SIEMENS

Data sheet

6ES7414-4HM14-0AB0



*********** Replacement part ********* SIMATIC S7-400H, CPU 414H Central processing unit for S7-400H and S7-400F/FH, 4 interfaces: 1 MPI/DP, 1 DP and 2 for sync modules, 2.8 MB memory (1.4 MB data/1.4 MB program)

Figure similar

| General information | | |
|---|--|--|
| Product type designation | CPU 414-4H | |
| Engineering with | | |
| Programming package | STEP 7 V5.3 SP2 or higher with HW update | |
| CiR - Configuration in RUN | | |
| CiR synchronization time, basic load | 100 ms | |
| CiR synchronization time, time per I/O byte | 25 μs | |
| Supply voltage | | |
| Rated value (DC) | Power supply via system power supply | |
| Input current | | |
| from backplane bus 5 V DC, typ. | 1.4 A | |
| from backplane bus 5 V DC, max. | 1.7 A | |
| from backplane bus 24 V DC, max. | 150 mA; Per DP interface | |
| from interface 5 V DC, max. | 90 mA; At each DP interface | |
| Power loss | | |
| Power loss, typ. | 6 W | |
| Memory | | |
| Type of memory | RAM | |
| Work memory | | |
| integrated | 2.8 Mbyte | |
| integrated (for program) | 1.4 Mbyte | |
| integrated (for data) | 1.4 Mbyte | |
| expandable | No | |
| Load memory | | |
| expandable FEPROM | Yes | |
| expandable FEPROM, max. | 64 Mbyte | |
| integrated RAM, max. | 256 kbyte | |
| expandable RAM | Yes | |
| expandable RAM, max. | 64 Mbyte | |
| Backup | | |
| present | Yes | |
| with battery | Yes; all data | |
| without battery | No | |
| Battery | | |
| Backup battery | | |
| Backup current, typ. | 190 μA; Valid up to 40°C | |

| 660 μA |
|--|
| Dealt with in the module data manual with the secondary conditions and |
| the factors of influence |
| 5 V DC to 15 V DC |
| |
| 0.045 µs |
| 0.045 μs |
| 0.045 µs |
| 0.135 µs |
| |
| |
| 4 095; Number range: 1 to 4095 |
| 64 kbyte |
| |
| 2 048; Number range: 0 to 2047 |
| 64 kbyte |
| |
| 2 048; Number range: 0 to 2047 |
| 64 kbyte |
| |
| 64 kbyte |
| 4 |
| 4 |
| 4 |
| 4 |
| |
| 24 |
| 1 |
| |
| |
| 2 048 |
| |
| Yes |
| 0 |
| 2 047 |
| Z 0 to Z 7 |
| |
| 0 |
| 999 |
| |
| Yes |
| SFB |
| |
| 2 048 |
| |
| Yes |
| 0 |
| 2 047 |
| No times retentive |
| |
| 10 ms |
| 9 990 s |
| |
| |
| Yes |
| Yes SFB |
| |
| |

| • Size, max. | 8 kbyte |
|--|--|
| Retentivity available | Yes |
| Retentivity preset | MB 0 to MB 15 |
| Number of clock memories | 8; in 1 memory byte |
| Local data | |
| adjustable, max. | 16 kbyte |
| • preset | 8 kbyte |
| Address area | |
| I/O address area | |
| • Inputs | 8 kbyte |
| Outputs | 8 kbyte |
| Process image | |
| Inputs, adjustable | 8 kbyte |
| Outputs, adjustable | 8 kbyte |
| Inputs, default | 256 byte |
| Outputs, default | 256 byte |
| consistent data, max. | 244 byte |
| Access to consistent data in process image | Yes |
| Subprocess images | |
| Number of subprocess images, max. | 15 |
| Digital channels | |
| Inputs | 65 536 |
| — of which central | 65 536 |
| Outputs | 65 536 |
| — of which central | 65 536 |
| Analog channels | |
| • Inputs | 4 096 |
| — of which central | 4 096 |
| Outputs | 4 096 |
| — of which central | 4 096 |
| Hardware configuration | |
| Number of expansion units, max. | 21 |
| connectable OPs | 31 without message processing, 8 with message processing |
| Multicomputing | No |
| Interface modules | |
| Number of connectable IMs (total), max. | 6 |
| Number of connectable IM 460s, max. | 6 |
| Number of connectable IM 463s, max. | 4; Single mode only |
| Number of DP masters | , |
| • integrated | 2 |
| • via CP | 10 |
| Mixed mode IM + CP permitted | No |
| Number of operable FMs and CPs (recommended) | |
| • FM | See manual Automation System S7-400H fault-tolerant systems. |
| • CP, PtP | Limited by number of slots and number of connections See manual Automation System S7-400H fault-tolerant systems. |
| PROFIBUS and Ethernet CPs | Limited by number of slots and number of connections 14; Of which max. 10 CP as DP master |
| Slots | 1., 5. 7. 10. 10. 10. 10. 11. 11. 11. 11. 11. 11 |
| • required slots | 2 |
| Time of day | |
| Clock | |
| Hardware clock (real-time) | Yes |
| retentive and synchronizable | Yes |
| Resolution | 1 ms |
| | 1.7 s; Power off |
| Deviation per day (buffered), max. | 1.7 S, FOWEI OII |
| Deviation per day (unbuffered), max. | 8.6 s; Power on |

| Number | 8 |
|--|--|
| Number/Number range | 0 to 7 |
| Range of values | 0 to 32767 hours |
| Granularity | 1 h |
| • retentive | Yes |
| Clock synchronization | |
| supported | Yes |
| to MPI, master | Yes |
| to MPI, slave | Yes |
| • to DP, master | Yes |
| to DP, slave | Yes |
| • in AS, master | Yes |
| • in AS, slave | Yes |
| Time difference in system when synchronizing via | |
| • MPI, max. | 200 ms |
| Interfaces | |
| Number of RS 485 interfaces | 2 |
| Number of other interfaces | 0 |
| Optical interface | No |
| 1. Interface | |
| Interface type | MPI/PROFIBUS DP |
| Isolated | Yes |
| Interface types | |
| • RS 485 | Yes |
| Output current of the interface, max. | 150 mA |
| Protocols | |
| • MPI | Yes |
| PROFIBUS DP master | Yes |
| PROFIBUS DP slave | No |
| | |
| MPI | |
| Number of connections | 32 |
| Number of connections | |
| Number of connectionsTransmission rate, max. | 32 12 Mbit/s |
| Number of connectionsTransmission rate, max.Services | 12 Mbit/s |
| Number of connections Transmission rate, max. Services PG/OP communication | 12 Mbit/s Yes |
| Number of connections Transmission rate, max. Services PG/OP communication Routing | 12 Mbit/s Yes Yes |
| Number of connections Transmission rate, max. Services PG/OP communication Routing Global data communication | 12 Mbit/s Yes Yes No |
| Number of connections Transmission rate, max. Services PG/OP communication Routing Global data communication S7 basic communication | 12 Mbit/s Yes Yes No No |
