## SIEMENS

## Data sheet

## 6ES7416-3XR05-0AB0



\*\*\*\*\*\*\*\*\*\* Replacement part \*\*\*\*\*\*\*\*\* SIMATIC S7-400, CPU 416-3 Central processing unit with: work memory 11.2 MB, (5.6 MB code, 5.6 MB data), 1st interface MPI/DP 12 Mbit/s, 2nd interface PROFIBUS DP, 3rd interface plug-in IFM module

Figure	SIMI	lar

General information	
Product type designation	CPU 416-3
HW functional status	04
Firmware version	V5.3
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.	1.1 A
from backplane bus 5 V DC, max.	1.3 A
from backplane bus 24 V DC, max.	450 mA; 150 mA per DP interface
from interface 5 V DC, max.	90 mA; At each DP interface
Power loss	
Power loss, typ.	5.5 W
Power loss, max.	6 W
Memory	
Type of memory	RAM
Work memory	
integrated	11.2 Mbyte
<ul> <li>integrated (for program)</li> </ul>	5.6 Mbyte
<ul> <li>integrated (for data)</li> </ul>	5.6 Mbyte
expandable	No
Load memory	
expandable FEPROM	Yes; with Memory Card (FLASH)
<ul> <li>expandable FEPROM, max.</li> </ul>	64 Mbyte
<ul> <li>integrated RAM, max.</li> </ul>	1 Mbyte
expandable RAM	Yes; with Memory Card (RAM)
expandable RAM, max.	64 Mbyte
Backup	
• present	Yes
with battery	Yes; all data
<ul> <li>without battery</li> </ul>	No
Battery	

Backup battery	
<ul> <li>Backup current, typ.</li> </ul>	125 μA; up to 40 °C
Backup current, max.	550 µA
Backup time, max.	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
CPU 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
CPU-blocks	
DB	
	10.000 Number respect 1 to 10000
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	
Number, max.	5 000; 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
<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 $\mu$ s)
Number of process alarm OBs	8; OB 40-47
Number of DPV1 alarm OBs	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
	2; OB 121, 122
Number of synchronous error OBs	Z, OD 121, 122
Nesting depth	24
• per priority class	24
additional within an error OB	2
Counters, timers and their retentivity	
S7 counter	
Number	2 048
Retentivity	
— 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
•Туре	SFB
Number	Unlimited (limited only by RAM capacity)
S7 times	
Number	2 048
	2 040
Retentivity	Vec
— adjustable	Yes
— lower limit	0
— upper limit	2 047
— preset	No times retentive

Time range	
— lower limit	10 ms
	9 990 s
— upper limit	5 UUS
IEC timer	Van
• present	Yes
•Туре	SFB
Number	Unlimited (limited only by RAM capacity)
Data areas and their retentivity	
Retentive data area (incl. timers, counters, flags), max.	Total working and load memory (with backup battery)
Flag	
• Size, max.	16 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
Local data	
<ul> <li>adjustable, max.</li> </ul>	32 kbyte
• preset	16 kbyte
Address area	
I/O address area	
Inputs	16 kbyte
Outputs	16 kbyte
Process image	
Inputs, adjustable	16 kbyte
Outputs, adjustable	16 kbyte
<ul> <li>Inputs, default</li> </ul>	512 byte
Outputs, default	512 byte
• consistent data, max.	244 byte
<ul> <li>Access to consistent data in process image</li> </ul>	Yes
Subprocess images	
<ul> <li>Number of subprocess images, max.</li> </ul>	15
Digital channels	
Inputs	131 072
— of which central	131 072
Outputs	131 072
— of which central	131 072
Analog channels	
Inputs	8 192
— of which central	8 192
Outputs	8 192
- of which central	8 192
Hardware configuration	
	No
Integrated power supply	21
Number of expansion units, max.	
connectable OPs	63 Ves: 4 CBLIs may (with LID1 or LID2)
Multicomputing	Yes; 4 CPUs max. (with UR1 or UR2)
Interface modules	
Number of connectable IMs (total), max.	6
Number of connectable IM 460s, max.	6
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)
<ul> <li>via interface module</li> </ul>	1
Number of pluggable S5 modules (via adapter capsule in	6
central device), max.	
Number of IO Controllers	
• integrated	
• 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
<ul> <li>PROFIBUS and Ethernet CPs</li> </ul>	14; Of which 10 CPs max. or IMs as DP master, 4 PROFINET controller
	maximum
Slots	
required slots	2
Time of day	
Clock	
Hardware clock (real-time)	Yes
retentive and synchronizable	Yes
Resolution     Deviation por dev (buffered) may	1 ms
<ul><li>Deviation per day (buffered), max.</li><li>Deviation per day (unbuffered), max.</li></ul>	1.7 s; Power off 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
<ul> <li>on Ethernet via NTP</li> </ul>	No; Via CP
• to IF 964 DP	Yes
Time difference in system when synchronizing via	
• MPI, max.	200 ms
Interfaces	
Interfaces/bus type	1 x MPI/PROFIBUS DP, 1 x PROFIBUS DP, 1 x PROFIBUS DP (optionally pluggable)
Number of RS 485 interfaces	2
Number of other interfaces	0
Optical interface	No
1. Interface	
Interface type	MPI/PROFIBUS DP
Isolated	Yes
Interface types	
• RS 485	Yes
<ul> <li>Output current of the interface, max.</li> </ul>	150 mA
Protocols	
• MPI	Yes
<ul> <li>PROFIBUS DP master</li> </ul>	Yes
PROFIBUS DP slave	Yes
MPI	
<ul> <li>Number of connections</li> </ul>	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	
— 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

• 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       • Transmission rate, max.     12 Mbl/s       • Number of DP slaves, max.     32       Services     -       - PGOP communication     Yes       - Routing     Yes       - Global data communication     No       - S7 communication     Yes       - S7 communication, as client     Yes       - S7 communication, as server     Yes       - Equidistance     Yes       - Equidistance     Yes       - Isochronous mode     Yes       - SYNC/FREEZE     Yes       - Direct data exchange (slave-to-slave communication)     Yes       - Uptus, max.     2 kbyte       - Uputs, max.     2 kbyte       - Outputs, max.     2 kbyte       - Uputs, max.     244 byte       - Sitos, max.     24 byte       - Sitos, max.     24 byte       - Sitos, max.     24 byte       - Sitos, max.     22 byte       Sorticleus per sole raw.     32 byte       • Sitos raw.
• Number of DP slaves, max.     32       Services     -       - PG/OP communication     Yes       - Global data communication     No       - S7 basic communication     Yes       - S7 communication, as client     Yes       - S7 communication, as client     Yes       - S7 communication, as server     Yes       - S7 communication, as server     Yes       - S7 communication, as server     Yes       - S7 communication as server     Yes       - Equidistance     Yes       - Softword     Yes       - S0 Communication of DP slaves     Yes       - SYNC/FREEZE     Yes       - Object data exchange (slave-to-slave communication)     Yes       - DPV1     Yes       - DPV1     Yes       - DPV1     Yes       - User data per DP slave, max.     2 kbyte       User data per DP slave, max.     2 kbyte       - Uuputs, max.     24 byte       - Outputs, max.     24 byte       - Slots, max.     128 byte       PROFIBUS DP slave     32       • SO flife     Thurb//support.automation.siemens.com/WW/view/en/11
Services        - PG/OP communication     Yes       - Routing     Yes       - Global data communication     No       - S7 basic communication     Yes       - S7 communication, as client     Yes       - S7 communication, as server     Yes       - S7 communication, as server     Yes       - S7 communication, as server     Yes       - Equidistance     Yes       - Isochronous mode     Yes       - SVNC/FREEZE     Yes       - Activation/deactivation of DP slaves     Yes       - Direct data exchange (slave-to-slave communication)     Yes       - DPV1     Yes       - DPV1     Yes       - Outputs, max.     2 kbyte       User data per DP slave     Yes       - User data per DP slave     244 byte       - User data per DP slave.     244 byte       - Uputs, max.     244 byte       - Outputs, max.     244 byte       - Outputs, max.     128 byte       PROFIBUS DP slave     32       • Glob file     http://support.automation.siemens.com/WW/view/en/113652       • Transmission rate, max.     12 Mbit/s       • automatic bad rate search     No       • Address area, max.     32 byte
- RoutingYes- Global data communicationNo- S7 basic communicationYes- S7 communication, as clientYes- S7 communication, as clientYes- S7 communication, as serverYes- EquidistanceYes- EquidistanceYes- Isochronous modeYes- SVNC/FREEZEYes- Activation/deactivation of DP slavesYes- Direct data exchange (slave-to-slave communication)Yes- Direct data exchange (slave-to-slave communication)Yes- Inputs, max.2 kbyte- User data per DP slave, max.24 kbyte- User data per DP slave, max.24 kbyte- Slots, max.24 kbyte- Slots, max.24 byte- Slots, max.32 byte </td
