Data sheet

6ES7317-2AK14-0AB0



SIMATIC S7-300, CPU 317-2 DP, Central processing unit with 1 MB work memory, 1st interface MPI/DP 12 Mbit/s, 2nd interface DP master/slave Micro Memory Card required

eneral information	
Product type designation	CPU 317-2 DP
HW functional status	01
Firmware version	V3.3
Engineering with	
 Programming package 	STEP 7 as of V5.5 + SP1 or STEP 7 V5.2 + SP1 or higher with HSP 202
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)	2 A min.
Mains buffering	
Mains/voltage failure stored energy time	5 ms
Repeat rate, min.	1 s
nput current	
Current consumption (rated value)	870 mA
Current consumption (in no-load operation), typ.	120 mA
Inrush current, typ.	4 A
l²t	1 A²-s
Power loss	
Power loss, typ.	4.5 W
Memory	
Work memory	
• integrated	1 024 kbyte
• expandable	No
Load memory	
Plug-in (MMC)	Yes
Plug-in (MMC), max.	8 Mbyte
 Data management on MMC (after last programming), 	10 a
min.	
min. Backup	
	Yes; Guaranteed by MMC (maintenance-free)
Backup	Yes; Guaranteed by MMC (maintenance-free) Yes; Program and data
Backup • present	
Backup • present • without battery	
Backup • present • without battery CPU processing times	Yes; Program and data
Backup • present • without battery CPU processing times for bit operations, typ.	Yes; Program and data 0.025 μs
Present without battery CPU processing times for bit operations, typ. for word operations, typ.	Yes; Program and data 0.025 μs 0.03 μs
Present without battery CPU processing times for bit operations, typ. for word operations, typ. for fixed point arithmetic, typ.	Yes; Program and data 0.025 μs 0.03 μs 0.04 μs
Present without battery CPU processing times for bit operations, typ. for word operations, typ. for fixed point arithmetic, typ. for floating point arithmetic, typ.	Yes; Program and data 0.025 μs 0.03 μs 0.04 μs

	reduced by the MMC used.
DB	
• Number, max.	2 048; Number range: 1 to 16000
• Size, max.	64 kbyte
FB	
Number, max.	2 048; Number range: 0 to 7999
• Size, max.	64 kbyte
FC	
• Number, max.	2 048; 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 process alarm OBs	1; OB 40
Number of DPV1 alarm OBs	3; OB 55, 56, 57
Number of isochronous mode OBs	1; OB 61
Number of startup OBs	1; OB 100
Number of asynchronous error OBs	5; OB 80, 82, 85, 86, 87
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	
S7 counter	
Number	512
Retentivity	
— adjustable	Yes
— preset	Z 0 to Z 7
Counting range	
— lower limit	0
— upper limit	999
IEC counter	
• present	Yes
• Type	SFB
• Number	Unlimited (limited only by RAM capacity)
S7 times	F40
• Number	512
Retentivity	V
— adjustable	Yes
— preset	No retentivity
Time range	10 ma
— lower limit	10 ms
— upper limit	9 990 s
IEC timer	Von
• present	Yes
• Type	SFB Unlimited /limited only by PAM congoity)
Number Data areas and their retentivity	Unlimited (limited only by RAM capacity)
Data areas and their retentivity	OEC librate
Retentive data area (incl. timers, counters, flags), max.	256 kbyte
Flag	4.006 huto
Size, max. Patrothility available.	4 096 byte
Retentivity available	Yes; From MB 0 to MB 4 095
Retentivity preset	MB 0 to MB 15
Number of clock memories	8; 1 memory byte
Data blocks	Vi
Retentivity adjustable Retentivity preset	Yes; via non-retain property on DB Yes

Local data	
per priority class, max.	32 768 byte; Max. 2048 bytes per block
Address area	
I/O address area	
• Inputs	8 192 byte
Outputs	8 192 byte
of which distributed	
— Inputs	8 192 byte
— Outputs	8 192 byte
Process image	
• Inputs	8 192 byte
Outputs	8 192 byte
Inputs, adjustable	8 192 byte
Outputs, adjustable	8 192 byte
Inputs, default	256 byte
Outputs, default	256 byte
Subprocess images	200 byte
Number of subprocess images, max.	1
Digital channels	·
	65 536
Inputs of which control	65 536 1 024
— of which central	
Outputs	65 536
— of which central	1 024
Analog channels	
• Inputs	4 096
— of which central	256
Outputs	4 096
— of which central	256
Hardware configuration	
Number of expansion units, max.	3
Number of DP masters	
• integrated	2
• 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 Operating house counter.	the clock continues at the time of day it had when power was switched off
Operating hours counter	4
Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Number Numbe	4
Number/Number range	0 to 3
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
• on MPI, device	Yes
• to DP, master	Yes; With DP slave only slave clock
- to 21 , master	

# In AS, note Yes Yes Yes Yes Yes Yes The member visit NTP No No The member visit NTP No No The member visit NTP No The member visit NTP No The member visit NTP The membe	a in AC montor	Von
Number of digital inputs Number of pidal aduptis Number of pidal aduptis Number of pidal aduptis Number of PICPINET interfaces Number of RS 488 interfaces 1 interfaces Interface byee	• in AS, master	Yes
Nomber of digital inputs Number of digital inputs Number of digital inputs Number of digital outputs Number of analog inputs Number of Assign inputs Number of RASS interfaces No RASS i		
Number of digital injusts Number of range injusts Number of analog injusts O Number of RS 485 Interfaces Number of RS 485 Interfaces Number of RS 485 Interfaces O Number of RS 485 Interfaces Interface types Interface bypes Interface		NO
Digital cutoritis Number of digital outputs Number of PROFINET interfaces Number of PROFINET interfaces Number of RS 458 interfaces 10 Combined MP / PROFIBUS DP and PROFIBUS DP Number of RS 458 interfaces 11 Interface Number of RS 458 interfaces 12 Combined MP / PROFIBUS DP and PROFIBUS DP Number of RS 458 interfaces 12 Combined MP / PROFIBUS DP and PROFIBUS DP Number of RS 458 interfaces 12 Number of RS 458 interfaces 13 Number of RS 458 interfaces 14 Number of RS 458 interfaces 15 Number of RS 458 interfaces 16 Number of RS 458 interfaces 17 Number of RS 458 interfaces 18 Number of RS 458 interfaces 19 Number of RS 458 interfaces 10 Number of RS 458 interfaces 11 Number of RS 458 interfaces 12 Number of RS 458 interfaces 15 Number		0
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Number of PROFINET Interfaces Number of RS 458 interfaces Number of RS 458 interfaces Number of RS 458 interfaces Number of RS 452 interfaces Number of RS 458 interfaces Interface hype Interface		0
Number of PROFINET Interfaces Number of PROFINET Interfaces Number of RS 485 interfaces Number of RS 422 interfaces Number of RS 422 interfaces Number of RS 425 interfaces Number of RS 425 interfaces Interface Dysp		
Interfaces Number of PROFINET interfaces 0 Number of RS 455 interfaces 2 Combined MPI / PROFIBUS DP and PROFIBUS DP Number of RS 422 interfaces 0		0
Number of RS 485 interfaces 0		0
Number of RS 485 interfaces Number of RS 422 interfaces Interface type Interfac		0
Number of RS 422 interfaces Interface type		
Interface ype Interface ype Interface ype Interface ypes Interface		·
Interface type Interface type Interface types Interfac		
Interface types		Integrated RS 485 interface
RS 485	·	
RS 485 Output current of the interface, max. Protocols MPI PROFIBUS DP master PROFIEUS DP device Point-to-point connection No MPI Transmission rate, max. 12 Mbit/s Services PROFIBUS DP communication Rouling		
Output current of the interface, max. Protocols MPI PROFIBUS DP master PROFIBUS DP master PROFIBUS DP device Point-to-point connection No MPI Transmission rate, max. 12 Mbit/s Services PCIOP communication Routing Ro	* *	Yes
Proticuls MPI PROFIBUS DP master PROFIBUS DP device Point-Lo-point connection No MPI Transmission rate, max. Profided ada communication PS communication PS communication, as client PS rommunication, as server PROFIBUS DP master PROFIBUS DP master Profided ada communication Ps sommunication, as server PROFIBUS DP master PROFIDES DP		
PROFIBUS DP master PROFIBUS DP device Point-Lo-point connection MPI Transmission rate, max. 12 Mbit/s Services PG/OP communication Pgs PG-ST communication Pg Ves PS communication PG Ves PROFIBUS DP master PROFIBUS DP master PGOP communication PG Ves PG Ves PGOP Communication PG Ves P		
PROFIBUS DP device Point-to-point connection No MPI Transmission rate, max. 12 Mbit/s Services PG/OP communication Routing Routi	• MPI	Yes
Point-to-point connection MPI Transmission rate, max. Services PG/OP communication ST communication PG conductation PG consumination PG c	PROFIBUS DP master	Yes
MPI ● Transmission rate, max. 12 Mbit/s Services - PG/OP communication Yes — Routing Yes — Global data communication Yes — S7 basic communication Yes — S7 communication, as client No; but via CP and loadable FB — S7 communication, as server Yes PROFIBUS DP master 12 Mbit/s ● Transmission rate, max. 12 Mbit/s ● max. number of DP devices 124 Services 124 — PG/OP communication Yes — Routing Yes — PG/OP communication Yes — PG Global data communication No — S7 basic communication Yes; I blocks only — S7 communication, as client No — S7 communication, as client No — S7 communication, as server Yes — Equidistance Yes — Isochronous mode No — SYNC/FREEZE Yes — activation/deactivation of DP devices that can be activated/deactivated at the same time 8 — Direct data exchange (slave-to-slave communication) Yes	PROFIBUS DP device	Yes; A DP slave at both interfaces simultaneously is not possible
MPI ● Transmission rate, max. 12 Mbit/s Services - PG/OP communication Yes — Routing Yes — Global data communication Yes — S7 basic communication Yes — S7 communication, as client No; but via CP and loadable FB — S7 communication, as server Yes PROFIBUS DP master 12 Mbit/s ● Transmission rate, max. 12 Mbit/s ● max. number of DP devices 124 Services 124 — PG/OP communication Yes — Routing Yes — PG/OP communication Yes — PG Global data communication No — S7 basic communication Yes; I blocks only — S7 communication, as client No — S7 communication, as client No — S7 communication, as server Yes — Equidistance Yes — Isochronous mode No — SYNC/FREEZE Yes — activation/deactivation of DP devices that can be activated/deactivated at the same time 8 — Direct data exchange (slave-to-slave communication) Yes	Point-to-point connection	No
Services		
PG/OP communication Possible data communication, as client Possible data communication, as server PROFIBUS DP master ■ Transmission rate, max. 12 Mbit/s ■ max. number of DP devices 124 Services ■ PG/OP communication Possible data communication Possib	• Transmission rate, max.	12 Mbit/s
— Routing Yes — Global data communication Yes — S7 basic 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 — Routing Yes — Global data communication No — S7 basic communication Yes; I blocks only — S7 communication Yes; Only server, configured on one side — S7 communication, as client No — S7 communication, as server Yes — Equidistance Yes — Isochronous mode No — SYNC/FREEZE Yes — activation/deactivation of DP devices Yes — activation/deactivated at the same time Popul Address area — Inputs, max. 8 kbyte — Inputs, max. 8 kbyte — Inputs, max.	Services	
Global data communication - \$7 basic communication - \$7 communication, as client - \$7 communication, as server - \$7 communication - \$7 communication - \$7 communication - \$7 basic communication - \$7 basic communication - \$7 communication - \$7 communication - \$7 communication - \$7 communication, as server - \$8 communication, as server - \$9 communication, as server - \$1 basic communication - \$1 basic communication - \$2 communication, as server - \$3 communication, as server - \$4 communication - \$7 communication - \$7 communication - \$7 communication - \$2 communication	— PG/OP communication	Yes
	— Routing	Yes
	 Global data communication 	Yes
	 S7 basic communication 	Yes
PROFIBUS DP master ● Transmission rate, max. ● max. number of DP devices Services - PG/OP communication - Routing - Global data communication - S7 basic communication - S7 communication, as client - S7 communication, as server - Equidistance - Isochronous mode - SYNC/FREEZE - activation/deactivation of DP devices - max. number of DP devices that can be activated/deactivated at the same time - Direct data exchange (slave-to-slave communication) - DPV1 - DPV1 - Ves Address area - Inputs, max Outputs, max User data per DP device - Inputs, max Outputs, max.	— S7 communication	Yes; Only server, configured on one side
PROFIBUS DP master • Transmission rate, max. • max. number of DP devices 124 Services - PG/OP communication - Routing - Global data communication - S7 basic communication - S7 communication, as client - S7 communication, as client - S8 communication, as client - S9 communication of DP devices - Isochronous mode - S9 communication of DP devices - max. number of DP devices that can be activated/deactivated at the same time - Direct data exchange (slave-to-slave communication) - DPV1 - Yes Address area - Inputs, max Outputs, max Outputs, max User data per DP device - Inputs, max 244 byte - Unputs, max Outputs, max Outputs, max Outputs, max 244 byte	 S7 communication, as client 	No; but via CP and loadable FB
 Transmission rate, max. max. number of DP devices 5ervices — PG/OP communication — Routing — Global data communication — S7 basic communication — S7 communication — S7 communication — S7 communication, as client — S7 communication, as server — Equidistance — Equidistance — SYNC/FREEZE — activation/deactivation of DP devices — max. number of DP devices that can be activated/deactivated at the same time — Direct data exchange (slave-to-slave communication) — DPV1 Address area — Inputs, max. — Outputs, max. — Inputs, max. — Inputs, max. — Inputs, max. — Unputs, max. — Inputs, max. — Outputs, max. — Cutputs, max. — Late of DP device — Inputs, max. — Cutputs, max		Yes
■ max. number of DP devices Services - PG/OP communication		
Services - PG/OP communication Yes - Routing Yes - Global data communication No - S7 basic communication Yes; I blocks only - S7 communication Yes; Only server, configured on one side - S7 communication, as client No - S7 communication, as server Yes - Equidistance Yes - Isochronous mode No - SYNC/FREZE Yes - activation/deactivation of DP devices Yes - max. number of DP devices that can be activated/deactivated at the same time - Direct data exchange (slave-to-slave communication) - DPV1 Yes Address area - Inputs, max. 8 kbyte - User data per DP device - Inputs, max. 244 byte - Outputs, max. 244 byte - Outputs, max. 244 byte		
		124
Routing Yes Global data communication No S7 basic communication Yes; I blocks only S7 communication Yes; Only server, configured on one side S7 communication, as client No S7 communication, as server Yes Equidistance Yes Isochronous mode No SYNC/FREZE Yes activation/deactivation of DP devices Yes max. number of DP devices that can be activated/deactivated at the same time Direct data exchange (slave-to-slave communication) DPV1 Yes Address area Inputs, max. 8 kbyte Outputs, max. 8 kbyte Inputs, max. 244 byte Outputs, max. 244 byte		
Global data communication S7 basic communication S7 communication S7 communication S7 communication S7 communication S7 communication, as client S7 communication, as server S7 communication, as server Equidistance Isochronous mode SYNC/FREEZE Activation/deactivation of DP devices - activation/deactivation of DP devices - max. number of DP devices that can be activated/deactivated at the same time Direct data exchange (slave-to-slave communication) DPV1 Yes Address area Inputs, max. S kbyte Outputs, max. 1 liputs, max. S kbyte Liser data per DP device Inputs, max. 244 byte 244 byte		
S7 basic communication S7 communication S7 communication S7 communication, as client S7 communication, as server Equidistance Isochronous mode SYNC/FREEZE Activation/deactivation of DP devices Max. number of DP devices that can be activated/deactivated at the same time Direct data exchange (slave-to-slave communication) DPV1 Address area Inputs, max. Sk byte Isochronous mode No No Yes Yes Yes Yes S8	<u> </u>	
— S7 communication Yes; Only server, configured on one side — S7 communication, as client No — S7 communication, as server Yes — Equidistance Yes — Isochronous mode No — SYNC/FREZE Yes — activation/deactivation of DP devices Yes — max. number of DP devices that can be activated/deactivated at the same time — Direct data exchange (slave-to-slave communication) — DPV1 Yes Address area — Inputs, max. 8 kbyte User data per DP device — Inputs, max. 244 byte — Outputs, max. 244 byte		
- S7 communication, as client - S7 communication, as server - Equidistance - Isochronous mode - Isochronous mode - SYNC/FREEZE - activation/deactivation of DP devices - max. number of DP devices that can be activated/deactivated at the same time - Direct data exchange (slave-to-slave communication) - DPV1 - Yes Address area - Inputs, max Outputs, max Outputs, max User data per DP device - Inputs, max Outputs, max.		
- S7 communication, as server - Equidistance - Isochronous mode - Isochronous mode - SYNC/FREEZE - activation/deactivation of DP devices - max. number of DP devices that can be activated/deactivated at the same time - Direct data exchange (slave-to-slave communication) - DPV1 - Yes Address area - Inputs, max Outputs, max Outputs, max User data per DP device - Inputs, max Outputs, max.		
 Equidistance Isochronous mode SYNC/FREEZE Activation/deactivation of DP devices — activation/deactivation of DP devices — max. number of DP devices that can be activated/deactivated at the same time — Direct data exchange (slave-to-slave communication) — DPV1 Address area — Inputs, max. — Outputs, max. 8 kbyte User data per DP device — Inputs, max. — Inputs, max. — Outputs, max. — Outputs,	•	
Isochronous mode		
- SYNC/FREEZE - activation/deactivation of DP devices - max. number of DP devices that can be activated/deactivated at the same time - Direct data exchange (slave-to-slave communication) - DPV1 Yes Address area - Inputs, max Outputs, max Outputs, max. User data per DP device - Inputs, max Outputs, max.		
 — activation/deactivation of DP devices — max. number of DP devices that can be activated/deactivated at the same time — Direct data exchange (slave-to-slave communication) — DPV1 Address area — Inputs, max. — Outputs, max. User data per DP device — Inputs, max. — Outputs, max. — Outputs, max. — Outputs, max. — Outputs, max. — 244 byte — Outputs, max. — Outputs, max. — Outputs, max. — 244 byte 		
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 — Direct data exchange (slave-to-slave communication) — DPV1 Address area — Inputs, max. — Outputs, max. User data per DP device — Inputs, max. — Outputs, max. — Outputs, max. — Outputs, max. — 244 byte — Outputs, max. — 244 byte 	— max. number of DP devices that can be	
— DPV1 Yes Address area — Inputs, max. 8 kbyte — Outputs, max. 8 kbyte User data per DP device — Inputs, max. 244 byte — Outputs, max. 244 byte	— Direct data exchange (slave-to-slave	Yes; as subscriber
 — Inputs, max. — Outputs, max. User data per DP device — Inputs, max. — Outputs, max. — Outputs, max. 244 byte — Outputs, max. 244 byte 	•	Yes
 Outputs, max. User data per DP device Inputs, max. Outputs, max. 244 byte 244 byte 	Address area	
User data per DP device — Inputs, max. 244 byte — Outputs, max. 244 byte	— Inputs, max.	8 kbyte
— Inputs, max.— Outputs, max.244 byte244 byte	— Outputs, max.	8 kbyte
— Outputs, max. 244 byte	User data per DP device	
	— Inputs, max.	244 byte
1st interface / PROFIBUS DP device / header	— Outputs, max.	244 byte
	1st interface / PROFIBUS DP device / header	

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	
— PG/OP communication	Yes
— Routing	Yes; Only with active interface
 Global data communication 	No
 S7 basic communication 	No
— S7 communication	Yes; Only server, configured on one side
 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
Transfer memory	
— Inputs	244 byte
— Outputs	244 byte
2. Interface	
Interface type	Integrated RS 485 interface
Isolated	Yes
Interface types	
• RS 485	Yes
Output current of the interface, max.	200 mA
Protocols	
● MPI	No
 PROFIBUS DP master 	Yes
 PROFIBUS DP device 	Yes; A DP slave at both interfaces simultaneously is not possible
Point-to-point connection	No
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	Yes; I blocks only
— S7 communication	Yes; Only server, configured on one side
 — S7 communication, as client 	No; but via CP and loadable FB
 S7 communication, as server 	Yes
— Equidistance	Yes
— Isochronous mode	Yes; OB 61
— 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.	8 192 byte
— Outputs, max.	8 192 byte
User data per DP device	
— Inputs, max.	244 byte
— Outputs, max.	244 byte
2nd interface / PROFIBUS DP device / header	
• GSD file	The latest GSD file is available on the Internet
	(http://www.siemens.com/profibus-gsd)
Transmission rate, max.	(http://www.siemens.com/profibus-gsd) 12 Mbit/s
Transmission rate, max.automatic baud rate search	· · ·
	12 Mbit/s

0	
Services	Von
— PG/OP communication	Yes
— Routing	Yes; Only with active interface
Global data communication	No
 S7 basic communication 	No
— S7 communication	Yes; Only server, configured on one side
 S7 communication, as client 	No; but via CP and loadable FB
 S7 communication, as server 	Yes
 Direct data exchange (slave-to-slave communication) 	Yes
— DPV1	No
Transfer memory	
— Inputs	244 byte
— Outputs	244 byte
Protocols	
PROFIsafe	No
communication functions / header	
PG/OP communication	Yes
Data record routing	Yes
Global data communication	
• supported	Yes
Number of GD loops, max.	8
Number of GD packets, max.	8
Number of GD packets, transmitter, max.	8
Number of GD packets, receiver, max.	8
Size of GD packets, max.	22 byte
Size of GD packets, max. Size of GD packet (of which consistent), max.	22 byte
S7 basic communication	22 byte
	Yes
• supported	
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.	See online help of STEP 7 (shared parameters of the SFBs/FBs and of the
- Cool data pol job, mail	SFCs/FCs of S7 Communication)
S5 compatible communication	
• supported	Yes; via CP and loadable FC
Number of connections	
overall	32
 usable for PG communication 	31
 reserved for PG communication 	1
 adjustable for PG communication, min. 	1
 adjustable for PG communication, max. 	31
usable for OP communication	31
 reserved for OP communication 	1
 adjustable for OP communication, min. 	1
adjustable for OP communication, max.	31
usable for S7 basic communication	30
reserved for S7 basic communication	0
adjustable for S7 basic communication, min.	0
adjustable for S7 basic communication, max.	30
usable for routing	X1 as a MPI, max. 10; X1 as DP Master max. 24; X1 as DP Slave (active) max.
- dadbic for fouring	14; X2 as DP Master max. 24; X2 as DP Slave (active) max. 14
S7 message functions	
Number of login stations for message functions, max.	32; Depending on the configured connections for PG/OP and S7 basic communication
Number of login stations for message functions, max. Process diagnostic messages	
	communication

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 status variables, max.	14
Forcing	17
	Yes
• Forcing	
Forcing, variables	Inputs, outputs
Number of variables, max. Diagraphic buffers	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. 	499
— adjustable	Yes; From 10 to 499
— preset	10
Service data	
• can be read out	Yes
Ambient conditions	
Ambient temperature during operation	
• min.	0 °C
• max.	60 °C
configuration / header	
Configuration software	
• STEP 7	Yes; STEP 7 V5.5 + SP1 or higher or STEP 7 V5.3 + SP2 or higher with HSP
	203
STEP 7 Lite	No
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
	125 mm
Height	130 mm
Depth Weights	130 11111
Weights	200 -
Weight, approx.	360 g
last modified:	4/25/2024 🗗