

Siemens  
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Figure similar

SIPLUS S7-1200 CPU 1212C DC/DC/DC based on 6ES7212-1AE40-0XB0 with conformal coating, -20...+60 °C, compact CPU, DC/DC/DC, onboard I/O: 8 DI 24 V DC 6 DQ 24 V DC 2 AI 0-10 V DC, power supply: 20.4-28.8 V DC program/data memory 50 KB

| General information                                      |                                          |
|----------------------------------------------------------|------------------------------------------|
| Product type designation                                 | CPU 1212C DC/DC/DC                       |
| based on                                                 | <a href="#">6ES7212-1AE40-0XB0</a>       |
| Engineering with                                         |                                          |
| • STEP 7 TIA Portal configurable/integrated from version | see entry ID: 109746275                  |
| Supply voltage                                           |                                          |
| Rated value (DC)                                         |                                          |
| • 24 V DC                                                | Yes                                      |
| permissible range, lower limit (DC)                      | 20.4 V                                   |
| permissible range, upper limit (DC)                      | 28.8 V                                   |
| Reverse polarity protection                              | Yes                                      |
| Load voltage L+                                          |                                          |
| • Rated value (DC)                                       | 24 V                                     |
| • permissible range, lower limit (DC)                    | 20.4 V                                   |
| • permissible range, upper limit (DC)                    | 28.8 V                                   |
| Input current                                            |                                          |
| Current consumption (rated value)                        | 400 mA; Typical                          |
| Current consumption, max.                                | 1 200 mA; CPU with all expansion modules |
| Inrush current, max.                                     | 12 A; at 28.8 V DC                       |
| I <sup>2</sup> t                                         | 0.5 A <sup>2</sup> ·s                    |
| Output current                                           |                                          |
| for backplane bus (5 V DC), max.                         | 1 000 mA; Max. 5 V DC for SM and CM      |
| Encoder supply                                           |                                          |
| 24 V encoder supply                                      |                                          |
| • 24 V                                                   | L+ minus 4 V DC min.                     |
| Power loss                                               |                                          |
| Power loss, typ.                                         | 9 W                                      |
| Memory                                                   |                                          |
| Work memory                                              |                                          |
| • integrated                                             | 100 kbyte                                |
| Load memory                                              |                                          |
| • integrated                                             | 2 Mbyte                                  |
| • Plug-in (SIMATIC Memory Card), max.                    | with SIMATIC memory card                 |
| Backup                                                   |                                          |
| • present                                                | Yes                                      |

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

|                                                     |                                                                                  |
|-----------------------------------------------------|----------------------------------------------------------------------------------|
| PROFINET IO Device                                  |                                                                                  |
| Services                                            |                                                                                  |
| — 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                                                                                |
| Protocols                                           |                                                                                  |
| Supports protocol for PROFINET IO                   | Yes                                                                              |
| PROFIsafe                                           | No                                                                               |
| 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                                                          |
| Protocols (Ethernet)                                |                                                                                  |
| • TCP/IP                                            | Yes                                                                              |
| • DHCP                                              | No                                                                               |
| • SNMP                                              | Yes                                                                              |
| • DCP                                               | Yes                                                                              |
| • LLDP                                              | Yes                                                                              |
| Redundancy mode                                     |                                                                                  |
| Media redundancy                                    |                                                                                  |
| — MRP                                               | No                                                                               |
| — MRPD                                              | No                                                                               |
| SIMATIC communication                               |                                                                                  |
| • S7 routing                                        | Yes                                                                              |
| Open IE communication                               |                                                                                  |
| • TCP/IP                                            | Yes                                                                              |
| — Data length, max.                                 | 8 kbyte                                                                          |
| — several passive connections per port, supported   | Yes                                                                              |
| • ISO-on-TCP (RFC1006)                              | Yes                                                                              |
| — Data length, max.                                 | 8 kbyte                                                                          |
| • UDP                                               | Yes                                                                              |
| — Data length, max.                                 | 1 472 byte                                                                       |
| Web server                                          |                                                                                  |
| • supported                                         | Yes                                                                              |
| • User-defined websites                             | Yes                                                                              |
| OPC UA                                              |                                                                                  |
| • 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</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, memory bits, DBs, distributed I/Os, timers, counters                                                                                                                                                                                                               |
| <b>Forcing</b>                                                                        |                                                                                                                                                                                                                                                                                    |
| • Forcing                                                                             | Yes                                                                                                                                                                                                                                                                                |
| <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>                              |                                                                                                                                                                                                                                                                                    |

