## SIEMENS

## Data sheet

## 6ES7315-2FJ14-0AB0



SIMATIC S7-300 CPU315F-2 PN/DP, Central processing unit with 512 KB work memory, 1st interface MPI/DP 12 Mbit/s, 2nd interface Ethernet PROFINET, with 2-port switch, Micro Memory Card required

| General information   |  |
|---|--|
| Product type designation  | CPU 315F-2 PN/DP                                   |
| HW functional status  | 01   |
| Firmware version  | V3.2   |
| Product function  |  |
| Isochronous mode  | Yes; Via PROFIBUS DP or PROFINET interface         |
| Engineering with  |  |
| <ul> <li>Programming package</li> </ul>                                       | STEP 7 V5.5 or higher, Distributed Safety V5.4 SP4 |
| Supply voltage  |  |
| Rated value (DC)  | 24 V   |
| permissible range, lower limit (DC)   | 20.4 V   |
| permissible range, upper limit (DC)   | 28.8 V   |
| external protection for power supply lines (recommendation)                   | 2 A min.   |
| Mains buffering   |  |
| <ul> <li>Mains/voltage failure stored energy time</li> </ul>                  | 5 ms   |
| Repeat rate, min.   | 1 s  |
| Input current   |  |
| Current consumption (rated value)   | 750 mA   |
| Current consumption (in no-load operation), typ.                              | 150 mA   |
| Inrush current, typ.  | 4 A  |
| l²t   | 1 A <sup>2</sup> ·s                                |
| Power loss  |  |
| Power loss, typ.  | 4.65 W   |
| Memory  |  |
| Work memory   |  |
| integrated  | 512 kbyte  |
| • expandable  | No   |
| Load memory   |  |
| • Plug-in (MMC)   | Yes  |
| <ul> <li>Plug-in (MMC), max.</li> </ul>                                       | 8 Mbyte  |
| <ul> <li>Data management on MMC (after last programming),<br/>min.</li> </ul> | 10 a   |
| Backup  |  |
| • present   | Yes; Guaranteed by MMC (maintenance-free)          |
| without battery   | Yes; Program and data                              |
| CPU processing times  |  |
| for bit operations, typ.  | 0.05 µs  |
| for word operations, typ.   | 0.09 µs  |
| for fixed point arithmetic, typ.  | 0.12 µs  |

| for floating point arithmatic typ   | 0.45.00   |
|---|---|
| for floating point arithmetic, typ.   | 0.45 µs   |
| CPU-blocks  |   |
| Number of blocks (total)  | 1 024; (DBs, FCs, FBs); the maximum number of loadable blocks can be reduced by the MMC used. |
| DB  |   |
| Number, max.  | 1 024; Number range: 1 to 16000   |
| • Size, max.  | 64 kbyte  |
| FB  | of hoyld  |
| Number, max.  | 1 024; Number range: 0 to 7999  |
| • Size, max.  | 64 kbyte  |
| FC  |   |
| Number, max.  | 1 024; Number range: 0 to 7999  |
| • Size, max.  | 64 kbyte  |
| OB  |   |
| • Size, max.  | 64 kbyte  |
| Number of free cycle OBs  | 1; OB 1   |
| Number of time alarm OBs  | 1; OB 10  |
| Number of delay alarm OBs   | 2; OB 20, 21  |
| Number of cyclic interrupt OBs  | 4; OB 32, 33, 34, 35  |
| Number of process alarm OBs   | 1; OB 40  |
| Number of DPV1 alarm OBs  | 3; OB 55, 56, 57  |
| Number of isochronous mode OBs  | 1; OB 61  |
| Number of isocirionous mode OBs     Number of startup OBs                                     | 1; OB 100   |
| -   | 6; OB 80, 82, 83, 85, 86, 87 (OB83 only for PROFINET IO)                                      |
| <ul> <li>Number of asynchronous error OBs</li> <li>Number of synchronous error OBs</li> </ul> | 2; OB 121, 122  |
| Nesting depth   | 2, OD 121, 122  |
| per priority class  | 16  |
| additional within an error OB   | 4   |
| Counters, timers and their retentivity  | 4   |
|   |   |
| S7 counter  | 256   |
| Number  | 200   |
| Retentivity   | Vee   |
| — adjustable  | Yes   |
| — preset  | Z 0 to Z 7  |
| Counting range  | Vee   |
| — adjustable<br>— lower limit   | Yes   |
|   | 0   |
| — upper limit<br>IEC counter  | 999   |
|   | Vee   |
| • present   | Yes   |
| • Type<br>• Number  | SFB   |
|   | Unlimited (limited only by RAM capacity)  |
| S7 times  | 256   |
| Number     Detectivity  | 256   |
| Retentivity   | Van   |
| — adjustable  | Yes   |
| — preset  | No retentivity  |
| Time range  | 10 ma   |
| — lower limit   | 10 ms   |
| — upper limit   | 9 990 s   |
| IEC timer   | Va  |
| • present   | Yes   |
| • Type  | SFB   |
| Number  | Unlimited (limited only by RAM capacity)  |
| Data areas and their retentivity  |   |
| Retentive data area (incl. timers, counters, flags), max.                                     | 128 kbyte   |
| Flag  |   |
| • Size, max.  | 2 048 byte  |
| Retentivity available   | Yes; MB 0 to MB 2 047   |
| Retentivity preset  | MB 0 to MB 15   |
| <ul> <li>Number of clock memories</li> </ul>  | 8; 1 memory byte  |

| Data blocks   |   |
|---|---|
| Retentivity adjustable  | Yes; via non-retain property on DB  |
| Retentivity preset  | Yes   |
| Local data  |   |
| per priority class, max.  | 32 768 byte; Max. 2048 bytes per block  |
| Address area  |   |
| I/O address area  |   |
| Inputs  | 2 048 byte  |
| Outputs     of which distributed  | 2 048 byte  |
| of which distributed  | 2.049 http  |
| — Inputs  | 2 048 byte  |
| Outputs Process image   | 2 048 byte  |
| Inputs  | 2 048 byte  |
| Outputs   | 2 048 byte  |
| Inputs, adjustable  | 2 048 byte  |
| Outputs, adjustable   | 2 048 byte  |
| Inputs, default   | 128 byte  |
| Outputs, default  | 128 byte  |
| Subprocess images   | 120 5910  |
| Number of subprocess images, max.   | 1; With PROFINET IO, the length of the user data is limited to 1600 bytes   |
| Digital channels  |   |
| Inputs  | 16 384  |
| — of which central  | 1 024   |
| Outputs   | 16 384  |
| — of which central  | 1 024   |
| Analog channels   |   |
| Inputs  | 1 024   |
| — of which central  | 256   |
| Outputs   | 1 024   |
| — of which central  | 256   |
| Hardware configuration  |   |
| Number of expansion units, max.   | 3   |
| Number of DP masters  |   |
| <ul> <li>integrated</li> </ul>  | 1   |
| • via CP  | 4   |
| Number of operable FMs and CPs (recommended)  |   |
| • FM  | 8   |
| • CP, PtP   | 8   |
| • CP, LAN   | 10  |
| Rack  |   |
| Racks, max.   | 4   |
| <ul> <li>Modules per rack, max.</li> </ul>  | 8   |
|   |   |
| Time of day   |   |
| Time of day<br>Clock  |   |
| Time of day<br>Clock<br>• Hardware clock (real-time)  | Yes   |
| Time of day<br>Clock<br>• Hardware clock (real-time)<br>• retentive and synchronizable  | Yes   |
| Time of day<br>Clock<br>• Hardware clock (real-time)<br>• retentive and synchronizable<br>• Backup time   | Yes<br>6 wk; At 40 °C ambient temperature   |
| Time of day<br>Clock<br>• Hardware clock (real-time)<br>• retentive and synchronizable<br>• Backup time<br>• Deviation per day, max.  | Yes<br>6 wk; At 40 °C ambient temperature<br>10 s; Typ.: 2 s  |
| Time of day<br>Clock<br>• Hardware clock (real-time)<br>• retentive and synchronizable<br>• Backup time<br>• Deviation per day, max.<br>• Behavior of the clock following POWER-ON  | Yes<br>6 wk; At 40 °C ambient temperature<br>10 s; Typ.: 2 s<br>Clock continues running after POWER OFF   |
| Time of day<br>Clock<br>• Hardware clock (real-time)<br>• retentive and synchronizable<br>• Backup time<br>• Deviation per day, max.<br>• Behavior of the clock following POWER-ON<br>• Behavior of the clock following expiry of backup period   | Yes<br>6 wk; At 40 °C ambient temperature<br>10 s; Typ.: 2 s  |
| Time of day<br>Clock<br>• Hardware clock (real-time)<br>• retentive and synchronizable<br>• Backup time<br>• Deviation per day, max.<br>• Behavior of the clock following POWER-ON<br>• Behavior of the clock following expiry of backup period<br>Operating hours counter  | Yes<br>6 wk; At 40 °C ambient temperature<br>10 s; Typ.: 2 s<br>Clock continues running after POWER OFF<br>the clock continues at the time of day it had when power was switched off  |
