

Siemens  
EcoTech



SIMATIC S7-1200, CPU 1212FC, compact CPU, DC/DC/relay, onboard I/O: 8 DI 24 V DC; 6 DO relay 2 A; 2 AI 0-10 V DC, power supply: DC 20.4-28.8 V DC, program/data memory 150 KB



### General information

|                          |                        |
|--------------------------|------------------------|
| Product type designation | CPU 1212FC DC/DC/relay |
| Firmware version         | V4.7                   |
| Engineering with         |                        |
| • Programming package    | STEP 7 V20 or higher   |

### Supply voltage

|                                       |        |
|---------------------------------------|--------|
| Rated value (DC)                      |        |
| • 24 V DC                             | Yes    |
| permissible range, lower limit (DC)   | 20.4 V |
| permissible range, upper limit (DC)   | 28.8 V |
| Reverse polarity protection           | Yes    |
| Load voltage L+                       |        |
| • Rated value (DC)                    | 24 V   |
| • permissible range, lower limit (DC) | 20.4 V |
| • permissible range, upper limit (DC) | 28.8 V |

### Input current

|                                   |                                          |
|-----------------------------------|------------------------------------------|
| Current consumption (rated value) | 400 mA; CPU only                         |
| Current consumption, max.         | 1 200 mA; CPU with all expansion modules |
| Inrush current, max.              | 12 A; at 28.8 V                          |
| I <sub>t</sub>                    | 0.8 A <sup>2</sup> ·s                    |

### Output current

|                                  |                                     |
|----------------------------------|-------------------------------------|
| for backplane bus (5 V DC), max. | 1 000 mA; Max. 5 V DC for SM and CM |
|----------------------------------|-------------------------------------|

### Encoder supply

|                     |                      |
|---------------------|----------------------|
| 24 V encoder supply |                      |
| • 24 V              | L+ minus 4 V DC min. |

### Power loss

|                  |     |
|------------------|-----|
| Power loss, typ. | 9 W |
|------------------|-----|

### Memory

|                                       |                          |
|---------------------------------------|--------------------------|
| Work memory                           |                          |
| • integrated                          | 150 kbyte                |
| Load memory                           |                          |
| • integrated                          | 2 Mbyte                  |
| • Plug-in (SIMATIC Memory Card), max. | with SIMATIC memory card |
| Backup                                |                          |
| • present                             | Yes                      |
| • maintenance-free                    | Yes                      |
| • without battery                     | Yes                      |

