SIEMENS

Product data sheet 6ES7317-7TK10-0AB0



SIMATIC S7-300, CPU 317T-3 PN/DP, CENTRAL PROCESSING UNIT FOR PLC AND TECHNOLOGY,

1024 KBYTE WORKING MEMORY,

- 1. INTERFACE MPI/DP 12MBIT/S,
- 2. INTERFACE DP(DRIVE),
- 3. INTERFACE ETHERNET PROFINET WITH 2 PORT SWITCH,

INTEGRATED I/O FOR TECHNOLOGY, FRONT CONNECTOR (1 X 40PIN) AND MICRO MEMORY CARD MIN. 8 MB NECESSARY

| General information | | |
|--|---|--|
| Hardware product version | 01 | |
| Firmware version | CPU: V3.2; integrated technology V4.1.5 | |
| Supply voltage | | |
| 24 V DC | Yes | |
| permissible range, lower limit (DC) | 19.2 V | |
| permissible range, upper limit (DC) | 28.8 V | |
| External protection for supply cables (recommendation) | 2 A min. | |
| Load voltage L+ | | |
| Rated value (DC) | 24 V | |
| Reverse polarity protection | Yes | |
| Digital outputs | | |
| Load voltage L+ | | |
| Rated value (DC) | 24 V ; 2L+ | |
| Reverse polarity protection | No ; 2L+ | |
| Input current | | |
| Current consumption (rated value) | 1050 mA | |
| Current consumption (in no-load operation), typ. | 230 mA | |
| Inrush current, typ. | 6.5 A | |

| ² t | 1 A ² ·s |
|---|---|
| Power losses | |
| Power loss, typ. | 7.5 W |
| Memory | _ |
| Type of memory | other |
| Work memory | |
| integrated | 1024 kbyte |
| expandable | No |
| Size of retentive memory for retentive data blocks | 256 kbyte |
| Load memory | |
| pluggable (MMC) | Yes |
| pluggable (MMC), max. | 8 Mbyte |
| Data management on MMC (after last programming), min. | 10 a |
| 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 | |
| Number of blocks (total) | 2048 ; (DBs, FCs, FBs); the maximum number of loadable blocks can be reduced by the MMC used. |
| DB | |
| Number, max. | 2048 ; Number range: 1 to 16000 |
| Size, max. | 64 kbyte |
| FB | |
| Number, max. | 2048 ; Number range: 0 to 7999 |
| Size, max. | 64 kbyte |
| FC | |
| Number, max. | 2048 ; Number range: 0 to 7999 |
| Size, max. | 64 kbyte |
| OB | |
| Description | see instruction list |
| 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 time Interrupt OBs | | |
|---|--|--|
| Number of DPV1 alam OBs Number isochronoue mode OBs 1 | Number of time interrupt OBs | 4 ; OB 32, 33, 34, 35 |
| Number isochronous mode OBs 1; OB 61 - isochronous mode is possible either on DP or PROFINET IO (not simultaneously) Number of technology synchronous alarm OBs 1; OB 65 Number of startup OBs 1; OB 80 Number of synchronous 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 per priority class additional within an error OB 4 Countiers, timers and their retentivity \$7 counter Number 512 Retentivity adjustable yes lower limit 0 upper limit 511 preset 2 0 to 2 7 Counting range adjustable yes lower limit 0 upper limit 999 IEC counter Present Yes Number \$12 Retentivity \$7 times Number \$12 Retentivity \$12 Retentivity \$12 Retentivity \$11 \$11 \$11 \$11 \$11 \$11 \$12 \$12 \$13 \$14 \$15 \$15 \$15 \$15 \$15 \$15 \$15 | Number of process alarm OBs | 1; OB 40 |
| IC (not simultaneously) Number of technology synchronous alarm OBs | Number of DPV1 alarm OBs | 3 ; OB 55, 56, 57 |
| Number of startup OBs Number of asynchronous error OBs Number of synchronous error OBs Number of synchronous error OBs Number of synchronous error OBs 2; OB 121, 122 Nesting depth per priority class additional within an error OB 4 Counters, timers and their retentivity \$7 counter Number \$12 Retentivity adjustable Ves kower limit 0 upper limit 999 IEC counter present Yes Number \$7 times Number \$12 Retentivity adjustable (Fes outper | Number isochronous mode OBs | |
| Number of asynchronous error OBs Number of synchronous error OBs Number of synchronous error OBs 2; OB 121, 122 Nesting depth per priority class additional within an error OB 4 Counters, timers and their retentivity S7 counter Number 512 Retentivity adjustable Yes lower limit 0 upper limit 10 upper limit 999 IEC counter Present Yes Number SFB Number SFB Number SFB Number SFB Number SFB Number ST2 Retentivity 30 SFB Number Ves Lower limit 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | Number of technology synchronous alarm OBs | 1; OB 65 |
| Number of synchronous error OBs Nesting depth per priority class additional within an error OB Counters, timers and their retentivity S7 counter Number S12 Rotentivity adjustable Ves lower limit upper li | Number of startup OBs | 1; OB 100 |
| Nesting depth per priority class 16 additional within an error OB 4 Counters, timers and their retentivity S7 counter Number 512 Retentivity adjustable Yes lower limit 0 upper limit 9 10 0 upper limit 9999 IEC counter present Yes Type SFB Number Unlimited (limited only by RAM capacity) S7 times Number 512 Retentivity 10 0 10 0 10 10 10 10 10 10 10 10 10 10 10 10 10 1 | Number of asynchronous error OBs | 6; OB 80, 82, 83, 85, 86, 87 (OB83 only for PROFINET IO) |
| per priority class additional within an error OB 4 Counters, timers and their retentivity S7 counter Number 512 Retentivity adjustable Yes lower limit 0 upper limit 511 preset Z0 to Z7 Counting range adjustable Yes lower limit 9999 IEC counter present Yes Type SFB Number Unlimited (limited only by RAM capacity) S7 times Number 512 Retentivity Adjustable Yes Lower limit 0 Unlimited (limited only by RAM capacity) FY es Lower limit 0 Unimited (limited only by RAM capacity) Time range Lower limit 0 Un oper limit 1 Un one upper li | Number of synchronous error OBs | 2 ; OB 121, 122 |
| additional within an error OB Counters, timers and their retentivity S7 counter Number 512 Retentivity adjustable Yes lower limit 0 upper limit 511 preset 20 to 27 Counting range adjustable Yes lower limit 0 upper limit 999 IEC counter Present Yes SFB Number S7 times Number 512 Retentivity adjustable Yes lower limit 0 Unlimited (limited only by RAM capacity) S7 times Number 512 Retentivity adjustable Yes lower limit 0 Unifer finit 0 Unifer | Nesting depth | |
| Counters, timers and their retentivity S7 counter Number 512 Retentivity adjustable Yes lower limit 0 upper limit 511 preset Z 0 to Z 7 Counting range adjustable Yes lower limit 0 upper limit 9999 IEC counter present Yes Type SFB Number Unlimited (limited only by RAM capacity) S7 times Number 512 Retentivity adjustable Yes lower limit 0 upper limit 511 preset Number 512 Retentivity adjustable Yes lower limit 0 upper limit 511 preset No retentivity Time range lower limit 10 ms upper limit 10 ms upper limit 9990 s | per priority class | 16 |
| S7 counter Number 512 Retentivity adjustable Yes Lower limit 0 upper limit 511 preset 2 0 to 2 7 Counting range adjustable Yes Lower limit 0 upper limit 999 IEC counter Present Yes Type SFB Number Unlimited (limited only by RAM capacity) S7 times Number 512 Retentivity adjustable Yes Lower limit 0 upper limit 999 IEC counter Outlimited (limited only by RAM capacity) S7 times Number 512 Retentivity adjustable Yes Lower limit 0 upper limit 511 preset No retentivity Time range Lower limit 10 ms upper limit 9990 s | additional within an error OB | 4 |
| Number 512 Retentivity adjustable Yes lower limit 0 upper limit 511 preset 2 0 to 2 7 Counting range adjustable Yes lower limit 0 upper limit 999 IEC counter present Yes Type SFB Number Unlimited (limited only by RAM capacity) S7 times Number 512 Retentivity adjustable Yes lower limit 0 upper limit 999 | Counters, timers and their retentivity | |
| Retentivity adjustable Yes lower limit 0 upper limit 511 preset Z 0 to Z 7 Counting range adjustable lower limit 0 upper limit 999 IEC counter present Yes Type SFB Number Unlimited (limited only by RAM capacity) S7 times Number 512 Retentivity adjustable Yes lower limit 0 upper limit 0 upper limit 511 preset No retentivity Time range lower limit 10 ms upper limit 9990 s | S7 counter | |
| adjustable Ves lower limit | Number | 512 |
| lower limit upper limit preset Z 0 to Z 7 Counting range adjustable Yes lower limit upper limit 999 IEC counter present Yes Type SFB Number Unlimited (limited only by RAM capacity) S7 times Number 512 Retentivity adjustable Yes lower limit 0 upper limit 0 upper limit 90 10 10 10 10 10 10 10 10 10 | Retentivity | |
| upper limit preset Z 0 to Z 7 Counting range adjustable lower limit 0 upper limit 999 IEC counter present Yes Type SFB Number Unlimited (limited only by RAM capacity) S7 times Number 512 Retentivity adjustable Yes lower limit 0 upper limit 511 preset No retentivity Time range lower limit 10 ms upper limit 9990 s | adjustable | Yes |
| preset Z 0 to Z 7 Counting range adjustable Yes lower limit 0 upper limit 999 IEC counter present Yes Type SFB Number Unlimited (limited only by RAM capacity) S7 times Number 512 Retentivity adjustable Yes lower limit 0 upper limit 511 preset No retentivity Time range lower limit 10 ms upper limit 9990 s | lower limit | 0 |
| Counting range adjustable lower limit 0 upper limit 999 IEC counter present Yes Type SFB Number Unlimited (limited only by RAM capacity) 87 times Number 512 Retentivity adjustable Yes lower limit 0 upper limit 511 preset No retentivity Time range lower limit 9990 s | upper limit | 511 |
| adjustable lower limit upper limit 999 IEC counter present Yes Type SFB Number Unlimited (limited only by RAM capacity) S7 times Number 512 Retentivity adjustable Yes lower limit 0 upper limit 511 preset No retentivity Time range lower limit 10 ms upper limit 9990 s | preset | Z 0 to Z 7 |
| lower limit upper limit upper limit 999 IEC counter present Yes Type SFB Number Unlimited (limited only by RAM capacity) S7 times Number 512 Retentivity adjustable Yes lower limit 0 upper limit 511 preset No retentivity Time range lower limit 9990 s | Counting range | |
| upper limit Pesent Yes | adjustable | Yes |
| present Yes Type SFB Number Unlimited (limited only by RAM capacity) S7 times Number 512 Retentivity adjustable Yes lower limit 0 upper limit 511 preset No retentivity Time range lower limit 10 ms upper limit 9990 s | lower limit | 0 |
| present Yes Type SFB Number Unlimited (limited only by RAM capacity) S7 times Number 512 Retentivity adjustable Yes lower limit 0 upper limit 511 preset No retentivity Time range lower limit 10 ms upper limit 9990 s | upper limit | 999 |
| Type Number Unlimited (limited only by RAM capacity) S7 times Number 512 Retentivity adjustable Yes lower limit preset No retentivity Time range lower limit 10 ms 9990 s | IEC counter | |
| Number Unlimited (limited only by RAM capacity) S7 times Number 512 Retentivity adjustable Yes lower limit 0 upper limit 511 preset No retentivity Time range lower limit 10 ms upper limit 9990 s | present | Yes |
| Number 512 Retentivity adjustable Yes lower limit 0 upper limit 511 preset No retentivity Time range lower limit 10 ms upper limit 9990 s | Туре | SFB |
| Number 512 Retentivity adjustable Yes lower limit 0 upper limit 511 preset No retentivity Time range lower limit 10 ms upper limit 9990 s | Number | Unlimited (limited only by RAM capacity) |
| Retentivity adjustable Yes lower limit 0 upper limit 511 preset No retentivity Time range lower limit 10 ms upper limit 9990 s | S7 times | |
| adjustable lower limit upper limit preset No retentivity Time range lower limit 10 ms upper limit 9990 s | Number | 512 |
| lower limit upper limit preset No retentivity Time range lower limit 10 ms upper limit 9990 s | Retentivity | |
| upper limit 511 preset No retentivity Time range lower limit 10 ms upper limit 9990 s | adjustable | Yes |
| preset No retentivity Time range lower limit 10 ms upper limit 9990 s | lower limit | 0 |
| Time range lower limit 10 ms upper limit 9990 s | upper limit | 511 |
| lower limit 10 ms upper limit 9990 s | preset | No retentivity |
| upper limit 9990 s | Time range | |
| | lower limit | 10 ms |
| IEC timer | upper limit | 9990 s |
| | IEC timer | |

