SIEMENS

Data sheet

6ES7214-1AH50-0XB0



SIMATIC S7-1200 G2: compact CPU 1214C DC/DC/DC; power supply: DC 20.4-28.8 V DC; onboard I/O: 14x DI 24 V DC; 10 DO 24 V DC; memory: program 250 KB data: 750 KB, retentivity: 20 KB

Figure similar

*	
General information	
Product type designation	CPU 1214C DC/DC/DC
Firmware version	V1.0
FW update possible	Yes
Product function	
• I&M data	Yes; I&M0 to I&M3
• SysLog	Yes
Engineering with	
 Programming package 	STEP 7 V20 or higher
Supply voltage	
Rated value (DC)	
• 24 V DC	Yes
permissible range, lower limit (DC)	20.4 V
permissible range, upper limit (DC)	28.8 V
Reverse polarity protection	Yes
Input current	
Current consumption (rated value)	145 mA; CPU only
Current consumption, max.	1 000 mA; CPU with all expansion modules
Inrush current, max.	12 A; at 28.8 V DC
l²t	0.5 A ² ·s
Output current	
for backplane bus (5 V DC), max.	1 600 mA; Max. 5 V DC for SM and CM
Encoder supply	
24 V encoder supply	
• 24 V	Yes; L+ minus 4 V DC min.
 Short-circuit protection 	Yes
Output current, max.	400 mA
Power loss	
Power loss, typ.	3.5 W
Memory	
Work memory	
integrated	1 000 kbyte
 integrated (for program) 	250 kbyte
 integrated (for data) 	750 kbyte
Load memory	
integrated	8 Mbyte
• Plug-in (SIMATIC Memory Card), max.	32 Gbyte; with SIMATIC memory card
Backup	
• present	Yes

• winduct tatlety Yes CPU processing dimes 37 ns; / instruction for wind operations, typ. 30 ns; / instruction for focaling part infinited, typ. 74 ns; / instruction CPU-backati 4000. Backa (OB, FB, FC, DB) and UDTs CR 0 • Number of feer cycle. OBs 100 • Number of thready alon: OBs 20 • Number of devise alon: OBs 20 • Number of devise alon: OBs 20 • Number of devise alon: OBs 20 • Number of alon: Part alon: OBs 20 • Number of alon: Part alon: OBs 20 • Number of alon: Part alon: OBs 3 • Number of alon: Part alon: OBs 3 • Number of alon: Part alon: OBs 2 • Number of alon: Part alon: OBs 1 • Number of alon: Part alon: OBs 2	maintenance-free	Yes
CPU processing limits 7 mc/ instruction for bit specifications, typ. 37 mc/ instruction for framing point arithmetic, typ. 74 mc/ instruction Orbit points 4000: Blooks (OB, FB, FC, OB) and UDTs OB 4000: Blooks (OB, FB, FC, OB) and UDTs OB 100 • Number of the adam OBs 20 • Number of olgoin Interrupt OBs 20 • Number of olgoin Interrupt OBs 20 • Number of olgoin Interrupt OBs 20 • Number of olgonobal atmo OBs 20 • Number of olgonobal atmo OBs 30 • Number of olgonobal atmo OBs 1 • Per priority class, max. 6 ktyter, max. 16 Ktil per block Address area 10 • Precestingage • 10 symmath # 25 °C		
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Time of day Clock • Hardware clock (real-time) Yes • Backup time 480 h; Typical • Deviation per day, max. 480 s/month at 25 °C Digital inputs Number of digital inputs 14; Integrated • of which inputs usable for technological functions 8; HSC (High Speed Counting) Source/sink input Yes Number of simultaneously controllable inputs all mounting positions - up to 40 °C, max. 14 Input voltage 7 • for signal "0" 5 V DC or 0.5 mA • for signal "1" 15 V DC at 2.5 mA Input delay (for rated value of input voltage) 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8	1 / J T T	
Clock Hardware clock (real-time) Yes Hardware clock (real-time) 480 h; Typical Backup time 480 h; Typical Deviation per day, max. ±60 s/month at 25 °C Digital inputs 14; Integrated Number of digital inputs 14; Integrated of which inputs usable for technological functions 8; HSC (High Speed Counting) Source/sink input Yes Number of simultaneously controllable inputs 14 all mounting positions - up to 40 °C, max. up to 40 °C, max. 14 Input voltage up to 40 °C, max. 14 Input delay (for rated value of input voltage) for signal °0° for signal *1* parameterizable parameterizable parameterizable parameterizable parameterizable parameterizable </td <td></td> <td></td>		
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• Backup time 480 h; Typical • Deviation per day, max. ±60 s/month at 25 °C Digital inputs 14; Integrated • of which inputs usable for technological functions 8; HSC (High Speed Counting) Source/sink input Yes Number of simultaneously controllable inputs all mounting positions up to 40 °C, max. 14 Input voltage - • Fated value (DC) 24 ∨ • for signal °0" 5 ∨ DC or 0.5 mA • for signal °1" 15 ∨ DC at 2.5 mA Input delay (for rated value of input voltage) 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.	Hardware configuration Number of modules per system, max.	10
