SIEMENS

Data sheet

6AG1315-2EH14-7AB0



SIPLUS S7-300 CPU 315-2PN/DP based on 6ES7315-2EH14-0AB0 with conformal coating, -25...+70 °C, central processing unit with 384 KB work memory, 1st interface MPI/DP 12 Mbps, 2nd interface Ethernet PROFINET, with 2-port switch, Micro Memory Card required

General information		
based on	6ES7315-2EH14-0AB0	
Product function		
Isochronous mode	Yes; Via PROFIBUS DP or PROFINET interface	
Engineering with		
Programming package	STEP 7 V5.5 or higher	
Supply voltage		
Rated value (DC)	24 V	
permissible range, lower limit (DC)	20.4 V	
permissible range, upper limit (DC)	28.8 V	
external protection for power supply lines (recommendation)	2 A min.	
Mains buffering		
 Mains/voltage failure stored energy time 	5 ms	
• Repeat rate, min.	1 s	
Input current		
Current consumption (rated value)	750 mA	
Current consumption (in no-load operation), typ.	150 mA	
Inrush current, typ.	4 A	
l²t	1 A²·s	
Power loss		
Power loss, typ.	4.65 W	
	4.65 W	
Power loss, typ.	4.65 W	
Power loss, typ. Memory	4.65 W 384 kbyte	
Power loss, typ. Memory Work memory		
Power loss, typ. Memory Work memory • integrated	384 kbyte	
Power loss, typ. Memory Work memory • integrated • expandable	384 kbyte	
Power loss, typ. Memory Work memory • integrated • expandable Load memory	384 kbyte No	
Power loss, typ. Memory Work memory • integrated • expandable Load memory • Plug-in (MMC) • Plug-in (MMC), max. • Data management on MMC (after last programming),	384 kbyte No Yes	
Power loss, typ. Memory Work memory • integrated • expandable Load memory • Plug-in (MMC) • Plug-in (MMC), max.	384 kbyte No Yes 8 Mbyte	
Power loss, typ. Memory Work memory • integrated • expandable Load memory • Plug-in (MMC) • Plug-in (MMC), max. • Data management on MMC (after last programming), min. Backup	384 kbyte No Yes 8 Mbyte 10 a	
Power loss, typ. Memory Work memory • integrated • expandable Load memory • Plug-in (MMC) • Plug-in (MMC), max. • Data management on MMC (after last programming), min. Backup • present	384 kbyte No Yes 8 Mbyte 10 a Yes; Guaranteed by MMC (maintenance-free)	
Power loss, typ. Memory Work memory • integrated • expandable Load memory • Plug-in (MMC) • Plug-in (MMC), max. • Data management on MMC (after last programming), min. Backup • present • without battery	384 kbyte No Yes 8 Mbyte 10 a	
Power loss, typ. Memory Work memory • integrated • expandable Load memory • Plug-in (MMC) • Plug-in (MMC), max. • Data management on MMC (after last programming), min. Backup • present • without battery CPU processing times	384 kbyte No Yes 8 Mbyte 10 a Yes; Guaranteed by MMC (maintenance-free) Yes; Program and data	
Power loss, typ. Memory Work memory • integrated • expandable Load memory • Plug-in (MMC) • Plug-in (MMC), max. • Data management on MMC (after last programming), min. Backup • present • without battery	384 kbyte No Yes 8 Mbyte 10 a Yes; Guaranteed by MMC (maintenance-free)	
Power loss, typ. Memory Work memory • integrated • expandable Load memory • Plug-in (MMC) • Plug-in (MMC), max. • Data management on MMC (after last programming), min. Backup • present • without battery CPU processing times for bit operations, typ.	384 kbyte No Yes 8 Mbyte 10 a Yes; Guaranteed by MMC (maintenance-free) Yes; Program and data	
Power loss, typ. Memory Work memory • integrated • expandable Load memory • Plug-in (MMC) • Plug-in (MMC), max. • Data management on MMC (after last programming), min. Backup • present • without battery CPU processing times for bit operations, typ. for word operations, typ.	384 kbyte No Yes 8 Mbyte 10 a Yes; Guaranteed by MMC (maintenance-free) Yes; Program and data 0.05 μs 0.09 μs	
Power loss, typ. Memory Work memory • integrated • expandable Load memory • Plug-in (MMC) • Plug-in (MMC), max. • Data management on MMC (after last programming), min. Backup • present • without battery CPU processing times for bit operations, typ. for word operations, typ. for fixed point arithmetic, typ.	384 kbyte No Yes 8 Mbyte 10 a Yes; Guaranteed by MMC (maintenance-free) Yes; Program and data	

