

Siemens  
EcoTech



SIMATIC S7-1200F, CPU 1214 FC, compact CPU, DC/DC/DC, onboard I/O: 14 DI 24 V DC; 10 DO 24 V DC; 2 AI 0-10 V DC, power supply: DC 20.4-28.8 V DC, program/data memory 200 KB



| General information                   |                                          |
|---------------------------------------|------------------------------------------|
| Product type designation              | CPU 1214FC DC/DC/DC                      |
| 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)     | 500 mA; CPU only                         |
| Current consumption, max.             | 1 500 mA; CPU with all expansion modules |
| Inrush current, max.                  | 12 A; at 28.8 V                          |
| I <sub>t</sub>                        | 0.5 A <sup>2</sup> ·s                    |
| Output current                        |                                          |
| for backplane bus (5 V DC), max.      | 1 600 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.                      | 12 W                                     |
| Memory                                |                                          |
| Work memory                           |                                          |
| • integrated                          | 200 kbyte                                |
| Load memory                           |                                          |
| • integrated                          | 4 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.                                              | 8 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, 8 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                                  | 14; 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.                                       | 14                                                                                                                                                                  |
| <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                                 | 10                                                                                                                                                                  |
| • of which high-speed outputs                             | 4; 100 kHz Pulse Train Output                                                                                                                                       |
| Limitation of inductive shutdown voltage to               | L+ (-48 V)                                                                                                                                                          |
| <b>Switching capacity of the outputs</b>                  |                                                                                                                                                                     |
| • with resistive load, max.                               | 0.5 A                                                                                                                                                               |
| • on lamp load, max.                                      | 5 W                                                                                                                                                                 |
| <b>Output voltage</b>                                     |                                                                                                                                                                     |
| • for signal "0", max.                                    | 0.1 V; with 10 kOhm load                                                                                                                                            |

|                                                        |                                            |
|--------------------------------------------------------|--------------------------------------------|
| • for signal "1", min.                                 | 20 V                                       |
| Output current                                         |                                            |
| • for signal "1" rated value                           | 0.5 A                                      |
| • for signal "0" residual current, max.                | 0.1 mA                                     |
| Output delay with resistive load                       |                                            |
| • "0" to "1", max.                                     | 1 µs                                       |
| • "1" to "0", max.                                     | 5 µs                                       |
| Switching frequency                                    |                                            |
| • of the pulse outputs, with resistive load, max.      | 100 kHz                                    |
| Relay outputs                                          |                                            |
| • Number of relay outputs                              | 0                                          |
| 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                                        |                                            |
| • RJ 45 (Ethernet)                                     | Yes                                        |
| • 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                                         |
| — PROFINergy                                           | 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. |
| <b>PROFINET IO Device</b>                                                     |                                                                                                                                                                             |
| <b>Services</b>                                                               |                                                                                                                                                                             |
| — PG/OP communication                                                         | Yes; encryption with TLS V1.3 pre-selected                                                                                                                                  |
| — Isochronous mode                                                            | No                                                                                                                                                                          |
| — IRT                                                                         | No                                                                                                                                                                          |
| — PROFINergy                                                                  | 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                                             | 4; With integrated outputs                                                                                                                                                                                                                                                         |
| PID controller                                                                                       | Yes                                                                                                                                                                                                                                                                                |
| Number of alarm inputs                                                                               | 4                                                                                                                                                                                                                                                                                  |
| Number of pulse outputs                                                                              | 4                                                                                                                                                                                                                                                                                  |
| Limit frequency (pulse)                                                                              | 100 kHz                                                                                                                                                                                                                                                                            |
| <b>Potential separation</b>                                                                          |                                                                                                                                                                                                                                                                                    |
| <b>Potential separation digital inputs</b>                                                           |                                                                                                                                                                                                                                                                                    |
| • Potential separation digital inputs                                                                | No                                                                                                                                                                                                                                                                                 |
| • between the channels, in groups of                                                                 | 1                                                                                                                                                                                                                                                                                  |
| <b>Potential separation digital outputs</b>                                                          |                                                                                                                                                                                                                                                                                    |
| • Potential separation digital outputs                                                               | Yes                                                                                                                                                                                                                                                                                |
| • between the channels                                                                               | No                                                                                                                                                                                                                                                                                 |
| • between the channels, in groups of                                                                 | 1                                                                                                                                                                                                                                                                                  |
| <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                                             | Yes                                                                                                                                                                                                                                                                                |

|                                                                                                                                                                                                  |                                                                                                                                                                                                |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| acc. to IEC 61000-4-6                                                                                                                                                                            |                                                                                                                                                                                                |
| Emission of radio interference acc. to EN 55 011                                                                                                                                                 |                                                                                                                                                                                                |
| <ul style="list-style-type: none"> <li>Limit class A, for use in industrial areas</li> <li>Limit class B, for use in residential areas</li> </ul>                                                | <p>Yes; Group 1</p> <p>Yes; When appropriate measures are used to ensure compliance with the limits for Class B according to EN 55011</p>                                                      |
| Degree and class of protection                                                                                                                                                                   |                                                                                                                                                                                                |
| IP degree of protection                                                                                                                                                                          | IP20                                                                                                                                                                                           |
| Standards, approvals, certificates                                                                                                                                                               |                                                                                                                                                                                                |
| 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                                                                                                                                                                                            |
| Ecological footprint                                                                                                                                                                             |                                                                                                                                                                                                |
| <ul style="list-style-type: none"> <li>environmental product declaration</li> </ul>                                                                                                              | Yes; type II acc. to ISO 14021                                                                                                                                                                 |
| Global warming potential                                                                                                                                                                         |                                                                                                                                                                                                |
| — global warming potential, (total) [CO2 eq]                                                                                                                                                     | 111 kg                                                                                                                                                                                         |
| — global warming potential, (during production) [CO2 eq]                                                                                                                                         | 20.1 kg                                                                                                                                                                                        |
| — global warming potential, (during operation) [CO2 eq]                                                                                                                                          | 91.5 kg                                                                                                                                                                                        |
| — global warming potential, (after end of life cycle) [CO2 eq]                                                                                                                                   | -0.9 kg                                                                                                                                                                                        |
| Highest safety class achievable in safety mode                                                                                                                                                   |                                                                                                                                                                                                |
| <ul style="list-style-type: none"> <li>Performance level according to ISO 13849-1</li> <li>SIL acc. to IEC 61508</li> </ul>                                                                      | <p>PLe</p> <p>SIL 3</p>                                                                                                                                                                        |
| Ambient conditions                                                                                                                                                                               |                                                                                                                                                                                                |
| Free fall                                                                                                                                                                                        |                                                                                                                                                                                                |
| <ul style="list-style-type: none"> <li>Fall height, max.</li> </ul>                                                                                                                              | 0.3 m; five times, in product package                                                                                                                                                          |
| Ambient temperature during operation                                                                                                                                                             |                                                                                                                                                                                                |
| <ul style="list-style-type: none"> <li>min.</li> <li>max.</li> </ul>                                                                                                                             | <p>0 °C</p> <p>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</p> |
| <ul style="list-style-type: none"> <li>horizontal installation, min.</li> <li>horizontal installation, max.</li> <li>vertical installation, min.</li> <li>vertical installation, max.</li> </ul> | <p>0 °C</p> <p>55 °C</p> <p>0 °C</p> <p>45 °C</p>                                                                                                                                              |
| Ambient temperature during storage/transportation                                                                                                                                                |                                                                                                                                                                                                |
| <ul style="list-style-type: none"> <li>min.</li> <li>max.</li> </ul>                                                                                                                             | <p>-40 °C</p> <p>70 °C</p>                                                                                                                                                                     |
| Air pressure acc. to IEC 60068-2-13                                                                                                                                                              |                                                                                                                                                                                                |
| <ul style="list-style-type: none"> <li>Operation, min.</li> <li>Operation, max.</li> <li>Storage/transport, min.</li> <li>Storage/transport, max.</li> </ul>                                     | <p>795 hPa</p> <p>1 080 hPa</p> <p>660 hPa</p> <p>1 080 hPa</p>                                                                                                                                |
| Altitude during operation relating to sea level                                                                                                                                                  |                                                                                                                                                                                                |
| <ul style="list-style-type: none"> <li>Installation altitude, min.</li> <li>Installation altitude, max.</li> </ul>                                                                               | <p>-1 000 m</p> <p>5 000 m; Restrictions for installation altitudes &gt; 2 000 m, see manual</p>                                                                                               |
| Relative humidity                                                                                                                                                                                |                                                                                                                                                                                                |
| <ul style="list-style-type: none"> <li>Operation, max.</li> </ul>                                                                                                                                | 95 %; no condensation                                                                                                                                                                          |
| Vibrations                                                                                                                                                                                       |                                                                                                                                                                                                |
| <ul style="list-style-type: none"> <li>Vibration resistance during operation acc. to IEC 60068-2-6</li> <li>Operation, tested according to IEC 60068-2-6</li> </ul>                              | <p>2 g (m/s²) wall mounting, 1 g (m/s²) DIN rail</p> <p>Yes</p>                                                                                                                                |
| Shock testing                                                                                                                                                                                    |                                                                                                                                                                                                |
| <ul style="list-style-type: none"> <li>tested according to IEC 60068-2-27</li> </ul>                                                                                                             | Yes; IEC 68, Part 2-27 half-sine: strength of the shock 15 g (peak value), duration 11 ms                                                                                                      |
| Pollutant concentrations                                                                                                                                                                         |                                                                                                                                                                                                |
| <ul style="list-style-type: none"> <li>SO2 at RH &lt; 60% without condensation</li> </ul>                                                                                                        | SO2: < 0.5 ppm; H2S: < 0.1 ppm; RH < 60 % condensation-free                                                                                                                                    |

| configuration / header                                                                                                                                                                                                                                                                                                                                                                  |                   |                                |                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------------------------|----------------|
| configuration / programming / header                                                                                                                                                                                                                                                                                                                                                    |                   |                                |                |
| Programming language                                                                                                                                                                                                                                                                                                                                                                    |                   |                                |                |
| — LAD                                                                                                                                                                                                                                                                                                                                                                                   |                   | Yes; incl. failsafe            |                |
| — FBD                                                                                                                                                                                                                                                                                                                                                                                   |                   | Yes; incl. failsafe            |                |
| — SCL                                                                                                                                                                                                                                                                                                                                                                                   |                   | Yes                            |                |
| Know-how protection                                                                                                                                                                                                                                                                                                                                                                     |                   |                                |                |
| • User program protection/password protection                                                                                                                                                                                                                                                                                                                                           |                   | Yes                            |                |
| • Copy protection                                                                                                                                                                                                                                                                                                                                                                       |                   | Yes                            |                |
| • Block protection                                                                                                                                                                                                                                                                                                                                                                      |                   | Yes                            |                |
| Access protection                                                                                                                                                                                                                                                                                                                                                                       |                   |                                |                |
| • protection of confidential configuration data                                                                                                                                                                                                                                                                                                                                         |                   | Yes                            |                |
| • Protection level: Write protection                                                                                                                                                                                                                                                                                                                                                    |                   | Yes                            |                |
| • Protection level: Read/write protection                                                                                                                                                                                                                                                                                                                                               |                   | Yes                            |                |
| • Protection level: Complete protection                                                                                                                                                                                                                                                                                                                                                 |                   | Yes                            |                |
| • User administration                                                                                                                                                                                                                                                                                                                                                                   |                   | Yes; device-wide               |                |
| • Number of users                                                                                                                                                                                                                                                                                                                                                                       |                   | 42                             |                |
| • Number of groups                                                                                                                                                                                                                                                                                                                                                                      |                   | 14                             |                |
| • Number of roles                                                                                                                                                                                                                                                                                                                                                                       |                   | 20                             |                |
| programming / cycle time monitoring / header                                                                                                                                                                                                                                                                                                                                            |                   |                                |                |
| • adjustable                                                                                                                                                                                                                                                                                                                                                                            |                   | Yes                            |                |
| Dimensions                                                                                                                                                                                                                                                                                                                                                                              |                   |                                |                |
| Width                                                                                                                                                                                                                                                                                                                                                                                   |                   | 110 mm                         |                |
| Height                                                                                                                                                                                                                                                                                                                                                                                  |                   | 100 mm                         |                |
| Depth                                                                                                                                                                                                                                                                                                                                                                                   |                   | 75 mm                          |                |
| Weights                                                                                                                                                                                                                                                                                                                                                                                 |                   |                                |                |
| Weight, approx.                                                                                                                                                                                                                                                                                                                                                                         |                   | 415 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                                                                                                                                                                                                                                                                                                                                                                |                   |                                |                |
| <div>   <a href="#">Miscellaneous</a> <a href="#">Manufacturer Declaration</a>  <a href="#">Metrological Approval</a> </div> |                   |                                |                |
| General Product Approval                                                                                                                                                                                                                                                                                                                                                                | EMV               | For use in hazardous locations |                |
| <a href="#">Miscellaneous</a>             |                   |                                |                |
| For use in hazardous locations                                                                                                                                                                                                                                                                                                                                                          | Functional Safety | Maritime application           | Environment    |



[CCC-Ex](#)

[Type Examination Certificate](#)



[CCS \(China Classification Society\)](#)



Environment

Industrial Communication

Siemens  
EcoTech



[PROFINET](#)

last modified:

7/17/2025