SIEMENS

Data sheet



spare part SIPLUS S7-300 CPU 314C-2DP based on 6ES7314-6CH04-0AB0 with conformal coating, -25...+60 °C, compact CPU with MPI, 24 DI/16 DQ, 4 AI, 2 AQ, 1 Pt100, 4 high-speed counters (60 kHz), integrated DP interface, integrated power supply 24 V DC, work memory 192 KB, front connector (2x 40-pole) and Micro Memory Card required

Figure similar

Product type designation CPU 314C-2 DP	riguesiiiia	
Engineering with Programming package STEP 7 V5.5 + SP1 or higher or STEP 7 V5.3 + SP2 or higher with HSP 203 Supply votage Rated value (DC) 24 V; A power supply according to EN 50155 shall be used permissible range, Lower limit (DC) 28.8 V external protection for power supply lines (recommendation) Mains buffering Mains Notlage failure stored energy time Repeat rate, min. Load voltage L+ Digital inputs Reverse polarity protection Digital outputs Rated value (DC) Reverse polarity protection No Input current Current consumption (rated value) Current consumption (rated value) Current consumption (rated value) Solution in no-load operation), typ. Incush current, typ. For min load voltage L+ (without load), max. Digital outputs Form load voltage L+, max. Power loss Power loss Power loss, typ. Memory Inguri (MMC) Plug-in	General information	
Programming package Strep 7 V5.5 + SP1 or higher or STEP 7 V5.3 + SP2 or higher with HSP 203 Supply voltage Rated value (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) external protection for power supply lines (recommendation) Mains buffering • Mains buffering • Mains Voltage fallure stored energy time • Repeat rate, min. Load voltage L+ Digital inputs — load voltage / at digital input / at DC / rated value — Reverse polarity protection Digital outputs — Rated value (DC) — Reverse polarity protection No Input current Current consumption (rated value) Current consumption (rated value) Promo load voltage L+ (without load), max. Pigital inputs • from load voltage L+ (without load), max. Digital outputs • from load voltage L+ (without load), max. Power loss Power loss, typ. ### AN A B B MA Power loss Power loss, typ. ### 13 W ### Memory • integrated • expandable Load memory • Plug-in (MMC), max. • Data management on MMC (after last programming), ### 8 M Byte ###	Product type designation	CPU 314C-2 DP
Rated value (DC) permissible range, upper limit (A A A A A A A A A A A A A A A A A A A	Engineering with	
Rated value (DC) permissible range, lower limit (DC) permissible range, lower limit (DC) permissible range, upper limit (DC) 28.8 V ackernal protection for power supply lines (recommendation) Mains buffering • Mains/voltage failure stored energy time • Repeat rate, min. Load voltage L+ Digital inputs — load voltage / at digital input / at DC / rated value — Reverse polarity protection Digital outputs — Rated value (DC) — Reverse polarity protection Input current Current consumption (rated value) Current consumption (rated value) Prepared to summer of the volume of the volume of from load voltage L+ (without load), max. Digital inputs • from load voltage L+ (without load), max. Digital inputs • from load voltage L+ (without load), max. Digital outputs • from load voltage L+ (without load), max. Digital outputs • from load voltage L+, max. Fower loss Power loss, typ. 13 W Memory Work memory • integrated • expandable Load memory • Plug-in (MMC), max. • Pat management on MMC (after last programming), 8 Mbyte • Data management on MMC (after last programming), 10 a	 Programming package 	STEP 7 V5.5 + SP1 or higher or STEP 7 V5.3 + SP2 or higher with HSP 203
permissible range, lower limit (DC) permissible range, upper limit (DC) external protection for power supply lines (recommendation) Mains buffering • Mains/voltage failure stored energy time • Repeat rate, min. Load voltage L+ Digital inputs — load voltage / at digital input / at DC / rated value — Reverse polarity protection Digital outputs — Rated value (DC) — Reverse polarity protection No Input current Current consumption (rated value) Current consumption (rated value) Current consumption (rated value) Sea on A Digital inputs • from load voltage L+ (without load), max. Digital outputs • from load voltage L+ (without load), max. Digital outputs • from load voltage L+, max. Power loss Power loss, typ. 13 W Memory Work memory • integrated • expandable • Plug-in (MMC) after last programming), 1 s Ada W Miniature circuit breaker, type C; min. 2 A; miniature circuit br	Supply voltage	
permissible range, upper limit (DC) external protection for power supply lines (recommendation) Miniab suffering • Mains voltage failure stored energy time • Repeat rate, min. Load voltage L+ Digital inputs — load voltage / at digital input / at DC / rated value — Reverse polarity protection Digital outputs — Rated value (DC) — Reverse polarity protection No Input current Current consumption (rated value) Current consumption (in no-load operation), typ. Inrush current, typ. • from load voltage L+ (without load), max. Digital inputs • from load voltage L+, max. Power loss, typ. Memory Work memory • rinegrated • expandable Load memory • Plug-in (MMC)	Rated value (DC)	24 V; A power supply according to EN 50155 shall be used
external protection for power supply lines (recommendation) Mains buffering Mains voltage failure stored energy time Repeat rate, min. Load voltage L+ Digital inputs — load voltage / at digital input / at DC / rated value Reverse polarity protection Digital outputs — Rated value (DC) Reverse polarity protection Input current Current consumption (rated value) Current consumption (rated value) Current consumption (rated value) Digital inputs From load voltage L+ (without load), max. Digital outputs • from load voltage L+ (without load), max. Digital outputs • from load voltage L+, max. Power loss, typ. 13 W Memory Work memory • integrated • expandable No Load memory • Plug-in (MMC), max. • Plug-in (MMC), max. • B M Mbyte • Plug-in (MMC), max. • B M Mbyte • Data management on MMC (after last programming), 10 a	permissible range, lower limit (DC)	19.2 V
Mains buffering Mains/voltage failure stored energy time Repeat rate, min. Load voltage L+ Digital inputs — load voltage / at digital input / at DC / rated value — Reverse polarity protection Pigital outputs — Rated value (DC) — Reverse polarity protection Input current Current consumption (rated value) Current consumption (in no-load operation), typ. Inrush current, typ. 5 A Pt 0,7 A²-s Digital inputs • from load voltage L+ (without load), max. Power loss, typ. Memory Work memory Work memory • integrated • expandable No Laad memory Plug-in (MMC) • Plug-in (MMC)	permissible range, upper limit (DC)	28.8 V
Mains/voltage failure stored energy time Repeat rate, min. Load voltage L+ Digital inputs — load voltage / at digital input / at DC / rated value — Reverse polarity protection Peresense polarity protection Peresense polarity protection No Input current Current consumption (rated value) Current consumption (in no-load operation), typ. If the current, typ. Form load voltage L+ (without load), max. Digital outputs From load voltage L+ (without load), max. Digital inputs From load voltage L+, max. Fower loss Power loss Power loss, typ. Memory Work memory Pilug-in (MMC)	external protection for power supply lines (recommendation)	Miniature circuit breaker, type C; min. 2 A; miniature circuit breaker type B, min. 4 A
• Repeat rate, min. Load voltage L+ Digital inputs — load voltage / at digital input / at DC / rated value — Reverse polarity protection Peace polarity protection Peace polarity protection Input current Current consumption (rated value) Pression of the pression	Mains buffering	
Load voltage L+ Digital inputs — load voltage / at digital input / at DC / rated value — Reverse polarity protection Digital outputs — Rated value (DC) — Reverse polarity protection No Input current Current consumption (rated value) Rourent consumption (in no-load operation), typ. Inrush current, typ. 5 A Pt 0.7 A²-s Digital inputs • from load voltage L+ (without load), max. Digital outputs • from load voltage L+, max. 50 mA Power loss Power loss Power loss, typ. 13 W Memory Work memory • integrated • expandable No Load memory • Plug-in (MMC) • Plug-in (MMC), max. • B Mbyte • Plug-in (MMC), max. • B Mbyte • Plug-in (MMC), max. • B Mbyte • Data management on MMC (after last programming), 10 a	 Mains/voltage failure stored energy time 	5 ms
Digital inputs	Repeat rate, min.	1 s
load voltage / at digital input / at DC / rated value Reverse polarity protection Rated value (DC) Rated value (DC) Reverse polarity protection Rated value (DC) Reverse polarity protection Routed value (DC) Routed va	Load voltage L+	
Reverse polarity protection Pigital outputs Rated value (DC) Reverse polarity protection No Input current Current consumption (rated value) Current consumption (in no-load operation), typ. Inrush current, typ. Ft 0.7 A²-s Digital inputs Inputs In	Digital inputs	
Digital outputs — Rated value (DC) — Reverse polarity protection No Input current Current consumption (rated value) Current consumption (in no-load operation), typ. 150 mA Inrush current, typ. 5 A I't 0.7 A²-s Digital inputs • from load voltage L+ (without load), max. 80 mA Digital outputs • from load voltage L+, max. 50 mA Power loss Power loss, typ. 13 W Memory Work memory • integrated • expandable No Load memory • Plug-in (MMC) • Plug-in (MMC) Pug-in	— load voltage / at digital input / at DC / rated value	24 V
— Rated value (DC) 24 V — Reverse polarity protection No Input current Current consumption (rated value) 880 mA Current consumption (in no-load operation), typ. 150 mA Inrush current, typ. 5 A I't 0.7 A²s Digital inputs • from load voltage L+ (without load), max. 80 mA Digital outputs • from load voltage L+, max. 50 mA Power loss Power loss, typ. 13 W Memory Work memory • integrated 192 kbyte • expandable No Load memory • Plug-in (MMC) Yes • Plug-in (MMC), max. 8 Mbyte • Data management on MMC (after last programming), 10 a	 Reverse polarity protection 	Yes
— Reverse polarity protection No Input current Current consumption (rated value) 880 mA Current consumption (in no-load operation), typ. 150 mA Inrush current, typ. 5 A I't 0,7 A²-s Digital inputs • from load voltage L+ (without load), max. 80 mA Digital outputs • from load voltage L+, max. 50 mA Power loss Power loss Power loss, typ. 13 W Memory Work memory • integrated 192 kbyte • expandable No Load memory • Plug-in (MMC) Yes • Plug-in (MMC), max. 8 Mbyte • Data management on MMC (after last programming), 10 a	Digital outputs	
Input current Current consumption (rated value) 880 mA Current consumption (in no-load operation), typ. 150 mA Inrush current, typ. 5 A I't 0.7 A²-s Digital inputs • from load voltage L+ (without load), max. 80 mA Digital outputs • from load voltage L+, max. 50 mA Power loss Power loss Power loss, typ. 13 W Memory Work memory • integrated 192 kbyte • expandable No Load memory • Plug-in (MMC) Yes • Plug-in (MMC), max. 8 Mbyte • Data management on MMC (after last programming), 10 a	— Rated value (DC)	24 V
Current consumption (rated value) Current consumption (in no-load operation), typ. Inrush current, typ. 5 A Ift 0.7 A²·s Digital inputs • from load voltage L+ (without load), max. 80 mA Digital outputs • from load voltage L+, max. 50 mA Power loss Power loss, typ. 13 W Memory Work memory • integrated • expandable Load memory • Plug-in (MMC) • Plug-in (MMC), max. • Data management on MMC (after last programming), 10 a	Reverse polarity protection	No
Current consumption (in no-load operation), typ. Inrush current, typ. 5 A I*t 0.7 A*-s Digital inputs • from load voltage L+ (without load), max. 80 mA Digital outputs • from load voltage L+, max. 50 mA Power loss Power loss, typ. 13 W Memory Work memory • integrated • expandable Load memory • Plug-in (MMC) • Plug-in (MMC), max. • Data management on MMC (after last programming), 150 mA 150 mA 150 mA 150 mA	Input current	
Inrush current, typ. 5 A I²t 0.7 A²-s Digital inputs • from load voltage L+ (without load), max. 80 mA Digital outputs • from load voltage L+, max. 50 mA Power loss Power loss, typ. 13 W Memory Work memory • integrated 192 kbyte • expandable No Load memory • Plug-in (MMC) Yes • Plug-in (MMC), max. 8 Mbyte • Data management on MMC (after last programming), 10 a	Current consumption (rated value)	880 mA
Plug-in (MMC) Potential memory Plug-in (MMC), max. Plu	Current consumption (in no-load operation), typ.	150 mA
Digital inputs ● from load voltage L+ (without load), max. 80 mA Digital outputs ● from load voltage L+, max. 50 mA Power loss Power loss, typ. 13 W Memory Work memory ● integrated ● expandable Load memory ● Plug-in (MMC) ● Plug-in (MMC), max. ● Data management on MMC (after last programming), 10 a	Inrush current, typ.	5 A
 from load voltage L+ (without load), max. Digital outputs from load voltage L+, max. Fo mA Power loss Power loss, typ. Memory Work memory integrated expandable expandable No Load memory Plug-in (MMC) Plug-in (MMC), max. Plug-in (MMC), max. Data management on MMC (after last programming), 10 a 	l²t	0.7 A ² ·s
Digital outputs In from load voltage L+, max. Fower loss Power loss, typ. Memory Work memory Integrated Expandable Expandable Load memory Plug-in (MMC) Plug-in (MMC), max. Data management on MMC (after last programming), Domain Son MA Son MA 13 W Memory 192 kbyte No No Load memory Plug-in (MMC) Yes 8 Mbyte Data management on MMC (after last programming), 10 a	Digital inputs	
 from load voltage L+, max. Power loss Power loss, typ. Memory Work memory integrated expandable No Load memory Plug-in (MMC) Plug-in (MMC), max. Plug-in (MMC), max. Data management on MMC (after last programming), 10 a 	 from load voltage L+ (without load), max. 	80 mA
Power loss Power loss, typ. 13 W Memory Work memory integrated 192 kbyte expandable No Load memory Plug-in (MMC) Yes Plug-in (MMC), max. 8 Mbyte Data management on MMC (after last programming), 10 a	Digital outputs	
Power loss, typ. 13 W Memory Work memory integrated 192 kbyte expandable No Load memory Plug-in (MMC) Yes Plug-in (MMC), max. 8 Mbyte Data management on MMC (after last programming), 10 a	• from load voltage L+, max.	50 mA
Wemory Work memory integrated expandable No Load memory Plug-in (MMC) Plug-in (MMC), max. Plug-in (MMC), max. Data management on MMC (after last programming), 10 a	Power loss	
Work memory • integrated 192 kbyte • expandable No Load memory • Plug-in (MMC) Yes • Plug-in (MMC), max. 8 Mbyte • Data management on MMC (after last programming), 10 a	Power loss, typ.	13 W
 integrated expandable No Load memory Plug-in (MMC) Plug-in (MMC), max. Plug-in (MMC), max. Data management on MMC (after last programming), 10 a 	Memory	
 expandable Load memory Plug-in (MMC) Plug-in (MMC), max. Plug-in (MMC), max. Data management on MMC (after last programming), 10 a 	Work memory	
Load memory Plug-in (MMC) Plug-in (MMC), max. Data management on MMC (after last programming), 10 a	• integrated	192 kbyte
 Plug-in (MMC) Plug-in (MMC), max. Data management on MMC (after last programming), 10 a 	expandable	No
 Plug-in (MMC), max. Data management on MMC (after last programming), 10 a 	Load memory	
Data management on MMC (after last programming),	• Plug-in (MMC)	Yes
	Plug-in (MMC), max.	8 Mbyte
	(1 0 0/	10 a