| present | Yes |
|--|---|
| · | SFB |
| Type Number | Unlimited (limited only by RAM capacity) |
| | Offillitilled (liftilled offly by KAIN capacity) |
| Data areas and their retentivity | All OSO I/D |
| retentive data area, total | All, max. 256 KB |
| Flag | |
| Number, max. | 4096 byte |
| Retentivity available | Yes ; From MB 0 to MB 4095 |
| Retentivity preset | MB 0 to MB 15 |
| Number of clock memories | 8 ; 1 memory byte |
| Data blocks | |
| Number, max. | 2048 ; Number range: 1 to 16000 |
| Size, max. | 64 kbyte |
| Retentivity adjustable | Yes ; via non-retain property on DB |
| Retentivity preset | Yes |
| Local data | |
| per priority class, max. | 32768 byte ; Max. 2048 bytes per block |
| Address area | |
| I/O address area | |
| Inputs | 8192 byte |
| Outputs | 8192 byte |
| of which, distributed | |
| Inputs | 8192 byte |
| Outputs | 8192 byte |
| Process image | |
| Inputs | 8192 byte |
| Outputs | 8192 byte |
| Inputs, adjustable | 8192 byte |
| Outputs, adjustable | 8192 byte |
| Inputs, default | 256 byte |
| Outputs, default | 256 byte |
| Default addresses of the integrated channels | |
| Digital inputs | 66 |
| Digital outputs | 66 |
| Subprocess images | |
| Number of subprocess images, max. | 1; With PROFINET IO, the length of the user data is limited to 1600 bytes |
| Digital channels | |
| Inputs | 65536 |
| | |

| Outputs | 65536 |
|---|--|
| Inputs, of which central | 256 |
| Outputs, of which central | 256 |
| Analog channels | |
| Inputs | 4096 |
| Outputs | 4096 |
| Inputs, of which central | 64 |
| Outputs, of which central | 64 |
| Hardware configuration | |
| Expansion devices, max. | 0 |
| Number of DP masters | |
| integrated | 2 ; 1 DP and 1 DP (drive) |
| via CP | 2 ; for DP |
| Number of operable FMs and CPs (recommended) | |
| FM | 8 |
| CP, point-to-point | 8 |
| CP, LAN | 8 |
| Rack | |
| Racks, max. | 1 |
| | |
| Modules per rack, max. | 8 |
| Modules per rack, max. Time of day | 8 |
| | 8 |
| Time of day | Yes |
| Time of day Clock | |
| Time of day Clock Hardware clock (real-time clock) | Yes |
| Time of day Clock Hardware clock (real-time clock) battery-backed and synchronizable | Yes Yes |
| Clock Hardware clock (real-time clock) battery-backed and synchronizable Deviation per day, max. | Yes Yes 10 s; Typ.: 2 s |
| Clock Hardware clock (real-time clock) battery-backed and synchronizable Deviation per day, max. Backup time | Yes Yes 10 s; Typ.: 2 s 6 wk; At 40 °C ambient temperature |
| Clock Hardware clock (real-time clock) battery-backed and synchronizable Deviation per day, max. Backup time Behavior of the clock following POWER-ON | Yes Yes 10 s; Typ.: 2 s 6 wk; At 40 °C ambient temperature Clock continues running after POWER OFF Clock continues to run with the time at which the power failure |
| Clock Hardware clock (real-time clock) battery-backed and synchronizable Deviation per day, max. Backup time Behavior of the clock following POWER-ON Behavior of the clock following expiry of backup period | Yes Yes 10 s; Typ.: 2 s 6 wk; At 40 °C ambient temperature Clock continues running after POWER OFF Clock continues to run with the time at which the power failure |
| Clock Hardware clock (real-time clock) battery-backed and synchronizable Deviation per day, max. Backup time Behavior of the clock following POWER-ON Behavior of the clock following expiry of backup period Operating hours counter | Yes Yes 10 s; Typ.: 2 s 6 wk; At 40 °C ambient temperature Clock continues running after POWER OFF Clock continues to run with the time at which the power failure occurred |
| Clock Hardware clock (real-time clock) battery-backed and synchronizable Deviation per day, max. Backup time Behavior of the clock following POWER-ON Behavior of the clock following expiry of backup period Operating hours counter Number | Yes Yes 10 s; Typ.: 2 s 6 wk; At 40 °C ambient temperature Clock continues running after POWER OFF Clock continues to run with the time at which the power failure occurred |
| Clock Hardware clock (real-time clock) battery-backed and synchronizable Deviation per day, max. Backup time Behavior of the clock following POWER-ON Behavior of the clock following expiry of backup period Operating hours counter Number Number/Number range | Yes Yes 10 s; Typ.: 2 s 6 wk; At 40 °C ambient temperature Clock continues running after POWER OFF Clock continues to run with the time at which the power failure occurred 4 0 to 3 |
| Clock Hardware clock (real-time clock) battery-backed and synchronizable Deviation per day, max. Backup time Behavior of the clock following POWER-ON Behavior of the clock following expiry of backup period Operating hours counter Number Number/Number range Range of values | Yes Yes 10 s; Typ.: 2 s 6 wk; At 40 °C ambient temperature Clock continues running after POWER OFF Clock continues to run with the time at which the power failure occurred 4 0 to 3 0 to 2^31 hours (when using SFC 101) |
| Clock Hardware clock (real-time clock) battery-backed and synchronizable Deviation per day, max. Backup time Behavior of the clock following POWER-ON Behavior of the clock following expiry of backup period Operating hours counter Number Number Range of values Granularity | Yes Yes 10 s; Typ.: 2 s 6 wk; At 40 °C ambient temperature Clock continues running after POWER OFF Clock continues to run with the time at which the power failure occurred 4 0 to 3 0 to 2^31 hours (when using SFC 101) 1 hour |
| Clock Hardware clock (real-time clock) battery-backed and synchronizable Deviation per day, max. Backup time Behavior of the clock following POWER-ON Behavior of the clock following expiry of backup period Operating hours counter Number Number range Range of values Granularity retentive | Yes Yes 10 s; Typ.: 2 s 6 wk; At 40 °C ambient temperature Clock continues running after POWER OFF Clock continues to run with the time at which the power failure occurred 4 0 to 3 0 to 2^31 hours (when using SFC 101) 1 hour |
| Clock Hardware clock (real-time clock) battery-backed and synchronizable Deviation per day, max. Backup time Behavior of the clock following POWER-ON Behavior of the clock following expiry of backup period Operating hours counter Number Number/Number range Range of values Granularity retentive Clock synchronization | Yes Yes 10 s; Typ.: 2 s 6 wk; At 40 °C ambient temperature Clock continues running after POWER OFF Clock continues to run with the time at which the power failure occurred 4 0 to 3 0 to 2^31 hours (when using SFC 101) 1 hour Yes; Must be restarted at each restart |

