## **SIEMENS**

## **Data sheet**

## 6ES7416-2XN05-0AB0



\*\*\*\*\*\*\*\*\*\* Replacement part \*\*\*\*\*\*\*\*\* SIMATIC S7-400, CPU 416-2 Central processing unit with: work memory 5.6 MB, (2.8 MB code, 2.8 MB data), 1st interface MPI/DP 12 Mbit/s, 2nd interface PROFIBUS DP

Figure similar

General information	
Product type designation	CPU 416-2
Product function	
Isochronous mode	Yes; For PROFIBUS only
Engineering with	
<ul> <li>Programming package</li> </ul>	STEP 7 V5.3 SP2 or higher with HW update
CiR - Configuration in RUN	
CiR synchronization time, basic load	100 ms
CiR synchronization time, time per I/O byte	10 µs
Supply voltage	
Rated value (DC)	Power supply via system power supply
Input current	
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
Power loss	
Power loss, typ.	4.5 W
Power loss, max.	5 W
Memory	
Type of memory	RAM
Work memory	
<ul><li>integrated</li></ul>	5.6 Mbyte
<ul><li>integrated (for program)</li></ul>	2.8 Mbyte
<ul><li>integrated (for data)</li></ul>	2.8 Mbyte
expandable	No
Load memory	
<ul><li>expandable FEPROM</li></ul>	Yes; with Memory Card (FLASH)
<ul> <li>expandable FEPROM, max.</li> </ul>	64 Mbyte
<ul><li>integrated RAM, max.</li></ul>	1 Mbyte
<ul> <li>expandable RAM</li> </ul>	Yes; with Memory Card (RAM)
expandable RAM, max.	64 Mbyte
Backup	
• present	Yes
<ul><li>with battery</li></ul>	Yes; all data
<ul><li>without battery</li></ul>	No

attery	
Backup battery	
<ul> <li>Backup current, typ.</li> </ul>	125 μA; up to 40 °C
<ul> <li>Backup current, max.</li> </ul>	550 μA
<ul> <li>Backup time, max.</li> </ul>	See reference manual, module data, Chapter 3.3
<ul> <li>Feeding of external backup voltage to CPU</li> </ul>	5 V DC to 15 V DC
PU processing times	
for bit operations, typ.	30 ns
for word operations, typ.	30 ns
for fixed point arithmetic, typ.	30 ns
for floating point arithmetic, typ.	90 ns
PU-blocks	30 113
DB . Number resu	40,000, Number represed 4 to 40000
Number, max.	10 000; Number range: 1 to 16000
• Size, max.	64 kbyte
FB	
Number, max.	5 000; Number range: 0 to 7999
• Size, max.	64 kbyte
FC	
<ul><li>Number, max.</li></ul>	5 000; Number range: 0 to 7999
Size, max.	64 kbyte
OB	
<ul><li>Number, max.</li></ul>	see instruction list
• Size, max.	64 kbyte
<ul> <li>Number of free cycle OBs</li> </ul>	1; OB 1
<ul> <li>Number of time alarm OBs</li> </ul>	8; OB 10-17
<ul> <li>Number of delay alarm OBs</li> </ul>	4; OB 20-23
<ul> <li>Number of cyclic interrupt OBs</li> </ul>	9; OB 30-38 (shortest cycle that can be set = 500 µs)
<ul> <li>Number of process alarm OBs</li> </ul>	8; OB 40-47
<ul> <li>Number of DPV1 alarm OBs</li> </ul>	3; OB 55-57
<ul> <li>Number of isochronous mode OBs</li> </ul>	4; OB 61-64
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	2, 00 121, 122
per priority class	24
additional within an error OB	2
ounters, timers and their retentivity	-
S7 counter	2 048
Number  Putanti ita	2 040
Retentivity	V
— adjustable	Yes
— lower limit	0
— upper limit	2 047
— 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	
recentivity	

