SIEMENS

Data sheet

6ES7317-2EK14-0AB0



SIMATIC S7-300 CPU 317-2 PN/DP, Central processing unit with 1 MB work memory, 1st interface MPI/DP 12 Mbit/s, 2nd interface Ethernet PROFINET, with 2-port switch, Micro Memory Card required

| General information | |
|---|--|
| HW functional status | 01 |
| Firmware version | V3.2 |
| Product function | |
| Isochronous mode | Yes; Via PROFIBUS DP or PROFINET interface |
| Engineering with | |
| Programming package | STEP 7 V5.5 or higher |
| Supply voltage | |
| Rated value (DC) | 24 V |
| permissible range, lower limit (DC) | 20.4 V |
| permissible range, upper limit (DC) | 28.8 V |
| external protection for power supply lines (recommendation) | 2 A min. |
| Mains buffering | |
| Mains/voltage failure stored energy time | 5 ms |
| Repeat rate, min. | 1 s |
| Input current | |
| Current consumption (rated value) | 750 mA |
| Current consumption (in no-load operation), typ. | 150 mA |
| Inrush current, typ. | 4 A |
| ² t | 1 A ² ·s |
| Power loss | |
| Power loss, typ. | 4.65 W |
| Memory | |
| Work memory | |
| integrated | 1 024 kbyte |
| • expandable | No |
| Load memory | |
| Plug-in (MMC) | Yes |
| Plug-in (MMC), max. | 8 Mbyte |
| Data management on MMC (after last programming), min. | 10 у |
| Backup | |
| • present | Yes; Guaranteed by MMC (maintenance-free) |
| without battery | Yes; Program and data |
| CPU processing times | |
| for bit operations, typ. | 0.025 μs |
| for word operations, typ. | 0.03 µs |
| for fixed point arithmetic, typ. | 0.04 µs |

| for floating point arithmetic, typ. | 0.16 µs |
|---|--|
| CPU-blocks | 0.10 μδ |
| | 2.040: (DDa, ECa, EDa)) the maximum number of leadable blacks can |
| Number of blocks (total) | 2 048; (DBs, FCs, FBs); the maximum number of loadable blocks can be reduced by the MMC used. |
| DB | , |
| Number, max. | 2 048; Number range: 1 to 16000 |
| • Size, max. | 64 kbyte |
| FB | |
| Number, max. | 2 048; Number range: 0 to 7999 |
| • Size, max. | 64 kbyte |
| FC | |
| • Number, max. | 2 048; Number range: 0 to 7999 |
| • Size, max. | 64 kbyte |
| OB | |
| • Size, max. | 64 kbyte |
| Number of free cycle OBs | 1; OB 1 |
| Number of time alarm OBs | 1; OB 10 |
| Number of delay alarm OBs | 2; OB 20, 21 |
| Number of cyclic interrupt OBs | 4; OB 32, 33, 34, 35 |
| Number of process alarm OBs | 1; OB 40 |
| Number of DPV1 alarm OBs Number of isochronous mode OBs | 3; OB 55, 56, 57 |
| | 1; OB 61 - isochronous mode is possible either on DP or PROFINET IO (not simultaneously) |
| Number of startup OBs | 1; OB 100 |
| Number of asynchronous error OBs | 6; OB 80, 82, 83, 85, 86, 87 (OB83 only for PROFINET IO) |
| Number of synchronous error OBs | 2; OB 121, 122 |
| Nesting depth oper priority class | 16 |
| additional within an error OB | 4 |
| Counters, timers and their retentivity | 7 |
| S7 counter | |
| Number | 512 |
| Retentivity | 012 |
| — adjustable | Yes |
| — lower limit | 0 |
| — upper limit | 511 |
| — preset | Z 0 to Z 7 |
| Counting range | |
| — adjustable | Yes |
| — lower limit | 0 |
| — upper limit | 999 |
| IEC counter | |
| • present | Yes |
| • Туре | SFB |
| Number | Unlimited (limited only by RAM capacity) |
| S7 times | |
| • Number | 512 |
| Retentivity | Ver |
| — adjustable — lower limit | Yes |
| — IOWER IIMIT | 0 |
| | 0 |
| — upper limit | 511 |
| — upper limit — preset | |
| — upper limit — preset Time range | 511 No retentivity |
| — upper limit — preset Time range — lower limit | 511 No retentivity 10 ms |
| — upper limit — preset Time range — lower limit — upper limit | 511 No retentivity |
| upper limit preset Time range lower limit upper limit IEC timer | 511 No retentivity 10 ms 9 990 s |
| upper limit preset Time range lower limit upper limit IEC timer present | 511 No retentivity 10 ms 9 990 s Yes |
| upper limit preset Time range lower limit upper limit IEC timer present Type | 511 No retentivity 10 ms 9 990 s Yes SFB |
| upper limit preset Time range lower limit upper limit IEC timer present | 511 No retentivity 10 ms 9 990 s Yes |

| Retentive data area (incl. timers, counters, flags), max. | 256 kbyte |
|---|---|
| Flag | 200 10/10 |
| • Size, max. | 4 096 byte |
| Retentivity available | Yes; From MB 0 to MB 4 095 |
| Retentivity preset | MB 0 to MB 15 |
| Number of clock memories | 8; 1 memory byte |
| Data blocks | o, Thenory byte |
| Retentivity adjustable | Yes; via non-retain property on DB |
| Retentivity preset | Yes |
| Local data | 165 |
| per priority class, max. | 32 768 byte; Max. 2048 bytes per block |
| Address area | |
| I/O address area | |
| Inputs | 8 192 byte |
| Outputs | 8 192 byte |
| of which distributed | 0 192 byte |
| | 0 100 bits |
| — Inputs | 8 192 byte |
| - Outputs | 8 192 byte |
| Process image | 9 102 hite |
| Inputs | 8 192 byte |
| Outputs | 8 192 byte |
| Inputs, adjustable | 8 192 byte |
| Outputs, adjustable | 8 192 byte |
| Inputs, default | 256 byte |
| Outputs, default | 256 byte |
| Subprocess images | |
| Number of subprocess images, max. | 1; With PROFINET IO, the length of the user data is limited to 1600 bytes |
| Digital channels | 0,00 |
| Inputs | 65 536 |
| — of which central | 1 024 |
| Outputs | 65 536 |
| — of which central | 1 024 |
| Analog channels | |
| Inputs | 4 096 |
| — of which central | 256 |
| Outputs | 4 096 |
| — of which central | 256 |
| Hardware configuration | 200 |
| Number of expansion units, max. | 3 |
| Number of DP masters | 5 |
| integrated | 1 |
| • via CP | 4 |
| Number of operable FMs and CPs (recommended) | |
| • FM | 8 |
| • CP, PtP | 8 |
| • CP, LAN | 10 |
| Rack | |
| Racks, max. | 4 |
| Modules per rack, max. | 8 |
| Time of day | |
| Clock | |
| Hardware clock (real-time) | Yes |
| retentive and synchronizable | Yes |
| - | |
| Backup time Deviation per day, max | 6 wk; At 40 °C ambient temperature |
| Deviation per day, max. Behavior of the clock following POW/EP ON | 10 s; Typ.: 2 s |
| Behavior of the clock following POWER-ON | Clock continues running after POWER OFF |
| Behavior of the clock following expiry of backup period | the clock continues at the time of day it had when power was switched off |
| Operating hours counter | |
| oportung nouro ocuntor | |

