



SIMATIC S7-1500F, CPU 1517F-3 PN/DP, CENTRAL PROCESSING UNIT WITH WORKING MEMORY 3 MB FOR PROGRAM AND 8 MB FOR DATA, 1. INTERFACE, PROFINET IRT WITH 2 PORT SWITCH, 2. INTERFACE, ETHERNET, 3. INTERFACE, PROFIBUS, 2 NS BIT-PERFORMANCE, SIMATIC MEMORY CARD NECESSARY

### Product type designation

### General information

|                                                                                                                |         |
|----------------------------------------------------------------------------------------------------------------|---------|
| HW functional status                                                                                           | FS02    |
| Firmware version                                                                                               | V1.7    |
| Engineering with                                                                                               |         |
| <ul style="list-style-type: none"> <li>STEP 7 TIA Portal can be configured/integrated as of version</li> </ul> | V13 SP1 |

### Display

|                      |        |
|----------------------|--------|
| Screen diagonal (cm) | 6.1 cm |
|----------------------|--------|

### Control elements

|                      |   |
|----------------------|---|
| Number of keys       | 6 |
| Mode selector switch | 1 |

### Supply voltage

|                                     |         |
|-------------------------------------|---------|
| Type of supply voltage              | 24 V DC |
| permissible range, lower limit (DC) | 19.2 V  |
| permissible range, upper limit (DC) | 28.8 V  |
| Reverse polarity protection         | Yes     |

### Mains buffering

|                                                                                            |      |
|--------------------------------------------------------------------------------------------|------|
| <ul style="list-style-type: none"> <li>Mains/voltage failure stored energy time</li> </ul> | 5 ms |
|--------------------------------------------------------------------------------------------|------|

### Input current

|                                   |                        |
|-----------------------------------|------------------------|
| Current consumption (rated value) | 1.55 A                 |
| Inrush current, max.              | 2.4 A; nominal         |
| $I^2t$                            | 0.02 A <sup>2</sup> ·s |

|                                                     |                                                                                                                    |
|-----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| <b>Power</b>                                        |                                                                                                                    |
| Power consumption from the backplane bus (balanced) | 30 W                                                                                                               |
| Infeed power to the backplane bus                   | 12 W                                                                                                               |
| <b>Power losses</b>                                 |                                                                                                                    |
| Power loss, typ.                                    | 24 W                                                                                                               |
| <b>Memory</b>                                       |                                                                                                                    |
| SIMATIC Memory Card required                        | Yes                                                                                                                |
| <b>Work memory</b>                                  |                                                                                                                    |
| • integrated (for program)                          | 3 Mbyte                                                                                                            |
| • integrated (for data)                             | 8 Mbyte                                                                                                            |
| <b>Load memory</b>                                  |                                                                                                                    |
| • Plug-in (SIMATIC Memory Card), max.               | 32 Gbyte                                                                                                           |
| <b>Backup</b>                                       |                                                                                                                    |
| • maintenance-free                                  | Yes                                                                                                                |
| <b>CPU processing times</b>                         |                                                                                                                    |
| for bit operations, typ.                            | 2 ns                                                                                                               |
| for word operations, typ.                           | 3 ns                                                                                                               |
| for fixed point arithmetic, typ.                    | 3 ns                                                                                                               |
| for floating point arithmetic, typ.                 | 12 ns                                                                                                              |
| <b>CPU-blocks</b>                                   |                                                                                                                    |
| Number of elements (total)                          | 10 000; In addition to blocks such as DBs, FBs and FCs, UDTs, global constants, etc. are also regarded as elements |
| <b>DB</b>                                           |                                                                                                                    |
| • Number range                                      | 1 ... 65 535                                                                                                       |
| • Size, max.                                        | 8 Mbyte; For non-optimized block accesses, the max. size of the DB is 64 KB                                        |
| <b>FB</b>                                           |                                                                                                                    |
| • Number range                                      | 1 ... 65 535                                                                                                       |
| • Size, max.                                        | 512 kbyte                                                                                                          |
| <b>FC</b>                                           |                                                                                                                    |
| • Number range                                      | 1 ... 65 535                                                                                                       |
| • Size, max.                                        | 512 kbyte                                                                                                          |
| <b>OB</b>                                           |                                                                                                                    |
| • Size, max.                                        | 512 kbyte                                                                                                          |
| • Number of free cycle OBs                          | 100                                                                                                                |
| • Number of time alarm OBs                          | 20                                                                                                                 |
| • Number of delay alarm OBs                         | 20                                                                                                                 |
| • Number of time interrupt OBs                      | 20; With Failsafe, two RTGs with one "Cyclic interrupt OB" or one "Free cycle OB" (F-OB) each are possible         |
| • Number of process alarm OBs                       | 50                                                                                                                 |