BB Final Product Produ		reduced by the MMC used.	
• Number nax.1 42: Number nange: 1 to 10000• Size, max.64 kkyle FB 1 52: Number nange: 0 to 7989• Size, max.64 kkyle FC 1 52: Number nange: 0 to 7989• Size, max.64 kkyle FD 1 52: Number nange: 0 to 7989• Size, max.64 kkyle FD 1 52: Number nange: 0 to 7989• Size, max.64 kkyle FD 1 52: Number nange: 0 to 7989• Size, max.64 kkyle FD 1 52: Number nange: 0 to 7989• Number of the signe OBS1; OB 1• Number of the signe OBS1; OB 10• Number of Size Size Nank.4 (No 32; 33; 34; 35• Number of Size Size Nank.3; OB 55; 68; 57• Number of Size Size Nank.1; OB 81• Number of Size Size Nank.1; OB 82• Number of Size Size Nank.1; OZ 82•	DB		
+ Size, max.P4 MybeF0- Number, max.1204, Number range: 0 to 7009- Size, max.64 Mybe- Size, max.64 Mybe- Size, max.64 Kybe- Size, max.64 Kybe- Size, max.64 Kybe- Number of the cycle Ofas1, Ok 10- Number of the cycle Ofas1, Ok 10- Number of role cycle Ofas1, Ok 10- Number of role cycle Ofas1, Ok 10- Number of role cycle Interupt OFAS2, Ok 20, 2, 13- Number of role cycle Interupt OFAS3, Oh 85, 66, 87- Number of role cycle Interupt OFAS2, Ok 85, 66, 87- Number of sizerhonous mode OFAS1, Ok 81- Number of sizerhonous mode OFAS1, Ok 81, 122- Number of sizerhonous mode OFAS2, Ok 82, 88, 80, 80, 60, 600 KABB, 600 KABB- Number of sizerhonous mode OFAS2, Ok 81, 122- Number of sizerhonous mode OFAS5, Ok 81, 122<		1 024: Number range: 1 to 16000	
Fig		-	
• Number max.1 224. Number range: 0 to 7899• Size, max.64 kbyte• Size, max.54 kbyte• Size, max.54 kbyte• Size, max.54 kbyte• Number of free cycle OIS1, OB 1• Number of free cycle OIS1, OB 1• Number of cycle interrupt OIS2, OB 20, 21• Number of cycle interrupt OIS4, CB 32, 33, 43, 55• Number of cycle interrupt OIS4, CB 32, 33, 43, 55• Number of cycle interrupt OIS3, CB 55, 65, 77• Number of cycle interrupt OIS3, CB 55, 65, 77• Number of cycle interrupt OIS3, CB 55, 65, 77• Number of sochronoux ando OSB1, OB 10• Number of sochronoux ando OSB1, CB 100• Number of sochronoux ando CBB1, CB 100• Number of sochronoux ando CBB2, CB 121, 122• Number of sochronoux ando CBB1, CB 100• Number of sochronoux ando CBB2, CB 121, 122• Number of sochronoux ando CBB2, CB 121, 122• Number of sochronoux ando CBB2, CB 121,		of Royle	
• Kism max.9 k ktyleFC• Kumber, max.1 224, Number range: 0 to 7099• Kar, max.9 ktyleB• Kar, max.9 ktyle• Kar, max.10 ktyle• Kar, max.20 ktyle• Kar, max.10 ktyle• Kar, max.10 ktyle• Kar, max.20 ktyle• Kar, max.10 ktyle <t< td=""><td></td><td>1 024: Number range: 0 to 7000</td></t<>		1 024: Number range: 0 to 7000	
FC Variable range: 0 to 7899 • Size, max. 64 kbyte • Number of frae cycle OBs 1, OB 1 • Number of optic Intergraf OBS 2, OB 20, 21 • Number of optic Intergraf OBS 4, OB 32, 33, 33, 35 • Number of optic Intergraf OBS 3, OB 55, 56, 57 • Number of aborbanos mode OBs 1, OB 61 • Number of aborbanos mode OBs 1, OB 61 • Number of aborbanos mode OBs 1, OB 61 • Number of synchronos error OBs 6, OB 80, S2, 80, 80, 87, OBS 3 only for PROFINET IO) • Number of synchronos error OBs 6, OB 80, S2, 80, 80, 87, OBS 3 only for PROFINET IO) • Number of synchronos error OBs 6, OB 80, S2, 80, 80, 80, 70, OBS 3 only for PROFINET IO) • Number of synchronos error OBs 6, OB 80, S2, 80, 80, 80, 70, OBS 3 only for PROFINET IO) • Number of synchronos error OBs 6, OB 80, S2, 80, 80, 80, 70, OB 80, 50, 80, 70			
• Aurober max.1 424: Number range: 0 to 7890• Size, max.64 Keyte• Size, max.64 Keyte• Number of recycle OBs1, OB 1• Number of the eycle OBs1, OB 10• Number of decycle DBs1, OB 10• Number of delay Jaam OBs2, OB 2, 21• Number of delay Jaam OBs2, OB 2, 21• Number of DP11 Jahm OBs3, OB 55, 56, 57• Number of Statup OBs1, OB 40• Number of Statup OBs1, OB 100• Number of Statup OBs2, OB 20, 21, 122• Number of Statup OBs2, OB 20, 21, 122• Number of Statup OBs2, OB 27, 122• JastableYes- adjustableYes- adjustableYes- ladjustableYes- ladjustableYes- statustySFB• Number Of Statup OB250• StatustyYes- ladjustableYes- preaettYes- preaettYes- preaettYes- preaettYes- preaettYes <t< td=""><td></td><td>of Royle</td></t<>		of Royle	
Size.max.64 kbyte08• Size.max.64 kbyte• Number of free cycle DBs1.08 1• Number of free cycle DBs1.08 10• Number of class Jatm OBs2.08 20, 21• Number of cycle linter Jobs4.08 20, 20, 33, 35• Number of cycle linter Jobs3.08 55, 58, 57• Number of PVI Jatm OBs3.08 55, 58, 57• Number of PVI Jatm OBs1.08 81• Number of Jathup OBs1.08 81• Number of Jachtonous error OBs1.08 81• Number of anychronous error OBs2.08 28, 28, 58, 68, 87 (OBBS only for PROFINET IO)• Number of anychronous error OBs2.08 12, 1, 22• Aunder2.08 12, 1, 22• Number of Bachtonous error OBs2.00 12, 7• AdjutableYes- preset2.00 12, 7• Counter adjutableYes- preset2.00 12, 7• ProferintYes• Statter-• AdjutableYes• Joper Innt99• Proferint99• Proferint10 ms• adjutableYes• Joper Innt99 0.0• Joper Innt99 0.0• Joper Innt99 0.0• AdjutableYes• L		1 024: Number range: 0 to 7000	
08 • Size nox. 64 ktyle • Number of free cycle OBs 1, OB 1 • Number of free cycle OBs 1, OB 10 • Number of dealy alarn OBs 2, OB 20, 21 • Number of process alarn OBs 1, OB 40 • Number of process alarn OBs 1, OB 61 • Number of process alarn OBs 1, OB 61 • Number of sochronous mode OBs 1, OB 61 • Number of sochronous mode OBs 1, OB 61 • Number of sochronous mode OBs 2, OB 10, BS, BS, BS, BS, BS, BS, BS, BS, BS, BS			
 Size, max G4 stypie Number of free cycle. OBs 1.0B 1 Number of free cycle. OBs 1.0B 1 Number of cycle. Interpart OBs 2.0B 20, 21 Number of cycle. Interpart OBs 3.0B 55, 56, 57 Number of DV1 alam OBs 3.0B 55, 56, 57 Number of sharth, OBs 1.0B 61 Number of anychronous error OBs 3.0B 85, 56, 67 Number of anychronous error OBs 3.0B 85, 56, 67 Number of anychronous error OBs 3.0B 85, 86, 87 (OB83 only for PROFINET IO) Number of anychronous error OBs 4.0B 10 Number of anychronous error OBs 4.0B 10 Number of anychronous error OBs 5.0B 80, 82, 83, 85, 86, 87 (OB83 only for PROFINET IO) Number of anychronous error OBs 4.0B 10, 122 Number of anychronous error OBs 5.0B 11, 122 Number of anychronous error OBs 5.0B 11, 122 Number of anychronous error OBs 5.0B 12, 122 Number of anychronous error OBs 6.0B 80, 82, 83, 85, 86, 87 (OB83 only for PROFINET IO) Number of anychronous error OBs 7.0C 102 Number of anychronous error OBs 1.0B 10 Number of anychronous error OBs 1.0B 10 1.0D 27 Number of anychronous error OBs 1.0D 12, 122 		04 KDyte	
• Number of free cycle OBs1.0B 10• Number of delay atem OBs2.0B 20, 21• Number of cycle interupt OBs4.0B 22, 33, 4, 35• Number of DPV1 atem OBs3.0B 56, 56, 57• Number of DPV1 atm OBs3.0B 56, 56, 57• Number of DPV1 atm OBs3.0B 56, 56, 57• Number of Sochronous mood OBs1.0B 100• Number of sochronous mood OBs1.0B 100• Number of sochronous mood OBs2.0B 10, 82, 83, 85, 86, 87 (OB83 only for PROFINET IO)• Number of sochronous mood OBs2.0B 10, 82, 83, 85, 86, 87 (OB83 only for PROFINET IO)• Number of sochronous mood OBs2.0B 0, 82, 83, 85, 86, 87 (OB83 only for PROFINET IO)• Number of sochronous mood OBs2.0B 0, 82, 83, 85, 86, 87 (OB83 only for PROFINET IO)• Number of sochronous mood OBs2.0B 0, 82, 83, 85, 86, 87 (OB83 only for PROFINET IO)• Number of sochronous mood OBs2.0B 0, 82, 83, 85, 86, 87 (OB83 only for PROFINET IO)• Number of sochronous mood OBs2.0B 0, 82, 83, 85, 86, 87 (OB83 only for PROFINET IO)• Number of sochronous mood OBs2.0B 0, 82, 83, 85, 86, 87 (OB83 only for PROFINET IO)• Number of sochronous mood OBs2.0B 0, 82, 83, 85, 86, 87 (OB83 only for PROFINET IO)• Number of sochronous mood OBs2.0B 0, 82, 83, 85, 86, 87 (OB83 only for PROFINET IO)• Number of sochronous mood OBs2.0B 0, 82, 83, 85, 86, 87 (OB83 only for PROFINET IO)• All sochronous mood OBs2.0B 0, 22, 72, 72, 72, 72, 72, 72, 72, 72, 72		64 kbyta	
• Number of time lam OBs1:0B 10• Number of tige lam OBs2:0B 20, 21• Number of opic linterrup OBs4:0B 32, 33, 34, 35• Number of process alam OBs1:0B 40• Number of opic linterrup OBs3:0B 55, 65, 87• Number of sharb, OBs1:0B 10• Number of sharb, OBs1:0B 100• Number of sharb, OBs1:0B 100• Number of sharb, OBs1:0B 100• Number of sharb, OBs2:0B 121, 122• Beining definition ous error OBs2:0B 121, 122• Beining definition ous error OBs2:0B 121, 122• Number of synchronous error OBs2:0B 121, 122• Number of synchronous error OBs2:0B 121, 122• Statu OBS16• Autoritor of synchronous error OBs2:0B 121, 122• Number of synchronous error OBs2:0B 121, 122• Number of synchronous error OBs2:0B 121, 122• Statu OBS16• Autoritor Statu OBS2:0B 221, 122• Statu OBS16• Autobr256• Retentivity10• opper Initi99• Opper Initi99• Opper Initi99• Statu OBSSFB• Number10 ms• opper Initi990 s• Opper Initi			
• Number of foliop atom QBs2: OB 20, 21• Number of process atom QBs1: OB 40• Number of DPV1 atom QBs3: CB 55, 65, 7• Number of IDPV1 atom QBs1: OB 61• Number of Ideotronous one OBs1: OB 61• Number of Ideotronous error OBs6: OB 80, 82, 83, 85, 86, 87 (OB83 only for PROFINET IO)• Number of startup QBs16• Number of signify OBS16• Number of signify OBS15• Number of signify OBS16• Auther of signify OBS16• Auther of signify OBS20 B 121, 122• Number of Signify OBS16• Auther of Signify OBS16• Author of Signify OBS16• Author of DBV OBS20 I 2 7• Outher of Hole retention20 I 2 7• Outher of Hole retention20 I 2 7• Outher Imit99• Desert20 I 2 7• Outher Imit99• Auther Imit99• Outher Imit99• Desert Imit99• Auther Imit99• Auther Imit99• Auther Imit990 os• Desert Im			
• Number of cyclic interrupt OBs4.0 B 32, 33, 43, 55• Number of process alam OBs1, 0B 40• Number of process alam OBs3, 0B 55, 50, 57• Number of isochronous mode OBs1, 0B 61• Number of isochronous error OBs2, 0B 121, 122• Number of asynchronous error OBs16• additional within an error OB4• Counters, Immers and Their retentivity56• Counters, Immers and Their retentivity256• Number of espectronous error OB20 to 27• Counting range20 to 27• Counting rangeYes adjustableVes lower limit0 upper limit90• Number256• Number256• Number256• Counting rangeYes adjustableYes adjustableYes upper limit0 upper limit0 upper limit0 upper limit90• Number256• Number126• Number256• Number126• Number950 S• StatemativityYes• prosentYes• prosentYes• prosentYes• prosentYes• prosentYes• prosentYes•			
• Number of process alarn OBs1:08:40• Number of DPV1 siarm OBs3:08:55,65,67• Number of Borthonson mode OBs1:08:61• Number of slachtonous error OBs4:08:08:28:38:58:67 (OB83 only for PROFINET IO)• Number of synchronous error OBs2:08:121,122• Number of synchronous error OBs4:00• or priorly class16• distlibution and their retentivity• or priorly class16• distlibution and their retentivity• Orantes, Times and their retentivity• orantes, Times and their retentivity• adjustable256• Number• adjustable20 to 27• Counter, Times and their retentivity• adjustableYes- adjustableYes- adjustableYes- upper limit0- upper limit0• upper limit0• upper limit99• Unimeter (unimed only by RAM capacity)\$72 times• NumberUnimited (unimed only by RAM capacity)\$72 times• upper limit99 os 0• upper limit99 os 0• upper limit99 os 0• preset10 ms- adjustableYes• preset10 ms- upper limit99 os 0• upper limit99 os 0• upper limit99 os 0• Unimited (unimed only by RAM capacity)• Time range10 ms• lower limit10 ms• adjustableYes• TypeSFB• N	-		
• Number of DPV1 alarm OBs3: OB 55, 56, 57• Number of isochronous mode OBs1: OB 61• Number of isachuronous error OBs6: OB 80, 82, 83, 85, 86, 87 (OB83 only for PROFINET IO)• Number of synchronous error OBs2: OB 121, 122Neeting depth15• exprint of synchronous error OBs4Counters, timers and their retentivity4Counters, timers and their retentivity256Retentivity256Retentivity700 or 7• Number OB20 to 27• Ocurity grappe20 to 27• Ocurity grappe700 or 7• Outing range999• Over limit0• Over limit999• Over limit999• Number256Retentivity57 limit• Number700 or 7• Over limit0• Over limit10 ms• Over limit0• Over limit0• Over limi			
• Number of lisochronous mode OBs 1: OB 61 • Number of saynchronous error OBs 1: OB 100 • Number of saynchronous error OBs 2: OB 121, 122 Number of synchronous error OBs 2: OB 121, 122 Number of synchronous error OB 4 • per priority class 15 • additional within an error OB 4 Counters, timers and their rotentivity 75 * So counter 256 • Retentivity 76 - adjustable Yes - preset 2 to 2 7 Counterg range 7 - upper limit 999 EEC counter 999 • Firstent Yes • Type SFB • Number 256 Retentivity 7 • Present Yes • Type SFB • Number 256 Retentivity 256 Retentivity 256 Retentivity 10 ms - preset No retentivity • number 256 Retentivity 990 s EEC tumer 10 ms - upper limit 10 ms - preset No retentivity • number 990 s EEC tume			
• Number of startup DBs1: OB 100• Number of saynchronous error OBs2: OB 121, 122Neating depth-• per prioritly class16• additional within an error OB4Counters, timers and their retentivity256Retentivity256Retentivity20 to 2 7Counting range20 to 2 7- opper limit0- opper limit999IEC countingYes- joreset256RetentivityYes- opper limit0- opper limit999IEC counting rangeYes- opper limit999IEC counting rangeYes- opper limit999IEC counting rangeYes- outer limit0- outer limit0- outer limit999IEC counting rangeYes- outer limit999IEC counting rangeYes- outer limit999IEC counting rangeYes- outer limit999IEC counting rangeYes- outer limit10 ms- outer limit990 sIEC timeYes- outer limit990 sIEC timeYes- outer limit990 sIEC timeYes- outer limit10 ms- outer limit990 sIEC timeYes- NumberStarbase and their etentivity- NumberYesStarbase and their etentivity- R			
• Number of synchronous error OBs 6: OB 80, 82, 83, 85, 86, 87 (OB83 only for PROFINET IO) • Number of synchronous error OBs 2; OB 121, 122 • Per priority class 16 • additional within an error OB 4 • Countors, fumes and their rotonityty 57 S7 counter 256 • Retentityty - - adjustable Yes - preset 2 to to 7 Counting range - - adjustable Yes - oupper limit 909 ECC counter 999 EC counter Ves • Type SFB • Number 256 Retentityty - - adjustable Yes • Type SFB • Number 256 Retentityty - - adjustable Yes - preset 10 ms - preset			
Number of synchronous error OBs 2; OB 121, 122 Nesting depth - • per priority class 16 • additional within an error OB 4 Counters, timers and their retentivity - Counters, timers and their retentivity 256 Retentivity 256 - adjustable Yes - adjustable Yes - preset 20 to 27 Counting range - - lower limit 0 - upper limit 999 EC counter - • present Yes • Number Unlimited (limited only by RAM capacity) S7 times 256 Retentivity - - adjustable No retentivity - preset 10 ms - preset 909 os EC timer - - lower limit 10 ms - upper limit 909 os EC timer - - lower limit 10 ms - upper limit 90 os EC			
Neating depth • per priority class 16 • additional within an erro CB 4 Counters, timers and their retentivity 57 counter 57 counter 256 Retentivity 256 - adjustable 2 to 2 7 Counting range 7 to 2 to 2 7 - outper limit 0 - upper limit 99 IEC counter 99 IEC counter 99 IEC counter 256 Retentivity SFB - lower limit 0 - upper limit 99 IEC counter 99 * Present Yes - adjustable Yes - adjustable Yes - adjustable Yes - present Yes - upper limit 10 ms - upper limit 99 so s IEC timer 10 ms - upper limit 99 so s IEC timer Yes * present Yes - lower timit			
 or priority class additional within an error OB Conntors, Internets and their retentivity S7 counter adjustable preset 20 to Z 7 Connting range adjustable yres yres Number SFB Number Ves adjustable yres Number SeB Number Adjustable yres yres Number SeG Retentivity adjustable yres yres Number Ses Number Ves yres Number Ves yres Number yres yres		2, UD 121, 122	
• additional within an error OB 4 Counters, times and their retentivity 57 S7 counter 256 • Number 256 Retentivity - - adjustable Yes - preset 2 to 2 7 Counting range - - adjustable Yes - upper limit 999 IEC counter Yes • present Yes • Type SFB • Number Z56 Retentivity Z56 Retentivity Yes - arges No retentivity - arges No retentivity - arges No retentivity - upper limit 9 990 s IEC timer Yes • present Yes • present Yes • proper limit 9 990 s		40	
Counters, timers and their retentivity S7 counter • Number 256 Retentivity			
S7 counter • Number 256 Retentivity - - adjustable Yes - preset Z to Z 7 Counting range - - adjustable Yes - lower limit 0 - upper limit 999 IEC counter • present Yes • Type SFB • Number Unlimited (limited only by RAM capacity) S7 times • Number 256 Retentivity - adjustable Yes • Number 256 Retentivity - adjustable Yes • Number 256 Retentivity - lower limit 10 ms - preset No retentivity Time range - - lower limit 9 990 s IEC timer Yes • present Yes • Type SFB • Number Unlimited (limited only by RAM capacity) Data areas and their retentivity Yes Pata areas area (incl. timers, counters, flags), max. 128 kbyte Flag - • Retentivity available Yes; WB 0 to MB 15 • Number of clock memories 8; 1 mem		4	
• Number 256 Retentivity - - adjustable Yes - adjustable 2 to Z 7 Counting range - - adjustable Yes - lower limit 0 - upper limit 999 IEC counter - • present Yes • Type SFB • Number Unlimited (limited only by RAM capacity) S7 times - • Number 256 Retentivity - - adjustable Yes - adjustable Yes - number 256 Retentivity - - newer limit 10 ms - preset No retentivity Time range - - lower limit 10 ms - upper limit 999 os IEC timer - • present Yes • Type SFB • Number Unlimited (limited only by RAM capacity) Data areas and their retentivity - Retentive data area (incl. timers, counters, flags), max. 128 kbyte Fig - • Retentivity available Yes; MB 0 to MB 2 047 • Retentivity available Yes; MB 0 to MB 15			
Retentivity			
		256	
presetZ 0 to Z 7Counting range adjustableYes adjustableYes upper limit999IEC counterYes• presentYes• TypeSFB• NumberUnlimited (limited only by RAM capacity)S7 times256RetentivityZef- adjustableYes- presetNo retentivity- presetNo retentivity- preset10 ms- upper limit9 990 sIEC timerYes- lower limit9 990 sIEC timerYes- presentYes- presentYes- presentYes- presentYes- presentYes- foregentSFB- NumberUnlimited (limited only by RAM capacity)Data areas and their retentivity128 kbyteFlagYes; MB 0 to MB 2 047• Retentivity availableYes; MB 0 to MB 15• Number olock memories8; 1 memory byteData blocksYes; via non-retain property on DB	-		
Counting range	-		
	·	Z 0 to Z 7	
- lower limit0- upper limit999IEC counter999IEC counterSFB• TypeSFB• NumberUnlimited (limited only by RAM capacity)S7 times adjustable256- adjustableYes- presetNo retentivity- nesetNo retentivity- lower limit10 ms- upper limit999 os- lower limit10 ms- upper limit999 os- stressetVes• presentYes• presentYes• presentSFB• torne anderUnlimited only by RAM capacity)IEC timerVes• presentYes• presentYes• TypeSFB• NumberUnlimited only by RAM capacity)Data areas and their retentivity2048 byte• Retentivity availableYes; MB 0 to MB 2 047• Retentivity availableYes; MB 0 to MB 15• Number of clock memories8,1 memory byte• Data blocksYe s; via non-retain property on DB			
upper limit999IEC counter• presentYes• TypeSFB• NumberUnlimited (limited only by RAM capacity)S7 times256Retentivity adjustableYes presetNo retentivityTime range lower limit10 ms upper limit990 sIEC timerYes• presentYes• presentYes- lower limit10 ms- upper limit909 sIEC timerYes• presentYes• presentYes• presentYes• SFBSFB• NumberUnlimited (limited only by RAM capacity)Data areas and their retentivity18 kbyteFlagSFB• Number18 kbytePresent198 byte• Size, max.2 048 byte• Retentivity availableYes; MB 0 to MB 2 047• Number of clock memories8; 1 memory byte• Number of clock memories8; 1 memory byte• Data blocksYes; via non-retain property on DB	-		
IEC counter • present Yes • Type SFB • Number Unimited (limited only by RAM capacity) S7 times - • Number 256 Retentivity - - adjustable Yes - preset No retentivity Time range - - lower limit 10 ms - upper limit 9 990 s IEC timer - • Present Yes • Type SFB • Number Unlimited (limited only by RAM capacity) Data areas and their retentivity - • Size, max. 2 048 byte • Retentivity available Yes; MB 0 to MB 2 047 • Retentivity available Yes; MB 0 to MB 15 • Number of clock memories 8; 1 memory byte Data blocks - • Retentivity adjustable Yes; via non-retain property on DB			
• presentYes• TypeSFB• NumberUnlimited (limited only by RAM capacity)S7 times256Retentivity256- adjustableYes- adjustableYes- presetNo retentivityTime range10 ms- upper limit9 990 sIEC timer990 sIEC timerSFB• NumberUnlimited (limited only by RAM capacity)Data areas and their retentivity128 kbyteFlag128 kbyte• Size, max.2 048 byte• Retentivity presetMB 15• Number of clock memories8; 1 memory byteData blocksYes; via non-retain property on DB		999	
TypeSFB• NumberUnlimited (limited only by RAM capacity)S7 times• Number256Retentivity			
• Number Unlimited (limited only by RAM capacity) \$7 times 256 Retentivity 256 - adjustable Yes - preset Noretentivity Time range - - lower limit 10 ms - upper limit 9 990 s IEC timer - • present Yes • Type SFB • Number Unlimited (limited only by RAM capacity) Data areas and their retentivity SFB • Size, max. 2 048 byte • Retentivity available Yes; MB 0 to MB 2 047 • Retentivity available Yes; MB 0 to MB 15 • Number of clock memories 8; 1 memory byte Data blocks -			
S7 times 256 Retentivity - adjustable - adjustable Yes - preset No retentivity Time range - lower limit - lower limit 10 ms - upper limit 9 990 s IEC timer - • present Yes • Type SFB • Number Unlimited (limited only by RAM capacity) Data areas and their retentivity - Retentive data area (incl. timers, counters, flags), max. 128 kbyte Flag - • Size, max. 2 048 byte • Retentivity available Yes; MB 0 to MB 2 047 • Retentivity reset MB 0 to MB 15 • Number of clock memories 8; 1 memory byte Data blocks - • Retentivity adjustable Yes; via non-retain property on DB			
• Number256Retentivity- adjustableYes- presetNo retentivityTime range- lower limit10 ms- upper limit9 990 sIEC timer• presentYes• presentYes• TypeSFB• NumberUnimited (limited only by RAM capacity)Data areas and their retentivityFlagFlag• Size, max.2 048 byte• Retentivity presetMB 0 to MB 2 047• Retentivity presetMB 0 to MB 15• Number of clock memories8; 1 memory byteData blocksYes; via non-retain property on DB		Unlimited (limited only by RAM capacity)	
Retentivity- adjustableYes- presetNo retentivityTime range10 ms- lower limit9 990 sIEC timer9 990 sIEC timerYes• presentYes• TypeSFB• NumberUnlimited (limited only by RAM capacity)Data areas and their retentivity128 kbyteFlagSize, max.• Retentivity availableYes; MB 0 to MB 2 047• Retentivity presetMB 0 to MB 15• Number of clock memories8; 1 memory byteData blocksYes; via non-retain property on DB			
adjustableYes presetNo retentivityTime range10 ms lower limit9 990 s upper limit9 990 sIEC timerYes• presentYes• TypeSFB• NumberUnlimited (limited only by RAM capacity)Data areas and their retentivityRetentive data area (incl. timers, counters, flags), max.128 kbyteFlag• Size, max.2 048 byte• Retentivity availableYes; MB 0 to MB 2 047• Retentivity presetMB 0 to MB 15• Number of clock memories8; 1 memory byteData blocksYes; via non-retain property on DB		256	
presetNo retentivityTime range lower limit10 ms upper limit9 990 sIEC timer• presentYes• TypeSFB• NumberUnlimited (limited only by RAM capacity)Data areas and their retentivityRetentive data area (incl. timers, counters, flags), max.128 kbyteFlag• Size, max.2 048 byte• Retentivity availableYes; MB 0 to MB 2 047• Retentivity presetMB 0 to MB 15• Number of clock memories8; 1 memory byteData blocksYes; via non-retain property on DB	-		
Time range- lower limit10 ms- upper limit9 990 sIEC timer• presentYes• TypeSFB• NumberUnlimited (limited only by RAM capacity)Data areas and their retentivityRetentive data area (incl. timers, counters, flags), max.128 kbyteFlag• Size, max.2 048 byte• Retentivity availableYes; MB 0 to MB 2 047• Retentivity presetMB 0 to MB 15• Number of clock memories8; 1 memory byteData blocks• Retentivity adjustableYes; via non-retain property on DB	— adjustable		
lower limit10 ms upper limit9 990 sIEC timer• presentYes• TypeSFB• NumberUnlimited (limited only by RAM capacity)Data areas and their retentivityRetentive data area (incl. timers, counters, flags), max.128 kbyteFlag• Size, max.2 048 byte• Retentivity availableYes; MB 0 to MB 2 047• Retentivity presetMB 0 to MB 15• Number of clock memories8; 1 memory byteData blocks• Retentivity adjustableYes; via non-retain property on DB	·	No retentivity	
upper limit9 990 sIEC timer• presentYes• TypeSFB• NumberUnlimited only by RAM capacity)Data areas and their retentivityRetentive data area (incl. timers, counters, flags), max.128 kbyteFlag• Size, max.2 048 byte• Retentivity availableYes; MB 0 to MB 2 047• Retentivity presetMB 0 to MB 15• Number of clock memories8; 1 memory byteData blocksYes; via non-retain property on DB			
IEC timer • present Yes • Type SFB • Number Unlimited (limited only by RAM capacity) Data areas and their retentivity Retentive data area (incl. timers, counters, flags), max. 128 kbyte Flag • Size, max. 2 048 byte • Retentivity available Yes; MB 0 to MB 2 047 • Retentivity preset MB 0 to MB 15 • Number of clock memories 8; 1 memory byte Data blocks Yes; via non-retain property on DB	— lower limit	10 ms	
• presentYes• TypeSFB• NumberUnlimited (limited only by RAM capacity)Data areas and their retentivityItel (limited (limited only by RAM capacity)Retentive data area (incl. timers, counters, flags), max.128 kbyteFlag128 kbyte• Size, max.2 048 byte• Retentivity availableYes; MB 0 to MB 2 047• Retentivity presetMB 0 to MB 15• Number of clock memories8; 1 memory byteData blocksYes; via non-retain property on DB		9 990 s	
• TypeSFB• NumberUnlimited only by RAM capacity)Data areas and their retentivityRetentive data area (incl. timers, counters, flags), max.128 kbyteFlagI2048 byte• Size, max.2 048 byte• Retentivity availableYes; MB 0 to MB 2 047• Retentivity presetMB 0 to MB 15• Number of clock memories8; 1 memory byteData blocksYes; via non-retain property on DB			
• Number Unlimited (limited only by RAM capacity) Data areas and their retentivity Item terester			
Data areas and their retentivity Retentive data area (incl. timers, counters, flags), max. 128 kbyte Flag • Size, max. 2 048 byte • Retentivity available Yes; MB 0 to MB 2 047 • Retentivity preset MB 0 to MB 15 • Number of clock memories 8; 1 memory byte Data blocks Yes; via non-retain property on DB			
Retentive data area (incl. timers, counters, flags), max. 128 kbyte Flag • Size, max. 2 048 byte • Retentivity available Yes; MB 0 to MB 2 047 • Retentivity preset MB 0 to MB 15 • Number of clock memories 8; 1 memory byte Data blocks Yes; via non-retain property on DB		Unlimited (limited only by RAM capacity)	
Flag • Size, max. 2 048 byte • Retentivity available Yes; MB 0 to MB 2 047 • Retentivity preset MB 0 to MB 15 • Number of clock memories 8; 1 memory byte Data blocks Yes; via non-retain property on DB	Data areas and their retentivity		
Size, max.2 048 byteRetentivity availableYes; MB 0 to MB 2 047Retentivity presetMB 0 to MB 15Number of clock memories8; 1 memory byteData blocksYes; via non-retain property on DB	Retentive data area (incl. timers, counters, flags), max.	128 kbyte	
• Retentivity available Yes; MB 0 to MB 2 047 • Retentivity preset MB 0 to MB 15 • Number of clock memories 8; 1 memory byte Data blocks • Retentivity adjustable Yes; via non-retain property on DB	Flag		
• Retentivity preset MB 0 to MB 15 • Number of clock memories 8; 1 memory byte Data blocks • Retentivity adjustable • Retentivity adjustable Yes; via non-retain property on DB	• Size, max.	2 048 byte	
Number of clock memories 8; 1 memory byte Data blocks Retentivity adjustable Yes; via non-retain property on DB	Retentivity available	Yes; MB 0 to MB 2 047	
Data blocks • Retentivity adjustable Yes; via non-retain property on DB	Retentivity preset	MB 0 to MB 15	
Retentivity adjustable Yes; via non-retain property on DB	Number of clock memories	8; 1 memory byte	
	Data blocks		
Retentivity preset Yes	Retentivity adjustable	Yes; via non-retain property on DB	
	Retentivity preset	Yes	

