

SIMATIC S7-300 CPU317F-2 PN/DP, CENTRAL PROCESSING UNIT WITH 1.5 MBYTE WORKING MEMORY, 1. INTERFACE MPI/DP 12MBIT/S, 2. INTERFACE ETHERNET PROFINET, WITH 2 PORT SWITCH, MICRO MEMORY CARD NECESSARY



| General information   |  |
|---|--|
| Hardware product version  | 01   |
| Firmware version  | V3.2   |
| Engineering with  |  |
| <ul style="list-style-type: none"> <li>Programming package</li> </ul>   | STEP 7 V5.5 or higher, Distributed Safety V5.4 SP4 |
| Supply voltage  |  |
| Rated value (DC)  |  |
| <ul style="list-style-type: none"> <li>24 V DC</li> </ul>   | Yes  |
| 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 style="list-style-type: none"> <li>Mains/voltage failure stored energy time</li> <li>Repeat rate, min.</li> </ul> | 5 ms<br>1 s  |
| Input current   |  |
| Current consumption (rated value)   | 750 mA   |
| Current consumption (in no-load operation), typ.  | 150 mA   |

|   |   |
|---|---|
| Inrush current, typ.  | 4 A   |
| $I^2t$  | 1 A <sup>2</sup> ·s   |
| <b>Power loss</b>   |   |
| Power loss, typ.  | 4.65 W  |
| <b>Memory</b>   |   |
| <b>Work memory</b>  |   |
| <ul style="list-style-type: none"> <li>integrated</li> </ul>  | 1 536 kbyte   |
| <ul style="list-style-type: none"> <li>expandable</li> </ul>  | No  |
| <ul style="list-style-type: none"> <li>Size of retentive memory for retentive data blocks</li> </ul>    | 256 kbyte   |
| <b>Load memory</b>  |   |
| <ul style="list-style-type: none"> <li>Plug-in (MMC)</li> </ul>   | Yes   |
| <ul style="list-style-type: none"> <li>Plug-in (MMC), max.</li> </ul>                                   | 8 Mbyte   |
| <ul style="list-style-type: none"> <li>Data management on MMC (after last programming), min.</li> </ul> | 10 y  |
| <b>Backup</b>   |   |
| <ul style="list-style-type: none"> <li>present</li> </ul>   | Yes; Guaranteed by MMC (maintenance-free)   |
| <ul style="list-style-type: none"> <li>without battery</li> </ul>                                       | Yes; Program and data   |
| <b>CPU processing times</b>   |   |
| for bit operations, typ.  | 0.025 μs  |
| for word operations, typ.   | 0.03 μs   |
| for fixed point arithmetic, typ.  | 0.04 μs   |
| for floating point arithmetic, typ.   | 0.16 μs   |
| <b>CPU-blocks</b>   |   |
| Number of blocks (total)  | 2 048; (DBs, FCs, FBs); the maximum number of loadable blocks can be reduced by the MMC used. |
| <b>DB</b>   |   |
| <ul style="list-style-type: none"> <li>Number, max.</li> </ul>  | 2 048; Number range: 1 to 16000   |
| <ul style="list-style-type: none"> <li>Size, max.</li> </ul>  | 64 kbyte  |
| <b>FB</b>   |   |
| <ul style="list-style-type: none"> <li>Number, max.</li> </ul>  | 2 048; Number range: 0 to 7999  |
| <ul style="list-style-type: none"> <li>Size, max.</li> </ul>  | 64 kbyte  |
| <b>FC</b>   |   |
| <ul style="list-style-type: none"> <li>Number, max.</li> </ul>  | 2 048; Number range: 0 to 7999  |
| <ul style="list-style-type: none"> <li>Size, max.</li> </ul>  | 64 kbyte  |
| <b>OB</b>   |   |
| <ul style="list-style-type: none"> <li>Size, max.</li> </ul>  | 64 kbyte  |
| <ul style="list-style-type: none"> <li>Number of free cycle OBs</li> </ul>                              | 1; OB 1   |
| <ul style="list-style-type: none"> <li>Number of time alarm OBs</li> </ul>                              | 1; OB 10  |
| <ul style="list-style-type: none"> <li>Number of delay alarm OBs</li> </ul>                             | 2; OB 20, 21  |
| <ul style="list-style-type: none"> <li>Number of cyclic interrupt OBs</li> </ul>                        | 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 - isochronous mode is possible either on DP or PROFINET IO (not simultaneously)
- Number of startup OBs 1; OB 100
- Number of asynchronous error OBs 6; OB 80, 82, 83, 85, 86, 87 (OB83 only for PROFINET IO)
- Number of synchronous error OBs 2; OB 121, 122

