SIEMENS

Data sheet

6ES7214-2AD23-0XB0

SIMATIC S7-200, CPU 224XP COMPACT UNIT, DC POWER SUPPLY 14 DI DC/10 DO DC, 2 AI, 1 AO 12/16 KB CODE/10 KB DATA, 2 PPI/FREEPORT PORTS



Figure similar

Supply voltage	
Rated value (DC)	
• 24 V DC	Yes
Load voltage L+	
Rated value (DC)	24 V
 permissible range, lower limit (DC) 	20.4 V
• permissible range, upper limit (DC)	28.8 V
Input current	
Inrush current, max.	12 A; at 28.8 V
from supply voltage L+, max.	900 mA; 120 mA to 900 mA, output current for expansion modules
	(5 V DC) 660 mA
Encoder supply	
24 V encoder supply	
• 24 V	Yes; permissible range: 15.4 to 28.8 V
Short-circuit protection	Yes; electronic at 280 mA

280 mA

• Output current, max.

Memory	
Number of memory modules (optional)	1; pluggable memory module, content identical with integral EEPROM; can additionally store recipes, data logs and other files
Work memory	
• integrated (for program)	16 kbyte; 12 KB with active run-time edit
• integrated (for data)	10 kbyte
Backup	
● present	Yes; Program: Entire program maintenance-free on integral EEPROM, programmable via CPU; data: Entire DB 1 loaded from PG/PC maintenance-free on integral EEPROM, current values of DB 1 in RAM, retentive memory bits, timers, counters, etc. maintenance-free via high-performance capacitor; optional battery for long-term buffering
Battery	
Backup battery	
Backup time, max.	100 h; (min. 70 h at 40 °C); 200 days (typ.) with optional battery module
CPU processing times	
for bit operations, max.	0.22 μs
Counters, timers and their retentivity	
S7 counter	
Number	256
of which retentive with battery	
— can be set	Yes; via high-performance capacitor or battery
— lower limit	1
— upper limit	256
Counting range	
— lower limit	0
— upper limit	32 767
S7 times	
Number	256
of which retentive with battery	
— adjustable	Yes; via high-performance capacitor or battery
— upper limit	64
Time range	
— lower limit	1 ms
— upper limit	54 min; 4 timers: 1 ms to 30 s; 16 timers: 10 ms to 5 min; 236 timers: 100 ms to 54 min
Data areas and their retentivity	
Flag	
Number, max.	32 byte
 Retentivity available 	Yes; M 0.0 to M 31.7

