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## Data sheet 6ES7410-5FM08-0AB0



Figure similar

********** spare part ********* SIMATIC S7, CPU 410SIS Safety Controller central processing unit for S7-400F and S7-400FH, 5 interfaces: 2x PN, 1x DP, 2x for Sync modules for use as spare part, without System Expansion Card

| | |
|---|---|
| **General information** | |
| Product type designation | CPU 410SIS |
| HW functional status | 1 |
| Firmware version | V8.2 |
| Design of PLC basic unit | With Conformal Coating (ISA-S71.04 severity level G1; G2; G3) and operating temperature to 70 °C |
| Product function | |
| ● SysLog | Yes; via TCP; up to 4 receivers can be parameterized; buffer capacity max. 3 200 entries |
| ● Field interface security | Yes |
| Engineering with | |
| ● Programming package | SIMATIC SIS COMPACT V9.0 or higher |
| **CiR - Configuration in RUN** | |
| CiR synchronization time, basic load | 60 ms |
| CiR synchronization time, time per I/O byte | 0 µs |
| **Input current** | |
| from backplane bus 5 V DC, typ. | 2 A |
| from backplane bus 5 V DC, max. | 2.4 A |
| from backplane bus 24 V DC, max. | 150 mA; DP interface |
| from interface 5 V DC, max. | 90 mA; At the DP interface |
| **Power loss** | |
| Power loss, typ. | 10 W |
| **Processor** | |
| CPU speed | 450 MHz; Multi-processor system |
| **Storage** | |
| Work memory | |
| ● integrated | 4 Mbyte |
| ● integrated (for program) | 2 Mbyte |
| ● integrated (for data) | 2 Mbyte |
| ● expandable | No |
| Load memory | |
| ● integrated RAM, max. | 48 Mbyte |
| ● expandable RAM | No |
| Backup | |
| ● with battery | Yes; all data |
| ● without battery | Yes; Program and data of the load memory |
| **Battery** | |
| Backup battery | |


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|---|---|
| ● Backup current, typ. | 370 µA; Valid up to 40°C |
| ● Backup current, max. | 2.1 mA |
| ● Backup time, max. | Dealt with in the module data manual with the secondary conditions and the factors of influence |
| ● Feeding of external backup voltage to CPU | No |
| **CPU processing times** | |
| for bit operations, typ. | 7.5 ns |
| for word operations, typ. | 7.5 ns |
| for fixed point arithmetic, typ. | 7.5 ns |
| for floating point arithmetic, typ. | 15 ns |
| Process tasks, max. | 9; Individually adjustable from 10 ms to 5 s |
| **CPU-blocks** | |
| DB | |
| ● Number, max. | 16 000; Number range: 1 to 16 000 (= Instances) |
| ● Size, max. | 64 kbyte |
| FB | |
| ● Number, max. | 8 000; Number range: 0 to 7999 |
| ● Size, max. | 64 kbyte |
| FC | |
| ● Number, max. | 8 000; 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 | 8; OB 10-17 |
| ● Number of delay alarm OBs | 4; OB 20-23 |
| ● Number of cyclic interrupt OBs | 9; OB 30-38 (= Process Tasks) |
| ● Number of process alarm OBs | 8; OB 40-47 |
| ● Number of DPV1 alarm OBs | 3; OB 55-57 |
| ● Number of startup OBs | 2; OB 100, 102 |
| ● Number of asynchronous error OBs | 9; OB 80-88 |
| ● Number of synchronous error OBs | 2; OB 121, 122 |
| Nesting depth | |
| ● per priority class | 24 |
| ● additional within an error OB | 2 |
| **Counters, timers and their retentivity** | |
| IEC counter | |
| ● present | Yes |
| ● Type | SFB |
| ● Number | Unlimited (limited only by RAM capacity) |
| IEC timer | |
| ● present | Yes |
| ● Type | SFB |
| ● Number | Unlimited (limited only by RAM capacity) |
| **Data areas and their retentivity** | |
| Retentive data area (incl. timers, counters, flags), max. | Total working and load memory (with backup battery) |
| Flag | |
| ● Size, max. | 16 384 byte |
| ● Retentivity available | Yes |
| ● Number of clock memories | 8; in 1 memory byte |
| Local data | |
| ● adjustable, max. | 64 kbyte |
| **Address area** | |
| I/O address area | |
| ● Inputs | 2 048 byte |
| ● Outputs | 2 048 byte |
| Process image | |
| ● Inputs, default | 2 048 byte; not changeable |


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|---|---|
| ● Outputs, default | 2 048 byte; not changeable |
| ● consistent data, max. | 244 byte |
| ● Access to consistent data in process image | Yes |
| Subprocess images | |
| ● Number of subprocess images, max. | 15 |
| **Hardware configuration** | |
| connectable OPs | 119 |
| Multicomputing | No |
| Number of DP masters | |
| ● integrated | 1 |
| ● via CP | 0 |
| Number of IO Controllers | |
| ● Integrated | 0 |
| ● Via CP | 0 |
| Slots | |
| ● required slots | 2 |
| **Time of day** | |
| Clock | |
| ● Hardware clock (real-time) | Yes |
| ● retentive and synchronizable | Yes |
| ● Resolution | 1 ms |
| ● Deviation per day (buffered), max. | 1.7 s; Power off |
| ● Deviation per day (unbuffered), max. | 8.6 s; Power on |
| Operating hours counter | |
| ● Number | 16 |
| ● Number/Number range | 0 to 15 |
| ● Range of values | SFCs 2, 3 and 4: 0 to 32767 hours SFC 101: 0 to 2^31 - 1 hours |
| ● Granularity | 1 h |
| ● retentive | Yes |
| Clock synchronization | |
| ● supported | Yes |
| ● to DP, master | Yes |
| ● on DP, device | Yes |
| ● in AS, master | Yes |
| ● in AS, device | Yes |
| ● on Ethernet via NTP | Possible as client and master/slave via SIMATIC process |
| **Interfaces** | |
| Number of industrial Ethernet interfaces | 2 |
| Number of PROFINET interfaces | 0 |
| Number of RS 485 interfaces | 1; PROFIBUS DP |
| Number of other interfaces | 2; 2x synchronization |
| **1. Interface** | |
| Interface type | RS 485 / PROFIBUS |
| Isolated | Yes |
| Number of connections | 16 |
| Interface types | |
| ● Output current of the interface, max. | 150 mA |
| Protocols | |
| ● PROFIBUS DP master | Yes |
| ● PROFIBUS DP device | No |
| PROFIBUS DP master | |
| ● Number of connections, max. | 16 |
| ● Transmission rate, max. | 12 Mbit/s |
| ● max. number of DP devices | 96 |
| ● Number of slots per interface, max. | 1 632 |
| Services | |
| — PG/OP communication | Yes |
| — Routing | Yes; S7 routing |
| — Global data communication | No |


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| | |
|---|---|
| — S7 basic communication | No |
| — S7 communication | Yes |
| — S7 communication, as client | Yes |
| — S7 communication, as server | Yes |
| — Equidistance | No |
| — Isochronous mode | No |
| — SYNC/FREEZE | No |
| — activation/deactivation of DP devices | Yes; Approved for stand-alone operation only, not in conjunction with CiR (Configuration in Run) |
| — Direct data exchange (slave-to-slave communication) | No |
| — DPV1 | Yes |
| Address area | |
| — Inputs, max. | 1 536 byte |
| — Outputs, max. | 1 536 byte |
| User data per DP device | |
| — user data per DP device, max. | 244 byte |
| — Inputs, max. | 244 byte |
| — Outputs, max. | 244 byte |
| — Slots, max. | 244 |
| — per slot, max. | 128 byte |
| **2. Interface** | |
| Interface type | Integrated Ethernet interface |
| Isolated | Yes |
| automatic detection of transmission rate | Yes; Autosensing |
| Autonegotiation | Yes |
| Autocrossing | Yes |
| Change of IP address at runtime, supported | No |
| Number of connections | 120 |
| Interface types | |
| ● Number of ports | 2 |
| ● integrated switch | Yes |
| Protocols | |
| ● PROFINET IO Controller | No |
| ● PROFINET IO Device | No |
| ● PROFINET CBA | No |
| ● Open IE communication | Yes |
| ● Web server | No |
| ● Media redundancy | Yes |
| Open IE communication | |
| ● Number of connections, max. | 118 |
| ● Local port numbers used at the system end | 0, 20, 21, 25, 102, 135, 161, 34962, 34963, 34964, 65532, 65533, 65534, 65535 |
| ● Keep-alive function, supported | Yes |
| **3. Interface** | |
| Interface type | Integrated Ethernet interface |
| Isolated | Yes |
| automatic detection of transmission rate | Yes; Autosensing |
| Autonegotiation | Yes |
| Autocrossing | Yes |
| Number of connections | 120 |
| Interface types | |
| ● Number of ports | 2 |
| ● integrated switch | Yes |
| Protocols | |
| ● PROFINET IO Controller | No |
| ● PROFINET IO device | No |
| ● PROFINET CBA | No |
| ● Open IE communication | Yes |
| ● Web server | No |


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| | |
|---|---|
| ● Media redundancy | Yes |
| Open IE communication | |
| ● Number of connections, max. | 118 |
| ● Local port numbers used at the system end | 0, 20, 21, 25, 102, 135, 161, 34962, 34963, 34964, 65532, 65533, 65534, 65535 |
| ● Keep-alive function, supported | Yes |
| **4. Interface** | |
| Interface type | Pluggable synchronization submodule (FO) |
| Plug-in interface modules | Synchronization module 6ES7960-1AA06-0XA0, 6ES7960-1AB06-0XA0 or 6ES7960-1AA08-0XA0 |
| **5. Interface** | |
| Interface type | Pluggable synchronization submodule (FO) |
| Plug-in interface modules | Synchronization module 6ES7960-1AA06-0XA0, 6ES7960-1AB06-0XA0 or 6ES7960-1AA08-0XA0 |
| **Protocols** | |
| Supports protocol for PROFINET IO | No |
| PROFINET CBA | No |
| PROFIsafe | Yes |
| PROFIBUS | Yes |
| AS-Interface | Yes; Via add-on |
| Redundancy mode | |
| Media redundancy | |
| — Switchover time on line break, typ. | < 200 ms |
| — Number of stations in the ring, max. | 50 |
| SIMATIC communication | |
| ● S7 routing | Yes |
| Open IE communication | |
| ● TCP/IP | Yes |
| — Number of connections, max. | 118 |
| — Data length, max. | 32 kbyte |
| — several passive connections per port, supported | Yes |
| ● ISO-on-TCP (RFC1006) | Yes |
| — Number of connections, max. | 118 |
| — Data length, max. | 32 kbyte |
| ● UDP | Yes |
| — Number of connections, max. | 118 |
| — Data length, max. | 1 472 byte |
| Further protocols | |
| ● MODBUS | Yes; Via add-on |
| **Communication functions** | |
| PG/OP communication | Yes |
| ● Number of connectable OPs with message processing | 119; When using Alarm_S/SQ and Alarm_D/DQ |
| ● Number of connectable OPs without message processing | 119 |
| Data record routing | Yes |
| S7 communication | |
| ● supported | Yes |
| ● as server | Yes |
| ● as client | Yes |
| ● User data per job, max. | 64 kbyte |
| ● User data per job (of which consistent), max. | 462 byte; 1 variable |
| Number of connections | |
| ● overall | 120 |
| ● usable for PG communication | |
| — reserved for PG communication | 1 |
| ● usable for OP communication | |
| — reserved for OP communication | 1 |
| **S7 message functions** | |
| Number of login stations for message functions, max. | 119; max. 119 with Alarm_S/SQ and Alarm_D/DQ (OPs); max. 16 with Alarm_8, Alarm_8P, Notify and Notify_8 (e.g. WinCC) |
| Program alarms | Yes |