Local data			
 per priority class, max. 	32 768 byte; Max. 2048 bytes per block		
Address area			
I/O address area			
Inputs	2 048 byte		
Outputs	2 048 byte		
of which distributed			
— Inputs	2 048 byte		
— Outputs	2 048 byte		
Process image	20100340		
Inputs	2 048 byte		
Outputs	2 048 byte		
Inputs, adjustable			
Outputs, adjustable	2 048 byte		
Inputs, default	2 048 byte 128 byte		
Outputs, default	128 byte		
	120 byte		
Subprocess images	4. With DDOFINET 10, the length of the user date is limited to 4000 by tee		
Number of subprocess images, max.	1; With PROFINET IO, the length of the user data is limited to 1600 bytes		
Digital channels	40.004		
Inputs	16 384		
— of which central	1 024		
• Outputs	16 384		
— of which central	1 024		
Analog channels			
Inputs	1 024		
— of which central	256		
Outputs	1 024		
— of which central	256		
Hardware configuration			
Number of expansion units, max.	3		
Number of DP masters			
 integrated 	1		
• via CP	4		
Number of operable FMs and CPs (recommended)			
• FM	8		
• CP, PtP	8		
• CP, LAN	10		
Rack			
Racks, max.	4		
 Modules per rack, max. 	8		
Time of day			
Clock			
Hardware clock (real-time)	Yes		
• retentive and synchronizable	Yes		
Backup time	6 wk; At 40 °C ambient temperature		
 Deviation per day, max. 	10 s; Typ.: 2 s		
Behavior of the clock following POWER-ON	Clock continues running after POWER OFF		
 Behavior of the clock following expiry of backup period 	the clock continues at the time of day it had when power was switched off		
Operating hours counter			
• Number	1		
Number/Number range	0		
Range of values	0 to 2^31 hours (when using SFC 101)		
• Granularity	1 h		
retentive	Yes; Must be restarted at each restart		
Clock synchronization			
• supported	Yes		
• to MPI, master	Yes		
	100		
	Ves		
• on MPI, device	Yes Ves: With DR slave only slave clock		
	Yes Yes; With DP slave only slave clock Yes		