• Deviation per day, max. ±60 s/month at 25 °C Digital inputs Number of digital inputs 14; Integrated • of which inputs usable for technological functions 8; HSC (High Speed Counting) Source/sink input Yes Number of simultaneously controllable inputs all mounting positions - up to 40 °C, max. 14 Input voltage 14 Input voltage 24 V • for signal "0" 5 V DC or 0.5 mA • for signal "1" 15 V DC at 2.5 mA Input delay (for rated value of input voltage) 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 /	Hardware configuration Number of modules per system, max. Time of day	10
Digital inputs 14; Integrated • of which inputs usable for technological functions 8; HSC (High Speed Counting) Source/sink input Yes Number of simultaneously controllable inputs all mounting positions	Hardware configuration Number of modules per system, max. Time of day Clock	
Number of digital inputs 14; Integrated • of which inputs usable for technological functions 8; HSC (High Speed Counting) Source/sink input Yes Number of simultaneously controllable inputs all mounting positions up to 40 °C, max. 14 Input voltage e • Rated value (DC) 24 V • for signal "0" 5 V DC or 0.5 mA • for signal "1" 15 V DC at 2.5 mA Input delay (for rated value of input voltage) for standard inputs	Hardware configuration Number of modules per system, max. Time of day Clock • Hardware clock (real-time)	Yes
• of which inputs usable for technological functions 8; HSC (High Speed Counting) Source/sink input Yes Number of simultaneously controllable inputs all mounting positions	Hardware configuration Number of modules per system, max. Time of day Clock Hardware clock (real-time) Backup time	Yes 480 h; Typical
Source/sink input Yes Number of simultaneously controllable inputs all mounting positions	Hardware configuration Number of modules per system, max. Time of day Clock • Hardware clock (real-time) • Backup time • Deviation per day, max.	Yes 480 h; Typical
Number of simultaneously controllable inputs all mounting positions up to 40 °C, max. 14 Input voltage • Rated value (DC) 24 V • for signal "0" 5 V DC or 0.5 mA • for signal "1" 15 V DC at 2.5 mA Input delay (for rated value of input voltage) 5 V DC or 0.5 mA for standard inputs 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 /	Hardware configuration Number of modules per system, max. Time of day Clock Hardware clock (real-time) Backup time Deviation per day, max. Digital inputs	Yes 480 h; Typical ±60 s/month at 25 °C
Number of simultaneously controllable inputs all mounting positions up to 40 °C, max. 14 Input voltage • Rated value (DC) 24 V • for signal "0" 5 V DC or 0.5 mA • for signal "1" 15 V DC at 2.5 mA Input delay (for rated value of input voltage) 5 V DC or 0.5 mA for standard inputs 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 /	Hardware configuration Number of modules per system, max. Time of day Clock Hardware clock (real-time) Backup time Deviation per day, max. Digital inputs Number of digital inputs	Yes 480 h; Typical ±60 s/month at 25 °C 14; Integrated
all mounting positions 14 Input voltage 14 Input voltage 24 V • Rated value (DC) 24 V • for signal "0" 5 V DC or 0.5 mA • for signal "1" 15 V DC at 2.5 mA Input delay (for rated value of input voltage) 5 V DC at 2.5 mA for standard inputs 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 0.8 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 0.8 µs; 0.8	Hardware configuration Number of modules per system, max. Time of day Clock • Hardware clock (real-time) • Backup time • Deviation per day, max. Digital inputs Number of digital inputs • of which inputs usable for technological functions	Yes 480 h; Typical ±60 s/month at 25 °C 14; Integrated 8; HSC (High Speed Counting)
up to 40 °C, max. 14 Input voltage 24 V • Rated value (DC) 24 V • for signal "0" 5 V DC or 0.5 mA • for signal "1" 15 V DC at 2.5 mA Input delay (for rated value of input voltage) 6 or standard inputs - parameterizable 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.0 µs; 0.05 / 0.0 µs	Hardware configuration Number of modules per system, max. Time of day Clock • Hardware clock (real-time) • Backup time • Deviation per day, max. Digital inputs Number of digital inputs • of which inputs usable for technological functions Source/sink input	Yes 480 h; Typical ±60 s/month at 25 °C 14; Integrated 8; HSC (High Speed Counting)
