## 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

Product type designation	CPU 317TF-2 DP
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 Safet V5.4 SP5 or higher, S7 F Configuration Pack V5.5 SP7 or higher
upply 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+
<ul> <li>Reverse polarity protection</li> </ul>	No; 2L+
nput current	
Current consumption (in no-load operation), typ.	250 mA
Inrush current, typ.	2.5 A
l²t	1 A <sup>2</sup> ·s
ower loss	
Power loss, typ.	6 W
lemory	
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
PU 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 fixed point arithmetic, typ.	
for floating point arithmetic, typ. CPU-blocks	1 µs
	2.040 (DDa ECa EDa), the maximum sumber of leadable blacks can be
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, max.	2 048; Number range: 0 to 2047
• Size, max.	64 kbyte
FC	
• Number, max.	2 048; Number range: 0 to 2047
• Size, max.	64 kbyte
OB	
• Number, max.	see instruction list
• Size, max.	64 kbyte
<ul> <li>Number of free cycle OBs</li> </ul>	1; OB 1
Number of time alarm OBs	1; OB 10
<ul> <li>Number of delay alarm OBs</li> </ul>	2; OB 20, 21
<ul> <li>Number of cyclic interrupt OBs</li> </ul>	4; OB 32, 33, 34, 35
<ul> <li>Number of process alarm OBs</li> </ul>	1; OB 40
<ul> <li>Number of DPV1 alarm OBs</li> </ul>	3; OB 55, 56, 57
<ul> <li>Number of isochronous mode OBs</li> </ul>	1; OB 61
<ul> <li>Number of technology synchronous alarm OBs</li> </ul>	1; OB 65
<ul> <li>Number of startup OBs</li> </ul>	1; OB 100
<ul> <li>Number of asynchronous error OBs</li> </ul>	5; OB 80, 82, 85, 86, 87
<ul> <li>Number of synchronous error OBs</li> </ul>	2; OB 121, 122
Nesting depth	
<ul> <li>per priority class</li> </ul>	16
<ul> <li>additional within an error OB</li> </ul>	4
Counters, timers and their retentivity	
S7 counter	
Number	512; Number range: 0 to 511
Retentivity	
— adjustable	Yes
— preset	8 (from Z 0 to Z 7)
Counting range	
— adjustable	Yes
— lower limit	0
— upper limit	999
IEC counter	
• present	Yes
• Туре	SFB
Number	Unlimited (limited only by RAM capacity)
S7 times	
Number	512; Number range: 0 to 511
Retentivity	
— adjustable	Yes
— preset	No retentivity
Time range	
— lower limit	10 ms
— upper limit	9 990 s
IEC timer	
• present	Yes
• Туре	SFB
Number	Unlimited (limited only by RAM capacity)
Data areas and their retentivity	
Retentive data area (incl. timers, counters, flags), max.	256 kbyte
Flag	
• Size, max.	4 096 byte

Potontivity available	Voc: From MP.0 to MP.4.005
<ul><li>Retentivity available</li><li>Retentivity preset</li></ul>	Yes; From MB 0 to MB 4 095 MB 0 to MB 15
Number of clock memories	8; 1 memory byte
Data blocks	o, i memory byte
Retentivity adjustable	Yes; via non-retain property on DB
Retentivity adjustable	Yes
Local data	
per priority class, max.	1 024 byte
Address area	1 024 5916
I/O address area	
Inputs	8 192 byte
Outputs	8 192 byte
of which distributed	0 192 Dyte
— Inputs	8 192 byte
— Outputs	8 192 byte
Process image	o 192 byte
Inputs, adjustable	2.049 bits
Outputs, adjustable	2 048 byte 2 048 byte
Inputs, default	2 046 byte
Outputs, default	1 024 byte
• •	I UZA DYLC
Default addresses of the integrated channels	66
— Digital inputs — Digital outputs	66
	00
Subprocess images	1
Number of subprocess images, max.     Digital channels	1
	65 536
<ul> <li>Inputs</li> <li>— of which central</li> </ul>	512
Outputs     — of which central	65 536
	512
Analog channels	4 096
Inputs	
<ul> <li>— of which central</li> <li>Outputs</li> </ul>	64 4 096
•	
— of which central Hardware configuration	64
	0
Number of expansion units, max. Number of DP masters	0
	2:4 DD and 4 DD (drive)
• integrated	2; 1 DP and 1 DP (drive)
• via CP	2; for DP
Number of operable FMs and CPs (recommended)	0
• FM	8
• CP, PtP	8
• CP, LAN	8
Rack	1
Racks, max.	1
Modules per rack, max. Time of day	8
Time of day	
Clock	Vac
Hardware clock (real-time)	Yes
retentive and synchronizable	Yes
Backup time     Deviation per day, max	6 wk; At 40 °C ambient temperature
<ul> <li>Deviation per day, max.</li> <li>Rehavior of the clock following ROWER ON</li> </ul>	10 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	1
Number	4
Number/Number range	0 to 3
Range of values	0 to 2^31 hours (when using SFC 101)
Granularity	1 h

Obder strainbardstrain     Yes       • • upported     Yes       • • upported     Yes       • • up Mi, master     Yes       • • Ask, master     Yes       • • Ask, device     Yes       • • Ask, device     Yes       • • Ask device     Yes       • • • Ask device     Yes       • • • • • • • • • • • • • • • • • • •	retentive	Yes; Must be restarted at each restart
• • SMP.Yes• • SMP.NP.• • DP.NP.• • DP.NP.• • DP.NP.• • DP.NP.• • NS.Yes• • • NS.Yes• • • NS.Yes• • • NS.Yes• • • • NS.Yes• • • • NS.Yes• • • • • NS.Yes• • • • • • • • • • • • • • • • • • •		
• on RPI, naskerVes• on RPI, naskerVes• on DPI, neskerVes• on RPI, naskerVes• n AS, naskerVes• n AS, naskerVes• nasker </td <td></td> <td>Yes</td>		Yes
• on NPI, deviceYes• on DP, headerYes, Only time of day slave• on DP, headerYes, Only time of day slave• in AS, deviceYes• In AS, deviceYes• In AS, deviceYes• Only time of day slaveYes• Only time of day slave4• of which inputs usate for inchological functions4• of which inputs usate for inchological functions4• of which inputs usate for inchological functions4• or up to 40° C, max.4• or up to 40° C, max.100° C• or up to 10°, max.100° C• or up to 10°, max.100° C• or up to 10°, max.100° C• or the to 40° C or up to 10°, max.100° C• or the to 40° C, max.8		
• on DP, matterVes• on DP, devicesVes• Nat, necketVes• DevicesVes• DevicesVes• Number of digital nouts4• of which inpuds usable for technological functions4• of which inputs vestical inpuds4• or teginal for technological functions4• up to 80 °C, max.4• or teginal for technological functions4• or teginal for technological functions5• or teginal for technological functions7• or teginal for technological functions5• or teginal for technological functions6• or teginal for technological functions8• or teginal for technological functions8• or teginal for technological functions8• or teginal for technological functions6• or teginal for technological functions8• or teginal for technological functions8• or teginal for technological functions6• or teginal for technological functions6• or teginal for technological functions8• or teginal for technological functions6• or teg		
• on DP, devideYes, 'Only time-of-day slave• in AS, forderYes, 'Nes,		
• In AS, maniarYesDiplat inputs4• of which inputs usable of technological functions4• of which inputs usable of technological functions4• of which inputs usable of technological functionsYesImput demanders of technological functions4• of which inputs usable of technological functions4• of which inputs usable of technological functions4• or technological function4• or technological functions4• or technological functions5• or technological functions5• or technological functions10 (µs. Typical)• or technological functions8• or technological functions9• or technological functions9• or te		
• hoß. gievieYesDigital inputs4• of which inputs usable for technological functions4• of which inputs usable for technological functions4• Jupt darancetal course in accordance with ECG 5131, type 1YesNumber of simulaneously controlable inputs4• up to 60 °C, max.4• of raignal °C2 to 5%• of raignal °C3 to 5%• of raignal °C7 mAInput tellarg6• of raignal °C7 mAInput tellarg10 up TypicalInput tellarg10 up TypicalCable length10 up TypicalCable length100 mDiplan atomat8• of raignal in typ.1 AFunctions6 NStort of raid Inductors8• of raidn high-pased atomatis8• of raidn high-pased atomatis8• of raidn high-pased atomatis9• of raignal °T, min.9 N• of raidn high-pased atomatis9• of raignal °T, min.9 N• of raignal °T,		
Diplet Joynes         4           Number of digital inputs         4           - of which inputs usable for itschnological functions         4           Imput dramachristic curve in accordance with IEC 61131, type 1         Yes           Number of simulanceusity controlles inputs         4		
