

Data sheet CPU 315SN/EC ECO (315-4EC32)

Technical data

| Type | Order no. | 315-4EC32 | | |
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| Note | Туре | CPU 315SN/EC ECO | | |
| Features SPEED7 technology 512 KB work memory EtherCAT Master integrated SPEED-Bus | General information | | | |
| SPEED-Bus - | Note | - | | |
| Technical data power supply Power supply (rated value) DC 24 V Power supply (permitted range) DC 20.428.8 V Reverse polarity protection yes Current consumption (no-load operation) Current consumption (rated value) O.7 A Inrush current 11 A Pt O.4 A*s Max. current drain at backplane bus Ax. current drain load supply - Power loss 5.5 W Load and working memory Load memory, integrated Load memory, integrated 512 KB Work memory, integrated 512 KB Work memory, maximum 512 KB Memory divided in 50% program / 50% data Memory card slot MMC-Card with max. 1 GB Hardware configuration Racks, max. 4 Modules per rack, max. 8 in multiple-, 32 in a single-rack configuration Number of Integrated OP master Operable communication modules PtP 8 Operable communication modules AN 8 Command processing times Bit instructions, min. O.01 µs Vorl integra crithmetic, min. O.01 µs Vorl instruction, min. O.01 µs | Features | 512 KB work memory PtP | | |
| Power supply (rated value) DC 24 V Power supply (permitted range) DC 20.428.8 V Reverse polarity protection yes Current consumption (no-load operation) 200 mA Current consumption (rated value) 0.7 A Inrush current 11 A Pt 0.4 APs Max. current drain at backplane bus 2 A Max. current drain load supply - Power loss 5.5 W Load and working memory Load memory, integrated 512 KB Load memory, maximum 512 KB Work memory, integrated 512 KB Work memory, integrated 512 KB Work memory, maximal 512 KB Memory divided in 50% program / 50% data yes Memory card slot MMC-Card with max. 1 GB Hardware configuration Racks, max. 4 Modules per rack, max. 4 Modules per rack configuration Number of integrated DP master 0 4 Operable function modules 8 9 Operable communication modules PtP 8 9 </td <td>SPEED-Bus</td> <td>-</td> | SPEED-Bus | - | | |
| Power supply (permitted range) DC 20.4., 28.8 V Reverse polarity protection yes Current consumption (no-load operation) 200 mA Current consumption (rated value) 0.7 A Inrush current 11 A Pt 0.4 APs Max. current drain at backplane bus 2 A Max. current drain load supply - Power loss 5.5 W Load and working memory - Load memory, integrated 512 KB Load memory, integrated 512 KB Work memory, integrated 512 KB Work memory, integrated 512 KB Work memory, maximum 512 KB Mermory divided in 50% program / 50% data yes Memory divided in 50% program / 50% data yes Memory card slot MMC-Card with max. 1 GB Hardware configuration Racks, max. 4 Modules per rack, max. 8 in multiple-, 32 in a single-rack configuration Number of integrated DP master 0 Operable function modules 8 Operable communication modules PIP 8 | Technical data power supply | | | |
| Reverse polarity protection yes Current consumption (no-load operation) 200 mA Current consumption (rated value) 0.7 A Inrush current 11 A Pt 0.4 APs Max. current drain at backplane bus 2 A Max. current drain load supply - Power loss 5.5 W Load and working memory - Load memory, integrated 512 KB Work memory, integrated with maximal 512 KB Work memory, integrated with memory integrated with maximal 512 KB Memory divided in 50% program / 50% data yes Memory divided in 50% program / 50% data yes Memory divided in 50% program / 50% data yes Memory divided in 50% program / 50% data yes Memory divided in 50% program / 50% data yes Memory divided in 50% program / 50% data yes Memory divided in 50% program / 50% data yes Memory divided in 50% program / 50% data | Power supply (rated value) | DC 24 V | | |
| Current consumption (no-load operation) 200 mA Current consumption (rated value) 0.7 A Inrush current 11 A Pt 0.4 A²s Max. current drain at backplane bus 2 A Max. current drain load supply - Power loss 5.5 W Load and working memory - Load memory, integrated 512 KB Load memory, maximum 512 KB Work memory, integrated 512 KB Work memory divided in 50% program / 50% data yes Memory davided in 50% program / 50% data yes Memory card slot MMC-Card with max. 1 GB Hardware configuration Racks, max. Racks, max. 4 Modules per rack, max. 8 in multiple-, 32 in a single-rack configuration Number of Integrated DP master 0 Operable function modules 8 Operable communication modules PtP 8 Operable communication modules LAN 8 Command processing times Bit instructions, min. 0.01 μs Word instruction, min. 0.01 μs <td>Power supply (permitted range)</td> <td>DC 20.428.8 V</td> | Power supply (permitted range) | DC 20.428.8 V | | |
| Current consumption (rated value) Inrush current Inrush curr | Reverse polarity protection | yes | | |