Input voltage • Rated value (DC) 24 V • for signal "0" 5 V DC or 0.5 mA • for signal "1" 15 V DC at 2.5 mA Input delay (for rated value of input voltage) 15 V DC at 2.5 mA for standard inputs 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.0 µs; 0.0	Hardware configuration Number of modules per system, max. Time of day Clock • Hardware clock (real-time) • Backup time • Deviation per day, max. Digital inputs Number of digital inputs • of which inputs usable for technological functions Source/sink input Number of simultaneously controllable inputs	Yes 480 h; Typical ±60 s/month at 25 °C 14; Integrated 8; HSC (High Speed Counting)
• Rated value (DC) 24 V • for signal "0" 5 V DC or 0.5 mA • for signal "1" 15 V DC at 2.5 mA Input delay (for rated value of input voltage) - for standard inputs 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.0 µs; 0.05 / 0.0 µs; 0.05 / 0.0 µs; 0.05 / 0.0 µs; 0.05	Hardware configuration Number of modules per system, max. Time of day Clock • Hardware clock (real-time) • Backup time • Deviation per day, max. Digital inputs Number of digital inputs • of which inputs usable for technological functions Source/sink input Number of simultaneously controllable inputs all mounting positions	Yes 480 h; Typical ±60 s/month at 25 °C 14; Integrated 8; HSC (High Speed Counting) Yes
 for signal "0" for signal "1" 5 V DC or 0.5 mA for signal "1" 15 V DC at 2.5 mA Input delay (for rated value of input voltage) for standard inputs – parameterizable – at "0" to "1", min. – at "0" to "1", max. 20 ms for interrupt inputs – parameterizable – parameterizable – parameterizable 1 µs – at "0" to "1", max. 20 ms for interrupt inputs – parameterizable – parameterizable Single phase: 6 HSCs @ 100 kHz & 2 standard @ 30 kHz, quadrature phase: 6 HSCs @ 80 kHz & 2 standard @ 20 kHz 	Hardware configuration Number of modules per system, max. Time of day Clock • Hardware clock (real-time) • Backup time • Deviation per day, max. Digital inputs Number of digital inputs • of which inputs usable for technological functions Source/sink input Number of simultaneously controllable inputs all mounting positions — up to 40 °C, max.	Yes 480 h; Typical ±60 s/month at 25 °C 14; Integrated 8; HSC (High Speed Counting) Yes
 for signal "1" 15 V DC at 2.5 mA Input delay (for rated value of input voltage) for standard inputs — parameterizable 0.1/0.2/0.4/0.8/1.6/3.2/6.4/10.0/12.8/20.0 µs; 0.05/0.1/0.2/0.4/ 0.8/1.6/3.2/6.4/10.0/12.8/20.0 µs; 0.05/0.1/0.2/0.4/ — at "0" to "1", min. 0.1 µs — at "0" to "1", max. 20 ms for interrupt inputs — parameterizable Yes for technological functions — parameterizable Single phase: 6 HSCs @ 100 kHz & 2 standard @ 30 kHz, quadrature phase: 6 HSCs @ 80 kHz & 2 standard @ 20 kHz Cable length 	Hardware configuration Number of modules per system, max. Time of day Clock • Hardware clock (real-time) • Backup time • Deviation per day, max. Digital inputs Number of digital inputs • of which inputs usable for technological functions Source/sink input Number of simultaneously controllable inputs all mounting positions — up to 40 °C, max. Input voltage	Yes 480 h; Typical ±60 s/month at 25 °C 14; Integrated 8; HSC (High Speed Counting) Yes 14
Input delay (for rated value of input voltage) for standard inputs — parameterizable 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 2.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 2.0 µs; 0.05 / 0.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 2.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 2.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 2.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 2.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 2.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 2.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.0 µs; 0.05 / 0.0 µs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.0 µs; 0.05 / 0.0 µs; 0.05 / 0.0 µs; 0.05 / 0.	Hardware configuration Number of modules per system, max. Time of day Clock • Hardware clock (real-time) • Backup time • Deviation per day, max. Digital inputs • of which inputs usable for technological functions Source/sink input Number of simultaneously controllable inputs all mounting positions — up to 40 °C, max. Input voltage • Rated value (DC)	Yes 480 h; Typical ±60 s/month at 25 °C 14; Integrated 8; HSC (High Speed Counting) Yes 14 24 V