| Number of connections Transmission rate, max. Services — PG/OP communication — Routing — Global data communication — S7 basic communication — S7 communication | 12 Mbit/s Yes Yes No |
| Number of connections Transmission rate, max. Services — PG/OP communication — Routing — Global data communication — S7 basic communication — S7 communication PROFIBUS DP master | Yes Yes No No Yes |
| Number of connections Transmission rate, max. Services — PG/OP communication — Routing — Global data communication — S7 basic communication — S7 communication PROFIBUS DP master Number of connections, max. | Yes Yes No No Yes |
| Number of connections Transmission rate, max. Services — PG/OP communication — Routing — Global data communication — S7 basic communication — S7 communication PROFIBUS DP master Number of connections, max. Transmission rate, max. | Yes Yes No No Yes 16 12 Mbit/s |
| Number of connections Transmission rate, max. Services — PG/OP communication — Routing — Global data communication — S7 basic communication — S7 communication PROFIBUS DP master Number of connections, max. Transmission rate, max. Number of DP slaves, max. | Yes Yes Yes No No Yes |
| Number of connections Transmission rate, max. Services — PG/OP communication — Routing — Global data communication — S7 basic communication — S7 communication PROFIBUS DP master Number of connections, max. Transmission rate, max. Number of DP slaves, max. Services | Yes Yes No No No Yes 16 12 Mbit/s 32 |
| Number of connections Transmission rate, max. Services — PG/OP communication — Routing — Global data communication — S7 basic communication — S7 communication PROFIBUS DP master Number of connections, max. Transmission rate, max. Number of DP slaves, max. Services — PG/OP communication | Yes Yes No No No Yes 16 12 Mbit/s 32 Yes |
| Number of connections Transmission rate, max. Services — PG/OP communication — Routing — Global data communication — S7 basic communication — S7 communication PROFIBUS DP master Number of connections, max. Transmission rate, max. Number of DP slaves, max. Services — PG/OP communication — Routing | Yes Yes No No Yes 16 12 Mbit/s 32 Yes Yes |
| Number of connections Transmission rate, max. Services — PG/OP communication — Routing — Global data communication — S7 basic communication — S7 communication PROFIBUS DP master Number of connections, max. Transmission rate, max. Number of DP slaves, max. Services — PG/OP communication — Routing — Global data communication | Yes Yes Yes No No No Yes 16 12 Mbit/s 32 Yes Yes No |
| Number of connections Transmission rate, max. Services — PG/OP communication — Routing — Global data communication — S7 basic communication — S7 communication PROFIBUS DP master Number of connections, max. Transmission rate, max. Number of DP slaves, max. Services — PG/OP communication — Routing — Global data communication — S7 basic communication | Yes Yes No No No Yes 16 12 Mbit/s 32 Yes Yes No No No |
| Number of connections Transmission rate, max. Services — PG/OP communication — Routing — Global data communication — S7 basic communication — S7 communication PROFIBUS DP master Number of connections, max. Transmission rate, max. Number of DP slaves, max. Services — PG/OP communication — Routing — Global data communication — S7 basic communication — S7 communication — S7 communication | Yes Yes No No No Yes 16 12 Mbit/s 32 Yes Yes No No No Yes |
| Number of connections Transmission rate, max. Services — PG/OP communication — Routing — Global data communication — S7 basic communication — S7 communication PROFIBUS DP master Number of connections, max. Transmission rate, max. Number of DP slaves, max. Services — PG/OP communication — Routing — Global data communication — S7 basic communication — S7 communication — S7 communication — Equidistance | Yes Yes No No No Yes 16 12 Mbit/s 32 Yes Yes No |
| Number of connections Transmission rate, max. Services — PG/OP communication — Routing — Global data communication — S7 basic communication — S7 communication PROFIBUS DP master Number of connections, max. Transmission rate, max. Number of DP slaves, max. Services — PG/OP communication — Routing — Global data communication — S7 basic communication — S7 communication — S7 communication — Equidistance — SYNC/FREEZE | Yes Yes No No No Yes 16 12 Mbit/s 32 Yes Yes Yes No |
| Number of connections Transmission rate, max. Services — PG/OP communication — Routing — Global data communication — S7 basic communication — S7 communication PROFIBUS DP master Number of connections, max. Transmission rate, max. Number of DP slaves, max. Services — PG/OP communication — Routing — Global data communication — S7 basic communication — S7 communication — S7 communication — S7 communication — SYNC/FREEZE — Activation/deactivation of DP slaves | Yes Yes No No No Yes 16 12 Mbit/s 32 Yes Yes No |
| Number of connections Transmission rate, max. Services — PG/OP communication — Routing — Global data communication — S7 basic communication — S7 communication PROFIBUS DP master Number of connections, max. Transmission rate, max. Number of DP slaves, max. Services — PG/OP communication — Routing — Global data communication — S7 basic communication — S7 communication — S7 communication — S7 communication — S7 communication — SYNC/FREEZE — Activation/deactivation of DP slaves — Direct data exchange (slave-to-slave) | Yes Yes No No No Yes 16 12 Mbit/s 32 Yes Yes Yes No |
