

# SIEMENS

## Product data sheet

**6ES7416-2FN05-0AB0**


SIMATIC S7-400, CPU 416F-2,  
CENTRAL PROCESSING UNIT WITH: 5.6 MB  
WORKING MEMORY,  
(2.8 MB CODE, 2.8 MB DATA),  
1. INTERFACE MPI/DP 12 MBIT/S,  
2. INTERFACE PROFIBUS DP APPLICABLE W.  
SOFTWARE PACKAGE DISTRIBUTED SAFETY >=  
V5.2+SP2

| General information                          |                                                                                          |
|----------------------------------------------|------------------------------------------------------------------------------------------|
| Hardware product version                     | 03                                                                                       |
| Firmware version                             | V5.3                                                                                     |
| Engineering with                             |                                                                                          |
| Programming package                          | STEP 7 V5.3 SP2 or higher with hardware update,<br>Distributed Safety V5.2 SP2 or higher |
| CiR - Configuration in RUN                   |                                                                                          |
| CiR synchronization time, basic load         | 100 ms                                                                                   |
| CiR synchronization time, time per I/O slave | 10 µs                                                                                    |
| Supply voltage                               |                                                                                          |
| 24 V DC                                      | No ; Power supply via system power supply                                                |
| Input current                                |                                                                                          |
| from CPU, max.                               | Not relevant for 400 series (300 series set)                                             |
| from backplane bus 5 V DC, typ.              | 0.9 A                                                                                    |
| from backplane bus 5 V DC, max.              | 1.1 A                                                                                    |
| from backplane bus 24 V DC, max.             | 300 mA ; 150 mA per DP interface                                                         |

|                                           |                                                |
|-------------------------------------------|------------------------------------------------|
| from interface 5 V DC, max.               | 90 mA ; At each DP interface                   |
| <b>Power losses</b>                       |                                                |
| Power loss, typ.                          | 4.5 W                                          |
| Power loss, max.                          | 5 W                                            |
| <b>Backup battery</b>                     |                                                |
| Battery operation                         | Not relevant                                   |
| Backup current, typ.                      | 125 $\mu$ A ; (up to 40 °C)                    |
| Backup current, max.                      | 550 $\mu$ A                                    |
| Backup time, max.                         | See reference manual, module data, Chapter 3.3 |
| Feeding of external backup voltage to CPU | 5 to 15 VDC                                    |
| Feeding of external backup voltage to CPU | 5 to 15 VDC                                    |
| <b>Memory</b>                             |                                                |
| <b>Work memory</b>                        |                                                |
| integrated                                | 5.6 Mbyte                                      |
| integrated (for program)                  | 2.8 Mbyte                                      |
| integrated (for data)                     | 2.8 Mbyte                                      |
| expandable                                | No                                             |
| <b>Load memory</b>                        |                                                |
| expandable FEPRM                          | Yes ; with Memory Card (FLASH)                 |
| expandable FEPRM, max.                    | 64 Mbyte                                       |
| integrated RAM, max.                      | 1 Mbyte                                        |
| expandable RAM                            | Yes ; with Memory Card (RAM)                   |
| expandable RAM, max.                      | 64 Mbyte                                       |
| <b>Backup</b>                             |                                                |
| present                                   | Yes                                            |
| with battery                              | Yes ; all data                                 |
| without battery                           | No                                             |
| <b>CPU processing times</b>               |                                                |
| for bit operations, min.                  | 30 ns                                          |
| for word operations, min.                 | 30 ns                                          |
| for fixed point arithmetic, min.          | 30 ns                                          |
| for floating point arithmetic, min.       | 90 ns                                          |
| <b>CPU-blocks</b>                         |                                                |

|                                        |                                                        |
|----------------------------------------|--------------------------------------------------------|
| DB                                     |                                                        |
| Number, max.                           | 10000 ; Number range: 1 to 16000                       |
| Size, max.                             | 64 kbyte                                               |
| FB                                     |                                                        |
| Number, max.                           | 5000 ; Number range: 0 to 7999                         |
| Size, max.                             | 64 kbyte                                               |
| FC                                     |                                                        |
| Number, max.                           | 5000 ; 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 time interrupt OBs           | 9 ; OB 30-38 (shortest cycle that can be set = 500 µs) |
| Number of process alarm OBs            | 8 ; OB 40-47                                           |
| Number of DPV1 alarm OBs               | 3 ; OB 55-57                                           |
| Number isochronous mode OBs            | 4 ; OB 61-64                                           |
| Number of multicomputing OBs           | 1 ; OB 60                                              |
| Number of background OBs               | 1 ; OB 90                                              |
| 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 |                                                        |
| S7 counter                             |                                                        |
| Number                                 | 2048                                                   |
| Retentivity                            |                                                        |
| adjustable                             | Yes                                                    |
| lower limit                            | 0                                                      |

|                                  |                                                     |
|----------------------------------|-----------------------------------------------------|
| upper limit                      | 2047                                                |
| 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 times                         |                                                     |
| Number                           | 2048                                                |
| Retentivity                      |                                                     |
| adjustable                       | Yes                                                 |
| lower limit                      | 0                                                   |
| upper limit                      | 2047                                                |
| preset                           | No times retentive                                  |
| Time range                       |                                                     |
| lower limit                      | 10 ms                                               |
| upper limit                      | 9990 s                                              |
| IEC timer                        |                                                     |
| present                          | Yes                                                 |
| Type                             | SFB                                                 |
| Number                           | Unlimited (limited only by RAM capacity)            |
| Data areas and their retentivity |                                                     |
| retentive data area, total       | Total working and load memory (with backup battery) |
| Flag                             |                                                     |
| Number, max.                     | 16 kbyte ; Size of bit memory address area          |
| Retentivity available            | Yes                                                 |
| Retentivity preset               | MB 0 to MB 15                                       |
| Number of clock memories         | 8 ; (in 1 memory byte)                              |
| Data blocks                      |                                                     |
| Number, max.                     | 10000 ; Number range: 1 to 16000                    |
| Size, max.                       | 64 kbyte                                            |

|                                            |          |
|--------------------------------------------|----------|
| Local data                                 |          |
| adjustable, max.                           | 32 kbyte |
| preset                                     | 16 kbyte |
| Address area                               |          |
| I/O address area                           |          |
| Inputs                                     | 16 kbyte |
| Outputs                                    | 16 kbyte |
| of which, distributed                      |          |
| MPI/DP interface, inputs                   | 2 kbyte  |
| MPI/DP interface, outputs                  | 2 kbyte  |
| DP interface, inputs                       | 8 kbyte  |
| DP interface, outputs                      | 8 kbyte  |
| Process image                              |          |
| Inputs, adjustable                         | 16 kbyte |
| Outputs, adjustable                        | 16 kbyte |
| Inputs, default                            | 512 byte |
| Outputs, default                           | 512 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                                     | 131072   |
| Outputs                                    | 131072   |
| Inputs, of which central                   | 131072   |
| Outputs, of which central                  | 131072   |
| Analog channels                            |          |
| Inputs                                     | 8192     |
| Outputs                                    | 8192     |
| Inputs, of which central                   | 8192     |
| Outputs, of which central                  | 8192     |
| Hardware configuration                     |          |
| Expansion devices, max.                    | 21       |

|                                                                              |                                                                                                  |
|------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|
| connectable OPs                                                              | 63                                                                                               |
| Multicomputing                                                               | Yes ; 4 CPUs max. (with UR1 or UR2)                                                              |
| <b>Interface modules</b>                                                     |                                                                                                  |
| Number of connectable IMs (total), max.                                      | 6                                                                                                |
| Number of connectable IM 460s, max.                                          | 6                                                                                                |
| Number of connectable IM 463s, max.                                          | 4 ; IM 463-2                                                                                     |
| <b>Number of DP masters</b>                                                  |                                                                                                  |
| integrated                                                                   | 2                                                                                                |
| via IM 467                                                                   | 4                                                                                                |
| via CP                                                                       | 10 ; CP 443-5 Extended                                                                           |
| Mixed mode IM + CP permitted                                                 | No ; IM 467 not suitable for use with CP 443-5 Ext. and CP443-1 EX4x, EX20, GX20 (in PNIO mode)  |
| via interface module                                                         | 0                                                                                                |
| Number of pluggable S5 modules (via adapter capsule in central device), max. | 6                                                                                                |
| <b>Number of IO Controllers</b>                                              |                                                                                                  |
| integrated                                                                   | 0                                                                                                |
| via CP                                                                       | 4 ; No mixed operation of CP443-1 EX40 and CP443-1 EX 41/EX20/GX20, max. 4 in central controller |
| <b>Number of operable FMs and CPs (recommended)</b>                          |                                                                                                  |
| FM                                                                           | Limited by number of slots and number of connections                                             |
| CP, point-to-point                                                           | CP 440: Limited by number of slots; CP 441: limited by number of connections                     |
| PROFIBUS and Ethernet CPs                                                    | 14 ; Of which 10 CPs max. or IMs as DP master, 4 PN controller maximum                           |
| <b>Time of day</b>                                                           |                                                                                                  |
| <b>Clock</b>                                                                 |                                                                                                  |
| Hardware clock (real-time clock)                                             | Yes                                                                                              |
| battery-backed and synchronizable                                            | Yes                                                                                              |
| Resolution                                                                   | 1 ms                                                                                             |
| Deviation per day (buffered), max.                                           | 1.7 s ; Power off                                                                                |
| Deviation per day (unbuffered) max.                                          | 8.6 s ; For power On                                                                             |
| <b>Operating hours counter</b>                                               |                                                                                                  |
| 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 <sup>31</sup> - 1 hours |
| Granularity                                      | 1 hour                                                                    |
| 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                                                                       |
| on Ethernet via NTP                              | No ; via CP                                                               |
| to IF 964 DP                                     | No                                                                        |
| Time difference in system when synchronizing via |                                                                           |
| MPI, max.                                        | 200 ms                                                                    |
| Digital outputs                                  |                                                                           |
| integrated channels (DO)                         | 0                                                                         |
| Analog inputs                                    |                                                                           |
| Integrated channels (AI)                         | 0                                                                         |
| Interfaces                                       |                                                                           |
| Number of USB interfaces                         | 0                                                                         |
| Number of parallel interfaces                    | 0                                                                         |
| Number of 20 mA interfaces (TTY)                 | 0                                                                         |
| Number of RS 232 interfaces                      | 0                                                                         |
| Number of RS 422 interfaces                      | 0                                                                         |
| Number of other interfaces                       | 0                                                                         |
| 1st interface                                    |                                                                           |
| Type of interface                                | integrated                                                                |
| Physics                                          | RS 485 / PROFIBUS + MPI                                                   |
| Isolated                                         | Yes                                                                       |
| Power supply to interface (15 to 30 V DC), max.  | 150 mA                                                                    |
| Number of connection resources                   | MPI: 44, DP: 32                                                           |
| Functionality                                    |                                                                           |

|                                                     |                                                                                                                    |
|-----------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| MPI                                                 | Yes                                                                                                                |
| DP master                                           | Yes                                                                                                                |
| DP slave                                            | Yes                                                                                                                |
| <b>MPI</b>                                          |                                                                                                                    |
| Number of connections                               | 44 ; If a diagnostics repeater is used on the line, the number of connection resources on the line is reduced by 1 |
| <b>Services</b>                                     |                                                                                                                    |
| PG/OP communication                                 | Yes                                                                                                                |
| Routing                                             | Yes                                                                                                                |
| Global data communication                           | Yes                                                                                                                |
| S7 basic communication                              | Yes                                                                                                                |
| S7 communication                                    | Yes                                                                                                                |
| S7 communication, as client                         | Yes                                                                                                                |
| S7 communication, as server                         | Yes                                                                                                                |
| Transmission rate, max.                             | 12 Mbit/s                                                                                                          |
| <b>DP master</b>                                    |                                                                                                                    |
| Number of connections, max.                         | 32 ; If a diagnostics repeater is used on the line, the number of connection resources on the line is reduced by 1 |
| <b>Services</b>                                     |                                                                                                                    |
| PG/OP communication                                 | Yes                                                                                                                |
| Routing                                             | Yes                                                                                                                |
| Global data communication                           | No                                                                                                                 |
| S7 basic communication                              | Yes                                                                                                                |
| S7 communication                                    | Yes                                                                                                                |
| S7 communication, as client                         | Yes                                                                                                                |
| S7 communication, as server                         | Yes                                                                                                                |
| Equidistance mode support                           | Yes                                                                                                                |
| Isochronous mode                                    | Yes                                                                                                                |
| SYNC/FREEZE                                         | Yes                                                                                                                |
| Activation/deactivation of DP slaves                | Yes                                                                                                                |
| Direct data exchange (slave-to-slave communication) | Yes                                                                                                                |
| DPV1                                                | Yes                                                                                                                |

|                                                     |                                                                                                                               |
|-----------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------|
| Transmission rate, max.                             | 12 Mbit/s                                                                                                                     |
| Number of DP slaves, max.                           | 32                                                                                                                            |
| <b>Address area</b>                                 |                                                                                                                               |
| Inputs, max.                                        | 2 kbyte                                                                                                                       |
| Outputs, max.                                       | 2 kbyte                                                                                                                       |
| <b>User data per DP slave</b>                       |                                                                                                                               |
| User data per DP slave, max.                        | 244 byte                                                                                                                      |
| Inputs, max.                                        | 244 byte                                                                                                                      |
| Outputs, max.                                       | 244 byte                                                                                                                      |
| Slots, max.                                         | 244                                                                                                                           |
| per slot, max.                                      | 128 byte                                                                                                                      |
| <b>DP slave</b>                                     |                                                                                                                               |
| Number of connections                               | 32                                                                                                                            |
| <b>Services</b>                                     |                                                                                                                               |
| PG/OP communication                                 | Yes ; with interface active                                                                                                   |
| Routing                                             | Yes ; with interface active                                                                                                   |
| S7 routing                                          | Yes ; with interface active                                                                                                   |
| Global data communication                           | No                                                                                                                            |
| S7 basic communication                              | No                                                                                                                            |
| S7 communication                                    | Yes                                                                                                                           |
| S7 communication, as client                         | Yes                                                                                                                           |
| S7 communication, as server                         | Yes                                                                                                                           |
| Direct data exchange (slave-to-slave communication) | No                                                                                                                            |
| DPV1                                                | No                                                                                                                            |
| GSD file                                            | <a href="http://support.automation.siemens.com/WW/view/de/113652">http://support.automation.siemens.com/WW/view/de/113652</a> |
| Transmission rate, max.                             | 12 Mbit/s                                                                                                                     |
| Automatic baud rate search                          | No                                                                                                                            |
| <b>Transfer memory</b>                              |                                                                                                                               |
| Inputs                                              | 244 byte                                                                                                                      |
| Outputs                                             | 244 byte                                                                                                                      |
| Address area, max.                                  | 32 ; Virtual slots                                                                                                            |
| User data per address area, max.                    | 32 byte                                                                                                                       |

|                                                       |                   |
|-------------------------------------------------------|-------------------|
| User data per address area, of which consistent, max. | 32 byte           |
| <b>2nd interface</b>                                  |                   |
| Type of interface                                     | integrated        |
| Physics                                               | RS 485 / PROFIBUS |
| Isolated                                              | Yes               |
| Power supply to interface (15 to 30 V DC), max.       | 150 mA            |
| <b>Media redundancy</b>                               |                   |
| Number of connection resources                        | 32                |
| <b>Functionality</b>                                  |                   |
| DP master                                             | Yes               |
| DP slave                                              | Yes               |
| <b>DP master</b>                                      |                   |
| Number of connections, max.                           | 32                |
| <b>Services</b>                                       |                   |
| PG/OP communication                                   | Yes               |
| Routing                                               | Yes               |
| Global data communication                             | No                |
| S7 basic communication                                | Yes               |
| S7 communication                                      | Yes               |
| S7 communication, as client                           | Yes               |
| S7 communication, as server                           | Yes               |
| Equidistance mode support                             | Yes               |
| Isochronous mode                                      | Yes               |
| SYNC/FREEZE                                           | Yes               |
| Activation/deactivation of DP slaves                  | Yes               |
| Direct data exchange (slave-to-slave communication)   | Yes               |
| DPV1                                                  | Yes               |
| Transmission rate, max.                               | 12 Mbit/s         |
| Number of DP slaves, max.                             | 125               |
| <b>Address area</b>                                   |                   |
| Inputs, max.                                          | 8 kbyte           |
| Outputs, max.                                         | 8 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                                                                                                                      |
| DP slave                                                        |                                                                                                                               |
| Number of connections                                           | 32                                                                                                                            |
| Services                                                        |                                                                                                                               |
| Routing                                                         | Yes                                                                                                                           |
| GSD file                                                        | <a href="http://support.automation.siemens.com/WW/view/de/113652">http://support.automation.siemens.com/WW/view/de/113652</a> |
| Transmission rate, max.                                         | 12 Mbit/s                                                                                                                     |
| Transfer memory                                                 |                                                                                                                               |
| Inputs                                                          | 244 byte                                                                                                                      |
| Outputs                                                         | 244 byte                                                                                                                      |
| Address area, max.                                              | 32                                                                                                                            |
| User data per address area, max.                                | 32 byte                                                                                                                       |
| User data per address area, of which consistent, max.           | 32 byte                                                                                                                       |
| Isochronous mode                                                |                                                                                                                               |
| Isochronous operation (application synchronized up to terminal) | Yes ; For PROFIBUS only                                                                                                       |
| Number of DP masters with isochronous mode                      | 2                                                                                                                             |
| User data per isochronous slave, max.                           | 244 byte                                                                                                                      |
| equidistance                                                    | Yes                                                                                                                           |
| shortest clock pulse                                            | 1 ms ; 0.5 ms without use of SFC 126, 127                                                                                     |
| max. cycle                                                      | 32 ms                                                                                                                         |
| Communication functions                                         |                                                                                                                               |
| PG/OP communication                                             | Yes                                                                                                                           |
| Number of connectable OPs without message processing            | 63                                                                                                                            |
| Number of connectable OPs with message processing               | 63 ; When using alarm_S and alarm_D                                                                                           |
| Data record routing                                             | Yes                                                                                                                           |

|                                                             |                                                                 |
|-------------------------------------------------------------|-----------------------------------------------------------------|
| Global data communication                                   |                                                                 |
| supported                                                   | Yes                                                             |
| Number of GD loops, max.                                    | 16                                                              |
| Number of GD packets, transmitter, max.                     | 16                                                              |
| Number of GD packets, receiver, max.                        | 32                                                              |
| Size of GD packets, max.                                    | 54 byte                                                         |
| Size of GD packet (of which consistent), max.               | 1 variable                                                      |
| S7 basic communication                                      |                                                                 |
| supported                                                   | Yes                                                             |
| User data per job, max.                                     | 76 byte                                                         |
| User data per job (of which consistent), max.               | 1 variable                                                      |
| 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                                           |
| S5-compatible communication                                 |                                                                 |
| supported                                                   | Yes ; Via FC AG_SEND and AG_RECV, max. via 10 CP 443-1 or 443-5 |
| User data per job, max.                                     | 8 kbyte                                                         |
| User data per job (of which consistent), max.               | 240 byte                                                        |
| Number of simultaneous AG-SEND/AG-RECV orders per CPU, max. | 64/64                                                           |
| Standard communication (FMS)                                |                                                                 |
| supported                                                   | Yes ; Via CP and loadable FB                                    |
| Open IE communication                                       |                                                                 |
| ISO-on-TCP (RFC1006)                                        | Via CP 443-1 and loadable FB                                    |
| Data length, max.                                           | 1452 bytes via CP 443-1 Adv.                                    |
| Web server                                                  |                                                                 |
| supported                                                   | No                                                              |
| Number of connections                                       |                                                                 |
| overall                                                     | 64                                                              |
| usable for PG communication                                 |                                                                 |

|                                                                   |                                                                                            |
|-------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| reserved for PG communication                                     | 1                                                                                          |
| Adjustable for PG communication, max.                             | 0                                                                                          |
| usable for OP communication                                       |                                                                                            |
| reserved for OP communication                                     | 1                                                                                          |
| adjustable for OP communication, max.                             | 0                                                                                          |
| usable for S7 basic communication                                 |                                                                                            |
| Reserved for S7 basic communication                               | 0                                                                                          |
| adjustable for S7 basic communication, max.                       | 0                                                                                          |
| usable for S7 communication                                       |                                                                                            |
| reserved for S7 communication                                     | 0                                                                                          |
| Adjustable for S7 communication, max.                             | 0                                                                                          |
| usable for routing                                                |                                                                                            |
| Reserved for routing                                              | 0                                                                                          |
| adjustable for routing, max.                                      | 0                                                                                          |
| <b>S7 message functions</b>                                       |                                                                                            |
| Number of login stations for message functions, max.              | 63 ; Max. 63 with ALARM_S and ALARM_D (OPs); max. 12 with ALARM_8 and ALARM_P (e.g. WinCC) |
| Symbol-related messages                                           | Yes                                                                                        |
| SCAN procedure                                                    | Yes                                                                                        |
| <b>Number of messages</b>                                         |                                                                                            |
| overall, max.                                                     | 1024                                                                                       |
| in 100 ms grid, max.                                              | 128                                                                                        |
| in 500 ms grid, max.                                              | 512                                                                                        |
| in 1000 ms grid, max.                                             | 1024                                                                                       |
| <b>Number of additional values</b>                                |                                                                                            |
| with 100 ms grid, max.                                            | 1                                                                                          |
| with 500, 1000 ms grid, max.                                      | 10                                                                                         |
| Block related messages                                            | Yes                                                                                        |
| Process diagnostic messages                                       | Yes                                                                                        |
| simultaneously active Alarm-S blocks, max.                        | 1000 ; 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. | 4000                                                                                       |

|                                                                    |                                                                      |
|--------------------------------------------------------------------|----------------------------------------------------------------------|
| preset, max.                                                       | 600                                                                  |
| Process control messages                                           | Yes                                                                  |
| Number of archives that can log on simultaneously (SFB 37 AR_SEND) | 32                                                                   |
| Test commissioning functions                                       |                                                                      |
| Status/control                                                     |                                                                      |
| Status/control variable                                            | Yes ; Up to 16 variable tables                                       |
| Variables                                                          | Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters |
| Number of variables, max.                                          | 70 ; Status/control                                                  |
| Forcing                                                            |                                                                      |
| Forcing                                                            | Yes                                                                  |
| Force, variables                                                   | Inputs, outputs, bit memories, peripheral inputs, peripheral outputs |
| Number of variables, max.                                          | 512                                                                  |
| Status block                                                       | Yes ; Up to 2 simultaneously                                         |
| Single step                                                        | Yes                                                                  |
| Number of breakpoints                                              | 4                                                                    |
| Diagnostic buffer                                                  |                                                                      |
| present                                                            | Yes                                                                  |
| Number of entries, max.                                            | 3200                                                                 |
| adjustable                                                         | Yes                                                                  |
| preset                                                             | 120                                                                  |
| EMC                                                                |                                                                      |
| Emission of radio interference acc. to EN 55 011                   |                                                                      |
| Limit class A, for use in industrial areas                         | Yes                                                                  |
| Limit class B, for use in residential areas                        | No                                                                   |
| Configuration                                                      |                                                                      |
| Configuration software                                             |                                                                      |
| STEP 7                                                             | Yes                                                                  |
| programming                                                        |                                                                      |
| Programming language                                               |                                                                      |
| LAD                                                                | Yes                                                                  |
| FBD                                                                | Yes                                                                  |

|                                             |                      |
|---------------------------------------------|----------------------|
| STL                                         | Yes                  |
| SCL                                         | Yes                  |
| CFC                                         | Yes                  |
| GRAPH                                       | Yes                  |
| HiGraph®                                    | Yes                  |
| Command set                                 | see instruction list |
| Nesting levels                              | 7                    |
| Access to consistent data in process image  | Yes                  |
| System functions (SFC)                      | see instruction list |
| Number of simultaneously active SFCs        |                      |
| DPSYC_FR                                    | 2                    |
| D_ACT_DP                                    | 8                    |
| RD_REC                                      | 8                    |
| WR_REC                                      | 8                    |
| WR_PARM                                     | 8                    |
| PARM_MOD                                    | 1                    |
| WR_DPARM                                    | 2                    |
| DPNRM_DG                                    | 8                    |
| RDSYSST                                     | 8                    |
| DP_TOPOL                                    | 1                    |
| System function blocks (SFB)                | see instruction list |
| Number of simultaneously active SFBs        |                      |
| RD_REC                                      | 8                    |
| WR_REC                                      | 8                    |
| Know-how protection                         |                      |
| User program protection/password protection | Yes                  |
| Dimensions                                  |                      |
| Width                                       | 25 mm                |
| Height                                      | 290 mm               |
| Depth                                       | 219 mm               |
| Required slots                              | 1                    |
| Weight                                      |                      |
| Weight, approx.                             | 0.7 kg               |

Status

Jul 17, 2012