFINET |
| Isolated | Yes |
| automatic detection of transmission rate | Yes |
| Autonegotiation | Yes |
| Autocrossing | Yes |
| Interface types | |
| RJ 45 (Ethernet) | Yes |
| Number of ports | 1 |
| integrated switch | No |
| Protocols | |
| PROFINET IO Controller | Yes |
| PROFINET IO Device | Yes |
| SIMATIC communication | Yes |
| 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 |
| Number of IO devices with prioritized startup, max. | 10 |
| 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. | 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 For communication functions / header PG Connections: 4 reserved / 4 max; HMI Connections: 12 reserved / 18 max; S7 Connections: 8 reserved / 10 max; Total Connections: 34 reserved / 64 max; PCPC UA Connections: 0 reserved / 10 max; Total Connections: 34 reserved / 64 max; PCPC UA Connections: 0 reserved / 10 max; Total Connections: 34 reserved / 64 max; PCPC UA Connections: 0 reserved / 10 max; Total Connections: 34 reserved / 64 max; PCPC UA Connections: 0 reserved / 10 max; Total Connections: 34 reserved / 64 max; PCPC UA Connections: 0 reserved / 10 max; Total Connections: 34 reserved / 64 max; PCPC UA Connections: 10 reserved / 10 max; OPCC UA Con | | |
| 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 Onnections: & 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). OPC User Connections: 0 reserved / 10 max; Total Connections: 34 reserved / 64 max Test commissioning functions Test commissioning functions Test commissioning functions Test commissioning functions ■ Ves ■ Connections: 0 reserved / 10 max; Total Connections: 34 reserved / 64 max 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 Server de/ 4 max; HMI Connections: 34 reserved / 64 max Reserved / 16 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 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 | | |
| — 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 sesver interfaces, max. — Sampling the valuable server interfaces, max. — Sumber of server interfaces in the valuable server interfaces, max. — Number of server interfaces, max. — Number of server interfaces, max. — Number of server interfaces, max. — Number of server interfaces, max. — Number of server interfaces, max. — Number of server interfaces, max. — Number of server interfaces, max. — Number of server interfaces, max. — Number of server interfaces, max. — Sumber of ondes for user-defined server interfaces, max. Further protocols • MOBBUS • MOBBUS • Wes communication functions / header S7 communication functions / header S7 communication functions / header S7 communication functions / header S8 ce 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 / 18 max; Open User Connections: 8 reserved / 14 max; Web 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. Polymore of server interfaces, max. Number of nonestions / Yes Communication functions / header Sz communication PG Connections: 4 reserved / 4 max; HMI Connections: 12 reserved / 18 max; Sz Connections: 8 reserved / 14 max; Web Connections: 34 reserved / 64 max Test commissioning functions | | 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. Possible security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Rsa15 | • • | |
| 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 ondes for user-defined server interfaces, max. — Number of ondes for user-defined server interfaces, max. — Romunication functions / header S7 communication ● supported ● as server ● as client ● User data per job, max. Number of connections ● overall PG Connections: 8 reserved / 14 max; Open User Connections: 8 reserved / 10 max; Total Connections: 34 reserved / 64 max Test commissioning functions Test commissioning functions | | 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 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: 2 reserved / 10 max; Total Connections: 34 reserved / 64 max Test commissioning functions Test commissioning functions Yes Test commissioning functions Yes Yes Yes Overall Test commissioning functions Yes Yes Yes Overall Yes Overall PG Connections: 4 reserved / 4 max; HMI Connections: 12 reserved / 18 max; S7 Connections: 8 reserved / 14 max; Web Connections: 2 reserved / 64 max Test commissioning functions Test commissioning functions | | 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 | Application authentication | 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 / 14 max; Open User Connections: 13 reserved / 14 max; Open User Connections: 13 reserved | User authentication | "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 | Number of sessions, max. | 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 | Number of subscriptions per session, max. | 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. Eurther 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 | Number of nodes for user-defined server | |
| 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 |
| 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 | 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 | |
| as client 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 | • 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 |
|---|--|
| Status/control variableVariables | 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 |
| between the channels, in groups of | 1 |
| Potential separation digital outputs | |
| Potential separation digital outputs | Relays |
| between the channels | No |
| between the channels, in groups of | 2 |
| EMC | |
| Interference immunity against discharge of static electricity | |
| Interference immunity against discharge of static | Yes |
| electricity acc. to IEC 61000-4-2 | |
| Test voltage at air discharge | 8 kV |
| Test voltage at contact discharge | 6 kV |
| Interference immunity to cable-borne interference | |
| Interference immunity on supply lines acc. to IEC 61000-4-4 | Yes |
| Interference immunity on signal cables acc. to IEC | Yes |
| 61000-4-4 | |
| Interference immunity against voltage surge | Voc |
| Interference immunity on supply lines acc. to IEC 61000-4-5 | 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 | |
| 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 |
| Ambient conditions | |
| Free fall | |
| Fall height, max. | 0.3 m; five times, in product package |
| | |

| Ambient temperature during energtion | |
|---|---|
| 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 |
| 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 | |
| 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 | 5 555 m, Noothetions for installation dilitades 7 2 500 m, 500 manual |
| Operation, max. | 95 %: no condensation |
| Vibrations | 93 70, 110 Condensation |
| Vibration resistance during operation acc. to IEC 60068-2-6 | 2 g (m/s²) wall mounting, 1 g (m/s²) DIN rail |
| Operation, tested according to IEC 60068-2-6 | Yes |
| Shock testing | 165 |
| • tested according to IEC 60068-2-27 | Yes; IEC 68, Part 2-27 half-sine: strength of the shock 15 g (peak |
| tested according to the bootob-2-27 | 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: Read/write protection Protection level: Complete protection | Yes |
| programming / cycle time monitoring / header | |
| adjustable | Yes |
| Dimensions | 100 |
| | 00 |
| Width | 90 mm |
| Height | 100 mm |
| Depth | 75 mm |
| Weights | |
| Weight, approx. | 385 g |
| last modified: | 7/19/2022 🗗 |