+ of which retentive without battery Hardware configuration T; Only expansion modules of the S7-22x series can be used. Due to the limited output current, the use of expansion modules may be limited.	of which retentive with battery	0 to 255, via high-performance capacitor or battery, adjustable
Number of expansion units, max. 7; Only expansion modules of the S7-22x series can be used. Due to the limited output current, the use of expansion modules may be limited. SIMATIC PG/PC, standard PC Expansion modules • Analog inputs/outputs, max. • As-Interface inputs/outputs, max. • Digital inputs/outputs, max. • Digital inputs/outputs, max. • As-Interface A/B slaves (CP 243-2) Digital inputs 14	of which retentive without battery	0 to 112 in EEPROM, adjustable
Number of expansion units, max. 7; Only expansion modules of the S7-22x series can be used. Due to the limited output current, the use of expansion modules may be limited. SIMATIC PG/PC, standard PC Expansion modules • Analog inputs/outputs, max. • As-Interface inputs/outputs, max. • Digital inputs/outputs, max. • Digital inputs/outputs, max. • As-Interface A/B slaves (CP 243-2) Digital inputs 14	Hardware configuration	
to the limited output current, the use of expansion modules may be limited. connectable programming devices/PCs Expansion modules • Analog inputs/outputs, max. • Digital inputs/outputs, max. • Digital inputs/outputs, max. • AS-Interface A/B slaves (CP 243-2) Digital inputs Number of digital inputs 14 Yes; optionally, per group Input voltage • Rated value (DC) • for signal "0" • OV to 5V; OV to 1V (10.3 to 10.5) min. 15 V; min. 4 V (10.3 to 10.5) Input delay (for rated value of input voltage) for standard inputs — parameterizable — at "0" to "1", min. — at "0" to "1", max. 12.8 ms for interrupt inputs — parameterizable — parameterizable — yes; I 0.0 to I 0.3 for counter/technological functions — parameterizable • shielded, max. • unshielded, max. • unshielded, max. • unshielded, max. • outputs Number of digital outputs Number of digital outputs Number of digital outputs Number of digital outputs No; to be provided externally Limitation of inductive shutdown voltage to Switching capacity of the outputs • with resistive load, max. • on lamp load, max. • on lamp load, max. • on lamp load, max. • on lamp load, max. • on lamp load, max. • on lamp load, max. • on lamp load, max. • on lamp load, max. • on lamp load, max. • on lamp load, max. • on lamp load, max.	<u> </u>	7; Only expansion modules of the S7-22x series can be used. Due
Expansion modules • Analog inputs/outputs, max. • Digital inputs/outputs, max. • Digital inputs/outputs, max. • AS-Interface A/B slaves (CP 243-2) Digital inputs Number of digital inputs 14 Source/sink input Yes: optionally, per group 19 10 10 10 10 10 10 10 10 10	• ,	to the limited output current, the use of expansion modules may
Analog inputs/outputs, max. Digital inputs/outputs, max. AS-Interface inputs/outputs, max. Digital inputs Number of digital inputs 14 Source/sink input Yes; optionally, per group Input voltage Rated value (DC) for signal "0" ov to 5V; ov to 1V (10.3 to 10.5) input current for signal "1", typ. 2.5 mA; 8 mA for 10.3 to 10.5 Input delay (for rated value of input voltage) for standard inputs — parameterizable — at "0" to "1", min. — at "0" to "4", max. for interrupt inputs — parameterizable — oshielded, max. 500 m; Standard input: 500 m, high-speed counters: 50 m 300 m; not for high-speed signals Digital outputs Number of digital outputs No; to be provided externally Limitation of inductive shutdown voltage to Switching capacity of the outputs with resistive load, max. on lamp load, max. 5 W	connectable programming devices/PCs	SIMATIC PG/PC, standard PC
Outputs (EM) or max. 0 inputs and 14 outputs (EM) Objetal inputs/outputs, max. AS-interface inputs/outputs, max. 62; AS-Interface A/B slaves (CP 243-2) Digital inputs Number of digital inputs Source/sink input Yes; optionally, per group Input voltage Rated value (DC) of or signal "0" of or signal "1" of or signal "1" of or signal "1", typ. Input delay (for rated value of input voltage) for standard inputs — parameterizable — at "0" to "1", min. — at "0" to "1", max. for interrupt inputs — parameterizable Yes; I 0.0 to I 0.3 for counter/technological functions — parameterizable Ves; (E 0.0 to E 1.5) up to 200 kHz Cable length Source/sink input Old Transistor No, to be provided externally Limitation of inductive shutdown voltage to Switching capacity of the outputs with resistive load, max. on lamp load, max. O.75 A outputs and 74 outputs (CPU + EM) 62; AS-Interface A/B slaves (CP 243-2) 18, max. 94 inputs and 74 outputs and 74 out	Expansion modules	
AS-Interface inputs/outputs, max. AS-Interface A/B slaves (CP 243-2)	Analog inputs/outputs, max.	
Number of digital inputs Number of digital inputs Source/sink input Yes; optionally, per group Input voltage Rated value (DC) for signal "0" Vto 5V; 0V to 1V (I0.3 to I0.5) min. 15 V; min. 4 V (I 0.3 to I0.5) Input current for signal "1", typ. 2.5 mA; 8 mA for I0.3 to I0.5 Input delay (for rated value of input voltage) for standard inputs - parameterizable - at "0" to "1", min. - at "0" to "1", max. for interrupt inputs - parameterizable Yes; all - at "0" to "1", max. 12.8 ms for interrupt inputs - parameterizable Yes; I 0.0 to I 0.3 for counter/technological functions - parameterizable Yes; (E 0.0 to E 1.5) up to 200 kHz Cable length shielded, max. unshielded, max. 500 m; Standard input: 500 m, high-speed counters: 50 m 300 m; not for high-speed signals Digital outputs Number of digital outputs Number of digital outputs No; to be provided externally Limitation of inductive shutdown voltage to 1 W Switching capacity of the outputs with resistive load, max. 0.75 A on lamp load, max.	 Digital inputs/outputs, max. 	168; max. 94 inputs and 74 outputs (CPU + EM)
