## SIEMENS

Data sheet

General information

## 6ES7412-2EK06-0AB0

SIMATIC S7-400, CPU 412-2 PN CENTRAL PROCESSING UNIT WITH: 1 MB WORKING MEMORY, (0,5 MB CODE, 0,5 MB DATA), INTERFACES: 1. IF MPI/DP 12 MBIT/S (X1), 2. IF ETHERNET/PROFINET (X5),



CPU 412-2 PN
01
V6.0
STEP 7 V5.5 or higher/iMap V3.0 + iMap STEP 7 Add-on V3.0 SP5 or higher
100 ms
30 μs; Time per I/O byte
No; Power supply via system power supply
1.1 A
1.3 A
1.5 A
150 mA; 150 mA per DP interface

Power loss	
Power loss, typ.	5.5 W
Power loss, max.	6.5 W
Memory	
Type of memory	RAM
Work memory	
integrated	1 Mbyte
<ul> <li>integrated (for program)</li> </ul>	0.5 Mbyte
integrated (for data)	0.5 Mbyte
• expandable	No
Load memory	No
	Yes; with Memory Card (FLASH)
expandable FEPROM	
• expandable FEPROM, max.	64 Mbyte
• integrated RAM, max.	512 kbyte
• expandable RAM	Yes; with Memory Card (RAM)
• expandable RAM, max.	64 Mbyte
Backup	
• present	Yes
• with battery	Yes; all data
• without battery	No
Battery	
Backup battery	
<ul> <li>Backup current, typ.</li> </ul>	125 μA; up to 40 °C
<ul> <li>Backup current, max.</li> </ul>	450 μΑ
• Backup time, max.	Dealt with in the module data manual with the secondary conditions and the factors of influence
<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.	75 ns
for word operations, typ.	75 ns
for fixed point arithmetic, typ.	75 ns
for floating point arithmetic, typ.	225 ns
CPU-blocks	
DB	
• Number, max.	3 000; Number range: 1 to 16000
• Size, max.	64 kbyte
FB	
• Number, max.	1 500; Number range: 0 to 7999
• Size, max.	64 kbyte
FC	
	1 500; Number range: 0 to 7999