|                                                                                                                                  |                                                                                                                                                                                                                 |
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| <ul style="list-style-type: none"> <li>• Interference immunity on supply lines acc. to IEC 61000-4-4</li> </ul>                  | Yes                                                                                                                                                                                                             |
| <ul style="list-style-type: none"> <li>• Interference immunity on signal cables acc. to IEC 61000-4-4</li> </ul>                 | Yes                                                                                                                                                                                                             |
| Interference immunity against voltage surge                                                                                      |                                                                                                                                                                                                                 |
| <ul style="list-style-type: none"> <li>• Interference immunity on supply lines acc. to IEC 61000-4-5</li> </ul>                  | Yes                                                                                                                                                                                                             |
| Interference immunity against conducted variable disturbance induced by high-frequency fields                                    |                                                                                                                                                                                                                 |
| <ul style="list-style-type: none"> <li>• Interference immunity against high-frequency radiation acc. to IEC 61000-4-6</li> </ul> | Yes                                                                                                                                                                                                             |
| 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> </ul>                                   | Yes; Group 1                                                                                                                                                                                                    |
| <ul style="list-style-type: none"> <li>• Limit class B, for use in residential areas</li> </ul>                                  | Yes; When appropriate measures are used to ensure compliance with the limits for Class B according to EN 55011                                                                                                  |
| Degree and class of protection                                                                                                   |                                                                                                                                                                                                                 |
| IP degree of protection                                                                                                          | IP20                                                                                                                                                                                                            |
| Standards, approvals, certificates                                                                                               |                                                                                                                                                                                                                 |
| Siemens Eco Profile (SEP)                                                                                                        | Siemens EcoTech                                                                                                                                                                                                 |
| 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) [CO <sub>2</sub> eq]                                                                         | 76.4 kg                                                                                                                                                                                                         |
| — global warming potential, (during production) [CO <sub>2</sub> eq]                                                             | 13.8 kg                                                                                                                                                                                                         |
| — global warming potential, (during operation) [CO <sub>2</sub> eq]                                                              | 63.4 kg                                                                                                                                                                                                         |
| — global warming potential, (after end of life cycle) [CO <sub>2</sub> eq]                                                       | -0.89 kg                                                                                                                                                                                                        |
| 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> </ul>                                                                         | -20 °C; = Tmin (incl. condensation/frost); start-up @ 0 °C                                                                                                                                                      |
| <ul style="list-style-type: none"> <li>• max.</li> </ul>                                                                         | 60 °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                                     |
| <ul style="list-style-type: none"> <li>• horizontal installation, min.</li> </ul>                                                | -20 °C; = Tmin                                                                                                                                                                                                  |
| <ul style="list-style-type: none"> <li>• horizontal installation, max.</li> </ul>                                                | 60 °C; = Tmax                                                                                                                                                                                                   |
| <ul style="list-style-type: none"> <li>• vertical installation, min.</li> </ul>                                                  | -20 °C; = Tmin                                                                                                                                                                                                  |
| <ul style="list-style-type: none"> <li>• vertical installation, max.</li> </ul>                                                  | 50 °C; = Tmax                                                                                                                                                                                                   |
| <ul style="list-style-type: none"> <li>• At cold restart, min.</li> </ul>                                                        | 0 °C                                                                                                                                                                                                            |
| Ambient temperature during storage/transportation                                                                                |                                                                                                                                                                                                                 |
| <ul style="list-style-type: none"> <li>• min.</li> </ul>                                                                         | -40 °C                                                                                                                                                                                                          |
| <ul style="list-style-type: none"> <li>• max.</li> </ul>                                                                         | 70 °C                                                                                                                                                                                                           |
| Altitude during operation relating to sea level                                                                                  |                                                                                                                                                                                                                 |
| <ul style="list-style-type: none"> <li>• Installation altitude above sea level, max.</li> </ul>                                  | 5 000 m                                                                                                                                                                                                         |
| <ul style="list-style-type: none"> <li>• Ambient air temperature-barometric pressure-altitude</li> </ul>                         | Tmin ... Tmax at 1 140 hPa ... 795 hPa (-1 000 m ... +2 000 m) // Tmin ... (Tmax - 10 K) at 795 hPa ... 658 hPa (+2 000 m ... +3 500 m) // Tmin ... (Tmax -20 K) at 658 hPa ... 540 hPa (+3 500 m ... +5 000 m) |
| Relative humidity                                                                                                                |                                                                                                                                                                                                                 |
| <ul style="list-style-type: none"> <li>• With condensation, tested in accordance with IEC 60068-2-38, max.</li> </ul>            | 100 %; RH incl. condensation/frost (no commissioning under condensation conditions)                                                                                                                             |
| Vibrations                                                                                                                       |                                                                                                                                                                                                                 |
| <ul style="list-style-type: none"> <li>• Vibration resistance during operation acc. to IEC 60068-2-6</li> </ul>                  | 2 g (m/s <sup>2</sup> ) wall mounting, 1 g (m/s <sup>2</sup> ) DIN rail                                                                                                                                         |
| <ul style="list-style-type: none"> <li>• Operation, tested according to IEC 60068-2-6</li> </ul>                                 | Yes                                                                                                                                                                                                             |
| 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                                                                                                                       |
| Resistance                                                                                                                       |                                                                                                                                                                                                                 |
| Coolants and lubricants                                                                                                          |                                                                                                                                                                                                                 |
| — Resistant to commercially available coolants and lubricants                                                                    | Yes; Incl. diesel and oil droplets in the air                                                                                                                                                                   |

|                                                                                                                         |                                                                                                                                                                                     |         |                |
|-------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|----------------|
| Use in stationary industrial systems                                                                                    |                                                                                                                                                                                     |         |                |
| — to biologically active substances according to EN 60721-3-3                                                           | Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request                                                                                  |         |                |
| — to chemically active substances according to EN 60721-3-3                                                             | Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *                                                                                            |         |                |
| — to mechanically active substances according to EN 60721-3-3                                                           | Yes; Class 3S4 incl. sand, dust, *                                                                                                                                                  |         |                |
| Use on ships/at sea                                                                                                     |                                                                                                                                                                                     |         |                |
| — to biologically active substances according to EN 60721-3-6                                                           | Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request                                                                                                       |         |                |
| — to chemically active substances according to EN 60721-3-6                                                             | Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *                                                                                            |         |                |
| — to mechanically active substances according to EN 60721-3-6                                                           | Yes; Class 6S3 incl. sand, dust; *                                                                                                                                                  |         |                |
| Usage in industrial process technology                                                                                  |                                                                                                                                                                                     |         |                |
| — Against chemically active substances acc. to EN 60654-4                                                               | Yes; Class 3 (excluding trichlorethylene)                                                                                                                                           |         |                |
| — Environmental conditions for process, measuring and control systems acc. to ANSI/ISA-71.04                            | Yes; Level GX group A/B (excluding trichlorethylene; harmful gas concentrations up to the limits of EN 60721-3-3 class 3C4 permissible); level LC3 (salt spray) and level LB3 (oil) |         |                |
| Remark                                                                                                                  |                                                                                                                                                                                     |         |                |
| — Note regarding classification of environmental conditions acc. to EN 60721, EN 60654-4 and ANSI/ISA-71.04             | * The supplied plug covers must remain in place over the unused interfaces during operation!                                                                                        |         |                |
| Conformal coating                                                                                                       |                                                                                                                                                                                     |         |                |
| • Coatings for printed circuit board assemblies acc. to EN 61086                                                        | Yes; Class 2 for high reliability                                                                                                                                                   |         |                |
| • Protection against fouling acc. to EN 60664-3                                                                         | Yes; Type 1 protection                                                                                                                                                              |         |                |
| • Military testing according to MIL-I-46058C, Amendment 7                                                               | Yes; Discoloration of coating possible during service life                                                                                                                          |         |                |
| • Qualification and Performance of Electrical Insulating Compound for Printed Board Assemblies according to IPC-CC-830A | Yes; Conformal coating, Class A                                                                                                                                                     |         |                |
| Configuration                                                                                                           |                                                                                                                                                                                     |         |                |
| Programming                                                                                                             |                                                                                                                                                                                     |         |                |
| Programming language                                                                                                    |                                                                                                                                                                                     |         |                |
| — LAD                                                                                                                   | Yes                                                                                                                                                                                 |         |                |
| — FBD                                                                                                                   | Yes                                                                                                                                                                                 |         |                |
| — 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                                                                                                                                                                                  |         |                |
| Cycle time monitoring                                                                                                   |                                                                                                                                                                                     |         |                |
| • adjustable                                                                                                            | Yes                                                                                                                                                                                 |         |                |
| Dimensions                                                                                                              |                                                                                                                                                                                     |         |                |
| Width                                                                                                                   | 90 mm                                                                                                                                                                               |         |                |
| Height                                                                                                                  | 100 mm                                                                                                                                                                              |         |                |
| Depth                                                                                                                   | 75 mm                                                                                                                                                                               |         |                |
| Weights                                                                                                                 |                                                                                                                                                                                     |         |                |
| Weight, approx.                                                                                                         | 370 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   | 10  | EC000236    |
| ETIM   | 9   | EC000236    |
| ETIM   | 8   | EC000236    |
| ETIM   | 7   | EC000236    |
| IDEA   | 4   | 3565        |
| UNSPSC | 15  | 32-15-17-05 |

Approvals / Certificates

General Product Approval



EG-Konf.



[Manufacturer Declaration](#)

[China RoHS](#)



UL

[Metrological Approval](#)

EMV

For use in hazardous locations

Maritime application

[KC](#)



RCM



ATEX



IECEx



CCC



DNV

Environment



EPD



Siemens EcoTech

last modified:

8/24/2025 