| • Number | 4 |
|---|--|
| Number/Number range | 0 to 3 |
| Range of values | 0 to 2^31 hours (when using SFC 101) |
| Granularity | 1 h |
| retentive | Yes; Must be restarted at each restart |
| Clock synchronization | |
| • supported | Yes |
| • to MPI, master | Yes |
| • to MPI, slave | Yes |
| • to DP, master | Yes; With DP slave only slave clock |
| • to DP, slave | Yes |
| • in AS, master | Yes |
| • in AS, slave | Yes |
| on Ethernet via NTP | Yes; As client |
| Digital inputs | |
| Number of digital inputs | 0 |
| Digital outputs | |
| Number of digital outputs | 0 |
| Analog inputs | |
| Number of analog inputs | 0 |
| Analog outputs | |
| Number of analog outputs | 0 |
| Interfaces | |
| Number of industrial Ethernet interfaces | 1; 2 ports (switch) RJ45 |
| Number of PROFINET interfaces | 1; 2 ports (switch) RJ45 |
| Number of RS 485 interfaces | 1; Combined MPI / PROFIBUS DP |
| Number of RS 422 interfaces | 0 |
| 1. Interface | |
| Interface type | Integrated RS 485 interface |
| Isolated | Yes |
| Interface types | |
| • RS 485 | Yes |
| Output current of the interface, max. | 200 mA |
| Protocols | |
| • MPI | Yes |
| PROFIBUS DP master | Yes |
| PROFIBUS DP slave | Yes |
| Point-to-point connection | No |
| MPI | |
| Transmission rate, max. | 12 Mbit/s |
| Services | |
| — PG/OP communication | Yes |
| — Routing | Yes |
| — Global data communication | Yes |
| — S7 basic communication | Yes |
| — S7 communication | Yes |
| - S7 communication, as client | No; but via CP and loadable FB |
| — S7 communication, as server | Yes |
| PROFIBUS DP master | |
| Transmission rate, max. | 12 Mbit/s |
| Number of DP slaves, max. | 124 |
| Services | |
| — PG/OP communication | Yes |
| — Routing | Yes |
| — Global data communication | No |
| — S7 basic communication | Yes; I blocks only |
| — S7 communication | Yes |
| - S7 communication, as client | |
| | No |
| — S7 communication, as server | No Yes |