#### Nesting depth

- per priority class 16
- additional within an error OB 4

### Counters, timers and their retentivity

#### S7 counter

- Number 512

#### Retentivity

- adjustable Yes
- lower limit 0
- upper limit 511
- preset Z 0 to Z 7

#### Counting range

- can be set Yes
- lower limit 0
- upper limit 999

#### IEC counter

- present Yes
- Type SFB
- Number Unlimited (limited only by RAM capacity)

#### S7 times

- Number 512

#### Retentivity

- adjustable Yes
- lower limit 0
- upper limit 511
- preset No retentivity

#### Time range

- lower limit 10 ms
- upper limit 9 990 s

#### IEC timer

- present Yes
- Type SFB
- Number Unlimited (limited only by RAM capacity)

### Data areas and their retentivity

|                                     |   |
|-------------------------------------|---|
| retentive data area in total        | All, max. 256 KB  |
| <b>Flag</b>                         |   |
| • Number, max.                      | 4 096 byte  |
| • Retentivity available             | Yes; From MB 0 to MB 4095   |
| • Retentivity preset                | MB 0 to MB 15   |
| • Number of clock memories          | 8; 1 memory byte  |
| <b>Data blocks</b>                  |   |
| • Number, max.                      | 2 048; Number range: 1 to 16000   |
| • Size, max.                        | 64 kbyte  |
| • Retentivity adjustable            | Yes; via non-retain property on DB  |
| • Retentivity preset                | Yes   |
| <b>Local data</b>                   |   |
| • per priority class, max.          | 32 768 byte; Max. 2048 bytes per block                                    |
| <b>Address area</b>                 |   |
| <b>I/O address area</b>             |   |
| • Inputs                            | 8 192 byte  |
| • Outputs                           | 8 192 byte  |
| <b>of which distributed</b>         |   |
| — Inputs                            | 8 192 byte  |
| — Outputs                           | 8 192 byte  |
| <b>Process image</b>                |   |
| • Inputs                            | 8 192 byte  |
| • Outputs                           | 8 192 byte  |
| • Inputs, adjustable                | 8 192 byte  |
| • Outputs, adjustable               | 8 192 byte  |
| • Inputs, default                   | 256 byte  |
| • Outputs, default                  | 256 byte  |
| <b>Subprocess images</b>            |   |
| • Number of subprocess images, max. | 1; With PROFINET IO, the length of the user data is limited to 1600 bytes |
| <b>Digital channels</b>             |   |
| • Inputs                            | 65 536  |
| — of which central                  | 1 024   |
| • Outputs                           | 65 536  |
| — of which central                  | 1 024   |
| <b>Analog channels</b>              |   |
| • Inputs                            | 4 096   |
| — of which central                  | 256   |
| • Outputs                           | 4 096   |
| — of which central                  | 256   |
| <b>Hardware configuration</b>       |   |

|   |  |
|---|--|
| Number of expansion units, max.                           | 3  |
| <b>Number of DP masters</b>                               |  |
| • integrated  | 1  |
| • via CP  | 4  |
| <b>Number of operable FMs and CPs (recommended)</b>       |  |
| • FM  | 8  |
| • CP, PtP   | 8  |
| • CP, LAN   | 10   |
| <b>Rack</b>   |  |
| • Racks, max.   | 4  |
| • Modules per rack, max.                                  | 8  |
| <b>Time of day</b>  |  |
| <b>Clock</b>  |  |
| • Hardware clock (real-time)                              | Yes  |
| • retentive and synchronizable                            | Yes  |
| • Backup time   | 6 wk; At 40 °C ambient temperature                                       |
| • Deviation per day, max.                                 | 10 s; Typ.: 2 s  |
| • Behavior of the clock following POWER-ON                | Clock continues running after POWER OFF                                  |
| • Behavior of the clock following expiry of backup period | Clock continues to run with the time at which the power failure occurred |
| <b>Operating hours counter</b>                            |  |
| • Number  | 4  |
| • Number/Number range                                     | 0 to 3   |
| • Range of values   | 0 to 2 <sup>31</sup> hours (when using SFC 101)                          |
| • Granularity   | 1 hour   |
| • retentive   | Yes; Must be restarted at each restart                                   |
| <b>Clock synchronization</b>                              |  |
| • supported   | Yes  |
| • to MPI, master  | Yes  |
| • to MPI, slave   | Yes  |
| • to DP, master   | Yes; With DP slave only slave clock                                      |
| • to DP, slave  | Yes  |
| • in AS, master   | Yes  |
| • in AS, slave  | Yes  |
| • on Ethernet via NTP                                     | Yes; As client   |
| <b>Digital inputs</b>                                     |  |
| Number of digital inputs                                  | 0  |
| <b>Digital outputs</b>                                    |  |
| Number of digital outputs                                 | 0  |
| <b>Analog inputs</b>                                      |  |

