SIEMENS

Data sheet

6AG1315-2AH14-7AB0



SIPLUS S7-300 CPU 315-2DP -25...+70°C with conformal coating based on 6ES7315-2AH14-0AB0 . Central processing unit with MPI Integr. power supply 24 V DC Work memory 256 KB 2nd interface DP master/ slave Micro Memory Card required

Figure similar

Product function Isochronous mode Indicators with Programming package STEP 7 V5.5 + SP1 or higher or STEP 7 V5.2 + SP1 or higher with HSP 218 Supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) external protection for power supply lines (recommendation) Alains buffering Mains buf	General information	
Engineering with Programming package STEP 7 V5.5 + SP1 or higher or STEP 7 V5.2 + SP1 or higher with HSP 218 Supply voltage Rated value (DC) 24 V permissible range, lower limit (DC) 19.2 V permissible range, upper limit (DC) 28.8 V external protection for power supply lines (recommendation) Mains buffering Mains buffer	Product function	
Programming package STEP 7 V5.5 + SP1 or higher or STEP 7 V5.2 + SP1 or higher with HSP 218 Supply voltage Rated value (DC)	Isochronous mode	Yes
Supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) permissible range, upper limit (DC) external protection for power supply lines (recommendation) Mains buffering • Mains/voltage failure stored energy time • Repeat rate, min. Input current Current consumption (rated value) Current consumption (in no-load operation), typ. Inrush current, typ. Power loss 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 • Program and data CPU processing times for bit operations, typ. 0.05 µs	Engineering with	
Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) external protection for power supply lines (recommendation) Mains buffering • Mains/voltage failure stored energy time • Repeat rate, min. Input current Current consumption (rated value) Current consumption (in no-load operation), typ. Inrush current, typ. It 1 A²-s Power loss Power loss Power loss, typ. Work memory • integrated • expandable • expandable Load memory • Plug-in (MMC) • Plug-in (MMC), max. • Data management on MMC (after last programming), min. Backup • present • without battery for bit operations, typ. 12 A min. 12 A min. 13 A min. 14 A min. 15 Mms 15 Mms 15 Mms 4.5 W Mmonory 4.5 W	Programming package	
permissible range, lower limit (DC) permissible range, upper limit (DC) external protection for power supply lines (recommendation) Mains buffering • Mains/voltage failure stored energy time • Repeat rate, min. Input current Current consumption (rated value) Current consumption (rated value) Current consumption (in no-load operation), typ. Inrush current, typ. It 1 1 A²-s Power loss Power loss Power loss, typ. Memory Work memory • integrated • expandable Load memory • Plug-in (MMC), max. • Data management on MMC (after last programming), min. Backup • present • without battery for bit operations, typ. 19. 28. 8 V 2 A min. 19. 2 A min. 1 s 1 s 1 s 1 s 1 s 1 s 1 s 1	Supply voltage	
permissible range, upper limit (DC) external protection for power supply lines (recommendation) Mains buffering • Mains/voltage failure stored energy time • Repeat rate, min. Input current Current consumption (rated value) Current consumption (in no-load operation), typ. Inrush current, typ. Inrush current, typ. Inrush current, typ. Power loss Power loss, typ. 4.5 W 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. 2 A min. 5 m. 2 A min. 4 Min. 5 ms 4 b Wb	Rated value (DC)	24 V
external protection for power supply lines (recommendation) Mains buffering • Mains/voltage failure stored energy time • Repeat rate, min. Input current Current consumption (rated value) Current consumption (in no-load operation), typ. Inrush current, typ. It is is is in a standard in a s	permissible range, lower limit (DC)	19.2 V
(recommendation) Mains buffering Mains/voltage failure stored energy time Repeat rate, min. Input current Current consumption (rated value) Current consumption (in no-load operation), typ. Inrush current, typ. Pit 1 A²-s Power loss Power loss Power loss, typ. Memory Work memory integrated expandable No 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. 5 ms 5 ms 5 ms 5 ms 6 ms 4 50 mA 150 mA 110 mA 120 mA	permissible range, upper limit (DC)	28.8 V
 Mains/voltage failure stored energy time Repeat rate, min. 1 s Input current Current consumption (rated value) 250 mA Current consumption (in no-load operation), typ. 150 mA Inrush current, typ. 3.5 A I²t 1 A²·s Power loss Power loss, typ. 4.5 W Memory Work memory integrated e expandable Load memory Plug-in (MMC) γes Plug-in (MMC), max. Data management on MMC (after last programming), min. Backup present yes; Guaranteed by MMC (maintenance-free) without battery Yes; Program and data CPU processing times for bit operations, typ. 0.05 μs 		2 A min.