Number of digital inputs         4           • of which inputs usable for technological functions         4           Number of simulaneously controlible inputs         4           horizonti installation         4           - up to 40 °C, max.         4           • or signal °C         - at 0 to 40 °C, max.           • for signal °C         - at 0 to 40 °C, max.           • for signal °C         - at 0 to 40 °C, max.           • for signal °C         - at 0 to 40 °C, max.           • for signal °C         - at 0 to 40 °C, max.           • for signal °C         - at 0 to 50 °C, max.           • for signal °C         - at 0 to 50 °C, max.           • for signal °C         - at 0 to 50 °C, max.           • for signal °C         - at 0 to 50 °C, max.           • for to 10 finght worksep:         - 7 mA           input chapts         8           • at 0 to 50 °C, max.         10 up; Typical           • at 0 to 50 °C, max.         100 m           Dipta corports         8           • at 0 to 50 °C, max.         100 m		
• • visich inguts saale for technological functions         4           Input characteristic curve in accordance with IEC 61131, type 1         Yes           Number of simulaneously contributies inputs         4		1
Input characteristic curve in accordance with IEC 61131. type 1         Yes           Number of simultaneously controllable inputs         4           - up to 40 °C, max.         4           - up to 60 °C, max.         4           - and to 60 °C, max.         4           - for signal °C		
Number of simulaneously controllable inputs           horizontal instalation		
horizontal installation         4		Yes
- up b 40 °C, max. 4 - up b 60 °C, max. 4 vertical risk and value (DC) - up b 40 °C, max. 4 input veltage - up b 40 °C, max. 4 input veltage - up b 40 °C, max. 4 input veltage - up b 40 °C, max. 4 input veltage - up b 40 °C, max. 4 input veltage - up b 40 °C, max. 4 input veltage - up b 40 °C, max. 4 input veltage - up b 40 °C, max. 4 input veltage - up b 40 °C, max. 4 input veltage - up b 40 °C, max. 4 input veltage - up b 40 °C, max. 4 input veltage - up b 40 °C, max. 4 input veltage - up b 40 °C, max. 4 input veltage - up b 40 °C, max. 4 input veltage - up b 40 °C, max. 4 input veltage - up b 40 °C, max. 4 input veltage - up b 40 °C, max. 4 input veltage - up b 40 °C, max. 4 input veltage - up b 40 °C, max. 4 input veltage - up b 40 °C, max. 4 input veltage - up b 40 °C, max. 4 input veltage - up b 40 °C, max. 4 input veltage - up b 40 °C, max. 4 input veltage - up b 40 °C, max. 4 input veltage - up b 40 °C, max. 4 input veltage - up b 40 °C, max. 4 input veltage - up b 40 °C, max. 4 input veltage - up b 40 °C, max. 4 input veltage - up b 40 °C, max. 4 input veltage - up b 40 °C, max. 4 input veltage - up b 40 °C, max. 4 input veltage - up b 40 °C, max. 4 input veltage - up b 40 °C, max. 4 input veltage - up b 40 °C, max. 4 input veltage - up b 40 °C, max. 4 input veltage - up b 40 °C, max. 4 input veltage - up b 40 °C, max. 4 input veltage - up b 40 °C, max. 4 input veltage - up b 40 °C, max. 4 input veltage - up b 40 °C, max. 4 input veltage - up b 40 °C, max. 4 input veltage - up b 40 °C, max. 4 input veltage - up b 40 °C, max. 4 input veltage - up b 40 °C, max. 4 input veltage - up b 40 °C, max. 4 input veltage - up b 40 °C, max. 4 input veltage - up b 40 °C, max. 4 input veltage - up b 40 °C, max. 4 input veltage - up b 40 °C, max. 4 input veltage - up b 40 °C, max. 4 input veltage - up b 40 °C, max. 4 input veltage - up b 40 °C, max. 4 input veltage - up b 40 °C, max. 4 input veltage - up b 40 °C, max. 4 input veltage - up b 40 °C, max. 4 input veltage - up b 40 °C, max. 4 input veltage - up b 40 °C, m		
−up b 60 °C, max,         4           vertical installation         4           −up b 60 °C, max,         4           input voltage         3 to +6V           • Farder value (CC)         24 V           • for signal °C         -3 to +6V           • for signal °C         -7 mA           • for signal °C, max,         10 µg. Typical           - − at °C for °T, max,         10 µg. Typical           - − at °C for °T, max,         10 µg. Typical           - − at °C for °T, max,         10 µg. Typical           - − at °C for °T, max,         10 µg. Typical           - − at °C for °T, max,         10 µg. Typical           - − at °C for °T, max,         10 µg. Typical           - − at °C for °T, max,         10 µg. Typical           - − at °C for °T, max,         10 µg. Typical           - at °C for °T, max,         10 µg. Typical           - at °C for °T, max,         10 µg. Typical           - at °C for °T, max,         10 µg.           - for forginal °T, perturcation         8           Functions         6           Shot-cincuit potection </td <td></td> <td>4</td>		4
up to 40 °C, max.         4          up to 40 °C, max.         4           Plant Voltage		
	· · · · · · · · · · · · · · · · · · ·	4
Input voltage         24 V           • Rated value (DC)         24 V           • for signal ''0'         -3 to 45V           • for signal ''1'         +15 to +30 V           Input current         •           • for signal ''1, kyp.         7 mA           Input classy for rated value of input voltage)         7 mA           for technological functions         •           - at ''1' o''', max.         10 µs; Typical           - at ''1' o''', max.         10 µs; Typical           - at ''1' o''', max.         10 µs; Typical           Cable length         •           • of which high-speed outputs         8           • of which high-speed outputs         9           • Response threshold; typ.         1 A           Limitation of inductive shutdown voltage to         48 V           Controlling a digital input         No           Switching capsely of the outputs         4 kQ		4
• Rated value (DC)       24 V         • for signal "0"       -3 to +5V         • for signal "1", typ.       -3 to +50 V         Input caurent       -         • for signal "1", typ.       7 mA         Input daily (for rated value of input voltage)       7 mA         for technological functions       -         at "0" to "1", max.       10 µs; Typical         at "1" to "0", max.       1000 m         Digital outputs       8         Functions       For technology functions, e.g. high-speed cam switch signals         Functions       For technology functions, e.g. high-speed cam switch signals         Switching capacity of the outputs       8         • Controlling a digital input       No         Switching capacity of the outputs       5         • Ioan signal "0", max.		4
• 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       0 μs; Typical         - at "0" to "1", max.       10 μs; Typical         - at "1" to "0; max.       100 m         Digital outputs       8         • of which high-speed outputs       8         • for technology functions, e.g. high-speed cam switch signals         Short-circuit protection       Yes         • Response threshold, typ.       1 A         Limitation of inductive shutdown voltage to       48 V         Controlling a digital input       No         Switching capacity of the outputs       5 W         • for signal "1", max.       5 W         Codad resistance range		
• for signal *1*       +15 to +30 V         Input current       • for signal *1*, typ.       7 mA         Input delay (for rated value of input voltage)       • for signal *1*, typ.       7 mA         for technological functions       • for signal *1*, typ.       10 µs; Typical		
Input class (f) "1", typ.       7 mA         for technological functions       7 mA	-	
• for signal "1", typ.         7 mA           Input delay (for rated value of input voltage)         7 mA           for technological functions         10 μs; Typical          at "0" to "1", max.         10 μs; Typical           Cable length         10 μs; Typical          shelded, max.         10 μs; Typical           Digital outputs         8           • of which high-speed outputs         8           • of which high-speed outputs         8           Functions         for technology functions, e.g. high-speed cam switch signals           Short-circuit protection         Yes           • Response threshold, typ.         1 A           Limitation of inductive shutdown voltage to         48 V           Controlling a digital input         No           Switching capacity of the outputs         5 W           Load resistance range         •           • lower limit         48 Ω           • on lamp load, max.         5 W           Load resistance range         •           • for signal "0", max.         3 V; 2L+           • for signal "0", max.         3 V; 2L+           • for signal "1", min.         Rated voltage -2.5 V (2L+)           Output current         •         0.5 A           • for s		+15 to +30 V
Input delay (for rated value of input voltage)           for technological functions	· ·	