| | Yee |
|---|--|
| — Equidistance | Yes |
| — Isochronous mode | Yes; OB 61; isochronous mode can only be used alternatively on PROFIBUS DP or PROFINET IO |
| — SYNC/FREEZE | Yes |
| Activation/deactivation of DP slaves | Yes |
| | |
| Number of DP slaves that can be simultaneously activated/deactivated, max. | 8 |
| — Direct data exchange (slave-to-slave | Yes; as subscriber |
| communication) | |
| — DPV1 | Yes |
| Address area | |
| — Inputs, max. | 8 kbyte |
| — Outputs, max. | 8 kbyte |
| User data per DP slave | |
| — Inputs, max. | 244 byte |
| - Outputs, max. | 244 byte |
| PROFIBUS DP slave | 244 0910 |
| Transmission rate, max. | 12 Mbit/s |
| automatic baud rate search | |
| | Yes; only with passive interface |
| Address area, max. | 32 |
| User data per address area, max. | 32 byte |
| Services | N . |
| - PG/OP communication | Yes |
| — Routing | Yes; Only with active interface |
| Global data communication | No |
| — S7 basic communication | No |
| — S7 communication | Yes |
| — S7 communication, as client | No |
| — S7 communication, as server | Yes; Connection configured on one side only |
| — Direct data exchange (slave-to-slave | Yes |
| communication) | |
| — DPV1 | No |
| Transfer memory | |
| — Inputs | 244 byte |
| — Outputs | 244 byte |
| 2. Interface | |
| Interface type | PROFINET |
| Isolated | Yes |
| | |
| automatic detection of transmission rate | Yes; 10/100 Mbit/s |
| automatic detection of transmission rate Autonegotiation | Yes; 10/100 Mbit/s Yes |
| Autonegotiation | |
| Autonegotiation Autocrossing | Yes |
| Autonegotiation Autocrossing Change of IP address at runtime, supported | Yes Yes |
| Autonegotiation Autocrossing Change of IP address at runtime, supported Interface types | Yes Yes |
| Autonegotiation Autocrossing Change of IP address at runtime, supported Interface types • RJ 45 (Ethernet) | Yes Yes Yes |
| Autonegotiation Autocrossing Change of IP address at runtime, supported Interface types • RJ 45 (Ethernet) • Number of ports | Yes Yes Yes 2 |
| Autonegotiation Autocrossing Change of IP address at runtime, supported Interface types • RJ 45 (Ethernet) • Number of ports • integrated switch | Yes Yes Yes |
| Autonegotiation Autocrossing Change of IP address at runtime, supported Interface types • RJ 45 (Ethernet) • Number of ports • integrated switch Protocols | Yes Yes Yes 2 Yes |
| Autonegotiation Autocrossing Change of IP address at runtime, supported Interface types • RJ 45 (Ethernet) • Number of ports • integrated switch Protocols • MPI | Yes Yes Yes 2 Yes No |
| Autonegotiation Autocrossing Change of IP address at runtime, supported Interface types • RJ 45 (Ethernet) • Number of ports • integrated switch Protocols • MPI • PROFINET IO Controller | Yes Yes Yes Yes 2 Yes No Yes; Also simultaneously with IO-Device functionality |
| Autonegotiation Autocrossing Change of IP address at runtime, supported Interface types • RJ 45 (Ethernet) • Number of ports • integrated switch Protocols • MPI • PROFINET IO Controller • PROFINET IO Device | Yes Yes Yes Yes 2 Yes No Yes; Also simultaneously with IO-Device functionality Yes; Also simultaneously with IO Controller functionality |
| Autonegotiation Autocrossing Change of IP address at runtime, supported Interface types • RJ 45 (Ethernet) • Number of ports • integrated switch Protocols • MPI • PROFINET IO Controller • PROFINET IO Device • PROFINET CBA | Yes Yes Yes Yes 2 Yes No Yes; Also simultaneously with IO-Device functionality Yes; Also simultaneously with IO Controller functionality Yes |
| Autonegotiation Autocrossing Change of IP address at runtime, supported Interface types • RJ 45 (Ethernet) • Number of ports • integrated switch Protocols • MPI • PROFINET IO Controller • PROFINET IO Device • PROFINET CBA • PROFIBUS DP master | Yes Yes Yes Yes 2 Yes No Yes; Also simultaneously with IO-Device functionality Yes; Also simultaneously with IO Controller functionality Yes No |
| Autonegotiation Autocrossing Change of IP address at runtime, supported Interface types • RJ 45 (Ethernet) • Number of ports • integrated switch Protocols • MPI • PROFINET IO Controller • PROFINET IO Device • PROFINET CBA • PROFIBUS DP master • PROFIBUS DP slave | Yes Yes Yes Yes Yes No Yes; Also simultaneously with IO-Device functionality Yes; Also simultaneously with IO Controller functionality Yes No No |
| Autonegotiation Autocrossing Change of IP address at runtime, supported Interface types • RJ 45 (Ethernet) • Number of ports • integrated switch Protocols • MPI • PROFINET IO Controller • PROFINET IO Device • PROFINET CBA • PROFIBUS DP master • PROFIBUS DP slave • Open IE communication | Yes Yes Yes Yes Yes No Yes; Also simultaneously with IO-Device functionality Yes; Also simultaneously with IO Controller functionality Yes; No Simultaneously with IO Controller functionality Yes No No |
| Autonegotiation Autocrossing Change of IP address at runtime, supported Interface types • RJ 45 (Ethernet) • Number of ports • integrated switch Protocols • MPI • PROFINET IO Controller • PROFINET IO Device • PROFINET IO Device • PROFINET CBA • PROFIBUS DP master • PROFIBUS DP slave • Open IE communication • Web server | Yes Yes Yes Yes 2 Yes No Yes; Also simultaneously with IO-Device functionality Yes; Also simultaneously with IO Controller functionality Yes No No No Yes; Via TCP/IP, ISO on TCP, and UDP Yes |
| Autonegotiation Autocrossing Change of IP address at runtime, supported Interface types • RJ 45 (Ethernet) • Number of ports • integrated switch Protocols • MPI • PROFINET IO Controller • PROFINET IO Device • PROFINET IO Device • PROFINET CBA • PROFIBUS DP master • PROFIBUS DP slave • Open IE communication • Web server • Media redundancy | Yes Yes Yes Yes Yes No Yes; Also simultaneously with IO-Device functionality Yes; Also simultaneously with IO Controller functionality Yes; No Simultaneously with IO Controller functionality Yes No No |
| Autonegotiation Autocrossing Change of IP address at runtime, supported Interface types • RJ 45 (Ethernet) • Number of ports • integrated switch Protocols • MPI • PROFINET IO Controller • PROFINET IO Device • PROFINET IO Device • PROFINET CBA • PROFIBUS DP master • PROFIBUS DP slave • Open IE communication • Web server | Yes Yes Yes Yes 2 Yes No Yes; Also simultaneously with IO-Device functionality Yes; Also simultaneously with IO Controller functionality Yes No No No Yes; Via TCP/IP, ISO on TCP, and UDP Yes |
| Autonegotiation Autocrossing Change of IP address at runtime, supported Interface types • RJ 45 (Ethernet) • Number of ports • integrated switch Protocols • MPI • PROFINET IO Controller • PROFINET IO Device • PROFINET IO Device • PROFINET CBA • PROFIBUS DP master • PROFIBUS DP slave • Open IE communication • Web server • Media redundancy | Yes Yes Yes Yes 2 Yes No Yes; Also simultaneously with IO-Device functionality Yes; Also simultaneously with IO Controller functionality Yes No No No Yes; Via TCP/IP, ISO on TCP, and UDP Yes |
| Autonegotiation Autocrossing Change of IP address at runtime, supported Interface types • RJ 45 (Ethernet) • Number of ports • integrated switch Protocols • MPI • PROFINET IO Controller • PROFINET IO Device • PROFINET CBA • PROFIBUS DP master • PROFIBUS DP slave • Open IE communication • Web server • Media redundancy PROFINET IO Controller | Yes Yes Yes Yes 2 Yes No No No No Yes; Also simultaneously with IO-Device functionality Yes; Also simultaneously with IO Controller functionality Yes No No Yes; Via TCP/IP, ISO on TCP, and UDP Yes Yes |
| Autonegotiation Autocrossing Change of IP address at runtime, supported Interface types • RJ 45 (Ethernet) • Number of ports • integrated switch Protocols • MPI • PROFINET IO Controller • PROFINET IO Device • PROFINET IO Device • PROFINET CBA • PROFIBUS DP master • PROFIBUS DP slave • Open IE communication • Web server • Media redundancy PROFINET IO Controller • Transmission rate, max. | Yes Yes Yes Yes 2 Yes No No No No Yes; Also simultaneously with IO-Device functionality Yes; Also simultaneously with IO Controller functionality Yes No No Yes; Via TCP/IP, ISO on TCP, and UDP Yes Yes |
| Autonegotiation Autocrossing Change of IP address at runtime, supported Interface types • RJ 45 (Ethernet) • Number of ports • integrated switch Protocols • MPI • PROFINET IO Controller • PROFINET IO Device • PROFINET CBA • PROFIBUS DP master • PROFIBUS DP slave • Open IE communication • Web server • Media redundancy PROFINET IO Controller • Transmission rate, max. Services | Yes Yes Yes Yes 2 Yes No No Yes; Also simultaneously with IO-Device functionality Yes; Also simultaneously with IO Controller functionality Yes No No No Yes; Via TCP/IP, ISO on TCP, and UDP Yes Yes Yes |

