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

Canaval information	
General information	ODI 1047 0 DD
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
Input current	
Current consumption (rated value)	870 mA
Current consumption (in no-load operation), typ.	120 mA
Inrush current, typ.	4 A
I²t	1 A ² ·s
Power loss	
Power loss, typ.	4.5 W
	4.5 W
Power loss, typ.	4.5 W
Power loss, typ. Memory	4.5 W 1 024 kbyte
Power loss, typ. Memory Work memory	
Power loss, typ. Memory Work memory • integrated	1 024 kbyte
Power loss, typ. Memory Work memory • integrated • expandable	1 024 kbyte
Power loss, typ. Memory Work memory • integrated • expandable Load memory	1 024 kbyte No
Power loss, typ. Memory Work memory • integrated • expandable Load memory • Plug-in (MMC) • Plug-in (MMC), max. • Data management on MMC (after last programming),	1 024 kbyte No Yes
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.	1 024 kbyte No Yes 8 Mbyte
Power loss, typ. Memory Work memory • integrated • expandable Load memory • Plug-in (MMC) • Plug-in (MMC), max. • Data management on MMC (after last programming), min. Backup	1 024 kbyte No Yes 8 Mbyte 10 a
Power loss, typ. Memory Work memory • integrated • expandable Load memory • Plug-in (MMC) • Plug-in (MMC), max. • Data management on MMC (after last programming), min. Backup • present	1 024 kbyte No Yes 8 Mbyte 10 a Yes; Guaranteed by MMC (maintenance-free)
Power loss, typ. Memory Work memory integrated expandable Load memory Plug-in (MMC) Plug-in (MMC), max. Data management on MMC (after last programming), min. Backup present without battery	1 024 kbyte No Yes 8 Mbyte 10 a
Power loss, typ. Memory Work memory integrated expandable Load memory Plug-in (MMC) Plug-in (MMC), max. Data management on MMC (after last programming), min. Backup present without battery CPU processing times	1 024 kbyte No Yes 8 Mbyte 10 a Yes; Guaranteed by MMC (maintenance-free) Yes; Program and data
Power loss, typ. Memory Work memory integrated expandable Load memory Plug-in (MMC) Plug-in (MMC), max. Data management on MMC (after last programming), min. Backup present without battery CPU processing times for bit operations, typ.	1 024 kbyte No Yes 8 Mbyte 10 a Yes; Guaranteed by MMC (maintenance-free) Yes; Program and data 0.025 µs
Power loss, typ. Memory Work memory integrated expandable Load memory Plug-in (MMC) Plug-in (MMC), max. Data management on MMC (after last programming), min. Backup present without battery CPU processing times for bit operations, typ. for word operations, typ.	1 024 kbyte No Yes 8 Mbyte 10 a Yes; Guaranteed by MMC (maintenance-free) Yes; Program and data 0.025 µs 0.03 µs
Power loss, typ. Memory Work memory integrated expandable Load memory Plug-in (MMC) Plug-in (MMC), max. Data management on MMC (after last programming), min. Backup present without battery CPU processing times for bit operations, typ. for word operations, typ. for fixed point arithmetic, typ.	1 024 kbyte No Yes 8 Mbyte 10 a Yes; Guaranteed by MMC (maintenance-free) Yes; Program and data 0.025 µs 0.03 µs 0.04 µs
Power loss, typ. Memory Work memory integrated expandable Load memory Plug-in (MMC) Plug-in (MMC), max. Data management on MMC (after last programming), min. Backup present without battery CPU processing times for bit operations, typ. for word operations, typ. for fixed point arithmetic, typ. for floating point arithmetic, typ.	1 024 kbyte No Yes 8 Mbyte 10 a Yes; Guaranteed by MMC (maintenance-free) Yes; Program and data 0.025 µs 0.03 µs
Power loss, typ. Memory Work memory integrated expandable Load memory Plug-in (MMC) Plug-in (MMC), max. Data management on MMC (after last programming), min. Backup present without battery CPU processing times for bit operations, typ. for word operations, typ. for fixed point arithmetic, typ.	1 024 kbyte No Yes 8 Mbyte 10 a Yes; Guaranteed by MMC (maintenance-free) 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 capacity)
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. Patraticity 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 hyte: May 2048 hytes per block
per priority class, max. Address area	32 768 byte; Max. 2048 bytes per block
I/O address area	8 192 byte
• Inputs	
Outputs	8 192 byte
of which distributed	0.4001.4
— Inputs	8 192 byte
— Outputs	8 192 byte
Process image	0.4001.4
• 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	
Number of subprocess images, max.	1
Digital channels	
• Inputs	65 536
— of which central	1 024
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	the clock continues at the time of day it had when power was switched off
Operating hours counter	
Number	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
• on DP, device	Yes
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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
Number of digital outputs Number of Rotalog inputs Integrated Rotalog		U .