| to DP, master | Yes |
|---|--|
| to DP, slave | Yes ; Only time-of-day slave |
| in AS, master | Yes |
| in AS, slave | Yes |
| on Ethernet via NTP | Yes ; As client |
| Digital inputs | |
| Number of digital inputs | 4 |
| of which, inputs usable for technological functions | 4 |
| Input characteristic curve in accordance with IEC 61131, type 1 | Yes |
| Number of simultaneously controllable inputs | |
| horizontal installation | |
| up to 40 °C, max. | 4 |
| up to 60 °C, max. | 4 |
| vertical installation | |
| up to 40 °C, max. | 4 |
| Input voltage | |
| Rated value, DC | 24 V |
| for signal "0" | -3 to +5 V |
| for signal "1" | 15 to 30 V |
| Input current | |
| for signal "1", typ. | 7 mA |
| Input delay (for rated value of input voltage) | |
| for counter/technological functions | _ |
| at "0" to "1", max. | 10 μs ; Typical |
| at "1" to "0", max. | 10 μs ; Typical |
| Cable length | |
| Cable length, shielded, max. | 1000 m |
| Digital outputs | |
| Number of digital outputs | 8 |
| of which high-speed outputs | 8 |
| Functions | For technology functions, e.g. high-speed cam switch signals |
| Short-circuit protection | Yes |
| Response threshold, typ. | 1,0 A |
| Limitation of inductive shutdown voltage to | 48 V |
| Controlling a digital input | No |
| Switching capacity of the outputs | |
| Lamp load, max. | 5 W |
| Load resistance range | |
| | |

| upper limit Output voltage for signal "1", min. Rated voltage -2.5 V Output outrent for signal "1" reled value for signal "1" permissible range for 0 to 80 °C, min. for signal "1" permissible range for 0 to 80 °C, min. for signal "1" permissible range for 0 to 80 °C, max. for signal "1" permissible range for 0 to 80 °C, max. for signal "1" permissible range for 0 to 80 °C, max. for signal "0" recidual current, max. 0.3 mA Parallel switching of 2 outputs for increased power No for redundant control of a load No Switching frequency with resistive load, max. 100 Hz Aggregate current of outputs (per group) horizontal installation up to 40 °C, max. 4 A up to 60 °C, max. all other mounting positions up to 40 °C, max. 4 A Integrated high-speed cams Switching accuracy, (+/-) Cable length Cable length, shielded, max. Analog inputs Number of analog inputs O Analog outputs Number of analog inputs O Unimer of 85 422 interfaces No Number of R5 422 interfaces O Number of R5 422 interfaces O Number of other interfaces O | lower limit | 48 Ω |
|--|---|--------------------------------|
| Output voltage for signal "0", max. 3 V; (2L+) (or signal "1", min. Rated voltage -2.5 V (or signal "1", min. Fated voltage -2.5 V (or signal "1", min. 5 mA (or signal "1") permissible range for 0 to 80 °C, min. 5 mA (or signal "1") permissible range for 0 to 80 °C, max. 0.6 A (or signal "1") permissible range for 0 to 80 °C, max. 0.6 A (or signal "0") residual current, max. 0.3 mA (or signal "0") residual current, max. 0.3 mA (or signal "0") residual current, max. 0.3 mA (or signal "0") residual current, max. 0.4 mA (or signal "0") residual current, max. 0.4 mA (or signal "0") residual current, max. 0.7 mA (or signal "0") residual current, max. 0.8 mA (or signal "0") residual current of load No (or signal "0") residual current of load No (or signal "0") residual current of outputs (per group) (or signal current of outputs (or signal "0") | | |
| for signal "1", min. Output current: for signal "1" rated value for signal "1" permissible range for 0 to 80 °C, min. for signal "0" residual current, max. O.3 mA Perallel switching of 2 outputs for increased power No for redundant control of a load No Switching frequency with residive load, max. vith inductive load, max. Aggregate current of outputs (per group) horizontal installation up to 40 °C, max. all other mounting positions up to 40 °C, max. 4 A Integrated high-speed cams Switching accuracy, (+/-) Cable length, shielded, max. Analog inputs Number of analog outputs 0 Encoder Connectable encoders 2-wire sensor No No No No No 100 Hz 4 A 4 A 1000 m Analog inputs Number of analog outputs 0 Encoder Connectable encoders 2-wire sensor No Interfaces Number of 88 422 interfaces 0 Number of other interfaces | | |
| for signel *1*, min. Output current for signel *1* rated value for signel *1* permissible range for 0 to 80 °C, min. for signel *1* permissible range for 0 to 80 °C, min. for signel *1* permissible range for 0 to 80 °C, max. for signel *1* permissible range for 0 to 80 °C, max. for signel *1* permissible range for 0 to 80 °C, max. for signel *1* permissible range for 0 to 80 °C, max. for signel *1* permissible range for 0 to 80 °C, max. for signel *1* permissible range for 0 to 80 °C, max. Parallel switching of 2 outputs for increased power No Switching frequency with resistive load, max. with inductive load, max. 100 Hz with inductive load, max. 100 Hz Aggregate current of outputs (per group) horizontal installation up to 40 °C, max. 4 A up to 60 °C, max. 4 A all other mounting positions up to 40 °C, max. 4 A Integrated high-speed came Switching accuracy, (4/-) Cable length, shielded, max. Analog inputs Number of analog inputs Number of analog inputs Number of analog outputs No interfaces No interfaces No interfaces Number of ther interfaces 0 Number of other interfaces 0 Number of other interfaces | | 3 V ; (2L+) |
| for signal "1" rated value | | |
| for signal "1" permissible range for 0 to 60 °C, min. for signal "1" permissible range for 0 to 60 °C, max. for signal "0" residual current, max. 0.3 mA Parallel switching of 2 outputs for increased power No for redundant control of a load No Switching frequency with resistive load, max. 100 Hz with inductive load, max. 100 Hz with inductive load, max. 100 Hz Aggregate current of outputs (per group) horizontal installation up to 40 °C, max. 4 A up to 80 °C, max. 3 A all other mounting positions up to 40 °C, max. 4 A Integrated high-speed cams Switching accuracy, (*f-) Cable length Cable length Cable length, shielded, max. Number of analog outputs Number of analog outputs Number of RS 422 interfaces Number of other interfaces Number of other interfaces Number of other interfaces Number of other interfaces 0 Number of other interfaces | Output current | |
| for signal "1" permissible range for 0 to 60 "C, max. | for signal "1" rated value | 0.5 A |
| for signal "0" residual current, max. Parallel switching of 2 outputs for increased power for redundant control of a load No Switching frequency with resistive load, max. 100 Hz with inductive load, max. 100 Hz Aggregate current of outputs (per group) horizontal installation up to 40 "C, max. 4 A up to 60 "C, max. 4 A integrated high-speed cams Switching accuracy, (+/-) Cable length Cable length Challength, shielded, max. Analog inputs Number of analog outputs Number of analog outputs Definition Definition 100 m 100 | for signal "1" permissible range for 0 to 60 °C, min. | 5 mA |
| Parallel switching of 2 outputs for increased power for redundant control of a load No Switching frequency with resistive load, max. 100 Hz with inductive load, max. 100 Hz Aggregate current of outputs (per group) horizontal installation up to 40 °C, max. 4 A up to 60 °C, max. 3 A all other mountling positions up to 40 °C, max. 4 A Integrated high-speed cams Switching accuracy, (+/-) Cable length Cable length Cable length, shielded, max. 1000 m Analog inputs Number of analog outputs 0 Encoder Connectable encoders 2-wire sensor No Interfaces Number of RS 422 interfaces 0 Number of other interfaces 0 Number of other interfaces 0 Number of other interfaces 0 | for signal "1" permissible range for 0 to 60 °C, max. | 0.6 A |
| for increased power for redundant control of a load No Switching frequency with resistive load, max. 100 Hz with inductive load, max. 100 Hz with inductive load, max. 100 Hz Aggregate current of outputs (per group) hortzontal installation up to 40 °C, max. 4 A up to 60 °C, max. 3 A all other mounting positions up to 40 °C, max. 4 A Integrated high-speed cams Switching accuracy, (+/-) Cable length Cable length Cable lengths, shielded, max. Number of analog outputs Number of analog outputs Purple of RS 422 interfaces Number of the rinterfaces Number of other interfaces O | for signal "0" residual current, max. | 0.3 mA |
| for redundant control of a load Switching frequency with resistive load, max. with inductive load, max. 100 Hz with inductive load, max. 100 Hz Aggregate current of outputs (per group) horizontal installation up to 40 °C, max. 4 A up to 60 °C, max. 3 A all other mounting positions up to 40 °C, max. 4 A Integrated high-speed cams Switching accuracy, (+/-) Cable length Cable length Cable lengthshielded, max. 1000 m Analog inputs Number of analog outputs Number of analog outputs Number of analog outputs Number of analog outputs Number of RS 422 interfaces Number of other interfaces Number of other interfaces Number of other interfaces Number of other interfaces Number of other interfaces | Parallel switching of 2 outputs | |
| Switching frequency with resistive load, max. with inductive load, max. on lamp load, max. 100 Hz Aggregate current of outputs (per group) horizontal installation up to 40 °C, max. 4 A up to 60 °C, max. 3 A all other mounting positions up to 40 °C, max. 4 A Integrated high-speed cams Switching accuracy, (+/-) Cable length Cable length Cable length Cable length shielded, max. Number of analog outputs Number of analog outputs Pencoder Connectable encoders 2-wire sensor No Interfaces Number of RS 422 interfaces Number of other interfaces Number of other interfaces Number of other interfaces Number of other interfaces Number of other interfaces 0 | for increased power | No |
| with resistive load, max. with inductive load, max. 0.2 Hz; to IEC 947-5-1, DC-13 on lamp load, max. 100 Hz Aggregate current of outputs (per group) horizontal installation up to 40 °C, max. 4 A up to 60 °C, max. 3 A all other mounting positions up to 40 °C, max. 4 A Integrated high-speed cams Switching accuracy, (+/-) Cable length Cable length, shielded, max. 1000 m Analog inputs Number of analog inputs 0 Encoder Connectable encoders 2-wire sensor No Interfaces Number of RS 422 Interfaces Number of other Interfaces 0 Number of other Interfaces | for redundant control of a load | No |
| with inductive load, max. on lamp load, max. Aggregate current of outputs (per group) horizontal installation up to 40 °C, max. 4 A up to 60 °C, max. 3 A all other mounting positions up to 40 °C, max. 4 A Integrated high-speed cams Switching accuracy, (+/-) Cable length Cable length Cable length, shielded, max. Analog inputs Number of analog outputs Number of analog outputs O Encoder Connectable encoders 2-wire sensor No Interfaces Number of RS 422 interfaces Number of other interfaces O Number of other interfaces O Number of other interfaces | Switching frequency | |
| on lamp load, max. Aggregate current of outputs (per group) horizontal installation up to 40 °C, max. 4 A up to 60 °C, max. 3 A all other mounting positions up to 40 °C, max. 4 A Integrated high-speed cams Switching accuracy, (+/-) Cable length Cable length, shielded, max. Analog inputs Number of analog inputs 0 Analog outputs Number of analog outputs 0 Encoder Connectable encoders 2-wire sensor No Interfaces Number of RS 422 interfaces 0 Number of other interfaces 0 | with resistive load, max. | 100 Hz |
| Aggregate current of outputs (per group) horizontal installation up to 40 °C, max. | with inductive load, max. | 0.2 Hz ; to IEC 947-5-1, DC-13 |
| horizontal installation up to 40 °C, max. up to 60 °C, max. all other mounting positions up to 40 °C, max. 4 A Integrated high-speed cams Switching accuracy, (+/-) Cable length Cable length, shielded, max. 1000 m Analog inputs Number of analog inputs Number of analog outputs Purple of analog outputs Connectable encoders 2-wire sensor No Interfaces Number of RS 422 interfaces Number of other interfaces 0 | on lamp load, max. | 100 Hz |
| up to 40 °C, max. up to 60 °C, max. all other mounting positions up to 40 °C, max. 4 A Integrated high-speed cams Switching accuracy, (+/-) Cable length Cable length, shielded, max. 1000 m Analog inputs Number of analog inputs Number of analog outputs Number of analog outputs O Encoder Connectable encoders 2-wire sensor No Interfaces Number of RS 422 interfaces Number of other interfaces 0 | Aggregate current of outputs (per group) | |
| up to 60 °C, max. all other mounting positions up to 40 °C, max. 4 A Integrated high-speed cams Switching accuracy, (+/-) Cable length Cable length, shielded, max. 1000 m Analog inputs Number of analog inputs 0 Analog outputs Number of analog outputs 0 Encoder Connectable encoders 2-wire sensor No Interfaces Number of RS 422 interfaces 0 Number of other interfaces | horizontal installation | |
| all other mounting positions up to 40 °C, max. Integrated high-speed cams Switching accuracy, (+/-) Cable length Cable length, shielded, max. Analog inputs Number of analog inputs Number of analog outputs Number of analog outputs O Encoder Connectable encoders 2-wire sensor No Interfaces Number of RS 422 interfaces Number of other interfaces 0 | up to 40 °C, max. | 4 A |
| up to 40 °C, max. Integrated high-speed cams Switching accuracy, (+/-) Cable length Cable length, shielded, max. Analog inputs Number of analog inputs Number of analog outputs O Encoder Connectable encoders 2-wire sensor Number of RS 422 interfaces Number of other interfaces O | up to 60 °C, max. | 3 A |
| Integrated high-speed cams Switching accuracy, (+/-) Cable length Cable length, shielded, max. Integrated high-speed cams Cable length Cable length, shielded, max. Integrated high-speed cams | all other mounting positions | |
| Switching accuracy, (+/-) Cable length Cable length, shielded, max. Interfaces Number of analog outputs O Encoder Connectable encoders 2-wire sensor Number of RS 422 interfaces Number of other interfaces O To ps T | up to 40 °C, max. | 4 A |
| Cable length, shielded, max. 1000 m Analog inputs Number of analog inputs 0 Analog outputs Number of analog outputs 0 Encoder Connectable encoders 2-wire sensor No Interfaces Number of RS 422 interfaces 0 Number of other interfaces 0 | Integrated high-speed cams | |
| Cable length, shielded, max. Analog inputs Number of analog inputs 0 Analog outputs Number of analog outputs 0 Encoder Connectable encoders 2-wire sensor No Interfaces Number of RS 422 interfaces 0 Number of other interfaces 0 | Switching accuracy, (+/-) | 70 μs |
| Analog inputs Number of analog inputs O Analog outputs Number of analog outputs 0 Encoder Connectable encoders 2-wire sensor No Interfaces Number of RS 422 interfaces Number of other interfaces 0 Number of other interfaces | Cable length | |
| Number of analog inputs Analog outputs Number of analog outputs 0 Encoder Connectable encoders 2-wire sensor No Interfaces Number of RS 422 interfaces Number of other interfaces 0 | Cable length, shielded, max. | 1000 m |
| Analog outputs Number of analog outputs Encoder Connectable encoders 2-wire sensor No Interfaces Number of RS 422 interfaces Number of other interfaces 0 | Analog inputs | |
| Number of analog outputs Encoder Connectable encoders 2-wire sensor No Interfaces Number of RS 422 interfaces Number of other interfaces 0 | Number of analog inputs | 0 |
| Encoder Connectable encoders 2-wire sensor No Interfaces Number of RS 422 interfaces Number of other interfaces 0 | Analog outputs | |
| Connectable encoders 2-wire sensor No Interfaces Number of RS 422 interfaces Number of other interfaces 0 | Number of analog outputs | 0 |
| 2-wire sensor No Interfaces Number of RS 422 interfaces Number of other interfaces 0 | Encoder | |
| Interfaces Number of RS 422 interfaces 0 Number of other interfaces 0 | Connectable encoders | |
| Number of RS 422 interfaces 0 Number of other interfaces 0 | 2-wire sensor | No |
| Number of other interfaces 0 | Interfaces | |
| | Number of RS 422 interfaces | 0 |
| | Number of other interfaces | 0 |
| 1st interface | 1st interface | |