| Time of day<br>Clock<br>• Hardware clock (real-time)<br>• retentive and synchronizable<br>• Backup time<br>• Deviation per day, max.<br>• Behavior of the clock following POWER-ON<br>• Behavior of the clock following expiry of backup period<br>Operating hours counter<br>• Number  | Yes<br>6 wk; At 40 °C ambient temperature<br>10 s; Typ.: 2 s<br>Clock continues running after POWER OFF<br>the clock continues at the time of day it had when power was switched off  |
| Time of day<br>Clock<br>• Hardware clock (real-time)<br>• retentive and synchronizable<br>• Backup time<br>• Deviation per day, max.<br>• Behavior of the clock following POWER-ON<br>• Behavior of the clock following expiry of backup period<br>Operating hours counter<br>• Number<br>• Number<br>• Number range  | Yes<br>6 wk; At 40 °C ambient temperature<br>10 s; Typ.: 2 s<br>Clock continues running after POWER OFF<br>the clock continues at the time of day it had when power was switched off<br>1<br>0  |
| Time of day<br>Clock<br>• Hardware clock (real-time)<br>• retentive and synchronizable<br>• Backup time<br>• Deviation per day, max.<br>• Behavior of the clock following POWER-ON<br>• Behavior of the clock following expiry of backup period<br>Operating hours counter<br>• Number<br>• Number<br>• Range of values   | Yes<br>6 wk; At 40 °C ambient temperature<br>10 s; Typ.: 2 s<br>Clock continues running after POWER OFF<br>the clock continues at the time of day it had when power was switched off<br>1<br>0<br>0 to 2^31 hours (when using SFC 101)  |
| Time of day<br>Clock<br>• Hardware clock (real-time)<br>• retentive and synchronizable<br>• Backup time<br>• Deviation per day, max.<br>• Behavior of the clock following POWER-ON<br>• Behavior of the clock following expiry of backup period<br>Operating hours counter<br>• Number<br>• Number<br>• Number<br>• Range of values<br>• Granularity                | Yes<br>6 wk; At 40 °C ambient temperature<br>10 s; Typ.: 2 s<br>Clock continues running after POWER OFF<br>the clock continues at the time of day it had when power was switched off<br>1<br>0<br>0 to 2^31 hours (when using SFC 101)<br>1 h   |
| Time of day Clock  Hardware clock (real-time) retentive and synchronizable Backup time Deviation per day, max. 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 retentive   | Yes<br>6 wk; At 40 °C ambient temperature<br>10 s; Typ.: 2 s<br>Clock continues running after POWER OFF<br>the clock continues at the time of day it had when power was switched off<br>1<br>0<br>0 to 2^31 hours (when using SFC 101)  |
| Time of day Clock  Hardware clock (real-time) retentive and synchronizable Backup time Deviation per day, max. 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 retentive Clock synchronization   | Yes<br>6 wk; At 40 °C ambient temperature<br>10 s; Typ.: 2 s<br>Clock continues running after POWER OFF<br>the clock continues at the time of day it had when power was switched off<br>1<br>0<br>0 to 2^31 hours (when using SFC 101)<br>1 h<br>Yes; Must be restarted at each restart |
| Time of day<br>Clock<br>• Hardware clock (real-time)<br>• retentive and synchronizable<br>• Backup time<br>• Deviation per day, max.<br>• Behavior of the clock following POWER-ON<br>• Behavior of the clock following expiry of backup period<br>Operating hours counter<br>• Number<br>• Number<br>• Number<br>• Range of values<br>• Granularity<br>• retentive | Yes<br>6 wk; At 40 °C ambient temperature<br>10 s; Typ.: 2 s<br>Clock continues running after POWER OFF<br>the clock continues at the time of day it had when power was switched off<br>1<br>0<br>0 to 2^31 hours (when using SFC 101)<br>1 h   |

| <ul> <li>on MPI, device</li> </ul>   | Yes   |
|--|---|
| • to DP, master  | Yes; With DP slave only slave clock   |
| • on DP, device  | Yes   |
| • in AS, master  | Yes   |
| • in AS, device  | Yes   |
| <ul> <li>on Ethernet via NTP</li> </ul>  | Yes; As client  |
| Digital inputs   |   |
| Number of digital inputs   | 0   |
| Digital outputs  |   |
| Number of digital outputs  | 0   |
| Analog inputs  |   |
| Number of analog inputs  | 0   |
| Interfaces   |   |
| Number of PROFINET interfaces  | 1   |
| Number of RS 485 interfaces  | 1   |
| Number of RS 422 interfaces  | 0   |
| 1. Interface   |   |
| Interface type   | Integrated RS 485 interface   |
| Isolated   | Yes   |
| Interface types  |   |
| RS 485   | Yes   |
| <ul> <li>Output current of the interface, max.</li> </ul>  | 200 mA  |
| Protocols  |   |
| • MPI  | Yes   |
| PROFIBUS DP master   | Yes   |
| PROFIBUS DF master     PROFIBUS DP device  | Yes   |
|  | No  |
| Point-to-point connection  | INU   |
| Transmission rate, max.  | 12 Mbit/s   |
| Services   |   |
| — PG/OP communication  | Yes   |
|  | Yes   |
| — Routing  |   |
| — Global data communication  | Yes   |
| - S7 basic communication   | Yes   |
| — S7 communication   | Yes   |
| — S7 communication, as client  | No; but via CP and loadable FB  |
| — S7 communication, as server  | Yes   |
| PROFIBUS DP master   |   |
| Transmission rate, max.  | 12 Mbit/s   |
| max. number of DP devices  | 124   |
| Services   |   |
| — PG/OP communication  | Yes   |
| - Routing  | Yes   |
| — Global data communication  | No  |
| - S7 basic communication   | Yes; I blocks only  |
| — S7 communication   | Yes   |
| — S7 communication, as client  | No  |
| — S7 communication, as server  | Yes   |
| — Equidistance   | Yes   |
| — Isochronous mode   | Yes; OB 61; isochronous mode can only be used alternatively on PROFIBUS DP or PROFINET IO |
| - SYNC/FREEZE  | Yes   |
| - activation/deactivation of DP devices  | Yes   |
| <ul> <li>max. number of DP devices that can be<br/>activated/deactivated at the same time</li> </ul> | 8   |
| <ul> <li>— Direct data exchange (slave-to-slave<br/>communication)</li> </ul>                        | Yes; as subscriber  |
| — DPV1   | Yes   |
| Address area   |   |
| — Inputs, max.   | 2 kbyte   |
| — Outputs, max.  | 2 kbyte   |
|  |   |

| Lleas data par DD davias  |   |
|---|---|
| User data per DP device   | 044 h. +-   |
| — Inputs, max.  | 244 byte  |
| — Outputs, max.   | 244 byte  |
| 1st interface / PROFIBUS DP device / header   |   |
| 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   |
| <ul> <li>— Global data communication</li> </ul>                                       | No  |
| — S7 basic communication  | No  |
| — S7 communication  | Yes   |
| — S7 communication, as client   | No  |
| — S7 communication, as server   | Yes; Connection configured on one side only   |
| — Direct data exchange (slave-to-slave  | Yes   |
| communication)  | Ne  |
| — DPV1  | No  |
| Transfer memory   | 244 hyte  |
| — Inputs  | 244 byte  |
| — Outputs   | 244 byte  |
| 2. Interface  | PROFILET  |
| Interface type  | PROFINET  |
| Isolated  | Yes   |
| automatic detection of transmission rate  | Yes; 10/100 Mbit/s  |
| Autonegotiation   | Yes   |
| Autocrossing  | Yes   |
| Change of IP address at runtime, supported  | Yes   |
| Interface types   |   |
| RJ 45 (Ethernet)  | Yes   |
| Number of ports   | 2   |
| integrated switch   | Yes   |
| Protocols   |   |
| • MPI   | No  |
| PROFINET IO Controller  | Yes; Also simultaneously with IO-Device functionality                                     |
| PROFINET IO Device  | Yes; Also simultaneously with IO Controller functionality                                 |
| PROFINET CBA  | Yes   |
| <ul> <li>PROFIBUS DP master</li> </ul>  | No  |
| PROFIBUS DP device  | No  |
| <ul> <li>Open IE communication</li> </ul>   | Yes; Via TCP/IP, ISO on TCP, and UDP  |
| Web server  | Yes; only read function   |
| Media redundancy  | Yes   |
| PROFINET IO Controller  |   |
| <ul> <li>Transmission rate, max.</li> </ul>   | 100 Mbit/s  |