Global data communicationNo S7 basic communicationYes S7 communication, as clientYes S7 communication, as clientYes S7 communication, as serverYes EquidistanceYes Isochronous modeYes Isochronous modeYes SYNC/FREEZEYes Activation/deactivation of DP slavesYes Direct data exchange (slave-to-slave communication)Yes Direct data exchange (slave-to-slave communication)Yes Direct data per DP slavesYes Uputs, max.2 kbyte Outputs, max.2 kbyte User data per DP slave, max.24 kbyte User data per DP slave, max.244 byte Slots, max.244 byte Slots, max.244 byte per slot, max.128 bytePROFIEUS DP slave128 bytePROFIEUS DP slave127 byte Iransmission rate, max.12 Mbit/s Rating area, max.32 byte Ordras, max.32 byte Ordras, max.32 byte
S7 communication, as clientYes- S7 communication, as serverYes- EquidistanceYes- Isochronous modeYes- Isochronous modeYes- SYNC/REEZEYes- Activation/deactivation of DP slavesYes- Direct data exchange (slave-to-slave communication)Yes- DPV1Yes- DPV1YesAddress area2 kbyte- Outputs, max.2 kbyte- Outputs, max.24 byte- User data per DP slave, max.244 byte- Outputs, max.244 byte- Outputs, max.244 byte- Slots, max.224 byte- Slots, max.224 byte- Slots, max.32 byte- Transmission rate, max.32 byte- Transmission rate, max.32 byte- Transmission rate, max.32 byte- Address area, max.32 byte- Address area, max.32 byte- of which consistent, max.32 byte
- EquidistanceYes- Isochronous modeYes- Isochronous modeYes- SYNC/FREZEYes- Activation/deactivation of DP slavesYes- Dired data exchange (slave-to-slave communication)Yes- DPV1YesAddress area Inputs, max.2 kbyteOutputs, max.2 kbyteUser data per DP slave, max.244 byte- Outputs, max.244 byte- Outputs, max.244 byte- Slots, max.128 bytePROFIBUS DP slave128 byteFORFIBUS DP slave128 byte- Number of connections32- Transmission rate, max.12 Mbit/s- CSD fileNo- Transmission rate, max.32 (Virtual slots- Address area, max.32, Virtual slots- User data per address area, max.32 byte- Outputs, max.32 byte- Outputs, max.32 byte- Ordputs, max. <t< td=""></t<>
SYNC/FREEZEYes Activation/deactivation of DP slavesYes Direct data exchange (slave-to-slave communication)Yes DPV1YesAddress area2 kbyte Inputs, max.2 kbyte Outputs, max.2 kbyteUser data per DP slave244 byte Inputs, max.244 byte Outputs, max.244 byte Outputs, max.244 byte Slots, max.244 byte Slots, max.244 byte per slot, max.244 per slot, max.244 byte Slots, max.244 byte Slots, max.244 byte per slot, max.244 byte per slot, max.244 byte Slots, max.244 byte brothered32 GSD filehttp://support.automation.siemens.com/WW/view/en/113652 Transmission rate, max.32 byte of which consistent, max.32 byte
- Activation/deactivation of DP slavesYes- Direct data exchange (slave-to-slave communication)Yes- DPV1YesAddress area2 kbyte- Inputs, max.2 kbyte- Outputs, max.2 kbyteUser data per DP slave244 byte- Inputs, max.244 byte- Outputs, max.244 byte- Outputs, max.244 byte- Slots, max.244- per slot, max.244- fransmission rate, max.12 Mbit/s- Kodress area, max.12 Mbit/s- Address area, max.32 byte- Outputs data per address area, max.32 byte
— Direct data exchange (slave-to-slave communication)Yes— DPV1YesAddress area— Inputs, max.2 kbyte— Outputs, max.2 kbyteUser data per DP slave— User data per DP slave, max.244 byte— Inputs, max.244 byte— Outputs, max.244 byte— Outputs, max.244 byte— Outputs, max.244 byte— Outputs, max.244 byte— Slots, max.244 byte— per slot, max.244 byte— per slot, max.244 byte— Slots, max.244 byte— Slots, max.12 kbytePROFIBUS DP slave32• Number of connections32• GSD filehttp://support.automation.siemens.com/WW/view/en/113652• Transmission rate, max.12 Mbit/s• automatic baud rate searchNo• Address area, max.32; Virtual slots• User data per address area, max.32 byte• Or which consistent, max.32 byte
communication)Yes— DPV1YesAddress area2 kbyte— Inputs, max.2 kbyte— Outputs, max.2 kbyteUser data per DP slave244 byte— User data per DP slave, max.244 byte— Outputs, max.244 byte— Outputs, max.244 byte— Outputs, max.244 byte— Slots, max.244 byte— Slots, max.244 byte— per slot, max.244 byte— byte244— per slot, max.244 byte— for slot, max.244 byte— Slots, max.244 byte— per slot, max.244 byte— for slot, max.244 byte— byte244— per slot, max.244 byte— outputs, max.128 bytePROFIBUS DP slave32• Transmission rate, max.12 Mbit/s• automatic baud rate searchNo• Address area, max.32 yitrual slots• User data per address area, max.32 byte— of which consistent, max.32 byte
Address area         - Inputs, max.       2 kbyte         - Outputs, max.       2 kbyte         User data per DP slave       244 byte         - Inputs, max.       244 byte         - Outputs, max.       244 byte         - Outputs, max.       244 byte         - Outputs, max.       244 byte         - Slots, max.       244         - per slot, max.       128 byte         PROFIBUS DP slave       32         • 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
Inputs, max.2 kbyte Outputs, max.2 kbyteUser data per DP slave244 byte User data per DP slave, max.244 byte Inputs, max.244 byte Outputs, max.244 byte Outputs, max.244 byte Slots, max.244 byte per slot, max.248 bytePROFIBUS DP slave32• Number of connections32• GSD filehttp://support.automation.siemens.com/VW//view/en/113652• Transmission rate, max.12 Mbit/s• automatic baud rate searchNo• Address area, max.32; Virtual slots• User data per address area, max.32 byte of which consistent, max.32 byte
Outputs, max.2 kbyteUser 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.244 per slot, max.248 bytePROFIBUS DP slave•- Number of connections32• GSD filehttp://support.automation.siemens.com/WW/view/en/113652• Transmission rate, max.12 Mbit/s• automatic baud rate searchNo• Address area, max.32; Virtual slots• User data per address area, max.32 byte of which consistent, max.32 byte
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.244 per slot, max.128 bytePROFIBUS DP slave• Number of connections32• GSD filehttp://support.automation.siemens.com/WW/view/en/113652• Transmission rate, max.12 Mbit/s• automatic baud rate searchNo• Address area, max.32; Virtual slots• User data per address area, max.32 byte
- User data per DP slave, max.244 byte- Inputs, max.244 byte- Outputs, max.244 byte- Slots, max.244- per slot, max.244- per slot, max.128 bytePROFIBUS DP slave32• Number of connections32• GSD filehttp://support.automation.siemens.com/WW/view/en/113652• Transmission rate, max.12 Mbit/s• automatic baud rate searchNo• Address area, max.32; Virtual slots• User data per address area, max.32 byte- of which consistent, max.32 byte
Inputs, max.244 byte- Outputs, max.244 byte- Slots, max.244- per slot, max.128 bytePROFIBUS DP slave• Number of connections32• GSD filehttp://support.automation.siemens.com/WW/view/en/113652• Transmission rate, max.12 Mbit/s• automatic baud rate searchNo• Address area, max.32; Virtual slots• User data per address area, max.32 byte- of which consistent, max.32 byte
- Outputs, max.244 byte- Slots, max.244- per slot, max.128 bytePROFIBUS DP slave32• Number of connections32• GSD filehttp://support.automation.siemens.com/WW/view/en/113652• Transmission rate, max.12 Mbit/s• automatic baud rate searchNo• Address area, max.32; Virtual slots• User data per address area, max.32 byte- of which consistent, max.32 byte
Slots, max.244 per slot, max.128 bytePROFIBUS DP slave32• Number of connections32• GSD filehttp://support.automation.siemens.com/WW/view/en/113652• Transmission rate, max.12 Mbit/s• automatic baud rate searchNo• Address area, max.32; Virtual slots• User data per address area, max.32 byte of which consistent, max.32 byte
per slot, max.128 bytePROFIBUS DP slave32• Number of connections32• GSD filehttp://support.automation.siemens.com/WW/view/en/113652• Transmission rate, max.12 Mbit/s• automatic baud rate searchNo• Address area, max.32; Virtual slots• User data per address area, max.32 byte- of which consistent, max.32 byte
PROFIBUS DP slave         • 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
PROFIBUS DP slave         • 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
• GSD filehttp://support.automation.siemens.com/WW/view/en/113652• Transmission rate, max.12 Mbit/s• automatic baud rate searchNo• Address area, max.32; Virtual slots• User data per address area, max.32 byte- of which consistent, max.32 byte
• 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
• 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
<ul> <li>Address area, max.</li> <li>User data per address area, max.</li> <li>of which consistent, max.</li> <li>32 byte</li> <li>32 byte</li> </ul>
User data per address area, max.     32 byte     of which consistent, max.     32 byte
- of which consistent, max. 32 byte
— 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
— S7 communication, as server Yes
— Direct data exchange (slave-to-slave No communication)
- DPV1 No
Transfer memory
— Inputs 244 byte
- Outputs 244 byte
2. Interface
Interface type PROFIBUS DP
Isolated Yes
Number of connection resources 32
Interface types
• RS 485 Yes
Output current of the interface, max.