| Intention type Integrated RS 485 interface Physics RS 485 Isolated Yes Power supply to interface (15 to 30 V DC), max. 200 m/A Fount-to-path connection (Pomaster) DP slave Yes DP slave Yes Point-to-point connection MP MP Transmission rate, max. 12 Mbit/s Services POP communication Yes Global data communication Yes S7 communication, as client Yes S7 communication, as saver Yes S7 communication, as saver Yes POP master 124 Transmission rate, max. 124 Mbit/s Number of DP slaves, max. 124 Mbit/s Number of DP slaves, max. 124 Mbit/s Routing Yes Global data communication No S7 communication Yes S7 communication Yes S7 commu | | |
|--|---|---|
| Solated | Interface type | Integrated RS 485 interface |
| Power supply to Interface (15 to 30 V DC), max. Functionality MPI Yes DP master Yes Point-to-point connection No MPI Transmission rate, max. 12 Mbit/s Services PGIOP communication Yes Routing Global data communication Yes S7 communication, as elient S7 communication, as elient Yes: Clop communication Yes: Connection configured on one side only DP master Transmission rate, max. 12 Mbit/s Since Paid loadable FB S7 communication, as elient Yes: Connection configured on one side only DP master Transmission rate, max. 12 Mbit/s Number of DP slaves, max. 12 Mbit/s Routing Global data communication Yes Global data communication Yes Sorrices PGIOP communication Yes Global data communication Yes Global data communication Yes Sorrices PGIOP communication Yes Global data communicat | Physics | RS 485 |
| Functionality MPI Yes DP master Yes Point-to-point connection No MPI Transmission rate, max. 12 Mbit/s Services PG/OP communication Yes Global data communication Yes 37 basic communication Yes 57 communication, as client No; but via CP and loadable FB 37 communication, as server Yes; connection configured on one side only DP master Transmission rate, max. 12 Mbit/s Services PG/OP communication Yes 70 communication, as elvent No; but via CP and loadable FB S7 communication, as client No; but via CP and loadable FB S7 communication, as elvent Yes; connection configured on one side only DP master Transmission rate, max. 12 Mbit/s Number of DP slaves, max. 124 Services PG/OP communication Yes Global data communication Yes Global data communication Yes S7 communication Yes Global data communication Yes S7 communication, as client No S7 basic communication Yes S7 communication, as server Yes Equidistance mode support Yes Activation/descrivation of DP slaves Number of DP slaves that can be simultaneously activated/descrivated, max. Direct data exchange (slave-to-slave communication) Yes: As subscriber | Isolated | Yes |
| MPI Yes DP master Yes DP elave Yes Point-to-point connection No MPI Transmission rate, max. 12 Mbit/s Services PG/OP communication Yes Globel data communication Yes S7 communication, as client Yes; Connection configured on one side only DP master Transmission rate, max. 12 Mbit/s S7 communication Yes S7 communication Yes S7 communication Yes S8 communication Yes S9 communication Yes S9 communication Yes S9 communication Yes S9 communication, as client No; but via CP and loadable FB S9 communication, as server Yes; Connection configured on one side only DP master Transmission rate, max. 12 Mbit/s Number of DP slaves, max. 124 Services PG/OP communication Yes Global data communication No S9 basic communication Yes Global data communication Yes; I blocks only S9 communication Yes S9 communication, as server Yes Equidistance mode support Yes Isochronous mode Can only be used alternatively on PROFIBUS DP or PROFINET IO SYNC/FREEZE Activation/deactivation of DP slaves Number of DP slaves that can be simultaneously activated/deactivated, max. Direct data exchange (slave-to-slave communication) Ves; As subscriber | Power supply to interface (15 to 30 V DC), max. | 200 mA |
| DP master DP slave Point-to-point connection MPI Transmission rate, max. 12 Mbit/s Services PG/OP communication Yes Global data communication Yes 37 communication Yes 37 communication, as server PS yes Transmission rate, max. 12 Mbit/s 12 Mbit/s 13 Mbit/s 14 Mbit/s 15 Mbit/s 15 Mbit/s 15 Mbit/s 16 Mbit/s 17 communication Yes | Functionality | |
| Point-to-point connection No MPI Transmission rate, max. 12 Mbit/s Services PG/OP communication Yes Global data communication Yes 57 basic communication No; but via CP and loadable FB 57 communication, as client No; but via CP and loadable FB Transmission rate, max. 12 Mbit/s Number of DP alaves, max. 124 Services PG/OP communication Yes Transmission rate, max. 124 Services PG/OP communication Yes Global data communication Yes Sor communication Yes PG/OP communication Yes Routing Yes Global data communication Yes Global data communication Yes Sor communication Yes For comm | MPI | Yes |
| Point-to-point connection MPI Transmission rate, max. 12 Mbit/s Services PG/OP communication Yes Routing Yes Global data communication Yes 57 basic communication Yes 57 communication Yes 57 communication Yes 57 communication, as client No; but via CP and loadable FB 57 communication, as server Yes; connection configured on one side only DP master Transmission rate, max. 12 Mbit/s Number of DP slaves, max. 124 Services PG/OP communication Routing Yes Global data communication Yes Global data communication Yes Global data communication Yes For communication Yes Global data communication No 57 basic communication Yes 57 communication Yes 57 communication Yes 57 communication Yes 58 communication Yes 59 communication Yes 59 communication Yes 50 communication Yes 51 blocks only 52 communication Yes 53 communication Yes 54 communication No 55 basic communication Yes 56 communication Yes 57 communication Yes 58 communication Yes 59 communication Yes 59 communication No 50 communication No 50 communication Yes 51 blocks only 52 communication Yes 53 communication Yes 54 communication Yes 55 communication Yes 56 communication Yes 57 communication Yes 58 communication Yes 59 communication Yes 59 communication Yes 50 communication Yes 51 blocks only 52 communication Yes 53 communication Yes 54 blocks only 55 communication Yes 56 communication Yes 57 communication Yes 58 communication Yes 59 communication Yes 59 communication Yes 50 communication Yes 50 communication Yes 50 communication Yes 50 communication Yes 51 blocks only 52 communication Yes 53 communication Yes 54 communication Yes 55 communication Yes 56 communication Yes 57 communication Yes 58 communication Yes 59 communication Yes 50 communicati | DP master | Yes |
| Transmission rate, max. 12 Mbit/s Services PG/OP communication Yes Routing Yes Global data communication Yes \$7 basic communication Yes \$7 communication, as client No; but via CP and loadable FB \$7 communication, as server Yes; Connection configured on one side only DP master Transmission rate, max. 12 Mbit/s Number of DP slaves, max. 124 Services PG/OP communication Yes Routing Yes Global data communication Yes Routing Yes Global data communication No \$7 basic communication Yes; I blocks only \$7 communication Yes; I blocks only \$7 communication, as client No \$7 communication Yes; I blocks only \$7 communication, as client No \$7 communication, as server Yes Equidistance mode support Yes I sochronous mode Yes; OB 61; isochronous mode can only be used alternatively on PROFIBUS DP or PROFINET IO \$YNC/FREEZE Yes Activation/deactivation of DP slaves Number of DP slaves that can be simultaneously activated/deactivated, max. Direct data exchange (slave-to-slave communication) Yes; As subscriber | DP slave | Yes |
| Transmission rate, max. PG/OP communication PG/OP communication Pes Routing Psi basic communication Psi basic communication Psi communication Por master Transmission rate, max. PG/OP communication Por master Transmission rate, max. PS evrices PG/OP communication Psi server Psi place and loadable FB Psi por master Pransmission rate, max. Psi place and loadable FB Psi por master Pransmission rate, max. Psi place and loadable FB Psi por master Psi por master Psi por master Psi por max place and loadable FB Psi por master Psi por master Psi por max place and loadable FB Psi por master Psi por max place and loadable FB Psi por master Psi por max place and loadable FB Psi por master Psi por max place and loadable FB Psi por prantition Psi por prantition Psi place and loadable FB Psi por prantition Psi por prantition Propriet por proprinci por prantition Psi por proprinci por prantition Propriet por proprinci por proprinci por prantition Propriet place and por prantition Propriet place and por place and port place and port place and port place and port place and | Point-to-point connection | No |
| PG/OP communication Yes Routing Yes Global data communication Yes S7 basic communication Yes S7 communication Yes S7 communication Yes S7 communication Yes S7 communication, as client No; but via CP and loadable FB S7 communication, as server Yes; Connection configured on one side only 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 Equidistance mode support 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 Number of DP slaves that can be simultaneously activated/deactivated, max. Direct data exchange (slave-to-slave communication) Yes; As subscriber | MPI | |
| PG/OP communication Routing Yes Global data communication Yes \$7 basic communication Yes \$7 communication Yes \$7 communication, as client No; but via CP and loadable FB \$7 communication, as server Yes; Connection configured on one side only DP master Transmission rate, max. 12 Mbit/s Number of DP slaves, max. 124 Services PG/OP communication Yes Global data communication \$7 basic communication \$7 basic communication \$7 communication, as server Equidistance mode support Isochronous mode \$Yes \$Yes Activation/deactivation of DP slaves Number of DP slaves that can be simultaneously activated/deactivated, max. Direct data exchange (slave-to-slave communication) Yes; As subscriber | Transmission rate, max. | 12 Mbit/s |
| 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; Connection configured on one side only DP master Transmission rate, max. 12 Mbit/s Number of DP slaves, max. 124 Services PG/OP communication Yes Global data communication No S7 basic communication Yes; I blocks only S7 communication Yes S7 communication Yes S7 communication, as client No S7 communication, as server Yes Equidistance mode support 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 Number of DP slaves that can be simultaneously activated/deactivated, max. Direct data exchange (slave-to-slave communication) Yes; As subscriber | Services | |
| Global data communication Yes 37 basic communication Yes 37 communication, as client Yes; Connection configured on one side only Permaster Transmission rate, max. 12 Mbit/s Number of DP slaves, max. 124 Services PG/OP communication Yes Global data communication Yes; I blocks only 37 communication Yes Frommunication Yes; I blocks only Yes Sommunication, as client No S7 communication Yes Funding Yes Funding Yes Global data communication Yes; I blocks only Yes Yes S7 communication, as client No S7 communication, as client No S7 communication, as server Yes Equidistance mode support 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. Direct data exchange (slave-to-slave communication) Yes; As subscriber | PG/OP communication | Yes |
| S7 basic communication S7 communication, as client S7 communication, as client No; but via CP and loadable FB S7 communication, as server Yes; Connection configured on one side only DP master Transmission rate, max. 12 Mbit/s Number of DP slaves, max. 124 Services PG/OP communication Yes Global data communication No S7 basic communication Yes Yes S7 communication Yes S7 communication, as client No S7 communication, as client No S7 communication, as server Yes Equidistance mode support Yes Lisochronous mode Yes; OB 61; isochronous mode can only be used alternatively on PROFIBUS DP or PROFINET IO SYNC/FREEZE Activation/deactivation of DP slaves Number of DP slaves that can be simultaneously activated/deactivated, max. Direct data exchange (slave-to-slave communication) Yes; As subscriber | Routing | Yes |
| S7 communication, as client S7 communication, as client No; but via CP and loadable FB Yes; Connection configured on one side only Pmaster 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 client No S7 communication, as server Equidistance mode support Isochronous mode Yes; OB 61; isochronous mode can only be used alternatively on PROFIBUS DP or PROFINET IO SYNC/FREEZE Activation/deactivation of DP slaves Number of DP slaves that can be simultaneously activated/deactivated, max. Direct data exchange (slave-to-slave communication) Yes; As subscriber | Global data communication | Yes |
| S7 communication, as client S7 communication, as server Yes; Connection configured on one side only PM aster Transmission rate, max. 12 Mbit/s Number of DP slaves, max. 124 Services PG/OP communication Yes Global data communication S7 basic communication Yes; I blocks only S7 communication, as client No S7 communication, as client No S7 communication, as server Equidistance mode support Ves; OB 61; isochronous mode can only be used alternatively on PROFIBUS DP or PROFINET IO SYNC/FREEZE Activation/deactivated, max. Direct data exchange (slave-to-slave communication) Yes; As subscriber | S7 basic communication | Yes |
| S7 communication, as server Per master Transmission rate, max. 12 Mbit/s Number of DP slaves, max. 124 Services PG/OP communication Yes Global data communication S7 basic communication Yes S7 communication Yes S7 communication, as client No S7 communication, as server Equidistance mode support Isochronous mode SYNC/FREEZE Activation/deactivation of DP slaves Number of DP slaves that can be simultaneously activated/deactivated, max. Direct data exchange (slave-to-slave communication) Yes (Connection configured on one side only 12 Mbit/s 124 124 124 125 126 127 128 129 129 129 129 129 129 129 | S7 communication | Yes |
| Transmission rate, max. Number of DP slaves, max. 124 Services PG/OP communication Yes Global data communication No S7 basic communication Yes; I blocks only S7 communication Yes S7 communication Yes S7 communication, as client No S7 communication, as server Equidistance mode support Isochronous mode Yes; OB 61; isochronous mode can only be used alternatively on PROFIBUS DP or PROFINET IO SYNC/FREEZE Activation/deactivation of DP slaves Number of DP slaves that can be simultaneously activated/deactivated, max. Direct data exchange (slave-to-slave communication) Yes; As subscriber | S7 communication, as client | No ; but via CP and loadable FB |
| Transmission rate, max. Number of DP slaves, max. 124 Services PG/OP communication Yes Routing Yes Global data communication No \$7 basic communication Yes; I blocks only \$7 communication Yes \$7 communication, as client No \$7 communication, as server Yes Equidistance mode support Yes Isochronous mode Yes; OB 61; isochronous mode can only be used alternatively on PROFIBUS DP or PROFINET IO \$YNC/FREEZE Yes Activation/deactivation of DP slaves Number of DP slaves that can be simultaneously activated/deactivated, max. Direct data exchange (slave-to-slave communication) Yes; As subscriber | S7 communication, as server | Yes; Connection configured on one side only |
| Number of DP slaves, max. Services PG/OP communication Yes Routing Yes Global data communication No S7 basic communication Yes; I blocks only S7 communication Yes S7 communication Yes S7 communication, as client No S7 communication, as server Yes Equidistance mode support 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 Number of DP slaves that can be simultaneously activated/deactivated, max. Direct data exchange (slave-to-slave communication) Yes; As subscriber | DP master | |
| PG/OP communication PG/OP communication Possible data comm | Transmission rate, max. | 12 Mbit/s |
| PG/OP communication Routing Yes Global data communication No \$7 basic communication Yes; I blocks only \$7 communication Yes \$7 communication Yes \$7 communication, as client No \$7 communication, as server Yes Equidistance mode support Yes Isochronous mode Yes; OB 61; isochronous mode can only be used alternatively on PROFIBUS DP or PROFINET IO \$YNC/FREEZE Yes Activation/deactivation of DP slaves Number of DP slaves that can be simultaneously activated/deactivated, max. Direct data exchange (slave-to-slave communication) Yes; As subscriber | Number of DP slaves, max. | 124 |
| Routing Global data communication No S7 basic communication Yes; I blocks only Yes S7 communication Yes S7 communication, as client No S7 communication, as server Yes Equidistance mode support Yes; OB 61; isochronous mode can only be used alternatively on PROFIBUS DP or PROFINET IO SYNC/FREEZE Yes Activation/deactivation of DP slaves Number of DP slaves that can be simultaneously activated/deactivated, max. Direct data exchange (slave-to-slave communication) Yes; As subscriber | Services | |
| Global data communication S7 basic communication Yes; I blocks only Yes S7 communication, as client No S7 communication, as server Yes Equidistance mode support Isochronous mode Yes; OB 61; isochronous mode can only be used alternatively on PROFIBUS DP or PROFINET IO SYNC/FREEZE Activation/deactivation of DP slaves Number of DP slaves that can be simultaneously activated/deactivated, max. Direct data exchange (slave-to-slave communication) Yes; As subscriber | PG/OP communication | Yes |
| S7 basic communication Yes ; I blocks only Yes S7 communication, as client No S7 communication, as server Yes Equidistance mode support 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 Number of DP slaves that can be simultaneously activated/deactivated, max. Direct data exchange (slave-to-slave communication) Yes ; As subscriber | Routing | Yes |
| S7 communication, as client No S7 communication, as server Yes Equidistance mode support Yes; OB 61; isochronous mode can only be used alternatively on PROFIBUS DP or PROFINET IO SYNC/FREEZE Yes Activation/deactivation of DP slaves Number of DP slaves that can be simultaneously activated/deactivated, max. Direct data exchange (slave-to-slave communication) Yes No No Yes As subscriber | Global data communication | No |
| S7 communication, as client Yes Equidistance mode support 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 Number of DP slaves that can be simultaneously activated/deactivated, max. Direct data exchange (slave-to-slave communication) No Yes Yes Yes 8 8 Yes Yes Yes; As subscriber | S7 basic communication | Yes ; I blocks only |
| S7 communication, as server Equidistance mode support 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 Number of DP slaves that can be simultaneously activated/deactivated, max. Direct data exchange (slave-to-slave communication) Yes; As subscriber | S7 communication | Yes |
| Equidistance mode support Isochronous mode Yes; OB 61; isochronous mode can only be used alternatively on PROFIBUS DP or PROFINET IO Yes Activation/deactivation of DP slaves Number of DP slaves that can be simultaneously activated/deactivated, max. Direct data exchange (slave-to-slave communication) Yes; As subscriber | S7 communication, as client | No |
| SYNC/FREEZE Yes | S7 communication, as server | Yes |
| PROFIBUS DP or PROFINET IO SYNC/FREEZE Yes Activation/deactivation of DP slaves Number of DP slaves that can be simultaneously activated/deactivated, max. Direct data exchange (slave-to-slave communication) Yes ; As subscriber | Equidistance mode support | Yes |
| Activation/deactivation of DP slaves Number of DP slaves that can be simultaneously activated/deactivated, max. Direct data exchange (slave-to-slave communication) Yes Yes Yes | Isochronous mode | · · · · · · · · · · · · · · · · · · · |
| Number of DP slaves that can be simultaneously activated/deactivated, max. Direct data exchange (slave-to-slave communication) Yes; As subscriber | SYNC/FREEZE | Yes |
| activated/deactivated, max. Direct data exchange (slave-to-slave communication) Yes ; As subscriber | Activation/deactivation of DP slaves | Yes |
| | | 8 |
| DPV1 Yes | Direct data exchange (slave-to-slave communication) | Yes ; As subscriber |
| | DPV1 | Yes |