| Inrush current 11 A Pt 0.4 A2s Max. current drain at backplane bus 2 A Max. current drain load supply - Power loss 5.5 W Load and working memory Load memory, integrated 512 KB Work memory, integrated 512 KB Work memory, maximum 512 KB Work memory, maximal 512 KB Memory divided in 50% program / 50% data yes Memory card slot MMC-Card with max. 1 GB Hardware configuration Racks, max. 4 Modules per rack, max. 8 in multiple-, 32 in a single-rack configuration Number of Integrated DP master 0 Number of DP master via CP 4 Operable function modules PtP 8 Operable communication modules LAN 8 Command processing times Bit instructions, min. 0.01 μs Vord instruction, min. 0.01 μs Double integer arithmetic, min. 0.01 μs | Current consumption (no-load operation) | 200 mA | | |
| I²t 0.4 A²s Max. current drain at backplane bus 2 A Max. current drain load supply - Power loss 5.5 W Load and working memory 512 KB Load memory, integrated 512 KB Work memory, integrated 512 KB Work memory, maximal 512 KB Memory divided in 50% program / 50% data yes Memory card slot MMC-Card with max. 1 GB Hardware configuration 4 Racks, max. 4 Modules per rack, max. 8 in multiple-, 32 in a single-rack configuration Number of integrated DP master 0 Number of DP master via CP 4 Operable function modules 8 Operable communication modules PtP 8 Operable communication modules LAN 8 Command processing times Bit instructions, min. 0.01 μs Word instruction, min. 0.01 μs Double integer arithmetic, min. 0.01 μs | Current consumption (rated value) | 0.7 A | | |
| Max. current drain at backplane bus 2 A Max. current drain load supply - Power loss 5.5 W Load and working memory Load memory, integrated 512 KB Load memory, maximum 512 KB Work memory, integrated 512 KB Work memory, maximal 512 KB Memory divided in 50% program / 50% data yes Memory card slot MMC-Card with max. 1 GB Hardware configuration 8 Racks, max. 4 Modules per rack, max. 8 in multiple-, 32 in a single-rack configuration Number of Integrated DP master 0 Number of DP master via CP 4 Operable function modules 8 Operable communication modules PtP 8 Operable communication modules LAN 8 Command processing times Bit instructions, min. 0.01 μs Word instruction, min. 0.01 μs Double integer arithmetic, min. 0.01 μs | Inrush current | 11 A | | |
| Max. current drain load supply - Power loss 5.5 W Load and working memory Load memory, integrated 512 KB Load memory, maximum 512 KB Work memory, integrated 512 KB Work memory, maximal 512 KB Memory divided in 50% program / 50% data yes Memory card slot MMC-Card with max. 1 GB Hardware configuration 8 in multiple-, 32 in a single-rack configuration Number of integrated DP master 0 Number of integrated DP master 0 Operable function modules 8 Operable communication modules PtP 8 Operable communication modules LAN 8 Command processing times 8 Bit instructions, min. 0.01 μs Word instruction, min. 0.01 μs Double integer arithmetic, min. 0.01 μs | 2t | 0.4 A²s | | |
| Power loss 5.5 W Load and working memory Load memory, integrated 512 KB Load memory, maximum 512 KB Work memory, integrated 512 KB Work memory, maximal 512 KB Memory divided in 50% program / 50% data yes Memory card slot MMC-Card with max. 1 GB Hardware configuration Racks, max. 4 Modules per rack, max. 8 in multiple-, 32 in a single-rack configuration Number of integrated DP master 0 Number of DP master via CP 4 Operable function modules 8 Operable communication modules PtP 8 Operable communication modules LAN 8 Command processing times Bit instructions, min. 0.01 µs Word instruction, min. 0.01 µs Double integer arithmetic, min. 0.01 µs | Max. current drain at backplane bus | 2 A | | |
| Load and working memory Load memory, integrated 512 KB Load memory, maximum 512 KB Work memory, integrated 512 KB Work memory, maximal 512 KB Work memory, maximal 512 KB Memory divided in 50% program / 50% data yes Memory card slot MMC-Card with max. 1 GB Hardware configuration Racks, max. 4 Modules per rack, max. 8 in multiple-, 32 in a single-rack configuration Number of integrated DP master 0 Number of DP master via CP 4 Operable function modules 8 Operable communication modules PtP 8 Operable communication modules LAN 8 Command processing times Bit instructions, min. 0.01 µs Double integer arithmetic, min. 0.01 µs | Max. current drain load supply | - | | |
| Load memory, integrated 512 KB Load memory, maximum 512 KB Work memory, integrated 512 KB Work memory, maximal 512 KB Memory divided in 50% program / 50% data yes Memory card slot MMC-Card with max. 1 GB Hardware configuration Racks, max. 4 Modules per rack, max. 8 in multiple-, 32 in a single-rack configuration Number of integrated DP master 0 Number of DP master via CP 4 Operable function modules 8 Operable communication modules PtP 8 Operable communication modules LAN 8 Command processing times Bit instructions, min. 0.01 μs Word instruction, min. 0.01 μs Double integer arithmetic, min. 0.01 μs | Power loss | 5.5 W | | |