Protocols
PROFIBUS DP master Yes
PROFIBUS DP slave Yes
PROFIBUS DP master

Number of connections, max.	32
Transmission rate, max.	32 12 Mbit/s
<ul> <li>Transmission rate, max.</li> <li>Number of DP slaves, max.</li> </ul>	125 MDIVS
• Number of DP slaves, max. Services	
— 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	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.	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
PROFIBUS DP slave     • Number of connections	32
Number of connections     GSD file	
GSD file     Transmission rate, max.	http://support.automation.siemens.com/WW/view/en/113652 12 Mbit/s
Address area, max.	32
<ul> <li>Address area, max.</li> <li>User data per address area, max.</li> </ul>	32 syte
<ul> <li>Oser data per address area, max.</li> <li>— of which consistent, max.</li> </ul>	32 byte
Services	02 0910
— Routing	Yes
Transfer memory	
— Inputs	244 byte
— Outputs	244 byte
3. Interface	
Interface type	pluggable interface module (IF), technical data as for 2nd interface
Plug-in interface modules	IF 964-DP (MLFB: 6ES7964-2AA04-0AB0)
Isolated	Yes
automatic detection of transmission rate	No
Number of connection resources	32
Interface types	
• RS 485	Yes
Output current of the interface, max.	150 mA
Protocols	
• MPI	No
PROFIBUS DP master	Yes
PROFIBUS DP slave	Yes
PROFIBUS DP master	
Number of connections, max.	32
Transmission rate, max.	12 Mbit/s
Number of DP slaves, max.	125
Services	
— PG/OP communication	Yes
— Routing	Yes; S7 routing
— Global data communication	No
<ul> <li>— S7 basic communication</li> </ul>	No

<ul> <li>So communication, so lent:</li> <li>Yes</li> <li>Advalance (laws-to-size)</li> <li>Yes</li> <li>Advalance (laws-to-size)</li> <li>Yes</li> <li>Devid dia sochange (laws-to-size)</li> <li>Opports, max.</li> <li>Byty lent:</li> <li>User (lab per DP size)</li> <li>Yes</li> <li>Advalance and the per DP size (laws-to-size)</li> <li>Yes</li> <li>Opports, max.</li> <li>Byty lent:</li> <li>User (lab per DP size)</li> <li>Yes</li> <li>Opports, max.</li> <li>Byty lent:</li> <li>User (lab per DP size)</li> <li>Yes</li> <li>Solit, max.</li> <li>Solit, max.<th></th><th></th></li></ul>		
- Sr communication, as serverYes- EquidatanceYes- Isochronus modeYes- Advision/discultation of DP slavesYes- Advision/discultation of DP slavesYes- Divert data exclusionYes- Divert data exclusionYes- Divert data exclusionYes- Divert data exclusion8 stryle- Divert data exclusion8 stryle- Divert data per DP slave8 stryle- User data per DP slave24 byte- User data per DP slave, max.244 byte- User data per DP slave, max.244 byte- User data per DP slave, max.244 byte- Stock, max.24 byte- Stock, max.24 byte- Stock, max.24 byte- Stock, max.24 byte- Stock, max.22 byte- Stock, max.22 byte- Stock data communication20 byte- Stock data communication24 byte- Stock data communication24 byte- Stock data communication20	— S7 communication	Yes
- Direct data exchange (silve-6-silve) Yes communication - DPV0 Yos - DPV0 Yos - DPV1 Yes - Diruts, max. 8 kKy/re - User data per DP lave - User data per DP lave, max. 8 kKy/re - User data per DP lave, max. 244 kyts - User data per DP lave, max. 32 - User data per datas area, max. 32 - User data per datas per datas area, max. 32 - User data per datas area, max. 32 - User data per datas area, max. 32 - User data per datas per datas area, max. 32 - User data per datas area, max. 34 - User data per datas area, max. 34 - User data per datas are		
communication)- DPV1Yes- DPV1Yes- DPV1Yes- DPV1Name- Dupts, max.8 ktyle- Outputs, max.244 byle- Dupt data per DP size, max.244 byle- Dupt size, max.244 byle- Outputs, max.244 byle- Outputs, max.244 byle- Dupt data per DP size, max.244 byle- Size, max.244 byle- Size, max.244 byle- Size, max.244 byle- Size, max.24 byle- Size, max.25 byle- Size, max.22 byle- Size, max.22 byle- Size, max.22 byle- Overhulch consistent, max.32 byle- Size, communicationNo- Size, communicationNo- Size, communication, si clientYes- Size, communicationNo- Size, communicationNo- Size, communicationYes- Size, communicationNo-		
- DPV0     Yes       - DPV1     Yes       Address area     8 ktyle       - Olptak, max.     8 ktyle       User data per DP sive     244 ktyle       - Unguts, max.     244 ktyle       - Olptak, max.     244 ktyle       - Slots, max.     25 ktyle       - Slots, max.     26 ktyle       - Slots, max.     26 ktyle       - Slots, max.     26 ktyle <td></td> <td>Yes</td>		Yes
— DPV1         Yes           Address area <ul></ul>	-	Vac
Address area     B ktyle       - Inputs, max.     B ktyle       User data por DP size     -       - User data por DP size, max.     244 byle       - User data por DP size, max.     244 byle       - Outputs, max.     244 byle       - Outputs, max.     244 byle       - Stots, max.     244 byle       - Stots, max.     244 byle       - per side, max.     128 byle       PROFINUS DP size     -       - Transmission rate, max.     12 Mbl/s sucord automation stemens com/WW/verw/on/113652       - Outputs     32       - Gobin de search     No       - Outputs communication stemens com/WW/verw/on/113652     -       - Outputs     32       - Outputs communication stemens com/WW/verw/on/113652     -       - Outputs     32       - Outputs     32       - Outputs communication     No       - Outputs     32       - Outputs     32       - Deford communication     No       - So communication     No       - ST communication     No       - ST communication, as entert     Yes       - Dired data exchange (laws-to-slave     No       - Drivit     No       - Drivit     No       - Duputs     24 byle       - Driv		
− Oupuls max.         244 byte           − User data per DP siave, max.         244 byte           − Upuls, max.         244 byte           − Oupuls, max.         244 byte           − Oupuls, max.         244 byte           − Oupuls, max.         244 byte           − Stots, max.         244 byte           − Stots, max.         244 byte           − per slot, max.         248 byte           PROFIBUS DP slave         ************************************		8 khyte
User data per DP slave     244 byte       User data per DP slave, max.     244 byte       Outputs, max.     244 byte       Outputs, max.     244 byte       Stos, max.     244 byte       per slot, max.     244 byte       per slot, max.     128 byte       PROFIBUS DP slave     32       • Stos max.     128 byte       PROFIBUS DP slave     32       • Stos max.     32       •- Transmission rate, max.     32       •- Transmission rate, max.     32       •- Or which consistent, max.     32 byte       •- of which consistent, max.     32 byte       •- of which consistent, max.     32 byte       •- Or which consistent, max.     32 byte       •- Or or which consistent, max.     32 byte       •- Or or which consistent, max.     32 byte       •- Or or or communication     Yes       PG/OP communication     Yes       Routing     Yes       Or bala communication     No       S7 communication, as server     Yes       Direct data excharge (slave-to-slave     No       Direct data excharge (slave-to-slave     Yes       Outputs     244 byte       Outputs     244 byte       Outputs     244 byte   <		
	· · · · ·	0 KB/IC
- Inputs max.     244 tyte       - Outputs, max.     244 byte       - Stos, max.     244       - per slot, max.     128 byte       PROFIBUS DF slave     12       - Number of connections     32       - SSD file     110 / Jusport automation sitemens com/WWW/envirol 13852       - Transmission rate, max.     12 Mot/s       - In ansmission rate, max.     32       - In ansmission rate, max.     32       - In ansmission rate, max.     32 byte       - of which consistent, max.     32 byte       - of which consistent, max.     32 byte       - Of which consistent, max.     32 byte       - PGUOP communication     No       - Rouling     Yes; with interface active       - Global data communication     No       - S7 communication, as enver     Yes       - Direct data exchange (slave-to-slave     No       - Direct data exchange (slave-to-slave     No       - Durber data exchange (slave-to-slave     No </td <td></td> <td>211 hyte</td>		211 hyte
- Outputs, max.     244       per sid, max.     244       per sid, max.     28 byte       PROFIBUS DP alawe		
Stote, max.     244      per slot, max.     128 byte      Per slot, max.     128 byte      Number of connections     32      StoD file     121 bitles/decount automation siemens.com/WWWewlan/13652      Transmission rate, max.     124 bitles      Transmission rate, max.     32		
— per slot, max.         128 byte           PROFIBUS DP slave	• •	
PROFIBUS DP slave     32          • Number of connections      32          • GSD file      thttp://support automation siemens.com/WW/view/en/113852           • Transmission rate, max.      12 Mbl//s           • automatic bada rate search      No           • Address area, max.      32          • User data per address area, max.      32 byte           — of which consistent, max.      32 byte           — PG/OP communication      Yes           — Rouling      Yes: with interface active           — Bouling      Yes: with interface active           — ST basic communication      No           — ST communication      Yes           — ST communication      Yes           — ST communication      Yes           — Direct data exchange (slave-to-slave       communication)      No           — Dupts         244 byte           — Outputs         244 byte           — Outputs         244 byte           — Outputs         1/s Zo bytes via CP 443-1 and loadable FB           — Isouring         Via CP 443-1 and loadable FB           — Outputs         1/s Zo bytes via CP 443-1 and		
• Number of connections     32       • GSD file     http://support.automation.isemens.com/WW/viewen/113652       • Transmission rate, max.     12 Mbl/s       • automatic baud rate search     No       • Address area, max.     32       • User data per address area, max.     32 byte       - of which consistent, max.     32 byte       - Stop communication     No       - ST communication as elient     Yes       - DPv1     No       Transfer memory     -       - Inputs     244 byte       - Outputs     244 byte       Potocols     -       StMATIC communication     -       • ST outing     Yes       - Data length		128 byte
• GSD file     http://support.automation.siemens.com/WWViewien/113652       • Transmission rate, max.     12 Mobis       • automatic badar clase search     No       • Address area, max.     32 byte       • Given and address area, max.     32 byte       • Of which consistent, max.     32 byte       Services     -       - PG/OP communication     Yes       - Roting     Yes: with interface active       - Global data communication     No       - S7 basic communication     Yes       - S7 communication, as client     Yes       - S7 communication, as server     Yes       - Direct data exchange (slave-to-slave communication)     No       - Direct data exchange (slave-to-slave communication)     No       - Direct data exchange (slave-to-slave communication)     No       - Dupt     No       Transfer memory     -       - Inputs     244 byte       - Outputs     Yes       SIMATIC communication     Yes       - Data length, max.     1452 bytes via CP 443-1 Adv.       Web server     -       • supported     No       Isochornous mode     3       User data per sochornous slave, max.     244 byte       Equidistance     Yes       Number of DP masters with isochornous mode     3   <		20
• Transmission rate, max.     12 Mbit/s       • automatic baud rate search     No       • Address area, max.     32       • User data per address area, max.     32 byte       - of which consistent, max.     32 byte       Services     -       - PG/OP communication     Yes       - Routing     Yes: with interface active       - Obiola data communication     No       - S7 communication     No       - S7 communication, as client     Yes       - S7 communication, as delient     Yes       - Direct data exchange (slave-to-slave communication)     No       - Stander     244 byte       Potocols     SiMATIC communication       SiMATIC communication     Yes       • IsOo-not CPC (RFC1006)     Via CP 443.1 and loadable FB       - Data length, max.     1452 bytes via CP 443-1 Adv.       We		