for standard inputs parameterizable 0.1/0.2/0.4/0.8/1.6/3.2/6.4/10.0/12.8/20.0 µs; 0.05/0.1/0.2/0.4/ at "0" to "1", min. 0.1 µs at "0" to "1", max. 20 ms for interrupt inputs parameterizable parameterizable Yes for technological functions parameterizable parameterizable Single phase: 6 HSCs @ 100 kHz & 2 standard @ 30 kHz, quadrature phase: 6 HSCs @ 80 kHz & 2 standard @ 20 kHz Cable length	Hardware configuration Number of modules per system, max. Time of day Clock • Hardware clock (real-time) • Backup time • Deviation per day, max. Digital inputs Number of digital inputs • of which inputs usable for technological functions Source/sink input Number of simultaneously controllable inputs all mounting positions — up to 40 °C, max. Input voltage • Rated value (DC) • for signal "0"	Yes 480 h; Typical ±60 s/month at 25 °C 14; Integrated 8; HSC (High Speed Counting) Yes 14 24 V 5 V DC or 0.5 mA
— parameterizable 0.1/0.2/0.4/0.8/1.6/3.2/6.4/10.0/12.8/20.0 μs; 0.05/0.1/0.2/0.4/ — at "0" to "1", min. 0.1 μs — at "0" to "1", max. 20 ms for interrupt inputs — — parameterizable Yes for technological functions — — parameterizable Single phase: 6 HSCs @ 100 kHz & 2 standard @ 30 kHz, quadrature phase: 6 HSCs @ 80 kHz & 2 standard @ 20 kHz Cable length —	Hardware configuration Number of modules per system, max. Time of day Clock • Hardware clock (real-time) • Backup time • Deviation per day, max. Digital inputs • of which inputs usable for technological functions Source/sink input Number of simultaneously controllable inputs all mounting positions — up to 40 °C, max. Input voltage • Rated value (DC) • for signal "0" • for signal "1"	Yes 480 h; Typical ±60 s/month at 25 °C 14; Integrated 8; HSC (High Speed Counting) Yes 14 24 V 5 V DC or 0.5 mA
0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 ms - at "0" to "1", min. - at "0" to "1", max. 20 ms for interrupt inputs - parameterizable Yes for technological functions - parameterizable Single phase: 6 HSCs @ 100 kHz & 2 standard @ 30 kHz, quadrature phase: 6 HSCs @ 80 kHz & 2 standard @ 20 kHz Cable length	Hardware configuration Number of modules per system, max. Time of day Clock • Hardware clock (real-time) • Backup time • Deviation per day, max. Digital inputs Number of digital inputs • of which inputs usable for technological functions Source/sink input Number of simultaneously controllable inputs all mounting positions — up to 40 °C, max. Input voltage • Rated value (DC) • for signal "0" • for signal "1" Input delay (for rated value of input voltage)	Yes 480 h; Typical ±60 s/month at 25 °C 14; Integrated 8; HSC (High Speed Counting) Yes 14 24 V 5 V DC or 0.5 mA
	Hardware configuration Number of modules per system, max. Time of day Clock • Hardware clock (real-time) • Backup time • Deviation per day, max. Digital inputs Number of digital inputs • of which inputs usable for technological functions Source/sink input Number of simultaneously controllable inputs all mounting positions — up to 40 °C, max. Input voltage • Rated value (DC) • for signal "0" • for signal "1" Input delay (for rated value of input voltage) for standard inputs	Yes 480 h; Typical ±60 s/month at 25 °C 14; Integrated 8; HSC (High Speed Counting) Yes 14 24 V 5 V DC or 0.5 mA 15 V DC at 2.5 mA
	Hardware configuration Number of modules per system, max. Time of day Clock • Hardware clock (real-time) • Backup time • Deviation per day, max. Digital inputs Number of digital inputs • of which inputs usable for technological functions Source/sink input Number of simultaneously controllable inputs all mounting positions — up to 40 °C, max. Input voltage • Rated value (DC) • for signal "0" • for signal "1" Input delay (for rated value of input voltage) for standard inputs	Yes 480 h; Typical ±60 s/month at 25 °C 14; Integrated 8; HSC (High Speed Counting) Yes 14 14 24 V 5 V DC or 0.5 mA 15 V DC at 2.5 mA 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 μs; 0.05 / 0.1 / 0.2 / 0.4 /
