SIEMENS

Data sheet

6ES7312-1AE13-0AB0

Spare part SIMATIC S7-300, CPU 312 Central processing unit with MPI, Integr. power supply 24 V DC, Work memory 32 KB, Micro Memory Card required



Figure similar

General information	
HW functional status	01
Firmware version	V2.6
Engineering with	
 Programming package 	STEP 7 V5.2 + SP1 or higher with HW update
Supply voltage	
Rated value (DC)	
• 24 V DC	Yes
permissible range, lower limit (DC)	20.4 V
permissible range, upper limit (DC)	28.8 V
external protection for power supply lines	2 A min.
(recommendation)	
Input current	
Current consumption (rated value)	0.6 A
Current consumption (in no-load operation), typ.	60 mA
Inrush current, typ.	2.5 A
l²t	0.5 A ² ·s

Power loss	
Power loss, typ.	2.5 W
lemory	
Work memory	
• integrated	32 kbyte; For program and data
• expandable	No
Load memory	
Plug-in (MMC)	Yes
 Plug-in (MMC), max. 	4 Mbyte
 Data management on MMC (after last 	10 у
programming), min.	
Backup	
● present	Yes; Guaranteed by MMC (maintenance-free)
• without battery	Yes; Program and data
CPU processing times	
for bit operations, typ.	0.2 µs
for word operations, typ.	0.4 µs
for fixed point arithmetic, typ.	5 µs
for floating point arithmetic, typ.	6 µs
CPU-blocks	
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.	511; Number range: 1 to 511
• Size, max.	16 kbyte
FB	
• Number, max.	1 024; Number range: 0 to 2047
• Size, max.	16 kbyte
FC	
 Number, max. 	1 024; Number range: 0 to 2047
• Size, max.	16 kbyte
OB	
• Size, max.	16 kbyte
Number of free cycle OBs	1; OB 1
 Number of time alarm OBs 	1; OB 10
 Number of delay alarm OBs 	1; OB 20
 Number of cyclic interrupt OBs 	1; OB 35
 Number of process alarm OBs 	1; OB 40
 Number of startup OBs 	1; OB 100
 Number of asynchronous error OBs 	4; OB 80, 82, 85, 87
• Number of asynchronous error ODs	

Nesting depth	
• per priority class	8
 additional within an error OB 	4
Counters, timers and their retentivity	
S7 counter	
• Number	128
Retentivity	
— adjustable	Yes
— lower limit	0
— upper limit	127
— preset	8
Counting range	
— can be set	Yes
— lower limit	0
— upper limit	999
IEC counter	
Number	Unlimited (limited only by RAM capacity)
S7 times	
Number	128
Retentivity	
— adjustable	Yes
— lower limit	0
— upper limit	127
— preset	No retentivity
Time range	
— lower limit	10 ms
— upper limit	9 990 s
IEC timer	N.
• present	Yes
• Type	SFB
Number	Unlimited (limited only by RAM capacity)
Data areas and their retentivity	
retentive data area in total	All (incl. memory bits, times, counters)
Flag	
• Number, max.	128 byte
Retentivity available	Yes; MB 0 to MB 127
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
Retentivity preset	Yes

Local data	
• per priority class, max.	256 byte
Address area	
I/O address area	
Inputs	1 kbyte
Outputs	1 kbyte
Process image	
Inputs	128 byte
Outputs	128 byte
Digital channels	
Inputs	256
— of which central	256
Outputs	256
— of which central	256
Analog channels	
Inputs	64
— of which central	64
Outputs	64
— of which central	64
Hardware configuration	
Hardware configuration Number of expansion units, max.	0
Number of DP masters	
integrated	0
● via CP	4
Number of operable FMs and CPs (recommended)	
• FM	8
• CP, PtP	8
● CP, LAN	4
Rack	
• Racks, max.	1
 Modules per rack, max. 	8
Time of day	
Clock	
Software clock	Yes
 retentive and synchronizable 	No
 Deviation per day, max. 	15 s
Operating hours counter	
Number	1
 Number/Number range 	0
Range of values	0 to 2^31 hours (when using SFC 101)
• retentive	Yes; Must be restarted at each restart

Clock synchronization	
• supported	Yes
• to MPI, master	Yes
● to MPI, slave	Yes
• to DP, master	No
• to DP, slave	No
• in AS, master	Yes
● in AS, slave	No
 on Ethernet via NTP 	No
Digital inputs	
integrated channels (DI)	0
Digital outputs	
integrated channels (DO)	0
Analog inputs integrated channels (AI)	0
	0
Analog outputs	
integrated channels (AO)	0
Interfaces	
Number of industrial Ethernet interfaces	0
Number of PROFINET interfaces	0
Number of RS 485 interfaces	1
Number of RS 422 interfaces	0
1. Interface	
Interface type	Integrated RS 485 interface
Physics	RS 485
Isolated	No
Power supply to interface (15 to 30 V DC), max.	200 mA
Functionality	
● MPI	Yes
PROFIBUS DP master	No
PROFIBUS DP slave	No
Point-to-point connection	No
MPI	
Number of connections	6
 Transmission rate, max. 	187.5 kbit/s
Services	
— PG/OP communication	Yes
— Routing	No
— Global data communication	Yes
— S7 basic communication	Yes

	— S7 communication	Yes
Communication functions Yes FG/OP communication Yes Supported Yes • Number of GD loops, max. 4 • Number of GD packets, transmitter, max. 4 • Number of GD packets, receiver, max. 4 • Size of GD packets, receiver, max. 4 • Size of GD packets, receiver, max. 22 byte • Size of GD packet (of which consistent), max. 22 byte Size of GD packet (of which consistent), max. 76 byte • User data per job, max. 76 byte • User data per job (of which consistent), max. 76 byte • User data per job, max. 6 byte • use of an ported Yes • as client Yes (Va CP and loadable FB · User data per job (of which consistent), max. 64 byte • usable for PG communication 5 • overall 6 • usable for PG communication, min. 1	- S7 communication, as client	No
Communication Yes Global data communication Yes • Number of GD loops, max. 4 • Number of GD packets, max. 4 • Number of GD packets, transmitter, max. 4 • Number of GD packets, transmitter, max. 4 • Number of GD packets, transmitter, max. 4 • Number of GD packets, receiver, max. 4 • Size of GD packets, receiver, max. 22 byte • Size of GD packets, max. 22 byte • Size of GD packets, max. 22 byte • Size of GD packets, 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_SEND or	— S7 communication, as server	Yes
PG/OP communication Yes Global data communication • • supported Yes • Number of GD packets, max. 4 • Number of GD packets, transmitter, max. 4 • Number of GD packets, receiver, max. 4 • Size of GD packets, receiver, max. 4 • Size of GD packets, receiver, max. 2 • Size of GD packet (of which consistent), max. 22 byte S7 basic communication 76 byte • User data per job, max. 76 byte • User data per job (of which consistent), max. 76 byte • User data per job (of which consistent), max. 76 byte • User data per job (of which consistent), max. 76 byte • User data per job, max. 180 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server) S7 communication 9 • use otilat per job (of which consistent), max. 64 byte S8 compatible communication 1 • user data per job (of which consistent), max. 64 byte S8 compatible communication 5 • usable for PG communication 1 - reserved for PG communication 1 - adjustable for P		
Global data communication Yes • supported Yes • Number of GD pockets, max. 4 • Number of GD packets, transmitter, max. 4 • Number of GD packets, receiver, max. 4 • Size of GD packets, receiver, max. 4 • Size of GD packets, max. 22 byte • Size of GD packets, max. 22 byte • Size of GD packets, max. 22 byte • User data per job, max. 76 byte; 76 bytes (with X_SEND or X_RCV); 64 byte (with X		Yes
• supported Yes • Number of GD loops, max. 4 • Number of GD packets, max. 4 • Number of GD packets, transmitter, max. 4 • Number of GD packets, transmitter, max. 4 • Number of GD packets, transmitter, max. 4 • Size of GD packets, receiver, max. 22 byte • Size of GD packets, max. 22 byte • Size of GD packets, max. 22 byte • Sypported 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); 84 bytes (with X_PUT or X_GET as server) • Supported Yes • as server Yes • as server Yes • as client Yes; Via CP and loadable FB • User data per job (of which consistent), max. 64 byte St compatible communication 6 • supported Yes; via CP and loadable FC Number of Connections 6 • supported Yes; via CP and loadable FC Number of PG communication 1 - adjustable for PG communication		
 Number of GD loops, max. Number of GD packets, max. Number of GD packets, transmitter, max. Number of GD packets, transmitter, max. Size of GD packets, receiver, max. Size of GD packets, receiver, 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), max. Supported Ves User data per job, max. To byte: 76 bytes (with X_SEND or X_RCV): 64 bytes (with X_SEND		Yes
Number of GD packets, max.4Number of GD packets, transmitter, max.4Number of GD packets, receiver, max.22 byteSize of GD packets, max.22 byteSize of GD packet (of which consistent), max.22 byteSize of GD packet (of which consistent), max.76 byteSupportedYesUser data per job, max.76 bytes (with X SEND or X RCV); 64 bytes (with X SEND or X RCV); 64 bytes (with X SEND o		4
• Number of GD packets, transmitter, max.4• Number of GD packets, receiver, max.22 byte• Size of GD packets, max.22 byte• Size of GD packet (of which consistent), max.22 byte S7 basic communication 76 byte• User data per job (of which consistent), max.76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes		4
• Number of GD packets, receiver, max.4• Size of GD packets, max.22 byte• Size of GD packet (of which consistent), max.22 byte STbaic communicationYes • User data per job, max.76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_DENT or X_GET as server) STommunicationYes • supportedYes• supportedYes• as serverYes• supportedYes• supportedYes• supportedYes• supportedYes• supportedYes• supportedYes• supportedYes• supportedYes• User data per job (of which consistent), max.64 byte• User data per job (of which consistent), max.64 byte• User data per job (of which consistent), max.64 byte• User data per job (of which consistent), max.64 byte• usable for PG communication5• overall6• overall6• overall6• overall5• overall5• overall5• adjustable for PG communication, min.1- adjustable for PG communication, min.1- adjustable for OP communication, min.1- adjustable for OP communication, min.5- reserved for S7 basic communication, min.1- adjustable for S7 basic communication, min.1- adjustable for S7 basic communication, min.1- neserved for S7 basic communication, min. <td></td> <td>4</td>		4
• Size of GD packets, max.22 byte• Size of GD packet (of which consistent), max.22 byte S7 basic communication 76 byte• User data per job, max.76 byte; 76 bytes (with X_SEND or X_RCV); 64 bytes (with X_PUT or X_GET as server) S7 communication Yes• supportedYes• supportedYes• supportedYes• as serverYes• as clientYes; Via CP and loadable FB• User data per job (of which consistent), max.80 byte; With PUT/GET• user data per job (of which consistent), max.64 byte• User data per job (of which consistent), max.64 byte• User data per job (of which consistent), max.64 byte• user data per job (of which consistent), max.64 byte• user data per job (of which consistent), max.64 byte• useble for PG communication5• overall6• usable for PG communication, min.1- adjustable for PG communication, min.1- adjustable for PG communication, min.5• usable for OP communication, min.5- adjustable for OP communication, min.5- adjustable for OP communication, min.1- adjustable for ST basic communication2- reserved for ST basic communication, min.6- adjustable for ST basic communication, min.1- adjustable for ST basic communication, min.1- adjustable for ST basic communication, min.1- adjustable for ST basic communication, min.5-		4
S7 basic communication 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 Yes • upported Yes • sa 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. 64 byte S5 compatible communication 5 • usable for PG communication 5 • usable for PG communication 1 - adjustable for PG communication 5 - reserved for PG communication 5 - reserved for OP communication 1 - adjustable for OP communication 5 - reserved for OP communication 1 - adjustable for OP communication 1 - adjustable for S7 basic communication 2 - reserved for S7 basic communication 0 - adjustable for S7 basic communication 2 - adjustable for S7 basic communication 0 - reserved for S7 basic communication, min. 2		22 byte
• 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. 64 byte • User data per job (of which consistent), max. 64 byte S5 compatible communication 6 • supported Yes; via CP and loadable FC Number of connections * • overall 6 • overall 6 • overall 6 • usable for PG communication 1 - adjustable for PG communication, min. 1 - adjustable for PG communication, min. 1 - adjustable for OP communication, min. 1 - adjustable for S7 basic communication 2 • usable for S7 basic communication, min. 2 </td <td> Size of GD packet (of which consistent), max. </td> <td>22 byte</td>	 Size of GD packet (of which consistent), max. 	22 byte
• 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 client Yes; Via CP and loadable FB • User data per job, max. 64 byte • User data per job (of which consistent), max. 64 byte S5 compatible communication 64 byte • user data per job (of which consistent), max. 64 byte • user data per job (of which consistent), max. 61 byte; via CP and loadable FC Number of connections * • overall 6 • overall 6 • usable for PG communication 1 - adjustable for PG communication, min. 1 - adjustable for PG communication, max. 5 • usable for OP communication 1 - adjustable for OP communication 1 - adjustable for OP communication, min. 1 - adjustable for OP communication, max. 5 • usable for S7 basic communication 2 - reserved for S7 basic communication, min. 1 - reserved for S7 basic communicati	S7 basic communication	
• 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 Yes • 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. 64 byte S5 compatible communication 64 byte S5 compatible communication 5 • overall 6 • usable for PG communication 1 • usable for PG communication, min. 1 - adjustable for PG communication, min. 1 - adjustable for PG communication, max. 5 • usable for OP communication, min. 1 - reserved for OP communication, max. 5 • usable for OP communication, max. 5 • usable for OP communication, max. 5 • usable for S7 basic communication 1 - reserved for S7 basic communication 2 - reserved for S7 basic communication, min. 1 - adjustable for S7 basic communication 0 - reserved for S7 basic communication, min. <	• supported	Yes
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. 64 byte S5 compatible communication 64 byte vuser of connections 6 • overall 6 • usable for PG communication 1 - reserved for PG communication 1 - adjustable for PG communication, min. 1 - adjustable for PG communication, min. 5 - reserved for CP communication, min. 5 - reserved for CP communication, min. 1 - adjustable for S7 basic communication 2 - reserved for S7 basic communication 0 - adjustable for S7 basic communication, min. 2	• User data per job, max.	76 byte
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. 64 byte S5 compatible communication 6 • supported Yes; via CP and loadable FC Number of connections 6 • overall 6 • usable for PG communication 1 - reserved for PG communication 1 - adjustable for PG communication, min. 1 - adjustable for PG communication, max. 5 • usable for OP communication 5 - reserved for OP communication 1 - adjustable for S7 basic communication 2 - reserved for S7 basic communication 0 - reserved for S7 basic communication 0 - adjustable for S7 basic communication, min. - - adjustable for S7 basic communication, min. - - adjustable	 User data per job (of which consistent), max. 	
• 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. 64 byte S5 compatible communication 64 byte • supported Yes; via CP and loadable FC Number of connections 6 • overall 6 • overall 6 • usable for PG communication 1 - reserved for PG communication, min. 1 - adjustable for PG communication, max. 5 • usable for OP communication 5 - reserved for OP communication, max. 5 • usable for OP communication 1 - adjustable for OP communication 1 - adjustable for OP communication, min. 1 - adjustable for OP communication, max. 5 • usable for S7 basic communication 2 - reserved for S7 basic communication 0 - adjustable for S7 basic communication 0 - adjustable for S7 basic communication, min. - - adjustable for S7 basic communication, min. -		X_PUT or X_GET as server)
case serverYes• as serverYes; Via CP and loadable FB• User data per job, max.180 byte; With PUT/GET• User data per job (of which consistent), max.64 byteS5 compatible communication• supportedYes; via CP and loadable FCNumber of connections• overall6• usable for PG communication1- reserved for PG communication, min.1- adjustable for PG communication, max.5• usable for OP communication, max.5• usable for OP communication, max.5• usable for OP communication, min.1- adjustable for OP communication, max.5• usable for OP communication, min.1- adjustable for S7 basic communication, min.5• usable for S7 basic communication0- reserved for S7 basic communication0- adjustable for S7 basic communication0- adjustable for S7 basic communication, min ad		
Local CalYes; Via CP and loadable FB• User data per job, max.180 byte; With PUT/GET• User data per job (of which consistent), max.64 byteS5 compatible communication• supportedYes; via CP and loadable FCNumber of connections• overall6• usable for PG communication5- reserved for PG communication, min.1- adjustable for PG communication, min.1- adjustable for PG communication, max.5• usable for OP communication5- reserved for OP communication, min.1- adjustable for OP communication, max.5• usable for OP communication, min.1- adjustable for S7 basic communication, max.5• usable for S7 basic communication0- reserved for S7 basic communication0- adjustable for S7 basic communication0- adjustable for S7 basic communication, min.2- adjustable for S7 basic communication, min. </td <td></td> <td></td>		
• User data per job, max.180 byte; With PUT/GET• User data per job (of which consistent), max.64 byteS5 compatible communicationYes; via CP and loadable FC• supported6• overall6• overall5- reserved for PG communication1- adjustable for PG communication, min.1- adjustable for PG communication, max.5• usable for OP communication, max.5- reserved for OP communication, min.1- adjustable for OP communication, max.5• usable for OP communication, min.1- adjustable for OP communication, min.1- reserved for OP communication, min.1- adjustable for OP communication, min.1- adjustable for OP communication, min.1- adjustable for S7 basic communication, max.5• usable for S7 basic communication, max.5- reserved for S7 basic communication, max.5- reserved for S7 basic communication, max.5- adjustable for S7 basic communication, max.5- adjustable for S7 basic communication, max.5- adjustable for S7 basic communication, min.0- adjustable for S7 basic communication, min.1- adjustable for S7 bas		
• User data per job (of which consistent), max. 64 byte S5 compatible communication Yes; via CP and loadable FC • supported Ves; via CP and loadable FC Number of connections 6 • overall 6 • usable for PG communication 5 - reserved for PG communication, min. 1 - adjustable for PG communication, max. 5 • usable for OP communication, max. 5 - reserved for OP communication, min. 1 - adjustable for OP communication, max. 5 • usable for OP communication, min. 1 - reserved for OP communication, min. 1 - adjustable for OP communication, max. 5 • usable for OP communication, max. 5 • usable for S7 basic communication, max. 5 • usable for S7 basic communication 2 - reserved for S7 basic communication 0 - reserved for S7 basic communication, min. 1 - adjustable for S7 basic communication, min. 1 - reserved for S7 basic communication, min. 1 - reserved for S7 basic communication, min. 1 - adjustable for S7 basic communication, min. <td></td> <td></td>		
S5 compatible communication Yes; via CP and loadable FC Number of connections 6 • overall 6 • usable for PG communication 1 - reserved for PG communication, min. 1 - adjustable for PG communication, min. 1 - adjustable for PG communication, max. 5 • usable for OP communication 5 - reserved for OP communication 1 - adjustable for OP communication, max. 5 • usable for OP communication, min. 1 - reserved for OP communication, min. 1 - adjustable for OP communication, max. 5 • usable for OP communication, max. 5 • usable for S7 basic communication, max. 5 • usable for S7 basic communication 2 - reserved for S7 basic communication, max. 5 • usable for S7 basic communication 0 - reserved for S7 basic communication, min. 1 - adjustable for S7 basic communication, min. 1 - adjustable for S7 basic communication, min. 2 - adjustable for S7 basic communication, min. 1 - adjustable for S7 basic communication, min. 2		
• supportedYes; via CP and loadable FCNumber of connections6• overall6• usable for PG communication5- reserved for PG communication1- adjustable for PG communication, min.1- adjustable for PG communication, max.5• usable for OP communication1- reserved for OP communication5- reserved for OP communication1- adjustable for OP communication1- adjustable for OP communication, min.1- adjustable for OP communication, min.5- reserved for S7 basic communication, max.5• usable for S7 basic communication0- reserved for S7 basic communication, min.0- adjustable for S7 basic communication, min.2- adjustable for S7 basic commun		64 byte
Number of connections • overall 6 • usable for PG communication 5 - reserved for PG communication 1 - adjustable for PG communication, min. 1 - adjustable for PG communication, max. 5 • usable for OP communication, max. 5 • usable for OP communication, max. 5 • usable for OP communication 1 - adjustable for OP communication, max. 5 • usable for OP communication, min. 1 - adjustable for OP communication, min. 1 - adjustable for OP communication, max. 5 • usable for S7 basic communication 2 - reserved for S7 basic communication 0 - adjustable for S7 basic communication, min. 1 <		Vegevie CD and leadable EC
• overall6• usable for PG communication5- reserved for PG communication1- adjustable for PG communication, min.1- adjustable for PG communication, max.5• usable for OP communication5• usable for OP communication1- adjustable for OP communication, min.1- adjustable for OP communication5• usable for OP communication, min.1- adjustable for OP communication, min.5• usable for S7 basic communication, max.5• usable for S7 basic communication2- reserved for S7 basic communication0- adjustable for S7 basic communication, min.2- adjustable for S7 basic communication, min.3- adjustable for S7 basic communication, min.3- adjustable for S7 basic communication, min.4		Yes; via CP and loadable FC
• usable for PG communication5- reserved for PG communication1- adjustable for PG communication, min.1- adjustable for PG communication, max.5• usable for OP communication5- reserved for OP communication1- adjustable for OP communication, min.1- adjustable for OP communication, min.1- adjustable for OP communication, min.1- adjustable for OP communication, max.5• usable for S7 basic communication, max.5- reserved for S7 basic communication2- reserved for S7 basic communication, min.0- adjustable for S7 basic communication, min.2- adjustable for S7 basic communication, min.2- adjustable for S7 basic communication, min.2		6
- reserved for PG communication1- adjustable for PG communication, min.1- adjustable for PG communication, max.5• usable for OP communication5- reserved for OP communication1- adjustable for OP communication, min.1- adjustable for OP communication, min.1- adjustable for OP communication, max.5• usable for OP communication, min.1- adjustable for OP communication, max.5• usable for S7 basic communication2- reserved for S7 basic communication0- adjustable for S7 basic communication, min.0- adjustable for S7 basic communication, min.2- adjustable for S7 basic communication, min.2		
- adjustable for PG communication, min.1- adjustable for PG communication, max.5• usable for OP communication5- reserved for OP communication1- adjustable for OP communication, min.1- adjustable for OP communication, max.5• usable for S7 basic communication2- reserved for S7 basic communication, min.0- adjustable for S7 basic communication, min.2- adjustable for S7 basic communication, min.2		
- adjustable for PG communication, max.5• usable for OP communication5- reserved for OP communication1- adjustable for OP communication, min.1- adjustable for OP communication, max.5• usable for S7 basic communication2- reserved for S7 basic communication,0- adjustable for S7 basic communication,0- adjustable for S7 basic communication,2- adjustable for S7 basic communication,2- adjustable for S7 basic communication,2		
• usable for OP communication5- reserved for OP communication1- adjustable for OP communication, min.1- adjustable for OP communication, max.5• usable for S7 basic communication2- reserved for S7 basic communication0- reserved for S7 basic communication, min.0- adjustable for S7 basic communication, min.2- adjustable for S7 basic communication0- adjustable for S7 basic communication, min.2- adjustable for S7 basic communication, min.2- adjustable for S7 basic communication, min.2		
- reserved for OP communication1- adjustable for OP communication, min.1- adjustable for OP communication, max.5• usable for S7 basic communication2- reserved for S7 basic communication0- adjustable for S7 basic communication, min.0- adjustable for S7 basic communication, min.2- adjustable for S7 basic communication, min.2- adjustable for S7 basic communication, min.2		
 adjustable for OP communication, min. adjustable for OP communication, max. usable for S7 basic communication reserved for S7 basic communication adjustable for S7 basic communication, min. adjustable for S7 basic communication, adjustable for S7 basic communication, adjustable for S7 basic communication, 2 		
- adjustable for OP communication, max.5• usable for S7 basic communication2- reserved for S7 basic communication0- adjustable for S7 basic communication, min.0- adjustable for S7 basic communication, min.2- adjustable for S7 basic communication, min.2		
 usable for S7 basic communication reserved for S7 basic communication adjustable for S7 basic communication, min. adjustable for S7 basic communication, 2 		
 reserved for S7 basic communication adjustable for S7 basic communication, min. adjustable for S7 basic communication, 2 		
 adjustable for S7 basic communication, min. adjustable for S7 basic communication, 2 		
min. — adjustable for S7 basic communication, 2		
 — adjustable for S7 basic communication, 2 		
		2
	max.	

S7 message functions	
Number of login stations for message functions, max.	6; Depending on the configured connections for PG/OP and S7 basic communication
Process diagnostic messages	Yes
simultaneously active Alarm-S blocks, max.	20
Test commissioning functions	
Status block	Yes
Single step	Yes
Number of breakpoints	2
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. 	100
— adjustable	No
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
— GRAPH	Yes
— HiGraph®	Yes
Know-how protection	
User program protection/password protection	Yes

Dimensions	
Width	40 mm
Height	125 mm
Depth	130 mm
Weights	
Weight, approx.	270 g
last modified:	04/19/2018