| Load memory, maximum 512 KB Work memory, integrated 512 KB Work memory, maximal 512 KB Memory divided in 50% program / 50% data yes Memory card slot MMC-Card with max. 1 GB Hardware configuration Racks, max. 4 Modules per rack, max. 8 in multiple-, 32 in a single-rack configuration Number of integrated DP master 0 Number of DP master via CP 4 Operable communication modules 8 Operable communication modules PtP 8 Command processing times Bit instructions, min. 0.01 µs Double integer arithmetic, min. 0.01 µs | Load and working memory | | | |
| Work memory, integrated Work memory, maximal S12 KB Memory divided in 50% program / 50% data Memory card slot MMC-Card with max. 1 GB Hardware configuration Racks, max. 4 Modules per rack, max. Modules per rack, max. Number of integrated DP master 0 Number of DP master via CP 4 Operable function modules 8 Operable communication modules PtP 8 Operable communication modules LAN 8 Command processing times Bit instructions, min. 0.01 µs Double integer arithmetic, min. 0.01 µs | Load memory, integrated | 512 KB | | |
| Work memory, maximal 512 KB Memory divided in 50% program / 50% data yes Memory card slot MMC-Card with max. 1 GB Hardware configuration Racks, max. 4 Modules per rack, max. 8 in multiple-, 32 in a single-rack configuration Number of integrated DP master 0 Number of DP master via CP 4 Operable function modules 8 Operable communication modules PtP 8 Operable communication modules LAN 8 Command processing times Bit instructions, min. 0.01 μs Word instruction, min. 0.01 μs Double integer arithmetic, min. 0.01 μs | Load memory, maximum | 512 KB | | |
| Memory divided in 50% program / 50% data Memory card slot MMC-Card with max. 1 GB Hardware configuration Racks, max. 4 Modules per rack, max. 8 in multiple-, 32 in a single-rack configuration Number of integrated DP master 0 Number of DP master via CP 4 Operable function modules 8 Operable communication modules PtP 8 Operable communication modules LAN 8 Command processing times Bit instructions, min. 0.01 µs Double integer arithmetic, min. 0.01 µs | Work memory, integrated | 512 KB | | |
| Memory card slot MMC-Card with max. 1 GB Hardware configuration Racks, max. 4 Modules per rack, max. 8 in multiple-, 32 in a single-rack configuration Number of integrated DP master 0 Number of DP master via CP 4 Operable function modules 8 Operable communication modules PtP 8 Operable communication modules LAN 8 Command processing times Bit instructions, min. 0.01 μs Word instruction, min. 0.01 μs Double integer arithmetic, min. 0.01 μs | Work memory, maximal | 512 KB | | |
| Hardware configuration Racks, max. 4 Modules per rack, max. 8 in multiple-, 32 in a single-rack configuration Number of integrated DP master 0 Number of DP master via CP 4 Operable function modules 8 Operable communication modules PtP 8 Operable communication modules LAN 8 Command processing times Bit instructions, min. 0.01 µs Word instruction, min. 0.01 µs Double integer arithmetic, min. 0.01 µs | Memory divided in 50% program / 50% data | yes | | |
| Racks, max. 4 Modules per rack, max. 8 in multiple-, 32 in a single-rack configuration Number of integrated DP master 0 Number of DP master via CP 4 Operable function modules 8 Operable communication modules PtP 8 Operable communication modules LAN 8 Command processing times Bit instructions, min. 0.01 μs Word instruction, min. 0.01 μs Double integer arithmetic, min. 0.01 μs | Memory card slot | MMC-Card with max. 1 GB | | |
| Modules per rack, max. 8 in multiple-, 32 in a single-rack configuration Number of integrated DP master 0 Number of DP master via CP 4 Operable function modules 8 Operable communication modules PtP 8 Operable communication modules LAN 8 Command processing times Bit instructions, min. 0.01 μs Word instruction, min. 0.01 μs Double integer arithmetic, min. 0.01 μs | Hardware configuration | | | |
| Number of integrated DP master 0 Number of DP master via CP 4 Operable function modules 8 Operable communication modules PtP 8 Operable communication modules LAN 8 Command processing times Bit instructions, min. 0.01 μs Word instruction, min. 0.01 μs Double integer arithmetic, min. 0.01 μs | Racks, max. | 4 | | |
| Number of DP master via CP Operable function modules 8 Operable communication modules PtP 8 Operable communication modules LAN 8 Command processing times Bit instructions, min. 0.01 µs Word instruction, min. 0.01 µs Double integer arithmetic, min. | Modules per rack, max. | 8 in multiple-, 32 in a single-rack configuration | | |
| Operable function modules 8 Operable communication modules PtP 8 Operable communication modules LAN 8 Command processing times Bit instructions, min. 0.01 μs Word instruction, min. 0.01 μs Double integer arithmetic, min. 0.01 μs | Number of integrated DP master | 0 | | |
| Operable communication modules PtP 8 Operable communication modules LAN 8 Command processing times Bit instructions, min. 0.01 μs Word instruction, min. 0.01 μs Double integer arithmetic, min. 0.01 μs | Number of DP master via CP | 4 | | |
| Operable communication modules LAN Command processing times Bit instructions, min. 0.01 μs Word instruction, min. 0.01 μs Double integer arithmetic, min. 0.01 μs | Operable function modules | 8 | | |
| Command processing times Bit instructions, min. 0.01 μs Word instruction, min. 0.01 μs Double integer arithmetic, min. 0.01 μs | Operable communication modules PtP | 8 | | |
| Bit instructions, min. 0.01 μs Word instruction, min. 0.01 μs Double integer arithmetic, min. 0.01 μs | Operable communication modules LAN | 8 | | |
| Word instruction, min. 0.01 μs Double integer arithmetic, min. 0.01 μs | Command processing times | | | |
| Double integer arithmetic, min. 0.01 µs | Bit instructions, min. | 0.01 µs | | |
| | Word instruction, min. | 0.01 µs | | |
| Floating-point arithmetic, min. 0.06 µs | Double integer arithmetic, min. | 0.01 µs | | |
| | Floating-point arithmetic, min. | 0.06 µs | | |



Timers/Counters and their retentive characteristics

| Number of S7 counters | 512 |
|-----------------------------------------------------|---------------------------------------|
| S7 counter remanence | adjustable 0 up to 512 |
| S7 counter remanence adjustable | C0 C7 |
| Number of S7 times | 512 |
| S7 times remanence | adjustable 0 up to 512 |
| S7 times remanence adjustable | not retentive |
| | |
| Data range and retentive characteristic | |
| Number of flags | 8192 Byte |
| Bit memories retentive characteristic adjustable | adjustable 0 up to 8192 |
| Bit memories retentive characteristic preset | MB0 MB15 |
| Number of data blocks | 4095 |
| Max. data blocks size | 64 KB |
| Number range DBs | 1 4095 |
| Max. local data size per execution level | 1024 Byte |
| Max. local data size per block | 1024 Byte |
| Blocks | |
| Number of OBs | 20 |
| Maximum OB size | 64 KB |
| Total number DBs, FBs, FCs | - |
| Number of FBs | 2048 |
| Maximum FB size | 64 KB |
| Number range FBs | 0 2047 |
| Number of FCs | 2048 |
| Maximum FC size | 64 KB |
| Number range FCs | 0 2047 |
| Maximum nesting depth per priority class | 8 |
| Maximum nesting depth additional within an error OB | 4 |
| Time | |
| Real-time clock buffered | yes |
| Clock buffered period (min.) | 6 w |
| Type of buffering | Vanadium Rechargeable Lithium Battery |
| Load time for 50% buffering period | 20 h |
| Load time for 100% buffering period | 48 h |
| Accuracy (max. deviation per day) | 10 s |
| Number of operating hours counter | 8 |
| Clock synchronization | yes |
| Synchronization via MPI | Master/Slave |
| Synchronization via Ethernet (NTP) | Slave |
| Address areas (I/O) | |
| Input I/O address area | 2048 Byte |
| Output I/O address area | 2048 Byte |
| Process image adjustable | yes |
| Input process image preset | 256 Byte |
| Output process image preset | 256 Byte |
| 4 E | |



| Input process image maximal | 2048 Byte | A YASKAWA COMPANY |
|-------------------------------------------|------------------------|-------------------|
| Output process image maximal | 2048 Byte | |
| Digital inputs | 16384 | |
| Digital outputs | 16384 | |
| Digital inputs central | 1024 | |
| Digital outputs central | 1024 | |
| Integrated digital inputs | - | |
| Integrated digital outputs | | |
| Analog inputs | 1024 | |
| Analog outputs | 1024 | |
| Analog inputs, central | 256 | |
| Analog outputs, central | 256 | |
| Integrated analog inputs | - | |
| Integrated analog outputs | | |
| integrated analog outputs | - | |
| Communication functions | | |
| PG/OP channel | yes | |
| Global data communication | yes | |
| Number of GD circuits, max. | 8 | |
| Size of GD packets, max. | 22 Byte | |
| S7 basic communication | yes | |
| S7 basic communication, user data per job | 76 Byte | |
| S7 communication | yes | |
| S7 communication as server | yes | |
| S7 communication as client | - | |
| S7 communication, user data per job | 160 Byte | |
| Number of connections, max. | 32 | |
| Functionality Sub-D interfaces | | |
| Туре | X2 | |
| Type of interface | RS485 | |
| Connector | Sub-D, 9-pin, female | |
| Electrically isolated | yes | |
| MPI | yes | |
| MP2I (MPI/RS232) | - | |
| DP master | - | |
| DP slave | - | |
| Point-to-point interface | - | |
| 5V DC Power supply | max. 90mA, isolated | |
| 24V DC Power supply | max. 100mA, non-isolat | red |
| | | |
| Туре | Х3 | |
| Type of interface | RS485 | |
| Connector | Sub-D, 9-pin, female | |
| Electrically isolated | yes | |
| MPI | - | |
| MP²l (MPI/RS232) | - | |
| DP master | - | |
| DP slave | - | |
| | | |