for interrupt inputs — parameterizable Yes for technological functions — parameterizable single phase: 6 HSCs @ 100 kHz & 2 standard @ 30 kHz, quadrature phase: 6 HSCs @ 80 kHz & 2 standard @ 20 kHz Cable length	Hardware configuration Number of modules per system, max. Time of day Clock • Hardware clock (real-time) • Backup time • Deviation per day, max. Digital inputs Number of digital inputs • of which inputs usable for technological functions Source/sink input Number of simultaneously controllable inputs all mounting positions — up to 40 °C, max. Input voltage • Rated value (DC) • for signal "0" • for signal "1" Input delay (for rated value of input voltage) for standard inputs — parameterizable	Yes 480 h; Typical ±60 s/month at 25 °C 14; Integrated 8; HSC (High Speed Counting) Yes 14 14 24 V 5 V DC or 0.5 mA 15 V DC at 2.5 mA 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 μs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 μs;
— parameterizable Yes for technological functions	Hardware configuration Number of modules per system, max. Time of day Clock • Hardware clock (real-time) • Backup time • Deviation per day, max. Digital inputs Number of digital inputs • of which inputs usable for technological functions Source/sink input Number of simultaneously controllable inputs all mounting positions — up to 40 °C, max. Input voltage • Rated value (DC) • for signal "0" • for signal "1" Input delay (for rated value of input voltage) for standard inputs — parameterizable — at "0" to "1", min.	Yes 480 h; Typical ±60 s/month at 25 °C 14; Integrated 8; HSC (High Speed Counting) Yes 14 14 24 V 5 V DC or 0.5 mA 15 V DC ot 2.5 mA 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 μs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 ms 0.1 μs
for technological functions — parameterizable single phase: 6 HSCs @ 100 kHz & 2 standard @ 30 kHz, quadrature phase: 6 HSCs @ 80 kHz & 2 standard @ 20 kHz Cable length	Hardware configuration Number of modules per system, max. Time of day Clock • Hardware clock (real-time) • Backup time • Deviation per day, max. Digital inputs Number of digital inputs • of which inputs usable for technological functions Source/sink input Number of simultaneously controllable inputs all mounting positions — up to 40 °C, max. Input voltage • Rated value (DC) • for signal "0" • for signal "1" Input delay (for rated value of input voltage) for standard inputs — parameterizable — at "0" to "1", min. — at "0" to "1", max.	Yes 480 h; Typical ±60 s/month at 25 °C 14; Integrated 8; HSC (High Speed Counting) Yes 14 14 24 V 5 V DC or 0.5 mA 15 V DC ot 2.5 mA 15 V DC at 2.5 mA 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 μs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 μs; 0.05 / 0.1 / 0.2 / 0.4 / 0.1 μs
	Hardware configuration Number of modules per system, max. Time of day Clock • Hardware clock (real-time) • Backup time • Deviation per day, max. Digital inputs Number of digital inputs • of which inputs usable for technological functions Source/sink input Number of simultaneously controllable inputs all mounting positions — up to 40 °C, max. Input voltage • Rated value (DC) • for signal "0" • for signal "1" 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	Yes 480 h; Typical ±60 s/month at 25 °C 14; Integrated 8; HSC (High Speed Counting) Yes 14 24 V 5 V DC or 0.5 mA 15 V DC or 0.5 mA 15 V DC at 2.5 mA 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 μs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 μs; 0.05 / 0.1 / 0.2 / 0.4 / 0.1 μs 20 ms
HSCs @ 80 kHz & 2 standard @ 20 kHz Cable length	Hardware configuration Number of modules per system, max. Time of day Clock • Hardware clock (real-time) • Backup time • Deviation per day, max. Digital inputs Number of digital inputs • of which inputs usable for technological functions Source/sink input Number of simultaneously controllable inputs all mounting positions — up to 40 °C, max. Input voltage • Rated value (DC) • for signal "0" • for signal "1" 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 480 h; Typical ±60 s/month at 25 °C 14; Integrated 8; HSC (High Speed Counting) Yes 14 24 V 5 V DC or 0.5 mA 15 V DC or 0.5 mA 15 V DC at 2.5 mA 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 μs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 μs; 0.05 / 0.1 / 0.2 / 0.4 / 0.1 μs 20 ms
