SIEMENS

## Data sheet 6AG1314-6BH04-7AB0




Figure similar

***spare part*** SIPLUS S7-300 CPU 314C based on 6ES7314-6BH04-0AB0 with conformal coating, -25…+70 °C, compact CPU with MPI, 24 DI/16 DO, 4 AI, 2 AO, 1 Pt100, 4 high-speed counters (60 kHz), integrated interface RS-485, integrated power supply 24 V DC, work memory 192 KB, front connector (2x 40-pole) and Micro Memory Card required

| | |
|---|---|
| **General information** | |
| Product type designation | CPU 314C-2 PtP |
| based on | 6ES7314-6BH04-0AB0 |
| Engineering with | |
| ● Programming package | STEP 7 as of V5.5 + SP1 or STEP 7 V5.3 + SP2 or higher with HSP 204 |
| **Supply voltage** | |
| Rated value (DC) | 24 V |
| permissible range, lower limit (DC) | 19.2 V |
| permissible range, upper limit (DC) | 28.8 V |
| external protection for power supply lines (recommendation) | Miniature circuit breaker, type C; min. 2 A; miniature circuit breaker type B, min. 4 A |
| Mains buffering | |
| ● Mains/voltage failure stored energy time | 5 ms |
| ● Repeat rate, min. | 1 s |
| Load voltage L+ | |
| Digital inputs | |
| — Rated value (DC) | 24 V |
| — Reverse polarity protection | Yes |
| Digital outputs | |
| — Rated value (DC) | 24 V |
| — Reverse polarity protection | No |
| **Input current** | |
| Current consumption (rated value) | 660 mA |
| Current consumption (in no-load operation), typ. | 150 mA |
| Inrush current, typ. | 5 A |
| $I^2t$ | 0.7 $A^2 \cdot s$ |
| Digital inputs | |
| ● from load voltage L+ (without load), max. | 80 mA |
| Digital outputs | |
| ● from load voltage L+, max. | 50 mA |
| **Power loss** | |
| Power loss, typ. | 13 W |
| **Storage** | |
| Work memory | |
| ● integrated | 192 kbyte |
| ● expandable | No |
| Load memory | |
| ● Plug-in (MMC) | Yes |


Subject to change without notice
© Copyright Siemens

| | |
|---|---|
| ● Plug-in (MMC), max. | 8 Mbyte |
| ● Data management on MMC (after last programming), min. | 10 a |
| Backup | |
| ● present | Yes; Guaranteed by MMC (maintenance-free) |
| ● without battery | Yes; Program and data |
| **CPU processing times** | |
| for bit operations, typ. | 0.06 µs |
| for word operations, typ. | 0.12 µs |
| for fixed point arithmetic, typ. | 0.16 µs |
| for floating point arithmetic, typ. | 0.59 µs |
| **CPU-blocks** | |
| Number of elements (total) | 1 024; (DBs, FCs, FBs); the maximum number of loadable blocks can be reduced by the MMC used. |
| DB | |
| ● Number, max. | 1 024; Number range: 1 to 16000 |
| ● Size, max. | 64 kbyte |
| FB | |
| ● Number, max. | 1 024; Number range: 0 to 7999 |
| ● Size, max. | 64 kbyte |
| FC | |
| ● Number, max. | 1 024; Number range: 0 to 7999 |
| ● Size, max. | 64 kbyte |
| OB | |
| ● Number, max. | see instruction list |
| ● Size, max. | 64 kbyte |
| ● Number of free cycle OBs | 1; OB 1 |
| ● Number of time alarm OBs | 1; OB 10 |
| ● Number of delay alarm OBs | 2; OB 20, 21 |
| ● Number of cyclic interrupt OBs | 4; OB 32, 33, 34, 35 |
| ● Number of process alarm OBs | 1; OB 40 |
| ● Number of startup OBs | 1; OB 100 |
| ● Number of asynchronous error OBs | 4; OB 80, 82, 85, 87 |
| ● Number of synchronous error OBs | 2; OB 121, 122 |
| Nesting depth | |
| ● per priority class | 16 |
| ● additional within an error OB | 4 |
| **Counters, timers and their retentivity** | |
| S7 counter | |
| ● Number | 256 |
| Retentivity | |
| — adjustable | Yes |
| — preset | Z 0 to Z 7 |
| Counting range | |
| — lower limit | 0 |
| — upper limit | 999 |
| IEC counter | |
| ● present | Yes |
| ● Type | SFB |
| ● Number | Unlimited (limited only by RAM capacity) |
| S7 timer | |
| ● Number | 256 |
| Retentivity | |
| — adjustable | Yes |
| — preset | No retentivity |
| Time range | |
| — lower limit | 10 ms |
| — upper limit | 9 990 s |
| IEC timer | |


Subject to change without notice
© Copyright Siemens

| | |
|---|---|
| ● present | Yes |
| ● Type | SFB |
| ● Number | Unlimited (limited only by RAM capacity) |
| **Data areas and their retentivity** | |
| Retentive data area (incl. timers, counters, flags), max. | 64 kbyte |
| Flag | |
| ● Size, max. | 256 byte |
| ● Retentivity available | Yes; MB 0 to MB 255 |
| ● Retentivity preset | MB 0 to MB 15 |
| ● Number of clock memories | 8; 1 memory byte |
| Data blocks | |
| ● Retentivity adjustable | Yes; via non-retain property on DB |
| ● Retentivity preset | Yes |
| Local data | |
| ● per priority class, max. | 32 kbyte; Max. 2048 bytes per block |
| **Address area** | |
| I/O address area | |
| ● Inputs | 1 024 byte |
| ● Outputs | 1 024 byte |
| of which distributed | |
| — Inputs | none |
| — Outputs | none |
| Process image | |
| ● Inputs | 1 024 byte |
| ● Outputs | 1 024 byte |
| ● Inputs, adjustable | 1 024 byte |
| ● Outputs, adjustable | 1 024 byte |
| ● Inputs, default | 128 byte |
| ● Outputs, default | 128 byte |
| Digital channels | |
| ● Inputs | 1 016 |
| — of which central | 1 016 |
| ● Outputs | 1 008 |
| — of which central | 1 008 |
| Analog channels | |
| ● Inputs | 253 |
| — of which central | 253 |
| ● Outputs | 250 |
| — of which central | 250 |
| **Hardware configuration** | |
| Number of expansion units, max. | 3 |
| Number of DP masters | |
| ● integrated | none |
| ● via CP | 4 |
| Number of operable FMs and CPs (recommended) | |
| ● FM | 8 |
| ● CP, PtP | 8 |
| ● CP, LAN | 10 |
| Rack | |
| ● Racks, max. | 4 |
| ● Modules per rack, max. | 8; In rack 3 max. 7 |
| **Time of day** | |
| Clock | |
| ● Hardware clock (real-time) | Yes |
| ● retentive and synchronizable | Yes |
| ● Backup time | 6 wk; At 40 °C ambient temperature |
| ● Deviation per day, max. | 10 s; Typ.: 2 s |
| ● Behavior of the clock following POWER-ON | Clock continues running after POWER OFF |
| ● Behavior of the clock following expiry of backup period | the clock continues at the time of day it had when power was switched off |


Subject to change without notice
© Copyright Siemens

| | |
|---|---|
| Operating hours counter | |
| ● Number | 1 |
| ● Number/Number range | 0 |
| ● Range of values | 0 to 2^31 hours (when using SFC 101) |
| ● Granularity | 1 h |
| ● retentive | Yes; Must be restarted at each restart |
| Clock synchronization | |
| ● supported | Yes |
| ● to MPI, master | Yes |
| ● on MPI, device | Yes |
| ● in AS, master | Yes |
| ● in AS, device | No |
| **Digital inputs** | |
| Number of digital inputs | 24 |
| ● of which inputs usable for technological functions | 16 |
| integrated channels (DI) | 24 |
| Input characteristic curve in accordance with IEC 61131, type 1 | Yes |
| Number of simultaneously controllable inputs | |
| horizontal installation | |
| — up to 40 °C, max. | 24 |
| — up to 60 °C, max. | 12; up to 70 °C |
| vertical installation | |
| — up to 40 °C, max. | 12 |
| Input voltage | |
| ● Rated value (DC) | 24 V |
| ● for signal "0" | -3 to +5V |
| ● for signal "1" | +15 to +30 V |
| Input current | |
| ● for signal "1", typ. | 8 mA |
| Input delay (for rated value of input voltage) | |
| for standard inputs | |
| — parameterizable | Yes; 0.1 / 0.3 / 3 / 15 ms (You can reconfigure the input delay of the standard inputs during program runtime. Please note that under certain circumstances your newly set filter time may not be effective until the next filter cycle.) |
| — Rated value | 3 ms |
| for technological functions | |
| — at "0" to "1", max. | 8 µs; Minimum pulse width/minimum pause between pulses at maximum counting frequency |
| Cable length | |
| ● shielded, max. | 1 000 m; 50 m for technological functions |
| ● unshielded, max. | 600 m; for technological functions: No |
| for technological functions | |
| — shielded, max. | 50 m; at maximum count frequency |
| — unshielded, max. | not allowed |
| **Digital outputs** | |
| Number of digital outputs | 16 |
| ● of which high-speed outputs | 4; Notice: You cannot connect the fast outputs of your CPU in parallel |
| integrated channels (DO) | 16 |
| Short-circuit protection | Yes; Clocked electronically |
| ● Response threshold, typ. | 1 A |
| Limitation of inductive shutdown voltage to | L+ (-48 V) |
| Controlling a digital input | Yes |
| Switching capacity of the outputs | |
| ● on lamp load, max. | 5 W |
| Load resistance range | |
| ● lower limit | 48 Ω |
| ● upper limit | 4 kΩ |
| Output voltage | |
| ● for signal "1", min. | L+ (-0.8 V) |
| Output current | |


Subject to change without notice
© Copyright Siemens

| | |
|---|---|
| ● for signal "1" rated value | 500 mA |
| ● for signal "1" permissible range, min. | 5 mA |
| ● for signal "1" permissible range, max. | 0.6 A |
| ● for signal "1" minimum load current | 5 mA |
| ● for signal "0" residual current, max. | 0.5 mA |
| Parallel switching of two outputs | |
| ● for uprating | No |
| ● for redundant control of a load | Yes |
| Switching frequency | |
| ● with resistive load, max. | 100 Hz |
| ● with inductive load, max. | 0.5 Hz |
| ● on lamp load, max. | 100 Hz |
| ● of the pulse outputs, with resistive load, max. | 2.5 kHz |
| Total current of the outputs (per group) | |
| horizontal installation | |
| — up to 40 °C, max. | 3 A |
| — up to 60 °C, max. | 2 A; 1.5 A @ > 60 °C |
| vertical installation | |
| — up to 40 °C, max. | 2 A |
| Cable length | |
| ● shielded, max. | 1 000 m |
| ● unshielded, max. | 600 m |
| **Analog inputs** | |
| Number of analog inputs | 5 |
| ● For voltage/current measurement | 4 |
| ● For resistance/resistance thermometer measurement | 1 |
| integrated channels (AI) | 5; 4x current/voltage, 1x resistance |
| permissible input voltage for current input (destruction limit), max. | 5 V; Permanent |
| permissible input voltage for voltage input (destruction limit), max. | 30 V; Permanent |
| permissible input current for voltage input (destruction limit), max. | 0.5 mA; Permanent |
| permissible input current for current input (destruction limit), max. | 50 mA; Permanent |
| Electrical input frequency, max. | 400 Hz |
| No-load voltage for resistance-type transmitter, typ. | 3.3 V |
| Constant measurement current for resistance-type transmitter, typ. | 1.25 mA |
| Technical unit for temperature measurement adjustable | Yes; Degrees Celsius / degrees Fahrenheit / Kelvin |
| Input ranges | |
| ● Voltage | Yes; ±10 V / 100 kΩ; 0 V to 10 V / 100 kΩ |
| ● Current | Yes; ±20 mA / 100 Ω; 0 mA to 20 mA / 100 Ω; 4 mA to 20 mA / 100 Ω |
| ● Resistance thermometer | Yes; Pt 100 / 10 MΩ |
| ● Resistance | Yes; 0 Ω to 600 Ω / 10 MΩ |
| Input ranges (rated values), voltages | |
| ● 0 to +10 V | Yes |
| — Input resistance (0 to 10 V) | 100 kΩ |
| Input ranges (rated values), currents | |
| ● 0 to 20 mA | Yes |
| — Input resistance (0 to 20 mA) | 100 Ω |
| ● -20 mA to +20 mA | Yes |
| — Input resistance (-20 mA to +20 mA) | 100 Ω |
| ● 4 mA to 20 mA | Yes |
| — Input resistance (4 mA to 20 mA) | 100 Ω |
| Input ranges (rated values), resistance thermometer | |
| ● Pt 100 | Yes |
| — Input resistance (Pt 100) | 10 MΩ |
| Input ranges (rated values), resistors | |
| ● 0 to 600 ohms | Yes |