| Services  |   |
| — PG/OP communication   | Yes   |
| — Routing   | Yes   |
| - S7 communication  | Yes; With loadable FBs, max. configurable connections: 14, max. number of instances: 32   |
| — Isochronous mode  | Yes; OB 61; isochronous mode can only be used alternatively on PROFIBUS DP or PROFINET IO |
| — IRT   | Yes   |
| - Shared device   | Yes   |
| - Prioritized startup   | Yes   |
| - Number of IO devices with prioritized startup, max.                                 | 32  |
| - Number of connectable IO Devices, max.  | 128   |
| — Of which IO devices with IRT, max.  | 64  |
| — of which in line, max.  | 64  |
| <ul> <li>— Number of IO Devices with IRT and the option "high flexibility"</li> </ul> | 128   |
| — of which in line, max.  | 61  |

| Autobar of connectable ID Devices FRT, max.     128     Advanced connectable ID Devices FRT, max.     128     Advanced connectable ID Devices FRT, max.     128     Advanced connectation of ID Devices FRT, max.     Autobar of ID Devices fragments     Autobar of ID Devices fragments     Advanced connectation of ID Devices     Yes     Autobar of ID Devices fragments     Autobar of ID Devices     Autobar of ID Devic  |   |  |
|--|---|--|
| - Achieological context on part of Devices         Yes           - Norber of Devices thanging during contain (partner<br>ports), supported during contain (partner<br>ports), supports), supported during contain (partner), supported   | <ul> <li>Number of connectable IO Devices for RT, max.</li> </ul>       | 128  |
| - Number of 10 Devices hard can be simulaneously and set of the s  | — of which in line, max.  | 128  |
|  | <ul> <li>Activation/deactivation of IO Devices</li> </ul>               | Yes  |
| - Number of IO Devices per tool, max.         8           - Device replacement without awap medium         Yes           - Stand cycles         250 µs, 500 µs, 1 ms; 2 ms, 4 ms (not in the case of IRT with "high floxibilly" option)           - Uodating line         250 µs, 100 µs, 1 ms; 2 ms, 4 ms (not in the case of IRT with "high floxibilly" option)           - Uodating line         250 µs (20 µs, 1 ms; 2 ms, 4 ms (not in the case of IRT with "high floxibilly" option)           - Uodating line         250 µs (20 µs, 1 ms; 2 ms, 4 ms (not in the case of IRT with "high floxibilly" option)           - Uodating line         250 µs (20 µs, 1 ms; 2 ms, 4 ms (not in the case of IRT with "high floxibilly" option)           - ProUP         - Number, max.         2 ktyle           - User data consistency, max.         1 024 byte           - RoUting         Yes         Yes           - RoUting         Yes           - RoUting         Yes           - Isochtranous mode         No           - Isochtranous mode         Yes           - Number of IC Controllers with shared device, max.         2           - Number of IC Controllers with shared device, max.         2           - Number of IC Controllers with shared device, max.         2           - Number of IC Controllers with shared device.         2           - Number, max.         1 440 byte; Per IO Control   |   | 8  |
| <ul> <li>Device replacement without swap medium</li> <li>Sand cycles</li> <li>Sand cycles</li> <li>Sold prime: 2 and replacement without swap medium</li> <li>Cycles in max.</li> <li>College in max.</li> <li>Cycles in max.</li> <li>Cycle in max.</li> <licycle in="" li="" max.<=""> <li>Cycle in max.<td></td><td>Yes</td></li></licycle></ul>  |   | Yes  |
| Sence cycles         260 gs. 800 gs. 7m g. 7m g. 4 ms (not in the case of IRT with "high flexibility"          Updating time         250 gs to 512 ms (depending on the operating mode, see Manual '87.300 CPU           Address area  | - Number of IO Devices per tool, max.                                   | 8  |
| option)         200 bits 0 542 ms (depending on the operating mode, see Manual "S7-300 CPU 33/s dencineal Data" for more details)           Address area         - Inputs, max.         2 My/ce           - Outputs, max.         2 My/ce           - Outputs, max.         1024 by/ce           - Ware data consistency, max.         1024 by/ce           PROFINET IO Device         -           - Roding         Yes           - Roding         Yes           - Roding         Yes           - Indorbronus mode         No           - Inputs, max.         Yes           - Inputs, max.         1440 byle; Per IO Controller with shared device           - Mumber of IO Controller with shared device         -           - User data per submodule, max.         1440 byle; Per IO Controller with shared device           Submodule         -         -           - Number, max.         64           - User data per submodule, max.         9           - Soluti, max.         8           - Outputs, max.         9   | <ul> <li>Device replacement without swap medium</li> </ul>              | Yes  |
|  | — Send cycles   | 250 $\mu s,$ 500 $\mu s,$ 1 ms; 2 ms, 4 ms (not in the case of IRT with "high flexibility" |
| 3txC and CPU 31x, technical Data" for more details)           Address area           - Inputs, max.         2 ktyle           - Outputs, max.         1024 byte           - Bodd data consistency, max.         1024 byte           PROFINET IO Device         Services           - PGOP communication         Yes           - Sort communication         Yes           - Sort communication         Yes           - Isochronous mode         No           - IRT         Yes           - PROFilenergy         Yes (WIIn Isodable FBs, max. configurable connections: 14, max, number of Instalnce: 32           - Isochronous mode         No           - IRT         Yes           - PROFilenergy         Yes (WIIn Isodable FBs, max. configurable connections: 14, max, number of ID controllers with shared device, max.           - Isochronous mode         Yes           - Number of ID Controllers with shared device, max.         140 byte; Per IO Controller with shared device           - Inputs, max.         140 byte; Per IO Controller with shared device           - Outputs, max.         142 byte           PROFINET CBA         Yes           - User data per submodule, max.         142 byte           PROFINET CBA         Yes           - Subtendation         Yes  |   |  |
| <ul> <li>Inputs, max.</li> <li>Outputs, max.</li> <li>Outputs, max.</li> <li>Outputs, max.</li> <li>Outputs, max.</li> <li>Add byte</li> <li>PROFINET IO Device</li> <li>PROFINET GRAMMERS</li> <li>PROFINET IO Device</li> <li>Shared device<td>— Updating time</td><td></td></li></ul>   | — Updating time   |  |
| - Oupuls, max. 1024 byte<br>- User data consistency, max. 1024 byte<br>PROFINET to Device<br>Services<br>- PROP communication<br>- Routing<br>- Routing<br>- Routing<br>- Routing<br>- Routing<br>- Soft communication<br>- IRT<br>- IRT<br>- IRT<br>- ROFIneergy<br>- Shared device<br>- Shared devi | Address area  |  |
| — Jair data consistency, max.     1624 byte       PROFINET IO Device   | — Inputs, max.  |  |
| PROFINET IO Device       Services       - PGOP communication     Yes       - Sourcommunication     Yes       - Sourcommunication     Yes       - Sourcommunication     Yes       - IRT     Yes       - PROFINET IO Advice     Yes       - PROFINET IO Controllars with shared device, max.     Yes       - Shared device     Yes       - Shared device     Yes       - Number of IO Controllars with shared device, max.     2       Transfer memory     1440 byte; Per IO Controllar 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.     164       - User data per submodule, max.     1024 byte       PROFINET CBA     Yes       • explic transmission     Yes       Open El communication     Yes       • Number of connections, max.     8       • Local port numbers used at the system end     0.20, 21, 23, 25, 80, 102, 135, 161, 443, 8080, 34963, 34964, 65532, 65533, 65534, 65535       Protocols     Yes       Protocols     Yes       Protocols     Yes       Protocols     Yes       - Suitchover time on ine break,   | — Outputs, max.   | 2 kbyte  |