|                                                           |                                                                                                                                                                     |
|-----------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>CPU processing times</b>                               |                                                                                                                                                                     |
| for bit operations, typ.                                  | 0.08 µs; / instruction                                                                                                                                              |
| for word operations, typ.                                 | 1.7 µs; / instruction                                                                                                                                               |
| for floating point arithmetic, typ.                       | 2.3 µs; / instruction                                                                                                                                               |
| <b>CPU-blocks</b>                                         |                                                                                                                                                                     |
| Number of blocks (total)                                  | DBs, FCs, FBs, counters and timers. The maximum number of addressable blocks ranges from 1 to 65535. There is no restriction, the entire working memory can be used |
| <b>OB</b>                                                 |                                                                                                                                                                     |
| • Number, max.                                            | Limited only by RAM for code                                                                                                                                        |
| <b>Data areas and their retentivity</b>                   |                                                                                                                                                                     |
| Retentive data area (incl. timers, counters, flags), max. | 14 kbyte                                                                                                                                                            |
| <b>Flag</b>                                               |                                                                                                                                                                     |
| • Size, max.                                              | 4 kbyte; Size of bit memory address area                                                                                                                            |
| <b>Local data</b>                                         |                                                                                                                                                                     |
| • per priority class, max.                                | 16 kbyte; Priority class 1 (program cycle): 16 KB, priority class 2 to 26: 6 KB                                                                                     |
| <b>Address area</b>                                       |                                                                                                                                                                     |
| <b>Process image</b>                                      |                                                                                                                                                                     |
| • Inputs, adjustable                                      | 1 kbyte                                                                                                                                                             |
| • Outputs, adjustable                                     | 1 kbyte                                                                                                                                                             |
| <b>Hardware configuration</b>                             |                                                                                                                                                                     |
| Number of modules per system, max.                        | 3 comm. modules, 1 signal board, 2 signal modules                                                                                                                   |
| <b>Time of day</b>                                        |                                                                                                                                                                     |
| <b>Clock</b>                                              |                                                                                                                                                                     |
| • Hardware clock (real-time)                              | Yes                                                                                                                                                                 |
| • Backup time                                             | 480 h; Typical                                                                                                                                                      |
| • Deviation per day, max.                                 | ±60 s/month at 25 °C                                                                                                                                                |
| <b>Digital inputs</b>                                     |                                                                                                                                                                     |
| Number of digital inputs                                  | 8; Integrated                                                                                                                                                       |
| • of which inputs usable for technological functions      | 6; HSC (High Speed Counting)                                                                                                                                        |
| Source/sink input                                         | Yes                                                                                                                                                                 |
| <b>Number of simultaneously controllable inputs</b>       |                                                                                                                                                                     |
| all mounting positions                                    |                                                                                                                                                                     |
| — up to 40 °C, max.                                       | 8                                                                                                                                                                   |
| <b>Input voltage</b>                                      |                                                                                                                                                                     |
| • Rated value (DC)                                        | 24 V                                                                                                                                                                |
| • for signal "0"                                          | 5 V DC at 1 mA                                                                                                                                                      |
| • for signal "1"                                          | 15 V DC at 2.5 mA                                                                                                                                                   |
| <b>Input delay (for rated value of input voltage)</b>     |                                                                                                                                                                     |
| for standard inputs                                       |                                                                                                                                                                     |
| — parameterizable                                         | 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 ms                             |
| — at "0" to "1", min.                                     | 0.2 ms                                                                                                                                                              |
| — at "0" to "1", max.                                     | 12.8 ms                                                                                                                                                             |
| for interrupt inputs                                      |                                                                                                                                                                     |
| — parameterizable                                         | Yes                                                                                                                                                                 |
| for technological functions                               |                                                                                                                                                                     |
| — parameterizable                                         | Single phase: 3 @ 100 kHz & 3 @ 30 kHz, differential: 3 @ 80 kHz & 3 @ 30 kHz                                                                                       |
| <b>Cable length</b>                                       |                                                                                                                                                                     |
| • shielded, max.                                          | 500 m; 50 m for technological functions                                                                                                                             |
| • unshielded, max.                                        | 300 m; for technological functions: No                                                                                                                              |
| <b>Digital outputs</b>                                    |                                                                                                                                                                     |
| Number of digital outputs                                 | 6; Relays                                                                                                                                                           |
| <b>Switching capacity of the outputs</b>                  |                                                                                                                                                                     |
| • with resistive load, max.                               | 2 A                                                                                                                                                                 |
| • on lamp load, max.                                      | 30 W with DC, 200 W with AC                                                                                                                                         |
| <b>Output delay with resistive load</b>                   |                                                                                                                                                                     |
| • "0" to "1", max.                                        | 10 ms; max.                                                                                                                                                         |
| • "1" to "0", max.                                        | 10 ms; max.                                                                                                                                                         |
| <b>Relay outputs</b>                                      |                                                                                                                                                                     |