in AQ martin			
• in AS, master	Yes		
• in AS, device	Yes		
on Ethernet via NTP	Yes; As client		
Digital inputs	2		
Number of digital inputs	0		
Digital outputs	0		
Number of digital outputs	0		
Analog inputs	0		
Number of analog inputs	0		
Analog outputs	0		
Number of analog outputs	0		
Interfaces			
Number of industrial Ethernet interfaces	1; 2 ports (switch) RJ45		
Number of PROFINET interfaces	1; 2 ports (switch) RJ45		
Number of RS 485 interfaces	1; Combined MPI / PROFIBUS DP		
Number of RS 422 interfaces	0		
1. Interface			
Interface type	Integrated RS 485 interface		
Isolated	Yes		
Interface types • RS 485	Yes		
Output current of the interface, max. Protocols	200 mA		
Protocols MPI	Yes		
PROFIBUS DP master	Yes		
PROFIBUS DP device	Yes		
Point-to-point connection	No		
MPI	NU		
Transmission rate, max.	12 Mbit/s		
Services	12 100103		
— PG/OP communication	Yes		
- Routing	Yes		
— Global data communication	Yes		
— S7 basic communication	Yes		
— S7 communication	Yes		
— S7 communication, as client	No; but via CP and loadable FB		
— S7 communication, as server	Yes		
PROFIBUS DP master			
Transmission rate, max.	12 Mbit/s		
max. number of DP devices	124		
Services			
— PG/OP communication	Yes		
- Routing	Yes		
— Global data communication	No		
— S7 basic communication	No Yes; I blocks only		
— S7 communication	Yes		
- S7 communication, as client	No		
— S7 communication, as server	Yes		
— Equidistance	Yes		
— Isochronous mode	Yes; OB 61; isochronous mode can only be used alternatively on PROFIBUS		
	DP or PROFINET IO		
- SYNC/FREEZE	Yes		
- activation/deactivation of DP devices	Yes		
 max. number of DP devices that can be activated/deactivated at the same time 	8		
 — Direct data exchange (slave-to-slave communication) 	Yes; as subscriber		
— DPV1	Yes		
Address area			
— Inputs, max.	2 kbyte		
— Outputs, max.	2 kbyte		