| Services     -       -     PG0P communication     Yes       -     Securing     Yes       -     S7 communication     Yes       -     S7 communication     Yes       -     Secondary     Yes       -     Isochnorous mode     No       -     Isochnorous mode     No       -     Isochnorous mode     No       -     IRT     Yes       -     PROFlenergy     Yes       -     Secondary     Yes       -     Number of IO Controllers with shared device, max.     2       -     Transfer memory     1440 byte; Per IO Controller with shared device       -     Outputs, max.     1440 byte; Per IO Controller with shared device       -     Outputs, max.     1024 byte       -     Number of IO controller with shared device     Yes       -     Used data per submodule, max.     1024 byte       -     Used data per submodule, max.     1024 byte       PROFINET CGA     Yes       •     Open IE communication     Yes       •     Used of the system end     0.20, 21, 23, 25, 80, 102, 135, 161, 443, 8080, 34962, 34963, 34964, 65532, 65535       • Keep-alive function, supported     Yes       PROFINET     Media redundancy       - <td>— User data consistency, max.</td> <td>1 024 byte</td>  | — User data consistency, max.   | 1 024 byte   |
|  | PROFINET IO Device  |  |
|  | Services  |  |
|  | — PG/OP communication   | Yes  |
| instances: 32<br>No<br>No<br>No<br>No<br>PROFlenergy<br>PSV: With SFB 73 / 74 prepared for loadable PROFlenergy standard FB for I-<br>Device<br>PROFlenergy<br>Avers: With SFB 73 / 74 prepared for loadable PROFlenergy standard FB for I-<br>Device<br>Protections with shared device, max.<br>Standard evice<br>Number of IO Controllers with shared device, max.<br>Proting max.<br>Number, data per submodule, max.<br>Number of connections, max.<br>Number of connections, max.<br>Number of stations in the string, max.<br>Number of stations in the string, max.<br>Number of connections, max.<br>Number   | - Routing   | Yes  |
| - IRT     Yes       - PROFlenergy     Yes: With SFB 73 / 74 prepared for loadable PROFlenergy standard FB for I-<br>Device       - Shared device     Yes       - Number of IO Controllers with shared device, max.     2       Transfer memory     1 440 byte; Per IO Controller with shared device       - Outputs, max.     1 440 byte; Per IO Controller with shared device       - Outputs, max.     64       - Warr data per submodule, max.     64       - User data per submodule, max.     102 byte       exclusit transmission     Yes       occlusit transmission     Yes       occlusit transmission     Yes       open IE communication     8       • Local port numbers used at the system end     0, 20, 21, 23, 25, 80, 102, 135, 161, 443, 8080, 34962, 34963, 34964, 65532, 65535       • Keep-alive function, supported     Yes       Protocols     Yes via Integrated PROFINET Interface and loadable FBs       • Number of connections, max.     8       • Data length for connection type 11H, max.     1460 byte <td>— S7 communication</td> <td></td>   | — S7 communication  |  |
|  | — Isochronous mode  | No   |
| Device     Device     Yes       - Number of 10 Controllers with shared device, max.     2       Transfer memory     1 440 byte; Per 10 Controller with shared device       - Outputs, max.     1 440 byte; Per 10 Controller with shared device       Submodules     1 440 byte; Per 10 Controller with shared device       - Number, max.     64       - User data per submodule, max.     1024 byte       PROFINET CBA     Yes       • acyclic transmission     Yes       • cyclic transmission     Yes       • cyclic transmission     Yes       • Local port numbers used at the system end     0, 20, 21, 23, 25, 80, 102, 135, 161, 443, 8080, 34962, 34963, 34964, 65532, 65536   | — IRT   | Yes  |
| Number of IO Controllers with shared device, max.     2       Transfer memory     -       Inputs, max.     1 440 byte; Per IO Controller with shared device       Outputs, max.     1 440 byte; Per IO Controller with shared device       Submodules     -       Number, max.     64       User data per submodule, max.     1024 byte       PROFINET CBA     -       • acyclic transmission     Yes       • ocyclic transmission     Yes       • ocyclic transmission     Yes       • 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       PROFisafe     Yes       PROFisafe     Yes       Patie and undancy     200 ms; PROFINET MRP       • Number of connections, max.     50       • Open IE communication     Yes       • Number of connection type 01H, max.     50       • Data length for connection type 11H, max.     32 768 byte       • Source on connections, max.     8       • Source on connections, max.     8       • Data length for connections, max.     8       • Data length for connections, max.     8       • Data length for connections, max.     8       • Data length, max.     22 768 byte <td>— PROFlenergy</td> <td></td>  | — PROFlenergy   |  |
| Transfer memory       -         -       Inputs, max.       1 440 byte; Per IO Controller with shared device         -       Outputs, max.       1 440 byte; Per IO Controller with shared device         -       Outputs, max.       64         -       User data per submodule, max.       1 024 byte         PROFINET CBA       -         •       acyclic transmission       Yes         •       oyclic transmission       Yes         Open IE communication       8       0, 20, 21, 23, 25, 80, 102, 135, 161, 443, 8080, 34962, 34964, 65532, 65533, 65534, 65535         •       Keep-alive function, supported       Yes         Protocols       -       Yes         Protocols       -       Ves         Redundancy mode       -       Submodule redundancy         •       Switchover time on line break, typ.       200 ms; PROFINET MRP         -       Number of connections, max.       50         Open IE communication       -       Submodule FBs         •       Number of connections, max.       8         -       Data length for connections per port, supported       Yes         •       Yes       Yes la integrated PROFINET interface and loadable FBs         •       Number of connections, max.   | — Shared device   | Yes  |
| - Inputs, max.     1 440 byte; Per IO Controller with shared device       - Outputs, max.     1 440 byte; Per IO Controller with shared device       Submodules     64       - User data per submodule, max.     1 024 byte       PROFINET CBA     64       • exceptic transmission     Yes       • cyclic transmission     Yes       • occeptic transmission     Yes       Protocols     Yes       Protocols     Yes       Protocols     Yes       Protocols     Yes       Protocols     Yes       - Switchover time on line break, typ.     200 ms; PROFINET MRP       - Number of connection spend, max.     8       - Data length for connection type 01H, max.     1 460 byte       - Source of protocols     Yes       - Number of connections, max.     8       - Data length for connections per port, supported     Yes       • TCP/IP     Yes, via integrated PROFINET interface and loadable FBs       - Number of connections, per 1H, max.     1 460 byte       - Source for sections,  | <ul> <li>— Number of IO Controllers with shared device, max.</li> </ul> | 2  |
|  | Transfer memory   |  |