OB         See instruction list           • Number, max.         see instruction list           • Size, max.         64 kbyte           • Number of free cycle OBs         1: 08 1           • Number of free cycle OBs         2: 08 20, 21           • Number of cycle, interrupt OBs         2: 08 23, 23 (shortest cycle that can be set = 500 µs)           • Number of cycle, interrupt OBs         2: 08 23, 23 (shortest cycle that can be set = 500 µs)           • Number of DPV1 alarn OBs         2: 08 40, 41           • Number of Interrupt OBs         3: 08 55-57           • Number of Interrupt OBs         3: 08 60           • Number of Interrupt OBs         3: 08 80           • Number of Istarbu OBs         3: 08 80           • Number of Istarbu OBs         3: 08 80           • Number of Istarbu OBs         3: 08 80           • Number of Synchronous error OBs         9: 08 80-88           • Number of Synchronous error OBs         2: 08 121, 122           Number of Synchronous error OBs         1           • Deprived Valas         2: 048           • additional within an error OB         1           • Deprived Imit         0           - upper limit         0           - upper limit         0           - upper limit         0	• Size, max.	64 kbyte
Size, max.G4 kbyteSize, max.G4 kbyteNumber of free cycle OBs1, 0B 1Number of free cycle OBs2, 0B 10, 11Number of odelay alam OBs2, 0B 20, 21Number of process alam OBs2, 0B 20, 25 (shortest cycle that can be set = 500 µs)Number of process alam OBs2, 0B 40, 41Number of process alam OBs2, 0B 60, 23, 35 (shortest cycle that can be set = 500 µs)Number of process alam OBs2, 0B 61, 22Number of isochronous mode OBs2, 0B 61, 62Number of isochronous mode OBs1, 0B 80Number of adxground OBs3, 0B 100-102Number of adxground OBs3, 0B 100-102Number of synchronous error OBs9, 0B 80-88Number of synchronous error OBs2, 0B 121, 122NumberYes- adjustable24- adjustable2048- adjustableYes- lower limit0- upper limit2, 0 a Z7- counter2 to a Z7- counteryes- preset2 to a Z7- Counting range0- upper limit0- upper limit0- upper limit999IEC counterYes- rupperSFB- Number2 408Retentivity adjustableYes- adjustableYes- adjustableYes- adjustableYes- adjustableYes- adjustable- adjustable- adjustableYes		
• Number of firee cycle OBs1. OB 1• Number of time alarm OBs2. OB 10, 11• Number of delay alarm OBs2. OB 20, 21• Number of cyclic interrupt OBs2. OB 32, 35 (shortest cycle that can be set = 500 µs)• Number of process alarm OBs2. OB 40, 41• Number of DPV1 alarm OBs3. OB 55-57• Number of box/ground OBs2. OB 60• Number of background OBs1. OB 90• Number of starup OBs3. OB 100-102• Number of starup OBs3. OB 100-102• Number of starup OBs2. OB 80-88• Number of synchronous error OBs2. OB 121, 122Number of process alarm OB1• Number of synchronous error OBs2. OB 121, 122• Number2. 043• Number2. 043• Number2. 047• oper limit0• oper limit0• oper limit0• oper limit0• oper limit0• oper limit0• presentYes• NumberSFB• Number2.043Retentivity	• Number, max.	see instruction list
• Number of time alam OBs2, OB 10, 11• Number of delay alam OBs2, OB 20, 21• Number of cyclic interrupt OBs2, OB 32, 35 (shortest cycle that can be set = 500 µs)• Number of process alam OBs2, OB 40, 41• Number of DPV1 alam OBs3, OB 55-57• Number of sochronous mode OBs2, OB 10-22• Number of background OBs1, OB 60• Number of tactup OBs3, OB 100-102• Number of saynchronous error OBs2, OB 80-38• Number of synchronous error OBs2, OB 80-38• Number2, OB 80-38• Outper limit0- upper limit2, OB 2, 7• presentYes• presentYes• NumberS/EB• Number2, VB• Number2, VB•	• Size, max.	64 kbyte
• Number of delay alarn OBs2, OB 20, 21• Number of cyclic interrupt OBs2, OB 32, 35 (shortest cycle that can be set = 500 µs)• Number of DPV1 alarn OBs3, OB 55-57• Number of DPV1 alarn OBs2, OB 61-62• Number of background OBs1, OB 80• Number of background OBs3, OB 100-102• Number of saynchronous error OBs9, OB 80-88• Number of synchronous error OBs20 80 100-102• Number of synchronous error OBs20 80 20• Number of synchronous error OBs24• additional within an error OB1• per priority class24• additional within an error OB20 48• additional within an error OB2048• centrust2048• centrust2047• additional within an error OB20 47• number20 477- engre Initit0- per priority class20 407- preset20 407- preset20 407- preset20 407- preset99- lower limit0- upper limit2047- presetSFB• NumberSFB• NumberSFB• Number20 48• Number20 40• Number20 40• Number20 40• Number20 40• presentYes• number20 40• number20 40• number20 40• number20 40• number20 40 <trr>• number</trr>	<ul> <li>Number of free cycle OBs</li> </ul>	1; OB 1
Number of cyclic interupt OBs2 : OB 32, 35 (shortest cycle that can be set = 500 µs)Number of process alarm OBs2: OB 40, 41Number of DPV1 alarm OBs3: OB 55-57Number of sischronous mode OBs2: OB 81-62Number of multicomputing OBs1: OB 90Number of startup OBs3: OB 100-102Number of startup OBs9: OB 80-88Number of startup OBs2: OB 121, 122Number of synchronous error OBs2: OB 121, 122Number of synchronous error OBs2: OB 121, 122Number of synchronous error OBs12ourters, timers and their retentivity2048- adjustableYes- adjustable2047- upper limit2: 047- preset2: 047- lower limit0- upper limit9:99IEC counting rangeYes- fypeSFBNumberSFBNumber2: 048Retentivity2: 048- adjustableYes- adjustable1- upper limit2: 047- adjustableSFB- lower limit0- upper limit9:99IEC counting rangeSFB- NumberCital data data data data data data data d	<ul> <li>Number of time alarm OBs</li> </ul>	2; OB 10, 11
• Number of process alarn OBs2: OB 40, 41• Number of DPV1 alarn OBs3: OB 55-57• Number of sochronous mode OBs2: OB 61-62• Number of multicomputing OBs1: OB 60• Number of background OBs1: OB 90• Number of startup OBs3: OB 100-102• Number of startup OBs2: OB 121, 122• Number of synchronous error OBs2: OB 121, 122• Number of synchronous error OBs2: OB 121, 122• Number of synchronous error OBs1• per priority class24• additional within an error OB1 <b>Counters, timers and their retentivitySrouter</b> 2: 048• Number2: 048• Number2: 047- adjustableYes- adjustable2: 047- preset2: 047- upper limit9: 99 <b>IEC counter</b> 9: 99 <b>IEC counter</b> SFB• NumberSFB• Number2: 048 <b>Retentivity</b> SFB• Number2: 048 <b>EX counter</b> 2: 048• Number3: 048 <b>IEC counter</b> SFB• Number2: 048 <b>St Imes</b> 2: 048• Number2: 048• Number2: 048• Number2: 048• Number2: 048• Number2: 048• 03: 048• 03: 048• 03: 048• 03: 048• 03: 048• 03: 048• 03: 048 </td <td><ul> <li>Number of delay alarm OBs</li> </ul></td> <td>2; OB 20, 21</td>	<ul> <li>Number of delay alarm OBs</li> </ul>	2; OB 20, 21
• Number of DPV1 alarm OBs3, OB 55-57• Number of isochronous mode OBs2, OB 61-62• Number of multicomputing OBs1, OB 60• Number of background OBs1, OB 90• Number of santup OBs3, OB 100-102• Number of asynchronous error OBs9, OB 80-88• Number of synchronous error OBs9, OB 80-88• Number of synchronous error OBs24• ard priority class24• ard priority class24• additional within an error OB1Counters. timers and their retentivityS7 counter- adjustableYes- adjustable2047- upper limit2 047- upper limit2 047- upper limit999IEC counter- lower limit0- upper limit2 047- upper limit2 047- upper limit2 047- upper limit0- upper limit999IEC counterVes- forsentYes- forsentVes- TypeSFB- Number2 048Retentivity2 048- adjustable2 048- TypeSFB- Number2 048- adjustable2 048- endition2 048- endition2 048- adj	<ul> <li>Number of cyclic interrupt OBs</li> </ul>	2; OB 32, 35 (shortest cycle that can be set = 500 $\mu$ s)
• Number of isochronous mode OBs2, OB 61-62• Number of multicomputing OBs1, OB 60• Number of background OBs1, OB 90• Number of startup OBs3, OB 100-102• Number of asynchronous error OBs9, OB 80-88• Number of asynchronous error OBs9, OB 80-88• Number of asynchronous error OBs24• per priority class24• additional within an error OB1• Counters, timers and their retentivityS7 counter• Number2 048• Retentivity- adjustableYes- adjustableYes- lower limit0- upper limit2 047- upper limit2 047- present999IEC counter- lower limit0- upper limit999IEC counter• Number2 048Caunting range- lower limit0- upper limit0- adjustable- upper limit- upper limit0- upper limit0- upper limit0- upper limit0	<ul> <li>Number of process alarm OBs</li> </ul>	2; OB 40, 41
Number of multicomputing OBs1, OB 60Number of background OBs1, OB 90Number of startup OBs3, OB 100-102Number of asynchronous error OBs9, OB 80-88Number of synchronous error OBs2, OB 121, 122Nesting deptheper priority class24e additional within an error OB1CountersNumber of synchronous error OBs24e additional within an error OB1Counters. timers and their retentivityYes- ouver limit0- ouver limit0- ouver limit0- ouver limit0- upper limit2 047- preset2 0 to Z 7Counter- lower limit0- upper limit999IEC counterYresSFBNumber2 048Counter- lower limit0- upper limit2 048- lower limit0- upper limit2 047- presentSFBNumberSFBNumber2 048Counter- lower limit0- adjustable2 048- number2 048- adjustable2 048- etentivity adjustable2 048- ouver limit0- adjustable adjustable lower limit0 <td><ul> <li>Number of DPV1 alarm OBs</li> </ul></td> <td>3; OB 55-57</td>	<ul> <li>Number of DPV1 alarm OBs</li> </ul>	3; OB 55-57
Number of background QBs1, OB 90Number of startup OBs3, OB 100-102Number of asynchronous error OBs9, OB 80-88Number of synchronous error OBs2, OB 121, 122Nesting depthe per priority class24e additional within an error OB1Counters, timers and their retentivityS7 counter• Number2 048Retentivity2 048- adjustableVes- lower limit0- upper limit2 047- preset2 0 to Z 7Counter1- lower limit999IEC counterSFB• NumberSFB• Number2 048CounterSFB• Number2 048Retentivity2 048- adjustableVes- adjustableVes- adjustableSFB• Number2 048Retentivity2 048- adjustableVes- adjustable2 048- adjustable90- adjustable90- adjustable90- adjustable90- adjustable90- adjustable90- adjustable90-	<ul> <li>Number of isochronous mode OBs</li> </ul>	2; OB 61-62
Number of startup OBS3; OB 100-102Number of synchronous error OBS9; OB 80-88Number of synchronous error OBS2; OB 121, 122Nesting depth24• per priority class24• additional within an error OB1Counters timers and their retentivityS7 counter2048• Number2 048Retentivity9- adjustableYes- lower limit0- upper limit2 047- preset2 0 to Z 7Counting range99- lower limit99- preset2 to to Z 7CounterYes- presetSFBNumberSFBNumberSFBNumberSFBNumber2 048Retentivity	<ul> <li>Number of multicomputing OBs</li> </ul>	1; OB 60
Number of asynchronous error OBs9: OB 80-88Number of synchronous error OBs2: OB 121, 122Nesting depth24• per priority class24• additional within an error OB1Counters, timers and their retentivity2048S7 counter2 048• Number2 048• Number2 048Retentivity adjustableYes- lower limit0- upper limit2 047- presetZ 0 to Z 7Counter lower limit0- upper limit999IEC counter- nower limit0- nower limit0- upper limit999SFBNumberSFBNumber2 048Retentivity- adjustableYes- adjustableYes- adjustableYes- adjustableYes- adjustable0- adjustableYes- adjustableYes- adjustableYes- adjustableYes- adjustableYes- adjustableYes- adjustableYes- adjustableYes- lower limit0	<ul> <li>Number of background OBs</li> </ul>	1; OB 90
Number of synchronous error OBs2, OB 121, 122Nesting depth24• per priority class24• additional within an error OB1Counters, timers and their retentivity2S7 counter2 048• Number2 048Retentivity adjustableYes- lower limit0- upper limit2 047- presetZ 0 to Z 7Counters lower limit0- upper limit999IEC counterSFB• NumberSFB• NumberSFB• Number2 048RetentivitySFB• Number2 048S7 times2 048• numberYes- adjustableYes• numberYes• number2 048S7 times	<ul> <li>Number of startup OBs</li> </ul>	3; OB 100-102
Nesting depth       24         • additional within an error OB       1         Counters, timers and their retentivity       1         S7 counter       2 048         • Number       2 048         Retentivity       - adjustable         - 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       Yes         • present       Yes         • Type       SFB         • Number       2 048         S7 times       2 048         Retentivity       - adjustable         • Number       2 048         FRetentivity       - adjustable         • Number       2 048         Retentivity       - adjustable         • Number       2 048	<ul> <li>Number of asynchronous error OBs</li> </ul>	9; OB 80-88
• per priority class24• additional within an error OB1Counters, timers and their retentivity\$7 counter2 048• Number2 048Retentivity adjustableYes- lower limit0- upper limit2 047- presetZ 0 to Z 7Counter999IEC counter999IEC counterYes• presentYes• TypeSFB• NumberUnlimited (limited only by RAM capacity)\$7 times2 048Retentivity adjustable0• number2 048Retentivity adjustable2 048Retentivity adjustable2 048Retentivity adjustable1- lower limit0- adjustableYes- adjustable0	<ul> <li>Number of synchronous error OBs</li> </ul>	2; OB 121, 122
i additional within an error OB 1 Counters, timers and their retentivity S7 counter • Number 2048 Retentivity - adjustable 2047 - lower limit 2047 - upper limit 2047 - preset 20 to Z 7 Counting range - lower limit 0 - upper limit 999 IEC counter • present Yes • Type SFB • Number Ves • SFB • Number 2048 SFB • Number 2048 SFB • Number 2048 SFB • Number 2048 SFB • Number 2048	Nesting depth	
Securities and their retentivity         S7 counter         • Number       2 048         Retentivity       - adjustable         - 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       Yes         • present       Yes         • Type       SFB         • Number       Ves         • Number       2 048         Retentivity       -         • number       Yes         • number       2 048         Retentivity       -         - adjustable       Yes         - lower limit       0	• per priority class	24
S7 counter2 048Retentivity	<ul> <li>additional within an error OB</li> </ul>	1
S7 counter2 048Retentivity—- adjustableYes- lower limit0- upper limit2 047- presetZ 0 to Z 7Counting range—- lower limit0- upper limit999IEC counterSFB• presentYes• TypeSFB• Number2 048Retentivity2 048	Counters, timers and their retentivity	
Retentivity       Yes         - adjustable       9         - lower limit       0         - upper limit       2 047         - preset       Z 0 to Z 7         Counting range       999         IEC counter       999         Foresent       Yes         • present       Yes         • Type       SFB         • Number       Unlimited (limited only by RAM capacity)         S7 times       2 048         Retentivity       Yes         - nadjustable       0         - adjustable       2 048         Retentivity       Yes         - nadjustable       0         - adjustable       0		
- adjustableYes- lower limit0- upper limit2 047- presetZ 0 to Z 7Counting range0- lower limit0- upper limit999IEC counterYes• presentYes• TypeSFB• NumberUnlimited (limited only by RAM capacity)S7 times2 048Retentivity adjustableYes- adjustable9001000000000000000000000000000000000000	Number	2 048
- lower limit     0       - upper limit     2 047       - preset     Z 0 to Z 7       Counting range     -       - lower limit     0       - upper limit     999       IEC counter     -       • present     Yes       • Type     SFB       • Number     Unlimited (limited only by RAM capacity)       S7 times     2 048       Retentivity     -       - adjustable     Yes       - lower limit     2 048	Retentivity	
- upper limit2 047- presetZ 0 to Z 7Counting range0- lower limit999IEC counterYes• presentYes• TypeSFB• NumberUnlimited (limited only by RAM capacity)S7 times2 048Retentivity adjustableYes- nower limit00-0-0-0-		
preset     Z 0 to Z 7       Counting range     0       lower limit     0       upper limit     999       IEC counter     Yes       • present     Yes       • Number     Unlimited (limited only by RAM capacity)       S7 times     2 048       Retentivity		Yes
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upper limit999IEC counter• presentYes• TypeSFB• NumberUnlimited only by RAM capacity)ST times• Number2 048Retentivity adjustableYes- lower limit0	— adjustable — lower limit — upper limit	0 2 047
IEC counter • present Yes • Type SFB • Number Unlimited (limited only by RAM capacity) S7 times • Number 2 048 Retentivity - adjustable Yes - lower limit 0	— adjustable — lower limit — upper limit — preset	0 2 047
• presentYes• TypeSFB• NumberUnlimited only by RAM capacity)S7 times2 048• Number2 048• RetentivityYes- adjustableYes- lower limit0	<ul> <li>adjustable</li> <li>lower limit</li> <li>upper limit</li> <li>preset</li> <li>Counting range</li> </ul>	0 2 047 Z 0 to Z 7
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<ul> <li>Number</li> <li>S7 times</li> <li>Number</li> <li>2 048</li> <li>Retentivity</li> <li>— adjustable</li> <li>— lower limit</li> <li>Ves</li> <li>0</li> </ul>	<ul> <li>adjustable</li> <li>lower limit</li> <li>upper limit</li> <li>preset</li> </ul> Counting range <ul> <li>lower limit</li> <li>upper limit</li> </ul>	0 2 047 Z 0 to Z 7 0
S7 times • Number 2 048 Retentivity - adjustable Yes - lower limit 0	<ul> <li>adjustable</li> <li>lower limit</li> <li>upper limit</li> <li>preset</li> </ul> Counting range <ul> <li>lower limit</li> <li>upper limit</li> </ul> IEC counter	0 2 047 Z 0 to Z 7 0 999
• Number     2 048       Retentivity	<ul> <li>adjustable</li> <li>lower limit</li> <li>upper limit</li> <li>preset</li> </ul> Counting range <ul> <li>lower limit</li> <li>upper limit</li> </ul> IEC counter <ul> <li>present</li> </ul>	0 2 047 Z 0 to Z 7 0 999 Yes
Retentivity     Yes       — adjustable     Yes       — lower limit     0	<ul> <li>adjustable</li> <li>lower limit</li> <li>upper limit</li> <li>preset</li> </ul> Counting range <ul> <li>lower limit</li> <li>upper limit</li> </ul> IEC counter <ul> <li>present</li> <li>Type</li> </ul>	0 2 047 Z 0 to Z 7 0 999 Yes SFB
— adjustable     Yes       — lower limit     0	<ul> <li>adjustable</li> <li>lower limit</li> <li>upper limit</li> <li>preset</li> </ul> Counting range <ul> <li>lower limit</li> <li>upper limit</li> </ul> IEC counter <ul> <li>present</li> <li>Type</li> <li>Number</li> </ul>	0 2 047 Z 0 to Z 7 0 999 Yes SFB Unlimited (limited only by RAM capacity)
— lower limit 0	<ul> <li>adjustable</li> <li>lower limit</li> <li>upper limit</li> <li>preset</li> </ul> Counting range <ul> <li>lower limit</li> <li>upper limit</li> </ul> IEC counter <ul> <li>present</li> <li>Type</li> <li>Number</li> </ul> S7 times	0 2 047 Z 0 to Z 7 0 999 Yes SFB Unlimited (limited only by RAM capacity)
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— upper limit 2 047	<ul> <li>adjustable</li> <li>lower limit</li> <li>upper limit</li> <li>preset</li> </ul> Counting range <ul> <li>lower limit</li> <li>upper limit</li> </ul> IEC counter <ul> <li>present</li> <li>present</li> <li>Type</li> <li>Number</li> </ul> S7 times <ul> <li>Number</li> <li>Retentivity</li> </ul>	0 2 047 Z 0 to Z 7 0 999 Ves SFB Unlimited (limited only by RAM capacity) 2 048
	<ul> <li>adjustable</li> <li>lower limit</li> <li>upper limit</li> <li>preset</li> </ul> Counting range <ul> <li>lower limit</li> <li>upper limit</li> </ul> IEC counter <ul> <li>present</li> <li>Type</li> <li>Number</li> </ul> S7 times <ul> <li>Number</li> <li>Retentivity</li> <li>adjustable</li> </ul>	0 2 047 Z 0 to Z 7 0 999 Ves SFB Unlimited (limited only by RAM capacity) 2 048
preset No times retentive	<ul> <li>adjustable</li> <li>lower limit</li> <li>upper limit</li> <li>preset</li> </ul> Counting range <ul> <li>lower limit</li> <li>upper limit</li> </ul> IEC counter <ul> <li>present</li> <li>Type</li> <li>Number</li> </ul> S7 times <ul> <li>Number</li> <li>Retentivity</li> <li>adjustable</li> <li>lower limit</li> </ul>	0 2 047 Z 0 to Z 7 0 999 999 Vrs SFB Unlimited (limited only by RAM capacity) 2 048 Ves SFB