|   |   |
|---|---|
| Number of analog inputs                         | 0   |
| <b>Analog outputs</b>                           |   |
| Number of analog outputs                        | 0   |
| <b>Interfaces</b>                               |   |
| Number of industrial Ethernet interfaces        | 1   |
| Number of RS 485 interfaces                     | 1   |
| Number of RS 422 interfaces                     | 0   |
| <b>1. Interface</b>                             |   |
| Interface type                                  | Integrated RS 485 interface   |
| Physics   | RS 485  |
| Isolated  | Yes   |
| Power supply to interface (15 to 30 V DC), max. | 200 mA  |
| <b>Functionality</b>                            |   |
| • MPI   | Yes   |
| • PROFIBUS DP master                            | Yes   |
| • PROFIBUS DP slave                             | Yes   |
| • Point-to-point connection                     | No  |
| <b>MPI</b>                                      |   |
| • Transmission rate, max.                       | 12 Mbit/s   |
| <b>Services</b>                                 |   |
| — PG/OP communication                           | Yes   |
| — Routing                                       | Yes   |
| — Global data communication                     | Yes   |
| — S7 basic communication                        | Yes   |
| — S7 communication                              | Yes   |
| — S7 communication, as client                   | No; but via CP and loadable FB  |
| — S7 communication, as server                   | Yes   |
| <b>DP master</b>                                |   |
| • Transmission rate, max.                       | 12 Mbit/s   |
| • Number of DP slaves, max.                     | 124   |
| <b>Services</b>                                 |   |
| — PG/OP communication                           | Yes   |
| — Routing                                       | Yes   |
| — Global data communication                     | No  |
| — S7 basic communication                        | Yes   |
| — 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 slaves                                       | Yes   |
| — Number of DP slaves that can be simultaneously activated/deactivated, max. | 8   |
| — Direct data exchange (slave-to-slave communication)                        | Yes   |
| — DPV1   | Yes   |
| <b>Address area</b>  |   |
| — Inputs, max.   | 8 kbyte                                     |
| — Outputs, max.  | 8 kbyte                                     |
| <b>User data per DP slave</b>  |   |
| — Inputs, max.   | 244 byte                                    |
| — Outputs, max.  | 244 byte                                    |
| <b>DP slave</b>  |   |
| • 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                                     |
| <b>Services</b>  |   |
| — PG/OP communication  | Yes   |
| — Routing  | Yes; Only with active interface             |
| — Global data communication  | No  |
| — S7 basic communication   | No  |
| — S7 communication   | Yes   |
| — S7 communication, as client  | No  |
| — S7 communication, as server  | Yes; Connection configured on one side only |
| — Direct data exchange (slave-to-slave communication)                        | Yes   |
| — DPV1   | No  |
| <b>Transfer memory</b>   |   |
| — Inputs   | 244 byte                                    |
| — Outputs  | 244 byte                                    |

|  |                    |
|--|--------------------|
| <b>2. Interface</b>                        |                    |
| Interface type                             | PROFINET           |
| Physics                                    | Ethernet RJ45      |
| Isolated                                   | Yes                |
| automatic detection of transmission rate   | Yes; 10/100 Mbit/s |
| Autonegotiation                            | Yes                |
| Autocrossing                               | Yes                |
| Change of IP address at runtime, supported | Yes                |
| <b>Interface types</b>                     |                    |
| • Number of ports                          | 2                  |