| — S7 communication | Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 |
|---|---|
| — Isochronous mode | Yes; OB 61; isochronous mode can only be used alternatively on PROFIBUS DP or PROFINET IO |
| — IRT | Yes |
| — Shared device | Yes |
| - Prioritized startup | Yes |
| Number of IO devices with prioritized startup, | 32 |
| max. | |
| Number of connectable IO Devices, max. | 128 |
| — Of which IO devices with IRT, max. | 64 |
| — of which in line, max. | 64 |
| — Number of IO Devices with IRT and the option "high flexibility" | 128 |
| — of which in line, max. | 61 |
| — Number of connectable IO Devices for RT, | 128 |
| max. | |
| — of which in line, max. | 128 |
| Activation/deactivation of IO Devices | Yes |
| — Number of IO Devices that can be simultaneously activated/deactivated, max. | 8 |
| — IO Devices changing during operation (partner | Yes |
| ports), supported | 0 |
| — Number of IO Devices per tool, max. | 8 |
| Device replacement without swap medium | Yes |
| — Send cycles | 250 $\mu s,$ 500 $\mu s,$ 1 ms; 2 ms, 4 ms (not in the case of IRT with "high flexibility" option) |
| — Updating time | 250 μs to 512 ms (depending on the operating mode, see Manual "S7-300 CPU 31xC and CPU 31x, technical Data" for more details) |
| Address area | |
| — Inputs, max. | 8 kbyte |
| — Outputs, max. | 8 kbyte |
| — User data consistency, max. | 1 024 byte |
| | |
| | |
| PROFINET IO Device | |
| PROFINET IO Device Services | |
| PROFINET IO Device Services — PG/OP communication | Yes |
| PROFINET IO Device Services — PG/OP communication — Routing | Yes Yes |
| PROFINET IO Device Services — PG/OP communication — Routing — S7 communication | Yes Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 |
| PROFINET IO Device Services — PG/OP communication — Routing | Yes Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No |
| PROFINET IO Device Services — PG/OP communication — Routing — S7 communication — Isochronous mode — IRT | Yes Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 |
| PROFINET IO Device Services — PG/OP communication — Routing — S7 communication — Isochronous mode | Yes Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No |
| PROFINET IO Device Services — PG/OP communication — Routing — S7 communication — Isochronous mode — IRT | Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFIenergy standard FB |
| PROFINET IO Device Services — PG/OP communication — Routing — S7 communication — Isochronous mode — IRT — PROFIenergy | Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFIenergy standard FB for I-Device |
| PROFINET IO Device Services — PG/OP communication — Routing — S7 communication — Isochronous mode — IRT — PROFIenergy — Shared device | Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFlenergy standard FB for I-Device Yes |
| PROFINET IO Device Services — PG/OP communication — Routing — S7 communication — Isochronous mode — IRT — PROFlenergy — Shared device — Number of IO Controllers with shared device, | Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFlenergy standard FB for I-Device Yes |
| PROFINET IO Device Services — PG/OP communication — Routing — S7 communication — Isochronous mode — IRT — PROFlenergy — Shared device — Number of IO Controllers with shared device, max. | Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFlenergy standard FB for I-Device Yes |
| PROFINET IO Device Services — PG/OP communication — Routing — S7 communication — Isochronous mode — IRT — PROFlenergy — Shared device — Number of IO Controllers with shared device, max. Transfer memory | Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFIenergy standard FB for I-Device Yes 2 1 440 byte; Per IO Controller with shared device |
| PROFINET IO Device Services — PG/OP communication — Routing — S7 communication — Isochronous mode — IRT — PROFlenergy — Shared device — Number of IO Controllers with shared device, max. Transfer memory — Inputs, max. | Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFIenergy standard FB for I-Device Yes 2 |
| PROFINET IO Device Services — PG/OP communication — Routing — S7 communication — Isochronous mode — IRT — PROFlenergy — Shared device — Number of IO Controllers with shared device, max. Transfer memory — Inputs, max. — Outputs, max. Submodules | Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFlenergy standard FB for I-Device Yes 2 1 440 byte; Per IO Controller with shared device 1 440 byte; Per IO Controller with shared device |
| PROFINET IO Device Services — PG/OP communication — Routing — S7 communication — Isochronous mode — IRT — PROFlenergy — Shared device — Number of IO Controllers with shared device, max. Transfer memory — Inputs, max. — Outputs, max. — Outputs, max. | Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFlenergy standard FB for I-Device Yes 2 1 440 byte; Per IO Controller with shared device 1 440 byte; Per IO Controller with shared device |
| PROFINET IO Device Services — PG/OP communication — Routing — S7 communication — Isochronous mode — IRT — PROFlenergy — Shared device — Number of IO Controllers with shared device, max. Transfer memory — Inputs, max. — Outputs, max. — Outputs, max. — User data per submodule, max. | Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFlenergy standard FB for I-Device Yes 2 1 440 byte; Per IO Controller with shared device 1 440 byte; Per IO Controller with shared device |
| PROFINET IO Device Services - PG/OP communication - Routing - S7 communication - Isochronous mode - IRT - PROFlenergy - Shared device - Number of IO Controllers with shared device, max. Transfer memory - Inputs, max. - Outputs, max. - Outputs, max. - User data per submodule, max. PROFINET CBA | Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFIenergy standard FB for I-Device Yes 2 1 440 byte; Per IO Controller with shared device 1 440 byte; Per IO Controller with shared device 64 1 024 byte |
| PROFINET IO Device Services - PG/OP communication - Routing - S7 communication - Isochronous mode - IRT - PROFIenergy - Shared device - Number of IO Controllers with shared device, max. Transfer memory - Inputs, max. - Outputs, max. - Outputs, max. Submodules - Number, max. - User data per submodule, max. PROFINET CBA • acyclic transmission | Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFlenergy standard FB for I-Device Yes 2 1 440 byte; Per IO Controller with shared device 1 440 byte; Per IO Controller with shared device 64 1 024 byte Yes |
| PROFINET IO Device Services — PG/OP communication — Routing — S7 communication — Isochronous mode — IRT — PROFIenergy — Shared device — Number of IO Controllers with shared device, max. Transfer memory — Inputs, max. — Outputs, max. — User data per submodule, max. PROFINET CBA • cyclic transmission | Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFIenergy standard FB for I-Device Yes 2 1 440 byte; Per IO Controller with shared device 1 440 byte; Per IO Controller with shared device 64 1 024 byte |
| PROFINET IO Device Services — PG/OP communication — Routing — S7 communication — Isochronous mode — IRT — PROFlenergy — Shared device — Number of IO Controllers with shared device, max. Transfer memory — Inputs, max. — Outputs, max. — User data per submodule, max. PROFINET CBA • acyclic transmission • cyclic transmission Open IE communication | Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFIenergy standard FB for I-Device Yes 2 1 440 byte; Per IO Controller with shared device 1 440 byte; Per IO Controller with shared device 64 1 024 byte Yes Yes |
| PROFINET IO Device Services — PG/OP communication — Routing — S7 communication — Isochronous mode — IRT — PROFlenergy — Shared device — Number of IO Controllers with shared device, max. Transfer memory — Inputs, max. — Outputs, max. — Outputs, max. — User data per submodule, max. PROFINET CBA • acyclic transmission • cyclic transmission • Cyclic transmission • Number of connections, max. | Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFIenergy standard FB for I-Device Yes 2 1 440 byte; Per IO Controller with shared device 1 440 byte; Per IO Controller with shared device 64 1 024 byte Yes Yes Yes |
| PROFINET IO Device Services — PG/OP communication — Routing — S7 communication — Isochronous mode — IRT — PROFlenergy — Shared device — Number of IO Controllers with shared device, max. Transfer memory — Inputs, max. — Outputs, max. — User data per submodule, max. PROFINET CBA • acyclic transmission • cyclic transmission Open IE communication | Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFlenergy standard FB for I-Device Yes 2 1 440 byte; Per IO Controller with shared device 1 440 byte; Per IO Controller with shared device 64 1 024 byte Yes Yes |
| PROFINET IO Device Services — PG/OP communication — Routing — S7 communication — Isochronous mode — IRT — PROFlenergy — Shared device — Number of IO Controllers with shared device, max. Transfer memory — Inputs, max. — Outputs, max. — Outputs, max. — User data per submodule, max. PROFINET CBA • acyclic transmission • cyclic transmission • Cyclic transmission • Number of connections, max. | Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFIenergy standard FB for I-Device Yes 2 1 440 byte; Per IO Controller with shared device 1 440 byte; Per IO Controller with shared device 64 1 024 byte Yes Yes Yes |
| PROFINET IO Device Services — PG/OP communication — Routing — S7 communication — Isochronous mode — IRT — PROFIenergy — Shared device — Number of IO Controllers with shared device, max. Transfer memory — Inputs, max. — Outputs, max. — Outputs, max. — User data per submodule, max. PROFINET CBA • acyclic transmission • cyclic transmission • cyclic transmission • Local port numbers used at the system end | Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFlenergy standard FB for I-Device Yes 2 1 440 byte; Per IO Controller with shared device 1 440 byte; Per IO Controller with shared device 64 1 024 byte Yes Yes Yes 16 0, 20, 21, 23, 25, 80, 102, 135, 161, 443, 8080, 34962, 34963, 34964, 65532, 65533, 65534, 65535 |
| PROFINET IO Device Services - PG/OP communication - Routing - S7 communication - Isochronous mode - IRT - PROFlenergy - Shared device - Number of IO Controllers with shared device, max. Transfer memory - Inputs, max. - Outputs, max. - User data per submodule, max. PROFINET CBA • acyclic transmission • cyclic transmission • Could port numbers used at the system end • Keep-alive function, supported | Yes Yes vith loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFlenergy standard FB for I-Device Yes 2 1 440 byte; Per IO Controller with shared device 1 440 byte; Per IO Controller with shared device 64 1 024 byte Yes Yes 16 0, 20, 21, 23, 25, 80, 102, 135, 161, 443, 8080, 34962, 34963, 34964, 65532, 65533, 65534, 65535 Yes |
| PROFINET IO Device Services - PG/OP communication - Routing - S7 communication - Isochronous mode - IRT - PROFlenergy - Shared device - Number of IO Controllers with shared device, max. Transfer memory - Inputs, max. - Outputs, max. - Outputs, max. - User data per submodule, max. PROFINET CBA • acyclic transmission • cyclic transmission • cyclic transmission • Local port numbers used at the system end • Keep-alive function, supported | Yes Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32 No Yes Yes; With SFB 73 / 74 prepared for loadable PROFlenergy standard FB for I-Device Yes 2 1 440 byte; Per IO Controller with shared device 1 440 byte; Per IO Controller with shared device 64 1 024 byte Yes Yes Yes 16 0, 20, 21, 23, 25, 80, 102, 135, 161, 443, 8080, 34962, 34963, 34964, 65532, 65533, 65534, 65535 |