Time range	
— lower limit	10 ms
— upper limit	9 990 s
IEC timer	
• present	Yes
• Туре	SFB
Number	Unlimited (limited only by RAM capacity)
Data areas and their retentivity	
retentive data area in total	Total working and load memory (with backup battery)
Flag	
• Number, max.	4 kbyte; Size of bit memory address area
Retentivity available	Yes
Retentivity preset	MB 0 to MB 15
<ul> <li>Number of clock memories</li> </ul>	8; in 1 memory byte
Data blocks	
• Number, max.	3 000; Number range: 1 to 16000
• Size, max.	64 kbyte
Local data	
• adjustable, max.	8 kbyte
• preset	4 kbyte
Address area	
I/O address area	
Inputs	4 kbyte
Outputs	4 kbyte
of which distributed	
— MPI/DP interface, inputs	2 kbyte
— MPI/DP interface, outputs	2 kbyte
— PROFINET interface, inputs	4 kbyte
— PROFINET interface, outputs	4 kbyte
Process image	
Inputs, adjustable	4 kbyte
• Outputs, adjustable	4 kbyte
Inputs, default	128 kbyte
Outputs, default	128 kbyte
<ul> <li>consistent data, max.</li> </ul>	244 byte
Access to consistent data in process image	Yes
Subprocess images	
Number of subprocess images, max.	15
Digital channels	
Inputs	32 768
— of which central	32 768