| Address area | |
|---|---|
| | Olihada |
| Inputs, max. | 8 kbyte |
| Outputs, max. | 8 kbyte |
| User data per DP slave | |
| Inputs, max. | 244 byte |
| Outputs, max. | 244 byte |
| DP slave | |
| 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 | |
| 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 communication) | Yes |
| DPV1 | No |
| Transfer memory | |
| Inputs | 244 byte |
| Outputs | 244 byte |
| 2nd interface | |
| Interface type | Integrated RS 485 interface |
| Physics | RS 485 |
| Isolated | Yes |
| Power supply to interface (15 to 30 V DC), max. | 200 mA |
| Functionality | |
| MPI | No |
| DP master | Yes ; DP(DRIVE)-Master |
| DP slave | No |
| Point-to-point connection | No |
| DP master | |
| Transmission rate, max. | 12 Mbit/s |
| Number of DP slaves, max. | 64 |
| Services | |
| | |

| No |
|--|
| No |
| No |
| No |
| No |
| Yes |
| Yes |
| No |
| Yes |
| No |
| |
| 1024 byte |
| 1024 byte |
| |
| 244 byte |
| 244 byte |
| |
| |
| http://support.automation.siemens.com in Product Support area |
| http://support.automation.siemens.com in Product Support area 12 Mbit/s |
| |
| |
| 12 Mbit/s |
| 12 Mbit/s PROFINET |
| PROFINET Ethernet RJ45 |
| PROFINET Ethernet RJ45 Yes |
| PROFINET Ethernet RJ45 Yes Yes |
| PROFINET Ethernet RJ45 Yes Yes 2 |
| PROFINET Ethernet RJ45 Yes Yes 2 Yes; 10/100 Mbit/s |
| PROFINET Ethernet RJ45 Yes Yes 2 Yes; 10/100 Mbit/s Yes |
| PROFINET Ethernet RJ45 Yes Yes 2 Yes; 10/100 Mbit/s Yes Yes |
| PROFINET Ethernet RJ45 Yes Yes 2 Yes; 10/100 Mbit/s Yes Yes |
| PROFINET Ethernet RJ45 Yes Yes 2 Yes; 10/100 Mbit/s Yes Yes Yes Yes |
| PROFINET Ethernet RJ45 Yes Yes 2 Yes; 10/100 Mbit/s Yes Yes Yes Yes Yes |
| PROFINET Ethernet RJ45 Yes Yes 2 Yes; 10/100 Mbit/s Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye |
| PROFINET Ethernet RJ45 Yes Yes 2 Yes; 10/100 Mbit/s Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye |
| PROFINET Ethernet RJ45 Yes Yes 2 Yes; 10/100 Mbit/s Yes Yes Yes Yes Yes Yes Yes Your sign of the profined with the profi |
| PROFINET |
| PROFINET Ethernet RJ45 Yes Yes 2 Yes ; 10/100 Mbit/s Yes |
| |

| Open IE communication | Yes ; Via TCP/IP, ISO on TCP, and UDP |
|--|---|
| Web server | Yes |
| Number of HTTP clients | 5 |
| PROFINET IO Controller | |
| Transmission rate, max. | 100 Mbit/s |
| Number of connectable IO devices, max. | 128 |
| Max. number of connectable IO devices for RT | 128 |
| of which in line, max. | 128 |
| Number of IO Devices with IRT and the option "high performance", max. | 64 |
| of which in line, max. | 64 |
| Shared device, supported | Yes |
| Prioritized startup supported | Yes |
| Number of IO Devices, max. | 32 |
| Activation/deactivation of IO Devices | Yes |
| Maximum number of IO devices that can be activated/deactivated at the same time. | 8 |
| IO Devices changing during operation (partner ports), supported | Yes |
| Max. number of IO devices per tool | 8 |
| Device replacement without swap medium | Yes |
| Send cycles | 250 μs, 500 μs, 1 ms, 2 ms, 4 ms |
| 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) |
| Services | |
| PG/OP communication | Yes |
| Routing | 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 |
| Open IE communication | Yes ; Via TCP/IP, ISO on TCP, and UDP |
| Address area | |
| Inputs, max. | 8 kbyte |
| Outputs, max. | 8 kbyte |
| User data consistency, max. | 1024 byte |
| PROFINET IO Device | |
| Services | |
| PG/OP communication | Yes |
| Routing | Yes |
| | |