Backup	
• present	Yes; Guaranteed by MMC (maintenance-free)
without battery	Yes; Program and data
CPU processing times	
for bit operations, typ.	0.06 µs
for word operations, typ.	0.12 µs
for fixed point arithmetic, typ.	0.16 µs
for floating point arithmetic, typ.	0.59 µs
CPU-blocks	
Number of blocks (total)	1 024; (DBs, FCs, FBs); the maximum number of loadable blocks can be reduced by the MMC used.
DB	
 Number, max. 	1 024; Number range: 1 to 16000
Size, max.	64 kbyte
FB	
Number, max.	1 024; Number range: 0 to 7999
• Size, max.	64 kbyte
FC	
 Number, max. 	1 024; Number range: 0 to 7999
• Size, max.	64 kbyte
OB	
Number, max.	see instruction list
• Size, max.	64 kbyte
Number of free cycle OBs	1; OB 1
Number of time alarm OBs	1; OB 10
Number of delay alarm OBs	2; OB 20, 21
 Number of cyclic interrupt OBs 	4; OB 32, 33, 34, 35
 Number of process alarm OBs 	1; OB 40
 Number of DPV1 alarm OBs 	3; OB 55, 56, 57
 Number of startup OBs 	1; OB 100
Number of asynchronous error OBs	5; OB 80, 82, 85, 86, 87
Number of synchronous error OBs	2; OB 121, 122
Nesting depth	40
• per priority class	16
additional within an error OB	4
Counters, timers and their retentivity	
S7 counter	050
• Number	256
Retentivity	V
— adjustable	Yes
— preset	Z 0 to Z 7
Counting range — lower limit	0
— lower limit — upper limit	0 999
■ IEC counter ■ present	Yes
•	SFB
TypeNumber	Unlimited (limited only by RAM capacity)
S7 times	Offinificed (infined offity by PONIVI capacity)
Number	256
Retentivity	200
— adjustable	Yes
— preset	No retentivity
Time range	
— lower limit	10 ms
— upper limit	9 990 s
abba	
IFC timer	
IEC timer • present	Yes
• present	Yes
	Yes SFB Unlimited (limited only by RAM capacity)

Retentive data area (incl. timers, counters, flags), max.	64 kbyte
Flag	
• Size, max.	256 byte
Retentivity available	Yes; MB 0 to MB 255
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.	32 kbyte; Max. 2048 bytes per block
Address area	
I/O address area	
• Inputs	2 048 byte
Outputs	2 048 byte
of which distributed	
— Inputs	2 003 byte
— Outputs	2 010 byte
Process image	
• Inputs	2 048 byte
Outputs	2 048 byte
 Inputs, adjustable 	2 048 byte
 Outputs, adjustable 	2 048 byte
 Inputs, default 	128 byte
Outputs, default	128 byte
Default addresses of the integrated channels	
— Digital inputs	124.0 to 126.7
— Digital outputs	124.0 to 125.7
— Analog inputs	752 to 761
— Analog outputs	752 to 755
Digital channels	
• Inputs	16 048
— of which central	1 016
 Outputs 	16 096
— of which central	1 008
Analog channels	
• Inputs	1 006
— of which central	253
 Outputs 	1 007
— of which central	250
Hardware configuration	
Number of expansion units, max.	3
Number of DP masters	
• integrated	1
• via CP	4
Number of operable FMs and CPs (recommended)	
• FM	8
• CP, PtP	8
• CP, LAN	10
Rack	
• Racks, max.	4
 Modules per rack, max. 	8; In rack 3 max. 7
Time of day	
Clock	
Hardware clock (real-time)	Yes
retentive and synchronizable	Yes
Backup time	6 wk; At 40 °C ambient temperature
Deviation per day, max.	10 s; Typ.: 2 s
Behavior of the clock following POWER-ON	Clock continues running after POWER OFF
Behavior of the clock following expiry of backup period	the clock continues at the time of day it had when power was switched off
20 3. a.a diodictionoming oxpiny of backap period	2.2 2.000 contained at the time of day it had thront power was switched on