• automatic baud rate search     No       • Address area, max.     32       • User data per address area, max.     32 byte       - of which consistent, max.     32 byte       Services     -       - PGiOP communication     Yes       - Global data communication     No       - S7 basic communication     No       - S7 communication     Yes       - S7 communication     Yes       - S7 communication, as client     Yes       - S7 communication, as server     Yes       - S7 communication, as server     Yes       - DPV1     No       Transfer memory     -       - Inputs     244 byte       - Outputs     244 byte       Protocols     -       SitMATIC communication     Ves       • S17 outing     Yes       Open It Communication     -       • S10 outing     Yes       Open It Communication     -       • S10 outing     Yes       Open It Communication     -       • Lisported     No       Isobortoous mode     3       - Data length, max.     1452 bytes via CP 443-1 Adv.       Web server     -       • supported     No       Isobortoous mode     3       User data per isochron		
Address area, max.     S2     User data per address area, max.     S2 byte     Services         — PGOP communication         Yes         — Routing         — S7 basic communication         No         — S7 basic communication         No         — S7 basic communication         No         — S7 communication         Service         — Direct data exchange (slave-to-slave         communication, as elever         — Direct data exchange (slave-to-slave         communication         — DPV1         No         — DPV1         No         — DPV1         No         — Outputs         — Outputs         — Outputs         — Outputs         — Outputs         — S7 communication         • S8         — S7 communication         — Inputs         — DPV1         No         — Devis         — Use 244 byte         — Outputs         — DPV1         No         — Devis         — Direct data exchange (slave-to-slave         — Outputs         — Ves         — Direct data exchange (slave-to-slave         — Outputs         — DPV1         No         — Devis         — Direct data exchange (slave-to-slave         — Outputs         — Devis         — Direct data per isochronous mode         — Disolernous         — Disolernous mode         — Disolernous mode		
• User data per address area, max.       32 byte        of which consistent, max.       32 byte         Services       -		
of which consistent, max.     32 byte       Services     -       PG/OP communication     Yes       Routing     Yes; with interface active       Global data communication     No       S7 basic communication     No       S7 communication     Yes       S7 communication, as client     Yes       S7 communication, as enver     Yes       DF/or data exchange (slave-to-slave communication)     No       DPV1     No       Transfer memory     -       Inputs     244 byte       Outputs     244 byte       Protocols     SiMATIC communication       • S7 routing     Yes       0pen IE communication     Yes       Data length, max.     1452 bytes via CP 443-1 Adv.       Web server     •       • supported     No <b>bochronous mode</b> 3       Ligatiance     Yes       Number of DP masters with isochronous mode     3       User tocols     3       Stand     444 byte       shortest clock pulse     1 ms; 0.5 ms without use of SFC 126, 127       max. cycle     32 ms       ormmunication     Yes       PG/OP communication     Yes       PG/OP communication     Yes		
Services       - PC/OP communication       Yes         - Routing       Yes; with interface active         - Stobal data communication       No         - S7 communication       No         - S7 communication, as client       Yes         - S7 communication, as client       Yes         - S7 communication, as server       Yes         - Direct data exchange (slave-to-slave communication)       No         - DPV1       No         Transfer memory       - Inputs         - Inputs       244 byte         - Outputs       244 byte         Protocols       SIMATIC communication         SIMATIC communication       Yes         • S7 routing       Yes         Open IE communication       Via CP 443-1 and loadable FB         - Data length, max.       1 452 bytes via CP 443-1 Adv.         Web server       -         • supported       No         Isochronous mode       3         Equiditance       Yes         Number of DP masters with isochronous mode       3         Use trace       1 ms; 0.5 ms without use of SFC 126, 127         max, cycle       32 ms         communication       Yes         Number of connectable OPs without message process		
		32 byte
Global data communicationNo S7 basic communicationNo S7 communication, as clientYes S7 communication, as serverYes S7 communication, as serverYes Direct data exchange (slave-to-slave communication)No DPV1No DPV1NoTransfer memory244 byte Outputs244 byte Outputs244 bytePortocolsSIMATIC communicationYes• S7 routingYesOpen 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		
S7 communication, as serverYes Direct data exchange (slave-to-slave communication)No DPV1NoTransfer memory Inputs244 byte Outputs244 byteProtocols-SIMATIC communication-• ISO-on-TCP (RFC1006)Yes Data length, max.1 452 bytes via CP 443-1 Adv.Web server-• supportedNoSochronous mode3Isochronous slave, max.244 byteQuer data per isochronous slave, max.244 byteSubset clock pulse1 ms; 0.5 ms without use of SFC 126, 127 max. cyclePG/OP communicationYesPG/OP communicationYesPG/OP communicationYesPG/OP communicationYesNumber of DP masters with isochronous mode3User data per isochronous slave, max.244 byteshortest clock pulse1 ms; 0.5 ms without use of SFC 126, 127 max. cyclePG/OP communicationYesenuminication functions / headerYesPG/OP communicationYesNumber of connectable OPs with message processing63 63; When using Alarm_S/SQ and Alarm_D/DQ		
Direct data exchange (slave-to-slave communication)No DPV1NoTransfer memory244 byte Inputs244 byte Outputs244 byteProtocolsSIMATIC communication• S7 routingYesOpen IE communicationYes• ISO-on-TCP (RFC1006)Via CP 443-1 and loadable FB Data length, max.1 452 bytes via CP 443-1 Adv.Web server• supportedNotechnonus mode3Lisochronous mode3User data per isochronous slave, max.244 byteshortest clock pulse1 ms; 0.5 ms without use of SFC 126, 127max. cycle32 mscommunication• PG/OP communicationYesNumber of connectable OPs with message processing63 63; When using Alarm_S/SQ and Alarm_D/DQ		
communication)       No         Inputs       244 byte         - oluputs       244 byte         Protocols       244 byte         SIMATIC communication       244 byte         • S7 routing       Yes         Open IE communication       Via CP 443-1 and loadable FB         • 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         Isochronous mode       3         Equidistance       Yes         Number of DP masters with isochronous mode       3         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       Yes         PG/OP communication       Yes         • Number of connectable OPs without message processing       63         • Number of connectable OPs with message processing       63         • Number of connectable OPs with message processing       63         • Number of connectable OPs with message processing       63		
DPV1NoTransfer memoryInputs244 byteOutputs244 byteProtocolsSIMATIC communication• S7 routingYesOpen IE communicationYes• ISO-on-TCP (RFC1006)Via CP 443-1 and loadable FBData length, max.1 452 bytes via CP 443-1 Adv.Web server-• supportedNoIsochronous modeEquidistanceYesNumber of DP masters with isochronous mode3User data per isochronous slave, max.244 byteshortest clock pulse1 ms; 0.5 ms without use of SFC 126, 127max. cycle32 mscommunicationPG/OP communicationYesNumber of connectable OPs without message processing63• Number of connectable OPs with message processing63; When using Alarm_S/SQ and Alarm_D/DQ		No
Transfer memory         - Inputs       244 byte         - Outputs       244 byte         Protocols       244 byte         SIMATIC communication       57 routing         • 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       1         Equidistance       Yes         Number of DP masters with isochronous mode       3         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       Yes         PG/OP communication       Yes         • Number of connectable OPs without message processing       63         • Number of connectable OPs with message processing       63; When using Alarm_S/SQ and Alarm_D/DQ		No
- Inputs244 byte- Outputs244 byteProtocolsSIMATIC communication• S7 routingYesOpen 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• supportedNoIsochronous mode3EquidistanceYesNumber of DP masters with isochronous mode3User data per isochronous slave, max.244 byteshortest clock pulse1 ms; 0.5 ms without use of SFC 126, 127max. cycle32 msCommunicationYesPG/OP communicationYes• Number of connectable OPs without message processing63• Number of connectable OPs with message processing63; When using Alarm_S/SQ and Alarm_D/DQ		NO
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		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       3         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       Yes         PG/OP communication       Yes         • Number of connectable OPs without message processing       63         • Number of connectable OPs with message processing       63; When using Alarm_S/SQ and Alarm_D/DQ	•	
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       3         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       Yes         PG/OP communication       Yes         • Number of connectable OPs without message processing       63         • Number of connectable OPs with message processing       63; When using Alarm_S/SQ and Alarm_D/DQ	· ·	244 byte
• S7 routingYesOpen 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• supportedNoIsochronous modeEquidistanceYesNumber of DP masters with isochronous mode3User data per isochronous slave, max.244 byteshortest clock pulse1 ms; 0.5 ms without use of SFC 126, 127max. cycle32 mscommunication functions / headerPG/OP communicationYes• Number of connectable OPs without message processing63• Number of connectable OPs with message processing63; When using Alarm_S/SQ and Alarm_D/DQ		
Open IE communication       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       3         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       Yes         PG/OP communication       Yes         • Number of connectable OPs without message processing       63         • Number of connectable OPs with message processing       63; When using Alarm_S/SQ and Alarm_D/DQ		Vee
• ISO-on-TCP (RFC1006)Via CP 443-1 and loadable FB Data length, max.1 452 bytes via CP 443-1 Adv.Web server•• supportedNoIsochronous modeEquidistanceYesNumber of DP masters with isochronous mode3User data per isochronous slave, max.244 byteshortest clock pulse1 ms; 0.5 ms without use of SFC 126, 127max. cycle32 msCommunication functions / headerYesPG/OP communicationYes• Number of connectable OPs without message processing63• Number of connectable OPs with message processing63; When using Alarm_S/SQ and Alarm_D/DQ		Yes
— Data length, max.       1 452 bytes via CP 443-1 Adv.         Web server       No         • supported       No         Isochronous mode       Yes         Ruidistance       Yes         Number of DP masters with isochronous mode       3         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       Yes         PG/OP communication       Yes         • Number of connectable OPs without message processing       63         • Number of connectable OPs with message processing       63; When using Alarm_S/SQ and Alarm_D/DQ		
Web server       No         • supported       No         Isochronous mode       Isochronous mode         Equidistance       Yes         Number of DP masters with isochronous mode       3         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       63         • Number of connectable OPs with message processing       63; When using Alarm_S/SQ and Alarm_D/DQ		
• supported       No         Isochronous mode       Isochronous mode         Equidistance       Yes         Number of DP masters with isochronous mode       3         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       63         • Number of connectable OPs with message processing       63; When using Alarm_S/SQ and Alarm_D/DQ		1 452 bytes via CP 443-1 Adv.