| S7 communication Yes: with breadable FBs: max. configurable connections: 18, max. number of instances: 32 Isochronous mode No Open IE communication IRT Yes: With SFB 73/74 prepared for loadable PROFlenergy standard FB for I-Device Shared device Yes: With SFB 73/74 prepared for loadable PROFlenergy standard FB for I-Device Shared device Shared device Shared device Number of IC controllers with shared device, max. 1440 byte; Per IO Controller with shared device Outputs, max. 1440 byte; Per IO Controller with shared device Submodules Number, max. 1440 byte; Per IO Controller with shared device Outputs, max. 1440 byte; Per IO Controller with shared device Outputs, max. 1440 byte; Per IO Controller with shared device Outputs, max. 1440 byte; Per IO Controller with shared device Outputs, max. 1440 byte; Per IO Controller with shared device Outputs, max. 1440 byte; Per IO Controller with shared device Submodules Number, max. 1440 byte; Per IO Controller with shared device Outputs, max. 1440 byte; Per IO Controller with shared device Outputs, max. 1440 byte; Per IO Controller with shared device Outputs, max. 1440 byte; Per IO Controller with shared device Outputs, max. 1440 byte; Per IO Controller with shared device Outputs, max. 1440 byte; Per IO Controller with shared device Outputs, max. 1440 byte; Per IO Controller with shared device Outputs, max. 1440 byte; Per IO Controller with shared device Outputs, max. 1440 byte; Per IO Controller with shared device Ves Outputs, max. 1440 byte; Per IO Controller with shared device Ves Ves Ves Ves Ves Ves Ves V | | |
|--|---|--|
| Open IE communication Yes; Via TCP/IP, ISO on TCP, and UDP IRT Yes PROFlenergy, supported Fit for I-Device Shared device Number of IO controllers with shared device, max. 2 Transfer memory Inputs, max. 1440 byte; Per IO Controller with shared device Submodules Number, max. 1440 byte; Per IO Controller with shared device Submodules Number, max. 1440 byte; Per IO Controller with shared device Submodules Number, max. 164 User data per submodule, max. 1024 byte Open IE communication, supported Yes Local port numbers used at the system end 0, 20, 21, 23, 25, 80, 102, 135, 161, 443, 8080, 34962, 34963, 34964, 69532, 69533, 69534, 69535 Ksep-alive function, supported Yes Isochronous operation (application synchronized up to terminal) Yes; Via PROFIBUS DP or PROFINET interface Communication functions PG/OP communication Supported Yes Number of GD packets, max. 8 Number of GD packets, max. 8 Number of GD packets, receiver, max. 8 Number of GD packets, receiver, max. 8 Size of GD packets, receiver, max. 2 byte Size of GD packets, receiver, max. Size of GD packets, max. 76 byte 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server) | S7 communication | |
| IRT Yes With SEB 73 / 74 prepared for loadable PROFlenergy standard FB for I-Device Shared device Yes Number of IO controllers with shared device, max. Transfer memory Inputs, max. 1440 byte ; Per IO Controller with shared device Outputs, max. Outputs, max. 1440 byte ; Per IO Controller with shared device Outputs max. Outputs max. 1440 byte ; Per IO Controller with shared device Outputs max. Outputs max. 1440 byte ; Per IO Controller with shared device Outputs max. Outputs max. 164 User data per submodule, max. 1024 byte Open IE communication Open IE communication Open IE communication, supported Yes Number of connections, max. 16 Local port numbers used at the system end 1, 20, 21, 23, 25, 80, 102, 135, 161, 443, 8080, 34962, 34963, 34964, 65932, 65933, 65934, 65935 Keep-alive function, supported Yes Isochronous mode Isochronous operation (application synchronized up to termina) PGIOP communication functions PGIOP communication Supported Yes Number of GD loops, max. 8 Number of GD packets, transmitter, max. 8 Number of GD packets, transmitter, max. 8 Number of GD packets, receiver, max. 8 Size of GD packets, receiver, max. 2 byte Size of GD packets, receiver, max. 2 2 byte Size of GD packets, max. 76 byte (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server) | Isochronous mode | No |
| PROFlenergy, supported PROFlenergy, supported PROFlenergy standard FB for I-Device Shared device Number of IO controllers with shared device, max. 2 Transfer memory Inputs, max. 1440 byte : Per IO Controller with shared device Submodules Number, max. 4440 byte : Per IO Controller with shared device Submodules Number data per submodule, max. 64 1024 byte Open IE communication Open IE communication, supported Number of connections, max. 16 Local port numbers used at the system end 30, 20, 21, 23, 25, 80, 102, 135, 161, 443, 8080, 34962, 34963, 34964, 65532, 65533, 65534, 65535 Keep-alive function, supported Yes Isochronous peration (application synchronized up to terminal) PGIOP communication PGIOP communication Supported Yes Qiobal data communication Supported Yes Number of GD packets, max. Number of GD packets, transmitter, max. Number of GD packets, receiver, max. Size of GD packets, receiver, max. Pyes 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) | Open IE communication | Yes ; Via TCP/IP, ISO on TCP, and UDP |
| Shared device Shared device Number of IO controllers with shared device, max. 1440 byte : Per IO Controller with shared device Cutputs, max. 1440 byte : Per IO Controller with shared device Cutputs, max. 1440 byte : Per IO Controller with shared device Submodules Number, max. 64 User data per submodule, max. 1024 byte Open IE communication, supported Yes Number of connections, max. 16 Local port numbers used at the system end 0, 20, 21, 23, 25, 80, 102, 135, 161, 443, 8080, 34962, 34963, 34964, 85532, 65533, 65534, 65535 Keep-alive function, supported Yes Sochronous model Isochronous operation (application synchronized up to terminal) PG/OP communication PG/OP communication Supported Yes Clobal data communication supported Yes Number of GD packets, max. Number of GD packets, max. Number of GD packets, max. Number of GD packets, ransmitter, max. 8 Number of GD packets, ransmitter, max. 8 Size of GD packets, ransmitter, max. Size of | IRT | Yes |
| Number of IC controllers with shared device, max. Transfer memory Inputs, max. 1440 byte; Per IO Controller with shared device Outputs, max. 1440 byte; Per IO Controller with shared device Submodules Number, max. 64 User data per submodule, max. Open IE communication Open IE communication, supported Yes Number of connections, max. 16 Local port numbers used at the system end 0, 20, 21, 23, 25, 80, 102, 135, 161, 443, 8080, 34962, 34963, 34964, 65532, 65533, 65534, 65535 Keep-alive function, supported Yes Isochronous operation (application synchronized up to terminal) Yes; Via PROFIBUS DP or PROFINET interface Communication functions PG/OP communication Supported Yes Global data communication supported Yes Number of GD packets, max. Number of GD packets, max. Number of GD packets, max. Size of GD packets, max. | PROFlenergy, supported | |
| Inputs, max. Outputs, max. Outputs, max. 1440 byte : Per IO Controller with shared device Outputs, max. 1440 byte : Per IO Controller with shared device Number, max. User data per submodule, max. 044 byte Open IE communication Open IE communication, supported Number of connections, max. 16 Local port numbers used at the system end 10, 20, 21, 23, 25, 80, 102, 135, 161, 443, 8080, 34962, 34963, 34964, 65532, 65533, 65534, 65535 Keep-alive function, supported 1sochronous mode Isochronous operation (application synchronized up to terminal) Yes : Via PROFIBUS DP or PROFINET interface Communication functions PG/OP communication Yes Global data communication supported Yes Number of GD loops, max. Number of GD packets, max. Number of GD packets, transmilter, max. Number of GD packets, max. Number of GD packets, max. Size of GD packets, max. | Shared device | Yes |
| Inputs, max. Outputs, max. Outputs, max. 1440 byte ; Per IO Controller with shared device Submodules Number, max. 64 User data per submodule, max. 1024 byte Open IE communication Open IE communication, supported Number of connections, max. 16 Local port numbers used at the system end 0, 20, 21, 23, 25, 80, 102, 135, 161, 443, 8080, 34962, 34963, 34964, 65532, 65533, 65534, 65535 Keep-alive function, supported Yes Isochronous mode Isochronous operation (application synchronized up to terminal) Yes; Via PROFIBUS DP or PROFINET interface Communication functions PG/OP communication Yes Clobal data communication supported Yes Number of GD loops, max. Number of GD packets, transmitter, max. Number of GD packets, transmitter, max. Number of GD packets, receiver, max. \$ Size of GD packets, receiver, max. \$ Size of GD packets (or which consistent), max. 76 byte User data per job, (or which consistent), max. 76 byte 176 byte ; 76 bytes (with x .SEND or x .RCV); 64 bytes (with x .PUT or x .GET as server) | Number of IO controllers with shared device, max. | 2 |
| Outputs, max. 1440 byte; Per IO Controller with shared device Submodules Number, max. 64 User data per submodule, max. 1024 byte Open IE communication Open IE communication, supported Yes Number of connections, max. 16 Local port numbers used at the system end 4964, 65532, 65533, 65534, 65535 Keep-allve function, supported Yes Isochronous mode Isochronous operation (application synchronized up to terminal) PG/OP communication Yes Communication Yes Global data communication supported Yes Number of GD packets, max. Number of GD packets, max. Number of GD packets, ransmitter, max. Number of GD packets, receiver, max. Size of GD packets, max. 22 byte S7 basic communication supported Yes 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) | Transfer memory | |
| Submodules Number, max. User data per submodule, max. 1024 byte Open IE communication Open IE communication, supported Number of connections, max. 16 Local port numbers used at the system end 0, 20, 21, 23, 25, 80, 102, 135, 161, 443, 8080, 34962, 34963, 34964, 65532, 65533, 65534, 65535 Keep-alive function, supported Yes Isochronous mode Isochronous operation (application synchronized up to terminal) PG/OP communication Yes Global data communication supported Yes Number of GD packets, max. Number of GD packets, max. Number of GD packets, receiver, max. Size of GD packets, max. Number of GD packets, mex. Size of GD packets, foreiver, max. Size of GD packets, foreiver, max. Size of GD packets (of which consistent), max. 76 byte : 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server) | Inputs, max. | 1440 byte ; Per IO Controller with shared device |