- lower limit - proset No bries retentive Time range - lower limit - proset No bries retentive Time range - lower limit - upper limit 9 990 s    IEC Imme -   Yes   Yes		
— preset No times retentive Time range — lower limit	— lower limit	0
Time range — lower limit — upper limit BC timer  • present • Type • SFB • Number • Number  Steemitive data area (incl. timera, counters, flags), max  Flag • Size, max, • Size, max • Retentivity available • Retentivity present • Number of clock memories • Number of clock memories • Aldross area • Retentivity present • Aldross area • Retentivity present • Aldross area • Prosest • Addross area • Inputs • Inputs • Inputs • Inputs • Inputs • Inputs • Outputs, adjustable • Upputs, adjustable • Upputs, default • Upputs • Number of supprocess images, max.  Is  Inputs • Number of onendefault • Upputs • Outputs • Upputs • Outputs • Outp	— upper limit	2 047
— lower limit   10 ms   9990 s	— preset	No times retentive
— upper limit 9 990 s	Time range	
Fig. 1   Fig. 2   Fig. 3	— lower limit	10 ms
Present Type Type SFB Unimited (limited only by RAM capacity)  Data areas and their retentivity  Referrive data area (incl. timers, counters, flags), max.  Flag Size, max. Retentivity available Referrive data area (incl. timers, counters, flags), max.  Flag Size, max. Retentivity available Referrivity avai	— upper limit	9 990 s
**Fig.** SFB **Number** **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  **Local data  **adjustable, max.  **preset  **adjustable, max.  **preset  **In Modress area  **In Modress area  **Preset  **In Modress area  **In Modress area **In Modress area **In Modress area **In Modress area **In Modress area **In Modress area **In Modres	IEC timer	
Number Unilmited (limited only by RAM capacity)  Data areas and their retentivity  Retentive data area (incl. timers, counters, flags), max.  Flag  Size, max. Retentivity available Retentivity preset Retentive Preset Reten	<ul><li>present</li></ul>	Yes
Date arcess and their retentivity  Retentive data area (incl. timers, counters, flags), max. Flag  Size, max.  Retentivity available  Retentivity preset  Retentivity preset  Alumber of clock memories  Local data  Address area  I flo ktyte, Size of bit memory address area  Retentivity preset  Alumber of clock memories  Bit in 1 memory byte  Local data  Address area  I flo datdress area  I flo address are	• Type	SFB
Retentive data area (incl. timers, counters, flags), max. Flag  Size, max.  Retentivity available  Retentivity preset  Number of clock memories  Inputs  Outputs  Inputs  Inputs, default  Outputs, adjustable  Inputs, default  Outputs, default  Outputs  Inputs  Outputs  Outputs  Inputs  Outputs  Outpu	<ul><li>Number</li></ul>	Unlimited (limited only by RAM capacity)
Size, max.   16 kbyte; Size of bit memory address area	Data areas and their retentivity	
Size, max.   16 kbyte; Size of bit memory address area	Retentive data area (incl. timers, counters, flags), max.	Total working and load memory (with backup battery)
Size, max   16 kbyte, Size of bit memory address area		
Retentivity available   Yes		16 kbyte; Size of bit memory address area
Retentivity preset     Number of clock memories     S, in 1 memory byte  Local data      • adjustable, max.     • preset     • adjustable, max.     • preset     Address area  V/C address area  I/D address		
Number of clock memories	-	MB 0 to MB 15
Address area		8: in 1 memory byte
■ adjustable, max.		,
♣ Address area           I/O address area           • Inputs         18 kbyte           • Outputs         16 kbyte           Process image           • Inputs, adjustable         18 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         15           • Inputs         131 072           • Outputs         131 072           • Outputs         131 072           • Outputs         131 072           • Inputs         8 192           • Inputs         8 192           • Outputs         8 192		32 kbyte
Address area		
Inputs		
Injusts Outputs Outputs Outputs Outputs, adjustable Injusts, adjustable Outputs, adjustable Injusts, adjustable Injusts Injus		
Process image  Inputs, adjustable Outputs, adjustable Inputs, default Outputs, default Outputs O		16 khyto
Inputs, adjustable	•	
Inputs, adjustable Outputs, adjustable Inputs, default Inputs, default Consistent data, max. Access to consistent data in process image  Number of subprocess images Number of subprocess images, max. Is  Signature Inputs Integrated Outputs Integrated Number of connectable IMs (total), max. Number of connectable IM 460s, max. Number of Demasters  Inputs Integrated Integrat		10 kDyte
Outputs, adjustable     Inputs, default     Outputs, default     Outputs, default     Counsistent data, max.     Access to consistent data in process image     Subprocess images     Number of subprocess images, max.     Inputs     Inputs     Outputs	-	40 libida
	•	
Outputs, default     Onsistent data, max.     Access to consistent data in process image     Ves  Subprocess images     Number of subprocess images, max.      15  Digital channels     Inputs		
Access to consistent data in process image  Subprocess images  Number of subprocess images, max.  Access to consistent data in process image  Number of connectable IMs (total), max.  Number of connectable IM 463s, max.  Number of DP masters  No; IM 467 on suitable for use with CP 443-5 Ext. and CP 443-1 EX4x, EX20, GX20 (in PROFINET IO mode)  15  Nation 2  Nation 2  Number of counse IMs (IM 467 on suitable for use with CP 443-5 Ext. and CP 443-1 EX4x, EX20, GX20 (in PROFINET IO mode)		
Number of subprocess images		
Number of subprocess images, max.  Digital channels  Inputs     Outputs		Yes
Digital channels	· · ·	
Inputs		15
Outputs 131 072  Outputs 131 072  Outputs 131 072  Analog channels  Inputs 8 192  Outputs 8 192  Outputs 8 192  Outputs 8 192  Outputs 8 192  Hardware configuration  Integrated power supply No Number of expansion units, max. 21  Multicomputing Yes; 4 CPUs max. (with UR1 or UR2)  Interface modules  Number of connectable IMs (total), max. 6  Number of connectable IM 460s, max. 4; IM 463-2  Number of DP masters  integrated		
Outputs     — of which central     — of which central     Analog channels      Inputs     — of which central     8 192     — of which central     8 192     — of which central     — of which central     8 192	•	
Analog channels  Inputs Inputs Outputs Outputs Of which central  Integrated power supply  No Number of expansion units, max.  Number of connectable IMs (total), max. Number of connectable IMs (total), max.  Number of DP masters  Integrated Via CP Via CP Via IM 467 Mixed mode IM + CP permitted  Inputs  8 192  8 192  No No No Number of which central No No No Number of expansion units, max.  21  Yes; 4 CPUs max. (with UR1 or UR2)  Interface modules  4; IM 463-2  Number of connectable IMs (total), max. Number of DP masters  Integrated Via CP Via IM 467  No; IM 467 not suitable for use with CP 443-5 Ext. and CP 443-1 EX4x, EX20, GX20 (in PROFINET IO mode)		
Analog channels  Inputs Outputs Output	·	
<ul> <li>Inputs</li> <li>Of which central</li> <li>Outputs</li> <li>Outputs</li> <li>8 192</li> <li>Outhor central</li> <li>8 192</li> <li>Of which central</li> <li>8 192</li> <li>Integrated power supply</li> <li>No</li> <li>Number of expansion units, max.</li> <li>Multicomputing</li> <li>Yes; 4 CPUs max. (with UR1 or UR2)</li> <li>Interface modules</li> <li>Number of connectable IMs (total), max.</li> <li>Number of connectable IM 460s, max.</li> <li>Number of connectable IM 463s, max.</li> <li>Number of DP masters</li> <li>integrated</li> <li>via CP</li> <li>via CP</li> <li>via IM 467</li> <li>Mixed mode IM + CP permitted</li> <li>No; IM 467 not suitable for use with CP 443-5 Ext. and CP 443-1 EX4x, EX20, GX20 (in PROFINET IO mode)</li> </ul>		131 072
<ul> <li>of which central</li> <li>Outputs</li> <li>of which central</li> <li>8 192</li> <li>of which central</li> <li>8 192</li> <li>description</li> <li>Integrated power supply</li> <li>No</li> <li>Number of expansion units, max.</li> <li>Multicomputing</li> <li>Yes; 4 CPUs max. (with UR1 or UR2)</li> <li>Interface modules</li> <li>Number of connectable IMs (total), max.</li> <li>Number of connectable IM 460s, max.</li> <li>Number of connectable IM 463s, max.</li> <li>Number of DP masters</li> <li>integrated</li> <li>via CP</li> <li>via CP</li> <li>via IM 467</li> <li>Mixed mode IM + CP permitted</li> <li>No; IM 467 not suitable for use with CP 443-5 Ext. and CP 443-1 EX4x, EX20, GX20 (in PROFINET IO mode)</li> </ul>	-	
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Interface modules  • Number of connectable IMs (total), max.  • Number of connectable IM 460s, max.  • Number of connectable IM 463s, max.  4; IM 463-2  Number of DP masters  • integrated  • via CP  • via CP  • via IM 467  • 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)	Number of expansion units, max.	21
<ul> <li>Number of connectable IMs (total), max.</li> <li>Number of connectable IM 460s, max.</li> <li>Number of connectable IM 463s, max.</li> <li>Number of DP masters</li> <li>integrated</li> <li>via CP</li> <li>via IM 467</li> <li>Mixed mode IM + CP permitted</li> <li>No; IM 467 not suitable for use with CP 443-5 Ext. and CP 443-1 EX4x, EX20, GX20 (in PROFINET IO mode)</li> </ul>		Yes; 4 CPUs max. (with UR1 or UR2)
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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)	<ul> <li>Number of connectable IM 460s, max.</li> </ul>	6
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• 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 CP	10; CP 443-5 Extended
EX20, GX20 (in PROFINET IO mode)	• via IM 467	4
• via interface module 0	Mixed mode IM + CP permitted	
	via interface module	0

<ul> <li>Number of pluggable S5 modules (via adapter capsule in central device), max.</li> </ul>	6
Number of IO Controllers	
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 maximum
Slots	
<ul> <li>required slots</li> </ul>	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
<ul> <li>Deviation per day (sunered), max.</li> <li>Deviation per day (unbuffered), max.</li> </ul>	8.6 s; For power On
Operating hours counter	0.0 s, i oi powei oii
· · ·	16
Number/Number range	16 0 to 15
Number/Number range	
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
<ul><li>to MPI, slave</li></ul>	Yes
to DP, master	Yes
<ul><li>to DP, slave</li></ul>	Yes
• in AS, master	Yes
• in AS, slave	Yes
<ul> <li>on Ethernet via NTP</li> </ul>	No; Via CP
• to IF 964 DP	No
Time difference in system when synchronizing via	
<ul><li>MPI, max.</li></ul>	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 Interface types	Yes
Interface types	Vac
• RS 485	Yes
Output current of the interface, max.	150 mA
Protocols	V
• MPI	Yes
PROFIBUS DP master	Yes
PROFIBUS DP slave	Yes
MPI	
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
Transmission rate, max.	12 Mbit/s
Services	
<ul><li>— PG/OP communication</li></ul>	Yes

— Routing	Yes
<ul> <li>Global data communication</li> </ul>	Yes
<ul> <li>— S7 basic communication</li> </ul>	Yes
— S7 communication	Yes
<ul> <li>— S7 communication, as client</li> </ul>	Yes
— S7 communication, as server	Yes
PROFIBUS DP master	
<ul> <li>Number of connections, max.</li> </ul>	32; If a diagnostics repeater is used on the line, the number of
	connection resources on the line is reduced by 1
<ul> <li>Transmission rate, max.</li> </ul>	12 Mbit/s
<ul> <li>Number of DP slaves, max.</li> </ul>	32
Services	
<ul><li>— PG/OP communication</li></ul>	Yes
— Routing	Yes; S7 routing
<ul> <li>Global data communication</li> </ul>	No
<ul> <li>— S7 basic communication</li> </ul>	Yes
— S7 communication	Yes
<ul> <li>— S7 communication, as client</li> </ul>	Yes
<ul> <li>S7 communication, as server</li> </ul>	Yes
— Equidistance	Yes
— Isochronous mode	Yes
— SYNC/FREEZE	Yes
<ul> <li>Activation/deactivation of DP slaves</li> </ul>	Yes
Direct data exchange (slave-to-slave)	Yes
communication)	
— DPV1	Yes
Address area	
— Inputs, max.	2 kbyte
— Outputs, max.	2 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
PROFIBUS DP slave	120 0,10
Number of connections	32
• GSD file	http://support.automation.siemens.com/WW/view/en/113652
Transmission rate, max.	12 Mbit/s
automatic baud rate search	No
Address area, max.	32; Virtual slots
·	
User data per address area, max.	32 byte
— of which consistent, max.	32 byte
Services	Vacuuith interfere pative
— PG/OP communication	Yes; with interface active
— Routing	Yes; with interface active
— Global data communication	No
— S7 basic communication	No
— S7 communication	Yes
— S7 communication, as client	Yes
<ul> <li>S7 communication, as server</li> </ul>	Yes
Direct data exchange (slave-to-slave	No
communication)	N.
— DPV1	No
Transfer memory	244.4
— Inputs	244 byte
— Outputs	244 byte
2. Interface	
Interface type	PROFIBUS DP

Yes
Yes
150 mA
Yes
Yes
32
12 Mbit/s
125
Yes
Yes; S7 routing
No
Yes
res
Yes
8 kbyte
8 kbyte
O NOYIC
244 byte
244 byte
244 byte
244
128 byte
32
http://support.automation.siemens.com/WW/view/en/113652
12 Mbit/s
32
32 byte
32 byte
Yes; with interface active
244 byte
244 byte
Yes
100
100
Via CP 443-1 and loadable FB
Via CP 443-1 and loadable FB
Via CP 443-1 and loadable FB 1 452 bytes via CP 443-1 Adv.
Via CP 443-1 and loadable FB
Via CP 443-1 and loadable FB 1 452 bytes via CP 443-1 Adv.
Via CP 443-1 and loadable FB 1 452 bytes via CP 443-1 Adv.

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	<b>32</b>
PG/OP communication	Yes
Number of connectable OPs without message processing	63
<ul> <li>Number of connectable OPs with message processing</li> </ul>	63; When using Alarm_S/SQ and Alarm_D/DQ
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	113333
• supported	Yes
User data per job, max.	76 byte
<ul> <li>User data per job (of which consistent), max.</li> </ul>	1 variable
S7 communication	Transio
• supported	Yes
as server	Yes
as client	Yes
User data per job, max.	64 kbyte
<ul> <li>User data per job (of which consistent), max.</li> </ul>	462 byte; 1 variable
S5 compatible communication	102 byto, 1 variable
• 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
Standard communication (FMS)	240 0910
• supported	Yes; Via CP and loadable FB
Number of connections	100, 110 0. 0.10 100 0. 0. 0.
overall	64
usable for PG communication	63
reserved for PG communication	1
adjustable for PG communication, max.	0
usable for OP communication	63
reserved for OP communication	1
adjustable for OP communication, max.	0
usable for S7 basic communication	62
reserved for S7 basic communication	0
adjustable for S7 basic communication, max.	0
usable for S7 communication	62
reserved for S7 communication	0
adjustable for S7 communication, max.	0
usable for routing	31
reserved for routing	0
Ğ	0
— adjustable for forming max	
— adjustable for routing, max.	
S7 message functions  Number of login stations for message functions, max.	63; Max. 63 with Alarm_S/SQ and Alarm_D/DQ (OPs); max. 8 with
S7 message functions  Number of login stations for message functions, max.	Alarm, Alarm_8, Alarm_8P, Notify and Notify_8 (e.g. WinCC)
S7 message functions  Number of login stations for message functions, max.  Symbol-related messages	Alarm, Alarm_8, Alarm_8P, Notify and Notify_8 (e.g. WinCC) Yes
S7 message functions  Number of login stations for message functions, max.  Symbol-related messages  SCAN procedure	Alarm, Alarm_8, Alarm_8P, Notify and Notify_8 (e.g. WinCC)  Yes  Yes
S7 message functions  Number of login stations for message functions, max.  Symbol-related messages	Alarm, Alarm_8, Alarm_8P, Notify and Notify_8 (e.g. WinCC) Yes
S7 message functions Number of login stations for message functions, max.  Symbol-related messages SCAN procedure Program alarms Process diagnostic messages	Alarm, Alarm_8, Alarm_8P, Notify and Notify_8 (e.g. WinCC) Yes Yes Yes Yes
S7 message functions  Number of login stations for message functions, max.  Symbol-related messages  SCAN procedure  Program alarms	Alarm, Alarm_8, Alarm_8P, Notify and Notify_8 (e.g. WinCC) Yes Yes Yes

<ul> <li>Number of instances for alarm 8 and S7</li> </ul>	4 000
communication blocks, max.	
• preset, max.	600
Process control messages	Yes
Number of archives that can log on simultaneously (SFB 37 AR_SEND)	32
Number of messages	
• overall, max.	1 024
● in 100 ms grid, max.	128
● in 500 ms grid, max.	512
<ul> <li>in 1000 ms grid, max.</li> </ul>	1 024
Number of additional values	
• with 100 ms grid, max.	1
<ul> <li>with 500, 1000 ms grid, max.</li> </ul>	10
Test commissioning functions	
Status block	Yes; Up to 2 simultaneously
Single step	Yes
Number of breakpoints	4
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	10, Olatus/Control
• Forcing	Yes
-	
<ul><li>Forcing, variables</li><li>Number of variables, max.</li></ul>	Inputs, outputs, bit memories, peripheral inputs, peripheral outputs 512
Diagnostic buffer	312
-	Yes
• present	
Number of entries, max.	3 200
— adjustable	Yes
— preset	120
Service data	Voc
• 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	
• ATEX	ATEX II 3G Ex nA IIC T4 Gc
Ambient conditions	
Ambient temperature during operation	
● min.	0°C
• max.	60 °C
Configuration	
Configuration software	
• STEP 7	Yes
Programming	
Command set	see instruction list
Nesting levels	7
Access to consistent data in process image	Yes
System functions (SFC)	see instruction list
System function blocks (SFB)	see instruction list
Programming language	
-3	

— LAD	Yes
— FBD	Yes
— STL	Yes
— SCL	Yes
— CFC	Yes
— GRAPH	Yes
— HiGraph®	Yes
Number of simultaneously active SFCs	
— 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
Number of simultaneously active SFBs	
— 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	
<ul> <li>User program protection/password protection</li> </ul>	Yes
Dimensions	
Width	25 mm
Height	290 mm
Depth	219 mm
Weights	
Weight, approx.	720 g
• •	