1st interface / DP master / payload data per DP Device / head	ar		
— Inputs, max.	244 byte		
— Outputs, max.	244 byte 244 byte		
PROFIBUS DP slave			
Transmission rate, max.	12 Mbit/s		
automatic baud rate search			
	Yes; only with passive interface		
Address area, max.	32		
User data per address area, max.	32 byte		
Services	N .		
— PG/OP communication	Yes		
- Routing	Yes; Only with active interface		
— Global data communication	No		
— S7 basic communication	No		
- S7 communication	Yes		
— S7 communication, as client	No		
— S7 communication, as server	Yes; Connection configured on one side only		
— Direct data exchange (slave-to-slave	Yes		
communication) — DPV1	No		
	No		
Transfer memory	244 hyte		
— Inputs	244 byte		
— Outputs	244 byte		
2. Interface	PROFINET		
Interface type	PROFINET		
Isolated	Yes		
automatic detection of transmission rate	Yes; 10/100 Mbit/s		
Autonegotiation	Yes		
Autocrossing	Yes		
Change of IP address at runtime, supported	Yes		
Interface types			
RJ 45 (Ethernet)	Yes		
Number of ports	2		
integrated switch	Yes		
Protocols			
• MPI	No		
PROFINET IO Controller	Yes; Also simultaneously with IO-Device functionality		
PROFINET IO Device	Yes; Also simultaneously with IO Controller functionality		
PROFINET CBA	Yes		
PROFIBUS DP master	No		
PROFIBUS DP device	No		
Open IE communication	Yes; Via TCP/IP, ISO on TCP, and UDP		
Web server	Yes		
Media redundancy	Yes		
PROFINET IO Controller			
• Transmission rate, max.	100 Mbit/s		
Services			
— PG/OP communication	Yes		
— Routing	Yes		
— S7 communication	Yes; With loadable FBs, max. configurable connections: 14, max. number of instances: 32		
— Isochronous mode	Yes; OB 61; isochronous mode can only be used alternatively on PROFIBUS DP or PROFINET IO		
— IRT	Yes		
— Shared device	Yes		
— Prioritized startup	Yes		
- Number of IO devices with prioritized startup, max.	32		
- Number of connectable IO Devices, max.	128		
— Of which IO devices with IRT, max.	64		
— of which in line, max.	64		
 — Number of IO Devices with IRT and the option "high flexibility" 	128		
— of which in line, max.	61		