· · · · · · · · · · · · · · · · · · ·	Hardware configuration Number of modules per system, max. Time of day Clock • Hardware clock (real-time) • Backup time • Deviation per day, max. Digital inputs Number of digital inputs • of which inputs usable for technological functions Source/sink input Number of simultaneously controllable inputs all mounting positions — up to 40 °C, max. Input voltage • Rated value (DC) • for signal "0" • for signal "1" 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 for interrupt inputs — parameterizable for technological functions	Yes 480 h; Typical ±60 s/month at 25 °C 14; Integrated 8; HSC (High Speed Counting) Yes 14 14 24 V 5 V DC or 0.5 mA 15 V DC at 2.5 mA 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 μs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 μs; 0.05 / 0.1 / 0.2 / 0.4 / 0.1 μs 20 ms
500 m 50 m for tooking lands	Hardware configuration Number of modules per system, max. Time of day Clock • Hardware clock (real-time) • Backup time • Deviation per day, max. Digital inputs • of which inputs usable for technological functions Source/sink input Number of simultaneously controllable inputs all mounting positions — up to 40 °C, max. Input voltage • Rated value (DC) • for signal "0" • for signal "1" 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 for technological functions — parameterizable	Yes 480 h; Typical ±60 s/month at 25 °C 14; Integrated 8; HSC (High Speed Counting) Yes 14 24 V 5 V DC or 0.5 mA 15 V DC at 2.5 mA 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 μs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 ms 0.1 μs 20 ms Yes
shielded, max. 500 m; 50 m for technological functions	Hardware configuration Number of modules per system, max. Time of day Clock • Hardware clock (real-time) • Backup time • Deviation per day, max. Digital inputs • of which inputs usable for technological functions Source/sink input Number of simultaneously controllable inputs all mounting positions — up to 40 °C, max. Input voltage • Rated value (DC) • for signal "0" • for signal "1" 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 for technological functions — parameterizable	Yes 480 h; Typical ±60 s/month at 25 °C 14; Integrated 8; HSC (High Speed Counting) Yes 14 24 V 5 V DC or 0.5 mA 15 V DC at 2.5 mA 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 μs; 0.05 / 0.1 / 0.2 / 0.4 / 0.8 / 1.6 / 3.2 / 6.4 / 10.0 / 12.8 / 20.0 ms 0.1 μs 20 ms Yes

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e unshielded may	300 m; for technological functions; No
unshielded, max.	300 m; for technological functions: No
Digital outputs	
Number of digital outputs	10; 20 kHz or 100 kHz
 of which high-speed outputs 	4; 100 kHz (Qa.0 - Qa.3)
Limitation of inductive shutdown voltage to	L+ (-40 V)
Switching capacity of the outputs	
 with resistive load, max. 	0.5 A
• on lamp load, max.	5 W
Output voltage	
 for signal "0", max. 	0.1 V; with 10 kOhm load
• for signal "1", min.	20 V
Output current	
 for signal "1" rated value 	0.5 A
 for signal "0" residual current, max. 	10 µA
Output delay with resistive load	
• "0" to "1", max.	1 µs; of the pulse outputs (Qa.0 to Qa.3), max. 1.0 µs; of the standard outputs
• "1" to "0", max.	(Qa.4 to Qb.1), max. 50 μs; 3 μs; of the pulse outputs (Qa.0 to Qa.3), max. 3.0 μs; of the standard outputs
Quitabing fragmanau	(Qa.4 to Qb.1), max. 200 μs;
Switching frequency	
of the pulse outputs, with resistive load, max.	100 kHz; 100 kHz max. (Qa.0 - Qa.3), 20 kHz max. (Qa.4 to Qb.1)
Relay outputs	
Number of relay outputs	0
Cable length	
• shielded, max.	500 m
• unshielded, max.	150 m
Analog inputs	
Number of analog inputs	0
Analog outputs	
Number of analog outputs	0
Encoder	
Connectable encoders	
• 2-wire sensor	Yes
1. Interface	
Interface type	PROFINET
Isolated	Yes
automatic detection of transmission rate	Yes
Autonegotiation	Yes
Autocrossing	Yes
Interface types	
RJ 45 (Ethernet)	Yes
Number of ports	2
integrated switch	Yes
Protocols	
IP protocol	Yes; IPv4
PROFINET IO Controller	Yes
PROFINET IO Device	Yes
SIMATIC communication	Yes
Open IE communication	Yes; Optionally also encrypted
Web server	Yes
Media redundancy	Yes
PROFINET IO Controller	
Transmission rate, max.	100 Mbit/s
Services	
— PG/OP communication	Yes; encryption with TLS V1.3 pre-selected
— Isochronous mode	Yes
— ISOLIIOIOUS IIIOUE — IRT	Yes
— PROFlenergy	Yes; per user program
	Yes
Prioritized startup	
— Number of IO devices with prioritized startup, max.	16
 Number of connectable IO Devices, max. 	31

 — Of which IO devices with IRT, max. 	31
 — Number of connectable IO Devices for RT, max. 	31
— of which in line, max.	31
 Activation/deactivation of IO Devices 	Yes
- Number of IO Devices that can be simultaneously	8
activated/deactivated, max.	