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| | |
|---|---|
| Process diagnostic messages | Yes |
| simultaneously active Alarm_S blocks, max. | 1 000; Simultaneously active alarm_S/SQ blocks or alarm_D/DQ blocks |
| Alarm 8-blocks | Yes |
| ● Number of instances for alarm 8 and S7 communication blocks, max. | 10 000 |
| Process control messages | Yes |
| Number of archives that can log on simultaneously (SFB 37 AR_SEND) | 64 |
| **Test commissioning functions** | |
| Status block | Yes |
| Single step | Yes |
| Number of breakpoints | 4 |
| Status/control | |
| ● Status/control variable | Yes |
| ● Variables | Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters |
| ● Number of variables, max. | 70 |
| Diagnostic buffer | |
| ● present | Yes |
| ● Number of entries, max. | 3 200 |
| Service data | |
| ● Can be read out | Yes |
| **Standards, approvals, certificates** | |
| CE mark | Yes |
| UKCA mark | Yes |
| CSA approval | Yes |
| UL approval | Yes |
| cULus | Yes |
| FM approval | Yes |
| RCM (formerly C-TICK) | Yes |
| KC approval | Yes |
| EAC (formerly Gost-R) | Yes |
| CCC | Yes |
| Use in hazardous areas | |
| ● ATEX marking | ATEX II 3G Ex ec IIC T4 Gc |
| **Ambient conditions** | |
| Ambient temperature during operation | |
| ● min. | 0 °C |
| ● max. | 70 °C |
| Altitude during operation relating to sea level | |
| ● Installation altitude above sea level, max. | 2 000 m |
| **Configuration** | |
| Programming | |
| ● Command set | see instruction list |
| ● Nesting levels | 7 |
| ● Access to consistent data in process image | Yes |
| ● System functions (SFC) | see instruction list |
| ● System function blocks (SFB) | see instruction list |
| Programming language | |
| — CFC | Yes |
| Number of simultaneously active SFCs | |
| — RD_REC | 8; SFC 59; per interface |
| — WR_REC | 8; SFC 58; per interface |
| — WR_PARM | 8; SFC 55; per interface |
| — PARM_MOD | 1; SFC 57; per interface |
| — WR_DPARM | 2; SFC 56; per interface |
| — DPNRM_DG | 8; SFC 13; per interface |
| — RDSYSST | 8; SFC 51 |
| — DP_TOPOL | 1; SFC 103; per interface |
| Number of simultaneously active SFBs | |


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| | |
|---|---|
| — RDREC | 8; SFB 52; per interface |
| — WRREC | 8; SFB 53; per interface |
| **Know-how protection** | |
| ● User program protection/password protection | Yes |
| ● Block encryption | Yes; With S7 block Privacy |
| **Dimensions** | |
| Width | 50 mm |
| Height | 290 mm |
| Depth | 219 mm |
| **Weights** | |
| Weight, approx. | 1.1 kg |

**Classifications**

| | Version | Classification |
|---|---|---|
| eClass | 16 | 27-23-02-02 |
| eClass | 14 | 27-23-02-02 |
| eClass | 12 | 27-23-02-02 |
| eClass | 9.1 | 27-23-02-02 |
| eClass | 9 | 27-23-02-02 |
| eClass | 8 | 27-23-02-02 |
| eClass | 7.1 | 27-23-02-02 |
| eClass | 6 | 27-23-02-02 |
| ETIM | 10 | EC000236 |
| ETIM | 9 | EC000236 |
| ETIM | 8 | EC000236 |
| ETIM | 7 | EC000236 |

**Approvals / Certificates**

**General Product Approval**

Miscellaneous | Miscellaneous

**General Product Approval** | **For use in hazardous locations**

China RoHS | Miscellaneous | Manufacturer Declaration

**For use in hazardous locations** | **Functional Saftey**

FM | Type Examination Certificate | TUEV

**Maritime application** | **Environment** | **Industrial Communication**

PROFIsafe | PROFINET

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


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