Outputs	32 768
- of which central	32 768
Analog channels	32 700
	2 048
Inputs	2 048
— of which central	
Outputs	2 048
— of which central	2 048
Hardware configuration	
Number of expansion units, max.	21
connectable OPs	47
Multicomputing	Yes; 4 CPUs max. (with UR1 or UR2)
Interface modules	
<ul> <li>Number of connectable IMs (total), max.</li> </ul>	6
<ul> <li>Number of connectable IM 460s, max.</li> </ul>	6
<ul> <li>Number of connectable IM 463s, max.</li> </ul>	4; IM 463-2
Number of DP masters	
• integrated	1
● via CP	10; CP 443-5 Extended
● via IM 467	4
<ul> <li>Mixed mode IM + CP permitted</li> </ul>	No; IM 467 not suitable for use with CP 443-5 Ext. and CP 443-1 EX4x, EX20, GX20 (in PROFINET IO mode)
• via interface module	0
<ul> <li>Number of pluggable S5 modules (via adapter capsule in central device), max.</li> </ul>	6
Number of IO Controllers	
• integrated	1
• 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 slots and number of connections
<ul> <li>PROFIBUS and Ethernet CPs</li> </ul>	14; In total max. 10 CPs as DP master and PROFINET controller, of which up to 10 IMs or CPs as DP master and up to 4 CPs as PROFINET controller
Slots	
• required slots	1
Time of day	
Clock	
<ul> <li>Hardware clock (real-time)</li> </ul>	Yes
<ul> <li>retentive and synchronizable</li> </ul>	Yes
Resolution	1 ms