|   |   |
|---|---|
| • integrated switch   | Yes   |
| <b>Media redundancy</b>   |   |
| • supported   | Yes   |
| • Switchover time on line break, typ.   | 200 ms; PROFINET MRP  |
| • Number of stations in the ring, max.  | 50  |
| <b>Functionality</b>  |   |
| • 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   |
| • PROFIBUS DP master  | No  |
| • PROFIBUS DP slave   | No  |
| • Open IE communication   | Yes; Via TCP/IP, ISO on TCP, and UDP  |
| • Web server  | Yes   |
| — Number of HTTP clients  | 5   |
| <b>PROFINET IO Controller</b>   |   |
| • Transmission rate, max.   | 100 Mbit/s  |
| <b>Services</b>   |   |
| — PG/OP communication   | Yes   |
| — Routing   | Yes   |
| — S7 communication  | Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32   |
| — Isochronous mode  | Yes; OB 61; isochronous mode can only be used alternatively on PROFIBUS DP or PROFINET IO |
| — Open IE communication   | Yes; Via TCP/IP, ISO on TCP, and UDP  |
| — 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  |
| — Number of IO Devices with IRT and the option "high flexibility"             | 128   |
| — of which in line, max.  | 61  |
| — Number of connectable IO Devices for RT, max.                               | 128   |
| — of which in line, max.  | 128   |
| — Activation/deactivation of IO Devices                                       | Yes   |
| — Number of IO Devices that can be simultaneously activated/deactivated, max. | 8   |



|   |   |
|---|---|
| — IO Devices changing during operation (partner ports), supported | Yes   |
| — Number of IO Devices per tool, max.                             | 8   |
| — Device replacement without swap medium                          | Yes   |
| — Send cycles   | 250 µs, 500 µs, 1 ms; 2 ms, 4 ms (not in the case of IRT with "high flexibility" option)                                      |
| — Updating time   | 250 µs to 512 ms (depending on the operating mode, see Manual "S7-300 CPU 31xC and CPU 31x, Technical Data" for more details) |
| <b>Address area</b>   |   |
| — Inputs, max.  | 8 kbyte   |
| — Outputs, max.   | 8 kbyte   |
| — User data consistency, max.                                     | 1 024 byte  |
| <b>PROFINET IO Device</b>   |   |
| <b>Services</b>   |   |
| — PG/OP communication   | Yes   |
| — Routing   | Yes   |
| — S7 communication  | Yes; with loadable FBs, max. configurable connections: 16, max. number of instances: 32                                       |
| — Isochronous mode  | No  |
| — Open IE communication   | Yes; Via TCP/IP, ISO on TCP, and UDP  |
| — IRT   | Yes   |
| — PROFlenergy   | Yes; With SFB 73 / 74 prepared for loadable PROFlenergy standard FB for I-Device  |
| — Shared device   | Yes   |
| — Number of IO Controllers with shared device, max.               | 2   |
| <b>Transfer memory</b>  |   |
| — Inputs, max.  | 1 440 byte; Per IO Controller with shared device  |
| — Outputs, max.   | 1 440 byte; Per IO Controller with shared device  |
| <b>Submodules</b>   |   |
| — Number, max.  | 64  |
| — User data per submodule, max.                                   | 1 024 byte  |
| <b>PROFINET CBA</b>   |   |
| • acyclic transmission  | Yes   |
| • cyclic transmission   | Yes   |
| <b>Open IE communication</b>                                      |   |
| • Number of connections, max.                                     | 16  |
| • Local port numbers used at the system end                       | 0, 20, 21, 23, 25, 80, 102, 135, 161, 443, 8080, 34962, 34963, 34964, 65532, 65533, 65534, 65535                              |
| • Keep-alive function, supported                                  | Yes   |
| <b>Isochronous mode</b>   |   |