Number of digital inputs Source/sink input Yes; optionally, per group Rated value (DC) • for signal "0" • for signal "1" Input current • for signal "1", typ. Input delay (for rated value of input voltage) for standard inputs — parameterizable — at "0" to "1", min. — at "0" to "1", max. for interrupt inputs — parameterizable — parameterizable — yes; 1 0.0 to 1 0.3 for counter/technological functions — parameterizable • shielded, max. • unshielded, max. • unshielded, max. 10	 AS-Interface inputs/outputs, max. 	62; AS-Interface A/B slaves (CP 243-2)
Source/sink input Input voltage Rated value (DC) for signal "1" Vtype Signal "1" Vtype Signal "1", type Sig	Digital inputs	
Input voltage Rated value (DC) for signal "0" Voto 5V; 0V to 1V (10.3 to 10.5) min. 15 V; min. 4 V (1 0.3 to 10.5) Input current for signal "1", typ. 2.5 mA; 8 mA for 10.3 to 10.5 Input delay (for rated value of input voltage) for standard inputs parameterizable parameterizable yes; all at "0" to "1", min. yes; all at "0" to "1", max. yes; 10.0 to 10.3 for counter/technological functions parameterizable Yes; (E 0.0 to E 1.5) up to 200 kHz Cable length shielded, max. you my standard input: 500 m, high-speed counters: 50 m you mishielded, max. you mishielded, max. you mishielded, max. you mishielded, max. you mishielded externally Limitation of inductive shutdown voltage to with resistive load, max. on lamp load, max. on lamp load, max. on lamp load, max. on lamp load, max. on lamp load, max. over the Victor of		14
Rated value (DC) • for signal "0" • for signal "1" • for signal "1", typ. • for signal "1", typ. • 2.5 mA; 8 mA for I0.3 to I0.5 Input delay (for rated value of input voltage) for standard inputs — parameterizable — at "0" to "1", min. — at "0" to "1", max. for interrupt inputs — parameterizable — yes; I 0.0 to I 0.3 for counter/technological functions — parameterizable • shielded, max. • unshielded, max. Digital outputs Number of digital outputs Number of digital outputs • with resistive load, max. • on lamp load, max. • on lamp load, max. • on lamp load, max. • O.75 A • with resistive load, max. • on lamp load, max. 5 W 24 V 00 to 5V; OV to 1V (I0.3 to I0.5) min. 15 V; min. 4 V (I 0.3 to I 0.5) No. to 10.3 to I0.5 No. to 10.5 No.	Source/sink input	Yes; optionally, per group
for signal "0"	Input voltage	
• for signal "1" min. 15 V; min. 4 V (I 0.3 to I 0.5) Input current • for signal "1", typ. 2.5 mA; 8 mA for I0.3 to I0.5 Input delay (for rated value of input voltage) for standard inputs — parameterizable Yes; all — at "0" to "1", min. 0.2 ms — at "0" to "1", max. 12.8 ms for interrupt inputs — parameterizable Yes; I 0.0 to I 0.3 for counter/technological functions — parameterizable Yes; (E 0.0 to E 1.5) up to 200 kHz Cable length • shielded, max. 500 m; Standard input: 500 m, high-speed counters: 50 m • unshielded, max. 300 m; not for high-speed signals Digital outputs Number of digital outputs Number of digital outputs Short-circuit protection No; to be provided externally Limitation of inductive shutdown voltage to 1 W Switching capacity of the outputs • with resistive load, max. 0.75 A • on lamp load, max. 5 W	Rated value (DC)	24 V
Input current • for signal "1", typ. Input delay (for rated value of input voltage) for standard inputs — parameterizable — at "0" to "1", min. — at "0" to "1", max. for interrupt inputs — parameterizable Yes; all 9 yes; 1 0.0 to 1 0.3 for counter/technological functions — parameterizable Ves; (E 0.0 to E 1.5) up to 200 kHz Cable length • shielded, max. • unshielded, max. 500 m; Standard input: 500 m, high-speed counters: 50 m • unshielded, max. 300 m; not for high-speed signals Digital outputs Number of digital outputs Number of digital outputs Short-circuit protection Limitation of inductive shutdown voltage to • with resistive load, max. • unampload, max. • unampload, max. • on lamp load, max. 5 W	● for signal "0"	0V to 5V; 0V to 1V (I0.3 to I0.5)
for signal "1", typ. Input delay (for rated value of input voltage) for standard inputs — parameterizable — at "0" to "1", min. — at "0" to "1", max. for interrupt inputs — parameterizable — parameterizable Yes; 1 0.0 to 1 0.3 for counter/technological functions — parameterizable Yes; (E 0.0 to E 1.5) up to 200 kHz Cable length • shielded, max. • unshielded, max. • unshielded, max. Digital outputs Number of digital outputs Number of digital outputs No; to be provided externally Limitation of inductive shutdown voltage to No; to be provided externally Limitation of inductive shutdown voltage to with resistive load, max. o n lamp load, max. 5 W	• for signal "1"	min. 15 V; min. 4 V (I 0.3 to I 0.5)
Input delay (for rated value of input voltage) for standard inputs — parameterizable — at "0" to "1", min. — at "0" to "1", max. for interrupt inputs — parameterizable — yes; I 0.0 to I 0.3 for counter/technological functions — parameterizable Yes; (E 0.0 to E 1.5) up to 200 kHz Cable length • shielded, max. • unshielded, max. • unshielded, max. Digital outputs Number of digital outputs Number of digital outputs Short-circuit protection No; to be provided externally Limitation of inductive shutdown voltage to • with resistive load, max. • on lamp load, max. 5 W	Input current	
for standard inputs — parameterizable — at "0" to "1", min. — at "0" to "1", max. 12.8 ms for interrupt inputs — parameterizable — parameterizable — parameterizable — parameterizable — parameterizable — parameterizable — yes; (E 0.0 to E 1.5) up to 200 kHz Cable length • shielded, max. • unshielded, max. 500 m; Standard input: 500 m, high-speed counters: 50 m 300 m; not for high-speed signals Digital outputs Number of digital outputs No; to be provided externally Limitation of inductive shutdown voltage to Switching capacity of the outputs • with resistive load, max. • on lamp load, max. 5 W	● for signal "1", typ.	2.5 mA; 8 mA for I0.3 to I0.5
parameterizable Yes; all at "0" to "1", min at "0" to "1", max. 12.8 ms for interrupt inputs parameterizable Yes; I 0.0 to I 0.3 for counter/technological functions parameterizable Yes; (E 0.0 to E 1.5) up to 200 kHz Cable length • shielded, max. • unshielded, max. 10; Transistor Short-circuit protection No; to be provided externally Limitation of inductive shutdown voltage to with resistive load, max. • unlamp load, max. 0.75 A • on lamp load, max.	Input delay (for rated value of input voltage)	