	1.7 ex Device off
• Deviation per day (buffered), max.	1.7 s; Power off
<ul> <li>Deviation per day (unbuffered), max.</li> </ul>	8.6 s; For power On
Operating hours counter	
Number	16
<ul> <li>Number/Number range</li> </ul>	0 to 15
<ul> <li>Range of values</li> </ul>	SFCs 2, 3 and 4: 0 to 32767 hours SFC 101: 0 to 2^31 - 1 hours
Granularity	1 hour
retentive	Yes
Clock synchronization	
• supported	Yes
• to MPI, master	Yes
● to MPI, slave	Yes
● to DP, master	Yes
● to DP, slave	Yes
● in AS, master	Yes
• in AS, slave	Yes
• on Ethernet via NTP	Yes; As client
Time difference in system when synchronizing via	
• Ethernet, max.	10 ms
• MPI, max.	200 ms
Interfaces	
Interfaces/bus type	1 x MPI/PROFIBUS DP, 1 x PROFINET (2 ports)
Number of RS 485 interfaces	1
Number of other interfaces	0
1. Interface	
Interface type	Integrated
Physics	RS 485 / PROFIBUS + MPI
Isolated	Yes
Power supply to interface (15 to 30 V DC), max.	150 mA
Number of connection resources	MPI: 32, DP: 16
Functionality	
● MPI	Yes
<ul> <li>PROFIBUS DP master</li> </ul>	Yes
PROFIBUS DP slave	Yes
MPI	
<ul> <li>Number of connections</li> </ul>	32; If a diagnostics repeater is used on the line, the number of connection resources on the line is reduced by 1
<ul> <li>Transmission rate, max.</li> </ul>	12 Mbit/s
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
DP master	
<ul> <li>Number of connections, max.</li> </ul>	16; If a diagnostics repeater is used on the line, the number of connection resources on the line is reduced by 1
• Transmission rate, max.	12 Mbit/s
<ul> <li>Number of DP slaves, max.</li> </ul>	32
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
	Yes
<ul> <li>Activation/deactivation of DP slaves</li> </ul>	Yes
<ul> <li>— Direct data exchange (slave-to-slave communication)</li> </ul>	Yes
— DPV1	Yes
Address area	
— Inputs, max.	2 kbyte
— Outputs, max.	2 kbyte
User data per DP slave	
— User data per DP slave, max.	244 byte
— Inputs, max.	244 byte
— Outputs, max.	244 byte
— Slots, max.	244
— per slot, max.	128 byte
DP slave	
Number of connections	16
• GSD file	http://support.automation.siemens.com/WW/view/en/113652
• Transmission rate, max.	12 Mbit/s
<ul> <li>automatic baud rate search</li> </ul>	No
<ul> <li>Address area, max.</li> </ul>	32; Virtual slots
• User data per address area, max.	32 byte
— of which consistent, max.	32 byte

Services	
— PG/OP communication	Yes; with interface active
— S7 routing	Yes; with interface active
— Global data communication	No
— S7 basic communication	No
- S7 communication	Yes
— S7 communication, as client	Yes
— S7 communication, as server	Yes
— Direct data exchange (slave-to-slave	No
communication)	
— DPV1	No
Transfer memory	
— Inputs	244 byte
— Outputs	244 byte
2. Interface Interface type	PROFINET
Physics	Ethernet RJ45
Isolated	Yes
automatic detection of transmission rate	Yes; Autosensing
Autonegotiation	Yes
Autocrossing	Yes
Change of IP address at runtime, supported	Yes; Assignment by higher-level IO-Controller or by the user program with SFB104 "IP_CONF"
Number of connection resources	48
Interface types	
Number of ports	2
<ul> <li>integrated switch</li> </ul>	Yes
Media redundancy	
• supported	Yes
<ul> <li>Switchover time on line break, typ.</li> </ul>	200 ms
<ul> <li>Number of stations in the ring, max.</li> </ul>	50
Functionality	
<ul> <li>PROFINET IO Controller</li> </ul>	Yes
PROFINET IO Device	Yes
• PROFINET CBA	Yes
PROFIBUS DP master	No
PROFIBUS DP slave	No
Open IE communication	Yes
Web server	Yes
— Number of HTTP clients	5
Point-to-point connection	No
PROFINET IO Controller	

• Transmission rate, max.	100 Mbit/s
Services	
— PG/OP communication	Yes
— S7 routing	Yes
— S7 communication	Yes
— Isochronous mode	Yes; Only with IRT and the High Performance option
— Open IE communication	Yes
— Shared device	Yes
— Prioritized startup	Yes
<ul> <li>— Number of IO devices with prioritized startup, max.</li> </ul>	32
— Number of connectable IO Devices, max.	256
— Of which IO devices with IRT, max.	64
— of which in line, max.	64
<ul> <li>— Number of IO Devices with IRT and the option "high flexibility"</li> </ul>	256
— of which in line, max.	61
<ul> <li>— Number of connectable IO Devices for RT, max.</li> </ul>	256
— of which in line, max.	256
— Activation/deactivation of IO Devices	Yes
<ul> <li>— Number of IO Devices that can be simultaneously activated/deactivated, max.</li> </ul>	8
<ul> <li>— IO Devices changing during operation (partner ports), supported</li> </ul>	Yes
— Number of IO Devices per tool, max.	8; 8 parallel calls of the SFC 12 "D_ACT_DP" possible per line. Max. 32 IO Devices changing during operation (partner ports) are supported
- Device replacement without swap medium	Yes
— Send cycles	250 $\mu s,$ 500 $\mu s,$ 1 ms, 2 ms, 4 ms additionally with IRT with high performance: 250 $\mu s$ to 4 ms in 125 $\mu s$ frame
— Updating time	250 μs to 512 ms; minimum value depends on preset communication share for PROFINET IO, on the number of IO Devices and on the amount of configured user data, see PROFINET system description
Address area	
— Inputs, max.	4 kbyte
— Outputs, max.	4 kbyte
— User data consistency, max.	1 024 byte
PROFINET IO Device	
Services	
— PG/OP communication	Yes
— S7 routing	Yes

— S7 communication	Yes
	No
— Isochronous mode	Yes
— Open IE communication	Yes
— IRT	
— Prioritized startup	Yes
— Shared device	Yes
— Number of IO Controllers with shared	2
device, max.	
Transfer memory	1 440 bytes Der IQ Centreller with abared device
— Inputs, max.	1 440 byte; Per IO Controller with shared device
— Outputs, max.	1 440 byte; Per IO Controller with shared device
Submodules	
— Number, max.	64
— User data per submodule, max.	1 024 byte
PROFINET CBA	
<ul> <li>acyclic transmission</li> </ul>	Yes
cyclic transmission	Yes
Open IE communication	
<ul> <li>Number of connections, max.</li> </ul>	46
<ul> <li>Local port numbers used at the system end</li> </ul>	0, 20, 21, 25, 80, 102, 135, 161, 34962, 34963, 34964, 65532, 65533, 65534, 65535
<ul> <li>Keep-alive function, supported</li> </ul>	Yes
Isochronous mode	
	Yes; Via PROFIBUS DP or PROFINET interface
Isochronous mode Isochronous operation (application synchronized up	Yes; Via PROFIBUS DP or PROFINET interface
Isochronous mode Isochronous operation (application synchronized up to terminal)	
Isochronous mode Isochronous operation (application synchronized up to terminal) Number of DP masters with isochronous mode	1
Isochronous mode Isochronous operation (application synchronized up to terminal) Number of DP masters with isochronous mode User data per isochronous slave, max.	1 244 byte
Isochronous mode         Isochronous operation (application synchronized up to terminal)         Number of DP masters with isochronous mode         User data per isochronous slave, max.         Equidistance	1 244 byte Yes
Isochronous mode         Isochronous operation (application synchronized up to terminal)         Number of DP masters with isochronous mode         User data per isochronous slave, max.         Equidistance         shortest clock pulse	1 244 byte Yes 1.5 ms; 0.5 ms without use of SFC 126, 127
Isochronous mode         Isochronous operation (application synchronized up to terminal)         Number of DP masters with isochronous mode         User data per isochronous slave, max.         Equidistance         shortest clock pulse         max. cycle	1 244 byte Yes 1.5 ms; 0.5 ms without use of SFC 126, 127
Isochronous mode         Isochronous operation (application synchronized up to terminal)         Number of DP masters with isochronous mode         User data per isochronous slave, max.         Equidistance         shortest clock pulse         max. cycle         Communication functions	1 244 byte Yes 1.5 ms; 0.5 ms without use of SFC 126, 127 32 ms
Isochronous mode         Isochronous operation (application synchronized up to terminal)         Number of DP masters with isochronous mode         User data per isochronous slave, max.         Equidistance         shortest clock pulse         max. cycle         Communication functions         PG/OP communication         • Number of connectable OPs without message	1 244 byte Yes 1.5 ms; 0.5 ms without use of SFC 126, 127 32 ms
Isochronous mode         Isochronous operation (application synchronized up to terminal)         Number of DP masters with isochronous mode         User data per isochronous slave, max.         Equidistance         shortest clock pulse         max. cycle         Communication functions         PG/OP communication         • Number of connectable OPs without message processing         • Number of connectable OPs with message	1 244 byte Yes 1.5 ms; 0.5 ms without use of SFC 126, 127 32 ms Yes 47
Isochronous mode         Isochronous operation (application synchronized up to terminal)         Number of DP masters with isochronous mode         User data per isochronous slave, max.         Equidistance         shortest clock pulse         max. cycle         Communication functions         PG/OP communication         • Number of connectable OPs without message processing         • Number of connectable OPs with message processing	1 244 byte Yes 1.5 ms; 0.5 ms without use of SFC 126, 127 32 ms Yes 47 47; When using Alarm_S/SQ and Alarm_D/DQ
Isochronous mode         Isochronous operation (application synchronized up to terminal)         Number of DP masters with isochronous mode         User data per isochronous slave, max.         Equidistance         shortest clock pulse         max. cycle         Communication functions         PG/OP communication         • Number of connectable OPs without message processing         • Number of connectable OPs with message processing         Data record routing	1 244 byte Yes 1.5 ms; 0.5 ms without use of SFC 126, 127 32 ms Yes 47 47; When using Alarm_S/SQ and Alarm_D/DQ
Isochronous mode         Isochronous operation (application synchronized up to terminal)         Number of DP masters with isochronous mode         User data per isochronous slave, max.         Equidistance         shortest clock pulse         max. cycle         Communication functions         PG/OP communication         • Number of connectable OPs without message processing         • Number of connectable OPs with message processing         Data record routing         Global data communication	1 244 byte Yes 1.5 ms; 0.5 ms without use of SFC 126, 127 32 ms Yes 47 47; When using Alarm_S/SQ and Alarm_D/DQ Yes
Isochronous mode         Isochronous operation (application synchronized up to terminal)         Number of DP masters with isochronous mode         User data per isochronous slave, max.         Equidistance         shortest clock pulse         max. cycle         Communication functions         PG/OP communication         • Number of connectable OPs without message processing         • Number of connectable OPs with message processing         Data record routing         Global data communication         • supported	1 244 byte Yes 1.5 ms; 0.5 ms without use of SFC 126, 127 32 ms Yes 47 47; When using Alarm_S/SQ and Alarm_D/DQ Yes
Isochronous mode         Isochronous operation (application synchronized up to terminal)         Number of DP masters with isochronous mode         User data per isochronous slave, max.         Equidistance         shortest clock pulse         max. cycle         Communication functions         PG/OP communication         • Number of connectable OPs without message processing         • Number of connectable OPs with message processing         Data record routing         Global data communication         • supported         • Number of GD loops, max.	1 244 byte Yes 1.5 ms; 0.5 ms without use of SFC 126, 127 32 ms Yes 47 47; When using Alarm_S/SQ and Alarm_D/DQ Yes Yes

	54 byto
• Size of GD packets, max.	54 byte
• Size of GD packet (of which consistent), max.	1 variable
S7 basic communication	N
• supported	Yes
• User data per job, max.	76 byte
• User data per job (of which consistent), max.	1 variable
S7 communication	
• supported	Yes
• as server	Yes
• as client	Yes
<ul> <li>User data per job, max.</li> </ul>	64 kbyte
<ul> <li>User data per job (of which consistent), max.</li> </ul>	462 byte; 1 variable
S5 compatible communication	
<ul> <li>supported</li> </ul>	Yes; Via FC AG_SEND and AG_RECV, max. via 10 CP 443-1 or 443-5
<ul> <li>User data per job, max.</li> </ul>	8 kbyte
<ul> <li>User data per job (of which consistent), max.</li> </ul>	240 byte
<ul> <li>Number of simultaneous AG-SEND/AG-RECV orders per CPU, max.</li> </ul>	24/24
Standard communication (FMS)	
supported	Yes; Via CP and loadable FB
Open IE communication	
• TCP/IP	Yes; via integrated PROFINET interface and loadable FBs
— Number of connections, max.	46
— Data length, max.	32 kbyte
<ul> <li>several passive connections per port, supported</li> </ul>	Yes
<ul> <li>ISO-on-TCP (RFC1006)</li> </ul>	Yes; Via integrated PROFINET interface or CP 443-1 Adv. and loadable FBs
— Number of connections, max.	46
— Data length, max.	32 kbyte; 1452 bytes via CP 443-1 Adv.
• UDP	Yes; via integrated PROFINET interface and loadable FBs
— Number of connections, max.	46
— Data length, max.	1 472 byte
Web server	
• supported	Yes
<ul> <li>Number of HTTP clients</li> </ul>	5
<ul> <li>User-defined websites</li> </ul>	Yes
PROFINET CBA (at set setpoint communication load)	
Setpoint for the CPU communication load	20 %
Number of remote interconnection partners	32
Number of functions, master/slave	150

<ul> <li>Total of all master/slave connections</li> </ul>	4 500
<ul> <li>Data length of all incoming connections master/slave, max.</li> </ul>	45 000 byte
<ul> <li>Data length of all outgoing connections master/slave, max.</li> </ul>	45 000 byte
<ul> <li>Number of device-internal and PROFIBUS interconnections</li> </ul>	1 000
<ul> <li>Data length of device-internal und PROFIBUS interconnections, max.</li> </ul>	16 000 byte
<ul> <li>Data length per connection, max.</li> </ul>	2 000 byte
Remote interconnections with acyclic transmission	
<ul> <li>— Sampling frequency: Sampling time, min.</li> </ul>	200 ms; Depending on preset communication load, number of interconnections and data length used
<ul> <li>Number of incoming interconnections</li> </ul>	250
<ul> <li>Number of outgoing interconnections</li> </ul>	250
<ul> <li>— Data length of all incoming interconnections, max.</li> </ul>	8 000 byte
<ul> <li>— Data length of all outgoing interconnections, max.</li> </ul>	8 000 byte
— Data length per connection, max.	2 000 byte
Remote interconnections with cyclic transmission	
— Transmission frequency: Transmission interval, min.	1 ms; Depending on preset communication load, number of interconnections and data length used
<ul> <li>Number of incoming interconnections</li> </ul>	300
<ul> <li>Number of outgoing interconnections</li> </ul>	300
<ul> <li>Data length of all incoming interconnections, max.</li> </ul>	4 800 byte
<ul> <li>— Data length of all outgoing interconnections, max.</li> </ul>	4 800 byte
— Data length per connection, max.	450 byte
HMI variables via PROFINET (acyclic)	
<ul> <li>— Number of stations that can log on for HMI variables (PN OPC/iMap)</li> </ul>	2x PN OPC/1x iMap
— HMI variable updating	500 ms
— Number of HMI variables	1 000
— Data length of all HMI variables, max.	32 000 byte
PROFIBUS proxy functionality	
— supported	Yes; 32 PROFIBUS slaves max. connectable
— Data length per connection, max.	240 byte; Slave-dependent
Number of connections	
• overall	48
<ul> <li>usable for PG communication</li> </ul>	
— reserved for PG communication	1

— adjustable for PG communication, max.	0
<ul> <li>usable for OP communication</li> </ul>	
— reserved for OP communication	1
— adjustable for OP communication, max.	0
<ul> <li>usable for S7 basic communication</li> </ul>	
- reserved for S7 basic communication	0
— adjustable for S7 basic communication,	0
max.	
<ul> <li>usable for S7 communication</li> </ul>	
- reserved for S7 communication	0
— adjustable for S7 communication, max.	0
<ul> <li>usable for routing</li> </ul>	
- reserved for routing	0
— adjustable for routing, max.	0

## S7 message functions

Number of login stations for message functions, max.	47; Max. 47 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	Yes
SCAN procedure	Yes
Block related messages	Yes
Process diagnostic messages	Yes
simultaneously active Alarm-S blocks, max.	250; Simultaneously active alarm_S/SQ blocks or alarm_D/DQ blocks
Alarm 8-blocks	Yes
<ul> <li>Number of instances for alarm 8 and S7 communication blocks, max.</li> </ul>	300
• preset, max.	150
Process control messages	Yes
Number of archives that can log on simultaneously (SFB 37 AR_SEND)	4
Number of messages	
• overall, max.	256
• in 100 ms grid, max.	0
• in 500 ms grid, max.	256
• in 1000 ms grid, max.	256
Number of additional values	
• with 100 ms grid, max.	0
• with 500, 1000 ms grid, max.	1
Test commissioning functions	
Status block	Yes; Up to 16 simultaneously
Single step	Yes
Number of breakpoints	16

Status/control	
Status/control variable	Yes; Up to 16 variable tables
Variables	Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters
<ul> <li>Number of variables, max.</li> </ul>	70; Status/control
Forcing	
Forcing	Yes
<ul> <li>Forcing, variables</li> </ul>	Inputs/outputs, bit memories, distributed I/Os
<ul> <li>Number of variables, max.</li> </ul>	64
Diagnostic buffer	
present	Yes
<ul> <li>Number of entries, max.</li> </ul>	400
— adjustable	Yes
— preset	120
Service data	
● can be read out	Yes
EMC Emission of radio interference acc. to EN 55 011	
	Yes
Limit class A, for use in industrial areas	No
Limit class B, for use in residential areas	NO
Configuration	
Configuration software	
• STEP 7	Yes
Programming	
Command set	see instruction list
Nesting levels	7
<ul> <li>Access to consistent data in process image</li> </ul>	Yes
<ul> <li>Access to consistent data in process image</li> <li>System functions (SFC)</li> </ul>	Yes see instruction list
<ul> <li>System functions (SFC)</li> </ul>	see instruction list
<ul><li>System functions (SFC)</li><li>System function blocks (SFB)</li></ul>	see instruction list
<ul> <li>System functions (SFC)</li> <li>System function blocks (SFB)</li> <li>Programming language</li> </ul>	see instruction list see instruction list
<ul> <li>System functions (SFC)</li> <li>System function blocks (SFB)</li> <li>Programming language         <ul> <li>LAD</li> </ul> </li> </ul>	see instruction list see instruction list Yes
<ul> <li>System functions (SFC)</li> <li>System function blocks (SFB)</li> <li>Programming language         <ul> <li>LAD</li> <li>FBD</li> </ul> </li> </ul>	see instruction list see instruction list Yes Yes
<ul> <li>System functions (SFC)</li> <li>System function blocks (SFB)</li> <li>Programming language         <ul> <li>LAD</li> <li>FBD</li> <li>STL</li> </ul> </li> </ul>	see instruction list see instruction list Yes Yes Yes
<ul> <li>System functions (SFC)</li> <li>System function blocks (SFB)</li> <li>Programming language         <ul> <li>LAD</li> <li>FBD</li> <li>STL</li> <li>SCL</li> </ul> </li> </ul>	see instruction list see instruction list Yes Yes Yes Yes
<ul> <li>System functions (SFC)</li> <li>System function blocks (SFB)</li> <li>Programming language <ul> <li>LAD</li> <li>FBD</li> <li>STL</li> <li>SCL</li> <li>CFC</li> </ul> </li> </ul>	see instruction list see instruction list Yes Yes Yes Yes Yes
<ul> <li>System functions (SFC)</li> <li>System function blocks (SFB)</li> <li>Programming language <ul> <li>LAD</li> <li>FBD</li> <li>STL</li> <li>SCL</li> <li>CFC</li> <li>GRAPH</li> </ul> </li> </ul>	see instruction list see instruction list Yes Yes Yes Yes Yes Yes
<ul> <li>System functions (SFC)</li> <li>System function blocks (SFB)</li> <li>Programming language <ul> <li>LAD</li> <li>FBD</li> <li>STL</li> <li>SCL</li> <li>CFC</li> <li>GRAPH</li> <li>HiGraph®</li> </ul> </li> </ul>	see instruction list see instruction list Yes Yes Yes Yes Yes Yes
<ul> <li>System functions (SFC)</li> <li>System function blocks (SFB)</li> </ul> Programming language <ul> <li>LAD</li> <li>FBD</li> <li>STL</li> <li>SCL</li> <li>CFC</li> <li>GRAPH</li> <li>HiGraph®</li> </ul> Number of simultaneously active SFCs	see instruction list see instruction list Yes Yes Yes Yes Yes Yes
<ul> <li>System functions (SFC)</li> <li>System function blocks (SFB)</li> <li>Programming language <ul> <li>LAD</li> <li>FBD</li> <li>STL</li> <li>SCL</li> <li>CFC</li> <li>GRAPH</li> <li>HiGraph®</li> </ul> </li> <li>Number of simultaneously active SFCs <ul> <li>DPSYC_FR</li> </ul></li></ul>	see instruction list see instruction list Yes Yes Yes Yes Yes Yes Yes

WR_REC	8
— WR_PARM	8
— PARM_MOD	1
— WR_DPARM	2
— DPNRM_DG	8
— RDSYSST	8
- DP_TOPOL	1
Number of simultaneously active SFBs	
— RDREC	8
— WRREC	8
Know-how protection	
<ul> <li>User program protection/password protection</li> </ul>	Yes
Block encryption	Yes; With S7 block Privacy
Dimensions	
Width	25 mm
Height	290 mm
Depth	219 mm
Weights	
Weight, approx.	750 g
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