| Submodules     64       — Number, max.     64       — User data per submodule, max.     1024 byte       PROFINET CEA     •       • acyclic transmission     Yes       • optic transmission     Yes       Open IE communication     8       • 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       Profiles     Yes       PROFISATE     Yes       PROFISATE     Yes       Protocols     -       - Switchover time on line break, typ.     200 ms; PROFINET MRP       - Number of stations in the ring, max.     50       Open IE communication     50       Open IE communication     8       - Number of connection type 01H, max.     1460 byte       - Data length for connection type 11H, max.     22768 byte       - asteral passive connections per port, supported     Yes       - Switchover time on lines per port, supported     Yes       - Number of connections max.     8       - Data length for connection type 01H, max.     1460 byte       - Solar length for connections max.     8       - Data length for connections, max.     8       - Data length, max.     32 768 byte       - Data length, m  | — Inputs, max.  | 1 440 byte; Per IO Controller with shared device   |
| - Number, max.     64       - User data per submodule, max.     1024 byte       PROFINET CBA     -       • acyclic transmission     Yes       • cyclic transmission     Yes       • Open IE communication     8       • 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       PROFIsafe     Yes       PROFIsafe     Yes       Media redundancy     -       - Number of connections, max.     50       Open IE communication     8       • Number of stations in the ring, max.     50       Open IE communication     200 ms; PROFINET MRP       - Number of stations in the ring, max.     50       Open IE communication     8       • TCP/IP     Yes; via integrated PROFINET interface and loadable FBS       • Number of connection type 01H, max.     1460 byte       - Data length for connection type 01H, max.     1460 byte       - several passive connections, max.     8       - Number of connections, max.     8       - Data length for connections max.     8       - Data length, max.     32 768 byte       - Number of connections, max.     8       - Data length, max.     32 768 byte       - Data  | — Outputs, max.   | 1 440 byte; Per IO Controller with shared device   |
| User data per submodule, max.     1 024 byte       PROFINET CBA       • acyclic transmission     Yes       • cyclic transmission     Yes       Open IE communication     8       • 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, 65534, 65535       • Keep-alive function, supported     Yes       Protocols     -       Protocols     -       PROFINET of stations in the ring, max.     50       Open IE communication     50       Open IE communication     -       - Switchover time on line break, typ.     200 ms; PROFINET MRP       - Number of stations in the ring, max.     50       Open IE communication     -       - Number of connection type 01H, max.     1 460 byte       - Data length for connection type 11H, max.     32 768 byte       - Data length for connections, max.     8       - Data length for connections, max.     8       - Number of connections, max.     8       - Data length, max.     32 768 byte       - Number of connections, max.     8       - Data length, max.     32 768 byte       - UDP     Yes; via integrated PROFINET interface and loadable FBs       - Number of connections, max.     8       - Data length, max.     32 768 byte <td>Submodules</td> <td></td>  | Submodules  |  |
| User data per submodule, max.     1 024 byte       PROFINET CBA  | — Number, max.  | 64   |
| PROFINET CBA         • acyclic transmission       Yes         • cyclic transmission       Yes         Open IE communication       8         • 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         Protocols       Yes         PROFIsafe       Yes         Redundancy mode       Ves         Media redundancy       200 ms; PROFINET MRP         - Switchover time on line break, typ.       200 ms; PROFINET MRP         - Number of stations in the ring, max.       50         Open IE communication       Yes         • Number of connections, max.       8         - Data length for connection type 01H, max.       1 460 byte         - Data length for connections per port, supported       Yes         • ISC-on-TCP (RFC1006)       Yes; via integrated PROFINET interface and loadable FBs         - Number of connections, max.       8         - Data length, max.       32 768 byte         - UDP       Yes; via integrated PROFINET interface and loadable FBs         - Number of connections, max.       8         - Data length, max.       32 768 byte         - UDP       Yes; via integrated PROFINET interface a  |   |  |
| • acyclic transmission       Yes         • cyclic transmission       Yes         Open IE communication       ************************************  |   |  |
| • cyclic transmission       Yes         Open IE communication       8         • Number of connections, max.       8         • Local port numbers used at the system end       0, 20, 21, 23, 25, 80, 102, 135, 161, 443, 8080, 34962, 34963, 34964, 65532, 65535         • Keep-alive function, supported       Yes         Protocols       Protocols         PROFIsafe       Yes         Redundancy mode       200 ms; PROFINET MRP         - Switchover time on line break, typ.       200 ms; PROFINET MRP         - Number of stations in the ring, max.       50         Open IE communication       50         Open IE connections, max.       8         - Data length for connection type 01H, max.       1 460 byte         - Data length for connection type 01H, max.       32 768 byte         - several passive connections, max.       8         - Data length, max.       32 768 byte         - Data length, max.       32 768 byte         - Number of connections, max.       8         - Data length, max.       32 768 byte         - Data length, max.       32 768 byte         - Data length, max.       460 byte         - Data length, max.       32 768 byte         - Data length, max.       48         - Data length, max.  |   | Yes  |
| Open IE communication       8         • Number of connections, max.       8         • Local port numbers used at the system end       0, 20, 21, 23, 25, 80, 102, 135, 161, 443, 8080, 34962, 34963, 34964, 65532, 65533, 65536, 65535         • Keep-alive function, supported       Yes         Protocols       Yes         PROFIsafe       Yes         Redundancy mode       200 ms; PROFINET MRP         - Switchover time on line break, typ.       200 ms; PROFINET MRP         - Number of stations in the ring, max.       50         Open IE communication       50         Open IE connections, max.       8         - Data length for connection type 01H, max.       1460 byte         - Several passive connections per port, supported       Yes         - Sula length for connections per port, supported       Yes         - Sola length for connections, max.       8         - Data length, max.       32 768 byte         - Sola length, max.       32 768 byte         - Number of connections, max.       8         - Data length, max.       32 768 byte         - Data length, max.       32 768 byte <td></td> <td></td>   |   |  |
| • Number of connections, max.       8         • 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         Protocols       Yes         Redundancy mode       200 ms; PROFINET MRP         - Switchover time on line break, typ.       200 ms; PROFINET MRP         - Number of stations in the ring, max.       50         Open IE communication       Yes; via integrated PROFINET interface and loadable FBs         - Number of connections, max.       8         - Data length for connection type 01H, max.       1 460 byte         - several passive connections, max.       8         - Number of connections, max.       8         - Data length for connection type 01H, max.       1 460 byte         - several passive connections, max.       8         - Data length, for connections, max.       8         - Data length, max.       32 768 byte         - String of connections, max.       8         - Data length, max.       32 768 byte         - Data length, max.       1472 byte <td></td> <td></td>   |   |  |