|                                                                   |                                                                                                                   |
|-------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| • Number of DPV1 alarm OBs                                        | 3                                                                                                                 |
| • Number isochronous mode OBs                                     | 2                                                                                                                 |
| • Number of technology synchronous alarm OBs                      | 2                                                                                                                 |
| • Number of startup OBs                                           | 100                                                                                                               |
| • Number of asynchronous error OBs                                | 4                                                                                                                 |
| • Number of synchronous error OBs                                 | 2                                                                                                                 |
| • Number of diagnostic alarm OBs                                  | 1                                                                                                                 |
| <b>Nesting depth</b>                                              |                                                                                                                   |
| • per priority class                                              | 24; Up to 8 possible for F-blocks                                                                                 |
| <b>Counters, timers and their retentivity</b>                     |                                                                                                                   |
| <b>S7 counter</b>                                                 |                                                                                                                   |
| • Number                                                          | 2 048                                                                                                             |
| <b>Retentivity</b>                                                |                                                                                                                   |
| — can be set                                                      | Yes                                                                                                               |
| <b>IEC counter</b>                                                |                                                                                                                   |
| • Number                                                          | Any (only limited by the main memory)                                                                             |
| <b>Retentivity</b>                                                |                                                                                                                   |
| — can be set                                                      | Yes                                                                                                               |
| <b>S7 times</b>                                                   |                                                                                                                   |
| • Number                                                          | 2 048                                                                                                             |
| <b>Retentivity</b>                                                |                                                                                                                   |
| — can be set                                                      | Yes                                                                                                               |
| <b>IEC timer</b>                                                  |                                                                                                                   |
| • Number                                                          | Any (only limited by the main memory)                                                                             |
| <b>Data areas and their retentivity</b>                           |                                                                                                                   |
| retentive data area in total (incl. times, counters, flags), max. | 768 kbyte; Available retentive memory for bit memories, timers, counters, DBs, and technology data (axes): 700 KB |
| <b>Flag</b>                                                       |                                                                                                                   |
| • Number, max.                                                    | 16 kbyte                                                                                                          |
| • Number of clock memories                                        | 8                                                                                                                 |
| <b>Data blocks</b>                                                |                                                                                                                   |
| • Retentivity adjustable                                          | Yes                                                                                                               |
| • Retentivity preset                                              | No                                                                                                                |
| <b>Local data</b>                                                 |                                                                                                                   |
| • per priority class, max.                                        | 64 kbyte; max. 16 KB per block                                                                                    |
| <b>Address area</b>                                               |                                                                                                                   |
| Number of IO modules                                              | 16 384; max. number of modules / submodules                                                                       |
| <b>I/O address area</b>                                           |                                                                                                                   |
| • Inputs                                                          | 32 kbyte; All inputs are in the process image                                                                     |
| • Outputs                                                         | 32 kbyte; All outputs are in the process image                                                                    |
| per integrated IO subsystem                                       |                                                                                                                   |