|                                                                               |                                                                                                                                                                             |
|-------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| • Number of relay outputs                                                     | 6                                                                                                                                                                           |
| • Number of operating cycles, max.                                            | mechanically 10 million, at rated load voltage 100 000                                                                                                                      |
| Cable length                                                                  |                                                                                                                                                                             |
| • shielded, max.                                                              | 500 m                                                                                                                                                                       |
| • unshielded, max.                                                            | 150 m                                                                                                                                                                       |
| Analog inputs                                                                 |                                                                                                                                                                             |
| Number of analog inputs                                                       | 2                                                                                                                                                                           |
| Input ranges                                                                  |                                                                                                                                                                             |
| • Voltage                                                                     | Yes                                                                                                                                                                         |
| Input ranges (rated values), voltages                                         |                                                                                                                                                                             |
| • 0 to +10 V                                                                  | Yes                                                                                                                                                                         |
| — Input resistance (0 to 10 V)                                                | ≥100k ohms                                                                                                                                                                  |
| Cable length                                                                  |                                                                                                                                                                             |
| • shielded, max.                                                              | 100 m; twisted and shielded                                                                                                                                                 |
| Analog outputs                                                                |                                                                                                                                                                             |
| Number of analog outputs                                                      | 0                                                                                                                                                                           |
| Analog value generation for the inputs                                        |                                                                                                                                                                             |
| Integration and conversion time/resolution per channel                        |                                                                                                                                                                             |
| • Resolution with overrange (bit including sign), max.                        | 10 bit                                                                                                                                                                      |
| • Integration time, parameterizable                                           | Yes                                                                                                                                                                         |
| • Conversion time (per channel)                                               | 625 µs                                                                                                                                                                      |
| Encoder                                                                       |                                                                                                                                                                             |
| Connectable encoders                                                          |                                                                                                                                                                             |
| • 2-wire sensor                                                               | Yes                                                                                                                                                                         |
| 1. Interface                                                                  |                                                                                                                                                                             |
| Interface type                                                                | PROFINET                                                                                                                                                                    |
| Isolated                                                                      | Yes                                                                                                                                                                         |
| automatic detection of transmission rate                                      | Yes                                                                                                                                                                         |
| Autonegotiation                                                               | Yes                                                                                                                                                                         |
| Autocrossing                                                                  | Yes                                                                                                                                                                         |
| Interface types                                                               |                                                                                                                                                                             |
| • Number of ports                                                             | 1                                                                                                                                                                           |
| • integrated switch                                                           | No                                                                                                                                                                          |
| Protocols                                                                     |                                                                                                                                                                             |
| • PROFINET IO Controller                                                      | Yes                                                                                                                                                                         |
| • PROFINET IO Device                                                          | Yes                                                                                                                                                                         |
| • SIMATIC communication                                                       | Yes                                                                                                                                                                         |
| • Open IE communication                                                       | Yes; Optionally also encrypted                                                                                                                                              |
| • Web server                                                                  | Yes                                                                                                                                                                         |
| • Media redundancy                                                            | No                                                                                                                                                                          |
| PROFINET IO Controller                                                        |                                                                                                                                                                             |
| • Transmission rate, max.                                                     | 100 Mbit/s                                                                                                                                                                  |
| Services                                                                      |                                                                                                                                                                             |
| — PG/OP communication                                                         | Yes; encryption with TLS V1.3 pre-selected                                                                                                                                  |
| — Isochronous mode                                                            | No                                                                                                                                                                          |
| — IRT                                                                         | No                                                                                                                                                                          |
| — PROFIenergy                                                                 | No                                                                                                                                                                          |
| — Prioritized startup                                                         | Yes                                                                                                                                                                         |
| — Number of IO devices with prioritized startup, max.                         | 16                                                                                                                                                                          |
| — Number of connectable IO Devices, max.                                      | 16                                                                                                                                                                          |
| — Number of connectable IO Devices for RT, max.                               | 16                                                                                                                                                                          |
| — of which in line, max.                                                      | 16                                                                                                                                                                          |
| — Activation/deactivation of IO Devices                                       | Yes                                                                                                                                                                         |
| — Number of IO Devices that can be simultaneously activated/deactivated, max. | 8                                                                                                                                                                           |
| — Updating time                                                               | The minimum value of the update time also depends on the communication component set for PROFINET IO, on the number of IO devices and the quantity of configured user data. |
| PROFINET IO Device                                                            |                                                                                                                                                                             |
| Services                                                                      |                                                                                                                                                                             |
| — PG/OP communication                                                         | Yes; encryption with TLS V1.3 pre-selected                                                                                                                                  |