Isochronous mode         Equidistance       Yes         Number of DP masters with isochronous mode       3         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       Yes         PG/OP communication       Yes         • Number of connectable OPs without message processing       63         • Number of connectable OPs with message processing       63; When using Alarm_S/SQ and Alarm_D/DQ		
Equidistance       Yes         Number of DP masters with isochronous mode       3         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       Yes         PG/OP communication       Yes         • Number of connectable OPs without message processing       63         • Number of connectable OPs with message processing       63; When using Alarm_S/SQ and Alarm_D/DQ		No
Number of DP masters with isochronous mode       3         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       63         • Number of connectable OPs with message processing       63; When using Alarm_S/SQ and Alarm_D/DQ		
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       63         • Number of connectable OPs with message processing       63; When using Alarm_S/SQ and Alarm_D/DQ	·	
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       63         • Number of connectable OPs with message processing       63; When using Alarm_S/SQ and Alarm_D/DQ		
max. cycle     32 ms       communication functions / header     Yes       PG/OP communication     Yes       • Number of connectable OPs without message processing     63       • Number of connectable OPs with message processing     63; When using Alarm_S/SQ and Alarm_D/DQ		
communication functions / header         PG/OP communication       Yes         • Number of connectable OPs without message processing       63         • Number of connectable OPs with message processing       63         • Number of connectable OPs with message processing       63; When using Alarm_S/SQ and Alarm_D/DQ	· · · · · · · · · · · · · · · · · · ·	
PG/OP communication       Yes         • Number of connectable OPs without message processing       63         • Number of connectable OPs with message processing       63; When using Alarm_S/SQ and Alarm_D/DQ	-	32 ms
Number of connectable OPs without message processing     Number of connectable OPs with message processing     G3; When using Alarm_S/SQ and Alarm_D/DQ	communication functions / header	
Number of connectable OPs with message processing     63; When using Alarm_S/SQ and Alarm_D/DQ	PG/OP communication	Yes
	<ul> <li>Number of connectable OPs without message processing</li> </ul>	63
Data record routing Yes	<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

Clobal data communication	
Global data communication	Yes
<ul><li>supported</li><li>Number of GD loops, max.</li></ul>	res 16
-	
Number of GD packets, transmitter, max.	16 32
Number of GD packets, receiver, max.	
Size of GD packets, max.	54 byte
Size of GD packet (of which consistent), max.	1 variable
S7 basic communication	Vee
supported	Yes 76 byte
<ul> <li>User data per job, max.</li> <li>User data per job (of which consistent), max.</li> </ul>	1 variable
S7 communication	i valiable
	Yes
<ul> <li>supported</li> <li>as server</li> </ul>	Yes
as client	Yes
User data per job, max.	64 kbyte
User data per job (of which consistent), max.	462 byte; 1 variable
	402 byte, i valiable
S5 compatible communication  • supported	Yes; Via FC AG SEND and AG RECV, max. via 10 CP 443-1 or 443-5
<ul> <li>Supported</li> <li>User data per job, max.</li> </ul>	8 kbyte
<ul> <li>User data per job, max.</li> <li>User data per job (of which consistent), max.</li> </ul>	240 byte
Number of simultaneous AG-SEND/AG-RECV orders per	64/64
• Number of simulations AG-SEND/AG-RECV orders per CPU, max.	04/04
Standard communication (FMS)	
supported	Yes; Via CP and loadable FB
Number of connections	
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
<ul> <li>usable for S7 basic communication</li> </ul>	62
- reserved for S7 basic communication	0
<ul> <li>— adjustable for S7 basic communication, max.</li> </ul>	0
<ul> <li>usable for S7 communication</li> </ul>	62
- reserved for S7 communication	0
— adjustable for S7 communication, max.	0
usable for routing	31
— reserved for routing	0
— adjustable for routing, max.	0
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 Alarm,
	Alarm_8, Alarm_8P, Notify and Notify_8 (e.g. WinCC)
Symbol-related messages	Alarm_8, Alarm_8P, Notify and Notify_8 (e.g. WinCC) Yes
Symbol-related messages SCAN procedure	
· · · · · · · · · · · · · · · · · · ·	Yes
SCAN procedure	Yes Yes
SCAN procedure Program alarms	Yes Yes Yes
SCAN procedure Program alarms Process diagnostic messages	Yes Yes Yes
SCAN procedure Program alarms Process diagnostic messages simultaneously active Alarm-S blocks, max.	Yes Yes Yes 1 000; Simultaneously active alarm_S/SQ blocks or alarm_D/DQ blocks Yes 4 000
SCAN procedure Program alarms Process diagnostic messages simultaneously active Alarm-S blocks, max. Alarm 8-blocks • Number of instances for alarm 8 and S7 communication	Yes Yes Yes 1 000; Simultaneously active alarm_S/SQ blocks or alarm_D/DQ blocks Yes 4 000 600
SCAN procedure         Program alarms         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	Yes Yes Yes 1 000; Simultaneously active alarm_S/SQ blocks or alarm_D/DQ blocks Yes 4 000
SCAN procedure         Program alarms         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)	Yes Yes Yes 1 000; Simultaneously active alarm_S/SQ blocks or alarm_D/DQ blocks Yes 4 000 600
SCAN procedure         Program alarms         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	Yes Yes Yes 1 000; Simultaneously active alarm_S/SQ blocks or alarm_D/DQ blocks Yes 4 000 600 Yes 32
SCAN procedure         Program alarms         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)	Yes Yes Yes 1 000; Simultaneously active alarm_S/SQ blocks or alarm_D/DQ blocks Yes 4 000 600 Yes 32
SCAN procedure         Program alarms         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.	Yes Yes Yes 1 000; Simultaneously active alarm_S/SQ blocks or alarm_D/DQ blocks Yes 4 000 600 Yes 32
SCAN procedure         Program alarms         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.	Yes Yes Yes 1 000; Simultaneously active alarm_S/SQ blocks or alarm_D/DQ blocks Yes 4 000 600 Yes 32

• with 100 ms grid, max.         1           • with 500, 1000 ms grid, max.         10           Status connectivationing functions         4           Status took         Yes, Up to 2 simulationousy           Single step         4           Status connectivations         70, Status connectivations           • Variable status connectivations         70, Status connectivations           • Variable status connectivations         70, Status connectivations           • Foring         Yes           • Foring variables, max.         52           • Parents barfief         Yes           • Instructions of anthes, max.         3200	Number of additional values	
• with 500, 1000 ms grin max.10Since sension functionsVes. Up to 2 simulaneouslySince sensionVes. Up to 16 variable tablesNumber of breakpoints4Statuscontrol variableVes. Up to 16 variable tables• Statuscontrol variablesImpulsion/puls, memory bits. Dis. distributed 100s, timers, counters• Number of variables, max.70; Statuscontrol variable• Statuscontrol variables, max.70; Statuscontrol variables• Statuscontrol variables, max.70; Statuscontrol variables, max.• Statuscontrol variablesImpulso outpuls, bit incernories, peripheral inpuls, peripheral outpuls• Statuscontrol variablesImpulso outpuls, solutions, bit memories, peripheral inpuls, peripheral outpuls• Statuscontrol variablesYes• StatuscontrolYes• StatuscontrolYes• StatuscontrolYes• StatuscontrolYes• StatuscontrolYes• Can be read outYes• Can be read outYes <td></td> <td>1</td>		1
Status block     Yes. Up to 2 simultaneously       Single step     Yes       Number of trenspondits     4       Statuscomore     Inputsionapuls, memory bits, DBs, distributed I/Os, timers, counters       • Variables     Inputsionapuls, memory bits, DBs, distributed I/Os, timers, counters       • Number of variables, max.     Too Statuscomoria       • Forcing,     Yes.       • Forcing,     Yes.       • Forcing,     Yes.       • Number of variables, max.     1000       • Porting, variables     Inputs, outputs, bit memories, peripheral outputs       • Number of variables, max.     3200       • adjustable     Yes       • Number of variables, max.     3200       - adjustable     Yes       • Forcing, variables, approval, contrificantes     Contrast       C mark     Yes       Standerds, approval, contrificantes     Contrast       C mark     Yes       C mark     Go *C       • ATLX <td></td> <td>10</td>		10
Single stp:         Yes           Number of breakpoints         4           Statustoorrol         4           Statustoorrol         Yes, Up to 16 variable tables           • Variables         Inclusion of variables, max.           • Statustoorrol         70. Statustoorrol           • Foroing         Yes           • Foroing, variables         Inputs, surptus, but puts, but puts, but puts, but puts, but puts, surptus, surptus, surptus, surptus, puts, surptus, sur	Test commissioning functions	
Number of branksports         4           Statusticontrol variables         • Statusticontrol variables           • Statusticontrol variables         inputs/indputs/, memory bits, DBs, distributed I/Os, timers, counters           • Number of variables, max.         70: Statuscontrol           • Forcing,         • Forcing, variables         Inputs, outputs, bit memorites, perpheral inputs, peripheral outputs           • Proving, variables         11puts, outputs, bit memorites, perpheral inputs, peripheral outputs           • Proving, variables         Yes           • Proving, fortificates         Ves           CBA approval         Yes           CBA approval         Yes           UL approval         Yes           CAN growing, Cartificates         Ves           CAN tommery, Clicky, Wes         Ves           • ATEX         ATEX II 3G Ex nA IIC 74 Go           Antalent temperature during operation         • infin.           • infin.         0 °C           • orgen infinitions         7           • Access to constatert during operating approves         Yes	Status block	Yes; Up to 2 simultaneously
StatusControl variable         Yes           • StatusControl variables, max.         70: StatusControl           • Number of variables, max.         70: StatusControl           • Forcing, variables, max.         70: StatusControl           • Forcing, variables, max.         512           Diagnostic buffer         1           • Interent         Yes           • Interent         Yes           • Interent         Yes           • Interent         Yes           • adjustable         Yes           - preset         10           Statafactor, approxalla, control factor         10           • CE math         Yes           Standards, approxalla, control factor         10           • CE math         Yes           • Standards, approxalla, control factor         10           • CE math         Yes           • CATE         Yes           • CATE         Yes           • CATE         Yes           • CATE         ATEX (13G Ex nA IIC T4 Ge	Single step	Yes