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 - Yes Address area - 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 I sochronous 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 Tax. 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. Inputs, max. Skbyte User 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. — User data per DP device — Inputs, max. — Outputs, max. —	•	
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 		
 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. Inputs, max. Inputs, max. Outputs, max. Whyte User data per DP device Inputs, max. User data per DP device Outputs, max. 244 byte Outputs, max. 244 byte 		
 — Direct data exchange (slave-to-slave communication) — DPV1 Yes Address area — Inputs, max. — Outputs, max. User data per DP device — Inputs, max. 244 byte — Outputs, max. — 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 acts	40 Mbitto
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 communication) 	Yes
— DPV1	No
Transfer memory	INO
— Inputs	244 byte
— Inputs — Outputs	·
2. Interface	244 byte
	Integrated DC 405 interface
Interface type	Integrated RS 485 interface
Isolated	Yes
Interface types	Van
RS 485 Output surrout of the interfered many.	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	40.40.00
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 OP 04
— 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)	Yes; as subscriber
communication)	, 00000.00
— 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.	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 PEOP communication Routing Global data communication S7 basic communication No S7 communication S7 communication S8 communication S8 communication S9 communication S	One-time.	
- Routing	Services	Voc
- Global data communication No No Pass Configured on one side No. 57 communication Yes, Configured on one side No., but via CP and loadable FB 97 communication, as client No., but via CP and loadable FB 97 communication, as server Yes Only server, configured on one side No., but via CP and loadable FB 97 communication) Yes Communication Intercept Yes No Communication Intercept Yes Communication Intercept Yes Communication Intercept Yes Communication Yes Yes Communication Yes Communication Yes Yes As client Yes Communication Yes Yes As client Yes Communication Yes Yes As client Yes Communication Yes Yes As a client Yes Communication Yes Yes As a client Yes Communication Yes Yes Yes As a Communication Yes Yes Yes As a Communication Yes Yes Yes As a Communication Yes		
SY basic communication SY communication	<u> </u>	
- S7 communication, as client - S7 communication, as client - S7 communication, as client - S7 communication, as server - Direct data exchange (save-to-slave communication) - Inputs - Direct data exchange (save-to-slave communication) - PROFleatin		
— S7 communication, as client — S7 communication, as server — Dred data exchange (slave-to-slave open variety		
- S7 communication), as server - Direct data exchange (allow-to-slave communication) - DPV1 No Transfer memory - Inputs - Outputs - Outp		
Direct data exchange (slave-to-slave communication) DPV1 DPV1 DPV3 DPV3 DPV4 DIPUS Outputs		
communication) - DPU1 No Transfer memory - Inputs 244 byte - Outputs 224 byte Protocols PROFIsate No communication functions / header PROFIsate No communication functions / header PROFIsate No communication functions / header PROP communication - Supported Number of GD packets, max Size of GD packets, max Size of GD packet (of which consistent), max Size of GD packet (of CP communication Size of GD packet (of CP communication) Size of GD packet (o		
Transfer memory - Inputs 244 byte - Outputs 244 byte Protocols PROFIsare No communication functions / header PGOP communication * Supported * Number of GD packets, max. * Size of GD packets, receiver, max. * Size of GD packets, receiver, max. * Size of GD packets, max. * Size of GD packe		Yes
Inputs	— DPV1	No
	Transfer memory	
PROFisafe PROF communication functions / header PROF communication PROF communication PROF communication PROF communication PROF communication PROF communication Prof CD backeds (max. 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8	— Inputs	244 byte
PROFisate Communication functions / header PGO/P communication Data record routing Global data communication	— Outputs	244 byte
PGOP communication PGOP communication PGOP communication **supported PGOP communication PGOP communication PGOP communication **supported PGOP communication PGOP communication PGOP communication **supported PGOP communication PGOP communication **supported PGOP communication PGOP communication **supported PGOP communication PGOP communication PGOP communication **supported PGOP communication PGOP communication **supported PGOP communication PGOP communication PGOP communication **supported PGOP communication PGOP pGOP pGOP communication PGOP pGOP pGOP pGOP pGOP pGOP pGOP pGOP	Protocols	
PGIOP communication Data record routing Ves Global data communication • supported • Number of GD packets, max. • Number of GD packets, transmitter, max. • Number of GD packets, transmitter, max. • Number of GD packets, receiver, max. • Size of GD packets, receiver, max. • Size of GD packets, freelier in max. • Size of GD packets, freelier in max. • Size of GD packets (of which consistent), max. • Size of GD packets, max.	PROFIsafe	No
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simultaneously active Alarm-S blocks, max. 300	Number of login stations for message functions, max.	
	Process diagnostic messages	Yes
Test commissioning functions	simultaneously active Alarm-S blocks, max.	300
	Test commissioning functions	

	V 11 1 0 : 11
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. 	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	
	Yes; STEP 7 V5.5 + SP1 or higher or STEP 7 V5.3 + SP2 or higher with HSP 203
Configuration software	
Configuration software • STEP 7	203
Configuration software • STEP 7 • STEP 7 Lite	203
Configuration software • STEP 7 • STEP 7 Lite configuration / programming / header	203 No
Configuration software • STEP 7 • STEP 7 Lite configuration / programming / header • Command set	203 No see instruction list
Configuration software • STEP 7 • STEP 7 Lite configuration / programming / header • Command set • Nesting levels	203 No see instruction list 8
Configuration software • STEP 7 • STEP 7 Lite configuration / programming / header • Command set • Nesting levels • System functions (SFC)	203 No see instruction list 8 see instruction list
Configuration software • STEP 7 • STEP 7 Lite configuration / programming / header • Command set • Nesting levels • System functions (SFC) • System function blocks (SFB)	203 No see instruction list 8 see instruction list
Configuration software • STEP 7 • STEP 7 Lite configuration / programming / header • Command set • Nesting levels • System functions (SFC) • System function blocks (SFB) Programming language	203 No see instruction list 8 see instruction list see instruction list
Configuration software • STEP 7 • STEP 7 Lite configuration / programming / header • Command set • Nesting levels • System functions (SFC) • System function blocks (SFB) Programming language — LAD	203 No see instruction list 8 see instruction list see instruction list
Configuration software STEP 7 STEP 7 Lite configuration / programming / header Command set Nesting levels System functions (SFC) System function blocks (SFB) Programming language LAD FBD	203 No see instruction list 8 see instruction list see instruction list
Configuration software STEP 7 STEP 7 Lite configuration / programming / header Command set Nesting levels System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL	203 No see instruction list 8 see instruction list see instruction list Yes Yes Yes
Configuration software STEP 7 STEP 7 Lite configuration / programming / header Command set Nesting levels System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH	203 No see instruction list 8 see instruction list see instruction list Yes Yes Yes Yes Yes
Configuration software STEP 7 STEP 7 Lite configuration / programming / header Command set Nesting levels System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC	No see instruction list 8 see instruction list see instruction list Yes Yes Yes Yes Yes Yes
Configuration software STEP 7 STEP 7 Lite configuration / programming / header Command set Nesting levels System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH	203 No see instruction list 8 see instruction list see instruction list Yes Yes Yes Yes Yes Yes Yes Yes
Configuration software STEP 7 STEP 7 Lite configuration / programming / header Command set Nesting levels System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH HiGraph®	203 No see instruction list 8 see instruction list see instruction list Yes Yes Yes Yes Yes Yes Yes Yes
Configuration software STEP 7 STEP 7 Lite configuration / programming / header Command set Nesting levels System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH HiGraph® Know-how protection	No see instruction list 8 see instruction list see instruction list Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye
Configuration software STEP 7 STEP 7 Lite configuration / programming / header Command set Nesting levels System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH HiGraph® Know-how protection User program protection/password protection	No see instruction list 8 see instruction list see instruction list Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye
Configuration software STEP 7 STEP 7 Lite configuration / programming / header Command set Nesting levels System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH HiGraph® Know-how protection User program protection/password protection Block encryption	No see instruction list 8 see instruction list see instruction list Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye
Configuration software STEP 7 STEP 7 Lite configuration / programming / header Command set Nesting levels System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH HiGraph® Know-how protection User program protection/password protection Block encryption	No see instruction list 8 see instruction list see instruction list Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye
Configuration software STEP 7 STEP 7 Lite configuration / programming / header Command set Nesting levels System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH HiGraph® Know-how protection User program protection/password protection Block encryption Dimensions Width	No see instruction list 8 see instruction list see instruction list Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye
Configuration software STEP 7 STEP 7 Lite configuration / programming / header Command set Nesting levels System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH HiGraph® Know-how protection User program protection/password protection Block encryption Dimensions Width Height	No see instruction list 8 see instruction list see instruction list Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye
Configuration software STEP 7 STEP 7 Lite configuration / programming / header Command set Nesting levels System functions (SFC) System function blocks (SFB) Programming language LAD FBD STL SCL CFC GRAPH HiGraph® Know-how protection User program protection/password protection Block encryption Dimensions Width Height Depth	No see instruction list 8 see instruction list see instruction list Yes Yes Yes Yes Yes Yes Yes Yes Yes Ye

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