On agating having against—	
Operating hours counter	1
Number	1
Number/Number range Dears of values	0
Range of values Cronvlority	0 to 2 ³ 1 hours (when using SFC 101)
Granularity	1h
• retentive	Yes; Must be restarted at each restart
Clock synchronization	
• supported	Yes
• to MPI, master	Yes
• on MPI, device	Yes
• to DP, master	Yes; With DP slave only slave clock
• on DP, device	Yes
• in AS, master	Yes
• in AS, device	No
Digital inputs	
Number of digital inputs	24
of which inputs usable for technological functions	16
integrated channels (DI)	24
Input characteristic curve in accordance with IEC 61131, type 1	Yes
Number of simultaneously controllable inputs	
horizontal installation	
— up to 40 °C, max.	24
— up to 60 °C, max.	12
vertical installation	
— up to 40 °C, max.	12
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.	8 mA
·	8 mA
• for signal "1", typ.	8 mA
for signal "1", typ. Input delay (for rated value of input voltage)	Yes; 0.1 / 0.3 / 3 / 15 ms (You can reconfigure the input delay of the standard inputs during program runtime. Please note that under certain circumstances your newly set filter time may not be effective until the next filter cycle.)
for signal "1", typ. Input delay (for rated value of input voltage) for standard inputs	Yes; 0.1 / 0.3 / 3 / 15 ms (You can reconfigure the input delay of the standard inputs during program runtime. Please note that under certain circumstances
for signal "1", typ. Input delay (for rated value of input voltage) for standard inputs — parameterizable	Yes; 0.1 / 0.3 / 3 / 15 ms (You can reconfigure the input delay of the standard inputs during program runtime. Please note that under certain circumstances your newly set filter time may not be effective until the next filter cycle.)
• for signal "1", typ. Input delay (for rated value of input voltage) for standard inputs — parameterizable — Rated value for technological functions — at "0" to "1", max.	Yes; 0.1 / 0.3 / 3 / 15 ms (You can reconfigure the input delay of the standard inputs during program runtime. Please note that under certain circumstances your newly set filter time may not be effective until the next filter cycle.)
● for signal "1", typ. Input delay (for rated value of input voltage) for standard inputs — parameterizable — Rated value for technological functions — at "0" to "1", max. Cable length	Yes; 0.1 / 0.3 / 3 / 15 ms (You can reconfigure the input delay of the standard inputs during program runtime. Please note that under certain circumstances your newly set filter time may not be effective until the next filter cycle.) 3 ms 8 µs; Minimum pulse width/minimum pause between pulses at maximum counting frequency
	Yes; 0.1 / 0.3 / 3 / 15 ms (You can reconfigure the input delay of the standard inputs during program runtime. Please note that under certain circumstances your newly set filter time may not be effective until the next filter cycle.) 3 ms 8 µs; Minimum pulse width/minimum pause between pulses at maximum counting frequency
for signal "1", typ. Input delay (for rated value of input voltage) for standard inputs — parameterizable — Rated value for technological functions — at "0" to "1", max. Cable length shielded, max. unshielded, max.	Yes; 0.1 / 0.3 / 3 / 15 ms (You can reconfigure the input delay of the standard inputs during program runtime. Please note that under certain circumstances your newly set filter time may not be effective until the next filter cycle.) 3 ms 8 µs; Minimum pulse width/minimum pause between pulses at maximum counting frequency
for signal "1", typ. Input delay (for rated value of input voltage) for standard inputs — parameterizable — Rated value for technological functions — at "0" to "1", max. Cable length • shielded, max. • unshielded, max. for technological functions	Yes; 0.1 / 0.3 / 3 / 15 ms (You can reconfigure the input delay of the standard inputs during program runtime. Please note that under certain circumstances your newly set filter time may not be effective until the next filter cycle.) 3 ms 8 µs; Minimum pulse width/minimum pause between pulses at maximum counting frequency 1 000 m; 50 m for technological functions 600 m; for technological functions: No
for signal "1", typ. Input delay (for rated value of input voltage) for standard inputs — parameterizable — Rated value for technological functions — at "0" to "1", max. Cable length shielded, max. unshielded, max. for technological functions — shielded, max.	Yes; 0.1 / 0.3 / 3 / 15 ms (You can reconfigure the input delay of the standard inputs during program runtime. Please note that under certain circumstances your newly set filter time may not be effective until the next filter cycle.) 3 ms 8 µs; Minimum pulse width/minimum pause between pulses at maximum counting frequency 1 000 m; 50 m for technological functions 600 m; for technological functions: No
for signal "1", typ. Input delay (for rated value of input voltage) for standard inputs — parameterizable — Rated value for technological functions — at "0" to "1", max. Cable length shielded, max. unshielded, max. for technological functions — shielded, max. — unshielded, max. — unshielded, max.	Yes; 0.1 / 0.3 / 3 / 15 ms (You can reconfigure the input delay of the standard inputs during program runtime. Please note that under certain circumstances your newly set filter time may not be effective until the next filter cycle.) 3 ms 8 µs; Minimum pulse width/minimum pause between pulses at maximum counting frequency 1 000 m; 50 m for technological functions 600 m; for technological functions: No
for signal "1", typ. Input delay (for rated value of input voltage) for standard inputs — parameterizable — Rated value for technological functions — at "0" to "1", max. Cable length • shielded, max. • unshielded, max. for technological functions — shielded, max. — unshielded, max.	Yes; 0.1 / 0.3 / 3 / 15 ms (You can reconfigure the input delay of the standard inputs during program runtime. Please note that under certain circumstances your newly set filter time may not be effective until the next filter cycle.) 3 ms 8 µs; Minimum pulse width/minimum pause between pulses at maximum counting frequency 1 000 m; 50 m for technological functions 600 m; for technological functions: No 50 m; at maximum count frequency not allowed
for signal "1", typ. Input delay (for rated value of input voltage) for standard inputs — parameterizable — Rated value for technological functions — at "0" to "1", max. Cable length • shielded, max. • unshielded, max. for technological functions — shielded, max. — unshielded, max. Digital outputs Number of digital outputs	Yes; 0.1 / 0.3 / 3 / 15 ms (You can reconfigure the input delay of the standard inputs during program runtime. Please note that under certain circumstances your newly set filter time may not be effective until the next filter cycle.) 3 ms 8 µs; Minimum pulse width/minimum pause between pulses at maximum counting frequency 1 000 m; 50 m for technological functions 600 m; for technological functions: No 50 m; at maximum count frequency not allowed
for signal "1", typ. Input delay (for rated value of input voltage) for standard inputs — parameterizable — Rated value for technological functions — at "0" to "1", max. Cable length • shielded, max. • unshielded, max. for technological functions — shielded, max. — unshielded, max. Digital outputs Number of digital outputs • of which high-speed outputs	Yes; 0.1 / 0.3 / 3 / 15 ms (You can reconfigure the input delay of the standard inputs during program runtime. Please note that under certain circumstances your newly set filter time may not be effective until the next filter cycle.) 3 ms 8 µs; Minimum pulse width/minimum pause between pulses at maximum counting frequency 1 000 m; 50 m for technological functions 600 m; for technological functions: No 50 m; at maximum count frequency not allowed
for signal "1", typ. Input delay (for rated value of input voltage) for standard inputs — parameterizable — Rated value for technological functions — at "0" to "1", max. Cable length • shielded, max. • unshielded, max. for technological functions — shielded, max. — unshielded, max. Digital outputs Number of digital outputs	Yes; 0.1 / 0.3 / 3 / 15 ms (You can reconfigure the input delay of the standard inputs during program runtime. Please note that under certain circumstances your newly set filter time may not be effective until the next filter cycle.) 3 ms 8 µs; Minimum pulse width/minimum pause between pulses at maximum counting frequency 1 000 m; 50 m for technological functions 600 m; for technological functions: No 50 m; at maximum count frequency not allowed 16 4; Notice: You cannot connect the fast outputs of your CPU in parallel
for signal "1", typ. Input delay (for rated value of input voltage) for standard inputs — parameterizable — Rated value for technological functions — at "0" to "1", max. Cable length • shielded, max. • unshielded, max. for technological functions — shielded, max. — unshielded, max. Digital outputs Number of digital outputs • of which high-speed outputs	Yes; 0.1 / 0.3 / 3 / 15 ms (You can reconfigure the input delay of the standard inputs during program runtime. Please note that under certain circumstances your newly set filter time may not be effective until the next filter cycle.) 3 ms 8 µs; Minimum pulse width/minimum pause between pulses at maximum counting frequency 1 000 m; 50 m for technological functions 600 m; for technological functions: No 50 m; at maximum count frequency not allowed
for signal "1", typ. Input delay (for rated value of input voltage) for standard inputs — parameterizable — Rated value for technological functions — at "0" to "1", max. Cable length • shielded, max. • unshielded, max. for technological functions — shielded, max. — unshielded, max. Digital outputs Number of digital outputs • of which high-speed outputs integrated channels (DO)	Yes; 0.1 / 0.3 / 3 / 15 ms (You can reconfigure the input delay of the standard inputs during program runtime. Please note that under certain circumstances your newly set filter time may not be effective until the next filter cycle.) 3 ms 8 µs; Minimum pulse width/minimum pause between pulses at maximum counting frequency 1 000 m; 50 m for technological functions 600 m; for technological functions: No 50 m; at maximum count frequency not allowed 16 4; Notice: You cannot connect the fast outputs of your CPU in parallel 16 Yes; Clocked electronically 1 A
for signal "1", typ. Input delay (for rated value of input voltage) for standard inputs — parameterizable — Rated value for technological functions — at "0" to "1", max. Cable length • shielded, max. • unshielded, max. for technological functions — shielded, max. — unshielded, max. — unshielded, max. — bigital outputs Number of digital outputs • of which high-speed outputs integrated channels (DO) Short-circuit protection	Yes; 0.1 / 0.3 / 3 / 15 ms (You can reconfigure the input delay of the standard inputs during program runtime. Please note that under certain circumstances your newly set filter time may not be effective until the next filter cycle.) 3 ms 8 µs; Minimum pulse width/minimum pause between pulses at maximum counting frequency 1 000 m; 50 m for technological functions 600 m; for technological functions: No 50 m; at maximum count frequency not allowed 16 4; Notice: You cannot connect the fast outputs of your CPU in parallel 16 Yes; Clocked electronically
for signal "1", typ. Input delay (for rated value of input voltage) for standard inputs — parameterizable — Rated value for technological functions — at "0" to "1", max. Cable length • shielded, max. • unshielded, max. for technological functions — shielded, max. — unshielded, max. — unshielded, max. — unshielded, max. — of which high-speed outputs integrated channels (DO) Short-circuit protection • Response threshold, typ.	Yes; 0.1 / 0.3 / 3 / 15 ms (You can reconfigure the input delay of the standard inputs during program runtime. Please note that under certain circumstances your newly set filter time may not be effective until the next filter cycle.) 3 ms 8 µs; Minimum pulse width/minimum pause between pulses at maximum counting frequency 1 000 m; 50 m for technological functions 600 m; for technological functions: No 50 m; at maximum count frequency not allowed 16 4; Notice: You cannot connect the fast outputs of your CPU in parallel 16 Yes; Clocked electronically 1 A
for signal "1", typ. Input delay (for rated value of input voltage) for standard inputs — parameterizable — Rated value for technological functions — at "0" to "1", max. Cable length • shielded, max. • unshielded, max. for technological functions — shielded, max. — unshielded, max. — unshielded, max. — unshielded, max. integrated channels (DO) Short-circuit protection • Response threshold, typ. Limitation of inductive shutdown voltage to	Yes; 0.1 / 0.3 / 3 / 15 ms (You can reconfigure the input delay of the standard inputs during program runtime. Please note that under certain circumstances your newly set filter time may not be effective until the next filter cycle.) 3 ms 8 µs; Minimum pulse width/minimum pause between pulses at maximum counting frequency 1 000 m; 50 m for technological functions 600 m; for technological functions: No 50 m; at maximum count frequency not allowed 16 4; Notice: You cannot connect the fast outputs of your CPU in parallel 16 Yes; Clocked electronically 1 A L+ (-48 V)
for signal "1", typ. Input delay (for rated value of input voltage) for standard inputs — parameterizable — Rated value for technological functions — at "0" to "1", max. Cable length • shielded, max. • unshielded, max. for technological functions — shielded, max. — unshielded, max. — unshielded, max. — unshielded, max. — inshielded, max. — unshielded, max. — unshielded, max. — unshielded, max. Digital outputs Number of digital outputs • of which high-speed outputs integrated channels (DO) Short-circuit protection • Response threshold, typ. Limitation of inductive shutdown voltage to Controlling a digital input	Yes; 0.1 / 0.3 / 3 / 15 ms (You can reconfigure the input delay of the standard inputs during program runtime. Please note that under certain circumstances your newly set filter time may not be effective until the next filter cycle.) 3 ms 8 µs; Minimum pulse width/minimum pause between pulses at maximum counting frequency 1 000 m; 50 m for technological functions 600 m; for technological functions: No 50 m; at maximum count frequency not allowed 16 4; Notice: You cannot connect the fast outputs of your CPU in parallel 16 Yes; Clocked electronically 1 A L+ (-48 V)
for signal "1", typ. Input delay (for rated value of input voltage) for standard inputs — parameterizable — Rated value for technological functions — at "0" to "1", max. Cable length • shielded, max. • unshielded, max. for technological functions — shielded, max. — unshielded, max. — unshielded, max. — unshielded, max. — in the properties of	Yes; 0.1 / 0.3 / 3 / 15 ms (You can reconfigure the input delay of the standard inputs during program runtime. Please note that under certain circumstances your newly set filter time may not be effective until the next filter cycle.) 3 ms 8 µs; Minimum pulse width/minimum pause between pulses at maximum counting frequency 1 000 m; 50 m for technological functions 600 m; for technological functions: No 50 m; at maximum count frequency not allowed 16 4; Notice: You cannot connect the fast outputs of your CPU in parallel 16 Yes; Clocked electronically 1 A L+ (-48 V) Yes
Input delay (for rated value of input voltage) for standard inputs — parameterizable — Rated value for technological functions — at "0" to "1", max. Cable length In shielded, max. In unshielded, max. In unshiel	Yes; 0.1 / 0.3 / 3 / 15 ms (You can reconfigure the input delay of the standard inputs during program runtime. Please note that under certain circumstances your newly set filter time may not be effective until the next filter cycle.) 3 ms 8 µs; Minimum pulse width/minimum pause between pulses at maximum counting frequency 1 000 m; 50 m for technological functions 600 m; for technological functions: No 50 m; at maximum count frequency not allowed 16 4; Notice: You cannot connect the fast outputs of your CPU in parallel 16 Yes; Clocked electronically 1 A L+ (-48 V) Yes
for signal "1", typ. Input delay (for rated value of input voltage) for standard inputs — parameterizable — Rated value for technological functions — at "0" to "1", max. Cable length • shielded, max. • unshielded, max. for technological functions — shielded, max. — unshielded, max. — unshielded, max. — which high-speed outputs integrated channels (DO) 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	Yes; 0.1 / 0.3 / 3 / 15 ms (You can reconfigure the input delay of the standard inputs during program runtime. Please note that under certain circumstances your newly set filter time may not be effective until the next filter cycle.) 3 ms 8 µs; Minimum pulse width/minimum pause between pulses at maximum counting frequency 1 000 m; 50 m for technological functions 600 m; for technological functions: No 50 m; at maximum count frequency not allowed 16 4; Notice: You cannot connect the fast outputs of your CPU in parallel 16 Yes; Clocked electronically 1 A L+ (-48 V) Yes 5 W
for signal "1", typ. Input delay (for rated value of input voltage) for standard inputs — parameterizable — Rated value for technological functions — at "0" to "1", max. Cable length • shielded, max. • unshielded, max. for technological functions — shielded, max. — unshielded, max. Digital outputs Number of digital outputs • of which high-speed outputs integrated channels (DO) 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	Yes; 0.1 / 0.3 / 3 / 15 ms (You can reconfigure the input delay of the standard inputs during program runtime. Please note that under certain circumstances your newly set filter time may not be effective until the next filter cycle.) 3 ms 8 μs; Minimum pulse width/minimum pause between pulses at maximum counting frequency 1 000 m; 50 m for technological functions 600 m; for technological functions: No 50 m; at maximum count frequency not allowed 16 4; Notice: You cannot connect the fast outputs of your CPU in parallel 16 Yes; Clocked electronically 1 A L+ (-48 V) Yes 5 W
for signal "1", typ. Input delay (for rated value of input voltage) for standard inputs — parameterizable — Rated value for technological functions — at "0" to "1", max. Cable length • shielded, max. • unshielded, max. for technological functions — shielded, max. — unshielded, max. Digital outputs Number of digital outputs • of which high-speed outputs integrated channels (DO) 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	Yes; 0.1 / 0.3 / 3 / 15 ms (You can reconfigure the input delay of the standard inputs during program runtime. Please note that under certain circumstances your newly set filter time may not be effective until the next filter cycle.) 3 ms 8 μs; Minimum pulse width/minimum pause between pulses at maximum counting frequency 1 000 m; 50 m for technological functions 600 m; for technological functions: No 50 m; at maximum count frequency not allowed 16 4; Notice: You cannot connect the fast outputs of your CPU in parallel 16 Yes; Clocked electronically 1 A L+ (-48 V) Yes 5 W

Output current	
for signal "1" rated value	500 mA
for signal "1" permissible range, min.	5 mA
	0.6 A
for signal "1" permissible range, max.for signal "1" minimum load current	
<u> </u>	5 mA
• for signal "0" residual current, max.	0.5 mA
Parallel switching of two outputs	Na
• for uprating	No
for redundant control of a load Cuitching for guarage	Yes
Switching frequency	100 Hz
with resistive load, max. with industries load, may.	0.5 Hz
with inductive load, max. an long load, max.	100 Hz
on lamp load, max. of the pulse outputs with registive lead, may	
of the pulse outputs, with resistive load, max. Total current of the outputs (nor group)	2.5 kHz
Total current of the outputs (per group)	
horizontal installation	2.4
— up to 40 °C, max.	3 A
— up to 60 °C, max.	2 A
vertical installation	2.4
— up to 40 °C, max.	2 A
Cable length	1,000 m
• shielded, max.	1 000 m
• unshielded, max.	600 m
Analog inputs	
Number of analog inputs	5
For voltage/current measurement	4
For resistance/resistance thermometer measurement	1
integrated channels (AI)	5; 4x current/voltage, 1x resistance
permissible input voltage for current input (destruction limit), max.	5 V; Permanent
permissible input voltage for voltage input (destruction limit), max.	30 V; Permanent
permissible input current for voltage input (destruction limit), max.	0.5 mA; Permanent
permissible input current for current input (destruction limit), max.	50 mA; Permanent
Electrical input frequency, max.	400 Hz
No-load voltage for resistance-type transmitter, typ.	3.3 V
Constant measurement current for resistance-type transmitter, typ.	1.25 mA
Technical unit for temperature measurement adjustable	Yes; Degrees Celsius / degrees Fahrenheit / Kelvin
Input ranges	
Voltage	Yes; ± 10 V / 100 k Ω ; 0 V to 10 V / 100 k Ω
Current	Yes; ±20 mA / 100 Ω ; 0 mA to 20 mA / 100 Ω ; 4 mA to 20 mA / 100 Ω
Resistance thermometer	Yes; Pt 100 / 10 MΩ
Resistance	Yes; 0 Ω to 600 Ω / 10 MΩ
Input ranges (rated values), voltages	
• 0 to +10 V	Yes
— Input resistance (0 to 10 V)	100 kΩ
Input ranges (rated values), currents	
• 0 to 20 mA	Yes
— Input resistance (0 to 20 mA)	100 Ω
• -20 mA to +20 mA	Yes
— Input resistance (-20 mA to +20 mA)	100 Ω
• 4 mA to 20 mA	Yes
— Input resistance (4 mA to 20 mA)	100 Ω
Input ranges (rated values), resistance thermometer	
• Pt 100	Yes
— Input resistance (Pt 100)	10 ΜΩ
Input ranges (rated values), resistors	
• 0 to 600 ohms	Yes
 Input resistance (0 to 600 ohms) 	10 ΜΩ

Thermocouple (TC)	
Temperature compensation	
— parameterizable	No
Characteristic linearization	110
parameterizable	Yes; by software
— for resistance thermometer	Pt 100
Cable length	1 (100
• shielded, max.	100 m
Analog outputs	100 III
	2
integrated channels (AO) Voltage output, short-circuit protection	Yes
	55 mA
Voltage output, short-circuit current, max.	14 V
Current output, no-load voltage, max. Output ranges, voltage	14 V
0 to 10 V	Yes
• -10 V to +10 V	Yes
Output ranges, current	Von
● 0 to 20 mA ● -20 mA to +20 mA	Yes
	Yes
• 4 mA to 20 mA	Yes
Connection of actuators	Vac: Without componentian of the line resistances
for voltage output two-wire connection	Yes; Without compensation of the line resistances
for vurrent output two wire connection	No Voc
for current output two-wire connection	Yes
Load impedance (in rated range of output)	41-0
with voltage outputs, min.	1 kΩ
with voltage outputs, capacitive load, max.	0.1 μF
with current outputs, max.	300 Ω
with current outputs, inductive load, max.	0.1 mH
Destruction limits against externally applied voltages and currents	40 V/ Damanant
Voltages at the outputs towards MANA	16 V; Permanent
Current, max.	50 mA; Permanent
Cable length	000
• shielded, max.	200 m
Analog value generation for the inputs	
Measurement principle	Actual value encryption (successive approximation)
Integration and conversion time/resolution per channel	
Resolution with overrange (bit including sign), max.	12 bit
Integration time, parameterizable	Yes; 16.6 / 20 ms
 Interference voltage suppression for interference frequency f1 in Hz 	50 / 60 Hz
Time constant of the input filter	0.38 ms
Basic execution time of the module (all channels)	1 ms
released)	1 110
Analog value generation for the outputs	
Integration and conversion time/resolution per channel	
 Resolution with overrange (bit including sign), max. 	12 bit
Conversion time (per channel)	1 ms
Settling time	
for resistive load	0.6 ms
• for capacitive load	1 ms
for inductive load	0.5 ms
Encoder	
Connection of signal encoders	
for voltage measurement	Yes
for current measurement as 2-wire transducer	Yes; with external supply
for current measurement as 4-wire transducer	Yes
for resistance measurement with two-wire connection	Yes; Without compensation of the line resistances
for resistance measurement with three-wire connection	No
for resistance measurement with four-wire connection	No
Connectable encoders	
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	W
• 2-wire sensor	Yes
— permissible quiescent current (2-wire sensor), max.	1.5 mA
Errors/accuracies	
Temperature error (relative to input range), (+/-)	0.006 %/K
Crosstalk between the inputs, min.	60 dB
Repeat accuracy in steady state at 25 °C (relative to input range), (+/-)	0.06 %
Output ripple (relative to output range, bandwidth 0 to 50 kHz), (+/-)	0.1 %
Linearity error (relative to output range), (+/-)	0.15 %
Temperature error (relative to output range), (+/-)	0.01 %/K
Crosstalk between the outputs, min.	60 dB
Repeat accuracy in steady state at 25 °C (relative to output range), (+/-)	0.06 %
Operational error limit in overall temperature range	
 Voltage, relative to input range, (+/-) 	1 %
 Current, relative to input range, (+/-) 	1 %
 Resistance, relative to input range, (+/-) 	1 %
 Voltage, relative to output range, (+/-) 	1 %
Current, relative to output range, (+/-)	1 %
Basic error limit (operational limit at 25 °C)	
 Voltage, relative to input range, (+/-) 	0.8 %; Linearity error ±0.06 %
Current, relative to input range, (+/-)	0.8 %; Linearity error ±0.06 %
Resistance, relative to input range, (+/-)	0.8 %; Linearity error ±0.2 %
Resistance thermometer, relative to input range, (+/-)	0.8 %
Voltage, relative to output range, (+/-)	0.8 %
Current, relative to output range, (+/-)	0.8 %
Interference voltage suppression for f = n x (f1 +/- 1 %), f1 = interference	
Series mode interference (peak value of interference < rated value of input range), min.	30 dB
Common mode interference, min.	40 dB
Interfaces	
Number of PROFINET interfaces	0
Number of PROFINET interfaces Number of RS 485 interfaces	
	0 2; MPI and PROFIBUS DP 0
Number of RS 485 interfaces Number of RS 422 interfaces	2; MPI and PROFIBUS DP
Number of RS 485 interfaces Number of RS 422 interfaces 1. Interface	2; MPI and PROFIBUS DP 0
Number of RS 485 interfaces Number of RS 422 interfaces 1. Interface Interface type	2; MPI and PROFIBUS DP 0 Integrated RS 485 interface
Number of RS 485 interfaces Number of RS 422 interfaces 1. Interface Interface type Isolated	2; MPI and PROFIBUS DP 0
Number of RS 485 interfaces Number of RS 422 interfaces 1. Interface Interface type Isolated Interface types	2; MPI and PROFIBUS DP 0 Integrated RS 485 interface No
Number of RS 485 interfaces Number of RS 422 interfaces 1. Interface Interface type Isolated Interface types • RS 485	2; MPI and PROFIBUS DP 0 Integrated RS 485 interface No Yes
Number of RS 485 interfaces Number of RS 422 interfaces 1. Interface Interface type Isolated Interface types • RS 485 • Output current of the interface, max.	2; MPI and PROFIBUS DP 0 Integrated RS 485 interface No
Number of RS 485 interfaces Number of RS 422 interfaces 1. Interface Interface type Isolated Interface types • RS 485 • Output current of the interface, max. Protocols	2; MPI and PROFIBUS DP 0 Integrated RS 485 interface No Yes 200 mA
Number of RS 485 interfaces Number of RS 422 interfaces 1. Interface Interface type Isolated Interface types RS 485 Output current of the interface, max. Protocols MPI	2; MPI and PROFIBUS DP 0 Integrated RS 485 interface No Yes 200 mA
Number of RS 485 interfaces Number of RS 422 interfaces 1. Interface Interface type Isolated Interface types RS 485 Output current of the interface, max. Protocols MPI PROFIBUS DP master	2; MPI and PROFIBUS DP 0 Integrated RS 485 interface No Yes 200 mA Yes No
Number of RS 485 interfaces Number of RS 422 interfaces 1. Interface Interface type Isolated Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP device	2; MPI and PROFIBUS DP 0 Integrated RS 485 interface No Yes 200 mA Yes No No
Number of RS 485 interfaces Number of RS 422 interfaces 1. Interface Interface type Isolated Interface types • RS 485 • Output current of the interface, max. Protocols • MPI • PROFIBUS DP master • PROFIBUS DP device • Point-to-point connection	2; MPI and PROFIBUS DP 0 Integrated RS 485 interface No Yes 200 mA Yes No
Number of RS 485 interfaces Number of RS 422 interfaces 1. Interface Interface type Isolated Interface types RS 485 Output current of the interface, max. Protocols MPI PROFIBUS DP master PROFIBUS DP device Point-to-point connection MPI	2; MPI and PROFIBUS DP 0 Integrated RS 485 interface No Yes 200 mA Yes No No No
Number of RS 485 interfaces Number of RS 422 interfaces 1. Interface Interface type Isolated Interface types RS 485 Output current of the interface, max. Protocols MPI PROFIBUS DP master PROFIBUS DP device Point-to-point connection MPI Transmission rate, max.	2; MPI and PROFIBUS DP 0 Integrated RS 485 interface No Yes 200 mA Yes No No
Number of RS 485 interfaces Number of RS 422 interfaces 1. Interface Interface type Isolated Interface types RS 485 Output current of the interface, max. Protocols MPI PROFIBUS DP master PROFIBUS DP device Point-to-point connection MPI Transmission rate, max. Services	2; MPI and PROFIBUS DP 0 Integrated RS 485 interface No Yes 200 mA Yes No No No No No
Number of RS 485 interfaces Number of RS 422 interfaces 1. Interface Interface type Isolated Interface types RS 485 Output current of the interface, max. Protocols MPI PROFIBUS DP master PROFIBUS DP device Point-to-point connection MPI Transmission rate, max. Services — PG/OP communication	2; MPI and PROFIBUS DP 0 Integrated RS 485 interface No Yes 200 mA Yes No No No No Yes Yes
Number of RS 485 interfaces Number of RS 422 interfaces 1. Interface Interface type Isolated Interface types RS 485 Output current of the interface, max. Protocols MPI PROFIBUS DP master PROFIBUS DP device Point-to-point connection MPI Transmission rate, max. Services — PG/OP communication — Routing	2; MPI and PROFIBUS DP 0 Integrated RS 485 interface No Yes 200 mA Yes No No No No Yes Yes
Number of RS 485 interfaces Number of RS 422 interfaces 1. Interface Interface type Isolated Interface types RS 485 Output current of the interface, max. Protocols MPI PROFIBUS DP master PROFIBUS DP device Point-to-point connection MPI Transmission rate, max. Services PG/OP communication Routing Global data communication	2; MPI and PROFIBUS DP 0 Integrated RS 485 interface No Yes 200 mA Yes No No No No Yes Yes Yes Yes Yes
Number of RS 485 interfaces Number of RS 422 interfaces 1. Interface Interface type Isolated Interface types RS 485 Output current of the interface, max. Protocols MPI PROFIBUS DP master PROFIBUS DP device Point-to-point connection MPI Transmission rate, max. Services — PG/OP communication Routing — Global data communication — S7 basic communication	2; MPI and PROFIBUS DP 0 Integrated RS 485 interface No Yes 200 mA Yes No No No No 187.5 kbit/s Yes Yes Yes Yes Yes
Number of RS 485 interfaces Number of RS 422 interfaces 1. Interface Interface type Isolated Interface types RS 485 Output current of the interface, max. Protocols MPI PROFIBUS DP master PROFIBUS DP device Point-to-point connection MPI Transmission rate, max. Services — PG/OP communication Routing — Global data communication — S7 basic communication — S7 communication	2; MPI and PROFIBUS DP 0 Integrated RS 485 interface No Yes 200 mA Yes No No No No Yes Yes Yes Yes Yes Yes Yes Yes; Only server, configured on one side
Number of RS 485 interfaces Number of RS 422 interfaces 1. Interface Interface type Isolated Interface types RS 485 Output current of the interface, max. Protocols MPI PROFIBUS DP master PROFIBUS DP device Point-to-point connection MPI Transmission rate, max. Services PG/OP communication Routing Global data communication S7 basic communication S7 communication S7 communication, as client	2; MPI and PROFIBUS DP 0 Integrated RS 485 interface No Yes 200 mA Yes No No No No Yes
Number of RS 485 interfaces Number of RS 422 interfaces 1. Interface Interface type Isolated Interface types RS 485 Output current of the interface, max. Protocols MPI PROFIBUS DP master PROFIBUS DP device Point-to-point connection MPI Transmission rate, max. Services — PG/OP communication Routing — Global data communication — S7 basic communication — S7 communication	2; MPI and PROFIBUS DP 0 Integrated RS 485 interface No Yes 200 mA Yes No No No No Yes Yes Yes Yes Yes Yes Yes Yes; Only server, configured on one side
Number of RS 485 interfaces Number of RS 422 interfaces 1. Interface Interface type Isolated Interface types RS 485 Output current of the interface, max. Protocols MPI PROFIBUS DP master PROFIBUS DP device Point-to-point connection MPI Transmission rate, max. Services PG/OP communication Routing Global data communication S7 basic communication S7 communication S7 communication, as client	2; MPI and PROFIBUS DP 0 Integrated RS 485 interface No Yes 200 mA Yes No No No No Yes
Number of RS 485 interfaces Number of RS 422 interfaces 1. Interface Interface type Isolated Interface types RS 485 Output current of the interface, max. Protocols MPI PROFIBUS DP master PROFIBUS DP device Point-to-point connection MPI Transmission rate, max. Services PG/OP communication Routing Global data communication S7 basic communication S7 communication, as client S7 communication, as server	2; MPI and PROFIBUS DP 0 Integrated RS 485 interface No Yes 200 mA Yes No No No No Yes
Number of RS 485 interfaces Number of RS 422 interfaces 1. Interface Interface type Isolated Interface types RS 485 Output current of the interface, max. Protocols MPI PROFIBUS DP master PROFIBUS DP device Point-to-point connection MPI Transmission rate, max. Services — PG/OP communication Routing — Global data communication — S7 basic communication — S7 communication — S7 communication, as client — S7 communication, as server Interface	2; MPI and PROFIBUS DP 0 Integrated RS 485 interface No Yes 200 mA Yes No No No No Ses Yes Yes Yes Yes Yes Yes Yes Yes Yes Y
Number of RS 485 interfaces Number of RS 422 interfaces 1. Interface Interface type Isolated Interface types RS 485 Output current of the interface, max. Protocols MPI PROFIBUS DP master PROFIBUS DP device Point-to-point connection MPI Transmission rate, max. Services — PG/OP communication — Routing — Global data communication — S7 basic communication — S7 communication — S7 communication, as client — S7 communication, as server 1. Interface Interface type	2; MPI and PROFIBUS DP 0 Integrated RS 485 interface No Yes 200 mA Yes No No No No Ses Yes Yes Yes Yes Yes Yes Yes Yes Yes Y
Number of RS 485 interfaces Number of RS 422 interfaces 1. Interface Interface type Isolated Interface types RS 485 Output current of the interface, max. Protocols MPI PROFIBUS DP master PROFIBUS DP device Point-to-point connection MPI Transmission rate, max. Services PG/OP communication Routing Global data communication S7 basic communication S7 communication S7 communication S7 communication, as client S7 communication, as server 1. Interface Interface type Isolated	2; MPI and PROFIBUS DP 0 Integrated RS 485 interface No Yes 200 mA Yes No No No No Ses Yes Yes Yes Yes Yes Yes Yes Yes Yes Y
Number of RS 485 interfaces Number of RS 422 interfaces 1. Interface Interface type Isolated Interface types RS 485 Output current of the interface, max. Protocols MPI PROFIBUS DP master PROFIBUS DP device Point-to-point connection MPI Transmission rate, max. Services PG/OP communication Routing Global data communication S7 basic communication S7 communication S7 communication S7 communication, as client S7 communication, as server 2. Interface Interface type Isolated Interface types	2; MPI and PROFIBUS DP 0 Integrated RS 485 interface No Yes 200 mA Yes No No No No No Ses Yes Yes Yes Yes Yes Yes Yes Yes Yes Y

Protocols	
• MPI	No
PROFINET IO Controller	No
PROFINET IO Device	No
PROFINET CBA	No
PROFIBUS DP master	Yes
PROFIBUS DP device	Yes
Point-to-point connection	No
PROFIBUS DP master	
 Transmission rate, max. 	12 Mbit/s
max. number of DP devices	124
Services	
— PG/OP communication	Yes
— Routing	Yes
 Global data communication 	No
— S7 basic communication	Yes; I blocks only
— S7 communication	Yes; Only server, configured on one side
 S7 communication, as client 	No
 S7 communication, as server 	Yes
— Equidistance	Yes
 Isochronous mode 	No
— SYNC/FREEZE	Yes
 activation/deactivation of DP devices 	Yes
— max. number of DP devices that can be	8
activated/deactivated at the same time	
 — Direct data exchange (slave-to-slave communication) 	Yes; as subscriber
— DPV1	Yes
Address area	165
— Inputs, max.	2 kbyte
— Outputs, max.	2 kbyte
User data per DP device	2 kDyte
— Inputs, max.	244 byte
— Outputs, max.	244 byte
— Outputs, max.	244 byte
2nd interface / DDOFIRIUS DD device / header	
2nd interface / PROFIBUS DP device / header	The latest CSD file is available on the Internet
2nd interface / PROFIBUS DP device / header • GSD file	The latest GSD file is available on the Internet (http://www.siemens.com/profibus-gsd)
• GSD file	(http://www.siemens.com/profibus-gsd) 12 Mbit/s
GSD fileTransmission rate, max.automatic baud rate search	(http://www.siemens.com/profibus-gsd) 12 Mbit/s Yes; only with passive interface
GSD fileTransmission rate, max.	(http://www.siemens.com/profibus-gsd) 12 Mbit/s
 GSD file Transmission rate, max. automatic baud rate search Address area, max. 	(http://www.siemens.com/profibus-gsd) 12 Mbit/s Yes; only with passive interface 32
 GSD file Transmission rate, max. automatic baud rate search Address area, max. User data per address area, max. Services	(http://www.siemens.com/profibus-gsd) 12 Mbit/s Yes; only with passive interface 32
 GSD file Transmission rate, max. automatic baud rate search Address area, max. User data per address area, max. Services — PG/OP communication 	(http://www.siemens.com/profibus-gsd) 12 Mbit/s Yes; only with passive interface 32 32 byte Yes
 GSD file Transmission rate, max. automatic baud rate search Address area, max. User data per address area, max. Services — PG/OP communication — Routing 	(http://www.siemens.com/profibus-gsd) 12 Mbit/s Yes; only with passive interface 32 32 byte Yes Yes; Only with active interface
 GSD file Transmission rate, max. automatic baud rate search Address area, max. User data per address area, max. Services PG/OP communication Routing Global data communication 	(http://www.siemens.com/profibus-gsd) 12 Mbit/s Yes; only with passive interface 32 32 byte Yes Yes; Only with active interface No
 GSD file Transmission rate, max. automatic baud rate search Address area, max. User data per address area, max. Services — PG/OP communication — Routing — Global data communication — S7 basic communication 	(http://www.siemens.com/profibus-gsd) 12 Mbit/s Yes; only with passive interface 32 32 byte Yes Yes; Only with active interface No No
GSD file Transmission rate, max. automatic baud rate search Address area, max. User data per address area, max. Services — PG/OP communication — Routing — Global data communication — S7 basic communication — S7 communication	(http://www.siemens.com/profibus-gsd) 12 Mbit/s Yes; only with passive interface 32 32 byte Yes Yes; Only with active interface No No Yes; Only server, configured on one side
GSD file Transmission rate, max. automatic baud rate search Address area, max. User data per address area, max. Services — PG/OP communication — Routing — Global data communication — S7 basic communication — S7 communication — S7 communication — S7 communication, as client	(http://www.siemens.com/profibus-gsd) 12 Mbit/s Yes; only with passive interface 32 32 byte Yes Yes; Only with active interface No No Yes; Only server, configured on one side No
GSD file Transmission rate, max. automatic baud rate search Address area, max. User data per address area, max. PG/OP communication Routing Global data communication S7 basic communication S7 communication S7 communication S7 communication S7 communication, as client S7 communication, as server	(http://www.siemens.com/profibus-gsd) 12 Mbit/s Yes; only with passive interface 32 32 byte Yes Yes; Only with active interface No No Yes; Only server, configured on one side No Yes
GSD file Transmission rate, max. automatic baud rate search Address area, max. User data per address area, max. Services — PG/OP communication — Routing — Global data communication — S7 basic communication — S7 communication — S7 communication — S7 communication, as client	(http://www.siemens.com/profibus-gsd) 12 Mbit/s Yes; only with passive interface 32 32 byte Yes Yes; Only with active interface No No Yes; Only server, configured on one side No
GSD file Transmission rate, max. automatic baud rate search Address area, max. User data per address area, max. Fervices PG/OP communication Routing Global data communication S7 basic communication S7 communication S7 communication S7 communication S7 communication S7 communication S7 communication, as client S7 communication, as server Direct data exchange (slave-to-slave)	(http://www.siemens.com/profibus-gsd) 12 Mbit/s Yes; only with passive interface 32 32 byte Yes Yes; Only with active interface No No Yes; Only server, configured on one side No Yes
GSD file Transmission rate, max. automatic baud rate search Address area, max. User data per address area, max. Fervices PG/OP communication Routing Global data communication S7 basic communication S7 communication S7 communication S7 communication S7 communication S7 communication, as client S7 communication, as server Direct data exchange (slave-to-slave communication)	(http://www.siemens.com/profibus-gsd) 12 Mbit/s Yes; only with passive interface 32 32 byte Yes Yes; Only with active interface No No Yes; Only server, configured on one side No Yes Yes
GSD file Transmission rate, max. automatic baud rate search Address area, max. User data per address area, max. Fervices PG/OP communication Routing Global data communication S7 basic communication S7 communication S7 communication S7 communication S7 communication S7 communication S7 communication, as client S7 communication, as server Direct data exchange (slave-to-slave communication) DPV1	(http://www.siemens.com/profibus-gsd) 12 Mbit/s Yes; only with passive interface 32 32 byte Yes Yes; Only with active interface No No Yes; Only server, configured on one side No Yes Yes
GSD file Transmission rate, max. automatic baud rate search Address area, max. User data per address area, max. Fervices PG/OP communication Routing Global data communication S7 basic communication S7 communication S7 communication S7 communication S7 communication S7 communication, as client S7 communication, as server Direct data exchange (slave-to-slave communication) DPV1 Transfer memory	(http://www.siemens.com/profibus-gsd) 12 Mbit/s Yes; only with passive interface 32 32 byte Yes Yes; Only with active interface No No Yes; Only server, configured on one side No Yes Yes No
GSD file Transmission rate, max. automatic baud rate search Address area, max. User data per address area, max. Fervices PG/OP communication Routing Global data communication S7 basic communication S7 communication S7 communication S7 communication S7 communication, as client S7 communication, as server Direct data exchange (slave-to-slave communication) DPV1 Transfer memory	(http://www.siemens.com/profibus-gsd) 12 Mbit/s Yes; only with passive interface 32 32 byte Yes Yes; Only with active interface No No Yes; Only server, configured on one side No Yes Yes Yes Yes Yes
GSD file Transmission rate, max. automatic baud rate search Address area, max. User data per address area, max. Fervices PG/OP communication Routing Global data communication S7 basic communication S7 communication, as client S7 communication, as server Direct data exchange (slave-to-slave communication) DPV1 Transfer memory Inputs Outputs	(http://www.siemens.com/profibus-gsd) 12 Mbit/s Yes; only with passive interface 32 32 byte Yes Yes; Only with active interface No No Yes; Only server, configured on one side No Yes Yes Yes Yes Yes
GSD file Transmission rate, max. automatic baud rate search Address area, max. User data per address area, max. Fervices PG/OP communication Routing Global data communication S7 basic communication S7 communication S7 communication S7 communication S7 communication, as client S7 communication, as server Direct data exchange (slave-to-slave communication) DPV1 Transfer memory Inputs Outputs Protocols PROFIsafe	(http://www.siemens.com/profibus-gsd) 12 Mbit/s Yes; only with passive interface 32 32 byte Yes Yes; Only with active interface No No Yes; Only server, configured on one side No Yes Yes Yes Yes Yes
GSD file Transmission rate, max. automatic baud rate search Address area, max. User data per address area, max. Fervices PG/OP communication Routing Global data communication S7 basic communication S7 communication S7 communication S7 communication, as client S7 communication, as server Direct data exchange (slave-to-slave communication) DPV1 Transfer memory Inputs Outputs Protocols PROFIsafe Communication functions / header	(http://www.siemens.com/profibus-gsd) 12 Mbit/s Yes; only with passive interface 32 32 byte Yes Yes; Only with active interface No No Yes; Only server, configured on one side No Yes Yes Yes No 244 byte 244 byte
GSD file Transmission rate, max. automatic baud rate search Address area, max. User data per address area, max. Fervices PG/OP communication Routing Global data communication S7 basic communication S7 communication S7 communication S7 communication S7 communication, as client S7 communication, as server Direct data exchange (slave-to-slave communication) DPV1 Transfer memory Inputs Outputs Protocols PROFIsafe Communication functions / header PG/OP communication	(http://www.siemens.com/profibus-gsd) 12 Mbit/s Yes; only with passive interface 32 32 byte Yes Yes; Only with active interface No No Yes; Only server, configured on one side No Yes Yes Yes No No 244 byte 244 byte
GSD file Transmission rate, max. automatic baud rate search Address area, max. User data per address area, max. Fervices PG/OP communication Routing Global data communication S7 basic communication S7 communication S7 communication S7 communication S7 communication, as client S7 communication, as server Direct data exchange (slave-to-slave communication) DPV1 Transfer memory Inputs Outputs Protocols PROFIsafe Communication functions / header PG/OP communication Data record routing	(http://www.siemens.com/profibus-gsd) 12 Mbit/s Yes; only with passive interface 32 32 byte Yes Yes; Only with active interface No No Yes; Only server, configured on one side No Yes Yes Yes No 244 byte 244 byte
GSD file Transmission rate, max. automatic baud rate search Address area, max. User data per address area, max. Fervices PG/OP communication Routing Global data communication S7 basic communication S7 communication S7 communication S7 communication S7 communication, as client S7 communication, as server Direct data exchange (slave-to-slave communication) DPV1 Transfer memory Inputs Outputs Protocols PROFIsafe Communication functions / header PG/OP communication	(http://www.siemens.com/profibus-gsd) 12 Mbit/s Yes; only with passive interface 32 32 byte Yes Yes; Only with active interface No No Yes; Only server, configured on one side No Yes Yes Yes No No 244 byte 244 byte

 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); 64 bytes (with X_PUT or X_GET as server)
S7 communication	
supported	Yes
• as server	Yes
• as client	Yes; Via CP and loadable FB
 User data per job, max. 	180 kbyte; With PUT/GET
 User data per job (of which consistent), max. 	240 byte; as server
S5 compatible communication	
• supported	Yes; via CP and loadable FC
Number of connections	
• overall	12
usable for PG communication	11
reserved for PG communication	1
adjustable for PG communication, min.	1
adjustable for PG communication, max.	11
usable for OP communication	11
reserved for OP communication	1
adjustable for OP communication, min.	1
•	
— adjustable for OP communication, max.	11
usable for S7 basic communication	8
— reserved for S7 basic communication	0
 — adjustable for S7 basic communication, min. 	0
— adjustable for S7 basic communication, max.	8
usable for routing	8 4; max.
usable for routing s7 message functions	4; max.
usable for routing S7 message functions Number of login stations for message functions, max.	
usable for routing S7 message functions Number of login stations for message functions, max. Process diagnostic messages	4; max. 12; 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.	4; max. 12; 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	4; max. 12; 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.	4; max. 12; 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	4; max. 12; Depending on the configured connections for PG/OP and S7 basic communication Yes 300
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	4; max. 12; Depending on the configured connections for PG/OP and S7 basic communication Yes 300 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	4; max. 12; Depending on the configured connections for PG/OP and S7 basic communication Yes 300 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	4; max. 12; Depending on the configured connections for PG/OP and S7 basic communication Yes 300 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	4; max. 12; Depending on the configured connections for PG/OP and S7 basic communication Yes 300 Yes; Up to 2 simultaneously Yes 4
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	4; max. 12; Depending on the configured connections for PG/OP and S7 basic communication Yes 300 Yes; Up to 2 simultaneously Yes 4
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	4; max. 12; Depending on the configured connections for PG/OP and S7 basic communication Yes 300 Yes; Up to 2 simultaneously Yes 4 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.	4; max. 12; Depending on the configured connections for PG/OP and S7 basic communication Yes 300 Yes; Up to 2 simultaneously Yes 4 Yes Inputs, outputs, memory bits, DB, times, counters 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	4; max. 12; Depending on the configured connections for PG/OP and S7 basic communication Yes 300 Yes; Up to 2 simultaneously Yes 4 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	4; max. 12; Depending on the configured connections for PG/OP and S7 basic communication Yes 300 Yes; Up to 2 simultaneously Yes 4 Yes Inputs, outputs, memory bits, DB, times, counters 30 30 14
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 Forcing	4; max. 12; Depending on the configured connections for PG/OP and S7 basic communication Yes 300 Yes; Up to 2 simultaneously Yes 4 Yes Inputs, outputs, memory bits, DB, times, counters 30 30 14 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 Number of variables, max. — of which status variables, max. — of which control variables, max. Forcing Forcing Forcing, variables	4; max. 12; Depending on the configured connections for PG/OP and S7 basic communication Yes 300 Yes; Up to 2 simultaneously Yes 4 Yes Inputs, outputs, memory bits, DB, times, counters 30 30 14 Yes Inputs, outputs
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 Forcing Forcing, variables Number of variables, max.	4; max. 12; Depending on the configured connections for PG/OP and S7 basic communication Yes 300 Yes; Up to 2 simultaneously Yes 4 Yes Inputs, outputs, memory bits, DB, times, counters 30 30 14 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 Number of variables, max. — of which status variables, max. — of which control variables, max. Forcing Forcing Forcing, variables Number of variables, max. Diagnostic buffer	4; max. 12; Depending on the configured connections for PG/OP and S7 basic communication Yes 300 Yes; Up to 2 simultaneously Yes 4 Yes Inputs, outputs, memory bits, DB, times, counters 30 30 14 Yes Inputs, outputs 10
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 Forcing Forcing, variables Number of variables, max. Diagnostic buffer present	4; max. 12; Depending on the configured connections for PG/OP and S7 basic communication Yes 300 Yes; Up to 2 simultaneously Yes 4 Yes Inputs, outputs, memory bits, DB, times, counters 30 30 14 Yes Inputs, outputs Yes Inputs, outputs Yes Inputs, outputs Yes Inputs, outputs
 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 Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. 	4; max. 12; Depending on the configured connections for PG/OP and S7 basic communication Yes 300 Yes; Up to 2 simultaneously Yes 4 Yes Inputs, outputs, memory bits, DB, times, counters 30 30 14 Yes Inputs, outputs 10
 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 Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. — adjustable 	4; max. 12; Depending on the configured connections for PG/OP and S7 basic communication Yes 300 Yes; Up to 2 simultaneously Yes 4 Yes Inputs, outputs, memory bits, DB, times, counters 30 30 14 Yes Inputs, outputs 10 Yes 500 No
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 Variables Number of variables, max. — of which status variables, max. — of which control variables, max. Forcing Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. — adjustable — of which powerfail-proof	4; max. 12; Depending on the configured connections for PG/OP and S7 basic communication Yes 300 Yes; Up to 2 simultaneously Yes 4 Yes Inputs, outputs, memory bits, DB, times, counters 30 30 14 Yes Inputs, outputs 10 Yes Inputs, outputs 10 Yes Inputs, outputs 10 Yes Inputs, outputs 10
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 Status/control variable Variables Number of variables, max. — of which status variables, max. — of which control variables, max. Forcing Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. — adjustable — of which powerfail-proof Number of entries readable in RUN, max.	4; max. 12; Depending on the configured connections for PG/OP and S7 basic communication Yes 300 Yes; Up to 2 simultaneously Yes Inputs, outputs, memory bits, DB, times, counters 30 30 14 Yes Inputs, outputs 10 Yes 500 No 100; Only the last 100 entries are retained 499
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 Variables Number of variables, max. — of which status variables, max. — of which control variables, max. Forcing Forcing Forcing, variables Number of variables, max. Diagnostic buffer present Number of entries, max. — adjustable — of which powerfail-proof	4; max. 12; Depending on the configured connections for PG/OP and S7 basic communication Yes 300 Yes; Up to 2 simultaneously Yes 4 Yes Inputs, outputs, memory bits, DB, times, counters 30 30 14 Yes Inputs, outputs 10 Yes Inputs, outputs 10 Yes Inputs, outputs 10 Yes Inputs, outputs 10

Service data	
can be read out	Yes
Interrupts/diagnostics/status information	
Diagnostics indication LED	
Status indicator digital input (green)	Yes
 Status indicator digital output (green) 	Yes
Integrated Functions	
Counter	
Number of counters	4; See "Technological Functions" manual
 Counting frequency, max. 	60 kHz
Frequency measurement	Yes
 Number of frequency meters 	4; up to 60 kHz (see "Technological Functions" manual)
controlled positioning	Yes
integrated function blocks (closed-loop control)	Yes; PID controller (see "Technological Functions" manual)
PID controller	Yes
Number of pulse outputs	4; Pulse width modulation up to 2.5 kHz (see "Technological Functions" Manual)
Limit frequency (pulse)	2.5 kHz
Potential separation	
Potential separation digital inputs	
Potential separation digital inputs	Yes
 between the channels 	No
 between the channels and backplane bus 	Yes
Potential separation digital outputs	
 Potential separation digital outputs 	Yes
 between the channels 	Yes
 between the channels, in groups of 	8
 between the channels and backplane bus 	Yes
Potential separation analog inputs	
 Potential separation analog inputs 	Yes; common for analog I/O
 between the channels 	No
 between the channels and backplane bus 	Yes
Potential separation analog outputs	
 Potential separation analog outputs 	Yes; common for analog I/O
 between the channels 	No
 between the channels and backplane bus 	Yes
solation	
Isolation tested with	500 V AC for 1 minute
Standards, approvals, certificates	
CE mark	Yes
UL approval	Yes
RCM (formerly C-TICK)	Yes
KC approval	Yes
EAC (formerly Gost-R)	Yes
Use in hazardous areas	
• ATEX	No
Railway application	
● EN 50155	Yes; Sections 4, 5 and 12; no further agreements apply; T1, Category 1, Class A/B, EN 50155:2007
Ambient conditions	
Ambient temperature during operation	
• min.	-25 °C; = Tmin
• max.	60 °C; = Tmax; the rated temperature range of -25 +55 °C (T1) applies for the use on railway vehicles according to EN50155
Ambient temperature during storage/transportation	
• min.	-40 °C
• max.	70 °C
Altitude during operation relating to sea level	
 Installation altitude above sea level, max. 	5 000 m
Ambient air temperature-barometric pressure-altitude	Tmin Tmax at 1 140 hPa 795 hPa (-1 000 m +2 000 m) // Tmin (Tmax -10 K) at 795 hPa 658 hPa (+2 000 m +3 500 m) // Tmin (Tmax -20 K) at 658 hPa 540 hPa (+3 500 m +5 000 m)

Relative humidity			
 With condensation, tested in accordance with IEC 60068- 2-38, max. 	100 %; RH incl. condensation/fr conditions)	rost (no commissioning	under condensation
esistance			
Use in stationary industrial systems			
— to biologically active substances according to EN 60721-3-3	Yes; Class 3B2 mold, fungus ar Class 3B3 on request		
— to chemically active substances according to EN 60721-3-3	Yes; Class 3C4 (RH < 75 %) inc degree 3); *	. ,	60068-2-52 (severity
 to mechanically active substances according to EN 60721-3-3 	Yes; Class 3S4 incl. sand, dust,	, *	
Use on land craft, rail vehicles and special-purpose vehicles			
— to biologically active substances according to EN 60721-3-5	Yes; Class 5B2 mold, fungus ar Class 5B3 on request		·
— to chemically active substances according to EN 60721-3-5	Yes; Class 5C3 (RH < 75 %) ind		50155 (S12); *
to mechanically active substances according to EN 60721-3-5	Yes; Class 5S3 incl. sand, dust;	· *	
Remark			
 Note regarding classification of environmental conditions acc. to EN 60721, EN 60654-4 and ANSI/ISA-71.04 	* The supplied plug covers mus during operation!	t remain in place over th	ne unused interfaces
nfiguration / header			
Configuration software			
• STEP 7	Yes; STEP 7 V5.5 + SP1 or high	her or STEP 7 V5.3 + S	P2 or higher with HSP
STEP 7 Lite	No		
onfiguration / programming / header			
Command set	see instruction list		
Nesting levels	8		
System functions (SFC)	see instruction list		
System function blocks (SFB)	see instruction list		
Programming language			
— LAD	Yes		
— FBD	Yes		
— STL	Yes		
— SCL	Yes		
— CFC	Yes		
— GRAPH	Yes		
— HiGraph®	Yes		
Know-how protection			
User program protection/password protection	Yes		
Block encryption	Yes; With S7 block Privacy		
mensions	100		
Vidth	120 mm		
Height	125 mm		
Depth	130 mm	_	_
eights	680 g		
Weight, approx. assifications	000 g		_
		Version	Classification
	eClass	14	27-24-22-07
	eClass	12	27-24-22-07
	eClass	9.1	27-24-22-07
	eClass	9	27-24-22-07
	eClass	8	27-24-22-07
		7.1	27-24-22-07
	eClass		
	eClass		
	eClass	6	27-24-22-07

EC000236

7

ETIM

IDEA	4	3565
UNSPSC	15	32-15-17-05

Approvals / Certificates

General Product Approval

Miscellaneous

Manufacturer Declaration Declaration of Conformity







EMV

<u>KC</u>



last modified:

12/8/2024