Repeat rate, min. 1 s Input current Current consumption (rated value) 850 mA Current consumption (in no-load operation), typ. 150 mA Inrush current, typ. 3.5 A I²t 1 A²··s Power loss Power loss, typ. 4.5 W Memory Work memory ● integrated 256 kbyte • expandable No Load memory ● Plug-in (MMC) Yes • Plug-in (MMC), max. 8 Mbyte • Data management on MMC (after last programming), min. Backup • present Yes; Guaranteed by MMC (maintenance-free) • without battery Yes; Program and data CPU processing times for bit operations, typ. 0.05 μs	Mains buffering	
Input current Current consumption (rated value) Current consumption (in no-load operation), typ. Inrush current, typ. It 1 1 A²-s Power loss Power loss, typ. 4.5 W Memory Work memory integrated expandable No Load memory Plug-in (MMC) Plug-in (MMC), max. Plug-in (MMC), max. Data management on MMC (after last programming), min. Backup Present expressed Yes; Guaranteed by MMC (maintenance-free) without battery Yes; Program and data CPU processing times for bit operations, typ. 0.05 µs	 Mains/voltage failure stored energy time 	5 ms
Current consumption (rated value) Current consumption (in no-load operation), typ. Inrush current, typ. If t	 Repeat rate, min. 	1 s
Current consumption (in no-load operation), typ. Inrush current, typ. If t 1 A ² -s Power loss Power loss, typ. 4.5 W Memory Work memory integrated 256 kbyte expandable No Load memory Plug-in (MMC), max. Plug-in (MMC), max. Data management on MMC (after last programming), min. Backup present Yes; Guaranteed by MMC (maintenance-free) without battery CPU processing times for bit operations, typ. 150 mA 150 mA 150 mA 150 mA 152 mA 164 mA 165 mA 167 mA 168 mA 169	Input current	
Inrush current, typ. If t 1 A²-s Power loss Power loss, typ. Memory Work memory integrated 256 kbyte expandable No Load memory Plug-in (MMC) Yes Plug-in (MMC), max. Data management on MMC (after last programming), min. Backup present Yes; Guaranteed by MMC (maintenance-free) without battery Yes; Program and data CPU processing times for bit operations, typ. 4.5 W	Current consumption (rated value)	850 mA
Power loss Power loss, typ. 4.5 W	Current consumption (in no-load operation), typ.	150 mA
Power loss Power loss, typ. 4.5 W Memory Work memory integrated expandable expandable No Load memory Plug-in (MMC) Plug-in (MMC), max. Data management on MMC (after last programming), min. Backup present present very Guaranteed by MMC (maintenance-free) without battery Yes; Program and data CPU processing times for bit operations, typ.	Inrush current, typ.	3.5 A
Power loss, typ. 4.5 W Memory Work memory 256 kbyte • expandable No Load memory Plug-in (MMC) Yes • Plug-in (MMC), max. 8 Mbyte • Data management on MMC (after last programming), min. 10 y Backup Yes; Guaranteed by MMC (maintenance-free) • without battery Yes; Program and data CPU processing times for bit operations, typ. 0.05 μs	l²t	1 A ² ·s
Memory Work memory • integrated 256 kbyte • expandable No Load memory • Plug-in (MMC) Yes • Plug-in (MMC), max. 8 Mbyte • Data management on MMC (after last programming), min. 10 y Backup Yes; Guaranteed by MMC (maintenance-free) • without battery Yes; Program and data CPU processing times for bit operations, typ. 0.05 μs	Power loss	
Work memory integrated expandable No Load memory Plug-in (MMC) Plug-in (MMC), max. Data management on MMC (after last programming), min. Backup present present without battery For bit operations, typ. 256 kbyte No Yes Sabyte 10 y Yes Guaranteed by MMC (maintenance-free) Yes; Program and data	Power loss, typ.	4.5 W
 integrated expandable No Load memory Plug-in (MMC) Plug-in (MMC), max. Plug-in (MMC), max. Data management on MMC (after last programming), min. Backup present without battery Yes; Guaranteed by MMC (maintenance-free) Yes; Program and data CPU processing times for bit operations, typ. 0.05 μs	Memory	
 expandable Load memory Plug-in (MMC) Plug-in (MMC), max. Data management on MMC (after last programming), min. Backup present without battery Program and data CPU processing times for bit operations, typ. No Yes Sadwy Yes; Guaranteed by MMC (maintenance-free) Yes; Program and data CPU processing times 0.05 μs 	Work memory	
Load memory Plug-in (MMC) Plug-in (MMC), max. Data management on MMC (after last programming), min. Backup present present without battery Pes; Guaranteed by MMC (maintenance-free) Yes; Program and data CPU processing times for bit operations, typ. Yes	• integrated	256 kbyte
 Plug-in (MMC) Plug-in (MMC), max. Data management on MMC (after last programming), min. Backup present without battery Plug-in (MMC), max. Mbyte 10 y Yes; Guaranteed by MMC (maintenance-free) Yes; Program and data CPU processing times for bit operations, typ. 0.05 μs 	expandable	No
 Plug-in (MMC), max. Data management on MMC (after last programming), min. Backup present without battery Percent Yes; Guaranteed by MMC (maintenance-free) Yes; Program and data CPU processing times for bit operations, typ. 0.05 µs 	Load memory	
 Data management on MMC (after last programming), min. Backup present without battery CPU processing times for bit operations, typ. 10 y Yes; Guaranteed by MMC (maintenance-free) Yes; Program and data 0.05 μs 	Plug-in (MMC)	Yes
programming), min. Backup ● present ● without battery CPU processing times for bit operations, typ. Yes; Guaranteed by MMC (maintenance-free) Yes; Program and data 0.05 µs	Plug-in (MMC), max.	8 Mbyte
 present without battery CPU processing times for bit operations, typ. Yes; Guaranteed by MMC (maintenance-free) Yes; Program and data 0.05 μs 		10 y
 without battery CPU processing times for bit operations, typ. Yes; Program and data 0.05 μs 	Backup	
CPU processing times for bit operations, typ. 0.05 μs	• present	Yes; Guaranteed by MMC (maintenance-free)
for bit operations, typ. 0.05 μs	without battery	Yes; Program and data
	CPU processing times	
for word operations, typ. 0.09 µs	for bit operations, typ.	0.05 μs
	for word operations, typ.	0.09 μs

for fixed point arithmetic, typ.	0.12 μs
for floating point arithmetic, typ.	0.45 µs
CPU-blocks	6. 10 pc
Number of blocks (total)	1 024; (DBs, FCs, FBs); the maximum number of loadable blocks can
	be reduced by the MMC used.
DB	
Number, max.	1 024; Number range: 1 to 16000
• Size, max.	64 kbyte
Number, max.	1 024; Number range: 0 to 7999
• Size, max.	64 kbyte
FC	CT NOTE:
Number, max.	1 024; Number range: 0 to 7999
• Size, max.	64 kbyte
OB	
Number, max.	see instruction list
• Size, max.	64 kbyte
 Number of free cycle OBs 	1; OB 1
Number of time alarm OBs	1; OB 10
Number of delay alarm OBs	2; OB 20, 21
Number of cyclic interrupt OBs	4; OB 32, 33, 34, 35
Number of DDV4 slaver OBs	1; OB 40
Number of DPV1 alarm OBs Number of isosphanaus made OBs	3; OB 55, 56, 57
Number of startup ORs	1; OB 61
Number of startup OBsNumber of asynchronous error OBs	1; OB 100 5; OB 80, 82, 85, 86, 87
Number of synchronous error OBs	2; OB 121, 122
Nesting depth	2, 00 121, 122
per priority class	16
additional within an error OB	4
Counters, timers and their retentivity	
S7 counter	
Number	256
Retentivity	
— adjustable	Yes
— lower limit	0
— upper limit	255
— preset	Z 0 to Z 7
Counting range	
— lower limit	0
— upper limit IEC counter	999
• present	Yes
• Type	SFB
• Number	Unlimited (limited only by RAM capacity)
S7 times	, , , , , , , , , , , , , , , , , , ,
Number	256
Retentivity	
— adjustable	Yes
— lower limit	0
— upper limit	255
— preset	No retentivity
Time range	40
— lower limit	10 ms
— upper limit	9 990 s
IEC timer	Yes
presentType	SFB
• туро	OI D

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	c, monte, syste
Retentivity adjustable	Yes; via non-retain property on DB
Retentivity preset	Yes
Local data	
per priority class, max.	32 kbyte; Max. 2 KB per block
Address area	
I/O address area	
• Inputs	2 048 byte
Outputs	2 048 byte
of which distributed	2 040 byte
	2 048 byte
— Inputs — Outputs	
	2 048 byte
Process image	2 048 byte
• Inputs	
Outputs	2 048 byte
• Inputs, adjustable	2 048 byte
Outputs, adjustable	2 048 byte
• Inputs, default	128 byte
Outputs, default	128 byte
Subprocess images	
Number of subprocess images, max.	1
Digital channels	
• 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
Deliation of the clock following I OVVEIX-OIV	Olovi, continued ranning after 1 OWER OF 1

 Behavior of the clock following expiry of backup period 	Clock continues to run with the time at which the power failure occurred
Operating hours counter	
Number	1
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
• to MPI, slave	Yes
• to DP, master	Yes; With DP slave only slave clock
• to DP, slave	Yes
• in AS, master	Yes
• in AS, slave	No
Digital inputs	
Number of digital inputs	0
Digital outputs	
Number of digital outputs	0
	V
Analog inputs	0
Number of analog inputs	0
Analog outputs	
Number of analog outputs	0
Interfaces	
Number of industrial Ethernet interfaces	0
Number of PROFINET interfaces	0
Number of RS 485 interfaces	2; MPI and PROFIBUS DP
Number of RS 422 interfaces	0
1. Interface	
	Integrated BS 495 interface
Interface type	Integrated RS 485 interface
Interface type Isolated	No
Isolated	
Isolated Interface types	No
Isolated Interface types • RS 485	No Yes
Isolated Interface types RS 485 Output current of the interface, max.	No Yes
Isolated Interface types • RS 485 • Output current of the interface, max. Protocols	Yes 200 mA
Isolated Interface types • RS 485 • Output current of the interface, max. Protocols • MPI	Yes 200 mA
Isolated Interface types RS 485 Output current of the interface, max. Protocols MPI PROFIBUS DP master PROFIBUS DP slave	Yes 200 mA Yes No
Isolated Interface types RS 485 Output current of the interface, max. Protocols MPI PROFIBUS DP master	Yes 200 mA Yes No No
Isolated Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP slave • Point-to-point connection MPI	Yes 200 mA Yes No No
Isolated Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP slave • Point-to-point connection	Yes 200 mA Yes No No No
Isolated Interface types RS 485 Output current of the interface, max. Protocols MPI PROFIBUS DP master PROFIBUS DP slave Point-to-point connection MPI Transmission rate, max.	Yes 200 mA Yes No No No
Isolated Interface types RS 485 Output current of the interface, max. Protocols MPI PROFIBUS DP master PROFIBUS DP slave Point-to-point connection MPI Transmission rate, max. Services	Yes 200 mA Yes No No No No No
Isolated Interface types RS 485 Output current of the interface, max. Protocols MPI PROFIBUS DP master PROFIBUS DP slave Point-to-point connection MPI Transmission rate, max. Services PG/OP communication	Yes 200 mA Yes No No No No No Yes
Isolated Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP slave • Point-to-point connection MPI • Transmission rate, max. Services — PG/OP communication — Routing	Yes 200 mA Yes No No No No Yes Yes Yes
Isolated Interface types RS 485 Output current of the interface, max. Protocols MPI PROFIBUS DP master PROFIBUS DP slave Point-to-point connection MPI Transmission rate, max. Services — PG/OP communication — Routing — Global data communication	Yes 200 mA Yes No No No No Yes Yes Yes Yes Yes Yes Yes
Isolated Interface types RS 485 Output current of the interface, max. Protocols MPI PROFIBUS DP master PROFIBUS DP slave Point-to-point connection MPI Transmission rate, max. Services PG/OP communication Routing Global data communication S7 basic communication S7 communication	Yes 200 mA Yes No No No No Yes Yes Yes Yes Yes
Interface types RS 485 Output current of the interface, max. Protocols MPI PROFIBUS DP master PROFIBUS DP slave Point-to-point connection MPI Transmission rate, max. Services PG/OP communication Routing Global data communication S7 basic communication S7 communication S7 communication, as client	Yes 200 mA Yes No No No No Yes
Isolated Interface types RS 485 Output current of the interface, max. Protocols MPI PROFIBUS DP master PROFIBUS DP slave Point-to-point connection MPI Transmission rate, max. Services PG/OP communication Routing Global data communication S7 basic communication S7 communication S7 communication, as client S7 communication, as server	Yes 200 mA Yes No No No No No Yes
Isolated Interface types RS 485 Output current of the interface, max. Protocols MPI PROFIBUS DP master PROFIBUS DP slave Point-to-point connection MPI Transmission rate, max. Services PG/OP communication Routing Global data communication R7 basic communication S7 communication S7 communication S7 communication, as client S7 communication, as server	Yes 200 mA Yes No No No No 187.5 kbit/s Yes Yes Yes Yes Yes Yes Yes Yes Yes Y
Isolated Interface types RS 485 Output current of the interface, max. Protocols MPI PROFIBUS DP master PROFIBUS DP slave Point-to-point connection MPI Transmission rate, max. Services PG/OP communication Routing Global data communication Routing S7 basic communication S7 communication S7 communication S7 communication, as client S7 communication, as server 2. Interface Interface type	Yes 200 mA Yes No No No No 187.5 kbit/s Yes Yes Yes Yes Yes Yes Yes Yes Yes Y
Isolated Interface types RS 485 Output current of the interface, max. Protocols MPI PROFIBUS DP master PROFIBUS DP slave Point-to-point connection MPI Transmission rate, max. Services PG/OP communication Routing Global data communication S7 basic communication S7 communication S7 communication S7 communication, as client S7 communication, as server 2. Interface Interface type Isolated	Yes 200 mA Yes No No No No 187.5 kbit/s Yes Yes Yes Yes Yes Yes Yes Yes Yes Y
Isolated Interface types RS 485 Output current of the interface, max. Protocols MPI PROFIBUS DP master PROFIBUS DP slave Point-to-point connection MPI Transmission rate, max. Services PG/OP communication Routing Global data communication S7 basic communication S7 communication S7 communication S7 communication, as client S7 communication, as server 2. Interface Interface type Isolated Interface types	Yes 200 mA Yes No No No No 187.5 kbit/s Yes Yes Yes Yes Yes Yes Yes Yes Yes Y
Interface types RS 485 Output current of the interface, max. Protocols MPI PROFIBUS DP master PROFIBUS DP slave Point-to-point connection MPI Transmission rate, max. Services PG/OP communication Routing Global data communication Routing S7 basic communication S7 communication S7 communication S7 communication, as client S7 communication, as server 2. Interface Interface type Isolated Interface types RS 485	Yes 200 mA Yes No No No No No 187.5 kbit/s Yes Yes Yes Yes Yes Yes Yes Yes Yes Y
Interface types RS 485 Output current of the interface, max. Protocols MPI PROFIBUS DP master PROFIBUS DP slave Point-to-point connection MPI Transmission rate, max. Services PG/OP communication Routing Global data communication S7 basic communication S7 communication S7 communication S7 communication S7 communication, as client S7 communication, as server 2. Interface Interface type Isolated Interface types RS 485 Output current of the interface, max.	Yes 200 mA Yes No No No No No 187.5 kbit/s Yes Yes Yes Yes Yes Yes Yes Yes Yes Y
Interface types RS 485 Output current of the interface, max. Protocols MPI PROFIBUS DP master PROFIBUS DP slave Point-to-point connection MPI Transmission rate, max. Services PG/OP communication Routing Global data communication S7 basic communication S7 communication S7 communication S7 communication, as client S7 communication, as server 2. Interface Interface type Isolated Interface types RS 485 Output current of the interface, max. Protocols	Yes 200 mA Yes No No No No 187.5 kbit/s Yes Yes Yes Yes Yes Yes Yes Yes Yes Y
Interface types RS 485 Output current of the interface, max. Protocols MPI PROFIBUS DP master PROFIBUS DP slave Point-to-point connection MPI Transmission rate, max. Services PG/OP communication Routing Global data communication S7 basic communication S7 communication S7 communication S7 communication S7 communication, as client S7 communication, as server 2. Interface Interface type Isolated Interface types RS 485 Output current of the interface, max.	Yes 200 mA Yes No No No No No 187.5 kbit/s Yes Yes Yes Yes Yes Yes Yes Yes Yes Y

 Transmission rate, max. automatic baud rate search Address area, max. User data per address area, max. Services — PG/OP communication — Routing — Solly with active interface — Global data communication — No — S7 basic communication — S7 communication — S7 communication, as client — S7 communication, as server — Direct data exchange (slave-to-slave communication) — DPV1 Transfer memory — Inputs — Outputs 244 byte Communication functions PG/OP communication Yes Data record routing — Supported — Number of GD packets, max. — Number of GD packets, transmitter, max. — Number of GD packets, max. — Number of GD packets, max. — Size of GD packet (of which consistent), max. — Size of GD packet (of which consistent), max. — Size of GD packet (of which consistent), max. 	PROFIBUS DP slave	Yes
	Point-to-point connection	No
Transmission rate, max Number of DP slaves, max, Services — PG/OP communication — Routing — Global data communication — S7 basic communication — S7 basic communication — S7 basic communication — S7 communication, as server — S7 communication, as server — Equidistance — Isochronous mode — SYNC/FREEZE — Activation/deactivation of DP slaves — Number of DP slaves that can be simultaneously activated/deactivated, max. — DPV1 Address area — Inputs, max — Outputs, max — Outputs — Foromunication — S7 communication — S8 communication — S9 co	PROFIBUS DP master	
Number of DP slaves, max. 124; Per station Services	 Number of connections, max. 	16
Services - PG/OP communication - Routing - Global data communication - S7 basic communication - S7 communication - S7 communication - S7 communication, as client - S7 communication, as selver - Equidistance - Isochronous mode - SYNC/FREEZE - Activation/deactivation of DP slaves - Number of DP slaves that can be simultaneously activated/deactivated, max DPV1 - Address area - Inputs, max Outputs, max User data per address area, max TPOINTISUS DP slave - SGD file - Transmission rate, max Address area, max Address area, max Address area, max Address area, max Outputs, max	 Transmission rate, max. 	12 Mbit/s
- PG/OP communication - Routing - Routing - Global data communication - S7 basic communication - S7 communication - S7 communication - S7 communication - S7 communication, as client - SYNC/FREEZE - Activation/deactivation of DP slaves - Number of DP slaves star can be simultaneously activated/deactivated, max - DPV1 - Address area - Inputs, max - Outputs, max - Outputs - PG/OP communication - S7 communication - S8 client - S8 clien	 Number of DP slaves, max. 	124; Per station
- Routing - Global data communication - Global data communication - Global data communication - Global data communication - ST communication - ST communication, as client - ST communication, as client - ST communication, as client - ST communication, as elient - ST communication - ST communi	Services	
- Global data communication - S7 basic communication - S7 communication - S7 communication - S7 communication, as cellent - S7 communication, as server - S7 communication, as server - Equidistance - S7 communication - S8 communication - S9	— PG/OP communication	Yes
	— Routing	Yes
S7 communication, as client S7 communication, as server Equidistance Equidistance Isochronous mode SYNC/FREEZE Activation/deactivation of DP slaves Number of DP slaves that can be simultaneously activated/deactivated, max DPV1 Address area Inputs, max Uptuts, max Uptuts -	— Global data communication	No
- S7 communication, as selver - S7 communication, as server - Equidistance - Isochronous mode - SYNC/FREEZE - Activation/deactivation of DP slaves - Number of DP slaves that can be simultaneously activated/deactivated, max DPV1 - Address area - Inputs, max Outputs, max Uputs, max Upu	 S7 basic communication 	Yes; I blocks only
- S7 communication, as cellent - S7 communication, as server - Equidistance - Isochronous mode - SYNC/FREEZE - Activation/deactivation of DP slaves - Number of DP slaves that can be simultaneously activated/deactivated, max DPV1 - Address area - Inputs, max Uptuts, max User data per DP slave - Inputs, max Uthytis, max Uthytis, max Uthytis, max Uthytis, max Uthytis, max User data per address area, max Services - PG/OP communication - Routing - Global data communication - S7 basic communication - S7 communication, as server - Direct data exchange (slave-to-slave communication) - S7 communication, as server - Direct data exchange (slave-to-slave communication) - DPV1 - Transfer memory - Inputs - Outputs - Outp	— S7 communication	Yes; Only server, configured on one side
- Equidistance - sochronous mode - SYNC/FREEZE Yes - Activation/deactivation of DP slaves Yes Yes Yes - Activation/deactivation of DP slaves Yes Yes - Activation/deactivation of DP slaves Yes Yes -	 S7 communication, as client 	No
- Equidistance	 S7 communication, as server 	Yes
- SYNC/FREZE - Activation/deactivation of DP slaves - Number of DP slaves that can be simultaneously activated/deactivated, max DPV1 Address area - Inputs, max Outputs, max. 2 048 byte User data per DP slave - Inputs, max. 2 444 byte PROFIBUS DP slave - ST		Yes
Activation/deactivation of DP slaves Number of DP slaves that can be simultaneously activated/deactivated, max DPV1 Address area Inputs, max Outputs, max	Isochronous mode	Yes; OB 61
Number of DP slaves that can be simultaneously activated/deactivated, max DPV1 Address area Inputs, max Outputs, max Outputs	— SYNC/FREEZE	
Number of DP slaves that can be simultaneously activated/deactivated, max DPV1 Address area Inputs, max Outputs, max Outputs	 Activation/deactivation of DP slaves 	Yes
simultaneously activated/deactivated, max. — DPV1 Address area — Inputs, max. — Outputs, max. — It altest GSD file is available at: http://www.siemens.com/profibus-grained. — It altest GSD file is available at: http://www.siemens.com/profibus-grained. — It altest GSD file is available at: http://www.siemens.com/profibus-grained. — It altest GSD file is available at: http://www.siemens.com/profibus-grained. — It altest GSD file is available at: http://www.siemens.com/profibus-grained. — It altest GSD file is available at: http://www.siemens.com/profibus-grained. — It altest GSD file is available at: http://www.siemens.com/profibus-grained. — It altest GSD file is available at: http://www.siemens.com/profibus-grained. — It altest GSD file is available at: http://www.siemens.com/profibus-grained. — It altest GSD file is available at: http://www.siemens.com/profibus-grained. — It altest GSD file is available at: http://www.siemens.com/profibus-grained. — Outputs Passive interface — Psi/OP communication — Yes — Psi/OP communication — ST communication, as client — ST communication, as server — Direct data exchange (slave-to-slave communication) — ST communication — ST communica		
Address area Inputs, max. Outputs, max. Outputs DP slave In latest GSD file is available at: http://www.siemens.com/profibus-grainers interface Address area, max. It latest GSD file is available at: http://www.siemens.com/profibus-grainers interface Address area, max. It latest GSD file is available at: http://www.siemens.com/profibus-grainers PGOP communication as 2 byte Services PGOP communication For interface interface PGOP communication ST basic communication ST communication ST communication ST communication, as client ST communication, as server Direct data exchange (slave-to-slave communication) DPV1 Transfer memory Inputs Outputs PGOP communication State and a server PGOP communication Yes Global data communication Yes Global data communication Supported Yes Global data communication Supported Yes Number of GD packets, max. Number of GD packets, max. Number of GD packets, reaseniter, max. Size of GD packets, reaseniter, max. Size of GD packets, outputs. Size of GD packets, max. Size of GD packets, max.		
Inputs, max Outputs, max Outp	— DPV1	Yes
Outputs, max. User data per DP slave Inputs, max Outputs, max.	Address area	
User data per DP slave	— Inputs, max.	2 048 byte
- Inputs, max. — Outputs, max. 244 byte PROFIBUS DP slave GSD file The latest GSD file is available at: http://www.siemens.com/profibus-growthsparse. Address area, max. 12 Mbit/s User data per address area, max. 32 User data per address area, max. 32 FROUTHING TO ST Communication Yes Communication No ST basic communication Yes Communication Yes Communication, as client No ST communication, as server Yes Communication Yes	— Outputs, max.	2 048 byte
	User data per DP slave	
PROFIBUS DP slave O GSD file Transmission rate, max. Automatic baud rate search Address area, max. Services PG/OP communication PS communication Pyes Direct data exchange (slave-to-slave communication) PDV1 Transfer memory Inputs PG/OP communication PDV1 Transfer memory PG/OP communication PS communication Pyes Ps communication Pyes Pyes Pyes Pyes Pyes Pyes Pyes Pyes	— Inputs, max.	244 byte
GSD file The latest GSD file is available at: http://www.siemens.com/profibus-g Transmission rate, max. automatic baud rate search Address area, max. User data per address area, max. 32 Fe/OP communication S7 communication S8 communication S9	— Outputs, max.	244 byte
 Transmission rate, max. automatic baud rate search Address area, max. User data per address area, max. PG/OP communication Services PG/OP communication Routing PG/OP communication PS pt saic communication PS r communication PS r communication PS r communication, as client ST communication, as server Direct data exchange (slave-to-slave communication) DPV1 Transfer memory Inputs Outputs Outputs PG/OP communication Yes Communication functions PG/OP communication PG/OP communication Supported Number of GD loops, max. Number of GD packets, max. Size of GD packets (for which consistent), max. Size of GD packet (of which consistent), max. 	PROFIBUS DP slave	
automatic baud rate search Address area, max. 32 User data per address area, max. 32 byte Services - PG/OP communication Routing - Global data communication - S7 basic communication - S7 communication - S7 communication - S7 communication, as client - S7 communication, as server - Direct data exchange (slave-to-slave communication) - DPV1 Transfer memory - Inputs - Outputs 244 byte Communication functions PG/OP communication Supported Number of GD loops, max. Number of GD packets, transmitter, max. Size of GD packets, max. Size of GD packets, max. Size of GD packet (of which consistent), max. Size of GD pa	• GSD file	The latest GSD file is available at: http://www.siemens.com/profibus-gsd
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Address area, max. User data per address area, max. User data per address area, max. User data per address area, max. User data per address area, max. User data per address area, max. User data per address area, max. User data per address area, max. User define per address area, max. User data per address area, max. User define per address area, max. User data per address area, max. User define per address area, max. User data per address area, max. User define per address area, max. User data per address area, max. User define per address area, max. User data per address area, max. User define per address area, max. User data excommunication User data excommunicatio	automatic baud rate search	Yes; only with passive interface
Services	 Address area, max. 	
Services	 User data per address area, max. 	32 byte
Routing Yes; Only with active interface Global data communication No S7 basic communication Yes S7 communication Yes S7 communication, as client No S7 communication, as server Yes Direct data exchange (slave-to-slave communication) DPV1 No DPV1 No Inputs 244 byte Outputs 244 byte Outputs 244 byte Communication functions PG/OP communication Yes Global data communication supported Number of GD loops, max Number of GD packets, max Number of GD packets, transmitter, max Number of GD packets, treceiver, max Size of GD packets, max Size of GD packets		
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Global data communication No S7 basic communication Yes S7 communication Yes S7 communication, as client No S7 communication, as server Yes Direct data exchange (slave-to-slave communication) DPV1 No Transfer memory Inputs 244 byte Outputs 244 byte Communication functions PG/OP communication Yes Global data communication supported Yes Number of GD packets, max Number of GD packets, transmitter, max Number of GD packets, transmitter, max Size of GD packets, max Size of GD packets, max Size of GD packets, max Size of GD packet (of which consistent), max Size of GD packet (of which consistent)	— Routing	Yes; Only with active interface
— S7 communication Yes — S7 communication, as client No — S7 communication, as server Yes — Direct data exchange (slave-to-slave communication) — DPV1 No Transfer memory — Inputs 244 byte — Outputs 244 byte Communication functions PG/OP communication Pata record routing Yes Global data communication • supported Yes • Number of GD loops, max. • Number of GD packets, max. • Number of GD packets, transmitter, max. • Number of GD packets, receiver, max. • Size of GD packet, max. • Size of GD packet (of which consistent), max. • Size of GD packet (of which consistent), max. 22 byte	Global data communication	
- S7 communication, as client - S7 communication, as server - Direct data exchange (slave-to-slave communication) - DPV1 No Transfer memory - Inputs - Outputs 244 byte - Outputs Communication functions PG/OP communication Pata record routing Global data communication • supported • Number of GD loops, max. • Number of GD packets, max. • Number of GD packets, receiver, max. • Size of GD packets, max. • Size of GD packet (of which consistent), max. • Size of GD packet (of which consistent), max.	 S7 basic communication 	No
- S7 communication, as client - S7 communication, as server - Direct data exchange (slave-to-slave communication) - DPV1 No Transfer memory - Inputs - Outputs 244 byte - Outputs Communication functions PG/OP communication Pata record routing Global data communication • supported • Number of GD loops, max. • Number of GD packets, max. • Number of GD packets, receiver, max. • Size of GD packets, max. • Size of GD packet (of which consistent), max. • Size of GD packet (of which consistent), max.	— S7 communication	Yes
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— Direct data exchange (slave-to-slave communication) — DPV1 No Transfer memory — Inputs 244 byte — Outputs 244 byte Communication functions PG/OP communication Yes Data record routing Yes Global data communication • supported Yes • Number of GD loops, max. • Number of GD packets, max. • Number of GD packets, transmitter, max. • Number of GD packets, receiver, max. • Size of GD packets, max. • Size of GD packet (of which consistent), max. 244 byte 244 byte 245 byte		Yes
communication) — DPV1 No Transfer memory — Inputs 244 byte — Outputs 244 byte Communication functions PG/OP communication Yes Data record routing Yes Global data communication • supported Yes • Number of GD loops, max. • Number of GD packets, max. • Number of GD packets, transmitter, max. • Number of GD packets, receiver, max. • Size of GD packets, max. • Size of GD packet (of which consistent), max. 22 byte		
Transfer memory — Inputs — Outputs 244 byte Communication functions PG/OP communication Pata record routing Yes Global data communication • supported • Number of GD loops, max. • Number of GD packets, max. • Number of GD packets, transmitter, max. • Number of GD packets, receiver, max. • Size of GD packets, max. • Size of GD packet (of which consistent), max. 244 byte 244 byte Yes Yes 8 8 8 8 8 8 8 8 8 8 8 8		
- Inputs - Outputs 244 byte Communication functions PG/OP communication Pata record routing Global data communication • supported • Number of GD loops, max. • Number of GD packets, max. • Number of GD packets, transmitter, max. • Number of GD packets, receiver, max. • Size of GD packets, max. • Size of GD packet (of which consistent), max. 244 byte 244 byte 244 byte Yes 8 8 8 8 8 8 8 8 8 8 8 8 8	— DPV1	No
- Outputs Communication functions PG/OP communication Yes Data record routing Global data communication • supported • Number of GD loops, max. • Number of GD packets, max. • Number of GD packets, transmitter, max. • Number of GD packets, receiver, max. • Size of GD packets, max. • Size of GD packet (of which consistent), max. 22 byte	Transfer memory	
Communication functions PG/OP communication Pes Data record routing Global data communication • supported • Number of GD loops, max. • Number of GD packets, max. • Number of GD packets, transmitter, max. • Number of GD packets, receiver, max. • Size of GD packets, max. • Size of GD packet (of which consistent), max. Yes Yes 8 8 8 8 8 9 9 9 9 9 9 9 9	— Inputs	244 byte
PG/OP communication Data record routing Global data communication • supported • Number of GD loops, max. • Number of GD packets, max. • Number of GD packets, transmitter, max. • Number of GD packets, receiver, max. • Size of GD packets, max. • Size of GD packet (of which consistent), max. Yes Yes 8 8 • Number of GD loops, max. 8 • Number of GD packets, receiver, max. 22 byte	— Outputs	244 byte
Data record routing Global data communication supported Number of GD loops, max. Number of GD packets, max. Number of GD packets, transmitter, max. Number of GD packets, receiver, max. Size of GD packets, max. Size of GD packet (of which consistent), max. Size of GD packet (of which consistent), max.	Communication functions	
Global data communication • supported • Number of GD loops, max. • Number of GD packets, max. • Number of GD packets, transmitter, max. • Number of GD packets, receiver, max. • Number of GD packets, receiver, max. • Size of GD packets, max. • Size of GD packet (of which consistent), max. 22 byte	PG/OP communication	Yes
 supported Number of GD loops, max. Number of GD packets, max. Number of GD packets, transmitter, max. Number of GD packets, receiver, max. Size of GD packets, max. Size of GD packet (of which consistent), max. 	Data record routing	Yes
 Number of GD loops, max. Number of GD packets, max. Number of GD packets, transmitter, max. Number of GD packets, receiver, max. Size of GD packets, max. Size of GD packet (of which consistent), max. 22 byte 	Global data communication	
 Number of GD packets, max. Number of GD packets, transmitter, max. Number of GD packets, receiver, max. Size of GD packets, max. Size of GD packet (of which consistent), max. 22 byte 	• supported	Yes
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 Number of GD packets, transmitter, max. Number of GD packets, receiver, max. Size of GD packets, max. Size of GD packet (of which consistent), max. 22 byte 		8
 Number of GD packets, receiver, max. Size of GD packets, max. Size of GD packet (of which consistent), max. 22 byte 22 byte 		8
 Size of GD packets, max. Size of GD packet (of which consistent), max. 22 byte 22 byte 		
• Size of GD packet (of which consistent), max. 22 byte		
S7 basic communication	S7 basic communication	

average de	V
• 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 CP and loadable FB
User data per job, max.	180 byte; With PUT/GET
 User data per job (of which consistent), max. 	240 byte; as server
S5 compatible communication	
• supported	Yes; via CP and loadable FC
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	12
reserved for S7 basic communication	0
adjustable for S7 basic communication, min.	0
adjustable for S7 basic communication, max.	12
	12
S7 message functions	40. Daniel die auch en
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	<u>, </u>
Status block	Yes; Up to 2 simultaneously
Single step	Yes
Number of breakpoints	4
Status/control	
 Status/control variable 	Yes
Variables	Inputs, outputs, memory bits, DB, times, counters
 Number of variables, max. 	30
of which status variables, max.	30
— of which control variables, max.	14
Forcing	
Forcing	Yes
 Forcing, variables 	Inputs, outputs
Number of variables, max.	10
Diagnostic buffer	
• present	Yes
 Number of entries, max. 	500
— adjustable	No
— of which powerfail-proof	100; Only the last 100 entries are retained
 Number of entries readable in RUN, max. 	
— adjustable	Yes; From 10 to 499
— preset	10
Standards, approvals, certificates	
CE mark	Yes
UL approval	Yes; File E239877
RCM (formerly C-TICK)	Yes
KC approval	Yes
· ·	

EAC (formerly Gost-R)	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	
Configuration software	
• STEP 7	Yes; V5.2 SP1 or higher with HW update
Programming	
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	

Dimensions	
Width	40 mm
Height	125 mm
Depth	130 mm
Weights	
Weight, approx.	290 g

last modified: 3/25/2021 🖸