for technological functions		7 mA
— at "1" to "0", max.       10 μs; Typical         Cable length       1000 m         Digital outputs       8         • of which high-speed outputs       8         • of which high-speed outputs       8         Functions       for technology functions, e.g. high-speed cam switch signals         Short-circuit protection       Yes         • Response threshold, typ.       1 A         Limitation of inductive shutdown voltage to       48 V         Controlling a digital input       No         Switching capacity of the outputs       5 W         Load resistance range       6         • lower limit       48 Ω         • lower limit       4 kΩ         • or signal "0", max.       5 W         Output voltage       6         • for signal "0", max.       3 V; 2L+         • for signal "0", max.       3 V; 2L+         • for signal "1" rated value       0.5 A         • for signal "1" permissible range for 0 to 60 °C, min.       5 mA         • for signal "1" permissible range for 0 to 60 °C, max.       0.6 A         • for signal "1" permissible range for 0 to 60 °C, max.       0.5 A         • for signal "1" permissible range for 0 to 60 °C, max.       0.5 A         • for signal "1" permissible range for 0 to 60 °		
Cable length         • shielded, max.         Digital outputs         Number of digital outputs         • of which high-speed outputs         8         • of which high-speed outputs         8         Functions         Short-oricuit protection         • Response threshold, typ.         1 A         Limitation of inductive shutdown voltage to         48 V         Controlling a digital input         No         Switching capacity of the outputs         • on lamp load, max.         5 W         Load resistance range         • lower limit         • lower limit         • or signal "0", max.         5 V         Output voltage         • for signal "1", min.         Output current         • for signal "1" permissible range for 0 to 60 °C, min.         5 mA         • for signal "1" permissible range for 0 to 60 °C, max.         • for signal "1" permissible range for 0 to 60 °C, max.         • for signal "1" permissible range for 0 to 60 °C, max.         • for signal "1" permissible range for 0 to 60 °C, max.         • for signal "1" permissible range for 0 to 60 °C, max.         • for signal "1" permissible range for 0 to 60		
• shielded, max.       1 000 m         Digital outputs       8         Number of digital outputs       8         • of which high-speed outputs       8         Functions       for technology functions, e.g. high-speed cam switch signals         Short-circuit protection       Yes         • Response threshold, typ.       1 A         Limitation of inductive shutdown voltage to       48 V         Controlling a digital input       No         Switching capacity of the outputs       5 W         • on lamp load, max.       5 W         Load resistance range          • lower limit       48 Ω         • ourget limit       4 KΩ         Output voltage          • for signal "0", max.       3 V; 2L+         • for signal "1", min.       Rated voltage -2.5 V (2L+)         Output current       0.5 A         • for signal "1" permissible range for 0 to 60 °C, min.       5 mA         • for signal "1" permissible range for 0 to 60 °C, max.       0.6 A         • for signal "1" permissible range for 0 to 60 °C, max.       0.6 A         • for signal "1" persistile range for 0 to 60 °C, max.       0.6 A         • for signal "1" persistile range for 0 to 60 °C, max.       0.6 A         • for signal "1" persi		10 μs; Typical
Digital outputs       8         • of which high-speed outputs       8         • of which high-speed outputs       8         Functions       for technology functions, e.g. high-speed cam switch signals         Short-circuit protection       Yes         • Response threshold, typ.       1 A         Limitation of inductive shutdown voltage to       48 V         Controlling a digital input       No         Switching capacity of the outputs       5 W         • on lamp load, max.       5 W         Load resistance range       0         • lover limit       4 & Ω         • output voltage       3 V; 2L+         • for signal "0", max.       3 V; 2L+         • for signal "1", min.       Rated voltage -2.5 V (2L+)         Output voltage       0.5 A         • for signal "1" permissible range for 0 to 60 °C, min.       5 mA         • for signal "1" permissible range for 0 to 60 °C, max.       0.6 A         • for signal "1" permissible range for 0 to 60 °C, max.       0.8 A         • for signal "0" residual current, max.       0.3 mA         Parallel switching of two outputs       No         • for signal "0" residual current, max.       0.3 mA         Parallel switching of two outputs       No         • for	Cable length	
Number of digital outputs     8       • of which high-speed outputs     8       Functions     for technology functions, e.g. high-speed cam switch signals       Short-circuit protection     Yes       • Response threshold, typ.     1 A       Limitation of inductive shutdown voltage to     48 V       Controlling a digital input     No       Switching capacity of the outputs     • on lamp load, max.       • on lamp load, max.     5 W       Load resistance range     • lower limit       • lower limit     48 Ω       • or signal "0", max.     5 V       • for signal "0", max.     3 V; 2L+       • for signal "1", min.     Rated voltage -2.5 V (2L+)       Output voltage     0.5 A       • for signal "1" permissible range for 0 to 60 °C, min.     5 mA       • for signal "1" permissible range for 0 to 60 °C, max.     0.6 A       • for signal "1" permissible range for 0 to 60 °C, max.     0.6 A       • for signal "1" permissible range for 0 to 60 °C, max.     0.6 A       • for signal "1" permissible range for 0 to 60 °C, max.     0.6 A       • for signal "1" permissible range for 0 to 60 °C, max.     0.6 A       • for redundant control of a load     No       Switching frequency     No       • with inductive load, max.     0.0 Hz       • with inductive load, max.     0.		1 000 m
• of which high-speed outputs     8       Functions     for technology functions, e.g. high-speed cam switch signals       Short-circuit protection     Yes       • Response threshold, typ.     1 A       Limitation of inductive shutdown voltage to     48 V       Controlling a digital input     No       Switching capacity of the outputs     •       • on lamp load, max.     5 W       Load resistance range     •       • lower limit     48 Ω       • oupper limit     4 kΩ       Output voltage     •       • for signal "1", min.     Rated voltage -2.5 V (2L+)       Output voltage     0.5 A       • for signal "1" rated value     0.5 A       • for signal "1" rated value     0.5 A       • for signal "1" permissible range for 0 to 60 °C, min.     5 mA       • for signal "1" permissible range for 0 to 60 °C, max.     0.6 A       • for signal "1" permissible range for 0 to 60 °C, max.     0.6 A       • for signal "1" permissible range for 0 to 60 °C, max.     0.6 A       • for uprating     No       • with resistive load,		
Functions       for technology functions, e.g. high-speed cam switch signals         Short-circuit protection       Yes         • Response threshold, typ.       1 A         Limitation of inductive shutdown voltage to       48 V         Controlling a digital input       No         Switching capacity of the outputs       5 W         • on lamp load, max.       5 W         Load resistance range       •         • lower limit       48 Ω         • upper limit       4 KΩ         Output voltage       •         • for signal "0", max.       3 V; 2L+         • for signal "1" rated value       0.5 A         • for signal "1" rated value       0.5 A         • for signal "1" permissible range for 0 to 60 °C, min.       5 mA         • for signal "1" permissible range for 0 to 60 °C, max.       0.6 A         • for signal "1" permissible range for 0 to 60 °C, max.       0.6 A         • for uprating       No         • of redundant control of a load       No <t< td=""><td>Number of digital outputs</td><td>8</td></t<>	Number of digital outputs	8