|                                                            |                                                                                                                                                                                                                                                                                    |
|------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| — Isochronous mode                                         | No                                                                                                                                                                                                                                                                                 |
| — IRT                                                      | No                                                                                                                                                                                                                                                                                 |
| — PROFIenergy                                              | Yes                                                                                                                                                                                                                                                                                |
| — Shared device                                            | Yes                                                                                                                                                                                                                                                                                |
| — Number of IO Controllers with shared device, max.        | 2                                                                                                                                                                                                                                                                                  |
| <b>Protocols</b>                                           |                                                                                                                                                                                                                                                                                    |
| Supports protocol for PROFINET IO                          | Yes                                                                                                                                                                                                                                                                                |
| PROFIsafe                                                  | Yes                                                                                                                                                                                                                                                                                |
| PROFIBUS                                                   | Yes; CM 1243-5 (master) or CM 1242-5 (slave) required                                                                                                                                                                                                                              |
| OPC UA                                                     | Yes; OPC UA Server                                                                                                                                                                                                                                                                 |
| AS-Interface                                               | Yes; CM 1243-2 required                                                                                                                                                                                                                                                            |
| <b>Protocols (Ethernet)</b>                                |                                                                                                                                                                                                                                                                                    |
| • TCP/IP                                                   | Yes                                                                                                                                                                                                                                                                                |
| • DHCP                                                     | No                                                                                                                                                                                                                                                                                 |
| • SNMP                                                     | Yes                                                                                                                                                                                                                                                                                |
| • DCP                                                      | Yes                                                                                                                                                                                                                                                                                |
| • LLDP                                                     | Yes                                                                                                                                                                                                                                                                                |
| <b>Redundancy mode</b>                                     |                                                                                                                                                                                                                                                                                    |
| <b>Media redundancy</b>                                    |                                                                                                                                                                                                                                                                                    |
| — MRP                                                      | No                                                                                                                                                                                                                                                                                 |
| — MRPD                                                     | No                                                                                                                                                                                                                                                                                 |
| <b>SIMATIC communication</b>                               |                                                                                                                                                                                                                                                                                    |
| • S7 routing                                               | Yes                                                                                                                                                                                                                                                                                |
| <b>Open IE communication</b>                               |                                                                                                                                                                                                                                                                                    |
| • TCP/IP                                                   | Yes                                                                                                                                                                                                                                                                                |
| — Data length, max.                                        | 8 kbyte                                                                                                                                                                                                                                                                            |
| • ISO-on-TCP (RFC1006)                                     | Yes                                                                                                                                                                                                                                                                                |
| — Data length, max.                                        | 8 kbyte                                                                                                                                                                                                                                                                            |
| • UDP                                                      | Yes                                                                                                                                                                                                                                                                                |
| — Data length, max.                                        | 1 472 byte                                                                                                                                                                                                                                                                         |
| <b>Web server</b>                                          |                                                                                                                                                                                                                                                                                    |
| • supported                                                | Yes                                                                                                                                                                                                                                                                                |
| • User-defined websites                                    | Yes                                                                                                                                                                                                                                                                                |
| <b>OPC UA</b>                                              |                                                                                                                                                                                                                                                                                    |
| • Runtime license required                                 | Yes; "Basic" license required                                                                                                                                                                                                                                                      |
| • OPC UA Server                                            | Yes; data access (read, write, subscribe), method call, runtime license required                                                                                                                                                                                                   |
| — Application authentication                               | Available security policies: None, Basic128Rsa15, Basic256Rsa15, Basic256Sha256                                                                                                                                                                                                    |
| — User authentication                                      | "anonymous" or by user name & password                                                                                                                                                                                                                                             |
| — Number of sessions, max.                                 | 10                                                                                                                                                                                                                                                                                 |
| — Number of subscriptions per session, max.                | 5                                                                                                                                                                                                                                                                                  |
| — Sampling interval, min.                                  | 100 ms                                                                                                                                                                                                                                                                             |
| — Publishing interval, min.                                | 200 ms                                                                                                                                                                                                                                                                             |
| — Number of server methods, max.                           | 20                                                                                                                                                                                                                                                                                 |
| — Number of monitored items, recommended max.              | 1 000                                                                                                                                                                                                                                                                              |
| — Number of server interfaces, max.                        | 2                                                                                                                                                                                                                                                                                  |
| — Number of nodes for user-defined server interfaces, max. | 2 000                                                                                                                                                                                                                                                                              |
| <b>Further protocols</b>                                   |                                                                                                                                                                                                                                                                                    |
| • MODBUS                                                   | Yes                                                                                                                                                                                                                                                                                |
| <b>communication functions / header</b>                    |                                                                                                                                                                                                                                                                                    |
| <b>S7 communication</b>                                    |                                                                                                                                                                                                                                                                                    |
| • supported                                                | Yes                                                                                                                                                                                                                                                                                |
| • as server                                                | Yes                                                                                                                                                                                                                                                                                |
| • as client                                                | Yes                                                                                                                                                                                                                                                                                |
| • User data per job, max.                                  | See online help (S7 communication, user data size)                                                                                                                                                                                                                                 |
| <b>Number of connections</b>                               |                                                                                                                                                                                                                                                                                    |
| • overall                                                  | PG Connections: 4 reserved / 4 max; HMI Connections: 12 reserved / 18 max; S7 Connections: 8 reserved / 14 max; Open User Connections: 8 reserved / 14 max; Web Connections: 2 reserved / 30 max; OPC UA Connections: 0 reserved / 10 max; Total Connections: 34 reserved / 68 max |
| <b>Test commissioning functions</b>                        |                                                                                                                                                                                                                                                                                    |

|                                                                                                      |                                                                                                                |
|------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------|
| <b>Status/control</b>                                                                                |                                                                                                                |
| • Status/control variable                                                                            | Yes                                                                                                            |
| • Variables                                                                                          | inputs/outputs, bit memories, DBs, peripheral I/Os (without fail-safe), times, counters                        |
| <b>Forcing</b>                                                                                       |                                                                                                                |
| • Forcing                                                                                            | Yes; peripheral inputs/outputs (without fail-safe)                                                             |
| <b>Diagnostic buffer</b>                                                                             |                                                                                                                |
| • present                                                                                            | Yes                                                                                                            |
| <b>Traces</b>                                                                                        |                                                                                                                |
| • Number of configurable Traces                                                                      | 2                                                                                                              |
| • Memory size per trace, max.                                                                        | 512 kbyte                                                                                                      |
| <b>Interrupts/diagnostics/status information</b>                                                     |                                                                                                                |
| <b>Diagnostics indication LED</b>                                                                    |                                                                                                                |
| • RUN/STOP LED                                                                                       | Yes                                                                                                            |
| • ERROR LED                                                                                          | Yes                                                                                                            |
| • MAINT LED                                                                                          | Yes                                                                                                            |
| <b>Integrated Functions</b>                                                                          |                                                                                                                |
| <b>Counter</b>                                                                                       |                                                                                                                |
| • Number of counters                                                                                 | 6                                                                                                              |
| • Counting frequency, max.                                                                           | 100 kHz                                                                                                        |
| Frequency measurement                                                                                | Yes                                                                                                            |
| controlled positioning                                                                               | Yes                                                                                                            |
| Number of position-controlled positioning axes, max.                                                 | 8                                                                                                              |
| Number of positioning axes via pulse-direction interface                                             | Up to 4 with SB 1222                                                                                           |
| PID controller                                                                                       | Yes                                                                                                            |
| Number of alarm inputs                                                                               | 4                                                                                                              |
| <b>Potential separation</b>                                                                          |                                                                                                                |
| <b>Potential separation digital inputs</b>                                                           |                                                                                                                |
| • Potential separation digital inputs                                                                | 500 V AC for 1 minute                                                                                          |
| • between the channels, in groups of                                                                 | 1                                                                                                              |
| <b>Potential separation digital outputs</b>                                                          |                                                                                                                |
| • Potential separation digital outputs                                                               | Relays                                                                                                         |
| • between the channels                                                                               | No                                                                                                             |
| • between the channels, in groups of                                                                 | 2                                                                                                              |
| <b>EMC</b>                                                                                           |                                                                                                                |
| <b>Interference immunity against discharge of static electricity</b>                                 |                                                                                                                |
| • Interference immunity against discharge of static electricity acc. to IEC 61000-4-2                | Yes                                                                                                            |
| — Test voltage at air discharge                                                                      | 8 kV                                                                                                           |
| — Test voltage at contact discharge                                                                  | 6 kV                                                                                                           |
| <b>Interference immunity to cable-borne interference</b>                                             |                                                                                                                |
| • Interference immunity on supply lines acc. to IEC 61000-4-4                                        | Yes                                                                                                            |
| • Interference immunity on signal cables acc. to IEC 61000-4-4                                       | Yes                                                                                                            |
| <b>Interference immunity against voltage surge</b>                                                   |                                                                                                                |
| • Interference immunity on supply lines acc. to IEC 61000-4-5                                        | Yes                                                                                                            |
| <b>Interference immunity against conducted variable disturbance induced by high-frequency fields</b> |                                                                                                                |
| • Interference immunity against high-frequency radiation acc. to IEC 61000-4-6                       | Yes                                                                                                            |
| <b>Emission of radio interference acc. to EN 55 011</b>                                              |                                                                                                                |
| • Limit class A, for use in industrial areas                                                         | Yes; Group 1                                                                                                   |
| • Limit class B, for use in residential areas                                                        | Yes; When appropriate measures are used to ensure compliance with the limits for Class B according to EN 55011 |
| <b>Degree and class of protection</b>                                                                |                                                                                                                |
| IP degree of protection                                                                              | IP20                                                                                                           |
| <b>Standards, approvals, certificates</b>                                                            |                                                                                                                |
| Siemens Eco Profile (SEP)                                                                            | Siemens EcoTech                                                                                                |
| CE mark                                                                                              | Yes                                                                                                            |
| UL approval                                                                                          | Yes                                                                                                            |
| cULus                                                                                                | Yes                                                                                                            |