| Number, max. User data per submodule, max. Open IE communication Open IE communication, supported Number of connections, max. Local port numbers used at the system end O, 20, 21, 23, 25, 80, 102, 135, 161, 443, 8080, 34962, 34963, 34964, 65532, 65533, 65534, 65535 Keep-allve function, supported Isochronous mode Isochronous operation (application synchronized up to terminal) Communication functions PG/OP communication Per of OP packets, max. Number of GD loops, max. Number of GD packets, max. Number of GD packets, transmitter, max. Number of GD packets, receiver, max. Size of GD packets, max. Size of GD packets (of which consistent), 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) | Outputs, max. | 1440 byte ; Per IO Controller with shared device |
| User data per submodule, max. Open IE communication Open IE communication, supported Number of connections, max. Local port numbers used at the system end 0, 20, 21, 23, 25, 80, 102, 135, 161, 443, 8080, 34962, 34963, 34964, 65532, 65533, 65534, 65535 Keep-allive function, supported Isochronous mode Isochronous operation (application synchronized up to terminal) Communication functions PG/OP communication Per S Global data communication supported Yes Number of GD loops, max. Number of GD packets, max. Number of GD packets, transmitter, max. Number of GD packets, receiver, max. Size of GD packets, max. Size of GD packets, max. Size of GD packets, max. Size of GD packets (of which consistent), max. 2 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) | Submodules | |
| Open IE communication Open IE communication, supported Number of connections, max. Local port numbers used at the system end 0, 20, 21, 23, 25, 80, 102, 135, 161, 443, 8080, 34962, 34963, 34964, 65532, 65533, 65534, 65535 Keep-alive function, supported Yes Isochronous mode Isochronous operation (application synchronized up to terminal) Communication functions PG/OP communication Yes Global data communication supported Yes Number of GD loops, max. Number of GD packets, max. Number of GD packets, transmitter, max. Number of GD packets, receiver, max. Size of GD packets, receiver, max. Size of GD packets, max. Size of GD packet (of which consistent), max. Yes User data per job, max. 76 byte 76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server) | Number, max. | 64 |
| Open IE communication, supported Number of connections, max. Local port numbers used at the system end 0, 20, 21, 23, 25, 80, 102, 135, 161, 443, 8080, 34962, 34963, 34964, 65532, 65533, 65534, 65535 Keep-allve function, supported Yes Isochronous mode Isochronous operation (application synchronized up to terminal) Yes; Via PROFIBUS DP or PROFINET interface Communication functions PG/OP communication Yes Global data communication supported Yes Number of GD loops, max. Number of GD packets, max. Number of GD packets, transmitter, max. Number of GD packets, receiver, max. Size of GD packets, receiver, max. Size of GD packet (of which consistent), max. 22 byte S7 basic communication supported Yes 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) | User data per submodule, max. | 1024 byte |
| Number of connections, max. Local port numbers used at the system end 0, 20, 21, 23, 25, 80, 102, 135, 161, 443, 8080, 34962, 34963, 34964, 65532, 65533, 65534, 65535 Keep-alive function, supported Ves Isochronous mode Isochronous operation (application synchronized up to terminal) Pes: Via PROFIBUS DP or PROFINET interface Communication functions PG/OP communication Yes Global data communication supported Yes Number of GD loops, max. Number of GD packets, max. Number of GD packets, transmitter, max. Number of GD packets, receiver, max. Size of GD packets, max. Size of GD packet (of which consistent), max. 22 byte S7 basic communication supported Yes 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) | Open IE communication | |
| Local port numbers used at the system end 0, 20, 21, 23, 25, 80, 102, 135, 161, 443, 8080, 34962, 34963, 34964, 65532, 65533, 65534, 65535 Keep-alive function, supported Yes Isochronous mode Isochronous operation (application synchronized up to terminal) PG/OP communication functions PG/OP communication Yes Global data communication supported Yes Number of GD loops, max. Number of GD packets, max. Number of GD packets, transmitter, max. Number of GD packets, receiver, max. Size of GD packets, max. Size of GD packet (of which consistent), max. 22 byte S7 basic communication supported Yes 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) | Open IE communication, supported | Yes |
| 34964, 65532, 65533, 65534, 65535 Keep-alive function, supported Yes Isochronous mode Isochronous operation (application synchronized up to terminal) Yes ; Via PROFIBUS DP or PROFINET interface Communication functions 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 ; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server) | Number of connections, max. | 16 |
| Isochronous mode Isochronous operation (application synchronized up to terminal) PG/OP communication PG/OP communication Yes Global data communication supported Yes Number of GD loops, max. Number of GD packets, max. Number of GD packets, transmitter, max. Number of GD packets, receiver, max. Size of GD packet (of which consistent), max. Size of GD packet (of which consistent), max. Yes 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) | Local port numbers used at the system end | |
| Isochronous operation (application synchronized up to terminal) PG/OP communication PG/OP communication Yes Global data communication supported Yes Number of GD loops, max. Number of GD packets, max. Number of GD packets, transmitter, max. Number of GD packets, receiver, max. Size of GD packets, max. Size of GD packet (of which consistent), max. 22 byte S7 basic communication supported Yes 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) | Keep-alive function, supported | Yes |
| PG/OP communication PG/OP communication Pata record routing Yes Global data communication supported Yes Number of GD loops, max. Number of GD packets, max. Number of GD packets, transmitter, max. Number of GD packets, receiver, max. Size of GD packets, max. Size of GD packets, max. Size of GD packets (of which consistent), max. 22 byte S7 basic communication supported Yes User data per job, max. 76 byte 76 byte : 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server) | Isochronous mode | |
| PG/OP communication Data record routing Yes Global data communication supported Yes Number of GD loops, max. Number of GD packets, max. Number of GD packets, transmitter, max. Number of GD packets, treceiver, max. Size of GD packets, max. Size of GD packets, max. Size of GD packet (of which consistent), max. 22 byte S7 basic communication supported Yes User data per job, max. 76 byte 76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server) | Isochronous operation (application synchronized up to terminal) | Yes ; Via PROFIBUS DP or PROFINET interface |
| Data record routing Global data communication supported Yes Number of GD loops, max. Number of GD packets, max. Number of GD packets, transmitter, max. Number of GD packets, receiver, max. Size of GD packets, neceiver, max. Size of GD packet (of which consistent), max. 22 byte S7 basic communication supported Yes User data per job, max. 76 byte : 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server) | Communication functions | |
| Global data communication supported Yes Number of GD loops, max. Number of GD packets, max. Number of GD packets, transmitter, max. Number of GD packets, receiver, max. Size of GD packets, receiver, max. 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 76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server) | PG/OP communication | Yes |
| supported Yes Number of GD loops, max. Number of GD packets, max. Number of GD packets, transmitter, max. Number of GD packets, receiver, max. Size of GD packets, max. 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 76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server) | Data record routing | Yes |
| Number of GD loops, max. Number of GD packets, max. Number of GD packets, transmitter, max. Number of GD packets, receiver, max. Size of GD packets, max. Size of GD packet (of which consistent), max. 22 byte S7 basic communication supported Yes User data per job, max. 76 byte 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server) | Global data communication | |
| Number of GD packets, max. Number of GD packets, transmitter, max. Number of GD packets, receiver, max. Size of GD packets, max. Size of GD packet (of which consistent), max. 22 byte S7 basic communication supported Yes User data per job, max. 76 byte 76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server) | supported | Yes |
| Number of GD packets, transmitter, max. Number of GD packets, receiver, max. Size of GD packets, max. Size of GD packet (of which consistent), max. 22 byte S7 basic communication supported Yes User data per job, max. 76 byte 76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server) | Number of GD loops, max. | 8 |
| Number of GD packets, receiver, max. 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) | Number of GD packets, max. | 8 |
| Size of GD packets, max. 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) | Number of GD packets, transmitter, max. | 8 |
| 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) | Number of GD packets, receiver, max. | 8 |
| S7 basic communication supported Yes User data per job, max. User data per job (of which consistent), max. 76 byte 76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server) | Size of GD packets, max. | 22 byte |
| 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) | Size of GD packet (of which consistent), max. | 22 byte |
| 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 basic communication | |
| 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) | supported | Yes |
| or X_GET as server) | User data per job, max. | 76 byte |
| S7 communication | User data per job (of which consistent), max. | |
| | 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 |
| 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. | 1460 byte |
| Data length for connection type 11H, max. | 32768 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. | 32768 byte |
| UDP | Yes ; via integrated PROFINET interface and loadable FBs |
| Number of connections, max. | 16 |
| Data length, max. | 1472 byte |
| Web server | |
| supported | Yes |
| Number of HTTP clients | 5 |
| User-defined websites | Yes |
| 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 |
| adjustable for OP communication, max. | 31 |
| usable for S7 basic communication | 30 |
| Reserved for S7 basic communication | 0 |
| adjustable for S7 basic communication, min. | 0 |
| adjustable for S7 basic communication, max. | 30 |
| usable for S7 communication | 16 |
| | |