Short-circuit protection       Yes         • Response threshold, typ.       1 A         Limitation of inductive shutdown voltage to       48 V         Controlling a digital input       No         Switching capacity of the outputs       •         • on lamp load, max.       5 W         Load resistance range       •         • lower limit       48 Ω         • upper limit       48 Ω         • upper limit       4 kΩ         Output voltage       •         • for signal "0", max.       3 V; 2L+         • for signal "1", min.       Rated voltage -2.5 V (2L+)         Output current       •         • for signal "1" permissible range for 0 to 60 °C, min.       5 mA         • for signal "1" permissible range for 0 to 60 °C, max.       0.5 A         • for signal "1" permissible range for 0 to 60 °C, max.       0.3 mA         Parallel Switching of two outputs       •         • for signal "1" permissible range for 0 to 60 °C, max.       0.3 mA         Parallel Switching for two outputs       •         • for signal "1" permissible range for 0 to 60 °C, max.       0.3 mA         Parallel Switching of two outputs       •         • for signal "1" permissible range for 0 to 60 °C, max.       0.3 mA         Switc	<ul> <li>of which high-speed outputs</li> </ul>	8
• Response threshold, typ.         1 A           Limitation of inductive shutdown voltage to         48 V           Controlling a digital input         No           Switching capacity of the outputs         5           • on lamp load, max.         5 W           Load resistance range         48 Ω           • lower limit         48 Ω           • upper limit         48 Ω           • upper limit         4 kΩ           Output voltage         -           • for signal "0", max.         3 V; 2L+           • for signal "1", min.         Rated voltage -2.5 V (2L+)           Output current         0.5 A           • for signal "1" rated value         0.5 A           • for signal "1" permissible range for 0 to 60 °C, min.         5 mA           • for signal "1" permissible range for 0 to 60 °C, min.         5 mA           • for signal "1" permissible range for 0 to 60 °C, max.         0.6 A           • for signal "0" residual current, max.         0.3 mA           Parallel switching of two outputs         -           • for uprating         No           • for regundant control of a load         No           Switching frequency         -           • with inductive load, max.         100 Hz           • with induct	Functions	for technology functions, e.g. high-speed cam switch signals
Limitation of inductive shutdown voltage to       48 V         Controlling a digital input       No         Switching capacity of the outputs       •         • on lamp load, max.       5 W         Load resistance range       •         • lower limit       48 Ω         • upper limit       4 kΩ         Output voltage       •         • for signal "0", max.       3 V; 2L+         • for signal "1", min.       Rated voltage -2.5 V (2L+)         Output current       •         • for signal "1" permissible range for 0 to 60 °C, min.       5 mA         • for signal "1" permissible range for 0 to 60 °C, max.       0.6 A         • for signal "0" residual current, max.       0.3 mA         Parallel switching of two outputs       •         • for regundant control of a load       No         Switching frequency       •         • with resistive load, max.       0.2 Hz; According to IEC 60947-5-1, DC-13         • on lamp load, max.       100 Hz         • on lamp load, max.       0.2 Hz; According to IEC 60947-5-1, DC-13	Short-circuit protection	Yes
Controlling a digital input       No         Switching capacity of the outputs       5 W         • on lamp load, max.       5 W         Load resistance range       4 8 Ω         • lower limit       4 8 Ω         • upper limit       4 kΩ         Output voltage       7         • for signal "0", max.       3 V; 2L+         • for signal "1", min.       Rated voltage -2.5 V (2L+)         Output current       0.5 A         • for signal "1" permissible range for 0 to 60 °C, max.       0.6 A         • for signal "1" permissible range for 0 to 60 °C, max.       0.6 A         • for signal "1" permissible range for 0 to 60 °C, max.       0.3 mA         Parallel switching of two outputs       •         • for uprating       No         • for redundant control of a load       No         Switching frequency       100 Hz         • with resistive load, max.       0.2 Hz; According to IEC 60947-5-1, DC-13         • on lamp load, max.       100 Hz         • on lamp load, max.       100 Hz	Response threshold, typ.	1 A
Switching capacity of the outputs         • on lamp load, max.       5 W         Load resistance range         • lower limit       48 Ω         • upper limit       4 kΩ         Output voltage       0         • for signal "0", max.       3 V; 2L+         • for signal "1", min.       Rated voltage -2.5 V (2L+)         Output current       0.5 A         • for signal "1" permissible range for 0 to 60 °C, min.       5 mA         • for signal "1" permissible range for 0 to 60 °C, max.       0.6 A         • for signal "0" residual current, max.       0.3 mA         Parallel switching of two outputs	Limitation of inductive shutdown voltage to	48 V
• on lamp load, max.       5 W         Load resistance range       48 Ω         • lower limit       48 Ω         • upper limit       4 kΩ         Output voltage       3 V; 2L+         • for signal "1", min.       Rated voltage -2.5 V (2L+)         Output current       0.5 A         • for signal "1" permissible range for 0 to 60 °C, min.       5 mA         • for signal "1" permissible range for 0 to 60 °C, max.       0.6 A         • for signal "0" residual current, max.       0.3 mA         Parallel switching of two outputs	Controlling a digital input	No
Load resistance range         • lower limit       48 Ω         • upper limit       4 kΩ         Output voltage       4 kΩ         • for signal "0", max.       3 V; 2L+         • for signal "1", min.       Rated voltage -2.5 V (2L+)         Output current       0.5 A         • for signal "1" permissible range for 0 to 60 °C, min.       5 mA         • for signal "1" permissible range for 0 to 60 °C, max.       0.6 A         • for signal "0" residual current, max.       0.3 mA         Parallel switching of two outputs          • for redundant control of a load       No         Switching frequency          • with inductive load, max.       0.2 Hz; According to IEC 60947-5-1, DC-13         • on lamp load, max.       100 Hz         Total current of the outputs (per group)	Switching capacity of the outputs	
• lower limit       48 Ω         • upper limit       4 kΩ         Output voltage       3 V; 2L+         • for signal "1", min.       Rated voltage -2.5 V (2L+)         Output current       0.5 A         • for signal "1" rated value       0.5 A         • for signal "1" permissible range for 0 to 60 °C, min.       5 mA         • for signal "1" permissible range for 0 to 60 °C, max.       0.6 A         • for signal "0" residual current, max.       0.3 mA         Parallel switching of two outputs       0.3 mA         • for uprating       No         • for redundant control of a load       No         Switching frequency	• on lamp load, max.	5 W
• upper limit       4 kΩ         Output voltage       3 V; 2L+         • for signal "1", min.       Rated voltage -2.5 V (2L+)         Output current       0.5 A         • for signal "1" rated value       0.5 A         • for signal "1" permissible range for 0 to 60 °C, min.       5 mA         • for signal "1" permissible range for 0 to 60 °C, max.       0.6 A         • for signal "0" residual current, max.       0.3 mA         Parallel switching of two outputs       0.3 mA         • for uprating       No         • for redundant control of a load       No         Switching frequency       100 Hz         • with resistive load, max.       0.2 Hz; According to IEC 60947-5-1, DC-13         • on lamp load, max.       100 Hz         Total current of the outputs (per group)       100 Hz	Load resistance range	
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 "1" permissible range for 0 to 60 °C, max.         • for signal "0" residual current, max.         • for signal "0" residual current, max.         • for uprating         • for redundant control of a load         Switching frequency         • with resistive load, max.         • with inductive load, max.         • on lamp load, max.         • on lamp load, max.         • Total current of the outputs (per group)	lower limit	48 Ω
• for signal "0", max.3 V; 2L+• for signal "1", min.Rated voltage -2.5 V (2L+)Output current0.5 A• for signal "1" permissible range for 0 to 60 °C, min.5 mA• for signal "1" permissible range for 0 to 60 °C, max.0.6 A• for signal "0" residual current, max.0.3 mAParallel switching of two outputs0.3 mA• for redundant control of a loadNoSwitching frequency0.0 Hz• with resistive load, max.0.2 Hz; According to IEC 60947-5-1, DC-13• on lamp load, max.100 HzTotal current of the outputs (per group)100 Hz	upper limit	4 κΩ
• for signal "1", min.Rated voltage -2.5 V (2L+)Output current• for signal "1" rated value0.5 A• for signal "1" permissible range for 0 to 60 °C, min.5 mA• for signal "1" permissible range for 0 to 60 °C, max.0.6 A• for signal "0" residual current, max.0.3 mAParallel switching of two outputs• for redundant control of a loadNoSwitching frequency• with resistive load, max.100 Hz• with inductive load, max.0.2 Hz; According to IEC 60947-5-1, DC-13• on lamp load, max.100 HzTotal current of the outputs (per group)	Output voltage	
Output current       0.5 A         • for signal "1" permissible range for 0 to 60 °C, min.       5 mA         • for signal "1" permissible range for 0 to 60 °C, max.       0.6 A         • for signal "0" residual current, max.       0.3 mA         Parallel switching of two outputs       0.3 mA         • for redundant control of a load       No         Switching frequency       No         • with resistive load, max.       100 Hz         • with inductive load, max.       0.2 Hz; According to IEC 60947-5-1, DC-13         • on lamp load, max.       100 Hz	<ul> <li>for signal "0", max.</li> </ul>	3 V; 2L+
• for signal "1" rated value0.5 A• for signal "1" permissible range for 0 to 60 °C, min.5 mA• for signal "1" permissible range for 0 to 60 °C, max.0.6 A• for signal "0" residual current, max.0.3 mAParallel switching of two outputs• for uprating• for redundant control of a loadNoSwitching frequency• with resistive load, max.• with resistive load, max.100 Hz• on lamp load, max.0.2 Hz; According to IEC 60947-5-1, DC-13• Total current of the outputs (per group)	● for signal "1", min.	Rated voltage -2.5 V (2L+)
• for signal "1" permissible range for 0 to 60 °C, min.5 mA• for signal "1" permissible range for 0 to 60 °C, max.0.6 A• for signal "0" residual current, max.0.3 mAParallel switching of two outputs0.4 mA• for upratingNo• for redundant control of a loadNoSwitching frequency100 Hz• with resistive load, max.0.2 Hz; According to IEC 60947-5-1, DC-13• on lamp load, max.100 HzTotal current of the outputs (per group)	Output current	
• for signal "1" permissible range for 0 to 60 °C, max.0.6 A• for signal "0" residual current, max.0.3 mAParallel switching of two outputs0.3 mA• for upratingNo• for redundant control of a loadNoSwitching frequencyI00 Hz• with resistive load, max.0.2 Hz; According to IEC 60947-5-1, DC-13• on lamp load, max.100 HzTotal current of the outputs (per group)	<ul> <li>for signal "1" rated value</li> </ul>	0.5 A
• for signal "0" residual current, max.       0.3 mA         Parallel switching of two outputs	<ul> <li>for signal "1" permissible range for 0 to 60 °C, min.</li> </ul>	5 mA
Parallel switching of two outputs         • for uprating       No         • for redundant control of a load       No         Switching frequency       No         • with resistive load, max.       100 Hz         • with inductive load, max.       0.2 Hz; According to IEC 60947-5-1, DC-13         • on lamp load, max.       100 Hz         Total current of the outputs (per group)	<ul> <li>for signal "1" permissible range for 0 to 60 °C, max.</li> </ul>	0.6 A
• for upratingNo• for redundant control of a loadNoSwitching frequencyIn Hz• with resistive load, max.100 Hz• with inductive load, max.0.2 Hz; According to IEC 60947-5-1, DC-13• on lamp load, max.100 HzTotal current of the outputs (per group)	<ul> <li>for signal "0" residual current, max.</li> </ul>	0.3 mA
• for redundant control of a load       No         Switching frequency       100 Hz         • with resistive load, max.       100 Hz         • with inductive load, max.       0.2 Hz; According to IEC 60947-5-1, DC-13         • on lamp load, max.       100 Hz         Total current of the outputs (per group)	Parallel switching of two outputs	
Switching frequency         • with resistive load, max.         • with inductive load, max.         • on lamp load, max.         • on lamp load, max.         Total current of the outputs (per group)	• for uprating	No
• with resistive load, max.       100 Hz         • with inductive load, max.       0.2 Hz; According to IEC 60947-5-1, DC-13         • on lamp load, max.       100 Hz	<ul> <li>for redundant control of a load</li> </ul>	No
• with resistive load, max.       100 Hz         • with inductive load, max.       0.2 Hz; According to IEC 60947-5-1, DC-13         • on lamp load, max.       100 Hz	Switching frequency	
on lamp load, max. 100 Hz Total current of the outputs (per group)		100 Hz
on lamp load, max. 100 Hz Total current of the outputs (per group)	• with inductive load, max.	0.2 Hz; According to IEC 60947-5-1, DC-13
Total current of the outputs (per group)	• on lamp load, max.	-

1 10 10	
— up to 40 °C, max.	4 A
— up to 60 °C, max.	3 A
all other mounting positions	
— up to 40 °C, max.	3 A
Cable length	4 000
• shielded, max.	1 000 m
Analog inputs	<u>.</u>
Number of analog inputs	0
Encoder	
Connectable encoders	
• 2-wire sensor	No
Interfaces	•
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	Vee
RS 485	Yes
Output current of the interface, max.	200 mA
Protocols  MPI	Yes
MPI     PROFIBUS DP master	Yes
PROFIBUS DP device	Yes
Promition Dr device     Point-to-point connection	No
MPI	NO
Number of connections	32
Transmission rate, max.	12 Mbit/s
Services	12 191010-5
— PG/OP communication	Yes
- Routing	Yes
— Global data communication	Yes
- S7 basic communication	Yes
- S7 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
— 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
<ul> <li>activation/deactivation of DP devices</li> </ul>	Yes
<ul> <li>max. number of DP devices that can be activated/deactivated at the same time.</li> </ul>	4
activated/deactivated at the same time — DPV1	Yes
Address area	
— Inputs, max.	8 192 byte
— Inputs, max. — Outputs, max.	8 192 byte
User data per DP device	0 TOL DYIG
— Inputs, max.	244 byte
— Outputs, max.	244 byte
oupaid, max.	,

1st interface / PROFIBUS DP device / header	
• GSD file	http://www.siemens.com/profibus-gsd
Transmission rate, max.	12 Mbit/s
<ul> <li>automatic baud rate search</li> </ul>	Yes; only with passive interface
<ul> <li>Address area, max.</li> </ul>	32
<ul> <li>User data per address area, max.</li> </ul>	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)	
— 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
<ul> <li>Output current of the interface, max.</li> </ul>	200 mA
Protocols	
• MPI	No
PROFIBUS DP master	Yes; DP(DRIVE)-Master
PROFIBUS DP device	No
<ul> <li>Point-to-point connection</li> </ul>	No
PROFIBUS DP master	
Transmission rate, max.	12 Mbit/s
max. number of DP devices	64
Services	
— PG/OP communication	No
— Routing	Yes
Global data communication	No
- S7 basic communication	INU
- S7 communication	
	No
	No No
— Equidistance	No No Yes
— Equidistance — Isochronous mode	No No Yes Yes
<ul> <li>— Equidistance</li> <li>— Isochronous mode</li> <li>— SYNC/FREEZE</li> </ul>	No No Yes Yos No
<ul> <li>— Equidistance</li> <li>— Isochronous mode</li> <li>— SYNC/FREEZE</li> <li>— activation/deactivation of DP devices</li> </ul>	No No Yes Yos No Yes
<ul> <li>— Equidistance</li> <li>— Isochronous mode</li> <li>— SYNC/FREEZE</li> <li>— activation/deactivation of DP devices</li> <li>— DPV1</li> </ul>	No No Yes Yes No
<ul> <li>Equidistance</li> <li>Isochronous mode</li> <li>SYNC/FREEZE</li> <li>activation/deactivation of DP devices</li> <li>DPV1</li> <li>Address area</li> </ul>	No No Yes No Yes No
<ul> <li>Equidistance</li> <li>Isochronous mode</li> <li>SYNC/FREEZE</li> <li>activation/deactivation of DP devices</li> <li>DPV1</li> <li>Address area</li> <li>Inputs, max.</li> </ul>	No No Yes Yes No Yes No
<ul> <li>— Equidistance</li> <li>— Isochronous mode</li> <li>— SYNC/FREEZE</li> <li>— activation/deactivation of DP devices</li> <li>— DPV1</li> <li>Address area</li> <li>— Inputs, max.</li> <li>— Outputs, max.</li> </ul>	No No Yes No Yes No
<ul> <li>Equidistance</li> <li>Isochronous mode</li> <li>SYNC/FREEZE</li> <li>activation/deactivation of DP devices</li> <li>DPV1</li> <li>Address area</li> <li>Inputs, max.</li> <li>Outputs, max.</li> <li>User data per DP device</li> </ul>	No No Yes Yes No Yes No 1 024 byte 1 024 byte
<ul> <li>Equidistance</li> <li>Isochronous mode</li> <li>SYNC/FREEZE</li> <li>activation/deactivation of DP devices</li> <li>DPV1</li> <li>Address area</li> <li>Inputs, max.</li> <li>Outputs, max.</li> <li>User data per DP device</li> <li>Inputs, max.</li> </ul>	No No Yes Yes No Yes No 1 024 byte 1 024 byte 244 byte
<ul> <li>Equidistance</li> <li>Isochronous mode</li> <li>SYNC/FREEZE</li> <li>activation/deactivation of DP devices</li> <li>DPV1</li> <li>Address area</li> <li>Inputs, max.</li> <li>Outputs, max.</li> <li>User data per DP device</li> <li>Inputs, max.</li> <li>Outputs, max.</li> <li>Outputs, max.</li> <li>Outputs, max.</li> </ul>	No No Yes Yes No Yes No 1 024 byte 1 024 byte
<ul> <li>Equidistance</li> <li>Isochronous mode</li> <li>SYNC/FREEZE</li> <li>activation/deactivation of DP devices</li> <li>DPV1</li> <li>Address area</li> <li>Inputs, max.</li> <li>Outputs, max.</li> <li>User data per DP device</li> <li>Inputs, max.</li> <li>Outputs, max.</li> <li>Outputs, max.</li> <li>Outputs, max.</li> <li>POUPUTS, max.</li> <li>POUTPUTS, max.</li> <li>POUTPUTS, max.</li> <li>POUTPUTS, max.</li> <li>POUTPUTS, max.</li> <li>POUTPUTS, max.</li> </ul>	No No Yes Yes No Yes No 1 024 byte 1 024 byte 244 byte 244 byte
<ul> <li>Equidistance</li> <li>Isochronous mode</li> <li>SYNC/FREEZE</li> <li>activation/deactivation of DP devices</li> <li>DPV1</li> <li>Address area</li> <li>Inputs, max.</li> <li>Outputs, max.</li> <li>User data per DP device</li> <li>Inputs, max.</li> <li>Outputs, max.</li> <li>Outputs, max.</li> <li>Outputs, max.</li> <li>Gutputs, max.</li> <li>SYNC/FREEZE</li> </ul>	No No Yes Yes No Yes No Yes No 244 byte
<ul> <li>Equidistance</li> <li>Isochronous mode</li> <li>SYNC/FREEZE</li> <li>activation/deactivation of DP devices</li> <li>DPV1</li> <li>Address area</li> <li>Inputs, max.</li> <li>Outputs, max.</li> <li>User data per DP device</li> <li>Inputs, max.</li> <li>Outputs, max.</li> <li>Outputs, max.</li> <li>Outputs, max.</li> <li>Outputs, max.</li> <li>Gutputs, max.</li> <li>Gutputs, max.</li> <li>Gutputs, max.</li> </ul>	No No Yes Yes No Yes No Yes No 244 byte 244 byte 244 byte 244 byte 244 byte 244 byte
<ul> <li>Equidistance</li> <li>Isochronous mode</li> <li>SYNC/FREEZE</li> <li>activation/deactivation of DP devices</li> <li>DPV1</li> <li>Address area</li> <li>Inputs, max.</li> <li>Outputs, max.</li> <li>User data per DP device</li> <li>Inputs, max.</li> <li>Outputs, max.</li> <li>Outputs, max.</li> <li>Outputs, max.</li> <li>Synce the evice of the</li></ul>	No No Yes Yes No Yes No 1 024 byte 1 024 byte 244 byte 244 byte
<ul> <li>Equidistance</li> <li>Isochronous mode</li> <li>SYNC/FREEZE</li> <li>activation/deactivation of DP devices</li> <li>DPV1</li> <li>Address area</li> <li>Inputs, max.</li> <li>Outputs, max.</li> <li>User data per DP device</li> <li>Inputs, max.</li> <li>Outputs, max.</li> <li>Outputs, max.</li> <li>Outputs, max.</li> <li>Protocols</li> <li>PROFIsafe</li> <li>communication functions / header</li> </ul>	No No Yes Yes No Yes No 1 024 byte 1 024 byte 244 byte 244 byte http://support.automation.siemens.com in Product Support area
<ul> <li>Equidistance</li> <li>Isochronous mode</li> <li>SYNC/FREEZE</li> <li>activation/deactivation of DP devices</li> <li>DPV1</li> <li>Address area</li> <li>Inputs, max.</li> <li>Outputs, max.</li> <li>User data per DP device</li> <li>Inputs, max.</li> <li>Outputs, max.</li> <li>Outputs, max.</li> <li>Outputs, max.</li> <li>Outputs, max.</li> <li>Protocols</li> <li>PROFIBUS DP device / header</li> <li>GSD file</li> <li>PROFIsafe</li> <li>communication functions / header</li> <li>PG/OP communication</li> </ul>	No No Yes Yes No Yes No Yes No 244 byte 244 byte 244 byte 244 byte 244 byte 244 byte
<ul> <li>Equidistance</li> <li>Isochronous mode</li> <li>SYNC/FREEZE</li> <li>activation/deactivation of DP devices</li> <li>DPV1</li> <li>Address area</li> <li>Inputs, max.</li> <li>Outputs, max.</li> <li>Outputs, max.</li> <li>User data per DP device</li> <li>Inputs, max.</li> <li>Outputs, max.</li> <li>Outputs, max.</li> <li>Qutputs, max.</li> <li>SSD file</li> <li>Protocols</li> <li>PROFIsafe</li> <li>communication functions / header</li> <li>Global data communication</li> </ul>	No No Yes No Yes No 1 024 byte 1 024 byte 244 byte 244 byte 244 byte 244 byte 245 yte 245 yte 246 yte 246 yte 246 yte 247 yte 248 yte 248 yte 248 yte 248 yte
<ul> <li>Equidistance</li> <li>Isochronous mode</li> <li>SYNC/FREEZE</li> <li>activation/deactivation of DP devices</li> <li>DPV1</li> <li>Address area</li> <li>Inputs, max.</li> <li>Outputs, max.</li> <li>SYNC/FREEZE</li> <li>Inputs, max.</li> <li>Outputs, max.</li> <li>Potocols</li> <li>PROFIsafe</li> <li>communication functions / header</li> <li>Global data communication</li> <li>supported</li> </ul>	No No Yes Yes No Yes No 1 024 byte 1 024 byte 1 024 byte 2 44 byte 244 byte 244 byte 244 byte 245 yet 244 byte 245 yet 244 byte 245 yet 244 byte 245 yet 245 yet 246 yet 246 yet 247 yet 247 yet 248 yet 248 yet 248 yet 248 yet 248 yet 249 yet 249 yet 249 yet 249 yet 249 yet 240 yet 240 yet 240 yet 240 yet 240 yet 241 yet 241 yet 242 yet 242 yet 244 byte 244 byte 245 yet 246 yet 246 yet 247 yet 247 yet 248 yet 248 yet 248 yet 248 yet 248 yet 248 yet 249 yet 249 yet 249 yet 249 yet 249 yet 249 yet 249 yet 249 yet 240 yet
<ul> <li>Equidistance</li> <li>Isochronous mode</li> <li>SYNC/FREEZE</li> <li>activation/deactivation of DP devices</li> <li>DPV1</li> <li>Address area</li> <li>Inputs, max.</li> <li>Outputs, max.</li> <li>Outputs, max.</li> <li>Outputs, max.</li> <li>Outputs, max.</li> <li>Outputs, max.</li> <li>SYNC/FREEZE</li> <li>Inputs, max.</li> <li>Outputs, max.</li> <li>Outputs, max.</li> <li>Outputs, max.</li> <li>Protocols</li> <li>PROFIsafe</li> <li>communication functions / header</li> <li>Global data communication</li> </ul>	No No Yes Yes No Yes No 1 024 byte 1 024 byte 1 024 byte 244 byte 244 byte 244 byte Yes Yes

	0
Number of GD packets, transmitter, max.	8
Number of GD packets, receiver, max.	8
<ul> <li>Size of GD packets, max.</li> </ul>	22 byte
<ul> <li>Size of GD packet (of which consistent), max.</li> </ul>	22 byte
S7 basic communication	
<ul> <li>supported</li> </ul>	Yes
<ul> <li>User data per job, max.</li> </ul>	76 byte
<ul> <li>User data per job (of which consistent), max.</li> </ul>	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
<ul> <li>User data per job, max.</li> </ul>	180 byte; With PUT/GET
<ul> <li>User data per job (of which consistent), max.</li> </ul>	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
<ul> <li>reserved for S7 basic communication</li> </ul>	0
<ul> <li>— adjustable for S7 basic communication, min.</li> </ul>	0
<ul> <li>— adjustable for S7 basic communication, max.</li> </ul>	30
-	
usable for routing	8
usable for routing S7 message functions	
usable for routing	8 32; Depending on the configured connections for PG/OP and S7 basic communication
usable for routing S7 message functions Number of login stations for message functions, max. Process diagnostic messages	32; Depending on the configured connections for PG/OP and S7 basic
usable for routing S7 message functions Number of login stations for message functions, max. Process diagnostic messages simultaneously active Alarm_S blocks, max.	32; Depending on the configured connections for PG/OP and S7 basic communication
usable for routing S7 message functions Number of login stations for message functions, max. Process diagnostic messages	32; Depending on the configured connections for PG/OP and S7 basic communication Yes
usable for routing S7 message functions Number of login stations for message functions, max. Process diagnostic messages simultaneously active Alarm_S blocks, max.	32; Depending on the configured connections for PG/OP and S7 basic communication Yes
• usable for routing S7 message functions Number of login stations for message functions, max.  Process diagnostic messages simultaneously active Alarm_S blocks, max. Test commissioning functions	32; Depending on the configured connections for PG/OP and S7 basic communication Yes 60
• usable for routing S7 message functions Number of login stations for message functions, max.  Process diagnostic messages simultaneously active Alarm_S blocks, max. Test commissioning functions Status block	32; Depending on the configured connections for PG/OP and S7 basic communication Yes 60 Yes; Up to 2 simultaneously
• usable for routing S7 message functions Number of login stations for message functions, max.  Process diagnostic messages simultaneously active Alarm_S blocks, max. Test commissioning functions Status block Single step	32; Depending on the configured connections for PG/OP and S7 basic communication Yes 60 Yes; Up to 2 simultaneously Yes
• usable for routing S7 message functions Number of login stations for message functions, max.  Process diagnostic messages simultaneously active Alarm_S blocks, max. Test commissioning functions Status block Single step Number of breakpoints	32; Depending on the configured connections for PG/OP and S7 basic communication Yes 60 Yes; Up to 2 simultaneously Yes
• usable for routing     S7 message functions     Number of login stations for message functions, max.     Process diagnostic messages     simultaneously active Alarm_S blocks, max.     Test commissioning functions     Status block     Single step     Number of breakpoints     Status/control	32; Depending on the configured connections for PG/OP and S7 basic communication         Yes         60         Yes; Up to 2 simultaneously         Yes         2; without continuation
• usable for routing     S7 message functions     Number of login stations for message functions, max.     Process diagnostic messages     simultaneously active Alarm_S blocks, max.     Test commissioning functions     Status block     Single step     Number of breakpoints     Status/control     • Status/control variable	32; Depending on the configured connections for PG/OP and S7 basic communication Yes 60 Yes; Up to 2 simultaneously Yes 2; without continuation Yes
• usable for routing     S7 message functions     Number of login stations for message functions, max.     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	32; Depending on the configured connections for PG/OP and S7 basic communication         Yes         60         Yes; Up to 2 simultaneously         Yes         2; without continuation         Yes         Inputs, outputs, memory bits, DB, times, counters
• usable for routing     S7 message functions     Number of login stations for message functions, max.     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.	32; Depending on the configured connections for PG/OP and S7 basic communication         Yes         60         Yes; Up to 2 simultaneously         Yes         2; without continuation         Yes         Inputs, outputs, memory bits, DB, times, counters 30
<ul> <li>usable for routing</li> <li>S7 message functions</li> <li>Number of login stations for message functions, max.</li> <li>Process diagnostic messages simultaneously active Alarm_S blocks, max.</li> <li>Test commissioning functions</li> <li>Status block</li> <li>Single step</li> <li>Number of breakpoints</li> <li>Status/control</li> <li>Status/control variable</li> <li>Variables</li> <li>Number of variables, max.</li> <li>– of which status variables, max.</li> </ul>	32; Depending on the configured connections for PG/OP and S7 basic communication         Yes         60         Yes; Up to 2 simultaneously         Yes         2; without continuation         Yes         Inputs, outputs, memory bits, DB, times, counters         30         30
• usable for routing     S7 message functions     Number of login stations for message functions, max.     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.     — of which control variables, max.	32; Depending on the configured connections for PG/OP and S7 basic communication         Yes         60         Yes; Up to 2 simultaneously         Yes         2; without continuation         Yes         Inputs, outputs, memory bits, DB, times, counters         30         30
• usable for routing     S7 message functions     Number of login stations for message functions, max.     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.     — of which control variables, max.     Forcing	32; Depending on the configured connections for PG/OP and S7 basic communication         Yes         60         Yes; Up to 2 simultaneously         Yes         2; without continuation         Yes         Inputs, outputs, memory bits, DB, times, counters         30         14
<ul> <li>usable for routing</li> <li>S7 message functions</li> <li>Number of login stations for message functions, max.</li> <li>Process diagnostic messages</li> <li>simultaneously active Alarm_S blocks, max.</li> <li>Test commissioning functions</li> <li>Status block</li> <li>Single step</li> <li>Number of breakpoints</li> <li>Status/control</li> <li>Status/control variable</li> <li>Variables</li> <li>Number of variables, max.</li> <li>– of which status variables, max.</li> <li>– of which control variables, max.</li> <li>Forcing</li> <li>Forcing</li> </ul>	32; Depending on the configured connections for PG/OP and S7 basic communication Yes 60 Yes; Up to 2 simultaneously Yes 2; without continuation Yes Inputs, outputs, memory bits, DB, times, counters 30 30 14 Yes
<ul> <li>usable for routing</li> <li>S7 message functions</li> <li>Number of login stations for message functions, max.</li> <li>Process diagnostic messages simultaneously active Alarm_S blocks, max.</li> <li>Test commissioning functions</li> <li>Status block</li> <li>Single step</li> <li>Number of breakpoints</li> <li>Status/control</li> <li>Status/control variable</li> <li>Variables</li> <li>Number of variables, max.</li> <li>— of which status variables, max.</li> <li>— of which control variables, max.</li> <li>Forcing</li> <li>Forcing, variables</li> <li>Number of variables, max.</li> </ul>	32; Depending on the configured connections for PG/OP and S7 basic communication Yes 60 Yes; Up to 2 simultaneously Yes 2; without continuation Yes Inputs, outputs, memory bits, DB, times, counters 30 30 14 Yes Inputs, outputs
<ul> <li>usable for routing</li> <li>S7 message functions</li> <li>Number of login stations for message functions, max.</li> <li>Process diagnostic messages</li> <li>simultaneously active Alarm_S blocks, max.</li> <li>Test commissioning functions</li> <li>Status block</li> <li>Single step</li> <li>Number of breakpoints</li> <li>Status/control</li> <li>Status/control variable</li> <li>Variables</li> <li>Number of variables, max.</li> <li>— of which status variables, max.</li> <li>— of which control variables, max.</li> <li>— Diagnostic buffer</li> </ul>	32; Depending on the configured connections for PG/OP and S7 basic communication Yes 60 Yes; Up to 2 simultaneously Yes 2; without continuation Yes Inputs, outputs, memory bits, DB, times, counters 30 30 14 Yes Inputs, outputs
<ul> <li>usable for routing</li> <li>S7 message functions</li> <li>Number of login stations for message functions, max.</li> <li>Process diagnostic messages simultaneously active Alarm_S blocks, max.</li> <li>Test commissioning functions</li> <li>Status block</li> <li>Single step</li> <li>Number of breakpoints</li> <li>Status/control</li> <li>Status/control variable</li> <li>Variables</li> <li>Number of variables, max. <ul> <li>of which status variables, max.</li> <li>of which control variables, max.</li> </ul> </li> <li>Forcing <ul> <li>Forcing</li> <li>Forcing, variables</li> <li>Number of variables, max.</li> </ul> </li> </ul>	32; Depending on the configured connections for PG/OP and S7 basic communication         Yes         60         Yes; Up to 2 simultaneously         Yes         2; without continuation         Yes         Inputs, outputs, memory bits, DB, times, counters         30         314         Yes         Inputs, outputs         Yes         Yes         Yes         Yes         Yes         Yes         Jo         Yes         Yes
<ul> <li>usable for routing</li> <li>S7 message functions</li> <li>Number of login stations for message functions, max.</li> <li>Process diagnostic messages simultaneously active Alarm_S blocks, max.</li> <li>Test commissioning functions</li> <li>Status block Single step Number of breakpoints</li> <li>Status/control</li> <li>Status/control variable</li> <li>Variables</li> <li>Number of variables, max. <ul> <li>of which status variables, max.</li> <li>of which control variables, max.</li> </ul> </li> <li>Forcing <ul> <li>Forcing</li> <li>Forcing, variables</li> <li>Number of variables, max.</li> </ul> </li> </ul>	32; Depending on the configured connections for PG/OP and S7 basic communication         Yes         60         Yes; Up to 2 simultaneously         Yes         2; without continuation         Yes         Inputs, outputs, memory bits, DB, times, counters         30         14         Yes         Inputs, outputs         10