| Number of connections Transmission rate, max. Services — PG/OP communication — Routing — Global data communication — S7 basic communication — S7 communication PROFIBUS DP master Number of connections, max. Transmission rate, max. Number of DP slaves, max. Revices — PG/OP communication — Routing — Global data communication — S7 basic communication — S7 communication — S7 communication — Equidistance — SYNC/FREEZE — Activation/deactivation of DP slaves — Direct data exchange (slave-to-slave communication) | Yes Yes No No No Yes 16 12 Mbit/s 32 Yes Yes No |
| Number of connections Transmission rate, max. Services — PG/OP communication — Routing — Global data communication — S7 basic communication — S7 communication PROFIBUS DP master Number of connections, max. Transmission rate, max. Number of DP slaves, max. Revices — PG/OP communication — Routing — Global data communication — S7 basic communication — S7 communication — S7 communication — Equidistance — SYNC/FREEZE — Activation/deactivation of DP slaves — Direct data exchange (slave-to-slave communication) Address area | Yes Yes No No No Yes 16 12 Mbit/s 32 Yes Yes No |
| Number of connections Transmission rate, max. Services — PG/OP communication — Routing — Global data communication — S7 basic communication — S7 communication PROFIBUS DP master Number of connections, max. Transmission rate, max. Number of DP slaves, max. PG/OP communication — Routing — Global data communication — S7 basic communication — S7 basic communication — S7 communication — S7 communication — Equidistance — SYNC/FREEZE — Activation/deactivation of DP slaves — Direct data exchange (slave-to-slave communication) Address area — Inputs, max. | Yes Yes No No Yes 16 12 Mbit/s 32 Yes Yes No No No No No Yes Lon No |
| Number of connections Transmission rate, max. Services — PG/OP communication — Routing — Global data communication — S7 basic communication — S7 communication PROFIBUS DP master Number of connections, max. Transmission rate, max. Number of DP slaves, max. PG/OP communication — Routing — Global data communication — Routing — Global data communication — S7 basic communication — S7 communication — S7 communication — Equidistance — SYNC/FREEZE — Activation/deactivation of DP slaves — Direct data exchange (slave-to-slave communication) Address area — Inputs, max. — Outputs, max. | Yes Yes No No No Yes 16 12 Mbit/s 32 Yes Yes No |
| Number of connections Transmission rate, max. Services — PG/OP communication — Routing — Global data communication — S7 basic communication — S7 communication PROFIBUS DP master Number of connections, max. Transmission rate, max. Number of DP slaves, max. PG/OP communication — Routing — Global data communication — S7 basic communication — S7 basic communication — S7 communication — S7 communication — Equidistance — SYNC/FREEZE — Activation/deactivation of DP slaves — Direct data exchange (slave-to-slave communication) Address area — Inputs, max. | Yes Yes No No Yes 16 12 Mbit/s 32 Yes Yes No No No No No Yes Lon No |

| | 0441 |
|---|---|
| — Inputs, max. | 244 byte |
| — Outputs, max. | 244 byte |
| — Slots, max. | 244 |
| — per slot, max. | 128 byte |
| 2. Interface | |
| Interface type | PROFIBUS DP |
| Isolated | Yes |
| Interface types | |
| • RS 485 | Yes |
| Output current of the interface, max. | 150 mA |
| Protocols | |
| PROFIBUS DP master | Yes |
| PROFIBUS DP slave | No |
| PROFIBUS DP master | |
| Number of connections, max. | 16 |
| • Transmission rate, max. | 12 Mbit/s |
| Number of DP slaves, max. | 96 |
| Services | |
| — PG/OP communication | Yes |
| — Routing | Yes |
| Global data communication | No |
| S7 basic communication | No |
| — S7 communication | Yes |
| — Equidistance | No |
| — SYNC/FREEZE | No |
| Activation/deactivation of DP slaves | No |
| Direct data exchange (slave-to-slave communication) | No |
| Address area | |
| — Inputs, max. | 6 kbyte |
| — Outputs, max. | 6 kbyte |
| User data per DP slave | |
| — User data per DP slave, max. | 244 byte |
| — Inputs, max. | 244 byte |
| — Outputs, max. | 244 byte |
| — Slots, max. | 244 |
| — per slot, max. | 128 byte |
| 3. Interface | |
| Interface type | Pluggable synchronization submodule (FO) |
| Plug-in interface modules | Synchronization submodule IF 960 6ES7960-1AA04-0XA0 or 6ES7960-1AB04-0XA0 |
| 4. Interface | |
| Interface type | Pluggable synchronization submodule (FO) |
| Plug-in interface modules | Synchronization submodule IF 960 6ES7960-1AA04-0XA0 or 6ES7960-1AB04-0XA0 |
| Protocols | |
| SIMATIC communication | |
| S7 routing | Yes |
| Communication functions | |
| PG/OP communication | Yes |
| Number of connectable OPs without message processing | 31 |
| Number of connectable OPs with message processing | 8 |
| Global data communication | |
| supported | No |
| S7 basic communication | |
| • supported | No |
| S7 communication | |
| | |

| * e. server * e. sc dirent * ves * e. sc dirent * e. sc dirent * ves * e. sc dirent * e. sc diren | | V |
|--|---|--|
| | • supported | Yes |
| User data per job, max User data per job (of which consistent), max. User data per job (of which consistent) Sompatible communication User data per job, max User data per job, max User data per job, max User data per job (of which consistent), max. User data per job, max. User data per job (of which consistent), max. User data per job, max. User data per job (of Which consistent), max. User data per job (of West), max. User data per job (of West | | |
| User data per pb to for which consistent), max. * supported * suppo | | |
| SS compatible communication • upoproted • User data per job, max. • User data per job (of which consistent), max. Standard communication (FMS) • upoproted • User data per job (of which consistent), max. Standard communication (FMS) • upoproted • usable for PG communication — reserved for PG communication, max. • usable for PG communication, max. • usable for PG communication — reserved for PG communication — adjustable for PG communication — reserved for PG communication — reserved for PG communication — adjustable for SY basic communication — reserved for SY basic communication — adjustable for SY basic communication — adjustable for SY communication | | |