| 24V DC Power supply max. 100mA, non-isolated Functionality MPI Number of connections, max. 32 PGOP channel yes Routing yes Global data communication yes S7 basic communication yes S7 communication as server yes S7 communication as elient - Transmission speed, min. 19.2 kbi/s Transmission speed, min. 19.2 kbi/s Functionality PROFIBUS master PG/OP channel PG/OP channel - Routing - S7 basic communication - S7 communication - S7 communication as server - S7 communication as elient - Activation/deactivation of DP slaves - Drevi - Transmission speed, min. - Transmission speed, max. - | Point-to-point interface | yes | A YASKAWA COMPANY |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------|--------------------------|-------------------|
| Number of connections, max. 32 | 5V DC Power supply | max. 90mA, isolated | |
| Number of connections, max. 32 PG/OP channel yes Routing yes Global data communication yes S7 basic communication yes S7 communication as server yes S7 communication as defent - Transmission speed, min. 19.2 kbit/s Transmission speed, max. 12 Mbit/s Functionality PROFIBUS master PROOP channel PG/OP channel - Routing - S7 communication - S7 communication as server - S7 communication as client - Activation/deactivation of DP slaves - Direct data exchange (slave-to-slave communication) - DPV1 - Transmission speed, min. - Transmission speed, max. - Address range outputs, max. - Very data faults per slave, max. - | 24V DC Power supply | max. 100mA, non-isolated | |
| Number of connections, max. 32 PG/OP channel yes Routing yes Global data communication yes S7 basic communication yes S7 communication as server yes S7 communication as defent - Transmission speed, min. 19.2 kbit/s Transmission speed, max. 12 Mbit/s Functionality PROFIBUS master PROOP channel PG/OP channel - Routing - S7 communication - S7 communication as server - S7 communication as client - Activation/deactivation of DP slaves - Direct data exchange (slave-to-slave communication) - DPV1 - Transmission speed, min. - Transmission speed, max. - Address range outputs, max. - Very data faults per slave, max. - | Eurotionality MDI | | |
| PGIOP channel yes Routing yes Global data communication yes S7 basic communication yes S7 communication as server yes S7 communication speed, min. 19.2 kbit/s Transmission speed, max. 12 Mbit/s Functionality PROFIBUS master Performance PGIOP channel - Routing - S7 communication - S7 communication as server - S7 communication as server - S7 communication as client - Activation/deactivation of DP slaves - Direct data exchange (slave-to-slave communication) - PDY1 - Transmission speed, min. - Transmission speed, max. - Number of DP slaves, max. - User data outputs per slave, max. - User data inputs per slave, max. - < | | 00 | |
| Routing | | | |
| Global data communication yes S7 basic communication yes S7 communication as server yes S7 communication as dilent - Transmission speed, min. 19.2 kbb/s Transmission speed, max. 12 Mbit/s Functionality PROFIBUS master PC/OP channel Routing - S7 basic communication - S7 basic rounding as a client - S7 communication as server - S7 communication as delent - S7 communication as delent - S8 contractive and communication of DP slaves - Direct data exchange (slave-to-slave communication) - DPV1 - Transmission speed, min. - Transmission speed, max. - Number of DP slaves, max. - User data inputs per slave, max. - User data inputs per slave, max. - User data inputs per slave, max. - Punctionality PROFIBUS slave - PG/OP channel - Routing a scenario asc | | * | |
| S7 basic communication yes | - | | |
| S7 communication yes | | - | |
| S7 communication as server yes | | - | |
| S7 communication as client - Transmission speed, min. 19.2 kbit/s Transmission speed, max. 12 Mbit/s Functionality PROFIBUS master PC/OP channel - Routing - S7 basic communication - S7 communication as server - S7 communication as client - Activation/deactivation of DP slaves - Direct data exchange (slave-to-slave communication) - DPV1 - Transmission speed, min. - Transmission speed, max. - Number of DP slaves, max. - Address range inputs, max. - User data inputs per slave, max. - User data outputs per slave, max. - PC/OP channel - Routing - S7 communication as client - Direct data exchange (slave-to-slave communication) - S7 communication as client - Direct data exchange (slave-to-slave communication) - S7 communication as client <t< td=""><td></td><td></td><td></td></t<> | | | |
| Transmission speed, min. 19.2 kbit/s Functionality PROFIBUS master PG/OP channel | | yes | |
| Transmission speed, max. 12 Mbit/s Functionality PROFIBUS master PG/OP channel | S7 communication as client | - | |
| Functionality PROFIBUS master PG/OP channel Routing S7 basic communication S7 communication S7 communication as server S7 communication as server S7 communication as selient Activation/deactivation of DP slaves Direct data exchange (slave-to-slave communication) DPV1 Transmission speed, min. Transmission speed, max. Number of DP slaves, max. Address range inputs, max. Address range outputs, max. User data outputs per slave, max. Functionality PROFIBUS slave PG/OP channel S7 communication S7 communication S7 communication as dient Direct data exchange (slave-to-slave communication) DPV1 Transmission speed, min. Transmismin speed, min. | Transmission speed, min. | 19.2 kbit/s | |
| PG/OP channel - Routing - S7 basic communication - S7 communication - S7 communication - S7 communication as server - S7 communication as elient - S7 communication as client - S7 communication as client - S7 communication as client - S7 communication of DP slaves - S7 communication as client - S7 communication as client - S7 communication as client - S7 communication - | Transmission speed, max. | 12 Mbit/s | |
| PG/OP channel - Routing - S7 basic communication - S7 communication - S7 communication - S7 communication as server - S7 communication as elient - S7 communication as client - S7 communication as client - S7 communication as client - S7 communication of DP slaves - S7 communication as client - S7 communication as client - S7 communication as client - S7 communication - | Functionality PROFIBUS master | | |
| S7 basic communication - S7 communication - S7 communication as server - S7 communication as client - Activation/deactivation of DP slaves - Direct data exchange (slave-to-slave communication) - DPV1 - Transmission speed, min Transmission speed, max Number of DP slaves, max Address range inputs, max Address range outputs, max User data outputs per slave, max User data outputs per slave, max Functionality PROFIBUS slave PG/OP channel - Routing - S7 communication as server - S7 communication as server - S7 communication as server - S7 communication as client - Direct data exchange (slave-to-slave communication) - DPV1 - Transmission speed, min Transmission speed, min Transmission speed, min Transmission speed, min Transmission speed, max Address areas, max Address areas, max | | - | |
| S7 communication - S7 communication as server - S7 communication as client - Activation/deactivation of DP slaves - Direct data exchange (slave-to-slave communication) - DPV1 - Transmission speed, min Transmission speed, max Number of DP slaves, max Address range inputs, max User data inputs per slave, max User data outputs per slave, max User data outputs per slave, max Functionality PROFIBUS slave PG/OP channel - Routing - S7 communication - S7 communication as server - S7 communication as server - S7 communication as server - S7 communication as slient - Direct data exchange (slave-to-slave communication) - DPV1 - Transmission speed, min Transmission speed, min Transmission speed, max Automatic detection of transmission speed - Transfer memory inputs, max Address areas, max Address areas, max | Routing | - | |
| S7 communication as server - S7 communication as client - Activation/deactivation of DP slaves - Direct data exchange (slave-to-slave communication) - DPV1 - Transmission speed, min Transmission speed, max Number of DP slaves, max Address range inputs, max Address range outputs, max User data inputs per slave, max User data outputs per slave, max Functionality PROFIBUS slave PG/OP channel - Routing - S7 communication as server - S7 communication as server - S7 communication as client - Direct data exchange (slave-to-slave communication) - DPV1 - Transmission speed, min Transmission speed, min Transmission speed, max Automatic detection of transmission speed - Transfer memory inputs, max Address areas, max Address areas, max | S7 basic communication | - | |
| S7 communication as client Activation/deactivation of DP slaves Direct data exchange (slave-to-slave communication) DPV1 | S7 communication | - | |
| Activation/deactivation of DP slaves Direct data exchange (slave-to-slave communication) DPV1 Transmission speed, min. Transmission speed, max. Number of DP slaves, max. Address range inputs, max. Address range outputs, max. User data inputs per slave, max. Functionality PROFIBUS slave PG/OP channel Routing S7 communication S7 communication as server S7 communication as client Direct data exchange (slave-to-slave communication) DPV1 Transmission speed, min. Transmission speed, min. Transmission speed, max. Address areas, max. - Address areas, max. - Address areas, max. | S7 communication as server | - | |
| Direct data exchange (slave-to-slave communication) DPV1 Transmission speed, min. Transmission speed, max. Number of DP slaves, max. Address range inputs, max. Address range outputs, max. - Ruser data inputs per slave, max. User data outputs per slave, max. - Functionality PROFIBUS slave PG/OP channel Routing S7 communication S7 communication as server S7 communication as client Direct data exchange (slave-to-slave communication) DPV1 Transmission speed, min. Transmission speed, max. Automatic detection of transmission speed Transfer memory inputs, max. Address areas, max. - Address areas, max. - - - - - - - - - - - - - | S7 communication as client | - | |
| DPV1 - Transmission speed, min. - Transmission speed, max. - Number of DP slaves, max. - Address range inputs, max. - Address range outputs, max. - User data inputs per slave, max. - User data outputs per slave, max. - Functionality PROFIBUS slave - PG/OP channel - Routing - S7 communication - S7 communication as server - S7 communication as client - Direct data exchange (slave-to-slave communication) - DPV1 - Transmission speed, min. - Transmission speed, max. - Automatic detection of transmission speed - Transfer memory inputs, max. - Transfer memory outputs, max. - Address areas, max. - | Activation/deactivation of DP slaves | - | |
| DPV1 - Transmission speed, min. - Transmission speed, max. - Number of DP slaves, max. - Address range inputs, max. - Address range outputs, max. - User data inputs per slave, max. - User data outputs per slave, max. - Functionality PROFIBUS slave - PG/OP channel - Routing - S7 communication - S7 communication as server - S7 communication as client - Direct data exchange (slave-to-slave communication) - DPV1 - Transmission speed, min. - Transmission speed, max. - Automatic detection of transmission speed - Transfer memory inputs, max. - Transfer memory outputs, max. - Address areas, max. - | Direct data exchange (slave-to-slave communication) | - | |
| Transmission speed, max. Number of DP slaves, max. Address range inputs, max. Address range outputs, max. User data inputs per slave, max. User data outputs per slave, max. | DPV1 | - | |
| Transmission speed, max. Number of DP slaves, max. Address range inputs, max. Address range outputs, max. User data inputs per slave, max. User data outputs per slave, max. | Transmission speed, min. | - | |
| Address range inputs, max. Address range outputs, max. User data inputs per slave, max. User data outputs per slave, max. Functionality PROFIBUS slave PG/OP channel Routing 7 communication 7 communication as server 7 communication as client Direct data exchange (slave-to-slave communication) DPV1 Transmission speed, min. Transmission speed, max. Automatic detection of transmission speed Transfer memory inputs, max. Transfer memory outputs, max. Address areas, max. - | Transmission speed, max. | - | |
| Address range inputs, max. Address range outputs, max. User data inputs per slave, max. User data outputs per slave, max. Functionality PROFIBUS slave PG/OP channel Routing 7 communication 7 communication as server 7 communication as client Direct data exchange (slave-to-slave communication) DPV1 Transmission speed, min. Transmission speed, max. Automatic detection of transmission speed Transfer memory inputs, max. Transfer memory outputs, max. Address areas, max. - | Number of DP slaves, max. | - | |
| Address range outputs, max. User data inputs per slave, max. User data outputs per slave, max. Functionality PROFIBUS slave Functionality PROFIBUS slave PG/OP channel Routing 57 communication 57 communication as server 57 communication as client Direct data exchange (slave-to-slave communication) DPV1 Transmission speed, min. Transmission speed, max. Automatic detection of transmission speed Transfer memory inputs, max. Transfer memory outputs, max. Transfer memory outputs, max. Address areas, max. | | - | |
| User data inputs per slave, max. User data outputs per slave, max. Functionality PROFIBUS slave Functionality PROFIBUS slave PG/OP channel Routing 57 communication 57 communication 57 communication as server 57 communication as client Direct data exchange (slave-to-slave communication) DPV1 Transmission speed, min. Transmission speed, max. Automatic detection of transmission speed Transfer memory inputs, max. Transfer memory outputs, max. Transfer memory outputs, max. Address areas, max. | | - | |
| User data outputs per slave, max. Functionality PROFIBUS slave PG/OP channel - Routing - S7 communication - S7 communication as server - S7 communication as client - Direct data exchange (slave-to-slave communication) - DPV1 - Transmission speed, min. Transmission speed, max Automatic detection of transmission speed - Transfer memory inputs, max Transfer memory outputs, max Address areas, max | | - | |
| Functionality PROFIBUS slave PG/OP channel - Routing - S7 communication - S7 communication as server - S7 communication as client - Direct data exchange (slave-to-slave communication) - DPV1 - Transmission speed, min Transmission speed, max Automatic detection of transmission speed - Transfer memory inputs, max Transfer memory outputs, max Address areas, max | | - | |
| PG/OP channel - Routing - S7 communication - S7 communication as server - S7 communication as client - S8 communication as client - S8 communication - S8 communica | | | |
| Routing - S7 communication - S7 communication as server - S7 communication as client - S7 communication | | | |
| S7 communication s server - S7 communication as client - S7 communication | PG/OP channel | - | |
| S7 communication as server - S7 communication as client - Direct data exchange (slave-to-slave communication) - DPV1 - Transmission speed, min Transmission speed, max Automatic detection of transmission speed - Transfer memory inputs, max Transfer memory outputs, max Address areas, max | Routing | - | |
| S7 communication as client Direct data exchange (slave-to-slave communication) DPV1 Transmission speed, min. Transmission speed, max. Automatic detection of transmission speed Transfer memory inputs, max. Transfer memory outputs, max. Address areas, max. - Address areas, max. | | - | |
| Direct data exchange (slave-to-slave communication) - DPV1 | | - | |
| DPV1 | S7 communication as client | - | |
| Transmission speed, min. Transmission speed, max. Automatic detection of transmission speed Transfer memory inputs, max. Transfer memory outputs, max. Address areas, max. - | Direct data exchange (slave-to-slave communication) | - | |
| Transmission speed, max. Automatic detection of transmission speed - Transfer memory inputs, max. Transfer memory outputs, max. Address areas, max. - - - - - - - - - - - - - | DPV1 | - | |
| Automatic detection of transmission speed - Transfer memory inputs, max Transfer memory outputs, max Address areas, max | Transmission speed, min. | - | |
| Transfer memory inputs, max Transfer memory outputs, max Address areas, max | Transmission speed, max. | - | |
| Transfer memory outputs, max Address areas, max | Automatic detection of transmission speed | - | |
| Address areas, max | Transfer memory inputs, max. | - | |
| | Transfer memory outputs, max. | - | |
| User data per address area, max. | Address areas, max. | - | |
| | User data per address area, max. | - | |



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| Point-to-point communication | |
|----------------------------------------------------------|-----------------------------------------------------------------------|
| PtP communication | yes |
| Interface isolated | yes |
| RS232 interface | - |
| RS422 interface | - |
| RS485 interface | yes |
| Connector | Sub-D, 9-pin, female |
| Transmission speed, min. | 150 bit/s |
| Transmission speed, max. | 115.5 kbit/s |
| Cable length, max. | 500 m |
| Doint to maint protocol | |
| Point-to-point protocol ASCII protocol | yes |
| STX/ETX protocol | |
| 3964(R) protocol | yes |
| | yes |
| RK512 protocol | - Vee |
| USS master protocol | yes |
| Modbus master protocol | yes |
| Modbus slave protocol | - |
| Special protocols | - |
| Functionality RJ45 interfaces | |
| Туре | X5 |
| Type of interface | Ethernet 10/100 MBit |
| Connector | RJ45 |
| Electrically isolated | yes |
| PG/OP channel | yes |
| Number of connections, max. | 4 |
| Productive connections | - |
| | |
| Туре | X8 |
| Type of interface | Ethernet 10/100 MBit |
| Connector | RJ45 |
| Electrically isolated | yes |
| PG/OP channel | yes |
| Number of connections, max. | 8 |
| Productive connections | yes |
| | |
| Ethernet communication CP | |
| Number of productive connections, max. | 8 |
| Number of productive connections by Siemens NetPro, max. | 8 |
| S7 connections | BSEND, BRCV, GET, PUT, Connection of active and passive data handling |
| User data per S7 connection, max. | 32 KB |
| TCP-connections | FETCH PASSIV, WRITE PASSIV, Connection of passive data handling |
| User data per TCP connection, max. | 64 KB |
| ISO-connections | - |
| User data per ISO connection, max. | - |
| | |



| ISO on TCP connections (RFC 1006) | FETCH PASSIV, WRITE PASSIV, CANYASKAWA COMPANY handling |
|-------------------------------------------|---------------------------------------------------------|
| User data per ISO on TCP connection, max. | 32 KB |
| UDP-connections | - |
| User data per UDP connection, max. | - |
| UDP-multicast-connections | - |
| UDP-broadcast-connections | - |
| Ethernet open communication | |
| Number of connections, max. | 8 |
| User data per ISO on TCP connection, max. | 8 KB |
| User data per native TCP connection, max. | 8 KB |
| User data per ad hoc TCP connection, max. | 1460 Byte |
| User data per UDP connection, max. | 1472 Byte |
| EtherCAT Master | |
| Number of EtherCAT-slaves | 128 |
| Update time | 500 μs 512 ms |
| Address range inputs, max. | 2 KB |
| Address range outputs, max. | 2 KB |
| EoE support | yes |
| FoE support | yes |
| Distributed Clock support | yes |
| Hotconnect Slaves | yes |
| Isochronous mode | - |
| Management & diagnosis | |
| Protocols | ICMP LLC |
| Web based diagnosis | - |
| NCM diagnosis | yes |
| Housing | |
| Material | PPE |
| Mounting | Rail System 300 |
| Mechanical data | |
| Dimensions (WxHxD) | 80 mm x 125 mm x 120 mm |
| Weight | 380 g |
| Environmental conditions | |
| Operating temperature | 0 °C to 60 °C |
| Storage temperature | -25 °C to 70 °C |
| Certifications | |
| UL certification | in preparation |
| KC certification | - |
| | |