• Subsizional variable     Yes, Up to 16 variables inputs counters       • Number of variables, max.     70: Statusional variables, memory bits, Disk, distributed I/Os, timers, counters       • Forcing     Yes       • Forcing, variables     Inputs, outputs, bit memories, peripheral inputs, peripheral outputs       • Number of variables, max.     512       Diagnests buffer     -       • present     Yes       • Number of variables, max.     3 200       - adjustable     Yes       • Number of entries, max.     3 200       - adjustable     Yes       • Number of entries, max.     3 200       - adjustable     Yes       • Can be read out     Yes       • Can be read out     Yes       • Can be read out     Yes       • Can adjustable     Yes       • Can adjus	Number of breakpoints	4
Inputs/capture, memory bits, DBs, distributed I/Os, timers, countersForcingYosForcingYosForcing, variablesInputs, outputs, bit memories, peripheral inputs, peripheral outputsForcing, variables, max.512Diagnose: bufferYos- presentYos- present200- adjustableYos- present200- adjustableYos- present200- adjustableYos- present200- adjustableYos- present200- adjustableYos- CE markYosCE markYosCSA approvalYesOutgointsYesCUusYesCUusYesCUusYesCUusYesConnery Cost-R)YesConnery Cost-R)YesConnery Cost-R)YesConfiguration MarketVesConfiguration SchweiO'C- ATEXATEX II 3G Ex nA IIC T4 GcAmbient temperature during operationYes- ontax0'Cconfiguration I process imageYes- StateYes- StateYes<	Status/control	
Number of variables, max.70. Status/controlForcingYes• Forcing, variablesInputs, outputs, lott presones, perpheral inputs, perpheral outputs• Number of variables, max.512Diagnostic bufferYes• presentYes• present120- project120Service dataYes• presentYes• can be read outYesStandards, approvals, contificatosYesOttomatics, approval, Circlo, YesYesRold (formerly Ottok), YesYesRold (formerly Ottok), YesYesProtein bacadotos areasYesAmbient contificatosYesAmbient contificatosYesConfiguration, JacoderYes• Ottomatids of YesSec instruction list• Noticino SoftwareYes• System functions (SFC)Sec instruction list• Noticino SoftwareYes• System functions (SFC)Sec instruction list• System functions (SFC)Sec instruction list• System functions (SFC)Yes• System functions (SFC)Yes• System functions (SFC)Yes• System functions (SF	Status/control variable	Yes; Up to 16 variable tables
Forcing         Yes                • Forcing, variables          Inpuls, outputs, bit memories, peripheral inputs, peripheral outputs                 • Number of variables, max.         512                • Diagnasse: buffer                   • present          3 200                 - present          3 200                 - present          120                 - present          120                 - Present          120                 Standards, approvals, confilcates                 CCE mark          Yes                 CCE mark          Yes                 CLUs          Yes                 Contiguration software	Variables	Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters
• Forcing         Yes           • Forcing, variables         Inputs, outputs, bit memories, perpheral inputs, perpheral outputs           • Number of variables, max.         512           • present         Yes           • Number of entries, max.         3200           - adjutable         Yes           • unmber of entries, max.         3200           - adjutable         Yes           • can be read out         Yes           Service data         -           • can be read out         Yes           Standards, approvals.         Yes           CSA approval         Yes           CSA approval         Yes           Outug         Yes           CAG (gromely CTCK)         Yes           CAG (gromely CTCK)         Yes           CAG (gromely CTCK)         Yes           • ATEX         ATEX II 3G Ex nA IIC T4 Cc           Ambent conditions         -           • max.         60 °C           configuration / header         -           • Configuration / programming / header         Yes           • Configuration / programming / header         Yes           • System function folks (SFE)         see instruction list           • Apsis onsister of aniuitan	<ul> <li>Number of variables, max.</li> </ul>	70; Status/control
i Porcing, variables, max.Inputs, outputs, bit memories, peripheral inputs, peripheral outputs612512Diagnastic bufferYes- adjustable3200- adjustableYes- adjustableYes- adjustableYesCan be read outYesCE markYesCE markYesCLussYesCUussYesCUussYesCUussYesCUussYesCUussYesCUussYesCUussYesCUussYesCUussYesCUussYesCUussYesCUussYesCUussYesCUussYesCUussYesROM (domenty C-TICK)YesYesYesContenty Cost-R1YesVesYesCost-R1YesNamer You SolveYesOrtCYes• ATEXATEX II 3C Ex nA IIC T4 GeAmbient conditionsYes• nim,0 °C• nim,0 °C• nim,0 °C• nim,0 °C• onflyuration softwareYes• ATEXATEX II 3C Ex nA IIC T4 GeAmbient temperature during operationYes• nim,0 °C• nim,0 °C• onflyuration / programming / headerSee instruction list• StEP 7Yes• Access to consistent data in process imageSee instruction list	Forcing	
Instruction of variables, max.         512           Diagnostic buffer         Yes           • present         3200           • any size buffer         Yes           • any size buffer         120           Service data         Yes           • any size buffer         Yes           • any be read out         Yes           Service data         Yes           CE mark         Yes           CE mark         Yes           CE mark         Yes           CLus         Yes           CLus         Yes           CLus         Yes           RCM (formerly CTICK)         Yes           KG approval         Yes           CAC (formerly CSaFR)         Yes           LSAC (formerly CSaFR)         Yes           Vasin hizardowa areas         T           ATEX         ATEX II 3G Ex nA IIC T4 Ge           Ambient emperature during operation         T           • max         0° C           configuration of header         T           Configuration for programming / header         See instruction list           • System function blocks (SFB)         see instruction list           • System function blocks (SFB)         see	• Forcing	Yes
Disposition function         Yes           • Present         Yes           - adjustable         Yes           - adjustable         Yes           - preset         120           Service data         Yes           • can be read out         Yes           Standards, agroyonals, certificates         Yes           CE mark         Yes           CLus         Yes           UL approval         Yes           CUL         Yes           RCM (demery C-TICK)         Yes           Contract Settinsta         Setin Nationa Settin Setin Setin Seti	<ul> <li>Forcing, variables</li> </ul>	Inputs, outputs, bit memories, peripheral inputs, peripheral outputs
• present     Yes       • Number of entries, max.     3 200	Number of variables, max.	512
• Number of entries, max.     3 200       - adjustable     Yes       - grosel     120       Service data     Iteration of the read out       Standards, approvals, confificatos     Yes       CE mark     Yes       CSA approval     Yes       UL approval     Yes       UL approval     Yes       CUus     Yes       CUus     Yes       CUus     Yes       RCM (dornerly C-TICK)	Diagnostic buffer	
− adjustable         Yes           − preset         120           − preset         120           ■ can be read out         Yes           ■ can be read out         Yes           ■ Can be read out         Yes           ■ CB mark         Yes           ■ CB mark (conset)         Yes           ■ CG menty Cont-R)         Yes           ■ CA (connerly Cont-R)         Yes           ■ Can (bacardouing operation         ■           ● ATEX         ATEX H 3G Ex nA HC T4 Gc           Ambient etemperature during operation         ■           ● mark         0 °C           ● configuration / broadar         ■           ■ Conditions         ■           ● Configuration / broadar         ■           ■ Condisticton blocks (SFB)         See instruction list <td>• present</td> <td></td>	• present	
−preset     120       Service data     ✓       • can be read out     Yes       Standards, approvals, contificates     ✓       CE mark     Yes       CE mark     Yes       CL mark     Yes       Out approval     Yes       CL mark     Yes       CK approval     Yes       RCM (ormerly C-TICK)     Yes       KC approval     Yes       RCM (ormerly C-TICK)     Yes       KC approval     Yes       RCM (ormerly C-TICK)     Yes       KC approval     Yes       ACC (ormerly Gost-R)     Yes       Name     O       Name     O       Configuration approxanting operation     O       • min.     O     °C       • min.     O     °C       • onfiguration / programming / header     O       • Configuration / programming / header     ✓       • Configuration / programming / header     Yes       • Configuration / programming / header     ✓       • Configuration / programming / header     ✓       • Configuration / proder     ✓       • Configuration /		
Service data     Yes       • can be read out     Yes       CE mark     Yes       CE mark     Yes       CL approval     Yes       UL approval     Yes       cdlus     Yes       CM (tornerly C-TICK)     Yes       RM approval     Yes       RM approval     Yes       EAC (formerly Cost-R)     Yes       Use in hazardous areas     Yes       • ATEX     ATEX II 3G Ex nA IIC T4 Gc       Ambient conditions     Ambient conditions       Ambient conditions     0 °C       configuration / header     Configuration for the see instruction list       • STEP 7     Yes       • STEP 7     Yes       • Configuration / programming / header     see instruction list       • Neesing levels     7       • Access to consistent data in process image     Yes       • System functions (SFC)     see instruction list       • Programming language     Yes       - LAD     Yes       - STL     Yes       - SCL     Yes       - GRAPH     Yes       - GRAPH     Yes       - HiGraph@     Yes       - Informing / number of simultaneously active system functions (SFC) / with D-SYC / FR       - number of simultaneously active system functions (	-	
• can be read out     Yes       Standards, approvals.certificates     Yes       CE mark     Yes       CCApproval     Yes       UL approval     Yes       UL approval     Yes       CUlus     Yes       FM approval     Yes       RCM (formerly C-TICK)     Yes       KC approval     Yes       EAC (formerly Cost-R)     Yes       EAC (formerly Gost-R)     Yes       • ATEX     ATEX II 3G Ex nA IIC T4 Gc       Ambient conditions     O °C       Ambient conditions     60 °C       configuration / header     60 °C       configuration / header     60 °C       configuration / header     Yes       Configuration software     9 °C       • STEP 7     Yes       • Step 7     Yes       • Command set     see instruction list       • Nesting levels     7       • Access to consistent data in process image     Yes       • System function blocks (SFB)     see instruction list       • Stagen function blocks (SFB)     see instruction list       • System function blocks (SFB)     see instruction list       • System function blocks (SFB)     see instruction list       • Spytem function blocks (SFB)     see instruction list       • Socl		120