| User data per job, max. User data per job (of which consistent), max. Standard communication (FMS) Supported Ves, Via CP and loadable FB Number of connections versel ve | | 462 byte; 1 variable |
| User data per job, (or which consistent), max. User data per job (or which consistent), max. Usuported Usuported Usuported Usuable for PG communication - reserved for PG communication, max. Usuable for PG communication, max. Usuable for PG communication - reserved for PD communication - reserved for SP basic communication - adjustable for PG communication - reserved for SP basic communication - reserved for SP obsic communication - reserved for SP communication - adjustable for SP communication - reserved for Touting - reserved for routing - reserved for SP communication - reserved for | · | |
| ■ User data per jok (of Which consistent), max. ■ Supported Yes; Via CP and loadable FB Number of connections ■ overall ■ usable for PG communication □ reserved for PG communication □ adjustable for PG communication □ reserved for PS basic communication □ adjustable for PG communication □ reserved for S7 basic communication □ reserved for S7 basic communication □ reserved for S7 basic communication □ reserved for S7 communication □ reserved for routing □ reserved for routing □ adjustable for F communication □ reserved for routing □ reserved for routing □ adjustable for F communication □ reserved for routing □ 0 □ adjustable for F communication □ reserved for S7 | | |
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| • supported Number of connections • overall • usable for PG communication — reserved for PG communication, max. • usable for OP communication — adjustable for PG communication — adjustable for PG communication — reserved for PG communication — reserved for PG communication — adjustable for OP communication — adjustable for S7 basic communication — adjustable for S7 basic communication — adjustable for S7 basic communication — reserved for S7 communication — adjustable for routing — reserved for S7 communication, max. • usable for Touting — adjustable for routing — reserved for S7 communication, max. • usable for routing — adjustable for routing, max. • or pressed functions Number of login stations for message functions, max. • program alarms simultaneously active Alarm-S blocks, max. • presset, max. Forcing • Forcing, variables, max. Forcing • Forcing, variables, max. • present • Number of variables, max. Forcing • Forcing, variables, max. Forcing • Forcing, variables, max. • presset • Number of variables, max. Forcing • Forcing, variables, max. Forcing • Forcing, variables, max. • presset • Number of variables, max. Forcing • Forcing, variables, max. Forcing • Forcing, variables, max. • presset • Number of of enties, max. • presset • Number of of enties, max. • presset • Number of enties, max. - adjustable • presset • Number of enties, max. - adjustable • presset • Number of enties, max. - adjustable • presset • presset • Number of enties, max. - adjustable • presset | | 240 byte |
| Number of connections • overall • usable for PG communication — reserved for PG communication, max. • usable for PG communication — reserved for OP communication — reserved for OP communication — reserved for OP communication — reserved for S7 basic communication — adjustable for S7 basic communication — adjustable for S7 communication — adjustable for S7 communication — reserved for S7 basic communication — adjustable for S7 communication — reserved for F0 salic communication — reserved for F0 communication — reserved f0 F0 communication 0 0 - reserved f0 F0 communication 1 0 R0 communication 1 0 R0 communication R0 c | | |
| overall ousable for PG communication | | Yes; Via CP and loadable FB |
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| usable for OP communication reserved for OP communication, max. usable for S7 basic communication adjustable for S7 basic communication reserved for S7 basic communication adjustable for S7 basic communication, max. usable for S7 communication adjustable for S7 communication reserved for S7 communication adjustable for S7 communication adjustable for S7 communication adjustable for S7 communication, max. usable for routing reserved for routing adjustable adj | | |
| - reserved for OP communication, max. usable for S7 basic communication, max. usable for S7 basic communication, max. usable for S7 basic communication, max. usable for S7 communication - reserved for S7 communication, max. usable for S7 communication - reserved for S7 communication, max. usable for routing - reserved for S7 communication, max. usable for routing - reserved for s7 basic communication, max. 8 Symbol-related messages functions Number of login stations for message functions, max. Symbol-related messages No Program alarms - Number of instances for alarm 8 and S7 communication blocks, max. - presert, max. - presert, max. - process control messages Ves Number of ractives that can log on simultaneously (SFB 37 AR_SEND) Test commissioning functions Slatus block - Ves Single step Ves Number of breakpoints 4 Slatus/control - Status/control variable - Variables - Number of variables, max. - record - Forcing - Forcing - Forcing - Forcing - Forcing - Forcing, variables, max. - reserved - Ves - Number of variables, max. - reserved - Ves - Number of variables, max. - reserved - Ves - Sugustable - Ves - Present - Ves - Number of entries, max. - reserved - Ves - Presert - Presert - Ves - Presert - Ves - Presert - Presert | | 0 |
| - adjustable for OP communication, max. • usable for S7 basic communication - reserved for S7 basic communication - adjustable for S7 basic communication, max. • usable for S7 communication - reserved for S7 communication - adjustable for S7 communication - adjustable for S7 communication - adjustable for routing - reserved for for counting - reserved for for counting - adjustable for routing - adjustable for routing - adjustable for routing - adjustable for routing, max. • Usable for routing - adjustable for routing, max. • Number of long is tations for message functions, max. 8 Symbol-related messages No Program alarms simultaneously active Alarm-S blocks, max. • Number of instances for alarm 8 and S7 communication blocks, max. • preset, max. • preset, max. • preset, max. 900 Process control messages Number of archives that can log on simultaneously (SFB 37 AR_SEND) Test commissioning functions Status block Yes Slatus block Yes Slatus block Yes Number of breakpoints 4 Status/control • Status/control variable • Number of variables, max. 70 Forcing • | | |
| usable for S7 basic communication reserved for S7 basic communication adjustable for S7 basic communication, max. usable for S7 basic communication reserved for S7 communication of the S7 communication of the S7 communication of the S7 communication, max. usable for routing reserved for routing of the S7 communication, max. usable for routing of the S7 communication to the S7 communication, max. S7 message functions Number of login stations for message functions, max. Symbol-related messages No Program alarms yes simultaneously active Alarm-S blocks, max. 100 Alarm S-blocks Number of instances for alarm 8 and S7 communication blocks, max. preset, max. process control messages Yes Number of archives that can log on simultaneously (SFB 37 AR SEND) Test commissioning functions Status block Yes Single step Yes Number of breakpoints 4 Status/control Status/control Status/control Status/control variable Number of variables, max. 70 Forcing Forcing Forcing Forcing Forcing, variables, max. present Number of entries, max. yes yes linputs/outputs, bit memories, distributed I/Os, timers, counters present Number of entries, max. 250 Diagnostic buffer yes present Number of entries, max. 3 200 yes 120 | | |
| - reserved for S7 basic communication - adjustable for S7 basic communication, max. • usable for S7 communication - reserved for S7 communication - adjustable for S7 communication - adjustable for S7 communication, max. • usable for routing - reserved for routing - reserved for routing - adjustable for routing, max. S7 message functions Number of login stations for message functions, max. 8 Symbol-related messages No - Program alarms - Symbol-related messages - No - Program alarms - Holocks - Number of instances for alarm 8 and S7 - communication blocks, max. • preset, max preset, max preset, max yes - Number of archives that can log on simultaneously (SFB 37 AR_SEND) - Status block - Number of breakpoints - Status block - Single step - Ves - Number of variables, max Procring - Forcing - Present - Number of entries, max adjustable - Preset - Preset - Status Subole - Preset - Pres | - | 0 |
| adjustable for S7 basic communication, max. • usable for S7 communication reserved for S7 communication 0 adjustable for S7 communication, max. • usable for routing reserved for S7 communication, max. • usable for routing adjustable for routing adjustable for routing, max. S7 mossage functions Number of login stations for message functions, max. Symbol-related messages No Program alarms Symbol-related messages No Program alarms Simultaneously active Alarm-S blocks, max. 100 Alarm 8-blocks Number of instances for alarm 8 and S7 communication blocks, max preset, max. Process control messages Number of archives that can log on simultaneously (SFB 37 AR_SEND) Test commissioning functions Status block Variables Number of variables, max. Forcing Forcing Forcing, variables, max adjustable preset Number of entries, max adjustable preset Statustole Preset Ves Number of entries, max adjustable preset Statustole Preset Ves Number of entries, max adjustable preset 120 Commissioning functions Status block Process | | |
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| - reserved for S7 communication 0 - adjustable for S7 communication, max. 0 • usable for routing | | 0 |
| - adjustable for S7 communication, max. • usable for routing - reserved for routing - adjustable for routing, max. S7 message functions Number of login stations for message functions, max. Symbol-related messages No Program alarms simultaneously active Alarm-S blocks, max. Alarm 8-blocks • Number of instances for alarm 8 and S7 communication blocks, max. • preset, max. 900 Process control messages Number of archives that can log on simultaneously (SFB 37 AR_SEND) Test commissioning functions Status block Single step Number of breakpoints 4 Status/control • Status/control • Status/control variable • Variables • Number of variables, max. Forcing • Forcing • Forcing, variables, max. Diagnostic buffer • present • Number of entries, max. — adjustable — preset • Number of entries, max. — adjustable — preset 120 | | |
| usable for routing | reserved for S7 communication | 0 |
| - reserved for routing - adjustable for routing, max. 0 S7 message functions Number of login stations for message functions, max. 8 Symbol-related messages No Program alarms Yes simultaneously active Alarm-S blocks, max. 100 Alarm 8-blocks Yes • Number of instances for alarm 8 and S7 communication blocks, max. 900 Process control messages Yes Number of archives that can log on simultaneously (SFB 37 AR_SEND) Test commissioning functions Status block Yes Single step Yes Number of breakpoints 4 Status/control variable Yes • Number of variables, max. 70 Forcing Yes • Forcing Yes • Number of variables, max. 256 Diagnostic buffer Yes • present Yes • Number of etries, max. 256 Diagnostic buffer Yes • Number of etries, max. 3 200 - adjustable Yes - preset 120 | | 0 |
| adjustable for routing, max. 0 S7 message functions Number of login stations for message functions, max. 8 Symbol-related messages No Program alarms Yes simultaneously active Alarm-S blocks, max. 100 Alarm 8-blocks Yes • Number of instances for alarm 8 and S7 communication blocks, max. 900 Process control messages Number of archives that can log on simultaneously (SFB 37 AR_SEND) Test commissioning functions Status block Yes Number of breakpoints 4 Status/control • Status/control • Status/control variable • Variables • Number of variables, max. 70 Forcing • Fo | _ | |
| Number of login stations for message functions, max. Symbol-related messages Program alarms Simultaneously active Alarm-S blocks, max. Alarm 8-blocks • Number of instances for alarm 8 and S7 communication blocks, max. • preset, max. 900 Process control messages Number of archives that can log on simultaneously (SFB 37 AR_SEND) Test commissioning functions Status block Yes Number of breakpoints 4 Status/control • Status/control variable • Variables • Number of variables, max. 70 Forcing • Forcin | reserved for routing | 0 |
| Number of login stations for message functions, max. Symbol-related messages Program alarms Yes simultaneously active Alarm-S blocks, max. Alarm 8-blocks • Number of instances for alarm 8 and S7 communication blocks, max. • preset, max. Process control messages Proses control messages Number of archives that can log on simultaneously (SFB 37 AR_SEND) Status block Yes Single step Yes Number of breakpoints 4 Status/control • Status/control variable • Variables • Number of variables, max. Procing • Forcing • Forcing, variables, max. Preset • Number of entries, max. - adjustable - preset 100 No Poss No Poss No Poss Poss Preset Pes Preset Pes Preset 120 | — adjustable for routing, max. | 0 |
| Symbol-related messages No Program alarms Yes simultaneously active Alarm-S blocks, max. 100 Alarm 8-blocks Yes • Number of instances for alarm 8 and S7 communication blocks, max. 1 200 • preset, max. 900 Process control messages Yes Number of archives that can log on simultaneously (SFB 37 AR_SEND) 16 Test commissioning functions 4 Status block Yes Single step Yes Number of breakpoints 4 Status/control Yes • Status/control variable Yes • Number of variables, max. 70 Forcing Yes • Forcing, variables, max. 256 Polagnostic buffer Yes • present Yes • Number of entries, max. 3 200 — adjustable Yes — preset 120 | S7 message functions | |
| Program alarms simultaneously active Alarm-S blocks, max. Alarm 8-blocks • Number of instances for alarm 8 and S7 communication blocks, max. • preset, max. 900 Process control messages Number of archives that can log on simultaneously (SFB 37 AR_SEND) Test commissioning functions Status block Single step Yes Number of breakpoints 4 Status/control • Status/control • Status/control variable • Variables • Number of variables, max. 70 Forcing • Forcing • Forcing, variables, max. Prose • Number of variables, max. 256 Diagnostic buffer • present • Number of entries, max. — adjustable — preset 100 100 100 100 100 100 100 1 | Number of login stations for message functions, max. | 8 |
| simultaneously active Alarm-S blocks, max. Alarm 8-blocks Number of instances for alarm 8 and S7 communication blocks, max. process control messages Number of archives that can log on simultaneously (SFB 37 AR_SEND) Status block Single step Ves Number of breakpoints 4 Status/control Status/control variable Variables Number of variables, max. Forcing Forcing Forcing Forcing Forcing Forcing Foresent Number of entries, max. 100 Yes 1200 | Symbol-related messages | No |
| Alarm 8-blocks Number of instances for alarm 8 and S7 communication blocks, max. preset, max. Process control messages Number of archives that can log on simultaneously (SFB 37 AR_SEND) Test commissioning functions Status block Yes Number of breakpoints Status/control Status/control Status/control Status/control Status/control Status/control variable Variables Number of variables, max. Forcing Forcing Forcing, variables, max. Diagnostic buffer present Number of entries, max. Alarm 8-blocks Yes 1 200 Yes 16 37 AR_SEND) 16 Yes Yes Number of variables, max. Yes Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters To Ves Inputs/outputs, bit memories, distributed I/Os Number of variables, max. 256 Diagnostic buffer present Number of entries, max. - adjustable - preset 120 | Program alarms | Yes |
| Number of instances for alarm 8 and S7 communication blocks, max. ● preset, max. 900 Process control messages Number of archives that can log on simultaneously (SFB 37 AR_SEND) Test commissioning functions Status block Single step Yes Number of breakpoints 4 Status/control • Status/control variable • Variables • Number of variables, max. Forcing • Forcing • Forcing, variables, max. Prosent Present Present Present Pres 1 200 900 Yes 16 37 48 18 18 19 19 19 10 10 10 10 10 10 10 | simultaneously active Alarm-S blocks, max. | 100 |
| communication blocks, max. • preset, max. 900 Process control messages Number of archives that can log on simultaneously (SFB 37 AR_SEND) Test commissioning functions Status block Single step Number of breakpoints 4 Status/control • Status/control • Status/control variable • Variables • Number of variables, max. Forcing • Forcing • Forcing, variables • Number of variables, max. 1 Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters • Number of variables, max. 70 Forcing • Forcing, variables • Number of variables, max. 1 Inputs/outputs, bit memories, distributed I/Os • Number of variables, max. 256 Diagnostic buffer • present • present • present • Number of entries, max. — adjustable — preset 120 | Alarm 8-blocks | Yes |
| | | 1 200 |
| Process control messages Number of archives that can log on simultaneously (SFB 37 AR_SEND) Test commissioning functions Status block Single step Yes Number of breakpoints 4 Status/control • Status/control variable • Variables • Number of variables, max. Forcing • Forcing • Forcing, variables • Number of variables, max. Diagnostic buffer • present • Number of entries, max. — adjustable — preset Yes 16 36 36 48 Yes Yes Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters 70 Forcing Yes Inputs/outputs, bit memories, distributed I/Os 3 200 — adjustable — preset 120 | | |
| Number of archives that can log on simultaneously (SFB 37 AR_SEND) Test commissioning functions Status block Single step Yes Number of breakpoints 4 Status/control • Status/control variable • Variables • Number of variables, max. Forcing • Forcing • Forcing, variables • Number of variables, max. Process • Number of variables, max. Forcing • Forcing, variables • Number of variables, max. Status/control variables • Number of variables • Number of variables • Number of variables, max. Status/control variables • Forcing • Forcing • Forcing • Forcing • Forcing, variables • Number of variables, max. Status/control Yes • Number of variables, max. Status/control Yes • Number of variables, max. Status/control Yes • Number of entries, max. - adjustable - preset 120 | • preset, max. | 900 |
| 37 AR_SEND) Test commissioning functions Status block Yes Single step Number of breakpoints 4 Status/control • Status/control variable • Variables • Number of variables, max. Forcing • Forcing • Forcing, variables • Number of variables, max. Diagnostic buffer • present • Number of entries, max. — adjustable — preset 120 | | |
| Status block Single step Yes Number of breakpoints 4 Status/control • Status/control variable • Variables • Number of variables, max. Forcing • Forcing • Forcing, variables, max. • Number of entries, max. • Algustable • preset • preset • preset • 120 | | Yes |
| Status block Single step Yes Number of breakpoints 4 Status/control • Status/control variable • Variables • Number of variables, max. Forcing • Forcing • Forcing, variables • Number of variables, max. Diagnostic buffer • present • Number of entries, max. Yes • Number of entries, max. 3 200 — adjustable — preset Yes Yes Yes 120 | Number of archives that can log on simultaneously (SFB | Yes |
| Single step Number of breakpoints 4 Status/control • Status/control variable • Variables • Number of variables, max. Forcing • Forcing • Forcing, variables • Number of variables, max. 256 Diagnostic buffer • present • Number of entries, max. — adjustable — preset Yes Yes Inputs/outputs, bit memories, distributed I/Os 256 256 256 260 270 Yes 170 Yes 170 Yes 170 Yes 170 170 170 170 170 170 170 17 | Number of archives that can log on simultaneously (SFB 37 AR_SEND) | Yes |
| Number of breakpoints Status/control Status/control variable Variables Number of variables, max. Forcing Forcing Forcing, variables Number of variables, max. Percent variables, max. Diagnostic buffer Present Number of entries, max. Augustable — preset Preset Yes 120 | Number of archives that can log on simultaneously (SFB 37 AR_SEND) Test commissioning functions | Yes 16 |
| Status/control Status/control variable Variables Number of variables, max. Forcing Forcing Forcing, variables Number of variables, max. Diagnostic buffer Present Number of entries, max. Adjustable Preset Status/control Yes Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters 70 Yes Inputs/outputs, bit memories, distributed I/Os Ves Inputs/outputs, bit memories, distributed I/Os Ves Ves Ves Ves Ves Ves Ves Ves Ves V | Number of archives that can log on simultaneously (SFB 37 AR_SEND) Test commissioning functions Status block | Yes 16 Yes |
| Status/control variable Variables Number of variables, max. Forcing Forcing, variables Number of variables, max. Forcing, variables Number of variables, max. Number of variables, max. Diagnostic buffer Present Number of entries, max. Adjustable Preset Yes Yes 120 | Number of archives that can log on simultaneously (SFB 37 AR_SEND) Test commissioning functions Status block Single step | Yes 16 Yes Yes |
| Variables Number of variables, max. Forcing Forcing, variables Number of variables, max. Porcing, variables Number of variables, max. Diagnostic buffer Present Number of entries, max. Augustable Preset Yes Number of entries, max. Augustable Preset Yes 120 | Number of archives that can log on simultaneously (SFB 37 AR_SEND) Test commissioning functions Status block Single step Number of breakpoints | Yes 16 Yes Yes |
| Number of variables, max. Forcing Forcing, variables Number of variables, max. Number of variables, max. Diagnostic buffer present Number of entries, max. Augustable preset 120 | Number of archives that can log on simultaneously (SFB 37 AR_SEND) Test commissioning functions Status block Single step Number of breakpoints Status/control | Yes 16 Yes Yes 4 |
| Forcing Forcing Forcing Forcing, variables Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. Adjustable preset 120 | Number of archives that can log on simultaneously (SFB 37 AR_SEND) Test commissioning functions Status block Single step Number of breakpoints Status/control • Status/control variable | Yes 16 Yes Yes 4 Yes |
| Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. adjustable preset Yes Yes 120 | Number of archives that can log on simultaneously (SFB 37 AR_SEND) Test commissioning functions Status block Single step Number of breakpoints Status/control • Status/control variable • Variables | Yes 16 Yes Yes 4 Yes Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters |
| Forcing, variables Number of variables, max. Diagnostic buffer Present Number of entries, max. Adjustable Preset Inputs/outputs, bit memories, distributed I/Os 256 Yes Number of entries, max. Adjustable Preset 120 | Number of archives that can log on simultaneously (SFB 37 AR_SEND) Test commissioning functions Status block Single step Number of breakpoints Status/control • Status/control variable • Variables • Number of variables, max. | Yes 16 Yes Yes 4 Yes Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters |
| Number of variables, max. Diagnostic buffer present Number of entries, max. adjustable preset 120 | Number of archives that can log on simultaneously (SFB 37 AR_SEND) Test commissioning functions Status block Single step Number of breakpoints Status/control • Status/control variable • Variables • Number of variables, max. Forcing | Yes Yes Yes Yes Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters 70 |
| Diagnostic buffer ● present ● Number of entries, max. — adjustable — preset 120 | Number of archives that can log on simultaneously (SFB 37 AR_SEND) Test commissioning functions Status block Single step Number of breakpoints Status/control • Status/control variable • Variables • Number of variables, max. Forcing • Forcing | Yes Yes Yes Yes 4 Yes Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters 70 Yes |
| present Number of entries, max. adjustable preset 120 | Number of archives that can log on simultaneously (SFB 37 AR_SEND) Test commissioning functions Status block Single step Number of breakpoints Status/control • Status/control variable • Variables • Number of variables, max. Forcing • Forcing • Forcing, variables | Yes Yes Yes 4 Yes Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters 70 Yes Inputs/outputs, bit memories, distributed I/Os |
| Number of entries, max. adjustable preset 120 | Number of archives that can log on simultaneously (SFB 37 AR_SEND) Test commissioning functions Status block Single step Number of breakpoints Status/control • Status/control variable • Variables • Number of variables, max. Forcing • Forcing • Forcing, variables • Number of variables, max. | Yes Yes Yes 4 Yes Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters 70 Yes Inputs/outputs, bit memories, distributed I/Os |
| — adjustable— presetYes120 | Number of archives that can log on simultaneously (SFB 37 AR_SEND) Test commissioning functions Status block Single step Number of breakpoints Status/control • Status/control variable • Variables • Number of variables, max. Forcing • Forcing • Forcing, variables • Number of variables, max. Diagnostic buffer | Yes Yes Yes Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters To Yes Inputs/outputs, bit memories, distributed I/Os 256 |
| — preset 120 | Number of archives that can log on simultaneously (SFB 37 AR_SEND) Test commissioning functions Status block Single step Number of breakpoints Status/control • Status/control variable • Variables • Number of variables, max. Forcing • Forcing • Forcing, variables • Number of variables, max. Diagnostic buffer • present | Yes Yes Yes Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters Yes Inputs/outputs, bit memories, distributed I/Os Yes Inputs/outputs, bit memories, distributed I/Os |
| · | Number of archives that can log on simultaneously (SFB 37 AR_SEND) Test commissioning functions Status block Single step Number of breakpoints Status/control Status/control variable Variables Number of variables, max. Forcing Forcing Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. | Yes Yes Yes Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters Yes Inputs/outputs, bit memories, distributed I/Os Yes Inputs/outputs, bit memories, distributed I/Os 256 Yes 3 200 |
| Configuration | Number of archives that can log on simultaneously (SFB 37 AR_SEND) Test commissioning functions Status block Single step Number of breakpoints Status/control Status/control variable Variables Number of variables, max. Forcing Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. — adjustable | Yes Yes Yes 4 Yes Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters 70 Yes Inputs/outputs, bit memories, distributed I/Os 256 Yes 3 200 Yes |
| | Number of archives that can log on simultaneously (SFB 37 AR_SEND) Test commissioning functions Status block Single step Number of breakpoints Status/control • Status/control variable • Variables • Number of variables, max. Forcing • Forcing • Forcing, variables • Number of variables, max. Diagnostic buffer • present • Number of entries, max. — adjustable — preset | Yes Yes Yes 4 Yes Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters 70 Yes Inputs/outputs, bit memories, distributed I/Os 256 Yes 3 200 Yes |

| Configuration software | |
|--|----------------------|
| • STEP 7 | Yes |
| Programming | |
| Command set | see instruction list |
| Nesting levels | 8 |
| Access to consistent data in process image | Yes |
| 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 |
| Number of simultaneously active SFCs | |
| — RD_REC | 8 |
| — WR_REC | 8 |
| — WR_PARM | 8 |
| — PARM_MOD | 1 |
| — WR_DPARM | 2 |
| — DPNRM_DG | 8 |
| — RDSYSST | 8 |
| — DP_TOPOL | 1 |
| Number of simultaneously active SFBs | |
| — RDREC | 8 |
| — WRREC | 8 |
| Know-how protection | |
| User program protection/password protection | Yes |
| Dimensions | |
| Width | 50 mm |
| Height | 290 mm |
| Depth | 219 mm |
| Weights | |
| Weight, approx. | 995 g |

3/25/2021

last modified: