SIEMENS

Data sheet

6ES7317-6TF14-0AB0



Spare part SIMATIC S7-300, CPU 317TF-2 DP, Central processing unit for PLC, Technology and safety tasks, 1.5 MB work memory, 1st interface MPI/DP 12 Mbit/s, 2nd interface DP (drive), Integr. I/O for technology Front connector (1x 40-pole) and Micro Memory Card 8 MB required

General information	
HW functional status	01
Firmware version	CPU: V2.7, integrated technology: V4.1.5
Engineering with	
Programming package	STEP 7 V5.4 SP5 or higher, S7-Technology V4.2 or higher, Distributed Safety V5.4 SP5 or higher, S7 F Configuration Pack V5.5 SP7 or higher
Supply voltage	
Rated value (DC)	24 V
permissible range, lower limit (DC)	20.4 V
permissible range, upper limit (DC)	28.8 V
external protection for power supply lines (recommendation)	2 A min.
Load voltage L+	
 Rated value (DC) 	24 V
 Reverse polarity protection 	Yes
Digital outputs	
— Rated value (DC)	24 V; 2L+
 Reverse polarity protection 	No; 2L+
nput current	
Current consumption (in no-load operation), typ.	250 mA
Inrush current, typ.	2.5 A
l²t	1 A ² ·s
Power loss	
Power loss, typ.	6 W
Memory	
Work memory	
• integrated	1 536 kbyte
• expandable	No
Load memory	
• Plug-in (MMC)	Yes
 Plug-in (MMC), max. 	8 Mbyte
 Data management on MMC (after last programming), min. 	10 a
Backup	
• present	Yes; Guaranteed by MMC (maintenance-free)
without battery	Yes; Program and data
CPU processing times	
for bit operations, typ.	0.05 μs
for bit operations, max.	0.05 μs
for word operations, typ.	0.2 µs
for fixed point arithmetic, typ.	0.2 μs

for floating point arithmetic, typ.	1 μs
PU-blocks	
Number of blocks (total)	2 048; (DBs, FCs, FBs); the maximum number of loadable blocks can be
	reduced by the MMC used.
DB	
Number, max.	2 047; Number band: 1 to 2047
• Size, max.	64 kbyte
FB - Number may	2.040; Niumbar ranga; 0 to 2047
Number, max. Size may.	2 048; Number range: 0 to 2047
• Size, max.	64 kbyte
	2.049: Number range: 0 to 2047
Number, max. Size max.	2 048; Number range: 0 to 2047 64 kbyte
• Size, max. OB	04 kbyte
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 delay alarm Obs Number of cyclic interrupt OBs	4; OB 32, 33, 34, 35
Number of cyclic interrupt OBs Number of process alarm OBs	1; OB 40
Number of DPV1 alarm OBs	3; OB 55, 56, 57
Number of Bochronous mode OBs	1; OB 61
	1; OB 65
 Number of technology synchronous alarm OBs Number of startup OBs 	1; OB 100
Number of startup OBs Number of asynchronous error OBs	5; OB 80, 82, 85, 86, 87
•	2; OB 121, 122
Number of synchronous error OBs Nesting depth	Z, OB 121, 122
per priority class	16
additional within an error OB	4
Counters, timers and their retentivity	-
S7 counter	
Number	512; Number range: 0 to 511
Retentivity	312, Number range. 0 to 311
— adjustable	Yes
•	8 (from Z 0 to Z 7)
preset Counting range	0 (110111 2 0 10 2 1)
— adjustable	Yes
— lower limit	0
— upper limit	999
IEC counter	333
• present	Yes
• Type	SFB
Number	Unlimited (limited only by RAM capacity)
S7 times	Sintod (mintod only by to the departy)
• Number	512; Number range: 0 to 511
Retentivity	5.2, Hallion lange. 5 to 511
— adjustable	Yes
— preset	No retentivity
Time range	
— lower limit	10 ms
— upper limit	9 990 s
IEC timer	
• present	Yes
• Type	SFB
**	Unlimited (limited only by RAM capacity)
Number	Character (artifice of by Textivi capacity)
Number Nata areas and their retentivity	
ata areas and their retentivity	256 khyta
ata areas and their retentivity Retentive data area (incl. timers, counters, flags), max.	256 kbyte
Data areas and their retentivity	256 kbyte 4 096 byte

- Determinists are not	MD 0 to MD 45
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.	1 024 byte
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, adjustable	2 048 byte
Outputs, adjustable	2 048 byte
Inputs, default	1 024 byte
Outputs, default	1 024 byte
Default addresses of the integrated channels	
— Digital inputs	66
— Digital outputs	66
Subprocess images	
Number of subprocess images, max.	1
Digital channels	
• Inputs	65 536
— of which central	512
Outputs	65 536
of which central	512
	312
Analog channels	4,000
• Inputs	4 096
— of which central	64
Outputs	4 096
— of which central	64
Hardware configuration	
Number of expansion units, max.	0
Number of DP masters	
integrated	2; 1 DP and 1 DP (drive)
• via CP	2; for DP
Number of operable FMs and CPs (recommended)	
• FM	8
• CP, PtP	8
• CP, LAN	8
Rack	
Racks, max.	1
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
Behavior of the clock following POWER-ON	Clock continues running after POWER OFF
Behavior of the clock following expiry of backup period Operating hours counter.	the clock continues at the time of day it had when power was switched off
Operating hours counter	4
Number 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
● to MPI, slave	Yes
• to DP, master	Yes
● to DP, slave	Yes; Only time-of-day slave
• in AS, master	Yes
• in AS, slave	Yes
Digital inputs	
Number of digital inputs	4
of which inputs usable for technological functions	4
Input characteristic curve in accordance with IEC 61131, type 1	Yes
Number of simultaneously controllable inputs	
horizontal installation	
— up to 40 °C, max.	4
— up to 60 °C, max.	4
vertical installation	
— up to 40 °C, max.	4
Input voltage	
Rated value (DC)	24 V
• for signal "0"	-3 to +5V
• for signal "1"	+15 to +30 V
Input current	
• for signal "1", typ.	7 mA
Input delay (for rated value of input voltage)	
for technological functions	
— at "0" to "1", max.	10 μs; Typical
— at "1" to "0", max.	10 μs; Typical
Cable length	
• shielded, max.	1 000 m
Digital outputs	
Number of digital outputs	8
Number of digital outputs of which high-speed outputs	8
of which high-speed outputs	8
of which high-speed outputs Functions Short-circuit protection	8 for technology functions, e.g. high-speed cam switch signals
of which high-speed outputs Functions Short-circuit protection Response threshold, typ.	8 for technology functions, e.g. high-speed cam switch signals Yes
of which high-speed outputs Functions Short-circuit protection Response threshold, typ. Limitation of inductive shutdown voltage to	8 for technology functions, e.g. high-speed cam switch signals Yes 1 A
of which high-speed outputs Functions Short-circuit protection Response threshold, typ. Limitation of inductive shutdown voltage to Controlling a digital input	8 for technology functions, e.g. high-speed cam switch signals Yes 1 A 48 V
of which high-speed outputs Functions Short-circuit protection Response threshold, typ. Limitation of inductive shutdown voltage to Controlling a digital input Switching capacity of the outputs	8 for technology functions, e.g. high-speed cam switch signals Yes 1 A 48 V No
of which high-speed outputs Functions Short-circuit protection Response threshold, typ. Limitation of inductive shutdown voltage to Controlling a digital input Switching capacity of the outputs on lamp load, max.	8 for technology functions, e.g. high-speed cam switch signals Yes 1 A 48 V
of which high-speed outputs Functions Short-circuit protection Response threshold, typ. Limitation of inductive shutdown voltage to Controlling a digital input Switching capacity of the outputs on lamp load, max. Load resistance range	8 for technology functions, e.g. high-speed cam switch signals Yes 1 A 48 V No
of which high-speed outputs Functions Short-circuit protection • Response threshold, typ. Limitation of inductive shutdown voltage to Controlling a digital input Switching capacity of the outputs • on lamp load, max. Load resistance range • lower limit	8 for technology functions, e.g. high-speed cam switch signals Yes 1 A 48 V No 5 W
of which high-speed outputs Functions Short-circuit protection Response threshold, typ. Limitation of inductive shutdown voltage to Controlling a digital input Switching capacity of the outputs on lamp load, max. Load resistance range lower limit upper limit	8 for technology functions, e.g. high-speed cam switch signals Yes 1 A 48 V No
of which high-speed outputs Functions Short-circuit protection Response threshold, typ. Limitation of inductive shutdown voltage to Controlling a digital input Switching capacity of the outputs on lamp load, max. Load resistance range lower limit upper limit Output voltage	8 for technology functions, e.g. high-speed cam switch signals Yes 1 A 48 V No $5~\rm W$ $48~\Omega$ $4~\rm k\Omega$
of which high-speed outputs Functions Short-circuit protection Response threshold, typ. Limitation of inductive shutdown voltage to Controlling a digital input Switching capacity of the outputs on lamp load, max. Load resistance range lower limit upper limit Output voltage for signal "0", max.	8 for technology functions, e.g. high-speed cam switch signals Yes 1 A 48 V No 5 W 48 Ω 4 k Ω 3 V; 2L+
of which high-speed outputs Functions Short-circuit protection Response threshold, typ. Limitation of inductive shutdown voltage to Controlling a digital input Switching capacity of the outputs on lamp load, max. Load resistance range lower limit upper limit Output voltage for signal "0", max. for signal "1", min.	8 for technology functions, e.g. high-speed cam switch signals Yes 1 A 48 V No 5 W 48 Ω 4 k Ω
of which high-speed outputs Functions Short-circuit protection Response threshold, typ. Limitation of inductive shutdown voltage to Controlling a digital input Switching capacity of the outputs on lamp load, max. Load resistance range lower limit upper limit Output voltage for signal "0", max. for signal "1", min. Output current	8 for technology functions, e.g. high-speed cam switch signals Yes 1 A 48 V No $5~W$ $48~\Omega$ $4~k\Omega$ $4~k\Omega$ 3 V; 2L+ Rated voltage -2.5 V (2L+)
of which high-speed outputs Functions Short-circuit protection Response threshold, typ. Limitation of inductive shutdown voltage to Controlling a digital input Switching capacity of the outputs on lamp load, max. Load resistance range lower limit upper limit Output voltage for signal "0", max. for signal "1", min. Output current for signal "1" rated value	8 for technology functions, e.g. high-speed cam switch signals Yes 1 A 48 V No 5 W 48 Ω 4 k Ω 3 V; 2L+ Rated voltage -2.5 V (2L+)
of which high-speed outputs Functions Short-circuit protection Response threshold, typ. Limitation of inductive shutdown voltage to Controlling a digital input Switching capacity of the outputs on lamp load, max. Load resistance range lower limit upper limit Output voltage for signal "0", max. for signal "1", min. Output current for signal "1" rated value for signal "1" permissible range for 0 to 60 °C, min.	8 for technology functions, e.g. high-speed cam switch signals Yes 1 A 48 V No 5 W 48 Ω 4 kΩ 3 V; 2L+ Rated voltage -2.5 V (2L+)
of which high-speed outputs Functions Short-circuit protection Response threshold, typ. Limitation of inductive shutdown voltage to Controlling a digital input Switching capacity of the outputs on lamp load, max. Load resistance range lower limit upper limit Output voltage for signal "0", max. for signal "1", min. Output current for signal "1" rated value for signal "1" permissible range for 0 to 60 °C, min. for signal "1" permissible range for 0 to 60 °C, max.	8 for technology functions, e.g. high-speed cam switch signals Yes 1 A 48 V No 5 W 48 Ω 4 kΩ 3 V; 2L+ Rated voltage -2.5 V (2L+)
of which high-speed outputs Functions Short-circuit protection Response threshold, typ. Limitation of inductive shutdown voltage to Controlling a digital input Switching capacity of the outputs on lamp load, max. Load resistance range lower limit upper limit Output voltage for signal "0", max. for signal "1", min. Output current for signal "1" rated value for signal "1" permissible range for 0 to 60 °C, min. for signal "1" residual current, max. for signal "0" residual current, max.	8 for technology functions, e.g. high-speed cam switch signals Yes 1 A 48 V No 5 W 48 Ω 4 kΩ 3 V; 2L+ Rated voltage -2.5 V (2L+)
of which high-speed outputs Functions Short-circuit protection Response threshold, typ. Limitation of inductive shutdown voltage to Controlling a digital input Switching capacity of the outputs on lamp load, max. Load resistance range Ilower limit upper limit Output voltage for signal "0", max. for signal "1", min. Output current for signal "1" rated value for signal "1" permissible range for 0 to 60 °C, min. for signal "1" permissible range for 0 to 60 °C, max. for signal "0" residual current, max. Parallel switching of two outputs	8 for technology functions, e.g. high-speed cam switch signals Yes 1 A 48 V No 5 W 48 Ω 4 kΩ 3 V; 2L+ Rated voltage -2.5 V (2L+) 0.5 A 5 mA 0.6 A 0.3 mA
of which high-speed outputs Functions Short-circuit protection Response threshold, typ. Limitation of inductive shutdown voltage to Controlling a digital input Switching capacity of the outputs on lamp load, max. Load resistance range lower limit upper limit Output voltage for signal "0", max. for signal "1", min. Output current for signal "1" permissible range for 0 to 60 °C, min. for signal "1" permissible range for 0 to 60 °C, max. for signal "0" residual current, max. Parallel switching of two outputs for uprating	8 for technology functions, e.g. high-speed cam switch signals Yes 1 A 48 V No 5 W 48 Ω 4 kΩ 3 V; 2L+ Rated voltage -2.5 V (2L+) 0.5 A 5 mA 0.6 A 0.3 mA
of which high-speed outputs Functions Short-circuit protection Response threshold, typ. Limitation of inductive shutdown voltage to Controlling a digital input Switching capacity of the outputs on lamp load, max. Load resistance range lower limit upper limit Output voltage for signal "0", max. for signal "1", min. Output current for signal "1" permissible range for 0 to 60 °C, min. for signal "1" permissible range for 0 to 60 °C, max. for signal "0" residual current, max. Parallel switching of two outputs for redundant control of a load	8 for technology functions, e.g. high-speed cam switch signals Yes 1 A 48 V No 5 W 48 Ω 4 kΩ 3 V; 2L+ Rated voltage -2.5 V (2L+) 0.5 A 5 mA 0.6 A 0.3 mA
of which high-speed outputs Functions Short-circuit protection Response threshold, typ. Limitation of inductive shutdown voltage to Controlling a digital input Switching capacity of the outputs on lamp load, max. Load resistance range lower limit upper limit Output voltage for signal "0", max. for signal "1", min. Output current for signal "1" rated value for signal "1" permissible range for 0 to 60 °C, min. for signal "1" permissible range for 0 to 60 °C, max. for signal "0" residual current, max. Parallel switching of two outputs for redundant control of a load Switching frequency	8 for technology functions, e.g. high-speed cam switch signals Yes 1 A 48 V No 5 W 48 Ω 4 kΩ 3 V; 2L+ Rated voltage -2.5 V (2L+) 0.5 A 5 mA 0.6 A 0.3 mA No No
of which high-speed outputs Functions Short-circuit protection Response threshold, typ. Limitation of inductive shutdown voltage to Controlling a digital input Switching capacity of the outputs	8 for technology functions, e.g. high-speed cam switch signals Yes 1 A 48 V No 5 W 48 Ω 4 kΩ 3 V; 2L+ Rated voltage -2.5 V (2L+) 0.5 A 5 mA 0.6 A 0.3 mA No No
of which high-speed outputs Functions Short-circuit protection Response threshold, typ. Limitation of inductive shutdown voltage to Controlling a digital input Switching capacity of the outputs	8 for technology functions, e.g. high-speed cam switch signals Yes 1 A 48 V No 5 W 48 Ω 4 kΩ 3 V; 2L+ Rated voltage -2.5 V (2L+) 0.5 A 5 mA 0.6 A 0.3 mA No No 100 Hz 0.2 Hz; According to IEC 60947-5-1, DC-13
of which high-speed outputs Functions Short-circuit protection Response threshold, typ. Limitation of inductive shutdown voltage to Controlling a digital input Switching capacity of the outputs on lamp load, max. Load resistance range lower limit upper limit Output voltage for signal "0", max. for signal "1", min. Output current for signal "1" rated value for signal "1" permissible range for 0 to 60 °C, min. for signal "0" residual current, max. Parallel switching of two outputs for redundant control of a load Switching frequency with resistive load, max. with inductive load, max. on lamp load, max.	8 for technology functions, e.g. high-speed cam switch signals Yes 1 A 48 V No 5 W 48 Ω 4 kΩ 3 V; 2L+ Rated voltage -2.5 V (2L+) 0.5 A 5 mA 0.6 A 0.3 mA No No
of which high-speed outputs Functions Short-circuit protection	8 for technology functions, e.g. high-speed cam switch signals Yes 1 A 48 V No 5 W 48 Ω 4 kΩ 3 V; 2L+ Rated voltage -2.5 V (2L+) 0.5 A 5 mA 0.6 A 0.3 mA No No No
of which high-speed outputs Functions Short-circuit protection Response threshold, typ. Limitation of inductive shutdown voltage to Controlling a digital input Switching capacity of the outputs on lamp load, max. Load resistance range lower limit upper limit Output voltage for signal "0", max. for signal "1", min. Output current for signal "1" rated value for signal "1" permissible range for 0 to 60 °C, min. for signal "0" residual current, max. Parallel switching of two outputs for redundant control of a load Switching frequency with resistive load, max. with inductive load, max. on lamp load, max.	8 for technology functions, e.g. high-speed cam switch signals Yes 1 A 48 V No 5 W 48 Ω 4 kΩ 3 V; 2L+ Rated voltage -2.5 V (2L+) 0.5 A 5 mA 0.6 A 0.3 mA No No No

un to CO °C	2.4
— up to 60 °C, max.	3 A
all other mounting positions	
— up to 40 °C, max.	3 A
Cable length	
• shielded, max.	1 000 m
Analog inputs	
Number of analog inputs	0
Analog outputs	
Number of analog outputs	0
Encoder	
Connectable encoders	
• 2-wire sensor	No
Interfaces	
Number of industrial Ethernet interfaces	0
Number of PROFINET interfaces	0
Number of RS 485 interfaces	2
Number of RS 422 interfaces	0
1. Interface	
Interface type	Integrated RS 485 interface
Isolated	Yes
Interface types	
• RS 485	Yes
Output current of the interface, max.	200 mA
Protocols	
• MPI	Yes
PROFIBUS DP master	Yes
PROFIBUS DP slave	Yes
Point-to-point connection	No
MPI	
Number of connections	32
Transmission rate, max.	12 Mbit/s
Services	
— PG/OP communication	Yes
— Routing	Yes
Global data communication	Yes
S7 basic communication	Yes
— S7 communication	Yes
— S7 communication — S7 communication, as client	No; but via CP and loadable FB
— S7 communication, as circle — S7 communication, as server	Yes
,	res
PROFIBUS DP master	12 Mbit/s
Transmission rate, max. Number of DR eleves, may.	12 Mbit/s
Number of DP slaves, max. Continue	124
Services	
— PG/OP communication	Yes
— Routing	Yes
— Global data communication	No
— S7 basic communication	Yes; I blocks only
— S7 communication	Yes
— 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 slaves 	Yes
 Number of DP slaves that can be simultaneously activated/deactivated, max. 	4
— DPV1	Yes
Address area	
— Inputs, max.	8 192 byte
— Outputs, max.	8 192 byte
User data per DP slave	

lanute mov	044 h. to
— Inputs, max.	244 byte
— Outputs, max.	244 byte
PROFIBUS DP slave	
• GSD file	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	
— 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 	Yes; but via CP and loadable FB
 S7 communication, as server 	Yes; Connection configured on one side only
Direct data exchange (slave-to-slave	Yes
communication)	NI-
— DPV1	No
Transfer memory	044 h. to
— 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; DP(DRIVE)-Master
 PROFIBUS DP slave 	No
Point-to-point connection	No
PROFIBUS DP master	
 Transmission rate, max. 	12 Mbit/s
 Number of DP slaves, max. 	64
Services	
 PG/OP communication 	No
— Routing	Yes
 Global data communication 	No
 S7 basic communication 	No
 S7 communication 	No
— Equidistance	Yes
Isochronous mode	Yes
— SYNC/FREEZE	
	No
 Activation/deactivation of DP slaves 	No Yes
 Activation/deactivation of DP slaves 	Yes
— Activation/deactivation of DP slaves — DPV1 Address area	Yes No
— Activation/deactivation of DP slaves — DPV1 Address area — Inputs, max.	Yes No 1 024 byte
— Activation/deactivation of DP slaves — DPV1 Address area — Inputs, max. — Outputs, max.	Yes No
— Activation/deactivation of DP slaves — DPV1 Address area — Inputs, max. — Outputs, max. User data per DP slave	Yes No 1 024 byte 1 024 byte
— Activation/deactivation of DP slaves — DPV1 Address area — Inputs, max. — Outputs, max. User data per DP slave — Inputs, max.	Yes No 1 024 byte 1 024 byte 244 byte
— Activation/deactivation of DP slaves — DPV1 Address area — Inputs, max. — Outputs, max. User data per DP slave — Inputs, max. — Outputs, max. — Outputs, max.	Yes No 1 024 byte 1 024 byte
Activation/deactivation of DP slaves DPV1 Address area Inputs, max Outputs, max. User data per DP slave Inputs, max Outputs, max Outputs, max Outputs, max PROFIBUS DP slave	Yes No 1 024 byte 1 024 byte 244 byte 244 byte
Activation/deactivation of DP slaves DPV1 Address area Inputs, max Outputs, max. User data per DP slave Inputs, max Outputs, max Outputs, max Outputs, max OSD file	Yes No 1 024 byte 1 024 byte 244 byte
	Yes No 1 024 byte 1 024 byte 244 byte 244 byte http://support.automation.siemens.com in Product Support area
- Activation/deactivation of DP slaves - DPV1 Address area - Inputs, max Outputs, max. User data per DP slave - Inputs, max Outputs, max. PROFIBUS DP slave • GSD file Protocols PROFIsafe	Yes No 1 024 byte 1 024 byte 244 byte 244 byte
Activation/deactivation of DP slaves DPV1 Address area Inputs, max Outputs, max. User data per DP slave Inputs, max Outputs, max Outputs, max Outputs, max PROFIBUS DP slave GSD file Protocols PROFIsafe communication functions / header	Yes No 1 024 byte 1 024 byte 244 byte 244 byte http://support.automation.siemens.com in Product Support area
— Activation/deactivation of DP slaves — DPV1 Address area — Inputs, max. — Outputs, max. User data per DP slave — Inputs, max. — Outputs, max. PROFIBUS DP slave ■ GSD file Protocols PROFIsafe communication functions / header PG/OP communication	Yes No 1 024 byte 1 024 byte 244 byte 244 byte http://support.automation.siemens.com in Product Support area
Activation/deactivation of DP slaves DPV1 Address area Inputs, max Outputs, max. User data per DP slave Inputs, max Outputs, max Outputs, max Outputs, max PROFIBUS DP slave GSD file Protocols PROFIsafe communication functions / header	Yes No 1 024 byte 1 024 byte 244 byte 244 byte http://support.automation.siemens.com in Product Support area

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 packet (of which consistent), max.	22 byte
S7 basic communication	
• supported	Yes
 User data per job, max. 	76 byte
User data per job (of which consistent), max.	76 byte; 76 bytes (with X_SEND or X_RCV), 76 bytes (with X_PUT or X_GET as server)
S7 communication	
supported	Yes
• as server	Yes
• as client	Yes; Via CP and loadable FB
 User data per job, max. 	180 byte; With PUT/GET
 User data per job (of which consistent), max. 	160 byte
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
	0
adjustable for S7 basic communication, min.	30
adjustable for S7 basic communication, max.	
usable for routing vectors	8
S7 message functions	
number of logic stations for magazine functions, may	
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
Process diagnostic messages	communication Yes
Process diagnostic messages simultaneously active Alarm-S blocks, max.	communication Yes
Process diagnostic messages simultaneously active Alarm-S blocks, max. Test commissioning functions	communication Yes 60
Process diagnostic messages simultaneously active Alarm-S blocks, max. Test commissioning functions Status block	communication Yes 60 Yes; Up to 2 simultaneously
Process diagnostic messages simultaneously active Alarm-S blocks, max. Test commissioning functions Status block Single step	communication Yes 60 Yes; Up to 2 simultaneously Yes
Process diagnostic messages simultaneously active Alarm-S blocks, max. Test commissioning functions Status block Single step Number of breakpoints	communication Yes 60 Yes; Up to 2 simultaneously Yes
Process diagnostic messages simultaneously active Alarm-S blocks, max. Test commissioning functions Status block Single step Number of breakpoints Status/control	communication Yes 60 Yes; Up to 2 simultaneously Yes 2; without continuation
Process diagnostic messages simultaneously active Alarm-S blocks, max. Test commissioning functions Status block Single step Number of breakpoints Status/control • Status/control variable	communication Yes 60 Yes; Up to 2 simultaneously Yes 2; without continuation Yes
Process diagnostic messages simultaneously active Alarm-S blocks, max. Test commissioning functions Status block Single step Number of breakpoints Status/control • Status/control • Variables	communication Yes 60 Yes; Up to 2 simultaneously Yes 2; without continuation Yes Inputs, outputs, memory bits, DB, times, counters
Process diagnostic messages simultaneously active Alarm-S blocks, max. Test commissioning functions Status block Single step Number of breakpoints Status/control • Status/control variable • Variables • Number of variables, max.	communication Yes 60 Yes; Up to 2 simultaneously Yes 2; without continuation Yes Inputs, outputs, memory bits, DB, times, counters 30
Process diagnostic messages simultaneously active Alarm-S blocks, max. Test commissioning functions Status block Single step Number of breakpoints Status/control • Status/control variable • Variables • Number of variables, max. — of which status variables, max.	communication Yes 60 Yes; Up to 2 simultaneously Yes 2; without continuation Yes Inputs, outputs, memory bits, DB, times, counters 30 30
Process diagnostic messages simultaneously active Alarm-S blocks, max. Test commissioning functions Status block Single step Number of breakpoints Status/control • Status/control • Status/control variable • Variables • Number of variables, max. — of which status variables, max. — of which control variables, max.	communication Yes 60 Yes; Up to 2 simultaneously Yes 2; without continuation Yes Inputs, outputs, memory bits, DB, times, counters 30 30
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Status indicator digital input (green) Status indicator digital input (green) Yes Status indicator digital output (green) Yes Potential separation Potential separation digital outputs • between the channels and backplane bus Potential separation digital outputs • between the channels and backplane bus Solation Solation Solation tested with 500 V DC Ambient temperature during operation • min. • on "C configuration software • STEP 7 Yes Configuration / programming / header • Command set • See instruction list • Nesting levels • System functions (SFC) • System function blocks (SFB) Programming language — LAD — FBD — STIL — SCIL — SCIL — SCIL — SCIL — GRAPH — HiGraph® Know-how protection • User program protection/password protection • Leging limit • digustable • cycle monitoring time / preset Dimonsions Width Height — 135 mm Depth Weight, approx. 750 g	Diagnostics indication LED	
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Potential separation digital injusts		
Potential separation digital inputs • between the channels and backplane bus solation tested with 500 V DC Ambient conditions Ambient conditions Ambient temperature during operation • min. • min. • min. • o °C • max. • 60 °C Configuration / header Configuration / programming / header • STEP 7 Yes configuration / programming / header • Command set • Nesting levels • System functions (SFC) • System function (SFC) • System function blocks (SFB) Programming language — LAD — FBD — FBD — STL — SCL — CFC — GRAPH — HiGraph® Know-how protection • User program protection/password protection programming / cycle time monitoring / header • Lower limit • upper limit • ouper lim		163
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### ### ### #### ####################		500 V DC
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Command set Nesting levels Nesting levels System functions (SFC) see instruction list System function blocks (SFB) See instruction list Programming language — LAD — Yes — FBD — Yes — STL — Yes — SCL — CFC — GRAPH — HiGraph® Yes Know-how protection ● User program protection/password protection ▼ lower limit ● lower limit ● upper limit ● upper limit ● upper limit ● quigatable ● cycle monitoring time / preset Dimensions Width 160 mm Height 130 mm Weights System function list 8 8 8 einstruction list 8 8 8 einstruction list 8 see instruction list Pess FB	• STEP 7	Yes
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System function blocks (SFB) Programming language	 Nesting levels 	8
Programming language — LAD Yes — FBD Yes — STL Yes — SCL Yes — CFC Yes — GRAPH Yes — HiGraph® Yes Know-how protection • User program protection/password protection • User program protection/password protection • User program protection/password protection • User program imply / cycle time monitoring / header • lower limit • upper limit • upper limit • adjustable • cycle monitoring time / preset Dimensions Width 160 mm Height Depth 130 mm Weights	System functions (SFC)	see instruction list
- LAD	System function blocks (SFB)	see instruction list
— FBD Yes — STL Yes — SCL Yes — CFC Yes — GRAPH Yes — HiGraph® Yes Know-how protection Yes • User program protection/password protection Yes programming / cycle time monitoring / header 1 ms • lower limit 1 ms • upper limit 6 000 ms • adjustable Yes • cycle monitoring time / preset 150 ms Dimensions Width 160 mm Height 125 mm Depth 130 mm Weights Weights	Programming language	
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— SCL Yes — CFC Yes — GRAPH Yes — HiGraph® Yes Know-how protection Yes • User program protection/password protection Yes programming / cycle time monitoring / header 1 ms • lower limit 6 000 ms • adjustable Yes • cycle monitoring time / preset 150 ms Dimensions Width 160 mm Height 125 mm Depth 130 mm Weights	— FBD	Yes
- CFC - GRAPH - HiGraph® Yes Know-how protection • User program protection/password protection programming / cycle time monitoring / header • lower limit • upper limit • upper limit • adjustable • cycle monitoring time / preset Dimensions Width 160 mm Height 125 mm Depth 130 mm	— STL	Yes
	— SCL	Yes
— HiGraph® Yes Know-how protection ■ User program protection/password protection Yes programming / cycle time monitoring / header ■ lower limit 1 ms ■ upper limit 6 000 ms ■ adjustable Yes ■ cycle monitoring time / preset 150 ms Dimensions Width 160 mm Height 125 mm Depth 130 mm Weights	— CFC	Yes
Know-how protection User program protection/password protection Programming / cycle time monitoring / header I ms upper limit upper limit adjustable cycle monitoring time / preset Dimensions Width Height Depth 130 mm Weights	— GRAPH	Yes
User program protection/password protection Programming / cycle time monitoring / header I ms upper limit upper limit adjustable cycle monitoring time / preset Dimensions Width Height Depth Depth 130 mm Yes I ms 6 000 ms Yes 1 50 ms 150 ms 160 mm 125 mm 130 mm Weights	— HiGraph®	Yes
programming / cycle time monitoring / header • lower limit 1 ms • upper limit 6 000 ms • adjustable Yes • cycle monitoring time / preset 150 ms Dimensions Width 160 mm Height 125 mm Depth 130 mm Weights	Know-how protection	
	 User program protection/password protection 	Yes
● upper limit ● adjustable ● cycle monitoring time / preset Dimensions Width Height Depth Depth January Weights 6 000 ms Yes 150 ms 160 mm 125 mm 130 mm Weights	programming / cycle time monitoring / header	
● adjustable ● cycle monitoring time / preset ■ 150 ms Dimensions Width ■ 160 mm Height □ 125 mm Depth ■ 130 mm Weights	 lower limit 	1 ms
● cycle monitoring time / preset 150 ms Dimensions Width 160 mm Height 125 mm Depth 130 mm Weights	• upper limit	6 000 ms
Dimensions Width 160 mm Height 125 mm Depth 130 mm Weights 130 mm	adjustable	Yes
Width 160 mm Height 125 mm Depth 130 mm Weights ***	 cycle monitoring time / preset 	150 ms
Height 125 mm Depth 130 mm Weights ***	Dimensions	
Depth 130 mm Weights	Width	160 mm
Depth 130 mm Weights	Height	125 mm
Weights	Depth	130 mm
	Weights	
		750 g

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