| reserved for S7 communication | 0 |
|--|---|
| Adjustable for S7 communication, min. | 0 |
| Adjustable for S7 communication, max. | 16 |
| Max. total number of instances | 32 |
| usable for routing | X1 as MPI: max. 10; X1 as DP master: max. 24; X1 as DP slave (active): max. 14; X2 as PROFINET: 24 max. |
| S7 message functions | |
| Number of login stations for message functions, max. | 32 ; Depending on the configured connections for PG/OP and S7 basic communication |
| Process diagnostic messages | Yes |
| simultaneously active Alarm-S blocks, max. | 300 |
| Test commissioning functions | |
| Status block | Yes ; Up to 2 simultaneously |
| Single step | Yes |
| Number of breakpoints | 4 ; without continuation |
| 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. | 14 |
| Forcing | |
| Forcing | Yes |
| Force, 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 |
| Interrupts/diagnostics/status information | |
| Alarms | |
| Alarms | No |
| Diagnostic messages | |
| | |

| Diagnostic functions | No |
|--|---|
| Diagnostics indication LED | |
| Status indicator digital output (green) | Yes |
| Status indicator digital input (green) | Yes |
| Galvanic isolation | |
| Galvanic isolation digital inputs | |
| between the channels and the backplane bus | Yes |
| Galvanic isolation digital outputs | |
| between the channels and the backplane bus | Yes |
| Permissible potential difference | |
| between different circuits | 75 VDC / 60 VAC |
| Isolation | |
| Isolation checked with | 500 V DC |
| Ambient conditions | |
| Operating temperature | |
| Min. | 0 °C |
| max. | 60 °C |
| Configuration | |
| O | |
| Configuration software | |
| STEP 7 | Yes |
| | Yes |
| STEP 7 | Yes see instruction list |
| STEP 7 programming | |
| STEP 7 programming Command set | see instruction list |
| STEP 7 programming Command set Nesting levels | see instruction list |
| STEP 7 programming Command set Nesting levels System functions (SFC) | see instruction list 8 see instruction list |
| STEP 7 programming Command set Nesting levels System functions (SFC) System function blocks (SFB) | see instruction list 8 see instruction list |
| STEP 7 programming Command set Nesting levels System functions (SFC) System function blocks (SFB) Programming language LAD FBD | see instruction list 8 see instruction list see instruction list Yes Yes |
| STEP 7 programming Command set Nesting levels System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL | see instruction list 8 see instruction list see instruction list Yes Yes Yes |
| STEP 7 programming Command set Nesting levels System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL | see instruction list 8 see instruction list see instruction list Yes Yes Yes Yes Yes |
| STEP 7 programming Command set Nesting levels System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC | see instruction list 8 see instruction list see instruction list Yes Yes Yes Yes Yes Yes Yes |
| STEP 7 programming Command set Nesting levels System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH | see instruction list 8 see instruction list see instruction list Yes Yes Yes Yes Yes Yes Yes Yes Yes |
| STEP 7 programming Command set Nesting levels System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH HiGraph® | see instruction list 8 see instruction list see instruction list Yes Yes Yes Yes Yes Yes Yes |
| STEP 7 programming Command set Nesting levels System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH HiGraph® Know-how protection | see instruction list 8 see instruction list see instruction list Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye |
| STEP 7 programming Command set Nesting levels System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH HiGraph® Know-how protection User program protection/password protection | see instruction list 8 see instruction list see instruction list Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye |
| STEP 7 programming Command set Nesting levels System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH HiGraph® Know-how protection User program protection/password protection Block encryption | see instruction list 8 see instruction list see instruction list Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye |
| STEP 7 programming Command set Nesting levels System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH HiGraph® Know-how protection User program protection/password protection | see instruction list 8 see instruction list see instruction list Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye |

| Height | 125 mm |
|-----------------|--------------|
| Depth | 130 mm |
| Weights | |
| Weight, approx. | 640 g |
| Status | Jun 28, 2014 |