- at "0" to "1", min at "0" to "1", max. 12.8 ms for interrupt inputs - parameterizable Yes; I 0.0 to I 0.3 for counter/technological functions - parameterizable Yes; (E 0.0 to E 1.5) up to 200 kHz Cable length • shielded, max. • unshielded, max. 10; Transistor Short-circuit protection No; to be provided externally Limitation of inductive shutdown voltage to with resistive load, max. • unlamp load, max. 0.75 A • on lamp load, max. 500 m; Standard input: 500 m, high-speed counters: 50 m 300 m; not for high-speed signals	for standard inputs	
- at "0" to "1", max. - at "0" to "1", max. 12.8 ms for interrupt inputs - parameterizable Yes; I 0.0 to I 0.3 for counter/technological functions - parameterizable Yes; (E 0.0 to E 1.5) up to 200 kHz Cable length • shielded, max. • unshielded, max. • unshielded, max. Digital outputs Number of digital outputs Short-circuit protection No; to be provided externally Limitation of inductive shutdown voltage to Switching capacity of the outputs • with resistive load, max. • on lamp load, max. 12.8 ms 10.0 to I 0.3 Yes; I 0.0 to I 0	— parameterizable	Yes; all
for interrupt inputs — parameterizable for counter/technological functions — parameterizable Yes; (E 0.0 to E 1.5) up to 200 kHz Cable length • shielded, max. • unshielded, max. 10; Transistor Short-circuit protection Limitation of inductive shutdown voltage to • with resistive load, max. • unsplication of inactive load, max. 10; Transistor Short-circuit protection No; to be provided externally 1 W Switching capacity of the outputs • with resistive load, max. 10; Transistor 1 W Switching capacity of the outputs • with resistive load, max. 10; Transistor 1 W Switching capacity of the outputs	— at "0" to "1", min.	0.2 ms
— parameterizable Yes; I 0.0 to I 0.3 for counter/technological functions — parameterizable Yes; (E 0.0 to E 1.5) up to 200 kHz Cable length ● shielded, max. 500 m; Standard input: 500 m, high-speed counters: 50 m 300 m; not for high-speed signals Digital outputs Number of digital outputs 10; Transistor Short-circuit protection No; to be provided externally Limitation of inductive shutdown voltage to 1 W Switching capacity of the outputs ● with resistive load, max. 0.75 A ● on lamp load, max. 5 W	— at "0" to "1", max.	12.8 ms
for counter/technological functions — parameterizable Yes; (E 0.0 to E 1.5) up to 200 kHz Cable length • shielded, max. • unshielded, max. 500 m; Standard input: 500 m, high-speed counters: 50 m 300 m; not for high-speed signals Digital outputs Number of digital outputs 10; Transistor Short-circuit protection No; to be provided externally Limitation of inductive shutdown voltage to Switching capacity of the outputs • with resistive load, max. • on lamp load, max. 500 m; Standard input: 500 m, high-speed counters: 50 m 300 m; not for high-speed signals	for interrupt inputs	
— parameterizable Yes; (E 0.0 to E 1.5) up to 200 kHz Cable length • shielded, max. • unshielded, max. Digital outputs Number of digital outputs Short-circuit protection Limitation of inductive shutdown voltage to with resistive load, max. • on lamp load, max. Yes; (E 0.0 to E 1.5) up to 200 kHz Yes; (E 0.0 to E 1.5) up to 200 kHz 100 m; Standard input: 500 m, high-speed counters: 50 m 300 m; not for high-speed signals 10; Transistor No; to be provided externally 1 W Switching capacity of the outputs • with resistive load, max. 10.75 A 5 W	— parameterizable	Yes; I 0.0 to I 0.3
Cable length • shielded, max. • unshielded, max. Digital outputs Number of digital outputs Short-circuit protection Limitation of inductive shutdown voltage to Switching capacity of the outputs • with resistive load, max. • on lamp load, max. 500 m; Standard input: 500 m, high-speed counters: 50 m 300 m; not for high-speed signals 10; Transistor No; to be provided externally 1 W Switching capacity of the outputs • with resistive load, max. 5 W	for counter/technological functions	
 shielded, max. unshielded, max. 300 m; Standard input: 500 m, high-speed counters: 50 m 300 m; not for high-speed signals Digital outputs Number of digital outputs Short-circuit protection Limitation of inductive shutdown voltage to Switching capacity of the outputs with resistive load, max. on lamp load, max. 5 W 	— parameterizable	Yes; (E 0.0 to E 1.5) up to 200 kHz
 unshielded, max. Digital outputs Number of digital outputs Short-circuit protection Limitation of inductive shutdown voltage to Switching capacity of the outputs with resistive load, max. on lamp load, max. 300 m; not for high-speed signals No; to be provided externally 1 W Switching capacity of the outputs 5 W 	Cable length	
Digital outputs Number of digital outputs Short-circuit protection Limitation of inductive shutdown voltage to Switching capacity of the outputs • with resistive load, max. • on lamp load, max. 5 W	• shielded, max.	500 m; Standard input: 500 m, high-speed counters: 50 m
Number of digital outputs 10; Transistor Short-circuit protection No; to be provided externally Limitation of inductive shutdown voltage to 1 W Switching capacity of the outputs • with resistive load, max. • on lamp load, max. 5 W	• unshielded, max.	300 m; not for high-speed signals
Number of digital outputs 10; Transistor Short-circuit protection No; to be provided externally Limitation of inductive shutdown voltage to 1 W Switching capacity of the outputs • with resistive load, max. • on lamp load, max. 5 W	Digital outputs	
Limitation of inductive shutdown voltage to Switching capacity of the outputs with resistive load, max. on lamp load, max. 5 W		10; Transistor
Switching capacity of the outputs • with resistive load, max. • on lamp load, max. 5 W	Short-circuit protection	No; to be provided externally
 with resistive load, max. on lamp load, max. 5 W 	Limitation of inductive shutdown voltage to	1 W
• on lamp load, max. 5 W	Switching capacity of the outputs	
	• with resistive load, max.	0.75 A
Output voltage	● on lamp load, max.	5 W
	Output voltage	

• for signal "1", min.	L+ (-0.4 V (5 V / 20.4 V for A 0.0 to A 0.4; 20.4 V A 0.5 to A1.1))
Output current	
for signal "1" rated value	750 mA
• for signal "0" residual current, max.	10 μΑ
Output delay with resistive load	
"0" to "1", max."1" to "0", max.	15 μ s; of the standard outputs, max. (Q 0.2 to Q 1.1) 15 μ s; of the pulse outputs, max. (Q 0.0 to Q 0.1) 0.5 μ s 130 μ s; of the standard outputs, max. (Q 0.2 to Q 1.1) 130 μ s; of the pulse outputs, max. (Q 0.0 to Q 0.1) 1.5 μ s
Parallel switching of two outputs	(3.2.2.2.4)
• for uprating	Yes
Switching frequency	
• of the pulse outputs, with resistive load, max.	100 kHz; Q0.0 to Q0.1
Total current of the outputs (per group)	, , , , , , , , , , , , , , , , , , , ,
all mounting positions	
— up to 40 °C, max.	3.75 A
horizontal installation	6.167.
	3.75 A
— up to 55 °C, max.	3.73 A
Relay outputs	0
Number of relay outputs, integrated	0
Cable length	F00
• shielded, max.	500 m
• unshielded, max.	150 m
Analog inputs	
Number of analog potentiometers	2; Analog potentiometer; resolution 8 bit
Encoder	
Connectable encoders	
• 2-wire sensor	Yes
 permissible quiescent current (2-wire 	1 mA
sensor), max.	
1. Interface	
Interface type	Integrated RS 485 interface
Physics	RS 485
Functionality	
• MPI • PPI	Yes; As MPI slave for data exchange with MPI masters (S7-300/S7-400 CPUs, OPs, TDs, Push Button Panels); S7-200-internal CPU/CPU communication is possible in the MPI network with restrictions; transmission rates: 19.2/187.5 kbit/s Yes; with PPI protocol for program functions, HMI functions (TD 200, OP), S7-200-internal CPU/CPU communication;
	transmission rates 9.6/19.2/187.5 kbit/s

serial data exchange	Yes; As freely programmable interface with interrupt facility for serial data exchange with third-party devices with ASCII protocol transfer rates: 1.2 / 2.4 / 4.8 / 9.6 / 19.2 / 38.4 / 57.6 / 115.2 kbps; the PC/PPI cable can also be used as RS 232/RS 485 converter
MPI	
Transmission rate, min.	19.2 kbit/s
• Transmission rate, max.	187.5 kbit/s
2. Interface	
Interface type	Integrated RS 485 interface
Physics	RS 485
Functionality	
● MPI	Yes; As MPI slave for data exchange with MPI masters (S7-300/S7-400 CPUs, OPs, TDs, Push Button Panels); S7-200-internal CPU/CPU communication is possible in the MPI network with restrictions; transmission rates: 19.2/187.5 kbit/s
• PPI	Yes; with PPI protocol for program functions, HMI functions (TD 200, OP), S7-200-internal CPU/CPU communication; transmission rates 9.6/19.2/187.5 kbit/s
serial data exchange	Yes; As freely programmable interface with interrupt facility for serial data exchange with third-party devices with ASCII protocol transfer rates: 1.2 / 2.4 / 4.8 / 9.6 / 19.2 / 38.4 / 57.6 / 115.2 kbps; the PC/PPI cable can also be used as RS 232/RS 485 converter
Integrated Functions	
Number of counters	6; High-speed counters (2 to 200 kHz and 4 to 30 kHz), 32 bits (incl. sign), can be used as up/down counters or for connecting incremental encoders with 2 pulse trains offset by 90° (max. 1 to 100 kHz and 3 to 20 kHz (A/B counters)); parameterizable enable and reset input; interrupt facilities (incl. call of subroutine with any content) when the setpoint is reached; reversal in counting direction, etc.
Counting frequency (counter) max.	200 kHz
Number of alarm inputs	4; 4 rising edges and/or 4 falling edges
Number of pulse outputs	2; High-speed outputs, 20 kHz, with interrupt option; pulse-width and frequency modulation option
Limit frequency (pulse)	20 kHz
Potential separation	
Potential separation digital inputs	
• between the channels	Yes
• between the channels, in groups of	6 and 8
Potential separation digital outputs	
between the channels	Yes; Optocoupler
• between the channels, in groups of	5
Permissible potential difference	500 V DO 1 1 04 V DO 15 V DO
between different circuits	500 V DC between 24 V DC and 5 V DC

Degree and class of protection		
Degree of protection acc. to EN 60529		
• IP20	Yes	
Ambient conditions		
Environmental conditions	For further environmental conditions, see "Automation System S7-	
	200, System Manual"	
Ambient temperature during operation		
horizontal installation, min.	0 °C	
 horizontal installation, max. 	55 °C	
• vertical installation, min.	0 °C	
• vertical installation, max.	45 °C	
Air pressure acc. to IEC 60068-2-13		
permissible range, lower limit	860 hPa	
permissible range, upper limit	1 080 hPa	
Relative humidity		
Operation, min.	5 %	
Operation, max.	95 %; RH class 2 in accordance with IEC 1131-2	
Configuration		
Programming		
● Command set	Bit logic instructions, compare instructions, timer instructions, counter instructions, clock instructions, transmissions instructions, table instructions, logic instructions, shift and rotate instructions, conversion instructions, program control instructions, interrupt and communications instructions, logic stack instructions, integer maths, floating-point math instructions, numerical functions	
Program processing	free cycle (OB 1), interrupt-controller, time-controlled (1 to 255 ms)	
Program organization	1 OB, 1 DB, 1 SDB subroutines with/without parameter transfer	
 Number of subroutines, max. 	64	
Programming language		
— LAD	Yes	
— FBD	Yes	
— STL	Yes	
Know-how protection		
User program protection/password protection	Yes; 3-stage password protection	
Connection method		
Plug-in I/O terminals	Yes	
Dimensions		
Width	140 mm	
Height	80 mm	
Depth	62 mm	

Weights Weight, approx. 390 g 03/16/2017 last modified: