SIEMENS

Data sheet 6ES7414-2XK05-0AB0

*********** Replacement part ********* SIMATIC S7-400, CPU 414-2 Central
processing unit with: work memory 1 MB, (0.5 MB code, 0.5 MB data), 1st interface
MPI/DP 12 Mbit/s, 2nd interface PROFIBUS DP

	processing unit with: work memory 1 MB, (0.5 MB code, 0.5 MB data), 1st interface MPI/DP 12 Mbit/s, 2nd interface PROFIBUS DP
General information	
Product type designation	CPU 414-2
HW functional status	03
Firmware version	V5.3
Product function	15.5
Isochronous mode	Yes; For PROFIBUS only
Engineering with	133, 131, 133, 133, 133, 133, 133, 133,
Programming package	STEP 7 V5.3 SP2 or higher with HW update
CiR - Configuration in RUN	one. Trons on 2 on higher than the appeals
CiR synchronization time, basic load	100 ms
CiR synchronization time, time per I/O byte	15 μs
Supply voltage	10 μο
Rated value (DC)	Power supply via system power supply
Input current	Fower supply via system power supply
	0.9 A
from backplane bus 5 V DC, typ.	
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
Power loss	4.500
Power loss, typ.	4.5 W
Power loss, max.	5 W
Memory	
Type of memory	RAM
Work memory	
integrated	1 Mbyte
integrated (for program)	0.5 Mbyte
integrated (for data)	0.5 Mbyte
expandable	No
Load memory	
expandable FEPROM	Yes; with Memory Card (FLASH)
 expandable FEPROM, max. 	64 Mbyte
integrated RAM, max.	512 kbyte
expandable RAM	Yes; with Memory Card (RAM)
expandable RAM, max.	64 Mbyte
Backup	
• present	Yes
with battery	Yes; all data
without battery	No
Battery	
Backup battery	
 Backup current, typ. 	125 μA; up to 40 °C
 Backup current, max. 	550 μA
 Backup time, max. 	See reference manual, module data, Chapter 3.3
 Feeding of external backup voltage to CPU 	5 V DC to 15 V DC
CPU processing times	
for bit operations, typ.	45 ns
for word operations, typ.	45 ns
for fixed point arithmetic, typ.	45 ns
for floating point arithmetic, typ.	135 ns
CPU-blocks	

20	
DB	0.000 N. J. 40.000
• Number, max.	6 000; Number range: 1 to 16000
• Size, max.	64 kbyte
FB	
Number, max.	3 000; Number range: 0 to 7999
• Size, max.	64 kbyte
FC	
• Number, max.	3 000; Number range: 0 to 7999
• Size, max.	64 kbyte
OB	
• Number, max.	see instruction list
• Size, max.	64 kbyte
Number of free cycle OBs	1; OB 1
Number of time alarm OBs	4; OB 10-13
Number of delay alarm OBs	4; OB 20-23
Number of cyclic interrupt OBs	4; OB 32-35 (shortest cycle that can be set = 500 μs)
Number of process alarm OBs	4; OB 40-43
Number of DPV1 alarm OBs	3; OB 55-57
Number of isochronous mode OBs	3; OB 61-63
Number of multicomputing OBs	1; OB 60
Number of background OBs	1; OB 90
Number of startup OBs	3; 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	1
Counters, timers and their retentivity	
S7 counter	
Number	2 048
Retentivity	
— adjustable	Yes
— preset	Z 0 to Z 7
Counting range	
— lower limit	0
— upper limit	999
IEC counter	
• present	Yes
• Type	SFB
Number	Unlimited (limited only by RAM capacity)
S7 times	
Number	2 048
Retentivity	
— adjustable	Yes
— preset	No times retentive
Time range	
Time range — lower limit	10 ms
·	10 ms 9 990 s
— lower limit	
— lower limit — upper limit	
— lower limit — upper limit IEC timer	9 990 s
— lower limit — upper limit IEC timer ● present	9 990 s Yes
— lower limit — upper limit IEC timer ● present • Type	9 990 s Yes SFB
lower limit upper limit IEC timer • present • Type • Number	9 990 s Yes SFB
lower limit upper limit IEC timer • present • Type • Number Data areas and their retentivity	9 990 s Yes SFB Unlimited (limited only by RAM capacity)
— lower limit — upper limit IEC timer • present • Type • Number Data areas and their retentivity Retentive data area (incl. timers, counters, flags), max.	9 990 s Yes SFB Unlimited (limited only by RAM capacity)
— lower limit — upper limit IEC timer • present • Type • Number Data areas and their retentivity Retentive data area (incl. timers, counters, flags), max. Flag	9 990 s Yes SFB Unlimited (limited only by RAM capacity) Total working and load memory (with backup battery)
— lower limit — upper limit IEC timer • present • Type • Number Data areas and their retentivity Retentive data area (incl. timers, counters, flags), max. Flag • Size, max.	9 990 s Yes SFB Unlimited (limited only by RAM capacity) Total working and load memory (with backup battery) 8 kbyte; Size of bit memory address area
— lower limit — upper limit IEC timer • present • Type • Number Data areas and their retentivity Retentive data area (incl. timers, counters, flags), max. Flag • Size, max. • Retentivity available	9 990 s Yes SFB Unlimited (limited only by RAM capacity) Total working and load memory (with backup battery) 8 kbyte; Size of bit memory address area Yes
— lower limit — upper limit IEC timer • present • Type • Number Data areas and their retentivity Retentive data area (incl. timers, counters, flags), max. Flag • Size, max. • Retentivity available • Retentivity preset	Yes SFB Unlimited (limited only by RAM capacity) Total working and load memory (with backup battery) 8 kbyte; Size of bit memory address area Yes MB 0 to MB 15
— lower limit — upper limit IEC timer • present • Type • Number Data areas and their retentivity Retentive data area (incl. timers, counters, flags), max. Flag • Size, max. • Retentivity available • Retentivity preset • Number of clock memories	9 990 s Yes SFB Unlimited (limited only by RAM capacity) Total working and load memory (with backup battery) 8 kbyte; Size of bit memory address area Yes MB 0 to MB 15

• preset	8 kbyte
Address area	o kbyte
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	
Integrated power supply	No
Number of expansion units, max.	21
connectable OPs	31
Multicomputing	Yes; 4 CPUs max. (with UR1 or UR2)
Interface modules	1 es, 4 or os max. (with orch or orcz)
Number of connectable IMs (total), max.	6
· · · · · ·	6
Number of connectable IM 460s, max.	
Number of connectable IM 463s, max.	4; IM 463-2
Number of DP masters	
• integrated	2
• via CP	10; CP 443-5 Extended
● via IM 467	4
Mixed mode IM + CP permitted	No; IM 467 not suitable for use with CP 443-5 Ext. and CP 443-1 EX4x, EX20, GX20 (in PROFINET IO mode)
via interface module	0
Number of pluggable S5 modules (via adapter capsule in captral dayies), may	6
central device), max.	
Number of IO Controllers	0
• integrated	0
• via CP	4; No mixed operation of CP443-1 EX40 and CP443-1 EX 41/EX20/GX20, max. 4 in central controller
Number of operable FMs and CPs (recommended)	
• FM	Limited by number of slots and number of connections
• CP, PtP	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 PROFINET controller
• 1 IVOI 1000 and Ethernet CF5	maximum
Slots	
• required slots	1
Time of day	
Clock	
Hardware clock (real-time)	Yes
retentive and synchronizable	Yes
Resolution	1 ms
Deviation per day (buffered), max.	1.7 s; Power off
Deviation per day (unbuffered), max.	8.6 s; For power On
Operating hours counter	
Number	16

 Number/Number range 	0 to 15
Range of values	SFCs 2, 3 and 4: 0 to 32767 hours SFC 101: 0 to 2^31 - 1 hours
 Granularity 	1 h
• retentive	Yes
Clock synchronization	
• supported	Yes
• to 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
Time difference in system when synchronizing via	
• MPI, max.	200 ms
Interfaces	
Interfaces/bus type	1 x MPI/PROFIBUS DP, 1 x PROFIBUS DP
Number of RS 485 interfaces	2; Combined MPI / PROFIBUS DP and PROFIBUS DP
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	Yes
MPI	
 Number of connections 	32; If a diagnostics repeater is used on the line, the number of connection resources on the line is reduced by 1
Transmission rate, max.	12 Mbit/s
Services	
— 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
PROFIBUS DP master	
Number of connections, max.	16; If a diagnostics repeater is used on the line, the number of connection resources on the line is reduced by 1
Transmission rate, max.	12 Mbit/s
Number of DP slaves, max.	32
Services	
— PG/OP communication	Yes
— Routing	Yes; S7 routing
Global data communication	No
— S7 basic communication	Yes
— S7 communication	Yes
 — S7 communication, as client 	Yes
	163
 S7 communication, as server 	Yes
— S7 communication, as server— Equidistance— Isochronous mode	Yes
Equidistance Isochronous mode	Yes Yes Yes
— Equidistance— Isochronous mode— SYNC/FREEZE	Yes Yes Yes Yes
— Equidistance— Isochronous mode— SYNC/FREEZE— Activation/deactivation of DP slaves	Yes Yes Yes Yes Yes
— Equidistance— Isochronous mode— SYNC/FREEZE	Yes Yes Yes Yes

Aportos area		
— Outputs, max	Address area	
User data per DP slave, max.	•	
— User data per DP slave, max. 244 byte — Inputs, max. 244 byte — Inputs, max. 244 byte — Outputs, max. 244 byte — Slots, max. 244 byte — Slots, max. 244 byte — Slots, max. 245 byte — Per old, max. 245 byte — Per	·	2 kbyte
Inputs, max.	·	
Cutputs, max Stots, max Stots, max Stots, max Stots, max Stots, max 244 28 byte	•	
Slots, max.	•	
— per slot, max	— Outputs, max.	
Number of connections	— Slots, max.	244
Number of connections	— per slot, max.	128 byte
GSD file Transmission rate, max. Tablitis Tarnsmission rate, max. Tarnsmissio	PROFIBUS DP slave	
■ Transmission rate, max ■ automatic baud rate search ■ Address area, max. ■ User data per address area, max. ■ Owhich consistent, max. ■ Owhich consistent, max. ■ PG/OP communication ■ Routing ■ PG-OP communication ■ Routing ■ Sease communication ■ So asso communication ■ PROFIBUS De So asso communication ■ DPVI Transfer memory ■ Inputs ■ Laby data byte ■ Routing ■ PROFIBUS DP haster ■ No ■ PROFIBUS DP haster ■ PROFIBUS DP haster ■ No ■ PROFIBUS DP haster ■ PROFIB	 Number of connections 	16
* automatic baud rate search * Address area, max. * Outer data per address area, max. * Outer data communication * FOOP communication * FOOP communication * FOOP communication * FOOP communication * Outer data communication * Outer data exchange (slave-to-slave communication) * FOOP communication, as othert * Output data acchange (slave-to-slave communication) * Output data data per data acchange (slave-to-slave communication) * Output data data per data acchange (slave-to-slave communication) * Output data data per data acchange (slave-to-slave communication) * Output data data per data acchange (slave-to-slave communication) * PROFIBUS DP master * Output data communication * Yes * PROFIBUS DP baser * PROFIBUS DP baser * PROFIBUS DP master * No	• GSD file	http://support.automation.siemens.com/WW/view/en/113652
Address area, max. User data per address area, max. Of which consistent, max. 32 byte PCOOP communication Routing Posic communication Protocols Profileus DP master Pro	 Transmission rate, max. 	12 Mbit/s
	 automatic baud rate search 	No
Services PCOP communication PCO	 Address area, max. 	32; Virtual slots
Services	 User data per address area, max. 	32 byte
PGIOP communication Routing Giobal data communication S7 basic communication No S7 basic communication No S7 communication, as client S7 communication, as client S7 communication, as server Direct data exchange (slave-to-slave communication) No DPV1 No Transfer memory Inputs Outputs No No No No PROFIBUS DP Isolated Nes PROFIBUS DP Isolated PROFIBUS DP Isolated PROFIBUS DP Isolated No PROFIBUS DP Isolated Nes S8 485 Output current of the interface, max. PROFIBUS DP Isolated PROFIBUS DP Isolated PROFIBUS DP Isolated No PROFIBUS DP Isolated No PROFIBUS DP Isolated PROFIGUS DP Isolated Isolated Isolated Isolated Isolate	— of which consistent, max.	32 byte
Routing Global data communication No No ST communication No No ST communication Yes ST communication, as server Yes Direct data exchange (slave-to-slave communication) No	Services	
Global data communication S7 basic communication Yes S7 communication S7 communication S7 communication, as client S7 communication, as client S7 communication, as server Direct data exchange (slave-to-slave communication) DPV1 No Transfer memory Inputs Outputs 244 byte 2. Interface Interface type PROFIBUS DP Interface type PROFIBUS DP Interface type FROFIBUS DP Interface type FROFIBUS DP Interface type Interface type PROFIBUS DP Interface type Interface type PROFIBUS DP Interface type Interface type PROFIBUS DP Interface type PROFIBUS DP master PROFIBUS DP master PROFIBUS DP slave PROFIBUS DP slave PROFIBUS DP slave PROFIBUS DP slave PROFIBUS DP master PROFIBUS DP PROFIBUS DP master PROFIBUS DP PROFIBUS DP master PROFIBUS DP PROFI	— PG/OP communication	Yes; with interface active
	— Routing	Yes; with interface active
- S7 communication - S7 communication, as client - S7 communication, as server - S7 communication, as server - Pves - Direct data exchange (slave-to-slave communication) - DPV1 No Transfer memory - Inputs - Qutputs -	 Global data communication 	No
- S7 communication, as client - S7 communication, as server - Direct data exchange (slave-to-slave communication) - DPV1 Transfer memory - Inputs - Outputs 244 byte 2. Interface Interface type Interfac	 S7 basic communication 	No
- S7 communication, as server - Direct data exchange (slave-to-slave communication) - DPV1 Transfer memory - Inputs - Outputs 244 byte - Outputs 244 byte 2 Interface byte Interface type Isolated Yes Interface type Isolated Yes - RS 485 - Output current of the interface, max. PROFIBUS DP master - PROFIBUS DP master - PROFIBUS DP master - PROFIBUS DP slave PROFIBUS DP master - Number of connections, max Transmission rate, max. Number of DP slaves, max. Services - PG/OP communication - Routing - Global data communication - Routing - Global data communication - S7 basic communication - S7 tosic communication - S7 communication - S7 communication - S7 communication - S7 communication, as server - Equidistance - Isochronous mode - SYNC/FREEZE - Activation/deactivation of DP slaves - Direct data exchange (slave-to-slave communication) - DPV1 - DV1 - Address area	— S7 communication	Yes
Direct data exchange (slave-to-slave communication) DPV1 No Transfer memory Inputs 244 byte Outputs 244 byte 2 Interface byes Interface byes RS 485 Output current of the interface, max. PROFIBUS DP master PROFIBUS DP master PROFIBUS DP master PROFIBUS DP master Number of connections, max Transmission rate, max 12 Mbit/s Number of DP slaves, max PGOP communication Routing Global data communication S7 basic communication S7 communication, as client S7 communication, as server Equidistance Isochronous mode S7 communication, as server Equidistance Isochronous mode SYNC/FREEZE Activation/deactivation of DP slaves Direct data exchange (slave-to-slave communication) DPV1 DPV1 Address area	 S7 communication, as client 	Yes
communication) - DPV1 No Transfer memory - Inputs 244 byte - Outputs 244 byte 2. Interface type Interface type Interface type Solated Yes Interface type - RS 485 - Output current of the interface, max. 150 mA Protocols - PROFIBUS DP master - PROFIBUS DP slave PROFIBUS DP slave PROFIBUS DP slave FROFIBUS DP slave - Number of connections, max. 16 - Transmission rate, max. 12 Mbil/s - Number of DP slaves, max. 96 Services - PGOP communication - Routing - Routing - Global data communication - S7 basic communication - S7 ocmmunication - S7 communication, as client - S7 communication, as client - S7 communication, as server - Equidistance - Isochronous mode - SYNOFREEZE - Activation/deactivation of DP slaves - Direct data exchange (slave-to-slave communication) - DPV1 - DPV1 - Address area	 S7 communication, as server 	Yes
		No
Transfer memory	·	
Inputs		No
Interface type	•	
Interface type Isolated Interface types RS 485 Output current of the interface, max. Protocols PROFIBUS DP master PROFIBUS DP master PROFIBUS DP master PROFIBUS DP master Number of connections, max. Transmission rate, max. Transmission rate, max. Number of DP slaves, max. PG/OP communication Routing Global data communication S7 basic communication S7 communication S8 cervices S9 communication S9 cervices		244 byte
Isolated Yes Interface types • RS 485 Yes • Output current of the interface, max. 150 mA Protocols • PROFIBUS DP master Yes • PROFIBUS DP slave Yes PROFIBUS DP slave Yes PROFIBUS DP slave Yes PROFIBUS DP master • Number of connections, max. 16 • Transmission rate, max. 96 Services - PG/OP communication Yes - Routing Yes, S7 routing - Global data communication No - S7 basic communication Yes - S7 communication Yes - S7 communication Yes - S7 communication, as client Yes - S7 communication, as server Yes - Equidistance Yes - Isochronous mode Yes - SYNC/FREZE Yes - Activation/deactivation of DP slaves - Direct data exchange (slave-to-slave communication) - DPV1 Yes Address area		
Interface types RS 485 Output current of the interface, max. 150 mA Protocols PROFIBUS DP master PROFIBUS DP slave PROFIBUS DP slave PROFIBUS DP master Number of connections, max. 12 Mbit/s Transmission rate, max. 96 Services - PG/OP communication Routing Global data communication S7 communication PS7 communication PS7 communication PS7 communication, as client PS7 communication, as server PEquidistance PsyNC/PREZZE Pes Activation/deactivation of DP slaves Pyes Profibus DP master Pyes Pasier Pasier Pasier Pasier Pasier Pasier Pasier Pyes Pyes PsyNC/PREZZE Pyes Activation/deactivation of DP slaves Pyes Pyes Pyes Pyes Pyes Pyes Pyes Py	Interface type	PROFIBILS DP
RS 485 Output current of the interface, max. Protocols PROFIBUS DP master PROFIBUS DP slave PROFIBUS DP master Number of connections, max. If Transmission rate, max. Ves Number of DP slaves, max. Ves PROFIBUS DP slaves, max. Profices PROFIBUS DP master Number of connections, max. If Transmission rate, max. Ves	ппенасе туре	T KOT IBOC DI
Output current of the interface, max. Protocols PROFIBUS DP master PROFIBUS DP slave PROFIBUS DP master Number of connections, max. Italians is a single state	Isolated	
Protocols PROFIBUS DP master PROFIBUS DP slave PROFIBUS DP master Number of connections, max. It all Mbit/s Transmission rate, max. Number of DP slaves, max. Services PROFIDE SP max. PG/OP communication Routing Global data communication ST basic communication ST basic communication ST communi	Isolated	Yes
 PROFIBUS DP master PROFIBUS DP slave PROFIBUS DP master Number of connections, max. 16 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, as client — S7 communication, as server — Equidistance — Lisochronous mode — SYNC/FREEZE — Activation/deactivation of DP slaves — Direct data exchange (slave-to-slave communication) — DPV1 Address area 	Isolated Interface types	Yes
PROFIBUS DP slave 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 communication S8 communication S9 communication	Isolated Interface types • RS 485	Yes
PROFIBUS DP master • Number of connections, max. • Transmission rate, max. • Number of DP slaves, max. 96 Services - PG/OP communication - Routing - Global data communication - S7 basic communication - S7 communication - Yes - Yes - S7 communication - Yes - S7 communication - Yes - S7 communication - Yes - Yes - S7 communication - Yes - Yes - S7 communication - Yes - Yes - S7 communi	Isolated Interface types • RS 485 • Output current of the interface, max.	Yes
Number of connections, max. Transmission rate, max. Number of DP slaves, max. PG/OP communication Routing Global data communication S7 basic communication S7 communication S7 communication S7 communication S7 communication S7 communication S8 communication S9 communication Yes S9 communication Yes S9 communication Yes S9 communication, as client Yes S9 communication, as server Yes Equidistance SYNC/FREEZE Activation/deactivation of DP slaves Direct data exchange (slave-to-slave communication) DPV1 Address area	Isolated Interface types RS 485 Output current of the interface, max. Protocols	Yes Yes 150 mA
 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, as client — S7 communication, as server — S7 communication, as server — Equidistance — Lsochronous mode — SYNC/FREEZE — Activation/deactivation of DP slaves — Direct data exchange (slave-to-slave communication) — DPV1 Address area 	Isolated Interface types • RS 485 • Output current of the interface, max. Protocols • PROFIBUS DP master • PROFIBUS DP slave	Yes Yes 150 mA Yes
Number of DP slaves, max. Services - PG/OP communication Yes - Routing Yes; S7 routing - Global data communication No - S7 basic communication Yes - S7 communication Yes - S7 communication Yes - S7 communication, as client Yes - S7 communication, as server Yes - Equidistance Yes - Isochronous mode Yes - SYNC/FREEZE Yes - Activation/deactivation of DP slaves Yes - Direct data exchange (slave-to-slave communication) - DPV1 Address area	Isolated Interface types • RS 485 • Output current of the interface, max. Protocols • PROFIBUS DP master • PROFIBUS DP slave	Yes Yes 150 mA Yes
Services	Isolated Interface types RS 485 Output current of the interface, max. Protocols PROFIBUS DP master PROFIBUS DP slave PROFIBUS DP master	Yes Yes 150 mA Yes Yes
 — PG/OP communication — Routing — Global data communication — S7 basic communication — S7 communication — S7 communication, as client — S7 communication, as server — S7 communication, as server — Equidistance — Isochronous mode — SYNC/FREEZE — Activation/deactivation of DP slaves — Direct data exchange (slave-to-slave communication) — DPV1 Address area 	Isolated Interface types RS 485 Output current of the interface, max. Protocols PROFIBUS DP master PROFIBUS DP slave PROFIBUS DP master Number of connections, max.	Yes Yes 150 mA Yes Yes Yes
 Routing Global data communication S7 basic communication 97 communication 97 communication 97 communication, as client 97 communication, as client 97 communication, as server 98 communication, as server 190 communication, as server 190 communication 190 communicat	Isolated Interface types • RS 485 • Output current of the interface, max. Protocols • PROFIBUS DP master • PROFIBUS DP slave PROFIBUS DP master • Number of connections, max. • Transmission rate, max.	Yes Yes 150 mA Yes Yes Yes Yes 16 12 Mbit/s
 Global data communication S7 basic communication S7 communication S7 communication S7 communication, as client S7 communication, as server S7 communication, as server Equidistance Isochronous mode SYNC/FREEZE Activation/deactivation of DP slaves Direct data exchange (slave-to-slave communication) DPV1 Address area 	Isolated Interface types • RS 485 • Output current of the interface, max. Protocols • PROFIBUS DP master • PROFIBUS DP slave PROFIBUS DP master • Number of connections, max. • Transmission rate, max. • Number of DP slaves, max.	Yes Yes 150 mA Yes Yes Yes Yes 16 12 Mbit/s
 — S7 basic communication — S7 communication — S7 communication, as client — S7 communication, as server — S7 communication, as server — Equidistance — Equidistance — Isochronous mode — SYNC/FREEZE — Activation/deactivation of DP slaves — Direct data exchange (slave-to-slave communication) — DPV1 Address area 	Isolated Interface types RS 485 Output current of the interface, max. Protocols PROFIBUS DP master PROFIBUS DP slave PROFIBUS DP master Number of connections, max. Transmission rate, max. Number of DP slaves, max. Services	Yes Yes 150 mA Yes Yes Yes Yes 96
 S7 communication S7 communication, as client S7 communication, as server S7 communication, as server Yes Equidistance Isochronous mode Yes SYNC/FREEZE Activation/deactivation of DP slaves Direct data exchange (slave-to-slave communication) DPV1 Address area Yes Address area	Isolated Interface types RS 485 Output current of the interface, max. Protocols PROFIBUS DP master PROFIBUS DP slave PROFIBUS DP master Number of connections, max. Transmission rate, max. Number of DP slaves, max. Services — PG/OP communication	Yes Yes 150 mA Yes Yes Yes Yes Yes Yes 16 12 Mbit/s 96 Yes
 — S7 communication, as client — S7 communication, as server — Equidistance — Isochronous mode — SYNC/FREEZE — Activation/deactivation of DP slaves — Direct data exchange (slave-to-slave communication) — DPV1 Address area Yes Yes Yes Yes Yes	Isolated Interface types RS 485 Output current of the interface, max. Protocols PROFIBUS DP master PROFIBUS DP slave PROFIBUS DP master Number of connections, max. Transmission rate, max. Number of DP slaves, max. Services — PG/OP communication — Routing	Yes Yes 150 mA Yes Yes Yes Yes Yes Yes Yes Ye
 — S7 communication, as server — Equidistance — Isochronous mode — SYNC/FREEZE — Activation/deactivation of DP slaves — Direct data exchange (slave-to-slave communication) — DPV1 Address area Yes Yes Yes Yes Yes Yes	Isolated Interface types • RS 485 • Output current of the interface, max. Protocols • PROFIBUS DP master • PROFIBUS DP slave 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 150 mA Yes Yes Yes Yes Yes Yes Yes 16 12 Mbit/s 96 Yes Yes; S7 routing No
 — S7 communication, as server — Equidistance — Isochronous mode — SYNC/FREEZE — Activation/deactivation of DP slaves — Direct data exchange (slave-to-slave communication) — DPV1 Address area Yes Yes Yes Yes Yes Yes	Isolated Interface types RS 485 Output current of the interface, max. Protocols PROFIBUS DP master PROFIBUS DP slave 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	Yes Yes 150 mA Yes Yes Yes Yes Yes Yes Yes No Yes
 — Isochronous mode — SYNC/FREEZE — Activation/deactivation of DP slaves — Direct data exchange (slave-to-slave communication) — DPV1 Address area Yes Yes 	Isolated Interface types RS 485 Output current of the interface, max. Protocols PROFIBUS DP master PROFIBUS DP slave 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 communication	Yes Yes 150 mA Yes Yes Yes Yes Yes Yes Yes Your salant
 — Isochronous mode — SYNC/FREEZE — Activation/deactivation of DP slaves — Direct data exchange (slave-to-slave communication) — DPV1 Address area Yes Yes 	Isolated Interface types RS 485 Output current of the interface, max. Protocols PROFIBUS DP master PROFIBUS DP slave 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	Yes Yes 150 mA Yes Yes Yes Yes Yes Yes Yes Ye
 — SYNC/FREEZE — Activation/deactivation of DP slaves — Direct data exchange (slave-to-slave communication) — DPV1 Address area Yes Yes Yes	Isolated Interface types RS 485 Output current of the interface, max. Protocols PROFIBUS DP master PROFIBUS DP slave 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 communication S7 communication S7 communication, as client S7 communication, as server	Yes Yes 150 mA Yes Yes Yes Yes Yes Yes 16 12 Mbit/s 96 Yes Yes; \$7 routing No Yes Yes Yes Yes Yes Yes Yes Ye
 — Activation/deactivation of DP slaves — Direct data exchange (slave-to-slave communication) — DPV1 Address area Yes Yes Yes	Isolated Interface types RS 485 Output current of the interface, max. Protocols PROFIBUS DP master PROFIBUS DP slave 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 communication S7 communication S7 communication, as client S7 communication, as server Equidistance	Yes Yes 150 mA Yes Yes Yes Yes Yes Yes Yes Ye
 — Direct data exchange (slave-to-slave communication) — DPV1 Address area Yes 	Isolated Interface types RS 485 Output current of the interface, max. Protocols PROFIBUS DP master PROFIBUS DP slave 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 communication S7 communication S7 communication, as client S7 communication, as server Equidistance Isochronous mode	Yes Yes 150 mA Yes Yes Yes Yes Yes Yes Yes Ye
communication) — DPV1 Yes Address area	Isolated Interface types RS 485 Output current of the interface, max. Protocols PROFIBUS DP master PROFIBUS DP slave 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 communication S7 communication S7 communication, as client S7 communication, as server Equidistance Isochronous mode SYNC/FREEZE	Yes Yes 150 mA Yes Yes Yes 16 12 Mbit/s 96 Yes Yes; S7 routing No Yes
Address area	Isolated Interface types RS 485 Output current of the interface, max. Protocols PROFIBUS DP master PROFIBUS DP slave 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, as client S7 communication, as server Equidistance Isochronous mode SYNC/FREEZE Activation/deactivation of DP slaves	Yes Yes 150 mA Yes Yes Yes 16 12 Mbit/s 96 Yes Yes; S7 routing No Yes
	Isolated Interface types RS 485 Output current of the interface, max. Protocols PROFIBUS DP master PROFIBUS DP slave 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 S7 communication, as client S7 communication, as server Equidistance Isochronous mode SYNC/FREEZE Activation/deactivation of DP slaves Direct data exchange (slave-to-slave	Yes Yes 150 mA Yes Yes Yes 16 12 Mbit/s 96 Yes Yes; S7 routing No Yes
— Inputs, max. 6 kbyte	Isolated Interface types RS 485 Output current of the interface, max. Protocols PROFIBUS DP master PROFIBUS DP slave 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, as client S7 communication, as server Equidistance Isochronous mode SYNC/FREEZE Activation/deactivation of DP slaves Direct data exchange (slave-to-slave communication)	Yes 150 mA Yes Yes Yes Yes Yes Yes Yes Yes Yes; S7 routing No Yes
	Isolated Interface types RS 485 Output current of the interface, max. Protocols PROFIBUS DP master PROFIBUS DP slave 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 communication S7 communication S7 communication S7 communication, as client S7 communication, as server Equidistance Isochronous mode SYNC/FREEZE Activation/deactivation of DP slaves Direct data exchange (slave-to-slave communication) DPV1	Yes 150 mA Yes Yes Yes Yes Yes Yes Yes Yes Yes; S7 routing No Yes

— Outputs, max.	6 kbyte
User data per DP slave	6 KDyle
User data per DP slave, max.	244 byte
— Oser data per DP stave, max. — Inputs, max.	244 byte
•	The state of the s
— Outputs, max.	244 byte
— Slots, max.	244
— per slot, max.	128 byte
PROFIBUS DP slave	40
Number of connections	16
• GSD file	http://support.automation.siemens.com/WW/view/en/113652
Transmission rate, max.	12 Mbit/s
 Address area, max. 	32
User data per address area, max.	32 byte
— of which consistent, max.	32 byte
Services	
— Routing	Yes
Transfer memory	
— Inputs	244 byte
— Outputs	244 byte
Protocols	
SIMATIC communication	
S7 routing	Yes
Open IE communication	
• ISO-on-TCP (RFC1006)	Via CP 443-1 and loadable FB
— Data length, max.	1 452 bytes via CP 443-1 Adv.
Web server	
• supported	No
Isochronous mode	
Equidistance	Yes
Number of DP masters with isochronous mode	2
User data per isochronous slave, max.	244 byte
shortest clock pulse	1 ms; 0.5 ms without use of SFC 126, 127
max. cycle	32 ms
communication functions / header	
PG/OP communication	Yes
Number of connectable OPs without message processing	31
Number of connectable OPs with message processing	31; When using Alarm_S/SQ and Alarm_D/DQ
Data record routing	Yes
Global data communication	165
supported	Voc
SupportedNumber of GD loops, max.	Yes
• •	8
Number of GD packets, transmitter, max. Number of GD packets, receives, max.	8
Number of GD packets, receiver, max. Since of CD packets may.	16
Size of GD packets, max. Size of GD packet (of which consistent), may	54 byte
Size of GD packet (of which consistent), max.	1 variable
S7 basic communication	
communication function / S7 basic communication	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	24/24
CPU, max.	

* upsported	Standard communication (FMS)	
Nomination of connections		Yes; Via CP and loadable FB
- reserved for PG communication	overall	32
- adjustable for PC communication and subsets for OP communication and subsets for SP basic communication and subsets for SP communication and subsets for subsets	 usable for PG communication 	31
- usable for OP communication	 reserved for PG communication 	1
- usable for OP communication	 adjustable for PG communication, max. 	0
- adjustable for OP communication, max. • usable for ST basic communication - adjustable for ST basic communication - adjustable for ST communication - adjustable for ST communication - reserved for ST communication - adjustable for To communication - adjustable for To comminication - ad	•	31
usable for S7 basic communication — reserved for S7 basic communication — adjustable for S7 basic communication, max. usable for S7 communication — adjustable for S7 communication — adjustable for S7 communication, max. usable for routing — reserved for F7 communication, max. usable for routing — reserved for routing — reserved for routing, max. • usable for routing, max. • usable for routing, max. • Descriptions Number of login stations for message functions, max. Symbol-related messages	 reserved for OP communication 	1
usable for S7 basic communication — reserved for S7 basic communication — adjustable for S7 basic communication — adjustable for S7 communication — adjustable for S7 communication — adjustable for S7 communication, max. • usable for routing — reserved for routing — adjustable for routing — reserved for routing — adjustable for routing — adjustable for routing, max.	 adjustable for OP communication, max. 	0
- reserved for \$7 basic communication		30
- adjustable for S7 basic communication max. • usable for S7 communication - reserved for S7 communication, max. • usable for for forting - adjustable for S7 communication, max. • usable for fort ording - reserved for routing - adjustable for routing, max. • D - adjustable for routing, max. • To reserved for routing, max. • To		
		0
- reserved for S7 communication 0 - adjustable for Toruting 15 - reserved for routing 0 - adjustable for routing 0 - adjustable for routing 0 - adjustable for routing, max. 0 S7 mossages functions Number of login stations for message functions, max. 31; Max. 31 with Alarm_S/SQ and Alarm_D/DQ (OPs); max. 8 with Alarm_8 - adjustable for routing, max. 31; Max. 31 with Alarm_S/SQ and Alarm_D/DQ (OPs); max. 8 with Alarm_8 - Alarm S4 with Alarm_S/SQ and Alarm_D/DQ (OPs); max. 8 with Alarm_8 - Alarm S4 with Alarm_S/SQ and Alarm_D/DQ (OPs); max. 8 with Alarm_8 - Process diagnostic messages 7 ves - Process diagnostic messages 9 ves - Process diagnostic messages 9 ves - Process diagnostic messages 9 ves - Number of instances for alarm 8 and S7 communication blocks, max. 400, Simultaneously active alarm_S/SQ blocks or alarm_D/DQ blocks 9 ves - Number of instances for alarm 8 and S7 communication blocks, max. 1200 - correll, max. 1200 - correll, max. 1200 - overall, max. 120	•	30
adjustable for S7 communication, max. • usable for routing reserved for routing adjustable for routing, max. Number of login stations for message functions, max. Number of login stations for message functions, max. Symbol-related messages Yes SCAN procedure Yes SCAN procedure Program alarms Yes SCAN procedure Program alarms Yes SCAN procedure Yes SCAN procedure Yes Frocas diagnostic messages Yes simultaneously active Alarm-Sblocks, max. Alarm 8-blocks Number of instances for alarm 8 and S7 communication blocks, max • Instances control messages Yes Number of instances for alarm 8 and S7 communication blocks, max Process control messages Yes Number of instances for alarm 8 and S7 communication blocks, max Process control messages Ves Number of instances for alarm 8 and S7 communication blocks, max Process control messages Ves Number of instances for alarm 8 and S7 communication blocks, max Process control messages Ves Number of instances for alarm 8 and S7 communication blocks, max Process control messages Ves Number of instances for alarm 8 and S7 communication blocks, max In 500 messages Ves Ves Ves Number of or messages Ves		
usable for routing		
reserved for routing adjustable for routing, max. 0 \$7 message functions Number of login stations for message functions, max. 31; Max. 31 with Alarm_S/SQ and Alarm_D/DQ (OPs); max. 8 with Alarm_8 and Alarm_P (e.g. WinCC) Symbol-related messages Symbol-related messages Yes SCAN procedure Yes Process diagnostic messages Yes imultaneously active Alarm-S blocks, max. 400; Simultaneously active alarm_S/SQ blocks or alarm_D/DQ blocks Number of instances for alarm 8 and S7 communication blocks, max. 400; Simultaneously active alarm_S/SQ blocks or alarm_D/DQ blocks Number of instances for alarm 8 and S7 communication blocks, max. 400; Simultaneously active alarm_S/SQ blocks or alarm_D/DQ blocks Number of archives that can log on simultaneously (SFB 37 AR_SEND) Number of messages ● overall, max. 128 ■ in 100 ms grid, max. 128 ■ in 100 ms grid, max. 128 ■ with 100 ms grid, max. 10 ■ with 500, 1000 ms grid, max. 10 **vint 500, 1000 ms grid, max. 10 **Ves Status/control variable	•	
Timesago functions Strimesago functions Number of login stations for message functions, max. Symbol-related messages SCAN procedure Yes SCAN procedure Yes Program alarms Yes simultaneously active Alarm-S blocks, max. Alam 8-blocks Number of instances for alarm 8 and S7 communication blocks, max. Alam 8-blocks Number of instances for alarm 8 and S7 communication blocks, max. Process control messages Yes Number of archives that can log on simultaneously (SFB 37 AR SEND) Number of messages • overall, max. • in 100 ms grid, max. • in 100 ms grid, max. • in 100 ms grid, max. • with 100 nso grid, max. • with 100 nos grid, max. • yes; Up to 2 simultaneously Status block Yes; Up to 16 variable tables • Variables • Number of variables, max. Forcing • Forcing, variables • Number of variables, max. • Persent • Number of entries, max. — adjustable — preset Preset Service data	-	
Number of login stations for message functions, max. Symbol-related messages Yes SCAN procedure Program alarms Yes Process diagnostic messages Ves Number of instances for alarm 8 and S7 communication blocks, max. I and Alarm_S/SQ blocks or alarm_D/DQ blocks Number of instances for alarm 8 and S7 communication blocks, max. I and SA SEAN process diagnostic messages Number of instances for alarm 8 and S7 communication blocks, max. I and SA SEAN process control messages Number of archives that can log on simultaneously (SFB 37 AR, SEND) Number of messages I and SA SEAN process control process control process control process control process control variables, max. I and Status/control vari	-	
Number of login stations for message functions, max. Symbol-related messages Symbol-related messages Yes SCAN procedure Yes Process diagnostic messages Yes Process diagnostic messages Yes simultaneously active Alarm-S blocks, max. Alarm 8-blocks Number of instances for alarm 8 and 87 communication blocks, max. Process control messages Yes Number of messages Yes Number of messages Process control messages Yes Number of messages Process control messages Yes Number of messages Process control messages Proces contro		
and Alarm_P (e.g. WinCC) Symbol-related messages SCAN procedure Yes Program alarms Yes Process diagnostic messages simultaneously active Alarm_S blocks, max. Alarm 8-blocks Number of instances for alarm 8 and S7 communication blocks, max. • preset, max. • preset, max. • process control messages Number of archives that can log on simultaneously (SFB 37 AR_SEND) Number of messages • overall, max. • in 100 ms grid, max. • in 100 ms grid, max. • in 100 ms grid, max. • with 500, 1000 ms grid, max. • with 500, 1000 ms grid, max. • Yes Status block Yes, Up to 2 simultaneously Single step Yes Number of breakpoints Status/control • Status/control variable • Variables • Number of variables, max. Forcing • Forcing, variables • Number of variables, max. • Yes Processed the max. • Yes Processed the max of the		31: May 31 with Alarm S/SO and Alarm D/DO (ODa); may 8 with Alarm 0
Symbol-related messages SCAN procedure Yes Program alarms Yes Process diagnostic messages Yes simultaneously active Alarm-S blocks, max. Alarm 8-blocks Number of instances for alarm 8 and S7 communication blocks, max. • rereset, max. • preset, max. • preset, max. • or preset, max. • or preset, max. • or present • Number of archives that can log on simultaneously (SFB 37 R, SEND) Number of messages • overall, max. • in 100 ms grid, max. • with 100 ms grid, max. • in 100 ms grid, max. • with 100 ms grid, max. 10 Test commissioning functions Status block Yes, Up to 2 simultaneously Single step Yes Number of breakpoints • Yes Number of variables, max. Forcing • Forcing • Forcing • Forcing • Forcing • Forcing, variables • Number of variables, max. Tes • Number of variables, max. Yes • Number of variables, max. Forcing • Forcing • Forcing • Forcing, variables • Number of variables, max. Yes • Number of variables, max. Forcing • Forcing • Forcing, variables • Number of variables, max. Yes • Number of variables, max. Yes • Number of variables, max. Yes • Number of variables, max. • Yes • Number of variables, max. Yes • Ves • Number of variables, max. Yes • Number of variables, max. Yes	number of logiti stations for message fullctions, max.	
SCAN procedure Yes Program alarms Yes Process diagnostic messages simultaneously active Alarm-S blocks, max. Alarm 8-blocks Yes Number of instances for alarm 8 and S7 communication blocks, max. Process control messages • Ves Number of archives that can log on simultaneously (SFB 37 AR_SEND) Number of messages • overall, max. • in 100 ms grid, max. • in 100 ms grid, max. • in 100 ms grid, max. • with 500, 1000 ms grid, max. • with 100 ms grid, max. • with 500, 1000 ms grid, max. • with 500, 1000 ms grid, max. • with 500, 1000 ms grid, max. • yes Slatus block Slatus control Slatus control • Status/control • Status/control variable • Variables • Number of variables, max. Forcing • Forcing, variables • Number of variables, max. Process control messages Yes Number of variables, max. Process control messages Yes Number of variables, max. Process	Symbol-related messages	
Program alarms Program starms Process diagnostic messages Yes Simultaneously active Alarm-S blocks, max. Alarm 8-blocks Number of instances for alarm 8 and \$7 communication blocks, max. • preset, max. • preset, max. • preset, max. 9 preset, max. 1200 Number of archives that can log on simultaneously (SFB 37 AR_SEND) Number of messages • overall, max. • in 100 ms grid, max. • in 100 ms grid, max. • in 100 ms grid, max. • with 100 ms grid, max. • with 500, 1000 ms grid, max. • yes; Up to 2 simultaneously Status block Yes; Up to 16 variable tables • Number of breakpoints 4 Status/control variable • Variables • Number of variables, max. Forcing • For		
Process diagnostic messages 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 Number of archives that can log on simultaneously (SFB 37 AR_SEND) Number of messages • overall, max. • in 100 ms grid, max. • in 100 ms grid, max. • in 100 ms grid, max. • with 500, 100 ms grid, max. • yes; Up to 2 simultaneously Status block Status block Yes; Up to 2 simultaneously Status control variable • Variables • Variables • Number of variables, max. Forcing • Forcing, variables • Forcing, variables • Number of variables, max. Yes Present • present • present • Number of entries, max. 400 — adjustable — preset 120 Service data	· · · · · · · · · · · · · · · · · · ·	
simultaneously active Alarm-S blocks, max. Alarm 8-blocks Number of instances for alarm 8 and S7 communication blocks, max. • preset, max. • preset, max. 300 Process control messages Number of archives that can log on simultaneously (SFB 37 AR_SEND) Number of messages • overall, max. • in 100 ms grid, max. • in 1000 ms grid, max. • in 100 ms grid, max. • with 500, 1000 ms grid, max. • with 500, 1000 ms grid, max. • with 500, 1000 ms grid, max. 10 Test commissioning functions Slatus block Single step Number of breakpoints 4 Slatus/control variable • Variables • Number of variables, max. Forcing • Forcing		
Alarm 8-blocks Number of instances for alarm 8 and S7 communication blocks, max. preset, max. preset, max. preset, max. 1200 300 Process control messages Yes Number of archives that can log on simultaneously (SFB 37 AR_SEND) Number of archives that can log on simultaneously (SFB 37 AR_SEND) Number of messages o overall, max. in 100 ms grid, max. in 100 ms grid, max. in 100 ms grid, max. vin 100 ms grid, max. with 100 ms grid, max. with 100 ms grid, max. 10 Test commissioning functions Status block Single step Yes Number of breakpoints 4 Status/control variables Variables Number of variables, max. Process Proceing Forcing Forcing Forcing, variables, max. Yes Number of variables, max. 256 Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters 70; Status/control Persent Persent Persent Persent Present Present Yes Ves 120 Service data		
Number of instances for alarm 8 and \$7 communication blocks, max. process control messages Number of archives that can log on simultaneously (SFB 37 AR_SEND) Number of archives that can log on simultaneously (SFB 37 AR_SEND) Number of messages o overall, max. in 100 ms grid, max. in 500 ms grid, max. in 1000 ms grid, max. viit 500, 1000 ms grid, max. viit 500, 1000 ms grid, max. 10 Test commissioning functions Status block Single step Number of breakpoints 4 Status/control Status/control variables Number of variables, max. Forcing Forcing Forcing, variables, max. Diagnostic buffer o present Number of entiles, max. 400 Pesservice data	·	
blocks, max.		
Process control messages Yes Number of archives that can log on simultaneously (SFB 37 AR_SEND) 16 Number of messages • overall, max. 512 • in 100 ms grid, max. 128 • in 1000 ms grid, max. 256 • in 1000 ms grid, max. 512 • with 100 ms grid, max. 1 • with 500, 1000 ms grid, max. 10 Test commissioning functions Status block Yes; Up to 2 simultaneously Single step Yes Number of breakpoints 4 Status/control 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, variables Inputs, outputs, bit memories, peripheral inputs, peripheral outputs • Number of variables, max. 256 Diagnostic buffer Yes • Number of entries, max. 400 — adjustable Yes — preset 120 Service data		1 200
Number of archives that can log on simultaneously (SFB 37 AR_SEND) Number of messages • overall, max. • in 100 ms grid, max. • in 500 ms grid, max. • in 1000 ms grid, max. • in 1000 ms grid, max. • in 1000 ms grid, max. • with 100 ms grid, max. • with 500, 1000 ms grid, max. • with 500, 1000 ms grid, max. • with 500, 1000 ms grid, max. 10 Test commissioning functions Status block Status block Yes; Up to 2 simultaneously 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 - preset - 120 Service data	• preset, max.	300
Number of messages	Process control messages	Yes
Number of messages • overall, max.		16
 in 100 ms grid, max. in 500 ms grid, max. 512 Number of additional values with 100 ms grid, max. with 500, 1000 ms grid, max. to with 500, 1000 ms grid, max. to Test commissioning functions Status block Yes; Up to 2 simultaneously Single step Yes Number of breakpoints 4 Status/control Status/control variable Variables Number of variables, max. Forcing Forcing Forcing, variables, max. Porcing, variables, max. Poresent Number of variables, max. Poresent Poresent Number of entries, max. Augustable Pesent Number of entries, max. Augustable Pesent Peservice data 	Number of messages	
 in 500 ms grid, max. in 1000 ms grid, max. 512 Number of additional values with 100 ms grid, max. thith 500, 1000 ms grid, max. thith 500, 1000 ms grid, max. Test commissioning functions Status block Yes; Up to 2 simultaneously Single step Yes Number of breakpoints Status/control Status/control Yes; Up to 16 variable tables Variables Variables Number of variables, max. Forcing Forcing Forcing, variables, max. Porcing, variables, max. Number of variables, max. Poresent Number of entries, max. Augustable Present Number of entries, max. Augustable Pesent Number of entries, max. Augustable Peservice data 	• overall, max.	512
in 1000 ms grid, max. Number of additional values with 100 ms grid, max. with 500, 1000 ms grid, max. 10 Test commissioning functions Status block Yes; Up to 2 simultaneously Single step Yes Number of breakpoints 4 Status/control Status/control variable Variables Number of variables, max. Forcing Forcing Forcing Forcing, variables, max. Persent Number of variables, max. Persent Present Number of entries, max. 400 Service data	• in 100 ms grid, max.	128
Number of additional values • with 100 ms grid, max. • with 500, 1000 ms grid, max. 10 Test commissioning functions Status block Yes; Up to 2 simultaneously Single step Yes Number of breakpoints • Status/control • Status/control variable • Variables • Variables • Number of variables, max. Forcing • Forcing • Forcing, variables • Number of variables, max. Forcing • Forcing, variables • Number of variables, max. • Number of variables, max. Forcing • Forcing, variables • Number of variables, max. 256 Diagnostic buffer • present • Number of entries, max. - adjustable - preset Service data		256
 with 100 ms grid, max. with 500, 1000 ms grid, max. 10 Test commissioning functions Status block Yes; Up to 2 simultaneously 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. Porcing, variables, max. Number of variables, max. Porcing, variables Number of variables, max. Number of variables, max. 256 Diagnostic buffer Present Number of entries, max. — adjustable — preset Service data 	• in 1000 ms grid, max.	512
with 500, 1000 ms grid, max. Test commissioning functions Status block Yes; Up to 2 simultaneously Single step Yes Number of breakpoints 4 Status/control Status/control variable Variables Variables Number of variables, max. Forcing Forcing Forcing Forcing, variables Number of variables, max. Process Number of variables, max. Yes Inputs, outputs, bit memories, peripheral inputs, peripheral outputs present present Number of entries, max. Adoo adjustable preset Service data		
with 500, 1000 ms grid, max. Test commissioning functions Status block Yes; Up to 2 simultaneously Single step Yes Number of breakpoints 4 Status/control Status/control variable Variables Variables Number of variables, max. Forcing Forcing Forcing Forcing, variables Number of variables, max. Process Number of variables, max. Yes Inputs, outputs, bit memories, peripheral inputs, peripheral outputs present present Number of entries, max. Adoo adjustable preset Service data		1
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. Number of variables, max. Forcing, variables Number of variables, max. Forcing, variables Number of variables, max. Pessent Present Ves Number of variables, max. Diagnostic buffer Present Number of entries, max. Au00 Augustable Preset Preset Service data	-	
Status block Yes; Up to 2 simultaneously Yes Number of breakpoints 4 Status/control • Status/control variable • Variables • Number of variables, max. Forcing • Forcing • Forcing, variables, max. • Number of variables, max. • Number of variables, max. Forcing • Forcing, variables • Number of variables, max. • Present • Present • Present • Present • Preset • Number of entries, max. — adjustable — preset • Preset • Preset • Preset • Preset		
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 Service data		Yes: Up to 2 simultaneously
Number of breakpoints Status/control Status/control variable Ves; Up to 16 variable tables Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters Number of variables, max. Forcing Forcing Forcing, variables Number of variables, max. Inputs, outputs, bit memories, peripheral inputs, peripheral outputs Number of variables, max. Diagnostic buffer Present Number of entries, max. - adjustable - preset 120 Service data		
Status/control Status/control variable Variables Number of variables, max. Forcing Forcing Forcing, variables Number of variables, max. Status/control Yes Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters 70; Status/control Yes Forcing Forcing, variables Number of variables, max. Status/control Yes Inputs, outputs, bit memories, peripheral inputs, peripheral outputs Number of variables, max. Yes Number of entries, max. - adjustable - preset Yes - preset Service data		
Status/control variable Variables Variables Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters Number of variables, max. Forcing Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. Adoo adjustable — preset Service data Yes, Up to 16 variables Inputs, outputs, DBs, distributed I/Os, timers, counters 70; Status/control Yes Inputs, outputs, bit memories, peripheral inputs, peripheral outputs 400 Yes 120 Service data		
 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. adjustable preset 120 Service data 		Ves: Un to 16 variable tables
 Number of variables, max. Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. Audo <		
Forcing Forcing Forcing, variables Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. Ad00 - adjustable - preset Service data		
Forcing Forcing, variables Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. Ad00 Adjustable Preset Preset Service data Yes 120 Yes		70, Status/COTITIO
 Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. Adjustable preset 120 Service data 		Voc
 Number of variables, max. Diagnostic buffer present Number of entries, max. - adjustable - preset Service data 	-	
Diagnostic buffer • present • Number of entries, max. - adjustable - preset Service data Yes 400 Yes 120		
● present Yes ● Number of entries, max. 400 — adjustable Yes — preset 120 Service data		200
● Number of entries, max. — adjustable — preset 120 Service data		V
 — adjustable — preset Service data Yes 120	·	
— preset 120 Service data		
Service data		
		120
• can be read out		
	• can be read out	Yes

Standards, approvals, certificates	
CE mark	Yes
CSA approval	Yes
UL approval	Yes
cULus	Yes
FM approval	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
EAC (formerly Gost-R)	Yes
Use in hazardous areas	165
• ATEX	ATEX II 3G Ex nA IIC T4 Gc
Ambient conditions	ATEX II 3G EXTIA IIC 14 GC
Ambient temperature during operation	0.00
• min.	0 °C
• max.	60 C
configuration / header	
Configuration software	· ·
• STEP 7	Yes
configuration / programming / header	
Command set	see instruction list
Nesting levels	7
Access to consistent data in process image	Yes
 System functions (SFC) 	see instruction list
System function blocks (SFB)	see instruction list
Programming language	
— LAD	Yes
— FBD	Yes
— STL	Yes
— SCL	Yes
— CFC	Yes
— GRAPH	Yes
— HiGraph®	Yes
configuration / programming / number of simultaneously act	ive SFC / header
— DPSYC_FR	2; SFC 11; per interface
— D_ACT_DP	8; SFC 12; per interface
— RD_REC	8; SFC 59; per interface
— WR_REC	8; SFC 58; per interface
— WR_PARM	8; SFC 55; per interface
— PARM_MOD	1; SFC 57; per interface
— WR_DPARM	2; SFC 56; per interface
— DPNRM_DG	8; SFC 13; per interface
— RDSYSST	8
— DP_TOPOL	1; SFC 103; per interface
configuration / programming / number of simultaneously act	ive SFB / header
— RDREC	8; SFB 52; per interface, but not more than 32 across all external interfaces
— WRREC	8; SFB 53; per interface, but not more than 32 across all external interfaces
Know-how protection	
 User program protection/password protection 	Yes
Dimensions	
Width	25 mm
Height	290 mm
Depth	219 mm
Weights	
Weight, approx.	700 g
last modified:	9/11/2023 🗗