<ul> <li>usable for routing</li> <li>S7 message functions</li> <li>Number of login stations for message functions, max.</li> <li>Process diagnostic messages simultaneously active Alarm_S blocks, max.</li> <li>Test commissioning functions</li> <li>Status block</li> <li>Single step</li> <li>Number of breakpoints</li> <li>Status/control</li> <li>Status/control variable</li> <li>Variables</li> <li>Number of variables, max. <ul> <li>of which status variables, max.</li> <li>of which control variables, max.</li> </ul> </li> <li>Forcing</li> <li>Forcing, variables</li> <li>Number of variables, max.</li> </ul> <li>Diagnostic buffer <ul> <li>present</li> <li>Number of entries, max.</li> <li>adjustable</li> </ul> </li>	32; Depending on the configured connections for PG/OP and S7 basic communication         Yes         60         Yes; Up to 2 simultaneously         Yes         2; without continuation         Yes         Inputs, outputs, memory bits, DB, times, counters         30         30         14         Yes         Inputs, outputs         10         Yes         100         No
<ul> <li>usable for routing</li> <li>S7 message functions</li> <li>Number of login stations for message functions, max.</li> <li>Process diagnostic messages simultaneously active Alarm_S blocks, max.</li> <li>Test commissioning functions</li> <li>Status block</li> <li>Single step</li> <li>Number of breakpoints</li> <li>Status/control</li> <li>Status/control variable</li> <li>Variables</li> <li>Number of variables, max. <ul> <li>– of which status variables, max.</li> <li>– of which control variables, max.</li> </ul> </li> <li>Forcing <ul> <li>Forcing</li> <li>Forcing, variables</li> <li>Number of variables, max.</li> </ul> </li> <li>Diagnostic buffer <ul> <li>present</li> <li>Number of entries, max.</li> <li>– of which powerfail-proof</li> </ul> </li> </ul>	32; Depending on the configured connections for PG/OP and S7 basic communication         Yes         60         Yes; Up to 2 simultaneously         Yes         2; without continuation         Yes         Inputs, outputs, memory bits, DB, times, counters         30         14         Yes         Inputs, outputs         10
<ul> <li>usable for routing</li> <li>S7 message functions</li> <li>Number of login stations for message functions, max.</li> <li>Process diagnostic messages simultaneously active Alarm_S blocks, max.</li> <li>Test commissioning functions</li> <li>Status block</li> <li>Single step</li> <li>Number of breakpoints</li> <li>Status/control</li> <li>Status/control variable</li> <li>Variables</li> <li>Number of variables, max. <ul> <li>of which status variables, max.</li> <li>of which control variables, max.</li> </ul> </li> <li>Forcing <ul> <li>Forcing</li> <li>Forcing, variables</li> <li>Number of variables, max.</li> </ul> </li> <li>Diagnostic buffer <ul> <li>of which powerfail-proof</li> </ul> </li> </ul> <li>Interrupts/diagnostics/status information</li>	32: Depending on the configured connections for PG/OP and S7 basic communication         Yes         60         Yes; Up to 2 simultaneously         Yes         2; without continuation         Yes         Inputs, outputs, memory bits, DB, times, counters         30         14         Yes         Inputs, outputs         10         Yes         100         No         100
<ul> <li>usable for routing</li> <li>S7 message functions</li> <li>Number of login stations for message functions, max.</li> <li>Process diagnostic messages</li> <li>simultaneously active Alarm_S blocks, max.</li> <li>Test commissioning functions</li> <li>Status block</li> <li>Single step</li> <li>Number of breakpoints</li> <li>Status/control</li> <li>Status/control variable</li> <li>Variables</li> <li>Number of variables, max.</li> <li>– of which status variables, max.</li> <li>– of which control variables, max.</li> <li>Forcing</li> <li>Forcing</li> <li>Forcing, variables</li> <li>Number of variables, max.</li> <li>– of which setus, max.</li> <li>– of variables</li> <li>Number of variables, max.</li> <li>– of which control variables, max.</li> <li>– of which powerfail-proof</li> <li>Interrupts/diagnostics/status information</li> <li>Alarms</li> </ul>	32: Depending on the configured connections for PG/OP and S7 basic communication         Yes         60         Yes; Up to 2 simultaneously         Yes         2; without continuation         Yes         Inputs, outputs, memory bits, DB, times, counters         30         30         14         Yes         Inputs, outputs         10         Yes         100         No
<ul> <li>usable for routing</li> <li>S7 message functions</li> <li>Number of login stations for message functions, max.</li> <li>Process diagnostic messages</li> <li>simultaneously active Alarm_S blocks, max.</li> <li>Test commissioning functions</li> <li>Status block</li> <li>Single step</li> <li>Number of breakpoints</li> <li>Status/control</li> <li>Status/control variable</li> <li>Variables</li> <li>Number of variables, max.</li> <li>– of which status variables, max.</li> <li>– of which control variables, max.</li> <li>– of which control variables, max.</li> <li>– of which status variables, max.</li> <li>– of which control variables, max.</li> <li>– of which status variables, max.</li> <li>– of which control variables, max.</li> <li>– of which status variables, max.</li> <li>– of which status variables, max.</li> <li>– of which control variables, max.</li> <li>– of which control variables, max.</li> <li>– of which status variables, max.</li> <li>– of which powerfail-proof</li> <li>Interrupts/diagnostics/status information</li> <li>Alarms</li> <li>Diagnostics function</li> </ul>	32: Depending on the configured connections for PG/OP and S7 basic communication         Yes         60         Yes; Up to 2 simultaneously         Yes         2; without continuation         Yes         Inputs, outputs, memory bits, DB, times, counters         30         14         Yes         Inputs, outputs         10         Yes         100         No         100
<ul> <li>usable for routing</li> <li>S7 message functions</li> <li>Number of login stations for message functions, max.</li> <li>Process diagnostic messages simultaneously active Alarm_S blocks, max.</li> <li>Test commissioning functions</li> <li>Status block</li> <li>Single step</li> <li>Number of breakpoints</li> <li>Status/control <ul> <li>Status/control</li> <li>Status/control variable</li> <li>Variables</li> <li>Number of variables, max.</li> <li>– of which status variables, max.</li> <li>– of which control variables, max.</li> </ul> </li> <li>Forcing <ul> <li>Forcing</li> <li>Forcing, variables</li> <li>Number of variables, max.</li> </ul> </li> <li>Diagnostic buffer <ul> <li>of which powerfail-proof</li> </ul> </li> <li>Interrupts/diagnostics/status information</li> <li>Alarms</li> </ul>	32: Depending on the configured connections for PG/OP and S7 basic communication         Yes         60         Yes; Up to 2 simultaneously         Yes         2; without continuation         Yes         Inputs, outputs, memory bits, DB, times, counters         30         30         14         Yes         Inputs, outputs         10         Yes         100         No

<ul> <li>Status indicator digital output (green)</li> </ul>	Yes
Potential separation	
Potential separation digital inputs	
<ul> <li>between the channels and backplane bus</li> </ul>	Yes
Potential separation digital outputs	
between the channels and backplane bus	Yes
Isolation	
Isolation tested with	500 V DC
Ambient conditions	
Ambient temperature during operation	
• min.	0 °C
• max.	60 °C
configuration / header	
Configuration software	
• STEP 7	Yes
configuration / programming / header	
Command set	see instruction list
Nesting levels	8
<ul> <li>System functions (SFC)</li> </ul>	see instruction list
<ul> <li>System function blocks (SFB)</li> </ul>	see instruction list
Programming language	
— LAD	Yes
— FBD	Yes
— STL	Yes
— SCL	Yes
— CFC	Yes
— GRAPH	Yes
— HiGraph®	Yes
Know-how protection	
<ul> <li>User program protection/password protection</li> </ul>	Yes
programming / cycle time monitoring / header	
lower limit	1 ms
• upper limit	6 000 ms
• adjustable	Yes
• preset	150 ms
Dimensions	
Width	160 mm
Height	125 mm
Depth	130 mm
Weights	
Weight, approx.	750 g
last modified:	12/8/2024

12/8/2024 🖸