|                                     |                                                                                                |
|-------------------------------------|------------------------------------------------------------------------------------------------|
| — Inputs (volume)                   | 16 kbyte; 16 KB via the integrated PROFINET IO interface, 8 KB via the integrated DP interface |
| — Outputs (volume)                  | 16 kbyte; 16 KB via the integrated PROFINET IO interface, 8 KB via the integrated DP interface |
| per CM/CP                           |                                                                                                |
| — Inputs (volume)                   | 8 kbyte                                                                                        |
| — Outputs (volume)                  | 8 kbyte                                                                                        |
| Subprocess images                   |                                                                                                |
| • Number of subprocess images, max. | 32                                                                                             |
| Hardware configuration              |                                                                                                |
| Number of hierarchical IO systems   | 20                                                                                             |
| Number of DP masters                |                                                                                                |
| • Integrated                        | 1                                                                                              |
| • via CM                            | 8; A maximum of 8 CMs/CPs (PROFIBUS, PROFINET, Ethernet) can be inserted in total              |
| Number of IO Controllers            |                                                                                                |
| • Integrated                        | 1                                                                                              |
| • via CM                            | 8; A maximum of 8 CMs/CPs (PROFIBUS, PROFINET, Ethernet) can be inserted in total              |
| Rack                                |                                                                                                |
| • Modules per rack, max.            | 32; CPU + 31 modules                                                                           |
| • Rack, number of rows, max.        | 1                                                                                              |
| PtP CM                              |                                                                                                |
| • Number of PtP CMs                 | the number of connectable PtP CMs is only limited by the number of available slots             |
| Time of day                         |                                                                                                |
| Clock                               |                                                                                                |
| • Type                              | Hardware clock                                                                                 |
| • Deviation per day, max.           | 10 s; Typ.: 2 s                                                                                |
| • Backup time                       | 6 wk; At 40 °C ambient temperature, typically                                                  |
| Operating hours counter             |                                                                                                |
| • Number                            | 16                                                                                             |
| Clock synchronization               |                                                                                                |
| • supported                         | Yes                                                                                            |
| • to DP, master                     | Yes                                                                                            |
| • in AS, master                     | Yes                                                                                            |
| • in AS, slave                      | Yes                                                                                            |
| • on Ethernet via NTP               | Yes                                                                                            |
| Interfaces                          |                                                                                                |
| Number of PROFINET interfaces       | 2                                                                                              |
| Number of PROFIBUS interfaces       | 1                                                                                              |
| 1st interface                       |                                                                                                |

|                                  |           |
|----------------------------------|-----------|
| Interface types                  |           |
| — Number of ports                | 2         |
| — Integrated switch              | Yes       |
| — RJ 45 (Ethernet)               | Yes; X1   |
| Protocols                        |           |
| — PROFINET IO Controller         | Yes       |
| — PROFINET IO Device             | Yes       |
| — SIMATIC communication          | Yes       |
| — Open IE communication          | Yes       |
| — Web server                     | Yes       |
| — Media redundancy               | Yes       |
| 2nd interface                    |           |
| Interface types                  |           |
| — Number of ports                | 1         |
| — Integrated switch              | No        |
| — RJ 45 (Ethernet)               | Yes; X2   |
| Protocols                        |           |
| — PROFINET IO Controller         | No        |
| — PROFINET IO Device             | No        |
| — SIMATIC communication          | Yes       |
| — Open IE communication          | Yes       |
| — Web server                     | Yes       |
| 3rd interface                    |           |
| Interface types                  |           |
| — Number of ports                | 1         |
| — RS 485                         | Yes       |
| Protocols                        |           |
| — SIMATIC communication          | Yes       |
| — PROFIBUS DP master             | Yes       |
| — PROFIBUS DP slave              | No        |
| Interface types                  |           |
| RJ 45 (Ethernet)                 |           |
| • 100 Mbps                       | Yes       |
| • Autonegotiation                | Yes       |
| • Autocrossing                   | Yes       |
| • Industrial Ethernet status LED | Yes       |
| RS 485                           |           |
| • Transmission rate, max.        | 12 Mbit/s |
| Protocols                        |           |
| Number of connections            |           |