|                                                                            |                                                                                                                                                                             |
|----------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FM approval                                                                | Yes                                                                                                                                                                         |
| RCM (formerly C-TICK)                                                      | Yes                                                                                                                                                                         |
| KC approval                                                                | Yes                                                                                                                                                                         |
| Marine approval                                                            | Yes                                                                                                                                                                         |
| <b>Ecological footprint</b>                                                |                                                                                                                                                                             |
| • environmental product declaration                                        | Yes; type II acc. to ISO 14021                                                                                                                                              |
| <b>Global warming potential</b>                                            |                                                                                                                                                                             |
| — global warming potential, (total) [CO <sub>2</sub> eq]                   | 76.4 kg                                                                                                                                                                     |
| — global warming potential, (during production) [CO <sub>2</sub> eq]       | 13.8 kg                                                                                                                                                                     |
| — global warming potential, (during operation) [CO <sub>2</sub> eq]        | 63.4 kg                                                                                                                                                                     |
| — global warming potential, (after end of life cycle) [CO <sub>2</sub> eq] | -0.89 kg                                                                                                                                                                    |
| <b>Highest safety class achievable in safety mode</b>                      |                                                                                                                                                                             |
| • Performance level according to ISO 13849-1                               | PL <sub>e</sub>                                                                                                                                                             |
| • SIL acc. to IEC 61508                                                    | SIL 3                                                                                                                                                                       |
| <b>Ambient conditions</b>                                                  |                                                                                                                                                                             |
| <b>Free fall</b>                                                           |                                                                                                                                                                             |
| • Fall height, max.                                                        | 0.3 m; five times, in product package                                                                                                                                       |
| <b>Ambient temperature during operation</b>                                |                                                                                                                                                                             |
| • min.                                                                     | 0 °C                                                                                                                                                                        |
| • max.                                                                     | 55 °C; Number of simultaneously activated inputs or outputs 4 or 3 (no adjacent points) at 60 °C horizontal or 50 °C vertical, 8 or 6 at 55 °C horizontal or 45 °C vertical |
| • horizontal installation, min.                                            | 0 °C                                                                                                                                                                        |
| • horizontal installation, max.                                            | 55 °C                                                                                                                                                                       |
| • vertical installation, min.                                              | 0 °C                                                                                                                                                                        |
| • vertical installation, max.                                              | 45 °C                                                                                                                                                                       |
| <b>Ambient temperature during storage/transportation</b>                   |                                                                                                                                                                             |
| • min.                                                                     | -40 °C                                                                                                                                                                      |
| • max.                                                                     | 70 °C                                                                                                                                                                       |
| <b>Air pressure acc. to IEC 60068-2-13</b>                                 |                                                                                                                                                                             |
| • Operation, min.                                                          | 795 hPa                                                                                                                                                                     |
| • Operation, max.                                                          | 1 080 hPa                                                                                                                                                                   |
| • Storage/transport, min.                                                  | 660 hPa                                                                                                                                                                     |
| • Storage/transport, max.                                                  | 1 080 hPa                                                                                                                                                                   |
| <b>Altitude during operation relating to sea level</b>                     |                                                                                                                                                                             |
| • Installation altitude, min.                                              | -1 000 m                                                                                                                                                                    |
| • Installation altitude, max.                                              | 5 000 m; Restrictions for installation altitudes > 2 000 m, see manual                                                                                                      |
| <b>Relative humidity</b>                                                   |                                                                                                                                                                             |
| • Operation, max.                                                          | 95 %; no condensation                                                                                                                                                       |
| <b>Vibrations</b>                                                          |                                                                                                                                                                             |
| • Vibration resistance during operation acc. to IEC 60068-2-6              | 2 g (m/s <sup>2</sup> ) wall mounting, 1 g (m/s <sup>2</sup> ) DIN rail                                                                                                     |
| • Operation, tested according to IEC 60068-2-6                             | Yes                                                                                                                                                                         |
| <b>Shock testing</b>                                                       |                                                                                                                                                                             |
| • tested according to IEC 60068-2-27                                       | Yes; IEC 68, Part 2-27 half-sine: strength of the shock 15 g (peak value), duration 11 ms                                                                                   |
| <b>Pollutant concentrations</b>                                            |                                                                                                                                                                             |
| • SO <sub>2</sub> at RH < 60% without condensation                         | SO <sub>2</sub> : < 0.5 ppm; H <sub>2</sub> S: < 0.1 ppm; RH < 60 % condensation-free                                                                                       |
| <b>configuration / header</b>                                              |                                                                                                                                                                             |
| <b>configuration / programming / header</b>                                |                                                                                                                                                                             |
| <b>Programming language</b>                                                |                                                                                                                                                                             |
| — LAD                                                                      | Yes; incl. failsafe                                                                                                                                                         |
| — FBD                                                                      | Yes; incl. failsafe                                                                                                                                                         |
| — SCL                                                                      | Yes                                                                                                                                                                         |
| <b>Know-how protection</b>                                                 |                                                                                                                                                                             |
| • User program protection/password protection                              | Yes                                                                                                                                                                         |
| • Copy protection                                                          | Yes                                                                                                                                                                         |
| • Block protection                                                         | Yes                                                                                                                                                                         |
| <b>Access protection</b>                                                   |                                                                                                                                                                             |
| • protection of confidential configuration data                            | Yes                                                                                                                                                                         |