— Updating time	The minimum value of the update time also depends on the communication component set for PROFINET IO, on the number of IO devices and the quantity of configured user data.
Update time for IRT	
— for send cycle of 1 ms	1 ms to 16 ms
— for send cycle of 2 ms	2 ms to 32 ms
— for send cycle of 4 ms	4 ms to 64 ms
Update time for RT	
— for send cycle of 1 ms	1 ms to 512 ms
— for send cycle of 2 ms	2 ms to 512 ms
— for send cycle of 2 ms	4 ms to 512 ms
PROFINET IO Device	4 115 to 512 115
Services	Vac: apprintion with TLS V/1.2 pro-colorted
— PG/OP communication	Yes; encryption with TLS V1.3 pre-selected
— Isochronous mode	No
— IRT	Yes
— PROFlenergy	Yes; per user program
— Shared device	Yes
 Number of IO Controllers with shared device, max. 	2
Protocols	
Supports protocol for PROFINET IO	Yes
PROFIsafe	No
PROFIBUS	No
OPC UA	No
AS-Interface	No
Protocols (Ethernet)	
• TCP/IP	Yes
• DHCP	Yes
• SNMP	Yes
• DCP	Yes
• LLDP	Yes
Number of connections	
 Number of connections, max. 	128; via integrated interfaces of the CPU and connected CPs / CMs
Number of connections reserved for ES/HMI/web	10
Number of connections via integrated interfaces	88
Redundancy mode	
Media redundancy	
- MRP	Yes; as MRP redundancy manager and/or MRP client
— MRPD	Yes
SIMATIC communication	
Sivia no communication Sivia no communication Si	No
0	No
S7 communication, as server	Yes
S7 communication, as client	Yes
Open IE communication	N
• TCP/IP	Yes
— Data length, max.	8 kbyte
 — several passive connections per port, supported 	Yes
 ISO-on-TCP (RFC1006) 	Yes
— Data length, max.	8 kbyte
• UDP	Yes
— Data length, max.	2 kbyte; 1 472 bytes for UDP broadcast
• DHCP	Yes
• DNS	Yes
• SNMP	Yes
• DCP	Yes
• LLDP	Yes

	Voc Ontional
Encryption	Yes; Optional
Web server	
 supported 	Yes
• HTTPS	Yes
• web API	Yes
 Number of sessions, max. 	30
 User-defined websites 	Yes
Further protocols	
MODBUS	Yes
communication functions / header	
S7 communication	
supported	Yes
	Yes
• as server	
• as client	Yes
• User data per job, max.	See online help (S7 communication, user data size)
Number of connections	
• overall	PG Connections: 4 reserved; HMI Connections: 4 reserved / 82 max; S7 Connections: 78 max; Open User Connections: 78 max; Web Connections: 2 reserved / 80 max; Total Connections: 10 reserved / 88 max
S7 message functions	
Number of login stations for message functions, max.	32
Program alarms	Yes
Number of configurable program messages, max.	5 000
Number of loadable program messages in RUN, max.	2 500
	2 500
Test commissioning functions	
Status/control	
 Status/control variable 	Yes
Variables	Inputs/outputs, memory bits, DBs, distributed I/Os, timers, counters
Forcing	
• Forcing	Yes
Diagnostic buffer	
• present	Yes
Traces	
Number of configurable Traces	4
Memory size per trace, max.	512 kbyte
Interrupts/diagnostics/status information	
Diagnostics indication LED	
RUN/STOP LED	Yes
• ERROR LED	Yes
MAINT LED	Yes
Supported technology objects	
Motion Control	Yes
 Number of available Motion Control resources for technology objects Number of available Extended Motion Control resources 	800 40
for technology objects	
Integrated Functions	
Counter	Yes
Number of counters	8
Counting frequency, max.	100 kHz; la.0 to la.5: 100 kHz (80 kHz in quadrature mode), la.6 to lb.5: 30 kHz (20 kHz in quadrature mode)
Frequency measurement	Yes
PID controller	Yes
Number of pulse outputs	8; individually assigned to CPU and Signal Board
Limit frequency (pulse)	100 kHz
Potential separation	
Potential separation digital inputs	
 Potential separation digital inputs 	Yes: field side to logic: 707 V DC (type test)
 Potential separation digital inputs between the channels 	Yes; field side to logic: 707 V DC (type test) No