- Number of connections, max. 320; via integrated interfaces of the CPU and connected CPs / CMs
- Number of connections reserved for ES/HMI/web 10
- Number of connections via integrated interfaces 160
- Number of S7 routing paths 64; in total, only 16 S7-Routing connections are supported via PROFIBUS

## PROFINET IO Controller

### Services

- PG/OP communication Yes
- S7 routing Yes
- Number of S7 routing paths Total of 16x S7-routing paths are supported via PROFIBUS
- Isochronous mode Yes
- Open IE communication Yes
- IRT Yes
- MRP Yes; As MRP redundancy manager and/or MRP client; max. number of devices in the ring: 50
- PROFINergy Yes
- Prioritized startup Yes; Max. 32 PROFINET devices
- Number of connectable IO devices, max. 512; In total, up to 1000 distributed I/O devices can be connected via PROFIBUS or PROFINET
- Of which IO devices with IRT and "high performance" option, max. 64
- Max. number of connectable IO devices for RT 512
- of which in line, max. 512
- Maximum number of IO devices that can be activated/deactivated at the same time. 8
- Number of IO devices per tool changer, max. 8
- Updating times The minimum value of the update time also depends on communication share set for PROFINET IO, on the number of IO devices, and on the quantity of configured user data

### with RT

- for send cycle of 250 µs 250 µs to 128 ms
- for send cycle of 500 µs 500 µs to 256 ms
- for send cycle of 1 ms 1 ms to 512 ms
- for send cycle of 2 ms 2 ms to 512 ms
- for send cycle of 4 ms 4 ms to 512 ms

### for IRT with the "high performance" option

- for send cycle of 250 µs 250 µs to 4 ms
- for send cycle of 500 µs 500 µs to 8 ms
- for send cycle of 1 ms 1 ms to 16 ms

|                                                                                                                |                                                                                          |
|----------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| — for send cycle of 2 ms                                                                                       | 2 ms to 32 ms                                                                            |
| — for send cycle of 4 ms                                                                                       | 4 ms to 64 ms                                                                            |
| — For IRT with the "high performance" option and parameter assignment for so-called "odd-numbered" send cycles | Update time = set "odd" send clock (any multiple of 125 µs: 375 µs, 625 µs ... 3 875 µs) |
| <b>PROFINET IO Device</b>                                                                                      |                                                                                          |
| <b>Services</b>                                                                                                |                                                                                          |
| — PG/OP communication                                                                                          | Yes                                                                                      |
| — S7 routing                                                                                                   | Yes                                                                                      |
| — Isochronous mode                                                                                             | No                                                                                       |
| — Open IE communication                                                                                        | Yes                                                                                      |
| — IRT                                                                                                          | Yes                                                                                      |
| — MRP                                                                                                          | Yes                                                                                      |
| — PROFINergy                                                                                                   | Yes                                                                                      |
| — Shared device                                                                                                | Yes                                                                                      |
| — Number of IO controllers with shared device, max.                                                            | 4                                                                                        |
| <b>SIMATIC communication</b>                                                                                   |                                                                                          |
| • S7 communication, as server                                                                                  | Yes                                                                                      |
| • S7 communication, as client                                                                                  | Yes                                                                                      |
| • User data per job, max.                                                                                      | See online help (S7 communication, user data size)                                       |
| <b>Open IE communication</b>                                                                                   |                                                                                          |
| • TCP/IP                                                                                                       | Yes                                                                                      |
| — Data length, max.                                                                                            | 64 kbyte                                                                                 |
| — several passive connections per port, supported                                                              | Yes                                                                                      |
| • ISO-on-TCP (RFC1006)                                                                                         | Yes                                                                                      |
| — Data length, max.                                                                                            | 64 kbyte                                                                                 |
| • UDP                                                                                                          | Yes                                                                                      |
| — Data length, max.                                                                                            | 1 472 byte                                                                               |
| • DHCP                                                                                                         | No                                                                                       |
| • SNMP                                                                                                         | Yes                                                                                      |
| • DCP                                                                                                          | Yes                                                                                      |
| • LLDP                                                                                                         | Yes                                                                                      |
| <b>Web server</b>                                                                                              |                                                                                          |
| • HTTP                                                                                                         | Yes; Standard and user-defined pages                                                     |
| • HTTPS                                                                                                        | Yes; Standard and user-defined pages                                                     |
| <b>PROFIBUS DP master</b>                                                                                      |                                                                                          |
| • Number of connections, max.                                                                                  | 48; for the integrated PROFIBUS DP interface                                             |
| <b>Services</b>                                                                                                |                                                                                          |
| — PG/OP communication                                                                                          | Yes                                                                                      |
| — S7 routing                                                                                                   | Yes                                                                                      |

|                                                                 |                                                                                             |
|-----------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| — Data record routing                                           | Yes                                                                                         |
| — Isochronous mode                                              | Yes                                                                                         |
| — equidistance                                                  | Yes                                                                                         |
| — Number of DP slaves                                           | 125; In total, up to 1000 distributed I/O devices can be connected via PROFIBUS or PROFINET |
| — Activation/deactivation of DP slaves                          | Yes                                                                                         |
| <b>Further protocols</b>                                        |                                                                                             |
| • MODBUS                                                        | Yes; MODBUS TCP                                                                             |
| <b>Media redundancy</b>                                         |                                                                                             |
| • Switchover time on line break, typically                      | 200 ms                                                                                      |
| • Number of stations in the ring, max.                          | 50                                                                                          |
| <b>Isochronous mode</b>                                         |                                                                                             |
| Isochronous operation (application synchronized up to terminal) | Yes; With minimum OB 6x cycle of 375 µs                                                     |
| equidistance                                                    | Yes                                                                                         |
| <b>S7 message functions</b>                                     |                                                                                             |
| Number of login stations for message functions, max.            | 32                                                                                          |
| Block related messages                                          | Yes                                                                                         |
| Number of configurable alarms, max.                             | 10 000                                                                                      |
| Number of simultaneously active alarms in alarm pool            |                                                                                             |
| • Number of reserved user alarms                                | 1 000                                                                                       |
| • Number of reserved alarms for system diagnostics              | 200                                                                                         |
| • Number of reserved alarms for motion technology objects       | 160                                                                                         |
| <b>Test commissioning functions</b>                             |                                                                                             |
| Joint commission (Team Engineering)                             | Yes; Parallel online access possible for up to 10 engineering systems                       |
| • Maximum number of parallel ES clients                         | 5                                                                                           |
| Status block                                                    | Yes; Up to 16 simultaneously (in total across all ES clients)                               |
| Single step                                                     | No                                                                                          |
| <b>Status/control</b>                                           |                                                                                             |
| • Status/control variable                                       | Yes                                                                                         |
| • Variables                                                     | Inputs, outputs, memory bits, DB, times, counters                                           |
| • Number of variables, max.                                     |                                                                                             |
| — of which status variables, max.                               | 200; per job                                                                                |
| — of which control variables, max.                              | 200; per job                                                                                |
| <b>Forcing</b>                                                  |                                                                                             |
| • Force, variables                                              | Inputs, outputs                                                                             |
| • Number of variables, max.                                     | 200                                                                                         |
| <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>— Of which powerfail-proof</li> </ul> </li> </ul>                                                                                                                                                                                                                                                                                                                                                                      | Yes<br>3 200<br>1 000                                                                                                                                                                                                                                                                                                                   |
| <b>Traces</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                         |
| <ul style="list-style-type: none"> <li>• Number of configurable Traces</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 8; Up to 512 KB of data per trace are possible                                                                                                                                                                                                                                                                                          |
| <b>Interrupts/diagnostics/status information</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                                                                                         |
| <b>Diagnostics indication LED</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                         |
| <ul style="list-style-type: none"> <li>• RUN/STOP LED</li> <li>• ERROR LED</li> <li>• MAINT LED</li> <li>• Connection display LINK TX/RX</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                               | Yes<br>Yes<br>Yes<br>Yes                                                                                                                                                                                                                                                                                                                |
| <b>supported technology objects</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                         |
| <b>Motion</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                         |
| <ul style="list-style-type: none"> <li>• Speed-controlled axis <ul style="list-style-type: none"> <li>— Number of speed-controlled axes, max.</li> </ul> </li> <li>• Positioning axis <ul style="list-style-type: none"> <li>— Number of positioning axes, max.</li> </ul> </li> <li>• Synchronized axes (relative gear synchronization) <ul style="list-style-type: none"> <li>— Number of axes, max.</li> </ul> </li> <li>• External encoders <ul style="list-style-type: none"> <li>— Number of external encoders, max.</li> </ul> </li> </ul> | Yes<br><br>96; Requirement: There must be no other motion technology objects created<br><br>96; Requirement: There must be no other motion technology objects created<br><br>48; Requirement: There must be no other motion technology objects created<br><br>96; Requirement: There must be no other motion technology objects created |
| <b>Controller</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                         |
| <ul style="list-style-type: none"> <li>• PID_Compact</li> <li>• PID_3Step</li> <li>• PID-Temp</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                          | Yes; Universal PID controller with integrated optimization<br>Yes; PID controller with integrated optimization for valves<br>Yes; PID controller with integrated optimization for temperature                                                                                                                                           |
| <b>Counting and measuring</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                         |
| <ul style="list-style-type: none"> <li>• High-speed counter</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Yes                                                                                                                                                                                                                                                                                                                                     |
| <b>Standards, approvals, certificates</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                         |
| <b>Highest safety class achievable in safety mode</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                                                                                                                                                                                                                                                         |
| <ul style="list-style-type: none"> <li>• Low demand mode: PFDavg</li> <li>• High demand/continuous mode: PFH</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                           | < 2.00E-05<br>< 1.00E-09                                                                                                                                                                                                                                                                                                                |
| <b>Ambient conditions</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                                                                         |
| <b>Ambient temperature in operation</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                         |
| <ul style="list-style-type: none"> <li>• horizontal installation, min.</li> <li>• horizontal installation, max.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                        | 0 °C<br>60 °C; Display: 50 °C, at an operating temperature of typically 50 °C, the display is switched off                                                                                                                                                                                                                              |

- vertical installation, min.
- vertical installation, max.

0 °C

40 °C; Display: 40 °C, at an operating temperature of typically 40 °C, the display is switched off

## Configuration

### programming

#### Programming language

|         |                     |
|---------|---------------------|
| — LAD   | Yes; incl. failsafe |
| — FBD   | Yes; incl. failsafe |
| — STL   | Yes                 |
| — SCL   | Yes                 |
| — GRAPH | Yes                 |

### Know-how protection

|                           |     |
|---------------------------|-----|
| • User program protection | Yes |
| • Copy protection         | Yes |
| • Block protection        | Yes |

### Access protection

|                                           |                                                                   |
|-------------------------------------------|-------------------------------------------------------------------|
| • Password for display                    | Yes                                                               |
| • Protection level: Write protection      | Yes; Specific write protection both for Standard and for Failsafe |
| • Protection level: Read/write protection | Yes                                                               |
| • Protection level: Complete protection   | Yes                                                               |

### Cycle time monitoring

|               |                               |
|---------------|-------------------------------|
| • lower limit | adjustable minimum cycle time |
| • upper limit | adjustable maximum cycle time |

## Dimensions

|        |        |
|--------|--------|
| Width  | 175 mm |
| Height | 147 mm |
| Depth  | 129 mm |

## Weights

|                 |         |
|-----------------|---------|
| Weight, approx. | 1 978 g |
|-----------------|---------|

**last modified:** 12.03.2015