- Protection level: Write protection
- Protection level: Read/write protection
- Protection level: Complete protection
- User administration
- Number of users
- Number of groups
- Number of roles

Yes

Yes

Yes

Yes; device-wide

42

14

20

programming / cycle time monitoring / header

- adjustable

Yes

Dimensions

|        |        |
|--------|--------|
| Width  | 90 mm  |
| Height | 100 mm |
| Depth  | 75 mm  |

Weights

|                 |       |
|-----------------|-------|
| Weight, approx. | 385 g |
|-----------------|-------|

Classifications

|        | Version | Classification |
|--------|---------|----------------|
| eClass | 14      | 27-24-22-07    |
| eClass | 12      | 27-24-22-07    |
| eClass | 9.1     | 27-24-22-07    |
| eClass | 9       | 27-24-22-07    |
| eClass | 8       | 27-24-22-07    |
| eClass | 7.1     | 27-24-22-07    |
| eClass | 6       | 27-24-22-07    |
| ETIM   | 9       | EC000236       |
| ETIM   | 8       | EC000236       |
| ETIM   | 7       | EC000236       |
| IDEA   | 4       | 3565           |
| UNSPSC | 15      | 32-15-17-05    |

Approvals / Certificates

General Product Approval




[Miscellaneous](#)
[Manufacturer Declaration](#)

[Miscellaneous](#)

|                                                                                     |                                                                                     |                                |                                              |                                                                                                                                          |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|--------------------------------|----------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------|
| General Product Approval                                                            | EMV                                                                                 | For use in hazardous locations | Functional Safety                            | Maritime application                                                                                                                     |
|  |  | <a href="#">FM</a>             | <a href="#">Type Examination Certificate</a> |  <a href="#">CCS (China Classification Society)</a> |

|                                                                                                                                                                         |                          |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| Environment                                                                                                                                                             | Industrial Communication |
|   | <a href="#">PROFINET</a> |

last modified: 7/17/2025 