Subject to change without notice
© Copyright Siemens

| | |
|---|---|
| — Input resistance (0 to 600 ohms) | 10 MΩ |
| Thermocouple (TC) | |
| Temperature compensation | |
| — Parameterizable | No |
| Characteristic linearization | |
| ● Parameterizable | Yes; by software |
| — for resistance thermometer | Pt 100 |
| Cable length | |
| ● shielded, max. | 100 m |
| **Analog outputs** | |
| integrated channels (AO) | 2 |
| Voltage output, short-circuit protection | Yes |
| Voltage output, short-circuit current, max. | 55 mA |
| Current output, no-load voltage, max. | 14 V |
| Output ranges, voltage | |
| ● 0 to 10 V | Yes |
| ● -10 V to +10 V | Yes |
| Output ranges, current | |
| ● 0 to 20 mA | Yes |
| ● -20 mA to +20 mA | Yes |
| ● 4 mA to 20 mA | Yes |
| Connection of actuators | |
| ● for voltage output two-wire connection | Yes; Without compensation of the line resistances |
| ● for voltage output four-wire connection | No |
| ● for current output two-wire connection | Yes |
| Load impedance (in rated range of output) | |
| ● with voltage outputs, min. | 1 kΩ |
| ● with voltage outputs, capacitive load, max. | 0.1 µF |
| ● with current outputs, max. | 300 Ω |
| ● with current outputs, inductive load, max. | 0.1 mH |
| Destruction limits against externally applied voltages and currents | |
| ● Voltages at the outputs towards MANA | 16 V; Permanent |
| ● Current, max. | 50 mA; Permanent |
| Cable length | |
| ● shielded, max. | 200 m |
| **Analog value generation for the inputs** | |
| Measurement principle | Actual value encryption (successive approximation) |
| Integration and conversion time/resolution per channel | |
| ● Resolution with overrange (bit including sign), max. | 12 bit |
| ● Integration time, parameterizable | Yes; 16.6 / 20 ms |
| ● Interference voltage suppression for interference frequency f1 in Hz | 50 / 60 Hz |
| ● Time constant of the input filter | 0.38 ms |
| ● Basic execution time of the module (all channels released) | 1 ms |
| **Analog value generation for the outputs** | |
| Integration and conversion time/resolution per channel | |
| ● Resolution with overrange (bit including sign), max. | 12 bit |
| ● Conversion time (per channel) | 1 ms |
| Settling time | |
| ● for resistive load | 0.6 ms |
| ● for capacitive load | 1 ms |
| ● for inductive load | 0.5 ms |
| **Encoder** | |
| Connection of signal encoders | |
| ● for voltage measurement | Yes |
| ● for current measurement as 2-wire transducer | Yes; with external supply |
| ● for current measurement as 4-wire transducer | Yes |
| ● for resistance measurement with two-wire connection | Yes; Without compensation of the line resistances |


Subject to change without notice
© Copyright Siemens

| | |
|---|---|
| ● for resistance measurement with three-wire connection | No |
| ● for resistance measurement with four-wire connection | No |
| Connectable encoders | |
| ● 2-wire sensor | Yes |
| — permissible quiescent current (2-wire sensor), max. | 1.5 mA |
| **Errors/accuracies** | |
| Temperature error (relative to input range), (+/-) | 0.006 %/K |
| Crosstalk between the inputs, min. | 60 dB |
| Repeat accuracy in steady state at 25 °C (relative to input range), (+/-) | 0.06 % |
| Output ripple (relative to output range, bandwidth 0 to 50 kHz), (+/-) | 0.1 % |
| Linearity error (relative to output range), (+/-) | 0.15 % |
| Temperature error (relative to output range), (+/-) | 0.01 %/K |
| Crosstalk between the outputs, min. | 60 dB |
| Repeat accuracy in steady state at 25 °C (relative to output range), (+/-) | 0.06 % |
| Operational error limit in overall temperature range | |
| ● Voltage, relative to input range, (+/-) | 1 % |
| ● Current, relative to input range, (+/-) | 1 % |
| ● Resistance, relative to input range, (+/-) | 1 % |
| ● Voltage, relative to output range, (+/-) | 1 % |
| ● Current, relative to output range, (+/-) | 1 % |
| Basic error limit (operational limit at 25 °C) | |
| ● Voltage, relative to input range, (+/-) | 0.8 %; Linearity error ±0.06 % |
| ● Current, relative to input range, (+/-) | 0.8 %; Linearity error ±0.06 % |
| ● Resistance, relative to input range, (+/-) | 0.8 %; Linearity error ±0.2 % |
| ● Resistance thermometer, relative to input range, (+/-) | 0.8 % |
| ● Voltage, relative to output range, (+/-) | 0.8 % |
| ● Current, relative to output range, (+/-) | 0.8 % |
| Interference voltage suppression for f = n x (f1 +/- 1 %), f1 = interference frequency | |
| ● Series mode interference (peak value of interference < rated value of input range), min. | 30 dB |
| ● Common mode interference, min. | 40 dB |
| **Interfaces** | |
| Number of PROFINET interfaces | 0 |
| Number of RS 485 interfaces | 1; MPI |
| Number of RS 422 interfaces | 1; RS 422 / 485 combined |
| Point-to-point connection | |
| ● Cable length, max. | 1 200 m |
| Integrated protocol driver | |
| — 3964 (R) | Yes |
| — ASCII | Yes |
| — RK 512 | Yes |
| Transmission rate, RS 422/485 | |
| — with 3964 (R) protocol, max. | 19.2 kbit/s; 38.4 kbit/s half duplex; 19.2 kbit/s full duplex |
| — with ASCII protocol, max. | 19.2 kbit/s; 38.4 kbit/s half duplex; 19.2 kbit/s full duplex |
| — with RK 512 protocol, max. | 19.2 kbit/s; 38.4 kbit/s half duplex; 19.2 kbit/s full duplex |
| **1. Interface** | |
| Interface type | Integrated RS 485 interface |
| Isolated | No |
| Interface types | |
| ● RS 485 | Yes |
| ● Output current of the interface, max. | 200 mA |
| Protocols | |
| ● MPI | Yes |
| ● PROFIBUS DP master | No |
| ● PROFIBUS DP device | No |
| ● Point-to-point connection | No |
| MPI | |


Subject to change without notice
© Copyright Siemens

| | |
|---|---|
| ● Transmission rate, max. | 187.5 kbit/s |
| Services | |
| — PG/OP communication | Yes |
| — Routing | No |
| — Global data communication | Yes |
| — S7 basic communication | Yes |
| — S7 communication | Yes; Only server, configured on one side |
| — S7 communication, as client | No; but via CP and loadable FB |
| — S7 communication, as server | Yes |
| **2. Interface** | |
| Interface type | Integrated RS 422/ 485 interface |
| Isolated | Yes |
| Interface types | |
| ● RS 485 | Yes; RS 422 / 485 (X.27) |
| ● Output current of the interface, max. | No |
| Protocols | |
| ● MPI | No |
| ● PROFINET IO Controller | No |
| ● PROFINET IO Device | No |
| ● PROFINET CBA | No |
| ● PROFIBUS DP master | No |
| ● PROFIBUS DP device | No |
| ● Point-to-point connection | Yes |
| Point-to-point connection | |
| ● Transmission rate, max. | 19.2 kbit/s; 38.4 kbit/s half duplex; 19.2 kbit/s full duplex |
| ● Interface controllable from the user program | Yes |
| ● Interface can trigger alarm/interrupt in the user program | Yes; Message on break - identification |
| **Protocols** | |
| PROFIsafe | No |
| **Communication functions** | |
| PG/OP communication | Yes |
| Data record routing | No |
| Global data communication | |
| ● supported | Yes |
| ● Number of GD loops, max. | 8 |
| ● Number of GD packets, max. | 8 |
| ● Number of GD packets, transmitter, max. | 8 |
| ● Number of GD packets, receiver, max. | 8 |
| ● Size of GD packets, max. | 22 byte |
| ● Size of GD packet (of which consistent), max. | 22 byte |
| S7 basic communication | |
| ● supported | Yes |
| ● User data per job, max. | 76 byte |
| ● User data per job (of which consistent), max. | 76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server) |
| S7 communication | |
| ● supported | Yes |
| ● as server | Yes |
| ● as client | Yes; Via CP and loadable FB |
| ● User data per job, max. | 180 kbyte; With PUT/GET |
| ● User data per job (of which consistent), max. | 240 byte; as server |
| S5 compatible communication | |
| ● supported | Yes; via CP and loadable FC |
| Number of connections | |
| ● overall | 12 |
| ● usable for PG communication | 11 |
| — reserved for PG communication | 1 |
| — adjustable for PG communication, min. | 1 |
| — adjustable for PG communication, max. | 11 |


Subject to change without notice
© Copyright Siemens

| | |
|---|---|
| ● usable for OP communication | 11 |
| — reserved for OP communication | 1 |
| — adjustable for OP communication, min. | 1 |
| — adjustable for OP communication, max. | 11 |
| ● usable for S7 basic communication | 8 |
| — reserved for S7 basic communication | 0 |
| — adjustable for S7 basic communication, min. | 0 |
| — adjustable for S7 basic communication, max. | 8 |
| **S7 message functions** | |
| Number of login stations for message functions, max. | 12; Depending on the configured connections for PG/OP and S7 basic communication |
| Process diagnostic messages | Yes |
| simultaneously active Alarm_S blocks, max. | 300 |
| **Test commissioning functions** | |
| Status block | Yes; Up to 2 simultaneously |
| Single step | Yes |
| Number of breakpoints | 4 |
| Status/control | |
| ● Status/control variable | Yes |
| ● Variables | Inputs, outputs, memory bits, DB, times, counters |
| ● Number of variables, max. | 30 |
| — of which status variables, max. | 30 |
| — of which control variables, max. | 14 |
| Forcing | |
| ● Forcing | Yes |
| ● Forcing, variables | Inputs, outputs |
| ● Number of variables, max. | 10 |
| Diagnostic buffer | |
| ● present | Yes |
| ● Number of entries, max. | 500 |
| — adjustable | No |
| — of which powerfail-proof | 100; Only the last 100 entries are retained |
| ● Number of entries readable in RUN, max. | 499 |
| — can be set | Yes; From 10 to 499 |
| — preset | 10 |
| Service data | |
| ● Can be read out | Yes |
| **Interrupts/diagnostics/status information** | |
| Diagnostics indication LED | |
| ● Status indicator digital input (green) | Yes |
| ● Status indicator digital output (green) | Yes |
| **Integrated Functions** | |
| Counter | |
| ● Number of counters | 4; See "Technological Functions" manual |
| ● Counting frequency, max. | 60 kHz |
| Frequency measurement | Yes |
| ● Number of frequency meters | 4; up to 60 kHz (see "Technological Functions" manual) |
| controlled positioning | Yes |
| integrated function blocks (closed-loop control) | Yes; PID controller (see "Technological Functions" manual) |
| PID controller | Yes |
| Number of pulse outputs | 4; Pulse width modulation up to 2.5 kHz (see "Technological Functions" Manual) |
| Limit frequency (pulse) | 2.5 kHz |
| **Potential separation** | |
| Potential separation digital inputs | |
| ● Potential separation digital inputs | Yes |
| ● between the channels | No |
| ● between the channels and backplane bus | Yes |
| Potential separation digital outputs | |


© Copyright Siemens

| | |
|---|---|
| ● Potential separation digital outputs | Yes |
| ● between the channels | Yes |
| ● between the channels, in groups of | 8 |
| ● between the channels and backplane bus | Yes |
| Potential separation analog inputs | |
| ● Potential separation analog inputs | Yes; common for analog I/O |
| ● between the channels | No |
| ● between the channels and backplane bus | Yes |
| Potential separation analog outputs | |
| ● Potential separation analog outputs | Yes; common for analog I/O |
| ● between the channels | No |
| ● between the channels and backplane bus | Yes |
| **Isolation** | |
| Isolation tested with | 600 V DC |
| **Standards, approvals, certificates** | |
| CE mark | Yes |
| cULus | Yes; File E239877 |
| RCM (formerly C-TICK) | Yes |
| KC approval | Yes |
| EAC (formerly Gost-R) | Yes |
| Use in hazardous areas | |
| ● ATEX marking | Yes |
| **Ambient conditions** | |
| Ambient temperature during operation | |
| ● min. | -25 °C; = Tmin |
| ● max. | 70 °C; = Tmax; 60 °C @ UL/cUL, ATEX and FM use |
| Ambient temperature during storage/transportation | |
| ● min. | -40 °C |
| ● max. | 70 °C |
| Altitude during operation relating to sea level | |
| ● Installation altitude above sea level, max. | 5 000 m |
| ● Ambient air temperature-barometric pressure-altitude | 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 | |
| ● With condensation, tested in accordance with IEC 60068-2-38, max. | 100 %; RH incl. condensation/frost (no commissioning under condensation conditions) |
| Resistance | |
| 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! |
| **Configuration** | |


© Copyright Siemens

| | |
|---|---|
| Configuration software | |
| ● STEP 7 | Yes; STEP 7 V5.5 + SP1 or higher or STEP 7 V5.3 + SP2 or higher with HSP 203 |
| ● STEP 7 Lite | No |
| Programming | |
| ● Command set | see instruction list |
| ● Nesting levels | 8 |
| ● System functions (SFC) | see instruction list |
| ● System function blocks (SFB) | see instruction list |
| Programming language | |
| — LAD | Yes |
| — FBD | Yes |
| — STL | Yes |
| — SCL | Yes |
| — CFC | Yes |
| — GRAPH | Yes |
| — HiGraph® | Yes |
| Know-how protection | |
| ● User program protection/password protection | Yes |
| ● Block encryption | Yes; With S7 block Privacy |
| **Dimensions** | |
| Width | 120 mm |
| Height | 125 mm |
| Depth | 130 mm |
| **Weights** | |
| Weight, approx. | 680 g |

**Classifications**

| | Version | Classification |
|---|---|---|
| eClass | 16 | 27-24-22-07 |
| 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**

Manufacturer Declaration

China RoHS

**EMV** | **For use in hazardous locations**

CCC-Ex


Subject to change without notice
© Copyright Siemens

**last modified:** 9/11/2026


Subject to change without notice
© Copyright Siemens