| • Local port numbers used at the system end0, 20, 21, 23, 25, 80, 102, 135, 161, 443, 8080, 34962, 34963, 34964, 65532, 65533, 65534, 65535• Keep-alive function, supportedYesProtocolsPROFIsafeYesRedundancy modeMedia redundancy- Switchover time on line break, typ.200 ms; PROFINET MRP- Number of stations in the ring, max.50Open IE communication• TCP/IPYes; via integrated PROFINET interface and loadable FBs- Data length for connection type 01H, max.1 460 byte- Solar length for connections per port, supportedYes; via integrated PROFINET interface and loadable FBs- Number of connections, max.8- Data length for connections per port, supportedYes; via integrated PROFINET interface and loadable FBs- Number of connections, max.8- Data length, max.32 768 byte- Store (RFC1006)Yes; via integrated PROFINET interface and loadable FBs- Number of connections, max.8- Data length, max.32 768 byte- UDPYes; via integrated PROFINET interface and loadable FBs- Number of connections, max.8- Data length, max.32 768 byte- UDPYes; via integrated PROFINET interface and loadable FBs- Number of connections, max.8- Data length, max.1472 byte  | · ·   | 8  |
| • Keep-alive function, supported       Yes         Protocols         PROFIsafe       Yes         Redundancy mode       200 ms; PROFINET MRP         - Switchover time on line break, typ.       200 ms; PROFINET MRP         - Number of stations in the ring, max.       50         Open IE communication       50         • TCP/IP       Yes; via integrated PROFINET interface and loadable FBs         - Number of connection type 01H, max.       1460 byte         - Data length for connection type 01H, max.       32 768 byte         - several passive connections, max.       8         - Number of connections, max.       8         - Data length for connections, max.       8         - Number of connections, max.       8         - Data length, max.       32 768 byte         - Number of connections, max.       8         - Data length, max.       32 768 byte         - Number of connections, max.       8         - Data length, max.       32 768 byte         - UDP       Yes; via integrated PROFINET interface and loadable FBs         - Number of connections, max.       8         - Data length, max.       32 768 byte         - Data length, max.       1472 byte         Web server       1472 byte    <   |   | 0, 20, 21, 23, 25, 80, 102, 135, 161, 443, 8080, 34962, 34963, 34964, 65532,               |
| Protocols         PROFIsafe       Yes         Redundancy mode       Media redundancy         — Switchover time on line break, typ.       200 ms; PROFINET MRP         — Number of stations in the ring, max.       50         Open IE communication       50         • TCP/IP       Yes; via integrated PROFINET interface and loadable FBs         • Data length for connection type 01H, max.       1 460 byte         • Data length for connections per port, supported       Yes; via integrated PROFINET interface and loadable FBs         • So-on-TCP (RFC1006)       Yes; via integrated PROFINET interface and loadable FBs         • Number of connections, max.       8         • Data length, for connections, max.       8         • ISO-on-TCP (RFC1006)       Yes; via integrated PROFINET interface and loadable FBs         • Number of connections, max.       8         • Data length, max.       32 768 byte         • UDP       Yes; via integrated PROFINET interface and loadable FBs         • Number of connections, max.       8         • Data length, max.       32 768 byte         • UDP       Yes; via integrated PROFINET interface and loadable FBs         • Number of connections, max.       8         • Data length, max.       1 472 byte         Web server       Veb server <td><ul> <li>Keep-alive function, supported</li> </ul></td> <td></td>  | <ul> <li>Keep-alive function, supported</li> </ul>                      |  |
| PROFIsafe       Yes         Redundancy mode       Media redundancy         - Switchover time on line break, typ.       200 ms; PROFINET MRP         - Number of stations in the ring, max.       50         Open IE communication       Yes; via integrated PROFINET interface and loadable FBs         - Number of connections, max.       8         - Data length for connection type 01H, max.       1 460 byte         - Data length for connection type 11H, max.       32 768 byte         - several passive connections, max.       8         - ISO-on-TCP (RFC1006)       Yes; via integrated PROFINET interface and loadable FBs         - Number of connections, max.       8         - Data length, max.       32 768 byte         - UDP       Yes; via integrated PROFINET interface and loadable FBs         - Number of connections, max.       8         - Data length, max.       32 768 byte         • UDP       Yes; via integrated PROFINET interface and loadable FBs         - Number of connections, max.       8         - Data length, max.       32 768 byte         • UDP       Yes; via integrated PROFINET interface and loadable FBs         - Number of connections, max.       8         - Data length, max.       1472 byte         Web server       Veb server <td></td> <td></td>  |   |  |
| Redundancy mode         Media redundancy         - Switchover time on line break, typ.       200 ms; PROFINET MRP         - Number of stations in the ring, max.       50         Open IE communication         • TCP/IP       Yes; via integrated PROFINET interface and loadable FBs         - Number of connections, max.       8         - Data length for connection type 01H, max.       1 460 byte         - Data length for connection type 11H, max.       32 768 byte         - several passive connections per port, supported       Yes; via integrated PROFINET interface and loadable FBs         • ISO-on-TCP (RFC1006)       Yes; via integrated PROFINET interface and loadable FBs         - Number of connections, max.       8         - Data length, max.       32 768 byte         • UDP       Yes; via integrated PROFINET interface and loadable FBs         - Number of connections, max.       8         - Data length, max.       32 768 byte         • UDP       Yes; via integrated PROFINET interface and loadable FBs         - Number of connections, max.       8         - Data length, max.       1472 byte         Web server       Veb server   |   | Yes  |
| Media redundancy       200 ms; PROFINET MRP         - Switchover time on line break, typ.       50         Open IE communication       50         • TCP/IP       Yes; via integrated PROFINET interface and loadable FBs         - Number of connections, max.       8         - Data length for connection type 01H, max.       1 460 byte         - Data length for connection type 11H, max.       32 768 byte         - several passive connections per port, supported       Yes; via integrated PROFINET interface and loadable FBs         - Number of connections, max.       8         - Dota length, for connections, max.       32 768 byte         - Several passive connections, max.       8         - Data length, max.       32 768 byte         - Number of connections, max.       8         - Data length, max.       32 768 byte         - Data length, max.       32 768 byte         - Data length, max.       32 768 byte         - Data length, max.       8         - Data length, max.       8         - Data length, max.       32 768 byte         - UDP       Yes; via integrated PROFINET interface and loadable FBs         - Number of connections, max.       8         - Data length, max.       1 472 byte         Web server       Veb server <td></td> <td></td>  |   |  |
| - Switchover time on line break, typ.200 ms; PROFINET MRP- Number of stations in the ring, max.50Open IE communicationYes; via integrated PROFINET interface and loadable FBs- Number of connections, max.8- Data length for connection type 01H, max.1 460 byte- Data length for connection type 11H, max.32 768 byte- several passive connections, max.8- Number of connections, max.8- Data length for connections, max.20 Yes; via integrated PROFINET interface and loadable FBs- Number of connections, max.32 768 byte- Number of connections, max.8- Data length, max.32 768 byte- Data length, max.1 472 byteWeb serverVeb server   |   |  |
| - Number of stations in the ring, max.       50         Open IE communication       Yes; via integrated PROFINET interface and loadable FBs         - TCP/IP       Yes; via integrated PROFINET interface and loadable FBs         - Number of connections, max.       8         - Data length for connection type 01H, max.       1 460 byte         - Data length for connection type 11H, max.       32 768 byte         - several passive connections per port, supported       Yes; via integrated PROFINET interface and loadable FBs         - ISO-on-TCP (RFC1006)       Yes; via integrated PROFINET interface and loadable FBs         - Number of connections, max.       8         - Data length, max.       32 768 byte         - Data length, max.       32 768 byte         - Data length, max.       32 768 byte         - Data length, max.       8         - Data length, max.       1472 byte         Web server       Veb server   | -   | 200 ms <sup>-</sup> PROFINET MRP   |
| Open IE communication       Yes; via integrated PROFINET interface and loadable FBs         - Number of connections, max.       8         - Data length for connection type 01H, max.       1 460 byte         - Data length for connection type 11H, max.       32 768 byte         - several passive connections per port, supported       Yes; via integrated PROFINET interface and loadable FBs         • ISO-on-TCP (RFC1006)       Yes; via integrated PROFINET interface and loadable FBs         - Number of connections, max.       8         - Data length, max.       32 768 byte         • UDP       Yes; via integrated PROFINET interface and loadable FBs         - Number of connections, max.       8         - Data length, max.       32 768 byte         VES; via integrated PROFINET interface and loadable FBs         - Data length, max.       32 768 byte         Ves; via integrated PROFINET interface and loadable FBs         - Data length, max.       32 768 byte         Yes; via integrated PROFINET interface and loadable FBs         - Number of connections, max.       8         - Data length, max.       1 472 byte         Web server       Ves  |   |  |
| • TCP/IPYes; via integrated PROFINET interface and loadable FBs- Number of connections, max.8- Data length for connection type 01H, max.1 460 byte- Data length for connection type 11H, max.32 768 byte- several passive connections per port, supportedYes• ISO-on-TCP (RFC1006)Yes; via integrated PROFINET interface and loadable FBs- Number of connections, max.8- Data length, max.32 768 byte• UDPYes; via integrated PROFINET interface and loadable FBs- Number of connections, max.8- Data length, max.32 768 byte• UDPYes; via integrated PROFINET interface and loadable FBs- Number of connections, max.8- Data length, max.1472 byteWeb serverIntegrated PROFINET interface and loadable FBs  |   |  |
| - Number of connections, max.       8         - Data length for connection type 01H, max.       1 460 byte         - Data length for connection type 11H, max.       32 768 byte         - several passive connections per port, supported       Yes         • ISO-on-TCP (RFC1006)       Yes; via integrated PROFINET interface and loadable FBs         - Number of connections, max.       8         - Data length, max.       32 768 byte         • UDP       Yes; via integrated PROFINET interface and loadable FBs         - Number of connections, max.       8         - Data length, max.       32 768 byte         • UDP       Yes; via integrated PROFINET interface and loadable FBs         - Number of connections, max.       8         - Data length, max.       1472 byte         Web server       Yes   | · ·   | Ves: via integrated PROFINET interface and loadable EPs                                    |
| — Data length for connection type 01H, max.1 460 byte— Data length for connection type 11H, max.32 768 byte— several passive connections per port, supportedYes• ISO-on-TCP (RFC1006)Yes; via integrated PROFINET interface and loadable FBs— Number of connections, max.8— Data length, max.32 768 byte• UDPYes; via integrated PROFINET interface and loadable FBs— Number of connections, max.8— Data length, max.32 768 byte• UDPYes; via integrated PROFINET interface and loadable FBs— Number of connections, max.8— Data length, max.1 472 byteWeb serverVes   |   | -  |
| - Data length for connection type 11H, max.       32 768 byte         - several passive connections per port, supported       Yes         • ISO-on-TCP (RFC1006)       Yes; via integrated PROFINET interface and loadable FBs         - Number of connections, max.       8         - Data length, max.       32 768 byte         • UDP       Yes; via integrated PROFINET interface and loadable FBs         - Number of connections, max.       8         - Data length, max.       32 768 byte         - UDP       Yes; via integrated PROFINET interface and loadable FBs         - Number of connections, max.       8         - Data length, max.       1472 byte         Web server       Her Provide  |   |  |
| - several passive connections per port, supported       Yes         • ISO-on-TCP (RFC1006)       Yes; via integrated PROFINET interface and loadable FBs         - Number of connections, max.       8         - Data length, max.       32 768 byte         • UDP       Yes; via integrated PROFINET interface and loadable FBs         - Number of connections, max.       8         - Data length, max.       8         - Data length, max.       8         - Data length, max.       1 472 byte         Web server       Ves   |   |  |
| • ISO-on-TCP (RFC1006)       Yes; via integrated PROFINET interface and loadable FBs         - Number of connections, max.       8         - Data length, max.       32 768 byte         • UDP       Yes; via integrated PROFINET interface and loadable FBs         - Number of connections, max.       8         - Data length, max.       8         - Data length, max.       1472 byte         Web server       Yes  |   |  |
| - Number of connections, max.       8         - Data length, max.       32 768 byte         • UDP       Yes; via integrated PROFINET interface and loadable FBs         - Number of connections, max.       8         - Data length, max.       1 472 byte         Web server  |   |  |
| - Data length, max.     32 768 byte       • UDP     Yes; via integrated PROFINET interface and loadable FBs       - Number of connections, max.     8       - Data length, max.     1 472 byte   |   | -  |
| UDP Yes; via integrated PROFINET interface and loadable FBs     Number of connections, max.     Data length, max.     1472 byte  |   |  |
| Number of connections, max.     8       Data length, max.     1 472 byte       Web server     1 472 byte   | -   |  |
| — Data length, max. 1 472 byte Web server  |   | -  |
| Web server   | <ul> <li>Number of connections, max.</li> </ul>                         |  |