Standards; approvals; certificates         CE mark       Yes         CSA approval       Yes         UL approval       Yes         UL approval       Yes         CULus       Yes         RGM (formerly C-TICK)       Yes         RGM (formerly C-TICK)       Yes         RGM (formerly C-TICK)       Yes         RGM (formerly C-TICK)       Yes         LSA opproval       Yes         RCA (formerly Gost-R)       Yes         Use in hazardous areas       ATEX II 3C Ex nA IIC T4 GC         Ambient conditions       O 1°C         Ambient conditions       60 °C         configuration / hoader       Configuration / hoader         Configuration / programming / header       see instruction list         • STEP 7       Yes         configuration / programming / header       see instruction list         • Command set       see instruction list         • System functions (SFC)       see instruction list         Programming language       Yes         - LAD       Yes         - STL       Yes         - STL       Yes         - GRAPH       Yes         - GRAPH       Yes         - HiGraph&		
CE mark     Yes       CSA approval     Yes       UL approval     Yes       cULus     Yes       CM (tomerly C-TICK)     Yes       RC approval     Yes       RCA growal     Yes       EAC (tomerly C-TICK)     Yes       Lise in hazardous areas     Yes       • ATEX     ATEX II 3G Ex nA IIC T4 Gc       Ambient conditions     O *C       • ATEX     ATEX II 3G Ex nA IIC T4 Gc       Ambient temperature during operation     • min.       • min.     0 *C       • onin.     0 *C       • origuration / header     Configuration software       • STEP 7     Yes       • Soften functions (SFC)     see instruction list       • Nesting levels     7       • Access to consistent data in process image     Yes       • System function s(FC)     see instruction list       • System function blocks (SFB)     see instruction list       Programming language     Yes       FBD     Yes       SIL     Yes       GRAPH     Yes       HiGraph®     Yes       Configuration / programming / number of simultaneously active SFC / header       number of simultaneously active system functions     SFC 12; per interface       (SFC) / with D_ACT_DP <td></td> <td>Yes</td>		Yes
CSA approval         Yes           UL approval         Yes           OULus         Yes           CM approval         Yes           RCM (formerly C-TICK)         Yes           RCM (formerly C-TICK)         Yes           KC approval         Yes           EAC (formerly C-StR)         Yes           Use in hazardous areas         ATEX           A ATEX         ATEX II 3G Ex nA IIC T4 Gc           Ambient conditions         Ambient conditions           Ambient conditions         0 °C           configuration software         00 °C           configuration software         00 °C           configuration software         7           v Command set         see instruction list           Nesting levels         7           v Access to consistent data in process image         Yes           System function blocks (SFB)         see instruction list           Programming Janguage         Yes           — LAD         Yes           — SCL         Yes           — GRAPH         Yes           — GRAPH         Yes           — orifiguration / programming / number of simultaneously active system functions         2; SFC 11; per interface           (SFC) / with		
UL approval     Yes       cULus     Yes       FM approval     Yes       RCM (formerly C-TICK)     Yes       RCM (formerly C-TICK)     Yes       RC approval     Yes       EAC (formerly C-TICK)     Yes       EAC (formerly C-STICK)     Yes       Use in hazardous areas     Yes       • ATEX     ATEX II 3G Ex nA IIC T4 Go       Ambient conditions     Ambient conditions       Ambient conditions     0 °C       • onfiguration / header     60 °C       • Configuration / header     60 °C       • Offiguration software     Yes       • STEP 7     Yes       configuration / programming / header     See instruction list       • Nesting levels     7       • Access to consistent data in process image     Yes       • System function S(SFC)     see instruction list       • Ves     See instruction list       Programming language     -       - LAD     Yes       - STL     Yes       - SCL     Yes       - CFC     Yes       - GRAPH     Yes       - Micraption / programming / number of simultaneously active system functions (SFC) / Yes       RD_REC     8; SFC 5; per interface		
eULus     Yes       FM approval     Yes       RCM (formerly C-TICK)     Yes       KC approval     Yes       EAC (formerly Cost-R)     Yes       LUse in hazardous areas     •       • ATEX     ATEX II 3G Ex nA IIC 74 Gc       Ambient conditions     •       Ambient conditions     0 °C       ambient conditions     0 °C       configuration / header     60 °C       Configuration / fheader     •       • STEP 7     Yes       • Orgramming / header     see instruction list       • Nesting levels     7       • Access to consistent data in process image     Yes       • Step 7     Yes       • Step 7     yes       • Step 7     Yes       • Orgramming language     Yes       • System functions (SFC)     see instruction list       • System function blocks (SFB)     see is exertion list       • Programming language     Yes       - LAD     Yes       - STL     Yes       - GRAPH     Yes       - GRAPH     Yes       - GRAPH     Yes       - Intheor of simultaneously active system functions       (SFC) / with D_ACT_DP       - number of simultaneously active system functions       (SFC /) with D_ACT_DP <td></td> <td></td>		
FM approval       Yes         RCM (formerly C-TICK)       Yes         KC approval       Yes         KC approval       Yes         LAC (formerly Gost-R)       Yes         Use in hazardous areas       •         • ATEX       ATEX II 3G Ex nA IIC T4 Gc         Ambient conditions       •         Ambient conditions       •         • min.       0 °C         • max.       60 °C         Configuration / header       •         Configuration / header       •         Configuration / programming / header       •         • STEP 7       Yes         • Nesting levels       7         • Access to consistent data in process image       Yes         • System function block (SFB)       see instruction list         Programming language       Yes         - LAD       Yes         - SCL       Yes         - SCL       Yes         - SCL       Yes         - CFC       Yes         - Configuration / programming / number of simultaneously active system functions (SFC) / wes         - CFC       Yes         - CFC       Yes         - CFC       Yes         - Mabro of si		
RCM (formerly C-TICK)     Yes       KC approval     Yes       EAC (formerly Cost-R)     Yes       Use in hazardous areas     ************************************		
KC approval     Yes       EAC (formerly Gost-R)     Yes       Use in hazardous areas     • ATEX       • ATEX     ATEX II 3G Ex nA IIC T4 Gc       Ambient conditions     • O°C       • min.     0 °C       • max.     60 °C       configuration / header     • O°C       • Onfiguration / header     • O°C       • Onfiguration / header     • O°C       • Configuration / header     • O°C       • Onfiguration / header     • O°C       • Configuration / header     • O°C       • Onfiguration / header     • O°C       • Configuration / header     • O°C       • Configuration / header     • O°C       • Orgramming / header     • O°C       • Command set     see instruction list       • Nesting levels     7       • Access to consistent data in process image     Yes       • System function blocks (SFB)     see instruction list       Programming language     -       - LAD     Yes       - STL     Yes       - SCL     Yes       - GRAPH     Yes       - HiGraph®     Yes       - GRAPH     Yes       - HiGraph®     Yes       - number of simultaneously active system functions       (SFC 1) vinth DPSYC_FR     R		
EAC (formerly Gost-R)     Yes       Use in hazardous areas     ATEX II 3G Ex nA IIC T4 Gc       Ambient conditions     Ambient conditions       Ambient conditions     0 °C       Configuration / header     0 °C       configuration / header     60 °C       Configuration / header     Yes       configuration / programming / header     7       • Command set     see instruction list       • Nesting levels     7       • Access to consistent data in process image     Yes       • System functions (SFC)     see instruction list       • System functions (SFC)     see instruction list       Programming language     Yes       - LAD     Yes       - SCL     Yes       - SCL     Yes       - CFC     Yes       - CFC     Yes       - CFC     Yes       - CFC     Yes       - HiGraph®     Yes       - Infigraph®     Yes       - number of simultaneously active system functions (SFC) / with DPSYC_FR     2; SFC 11; per interface       - ND_REC     8; SFC 59; per interface		
Use in hazardous areas         • ATEX       ATEX II 3G Ex nA IIC 74 Gc         Ambient conditions         Ambient temperature during operation         • min.       0 °C         • max.       60 °C         Configuration / header         Configuration / header         • STEP 7       Yes         configuration / programming / header         • 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       Yes         - LAD       Yes         - SCL       Yes         - SCL       Yes         - GRAPH       Yes         - GRAPH       Yes         - HiGraph®       Yes         configuration / programming / number of simultaneously active system functions       2; SFC 11; per interface         (SFC) / with D_ACT_DP       8; SFC 59; per interface		
ATEX ATEX II 3G Ex nA IIC 74 Gc  Anbient conditions  Anbient conditions  Anbient temperature during operation      imax.     0 °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     - STL     Yes     SL     - STL     Yes     - SCL     Yes     - GRAPH     Yes     - IGRAPH     Yes     - IGRAPH     Yes     - INGraph® / number of simultaneously active system functions     (SFC) / with DPSYC_FR     - number of simultaneously active system functions     (SFC) / with DPSYC_FR     - RD_REC     System function     SYS SP C59; per interface		Yes
Ambient conditions         Ambient temperature during operation         • min.       0 °C         • max.       60 °C         configuration / header         Configuration / programming / header         • 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         - SCL       Yes         - CFC       Yes         - GRAPH       Yes         - GRAPH       Yes         - HiGraph®       Yes         configuration / programming / number of simultaneously active system functions       2; SFC 11; per interface         (SFC) / with DPSYC_FR       8; SFC 12; per interface         - number of simultaneously active system functions       8; SFC 12; per interface         (SFC) / with DPSYC_FR       8; SFC 12; per interface         - mumber of simultaneously active system functions       8; SFC 12; per interface		
Ambient temperature during operation       0 °C         • max.       60 °C         configuration / header       60 °C         Configuration software       60 °C         • STEP 7       Yes         configuration / programming / header       see instruction list         • Nesting levels       7         • Access to consistent data in process image       Yes         • System functions (SFC)       see instruction list         • System functions (SFC)       see instruction list         • System function blocks (SFB)       see instruction list         Programming language       -         - LAD       Yes         - STL       Yes         - SCL       Yes         - CFC       Yes         - CFC       Yes         - GRAPH       Yes         - HiGraph®       Yes         configuration / programming / number of simultaneously active SFC / header         - number of simultaneously active system functions (SFC 1); per interface         (SFC) / with DPSYC_FR       8; SFC 12; per interface         - ND_REC       8; SFC 59; per interface		ATEX II 3G EX NA NC 14 GC
• min.       0 °C         • max.       60 °C         configuration / header         Configuration / header         • STEP 7       Yes         configuration / programming / header       see instruction list         • 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         - SCL       Yes         - SCL       Yes         - GRAPH       Yes         - HiGraph®       Yes         - mumber of simultaneously active system functions (SFC / header       2; SFC 11; per interface         - number of simultaneously active system functions (SFC / vith D_PSYC_FR       8; SFC 12; per interface         - RD_REC       8; SFC 59; per interface		
• max.       60 °C         configuration software       Ves         • STEP 7       Yes         configuration / programming / header       see instruction list         • 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         • System function blocks (SFB)       see instruction list         • CAC       Yes         - LAD       Yes         - FBD       Yes         - STL       Yes         - SCL       Yes         - SCL       Yes         - CFC       Yes         - GRAPH       Yes         - HiGraph@       Yes         - number of simultaneously active system functions (SFC / with DFSYC_FR       \$; SFC 11; per interface         - number of simultaneously active system functions (SFC 12; per interface       \$; SFC 12; per interface         - RD_REC       8; SFC 59; per interface		0.00
configuration / header         • STEP 7       Yes         configuration / programming / header       see instruction list         • 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         - SCL       Yes         - SCL       Yes         - GRAPH       Yes         - GRAPH       Yes         - HiGraph®       Yes         - number of simultaneously active system functions (SFC )/ with D_ACT_DP       8; SFC 12; per interface         - RD_REC       8; SFC 59; per interface		
Configuration software         • STEP 7       Yes         configuration / programming / header       see instruction list         • Command set       see instruction list         • Nesting levels       7         • Access to consistent data in process image       Yes         • System function s(SFC)       see instruction list         • System function blocks (SFB)       see instruction list         Programming language       -         - LAD       Yes         - FBD       Yes         - STL       Yes         - SCL       Yes         - SCL       Yes         - GRAPH       Yes         - HiGraph®       Yes         - number of simultaneously active system functions       2; SFC 11; per interface         (SFC) / with DPSYC_FR       8; SFC 12; per interface         - RD_REC       8; SFC 59; per interface		80 C
• STEP 7Yesconfiguration / programming / headersee instruction list• Command setsee instruction list• Nesting levels7• Access to consistent data in process imageYes• System functions (SFC)see instruction list• System function blocks (SFB)see instruction list• System function blocks (SFB)yes- LADYes- STLYes- STLYes- SCLYes- CFCYes- GRAPHYes- HiGraph®Yes- HiGraph®Yes- number of simultaneously active system functions (SFC) / with DPSYC_FR2; SFC 11; per interface (SFC) / with D_ACT_DP- RD_REC8; SFC 59; per interface		
configuration / programming / header         • Command set       see instruction list         • Nesting levels       7         • Access to consistent data in process image       Yes         • System function locks (SFC)       see instruction list         • System function blocks (SFB)       see instruction list         • System function blocks (SFB)       see instruction list         Programming language       -         - LAD       Yes         - FBD       Yes         - STL       Yes         - SCL       Yes         - CFC       Yes         - GRAPH       Yes         - HiGraph®       Yes         - number of simultaneously active system functions (SFC / header       2; SFC 11; per interface         (SFC) / with D_PSYC_FR       8; SFC 12; per interface         - RD_REC       8; SFC 59; per interface		Vec
Command setsee instruction listNesting levels7Access to consistent data in process imageYesSystem functions (SFC)see instruction listSystem function blocks (SFB)see instruction listProgramming languageYes- LADYes- FBDYes- STLYes- SCLYes- CFCYes- GRAPHYes- HiGraph®Yes- number of simultaneously active system functions (SFC)/with DPSYC_FR? SFC 11; per interface- number of simultaneously active system functions (SFC)/with D_ACT_DP%; SFC 12; per interface- RD_REC%; SFC 59; per interface		
Nesting levels7Access to consistent data in process imageYesSystem functions (SFC)see instruction listSystem function blocks (SFB)see instruction listProgramming language- LADYes- FBDYes- STLYes- SCLYes- CFCYes- GRAPHYes- HiGraph®Yes- number of simultaneously active system functions (SFC) / with DPSYC_FR2; SFC 11; per interface- number of simultaneously active system functions (SFC) / with D_ACT_DP8; SFC 59; per interface		see instruction list
• Access to consistent data in process imageYes• System functions (SFC)see instruction list• System function blocks (SFB)see instruction list• Programming language		
• System functions (SFC)see instruction list• System function blocks (SFB)see instruction listProgramming language	-	
• System function blocks (SFB)see instruction listProgramming language LADYes- FBDYes- STLYes- SCLYes- CFCYes- GRAPHYes- HiGraph®Yesconfiguration / programming / number of simultaneously active system functions (SFC) / with DPSYC_FR2; SFC 11; per interface- number of simultaneously active system functions (SFC) / with D_ACT_DP8; SFC 59; per interface- RD_REC8; SFC 59; per interface		
Programming language- LADYes- FBDYes- STLYes- SCLYes- CFCYes- GRAPHYes- HiGraph®Yesconfiguration / programming / number of simultaneously activeFC / header- number of simultaneously active system functions (SFC) / with DPSYC_FR2; SFC 11; per interface- number of simultaneously active system functions (SFC) / with D_ACT_DP8; SFC 59; per interface	• • •	
- LADYes- FBDYes- STLYes- SCLYes- CFCYes- GRAPHYes- HiGraph®Yesconfiguration / programming / number of simultaneously active system functions (SFC) / with DPSYC_FR2; SFC 11; per interface- number of simultaneously active system functions (SFC) / with D_ACT_DP3; SFC 12; per interface- RD_REC8; SFC 59; per interface		
- FBDYes- STLYes- SCLYes- CFCYes- GRAPHYes- HiGraph®Yes- number of simultaneously active system functions (SFC) / with DPSYC_FRYes- number of simultaneously active system functions (SFC) / with DPSYC_FRYes- number of simultaneously active system functions (SFC) / with DPSYC_FRYes- number of simultaneously active system functions (SFC) / with DPSYC_FRYes- number of simultaneously active system functions (SFC) / with DPSYC_FRYes- number of simultaneously active system functions (SFC) / with DPSYC_FRYes- number of simultaneously active system functions (SFC) / with DPSYC_FRYes- number of simultaneously active system functions (SFC) / with DPSYC_FRYes- number of simultaneously active system functions (SFC) / with DPSYC_FRYes- number of simultaneously active system functions (SFC) / with DPSYC_FRYes- number of simultaneously active system functions (SFC) / with DPSYC_FRYes- number of simultaneously active system functions (SFC) / with DPSYC_FRYes- RD_RECYesYes		Yes
- STLYes- SCLYes- CFCYes- GRAPHYes- HiGraph®Yes- number of simultaneously active system functions (SFC) / with DPSYC_FRYes- number of simultaneously active system functions (SFC) / with DPSYC_FR2; SFC 11; per interface- number of simultaneously active system functions (SFC) / with DPSYC_FR8; SFC 12; per interface- number of simultaneously active system functions (SFC) / with DPSYC_FR8; SFC 12; per interface- number of simultaneously active system functions (SFC) / with D_ACT_DP8; SFC 59; per interface		
- SCLYes- CFCYes- GRAPHYes- HiGraph®Yes- HiGraph®Yesconfiguration / programming / number of simultaneously activeSFC / header- number of simultaneously active system functions (SFC) / with DPSYC_FR2; SFC 11; per interface- number of simultaneously active system functions (SFC) / with DPSYC_FR8; SFC 12; per interface- number of simultaneously active system functions (SFC) / with D_ACT_DP8; SFC 59; per interface		
- CFCYes- GRAPHYes- HiGraph®Yesconfiguration / programming / number of simultaneously activeYesconfiguration / programming / number of simultaneously activeYec- number of simultaneously active system functions (SFC) / with DPSYC_FR2; SFC 11; per interface- number of simultaneously active system functions (SFC) / with D_ACT_DP8; SFC 12; per interface- RD_REC8; SFC 59; per interface		
- GRAPHYes- HiGraph®Yesconfiguration / programming / number of simultaneously activeSFC / header- number of simultaneously active system functions (SFC) / with DPSYC_FR2; SFC 11; per interface- number of simultaneously active system functions (SFC) / with D_ACT_DP8; SFC 12; per interface- RD_REC8; SFC 59; per interface		
HiGraph®     Yes       configuration / programming / number of simultaneously active     SFC / header       - number of simultaneously active system functions (SFC) / with DPSYC_FR     2; SFC 11; per interface       - number of simultaneously active system functions (SFC) / with D_ACT_DP     8; SFC 12; per interface       - RD_REC     8; SFC 59; per interface		
configuration / programming / number of simultaneously active       SFC / header         — number of simultaneously active system functions (SFC) / with DPSYC_FR       2; SFC 11; per interface         — number of simultaneously active system functions (SFC) / with D_ACT_DP       8; SFC 12; per interface         — RD_REC       8; SFC 59; per interface		
number of simultaneously active system functions (SFC) / with DPSYC_FR2; SFC 11; per interface number of simultaneously active system functions (SFC) / with D_ACT_DP8; SFC 12; per interface RD_REC8; SFC 59; per interface	•	
number of simultaneously active system functions (SFC) / with D_ACT_DP8; SFC 12; per interface RD_REC8; SFC 59; per interface	- number of simultaneously active system functions	
- RD_REC     8; SFC 59; per interface	<ul> <li>number of simultaneously active system functions</li> </ul>	8; SFC 12; per interface
- WR_REC 8; SFC 58; per interface		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 active	e 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		
<ul> <li>User program protection/password protection</li> </ul>	Yes	
Dimensions		
Width	50 mm	
Height	290 mm	
Depth	219 mm	
Weights		
Weight, approx.	900 g	
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last modified:	4/1/2022 🖸	