Number of connectable 10 Devices for DT, mov	100		
 Number of connectable IO Devices for RT, max. 	128		
— of which in line, max.	128		
Activation/deactivation of IO Devices	Yes		
 Number of IO Devices that can be simultaneously activated/deactivated, max. 	8		
 — IO Devices changing during operation (partner ports), supported 	Yes		
 — Number of IO Devices per tool, max. 	8		
 Device replacement without swap medium 	Yes		
— Send cycles	250 µs, 500 µs,1 ms; 2 ms, 4 ms (not in the case of IRT with "high flexibility"		
	option)		
— Updating time	250 μs to 512 ms (depending on the operating mode, see Manual "S7-300 CPU 31xC and CPU 31x, technical Data" for more details)		
Address area			
— Inputs, max.	2 kbyte		
— Outputs, max.	2 kbyte		
— User data consistency, max.	1 024 byte		
PROFINET IO Device			
Services			
— PG/OP communication	Yes		
— Routing	Yes		
— S7 communication	Yes; With loadable FBs, max. configurable connections: 14, max. number of instances: 32		
— Isochronous mode	No		
— IRT	Yes		
- PROFlenergy	Yes; With SFB 73 / 74 prepared for loadable PROFlenergy standard FB for I- Device		
— Shared device	Yes		
 — Number of IO Controllers with shared device, max. 	2		
Transfer memory			
— 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			
acyclic transmission	Yes		
cyclic transmission	Yes		
Open IE communication			
Number of connections, max.	8		
Local port numbers used at the system end	0, 20, 21, 25, 80, 102, 135, 161, 8080, 34962, 34963, 34964, 65532, 65533, 65534, 65535		
 Keep-alive function, supported 	Yes		
Protocols			
PROFIsafe	No		
Redundancy mode			
Media redundancy			
— Switchover time on line break, typ.	200 ms; PROFINET MRP		
 — Switchover time of time of eac, typ. — Number of stations in the ring, max. 	50		
Open IE communication			
TCP/IP	Yes; via integrated PROFINET interface and loadable FBs		
Number of connections, max.	8		
Data length for connection type 01H, max.	1 460 byte		
Data length for connection type 11H, max.	32 768 byte		
— several passive connections per port, supported	Yes		
ISO-on-TCP (RFC1006)	Yes; via integrated PROFINET interface and loadable FBs		
— Number of connections, max.	8		
— Data length, max.	32 768 byte		
• UDP	Yes; via integrated PROFINET interface and loadable FBs		
 Number of connections, max. 	8		
— Data length, max.	1 472 byte		
Web server			
 supported 	Yes		