|  |   | 1 472 byte   |
| supported Yes; only read function  | Web server  |  |
|  | supported   | Yes; only read function  |

| User-defined websites  | Yes   |
|--|---|
| Number of HTTP clients   | 5   |
| communication functions / header   |   |
| PG/OP communication  | Yes   |
| Data record routing  | Yes   |
| Global data communication  |   |
| supported  | Yes   |
| Number of GD loops, max.   | 8   |
| Number of GD packets, max.   | 8   |
| Number of GD packets, transmitter, max.  | 8   |
| Number of GD packets, receiver, max.   | 8   |
| <ul> <li>Size of GD packets, max.</li> </ul>   | 22 byte   |
| <ul> <li>Size of GD packet (of which consistent), max.</li> </ul>  | 22 byte   |
| S7 basic communication   |   |
| supported  | Yes   |
| • User data per job, max.  | 76 byte   |
| <ul> <li>User data per job (of which consistent), max.</li> </ul>  | 76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET                               |
|  | as server)  |
| S7 communication   |   |
| supported  | Yes   |
| • as server  | Yes   |
| • as client  | Yes; via integrated PROFINET interface and loadable FB or via CP and loadable FB                      |
| User data per job, max.  | See online help of STEP 7 (shared parameters of the SFBs/FBs and of the SFCs/FCs of S7 Communication) |
| S5 compatible communication  |   |
| supported  | Yes; via CP and loadable FC   |
| communication functions / PROFINET CBA (with set target commu  |   |
| Setpoint for the CPU communication load  | 50 %  |
| Number of remote interconnection partners  | 32  |
| number of master/device functions  | 30  |
| total of all master/device connections   | 1 000   |
| <ul> <li>data length of all incoming master/device connections,<br/>max.</li> </ul>  | 4 000 byte  |
| <ul> <li>data length of all outgoing master/device connections,<br/>max.</li> </ul>  | 4 000 byte  |
| <ul> <li>Number of device-internal and PROFIBUS<br/>interconnections</li> </ul>  | 500   |
| <ul> <li>Data length of device-internal und PROFIBUS<br/>interconnections, max.</li> </ul>   | 4 000 byte  |
| <ul> <li>Data length per connection, max.</li> </ul>   | 1 400 byte  |
| performance data / PROFINET CBA / remote interconnection /   |   |
| — Sampling interval, min.  | 500 ms  |
| <ul> <li>Number of incoming interconnections</li> </ul>  | 100   |
| <ul> <li>Number of outgoing interconnections</li> </ul>  | 100   |
| — Data length of all incoming interconnections, max.   | 2 000 byte  |
| — Data length of all outgoing interconnections, max.   | 2 000 byte  |
| — Data length per connection, max.   | 1 400 byte  |
| performance data / PROFINET CBA / remote interconnection /   |   |
| <ul> <li>Transmission frequency: Transmission interval, min.</li> </ul>  | 10 ms   |
| <ul> <li>Number of incoming interconnections</li> </ul>  | 200<br>200  |
| <ul> <li>— Number of outgoing interconnections</li> <li>— Data length of all incoming interconnections</li> </ul>                  |   |
| <ul> <li>Data length of all incoming interconnections, max.</li> <li>Data length of all outgoing interconnections, max.</li> </ul> | 2 000 byte<br>2 000 byte  |
| <ul> <li>Data length of an outgoing interconnections, max.</li> <li>Data length per connection, max.</li> </ul>                    | 450 byte  |
| performance data / PROFINET CBA / HMI variables via PROF   |   |
| — Number of stations that can log on for HMI variables     (PN OPC/iMap)   | 3; 2x PN OPC/1x iMap  |
| — HMI variable updating  | 500 ms  |
| — Number of HMI variables  | 200   |
| <ul> <li>Data length of all HMI variables, max.</li> </ul>   | 2 000 byte  |
| performance data / PROFINET CBA / PROFIBUS proxy function  | •   |
| — supported  | Yes   |
|  |   |

| <ul> <li>— Number of linked PROFIBUS devices</li> </ul>     | 16  |
|---|---|
| — Data length per connection, max.                          | 240 byte; Slave-dependent   |
| Number of connections                                       |   |
| • overall   | 16  |
| usable for PG communication                                 | 15  |
| — reserved for PG communication                             | 1   |
| — adjustable for PG communication, min.                     | 1   |
| — adjustable for PG communication, max.                     | 15  |
| usable for OP communication                                 | 15  |
| — reserved for OP communication                             | 1   |
| — adjustable for OP communication, min.                     | 1   |
| — adjustable for OP communication, max.                     | 15  |
| usable for S7 basic communication                           | 14  |
| <ul> <li>— reserved for S7 basic communication</li> </ul>   | 0   |
| - adjustable for S7 basic communication, min.               | 0   |
| — adjustable for S7 basic communication, max.               | 14  |
| usable for S7 communication                                 | 14  |
| - reserved for S7 communication                             | 0   |
| — adjustable for S7 communication, min.                     | 0   |
| — adjustable for S7 communication, max.                     | 14  |
| <ul> <li>total number of instances, max.</li> </ul>         | 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.        | 16; Depending on the configured connections for PG/OP and S7 basic<br>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   |
| 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   |
| <ul> <li>Forcing, variables</li> </ul>                      | Inputs, outputs   |
| Number of variables, max.                                   | 10  |
| Diagnostic buffer   |   |
| • present   | Yes   |
| Number of entries, max.                                     | 500   |
| — adjustable  | No  |
| — of which powerfail-proof                                  | 100   |
| <ul> <li>Number of entries readable in RUN, max.</li> </ul> | 499   |
| — adjustable  | Yes   |
| — preset  | 10  |
| Service data  |   |
| • can be read out   | Yes   |
| Ambient conditions  |   |
| Ambient temperature during operation                        |   |
| • min.  | 0 °C  |
| • max.  | 60 °C   |
| configuration / header                                      |   |
| Configuration software                                      |   |
| • STEP 7  | Yes; V5.5 or higher   |
| configuration / programming / header                        |   |
| <ul> <li>Command set</li> </ul>                             | see instruction list  |

| Nesting levels  | 8                          |
|---|----------------------------|
| <ul> <li>System functions (SFC)</li> </ul>                      | see instruction list       |
| <ul> <li>System function blocks (SFB)</li> </ul>                | see instruction list       |
| Programming language  |                            |
| — LAD   | Yes                        |
| — FBD   | Yes                        |
| — STL   | Yes                        |
| — SCL   | Yes                        |
| — CFC   | Yes                        |
| — GRAPH   | Yes                        |
| — HiGraph®  | Yes                        |
| Know-how protection   |                            |
| <ul> <li>User program protection/password protection</li> </ul> | Yes                        |
| <ul> <li>Block encryption</li> </ul>                            | Yes; With S7 block Privacy |
| Dimensions  |                            |
| Width   | 40 mm                      |
| Height  | 125 mm                     |
| Depth   | 130 mm                     |
| Weights   |                            |
| Weight, approx.   | 340 g                      |
|   |                            |

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