|   |  |
|---|--|
| Isochronous operation (application synchronized up to terminal)   | Yes; Via PROFIBUS DP or PROFINET interface   |
| <b>Communication functions</b>  |  |
| PG/OP communication   | Yes  |
| Data record routing   | Yes  |
| <b>Global data communication</b>  |  |
| <ul style="list-style-type: none"> <li>• supported</li> <li>• Number of GD loops, max.</li> <li>• Number of GD packets, max.</li> <li>• Number of GD packets, transmitter, max.</li> <li>• Number of GD packets, receiver, max.</li> <li>• Size of GD packets, max.</li> <li>• Size of GD packet (of which consistent), max.</li> </ul>   | <ul style="list-style-type: none"> <li>Yes</li> <li>8</li> <li>8</li> <li>8</li> <li>8</li> <li>22 byte</li> <li>22 byte</li> </ul>  |
| <b>S7 basic communication</b>   |  |
| <ul style="list-style-type: none"> <li>• supported</li> <li>• User data per job, max.</li> <li>• User data per job (of which consistent), max.</li> </ul>   | <ul style="list-style-type: none"> <li>Yes</li> <li>76 byte</li> <li>76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server)</li> </ul>   |
| <b>S7 communication</b>   |  |
| <ul style="list-style-type: none"> <li>• supported</li> <li>• as server</li> <li>• as client</li> <li>• User data per job, max.</li> </ul>  | <ul style="list-style-type: none"> <li>Yes</li> <li>Yes</li> <li>Yes; via integrated PROFINET interface and loadable FB or via CP and loadable FB</li> <li>See online help of STEP 7 (shared parameters of the SFBs/FBs and of the SFCs/FCs of S7 Communication)</li> </ul>  |
| <b>S5 compatible communication</b>  |  |
| <ul style="list-style-type: none"> <li>• supported</li> </ul>   | Yes; via CP and loadable FC  |
| <b>Open IE communication</b>  |  |
| <ul style="list-style-type: none"> <li>• TCP/IP <ul style="list-style-type: none"> <li>— Number of connections, max.</li> <li>— Data length for connection type 01H, max.</li> <li>— Data length for connection type 11H, max.</li> <li>— several passive connections per port, supported</li> </ul> </li> <li>• ISO-on-TCP (RFC1006) <ul style="list-style-type: none"> <li>— Number of connections, max.</li> <li>— Data length, max.</li> </ul> </li> <li>• UDP <ul style="list-style-type: none"> <li>— Number of connections, max.</li> <li>— Data length, max.</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>Yes; via integrated PROFINET interface and loadable FBs</li> <li>16</li> <li>1 460 byte</li> <li>32 768 byte</li> <li>Yes</li> <li>Yes; via integrated PROFINET interface and loadable FBs</li> <li>16</li> <li>32 768 byte</li> <li>Yes; via integrated PROFINET interface and loadable FBs</li> <li>16</li> <li>1 472 byte</li> </ul> |
| <b>Web server</b>   |  |
| <ul style="list-style-type: none"> <li>• supported</li> </ul>   | Yes  |

|  |                      |
|--|----------------------|
| • Number of HTTP clients   | 5                    |
| • User-defined websites  | Yes                  |
| <b>PROFINET CBA (at set setpoint communication load)</b>             |                      |
| • Setpoint for the CPU communication load                            | 50 %                 |
| • Number of remote interconnection partners                          | 32                   |
| • Number of functions, master/slave                                  | 30                   |
| • Total of all master/slave connections                              | 1 000                |
| • Data length of all incoming connections master/slave, max.         | 4 000 byte           |
| • Data length of all outgoing connections master/slave, max.         | 4 000 byte           |
| • Number of device-internal and PROFIBUS interconnections            | 500                  |
| • Data length of device-internal und PROFIBUS interconnections, max. | 4 000 byte           |
| • Data length per connection, max.                                   | 1 400 byte           |
| <b>Remote interconnections with acyclic transmission</b>             |                      |
| — Sampling frequency: Sampling time, min.                            | 500 ms               |
| — Number of incoming interconnections                                | 100                  |
| — Number of outgoing interconnections                                | 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           |
| <b>Remote interconnections with cyclic transmission</b>              |                      |
| — Transmission frequency: Transmission interval, min.                | 10 ms                |
| — Number of incoming interconnections                                | 200                  |
| — Number of outgoing interconnections                                | 200                  |
| — 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.                                   | 450 byte             |
| <b>HMI variables via PROFINET (acyclic)</b>                          |                      |
| — 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                  |
| — Data length of all HMI variables, max.                             | 2 000 byte           |
| <b>PROFIBUS proxy functionality</b>                                  |                      |
| — supported  | Yes                  |