| Media redundancy | |
|---|---|
| — Switchover time on line break, typ. | 200 ms; PROFINET MRP |
| — Number of stations in the ring, max. | 50 |
| Open IE communication | |
| • TCP/IP | Yes; via integrated PROFINET interface and loadable FBs |
| — Number of connections, max. | 16 |
| — Data length for connection type 01H, max. | 1 460 byte |
| — Data length for connection type 11H, max. | 32 768 byte |
| — several passive connections per port, supported | Yes |
| ISO-on-TCP (RFC1006) | Yes; via integrated PROFINET interface and loadable FBs |
| — Number of connections, max. | 16 |
| — Data length, max. | 32 768 byte |
| • UDP | Yes; via integrated PROFINET interface and loadable FBs |
| Number of connections, max. | 16 |
| — Data length, max. | 1 472 byte |
| Web server | |
| • supported | Yes |
| User-defined websites | Yes |
| Number of HTTP clients | 5 |
| communication functions / header | |
| PG/OP communication | Yes |
| Data record routing | Yes |
| Global data communication | |
| • supported | Yes |
| Number of GD loops, max. | 8 |
| Number of GD packets, max. | 8 |
| Number of GD packets, transmitter, max. | 8 |
| Number of GD packets, receiver, max. | 8 |
| Size of GD packets, max. | 22 byte |
| Size of GD packet (of which consistent), max. | 22 byte |
| S7 basic communication | |
| • supported | Yes |
| • User data per job, max. | 76 byte |
| User data per job (of which consistent), max. | 76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server) |
| S7 communication | |
| supported | Yes |
| • as server | Yes |
| • as client | Yes; via integrated PROFINET interface and loadable FB or via CP and loadable FB |
| User data per job, max. | See online help of STEP 7 (shared parameters of the SFBs/FBs and of the SFCs/FCs of S7 Communication) |
| S5 compatible communication | |
| supported | Yes; via CP and loadable FC |
| communication functions / PROFINET CBA (with set target of | communication load) / header |
| Setpoint for the CPU communication load | 50 % |
| number of remote connection partners / with PROFINET CBA | 32 |
| number of technological functions / with PROFINET CBA / for master or slave | 30 |
| number of connections / with PROFINET CBA / for master or slave / total | 1 000 |
| data volume / of the input variables / with PROFINET CBA / for master or slave | 4 000 byte |
| data volume / of the output variables / with PROFINET CBA / for master or slave | 4 000 byte |
| number of internal and PROFIBUS interconnections / with PROFINET CBA / maximum | 500 |
| data volume / of internal and PROFIBUS interconnections / with PROFINET CBA / for master or slave | 4 000 byte |
| data volume / with PROFINET CBA / per connection | 1 400 byte |
| · · · · | · · · · · · · · · · · · · · · · · · · |

| / maximum | |
|--|--|
| performance data / PROFINET CBA / remote interconnect | ction / with acyclic transfer / header |
| update time / of the remote interconnections / in the case of acyclic transmission / with PROFINET CBA | 500 ms |
| number of remote connections to input variables / in the case of acyclic transmission / with PROFINET CBA / maximum | 100 |
| — number of remote connections to output variables / in the case of acyclic transmission / with PROFINET CBA / maximum | 100 |
| data volume / as user data for remote interconnections with input variables / in the case of acyclic transmission / with PROFINET CBA | 2 000 byte |
| data volume / as user data for remote interconnections with output variables / in the case of acyclic transmission / with PROFINET CBA | 2 000 byte |
| — data volume / as user data for remote interconnections / in the case of acyclic transmission / with PROFINET CBA / per connection / maximum | 1 400 byte |
| performance data / PROFINET CBA / remote interconnect | ction / with cyclic transfer / header |
| — update time / of the remote interconnections / with cyclical transfer / with PROFINET CBA | 10 ms |
| — number of remote connections to input variables / with PROFINET CBA / with cyclic transfer / maximum | 200 |
| — number of remote connections to output variables / with cyclical transfer / with PROFINET CBA / maximum | 200 |
| — data volume / as user data for remote interconnections with input variables / with cyclical transfer / with PROFINET CBA / maximum | 2 000 byte |
| — data volume / as user data for remote interconnections with output variables / with cyclical transfer / with PROFINET CBA / maximum | 2 000 byte |
| — data volume / as user data for remote interconnections / with cyclical transfer / with PROFINET CBA / per connection / maximum | 450 byte |
| performance data / PROFINET CBA / HMI variables via F | PROFINET / acyclic / header |
| — number of connectable HMI stations / for HMI variables / in the case of acyclic transmission / with PROFINET CBA | 3; 2x PN OPC/1x iMap |
| update time / of the HMI variables / in the case of acyclic transmission / with PROFINET CBA number of HMI variables / in the case of acyclic | 500 ms |
| transmission / with PROFINET CBA / maximum — data volume / as user data for HMI variables / | 2 000 byte |
| in the case of acyclic transmission / with PROFINET CBA / maximum performance data / PROFINET CBA / PROFIBUS proxy | functionality / header |
| — product function / with PROFINET CBA / PROFIBUS proxy functionality | Yes |
| — number of coupled PROFIBUS devices / with PROFIBUS functionality data values (with PROFIBUS assure) | 16 210 bits Slave decendent |
| data volume / with PROFIBUS proxy functionality / with PROFINET CBA / per connection / maximum | 240 byte; Slave-dependent |
| Number of connections | |
| overall | 32 |
| usable for PG communication | 31 |
| reserved for PG communication | 1 |
| — adjustable for PG communication, min. | 1 |
| — adjustable for PG communication, max. | 31 |
| usable for OP communication | 31 |
| - reserved for OP communication | 1 |
| adjustable for OP communication, min. | 1 |