User-defined websites	Yes	
Number of HTTP clients	5	
communication functions / header	·	
PG/OP communication	Yes	
Data record routing	Yes	
Global data communication		
supported	Yes	
Number of GD loops, max.		
Number of GD packets, max.	8 8	
Number of GD packets, transmitter, max.	8	
Number of GD packets, receiver, max.	8	
Size of GD packets, max.	8 22 byte	
 Size of GD packet (of which consistent), max. 	22 byte	
S7 basic communication		
supported	Yes	
• User data per job, max.	76 byte	
• User data per job (of which consistent), max.	76 byte; 76 bytes (with X SEND or X RCV); 64 bytes (with X PUT or X GET	
	as server)	
S7 communication		
supported	Yes	
• as server	Yes	
• as client	Yes; via integrated PROFINET interface and loadable FB or via CP and loadable FB	
• User data per job, max.	See online help of STEP 7 (shared parameters of the SFBs/FBs and of the SFCs/FCs of S7 Communication)	
S5 compatible communication		
supported	Yes; via CP and loadable FC	
communication functions / PROFINET CBA (with set target commu		
 Setpoint for the CPU communication load 	50 %	
 Number of remote interconnection partners 	32	
 number of master/device functions 	30	
 total of all master/device connections 	1 000	
 data length of all incoming master/device connections, max. 	4 000 byte	
 data length of all outgoing master/device connections, max. 	4 000 byte	
Number of device-internal and PROFIBUS interconnections	500	
Data length of device-internal und PROFIBUS interconnections, max.	4 000 byte	
Data length per connection, max.	1 400 byte	
performance data / PROFINET CBA / remote interconnection		
— Sampling interval, min.	500 ms	
- Number of incoming interconnections	100	
- Number of outgoing interconnections		
— Data length of all incoming interconnections, max.	2 000 byte	
 Data length of all outgoing interconnections, max. 	2 000 byte	
 data volume / as user data for remote interconnections / in the case of acyclic transmission / with PROFINET CBA / per connection / maximum 	1 400 byte	
performance data / PROFINET CBA / remote interconnection	/ with cyclic transfer / header	
- Transmission frequency: Transmission interval, min.	10 ms	
- Number of incoming interconnections	200	
- Number of outgoing interconnections	200	
 Data length of all incoming interconnections, max. 	2 000 byte	
 Data length of all outgoing interconnections, max. 	2 000 byte	
 data volume / as user data for remote interconnections / with cyclical transfer / with PROFINET CBA / per connection / maximum 	450 byte	
performance data / PROFINET CBA / HMI variables via PROF	INET / acyclic / header	
 — Number of stations that can log on for HMI variables (PN OPC/iMap) 	3; 2x PN OPC/1x iMap	
— HMI variable updating	500 ms	
— Number of HMI variables	200	

 — Data length of all HMI variables, max. performance data / PROFINET CBA / PROFIBUS proxy func- 	2 000 byte		
periormance data / PROFINET CBA / PROFIBUS proxy juli	•		
— supported	Yes		
— Number of linked PROFIBUS devices	16		
— Data length per connection, max.	240 byte; Slave-dependent		
Number of connections			
overall	16		
 usable for PG communication 	15		
- reserved for PG communication	1		
 adjustable for PG communication, min. 	1		
 adjustable for PG communication, max. 	15		
 usable for OP communication 	15		
 reserved for OP communication 	1		
— adjustable for OP communication, min.	1		
 adjustable for OP communication, max. 	15		
 usable for S7 basic communication 	14		
 reserved for S7 basic communication 	0		
- adjustable for S7 basic communication, min.	0		
— adjustable for S7 basic communication, max.	14		
usable for S7 communication	14		
- reserved for S7 communication	0		
- adjustable for S7 communication, min.	0		
— adjustable for S7 communication, max.	14		
total number of instances, max.	32 X1 as MPI: max_10: X1 as DP master: max_24: X1 as DP slave (active): max_		
 usable for routing 	X1 as MPI: max. 10; X1 as DP master: max. 24; X1 as DP slave (active): ma: 14; X2 as PROFINET: 24 max.		
S7 message functions			
Number of login stations for message functions, max.	16; Depending on the configured connections for PG/OP and S7 basic communication		
Process diagnostic messages	Yes		
simultaneously active Alarm-S blocks, max.	300		
Test commissioning functions			
Status block	Yes; Up to 2 simultaneously		
Single step	Yes		
Number of breakpoints	4		
Status/control			
 Status/control variable 	Yes		
	Inpute outpute memory hite DR times counters		
Variables	Inputs, outputs, memory bits, DB, times, counters		
VariablesNumber of variables, max.	30		
 Variables Number of variables, max. — of which status variables, max. 	30 30		
 Variables Number of variables, max. — of which status variables, max. — of which control variables, max. 	30		
 Variables Number of variables, max. — of which status variables, max. — of which control variables, max. Forcing	30 30 14		
 Variables Number of variables, max. — of which status variables, max. — of which control variables, max. Forcing Forcing 	30 30 14 Yes		
 Variables Number of variables, max. — of which status variables, max. — of which control variables, max. Forcing Forcing Forcing, variables 	30 30 14 Yes Inputs, outputs		
 Variables Number of variables, max. — of which status variables, max. — of which control variables, max. Forcing Forcing Forcing, variables Number of variables, max. 	30 30 14 Yes		
 Variables Number of variables, max. — of which status variables, max. — of which control variables, max. Forcing Forcing Forcing, variables Number of variables, max. Diagnostic buffer	30 30 14 Yes Inputs, outputs 10		
 Variables Number of variables, max. of which status variables, max. of which control variables, max. Forcing Forcing, variables Number of variables, max. Diagnostic buffer present 	30 30 14 Yes Inputs, outputs 10 Yes		
 Variables Number of variables, max. of which status variables, max. of which control variables, max. Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. 	30 30 14 Yes Inputs, outputs 10 Yes 500		
 Variables Number of variables, max. — of which status variables, max. — of which control variables, max. Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. — adjustable 	30 30 14 Yes Inputs, outputs 10 Yes 500 No		
 Variables Number of variables, max. — of which status variables, max. — of which control variables, max. Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. — adjustable — of which powerfail-proof 	30 30 14 Yes Inputs, outputs 10 Yes 500		
 Variables Number of variables, max. — of which status variables, max. — of which control variables, max. — of which control variables, max. Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. — adjustable — of which powerfail-proof Number of entries readable in RUN, max. 	30 30 14 Yes Inputs, outputs 10 Yes 500 No 100; Only the last 100 entries are retained		
 Variables Number of variables, max. — of which status variables, max. — of which control variables, max. Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. — adjustable — of which powerfail-proof 	30 30 14 Yes Inputs, outputs 10 Yes 500 No 100; Only the last 100 entries are retained 499		
 Variables Number of variables, max. of which status variables, max. of which control variables, max. Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. adjustable of which powerfail-proof Number of entries readable in RUN, max. adjustable adjustable 	30 30 14 Yes Inputs, outputs 10 Yes 500 No 100; Only the last 100 entries are retained 499 Yes; From 10 to 499		
 Variables Number of variables, max. of which status variables, max. of which control variables, max. Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. adjustable of which powerfail-proof Number of entries readable in RUN, max. adjustable preset 	30 30 14 Yes Inputs, outputs 10 Yes 500 No 100; Only the last 100 entries are retained 499 Yes; From 10 to 499		
 Variables Number of variables, max. of which status variables, max. of which control variables, max. Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. adjustable of which powerfail-proof Number of entries readable in RUN, max. adjustable preset 	30 30 14 Yes Inputs, outputs 10 Yes 500 No 100; Only the last 100 entries are retained 499 Yes; From 10 to 499 10		
 Variables Number of variables, max. of which status variables, max. of which control variables, max. Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. adjustable of which powerfail-proof Number of entries readable in RUN, max. adjustable preset Service data can be read out 	30 30 14 Yes Inputs, outputs 10 Yes 500 No 100; Only the last 100 entries are retained 499 Yes; From 10 to 499 10		
 Variables Number of variables, max. of which status variables, max. of which control variables, max. Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. adjustable of which powerfail-proof Number of entries readable in RUN, max. adjustable preset Service data can be read out 	30 30 14 Yes Inputs, outputs 10 Yes 500 No 100; Only the last 100 entries are retained 499 Yes; From 10 to 499 10 Yes		
 Variables Number of variables, max. of which status variables, max. of which control variables, max. Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. adjustable of which powerfail-proof Number of entries readable in RUN, max. adjustable preset Service data can be read out 	30 30 14 Yes Inputs, outputs 10 Yes 500 No 100; Only the last 100 entries are retained 499 Yes; From 10 to 499 10 Yes		
 Variables Number of variables, max. of which status variables, max. of which control variables, max. Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. adjustable of which powerfail-proof Number of entries readable in RUN, max. adjustable preset Service data can be read out Standards, approvals, certificates	30 30 14 Yes Inputs, outputs 10 Yes 500 No 100; Only the last 100 entries are retained 499 Yes; From 10 to 499 10 Yes Yes Yes Yes		

Use in hazardous areas		
• ATEX	Yes	
Ambient conditions		
Ambient temperature during operation		
• min.	-25 °C; = Tmin	
• max.	70 °C; = Tmax; 60 °C @ UL/cUL, ATEX and FM use	
Ambient temperature during storage/transportation		
• min.	-40 °C	
• max.	70 °C	
Altitude during operation relating to sea level		
 Installation altitude above sea level, max. 	5 000 m	
Ambient air temperature-barometric pressure-altitude	Tmin Tmax at 1 140 hPa 795 hPa (-1 000 m +2 000 m) // Tmin (Tmax - 10 K) at 795 hPa 658 hPa (+2 000 m +3 500 m) // Tmin (Tmax -20 K) at 658 hPa 540 hPa (+3 500 m +5 000 m)	
Relative humidity		
With condensation, tested in accordance with IEC 60068- 2-38, max.	100 %; RH incl. condensation/frost (no commissioning under condensation conditions)	
Resistance		
Use in stationary industrial systems		
 — to biologically active substances according to EN 60721-3-3 	Yes; Class 3B2 mold, fungus and dry rot spores (with the exception of fauna); Class 3B3 on request	
— to chemically active substances according to EN 60721-3-3	Yes; Class 3C4 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *	
 — to mechanically active substances according to EN 60721-3-3 	Yes; Class 3S4 incl. sand, dust, *	
Use on ships/at sea		
 — to biologically active substances according to EN 60721-3-6 	Yes; Class 6B2 mold and fungal spores (excluding fauna); Class 6B3 on request	
— to chemically active substances according to EN 60721-3-6	Yes; Class 6C3 (RH < 75 %) incl. salt spray acc. to EN 60068-2-52 (severity degree 3); *	
 — to mechanically active substances according to EN 60721-3-6 	Yes; Class 6S3 incl. sand, dust; *	
Usage in industrial process technology		
 Against chemically active substances acc. to EN 60654-4 	Yes; Class 3 (excluding trichlorethylene)	
 — Environmental conditions for process, measuring and control systems acc. to ANSI/ISA-71.04 	Yes; Level GX group A/B (excluding trichlorethylene; harmful gas concentrations up to the limits of EN 60721-3-3 class 3C4 permissible); level LC3 (salt spray) and level LB3 (oil)	
Remark		
 — Note regarding classification of environmental conditions acc. to EN 60721, EN 60654-4 and ANSI/ISA-71.04 	* The supplied plug covers must remain in place over the unused interfaces during operation!	
configuration / header		
Configuration software		
• STEP 7	Yes; V5.5 or higher	
configuration / programming / header		
Command set	see instruction list	
Nesting levels	8	
System functions (SFC)	see instruction list	
System function blocks (SFB)	see instruction list	
Programming language		
— LAD	Yes	
— FBD	Yes	
— STL	Yes	
— SCL	Yes	
— CFC	Yes	
— GRAPH	Yes	
— HiGraph®	Yes	
Know-how protection		
User program protection/password protection	Yes	
Block encryption	Yes; With S7 block Privacy	
Dimensions		
Width	40 mm	
Height	125 mm	
Depth	130 mm	

Weight, approx.

last modified:

340 g

5/29/2024 🖸