|   |   |
|---|---|
| — Number of linked PROFIBUS devices           | 16  |
| — Data length per connection, max.            | 240 byte; Slave-dependent   |
| <b>Number of connections</b>                  |   |
| • overall                                     | 32  |
| • usable for PG communication                 | 31  |
| — reserved for PG communication               | 1   |
| — adjustable for PG communication, min.       | 1   |
| — adjustable for PG communication, max.       | 31  |
| • usable for OP communication                 | 31  |
| — reserved for OP communication               | 1   |
| — adjustable for OP communication, min.       | 1   |
| — adjustable for OP communication, max.       | 31  |
| • usable for S7 basic communication           | 30  |
| — reserved for S7 basic communication         | 0   |
| — adjustable for S7 basic communication, min. | 0   |
| — adjustable for S7 basic communication, max. | 30  |
| • usable for S7 communication                 | 16  |
| — reserved for S7 communication               | 0   |
| — adjustable for S7 communication, min.       | 0   |
| — adjustable for S7 communication, max.       | 16  |
| • total number of instances, max.             | 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. |

|  |  |
|--|--|
| <b>S7 message functions</b>                          |  |
| Number of login stations for message functions, max. | 32; Depending on the configured connections for PG/OP and S7 basic communication |
| Process diagnostic messages                          | Yes  |
| simultaneously active Alarm-S blocks, max.           | 300  |

|                                     |   |
|-------------------------------------|---|
| <b>Test commissioning functions</b> |   |
| Status block                        | Yes; Up to 2 simultaneously                       |
| Single step                         | Yes   |
| Number of breakpoints               | 4   |
| <b>Status/control</b>               |   |
| • 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  |
| <b>Forcing</b>                      |   |
| • Forcing                           | Yes   |

|   |   |
|---|---|
| <ul style="list-style-type: none"> <li>• Forcing, variables</li> <li>• Number of variables, max.</li> </ul>   | Inputs, outputs<br>10   |
| <b>Diagnostic buffer</b>  |   |
| <ul style="list-style-type: none"> <li>• present</li> <li>• Number of entries, max.               <ul style="list-style-type: none"> <li>— adjustable</li> <li>— of which powerfail-proof</li> </ul> </li> <li>• Number of entries readable in RUN, max.               <ul style="list-style-type: none"> <li>— can be set</li> <li>— preset</li> </ul> </li> </ul> | Yes<br>500<br>No<br>100; Only the last 100 entries are retained<br>499<br>Yes; From 10 to 499<br>10 |
| <b>Service data</b>   |   |
| <ul style="list-style-type: none"> <li>• can be read out</li> </ul>   | Yes   |
| <b>Ambient conditions</b>   |   |
| <b>Ambient temperature during operation</b>   |   |
| <ul style="list-style-type: none"> <li>• min.</li> <li>• max.</li> </ul>  | 0 °C<br>60 °C   |
| <b>Configuration</b>  |   |
| <b>Configuration software</b>   |   |
| <ul style="list-style-type: none"> <li>• STEP 7</li> </ul>  | Yes; V5.5 or higher   |
| <b>Programming</b>  |   |
| <ul style="list-style-type: none"> <li>• Command set</li> <li>• Nesting levels</li> <li>• System functions (SFC)</li> <li>• System function blocks (SFB)</li> </ul>   | see instruction list<br>8<br>see instruction list<br>see instruction list                           |
| <b>Programming language</b>   |   |
| <ul style="list-style-type: none"> <li>— LAD</li> <li>— FBD</li> <li>— STL</li> <li>— SCL</li> <li>— CFC</li> <li>— GRAPH</li> <li>— HiGraph®</li> </ul>  | Yes<br>Yes<br>Yes<br>Yes<br>Yes<br>Yes<br>Yes   |
| <b>Know-how protection</b>  |   |
| <ul style="list-style-type: none"> <li>• User program protection/password protection</li> <li>• Block encryption</li> </ul>   | Yes<br>Yes; With S7 block Privacy   |
| <b>Dimensions</b>   |   |
| Width   | 40 mm   |
| Height  | 125 mm  |
| Depth   | 130 mm  |
| <b>Weights</b>  |   |

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Weight, approx.

340 g

**last modified:**

12/06/2016