| Number of login stations for message functions, max. 22: Depending on the configured connections for PG/OP and S7 basic communication. Process diagnostic messages Yes simultaneously active Alarm-S blocks, max. 300 Fact commiscionation Yes Status block Yes Status block Yes Status/control variables 4 Status/control variables, max. 30 - of which status variables, max. 14 Forcing, Yes Number of variables, max. 10 Diagnostic buffer • • present Yes • wumber of entries, max. 500 • adjustable No • of which powerfail-proof 100: Only the last 100 entries are retained • Number of entries readable in RUN, max. 499 - preset 10 Status/control variables, max. 60 °C configuration / header 60 °C confi | adjustable for OP communication, max. usable for S7 basic communication reserved for S7 basic communication adjustable for S7 basic communication, min. adjustable for S7 basic communication, max. usable for S7 communication reserved for S7 communication adjustable for S7 communication, min. adjustable for S7 communication, min. adjustable for S7 communication, max. total number of instances, max. usable for routing | 31 30 0 0 30 16 0 0 16 32 X1 as MPI: max. 10; X1 as DP master: max. 24; X1 as DP slave (active): max. 14; X2 as PROFINET: 24 max. |
|---|---|--|
| Process diagnostic messages Yes simultaneously active Alarm-S blocks, max. 300 Status block Yes: Up to 2 simultaneously Single step Yes Number of brackpoints 4 Status/control variables, max. 30 - of which status variables, max. 10 Forcing Inputs, outputs • Number of variables, max. 10 Diagnostic buffer Yes • present Yes • number of variables, max. 10 Diagnostic buffer Yes • present Yes • number of entries, max. 500 - of which powerfait-proof 100: Only the last 100 entries are retained • Number of entries readable in RUN, max. 499 - preset 10 Stenzice data * • can be read out Yes • and be read out Yes • Ster P 7 Yes V5.5 or higher Configuration software see instruction list • Ster P 7 <td></td> <td></td> | | |
| simulaneously active Alam-S blocks, max. 300 Test commissioning functions 4 Status block Yes; Up to 2 simultaneously Number of breakpoints 4 Status slock Yes Number of breakpoints 4 Status/control Yes • Variables Inputs, outputs, memory bits, DB, times, counters • Variables 300 of which status variables, max. 30 of which status variables, max. 30 of which status variables, max. 14 Forcing Yes • Forcing, variables Inputs, outputs • Number of variables, max. 10 • Diagnostic buffer - • present Yes • Number of entries, max. 500 adjustable No of which powerfail-proof 100; Only the last 100 entries are retained • Number of entries readable in RUN, max. 499 preset 10 • Ambient conditions - Ambient conditions - Ambient conditions </td <td>Process diagnostic messages</td> <td></td> | Process diagnostic messages | |
| Test commissioning functions Status block Yes; Up to 2 simultaneously Single step Yes Number of breakpoints 4 Status/control variables Yes • Variables Inputs, outputs, memory bits, DB, times, counters • Number of variables, max. 30 - of which status variables, max. 30 - of which ontrol variables, max. 30 - of which ontrol variables, max. 30 - of which ontrol variables, max. 14 Porcing Yes • Forcing, variables Inputs, outputs • Number of entries, max. 10 Diagnostic buffer 500 - adjustable No - adjustable No - adjustable No - adjustable Yes Anbient conditions Yes Anbient conditions O°C configuration / header See instruction list configuration / broads See instruction list e STEP 7 Yes Configuratin, functino blocks (SFE) see instructin list <td></td> <td></td> | | |
| Status block Yes Single step Yes Number of breakpoints 4 Status/control | | |
| Single step Yes Number of breakpoints 4 Status/control variables Yes • Status/control variables, max. 30 of which status variables, max. 14 Forcing Yes • Forcing (or incide) Inputs, outputs • Number of variables, max. 10 Diagnostic buffer Yes • Present Yes • Number of variables in RUN, max. 500 adjustable No adjustable Yes; From 10 to 499 preset 10 Service data Service data adjustable Yes orbit conditions | | Ves: Un to 2 simultaneously |
| Number of breakpoints 4 Status/control | | |
| Status/control variable Yes • Variables Inputs, outputs, memory bits, DB, times, counters • Number of variables, max. 30 - of which status variables, max. 30 - of which control variables, max. 30 - of which control variables, max. 14 Forcing Yes • Forcing, variables, max. 10 Diagnostic buffer Yes • Number of variables, max. 10 Diagnostic buffer Yes • Number of entries, max. 500 - adjustable No - of which powerfail-proof 100; Only the last 100 entries are retained • Number of entries readable in RUN, max. 499 - adjustable Yes; From 10 to 499 - preset 10 Service data Yes • anbe read out Yes Amblent conditions O°C Configuration / header See instruction list • min. 0 °C configuration / programming / header See instruction list • Command set see instruction list • System function s(SFC) see instruction list | | |
| Status/control variable Variables Variables Variables, max. of which status variables, max. of which control variables, max. of which control variables, max. Forcing Forcing Forcing, variables Inputs, outputs Inputs, outputs Nomber of variables, max. Porcing Forcing, variables Inputs, outputs Inputs, outputs Nomber of variables, max. Diagnostic buffer Verses Nomber of entries, max. Statuston of which powerfail-proof No adjustable No of which powerfail-proof No of which powerfail-proof No of which powerfail-proof No of which of entries readable in RUN, max. 499 adjustable yes; From 10 to 499 preset Service data can be read out Yes Ambient conditions Ambient temperature during operation min. 0 °C configuration / header Configuration / header Configuration software StrEP 7 Yes; V5.5 or higher configuration programming / header Configuration software System function blocks (SFB) see instruction list System function blocks (SFB) See instructi | | · |
| • Variables Inputs, outputs, memory bits, DB, times, counters • Or which status variables, max. 30 - of which status variables, max. 14 Forcing ves • Forcing, variables, max. 10 Diagnostic buffer ves • present 500 - adjustable No - adjustable Yes - Ambient conditions Yes Anbient conditions 0°C - max. 60°C configuration / header See instruction list • StEP 7 Yes, V5.5 or higher Configuration / loggamming / header See instruction list • Nesting levels 8 • System function s(SFC) see instruction list • System function blocks (SFB) see instruction list • | | Yes |
| Number of variables, max. O f which status variables, max. O f which control variables, max. Forcing Forcing Forcing, variables, max. Poreset Number of variables, max. Diagnostic buffer Verses Number of variables, max. Solution Another of variables, max. No - adjustable No - adjustable No - of which powerfail-proof No: Only the last 100 entries are retained Number of entries readable in RUN, max. Agestable Yes: From 10 to 499 - preset Service data Conditions Ambient conditions Ambient temperature during operation oran be read out Yes: V5.5 or higher Configuration / header Configuration software System functions (SFC) see instruction list System function blocks (SFB) See instruction list<td></td><td></td> | | |
| of which status variables, max.30 of which control variables, max.14ForcingForcing, variablesForcing, variablesInputs, outputsNumber of variables, max.10Diagnostic buffer-• presentYes• nadjustableNo adjustableNo adjustable100; Only the last 100 entries are retained• Number of entries readable in RUN, max.499 adjustableYes; From 10 to 499 preset10Service dataYes• can be read outYesAmbient conditions0 ° Cconfiguration sforware0 ° C• Configuration sforware0 ° C• StEP 7Yes; V5.5 or higher• Configuration sforware8• System function S(SFC)see instruction list• System function blocks (SFB)see instruction list• Sol,Yes- FBDYes- FBDYes- Sol,Yes- Sol,Yes- CFCYes | | |
| −of which control variables, max. 14 Forcing Yes ● Forcing, variables Inputs, outputs ● Number of variables, max. 10 Diagnostic buffer • ● present Yes ● Number of entries, max. 500 - adjustable No - of which powerfail-proof 100; Only the last 100 entries are retained ● Number of entries readable in RUN, max. 499 - adjustable Yes; From 10 to 499 - preset 10 Service data • • can be read out Yes Ambient conditions 0 °C configuration / heador 60 °C configuration / heador See instruction list • STEP 7 Yes; V5.5 or higher configuration / heador see instruction list • Nesting levels 8 • System functions (SFC) see instruction list • System function blocks (SFB) yes | | |
| Forcing Yes Forcing, variables Inputs, outputs Inputs, outputs Number of variables, max. Diagnostic buffer Present Yes Number of entries, max. So0 - adjustable No - of which powerfail-proof No (Only the last 100 entries are retained Number of entries, readable in RUN, max. 499 - adjustable Yes, From 10 to 499 - preset Service data can be read out Yes Ambient temperature during operation min. 0 °C max. 60 °C Configuration / header Configuration / header Configuration / programming / header Command set System function (SFC) see instruction list System function blocks (SFB) see instruction list System function blocks (SFB) see instruction list System function (SFC) see instruction list System function blocks (SFB) see instruction list System function blocks (SFB) see instruction list System function (SFC) see instruction list System function blocks (SFB) see instruction list System function blocks (SFB) <l< td=""><td></td><td></td></l<> | | |
| • Forcing Yes • Forcing, variables Inputs, outputs • Number of variables, max. 10 Diagnostic buffer • • present Yes • Number of entries, max. 500 - adjustable No - of which powerfail-proof 100; Only the last 100 entries are retained • Number of entries readable in RUN, max. 499 - adjustable No - adjustable Yes; From 10 to 499 - preset 10 Service data 10 • can be read out Yes Ambient conditions Yes Ambient conditions 0 °C • max. 60 °C configuration / header Configuration software • STEP 7 Yes; V5.5 or higher configuration software see instruction list • Nesting levels 8 • System function locks (SFC) see instruction list • Nesting levels 8 • System function bocks (SFC) see instruction list • System function bocks (SFC) see instruction list • System function blocks (SFB) see instruction list • System function blocks (SFB) see instruction list • FBD Yes - FBD | | |
| Fording, variables Number of variables, max. 10 Diagnostic buffer present ves Number of entries, max. 500 - adjustable No - of which powerfail-proof 100; Only the last 100 entries are retained Number of entries readable in RUN, max. 499 - adjustable Yes; From 10 to 499 - preset 10 Service data can be read out Yes Ambient conditions Ambient during operation min. 0 °C configuration / header Configuration / header Comfiguration / programming / header Command set see instruction list System functions (SFC) see instruction list System function blocks (SFB) See instruction list Programming language - LAD Yes STL Yes SCL - CFC Yes | - | Yes |
| • Number of variables, max. 10 Diagnostic buffer Yes • present Yes • Number of entries, max. 500 - adjustable No - of which powerfail-proof 100; Only the last 100 entries are retained • Number of entries readable in RUN, max. 499 - adjustable Yes; From 10 to 499 - preset 10 Service data Yes • can be read out Yes Ambient conditions Yes Ambient conditions 0 °C configuration / header 60 °C Configuration / header Servicion list • STEP 7 Yes; V5.5 or higher • Configuration / programming / header see instruction list • Nesting levels 8 • System function s(SFC) see instruction list • System function blocks (SFB) see instruction list • Programming language - - LAD Yes - FBD Yes - FBD Yes - SCL Yes - CFC Yes | - | |
| Diagnostic buffer • present Yes • Number of entries, max. 500 adjustable No of which powerfail-proof 100; Only the last 100 entries are retained • Number of entries readable in RUN, max. 499 adjustable Yes; From 10 to 499 preset 10 Service data - • can be read out Yes Ambient temperature during operation 0 °C • max. 60 °C Configuration / programming / header - • Comfiguration / programming / header - • Command set see instruction list • Nesting levels 8 • System function (SFC) see instruction list • System function (SFC) see instruction list • System function blocks (SFB) see instruction list Programming language - LAD Yes FBD Yes SCL Yes SCL Yes | - | |
| • presentYes• Number of entries, max.500- adjustableNo- of which powerfail-proof100; Only the last 100 entries are retained• Number of entries readable in RUN, max.499- adjustableYes; From 10 to 499- preset10Service dataYes• can be read outYesAmbient conditionsYesAmbient temperature during operation0 °C• min.0 °C• max.60 °Cconfiguration / headerService in RumanneConfiguration / headersee instruction list• StEP 7Yes; V5.5 or higherconfiguration / programming / headersee instruction list• Nesting levels8• System functions (SFC)see instruction list• System function blocks (SFB)see instruction listProgramming language/ees- LADYes- FBDYes- STLYes- SCLYes- SCLYes- CFCYes | | |
| • Number of entries, max.500- adjustableNo- of which powerfail-proof100; Only the last 100 entries are retained• Number of entries readable in RUN, max.499- adjustableYes; From 10 to 499- preset10Service data• can be read outYesYesAmbient temperature during operation• min.0 °C• max.60 °CConfiguration / headerConfiguration / headerConfiguration / programming / header• Command setsee instruction list• Nesting levels8• System function blocks (SFB)see instruction list• System function blocks (SFB)see instruction list• FBDYes- FBDYes- SCLYes- SCLYes- SCLYes- CFCYes | - | Yes |
| adjustableNo of which powerfail-proof100; Only the last 100 entries are retained• Number of entries readable in RUN, max.499 adjustableYes; From 10 to 499 preset10Service data• can be read outYesAmbient temperature during operation0 °C• min.0 °C• max.60 °Cconfiguration / header• STEP 7Yes; V5.5 or higherconfiguration / programming / headersee instruction list• Nesting levels8• System functions blocks (SFB)see instruction listProgramming languageYes LADYes FBDYes SCLYes SCLYes CFCYes | | |
| of which powerfail-proof100; Only the last 100 entries are retained• Number of entries readable in RUN, max.499 adjustableYes; From 10 to 499 preset10Service dataYes• can be read outYesAmbient conditionsYesAmbient temperature during operation0 °C• min.0 °C C• max.60 °Cconfiguration / headerConfiguration software• STEP 7Yes; V5.5 or higherconfiguration / programming / headerSee instruction list• Command setsee instruction list• System functions (SFC)see instruction list• System function blocks (SFB)see instruction list• System function blocks (SFB)see instruction list• STL-LADYes- FBDYes- STLYes- SCLYes- SCLYes- CFCYes | | |
| • Number of entries readable in RUN, max.499- adjustableYes; From 10 to 499- preset10Service data• can be read outYesAmbient conditionsAmbient temperature during operation• min.0 °C• max.60 °Cconfiguration / headerConfiguration / header• STEP 7Yes; V5.5 or higher• STEP 7Yes; V5.5 or higher• Comfiguration / programming / headersee instruction list• Nesting levels8• System functions (SFC)see instruction list• System function blocks (SFB)see instruction listProgramming language LADYes- FBDYes- STLYes- STLYes- SCLYes- CFCYes | | 100; Only the last 100 entries are retained |
| preset10Service data• can be read outYesAmbient conditionsAmbient temperature during operation• min.0 °C• max.60 °Cconfiguration / headerConfiguration software• STEP 7Yes; V5.5 or higherconfiguration / programming / header• Command setsee instruction list• Nesting levels8• System function blocks (SFB)see instruction list• System function blocks (SFB)see instruction listProgramming language- LAD- LADYes- FBDYes- SCLYes- SCLYes- CFCYes | | |
| preset10Service dataYesAmbient conditions0 °CAmbient temperature during operation0 °C• min.0 °C• max.60 °Cconfiguration / headerConfiguration software• STEP 7Yes; V5.5 or higherconfiguration / programming / headersee instruction list• Nesting levels8• System functions (SFC)see instruction list• System function blocks (SFB)see instruction listProgramming language LADYes- FBDYes- STLYes- SCLYes- CFCYes | — adjustable | Yes; From 10 to 499 |
| • can be read out Yes Ambient conditions Ambient temperature during operation • min. 0 °C • max. 60 °C configuration / header Configuration software • STEP 7 Yes; V5.5 or higher configuration / programming / header see instruction list • Command set see instruction list • Nesting levels 8 • System function blocks (SFB) see instruction list Programming language - - LAD Yes - STL Yes - SCL Yes - CFC Yes | — preset | 10 |
| Ambient conditions Ambient temperature during operation • min. 0 °C • max. 60 °C configuration / header Configuration software • STEP 7 Yes; V5.5 or higher configuration / programming / header • Command set see instruction list • Nesting levels 8 • System functions (SFC) see instruction list • System function blocks (SFB) see instruction list Programming language | Service data | |
| Ambient temperature during operation 0 °C • min. 60 °C configuration / header 60 °C Configuration software • STEP 7 • STEP 7 Yes; V5.5 or higher configuration / programming / header • Command set • Command set see instruction list • Nesting levels 8 • System functions (SFC) see instruction list • System function blocks (SFB) see instruction list Programming language – LAD - LAD Yes - STL Yes - SCL Yes - SCL Yes - CFC Yes | • can be read out | Yes |
| min. max. 60 °C configuration / header Configuration software STEP 7 Yes; V5.5 or higher configuration / programming / header Command set see instruction list Nesting levels System functions (SFC) see instruction list System function blocks (SFB) see instruction list Programming language - LAD - FBD - STL SCL - SCL - CFC Yes | Ambient conditions | |
| • max.60 °Cconfiguration / headerConfiguration softwareYes; V5.5 or higher• STEP 7Yes; V5.5 or higherconfiguration / programming / headersee instruction list• Command setsee instruction list• Nesting levels8• System functions (SFC)see instruction list• System function blocks (SFB)see instruction list• Programming languageYes- LADYes- FBDYes- STLYes- SCLYes- CFCYes | Ambient temperature during operation | |
| configuration / header • STEP 7 Yes; V5.5 or higher configuration / programming / header see instruction list • Command set see instruction list • Nesting levels 8 • System functions (SFC) see instruction list • System function blocks (SFB) see instruction list Programming language - LAD - FBD Yes - STL Yes - SCL Yes - CFC Yes | • min. | 0°0 |
| Configuration software• STEP 7Yes; V5.5 or higherconfiguration / programming / headersee instruction list• Command setsee instruction list• Nesting levels8• System functions (SFC)see instruction list• System function blocks (SFB)see instruction listProgramming language LADYes- FBDYes- STLYes- SCLYes- CFCYes | • max. | 60 °C |
| • STEP 7Yes; V5.5 or higherconfiguration / programming / headersee instruction list• Command setsee instruction list• Nesting levels8• System functions (SFC)see instruction list• System function blocks (SFB)see instruction listProgramming languageYes- LADYes- FBDYes- STLYes- SCLYes- CFCYes | configuration / header | |
| • STEP 7Yes; V5.5 or higherconfiguration / programming / headersee instruction list• Command setsee instruction list• Nesting levels8• System functions (SFC)see instruction list• System function blocks (SFB)see instruction listProgramming languageYes- LADYes- FBDYes- STLYes- SCLYes- CFCYes | Configuration software | |
| • Command setsee instruction list• Nesting levels8• System functions (SFC)see instruction list• System function blocks (SFB)see instruction list• Programming language- LADYes- FBDYes- STLYes- SCLYes- CFCYes | - | Yes; V5.5 or higher |
| Nesting levels8• System functions (SFC)see instruction list• System function blocks (SFB)see instruction listProgramming language- LADYes- FBDYes- STLYes- SCLYes- CFCYes | configuration / programming / header | |
| • System functions (SFC)see instruction list• System function blocks (SFB)see instruction listProgramming language- LADYes- FBDYes- STLYes- SCLYes- CFCYes | Command set | see instruction list |
| • System function blocks (SFB)see instruction listProgramming language- LADYes- FBDYes- STLYes- SCLYes- CFCYes | Nesting levels | 8 |
| Programming language — LAD Yes — FBD Yes — STL Yes — SCL Yes — CFC Yes | System functions (SFC) | see instruction list |
| LADYes FBDYes STLYes SCLYes CFCYes | System function blocks (SFB) | see instruction list |
| FBDYes STLYes SCLYes CFCYes | Programming language | |
| STLYes SCLYes CFCYes | — LAD | Yes |
| SCL Yes CFC Yes | — FBD | Yes |
| - CFC Yes | — STL | Yes |
| | — SCL | Yes |
| — GRAPH Yes | — CFC | Yes |
| | — GRAPH | Yes |

| — HiGraph® | Yes |
|---|----------------------------|
| Know-how protection | |
| User program protection/password protection | Yes |
| Block encryption | Yes; With S7 block Privacy |
| Dimensions | |
| Width | 40 mm |
| Height | 125 mm |
| Depth | 130 mm |
| Weights | |
| Weight, approx. | 340 g |
| | |

last modified:

4/1/2022 🖸