between the channels	No
between the channelsNumber of potential groups	
between the channels	No

had up on the sheet of	
between the channels	No
Number of potential groups EMC	1
Interference immunity against discharge of static electricity	Yes
 Interference immunity against discharge of static electricity acc. to IEC 61000-4-2 	res
 Test voltage at air discharge 	8 kV
 Test voltage at contact discharge 	6 kV
Interference immunity to cable-borne interference	
 Interference immunity on supply lines acc. to IEC 61000- 4-4 	Yes
 Interference immunity on signal cables acc. to IEC 61000- 4-4 	Yes
Interference immunity against voltage surge	
 Interference immunity on supply lines acc. to IEC 61000- 4-5 	Yes
Interference immunity against conducted variable disturbance indu	ced by high-frequency fields
 Interference immunity against high-frequency radiation 	Yes
acc. to IEC 61000-4-6	
Emission of radio interference acc. to EN 55 011	
 Limit class A, for use in industrial areas 	Yes; Group 1
• Limit class B, for use in residential areas	Yes; When appropriate measures are used to ensure compliance with the limits for Class B according to EN 55011
Degree and class of protection	
IP degree of protection	IP20
Standards, approvals, certificates	
CE mark	Yes
UL approval	Yes
cULus	Yes
FM approval	No
RCM (formerly C-TICK)	Yes
KC approval	No
Marine approval	No
product functions / security / header	
signed firmware update	Yes
Secure Boot	Yes
safely removing data	No
Ambient conditions	
Free fall	
• Fall height, max.	0.3 m; five times, in product package
Ambient temperature during operation	
• min.	-20 °C; No condensation
• max.	40 °C; at max. voltages and max. specifications
 horizontal installation, min. 	-20 °C; No condensation
 horizontal installation, max. 	60 °C; at rated voltages, 50 % of max. specification and alternate IO active
• vertical installation, min.	-20 °C; No condensation
• vertical installation, max.	50 °C; at rated voltages, 50 % of max. specification and alternate IO active
Ambient temperature during storage/transportation	
• min.	-40 °C
• max.	70 °C
Air pressure acc. to IEC 60068-2-13	
• Operation, min.	540 hPa
Operation, max.	1 140 hPa
Storage/transport, min.	540 hPa
Storage/transport, max.	1 140 hPa
Altitude during operation relating to sea level	
 Installation altitude, min. 	-1 000 m
Installation altitude, max.	5 000 m; Restrictions for installation altitudes > 2 000 m, see manual
Relative humidity	
• Operation, max.	95 %; no condensation
Vibrations	
 Vibration resistance during operation acc. to IEC 60068- 	3.5 mm from 5 - 8.4 Hz, 1g from 8.4 - 150 Hz

2-6	
 Operation, tested according to IEC 60068-2-6 	Yes
Shock testing	
tested according to IEC 60068-2-27	Yes; IEC 68, Part 2-27 half-sine: strength of the shock 15 g (peak value), duration 11 ms
Pollutant concentrations	
 SO2 at RH < 60% without condensation 	S02: < 0.5 ppm; H2S: < 0.1 ppm; RH < 60% condensation-free
configuration / header	
configuration / programming / header	
Programming language	
— LAD	Yes
— FBD	Yes
— SCL	Yes
Know-how protection	
 User program protection/password protection 	Yes
Access protection	
 protection of confidential configuration data 	Yes
 Protection level: Write protection 	Yes
 Protection level: Read/write protection 	Yes
 Protection level: Complete protection 	Yes
User administration	Yes; device-wide
Number of users	100
Number of groups	100
Number of roles	50
programming / cycle time monitoring / header	
adjustable	Yes
Dimensions	
Width	80 mm
Height	125 mm
Depth	100 mm
Weights	
Weight, approx.	352 g
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