

Overview

- Digital inputs and outputs
- For connecting standard switches, two-wire proximity switches, solenoid valves, contactors, low-power motors, lamps and motor starters

Technical specifications

Article number	6ES7323-1BH01-0AA0 SM323, 8DI/8DO, DC24V, 0,5A	6ES7323-1BL00-0AA0 SM323, 16DI/DO, DC24V, 0,5A	6ES7327-1BH00-0AB0 SIMATIC S7-300, DIGITAL MODULE
Supply voltage			
Load voltage L+			
• Rated value (DC)	24 V	24 V	24 V
Input current			
from load voltage L+ (without load), max.	40 mA	80 mA	20 mA
from backplane bus 5 V DC, max.	40 mA	80 mA	60 mA
Power loss			
Power loss, typ.	3.5 W	6.5 W	3 W
Digital inputs			
Number of digital inputs	8	16	8; 8 hard-wired, 8 others individually parameterizable
Input characteristic curve in accordance with IEC 61131, type 1	Yes	Yes	Yes
Number of simultaneously controllable inputs			
horizontal installation			
- up to 60 °C, max.	8	8	16
vertical installation			
- up to 40 °C, max.	8	16	16
Input voltage			
• Type of input voltage	DC	DC	DC
• Rated value (DC)	24 V	24 V	24 V
• for signal "0"	-30 to +5V	-30 to +5V	-30 to +5V
• for signal "1"	13 to 30V	13 to 30V	+15 to +30V
Input current			
• for signal "1", typ.	7 mA	7 mA	6 mA
Input delay (for rated value of input voltage) for standard inputs			
- at "0" to "1", min.	1.2 ms	1.2 ms	1.2 ms
- at "0" to "1", max.	4.8 ms	4.8 ms	4.8 ms
Cable length			
• shielded, max.	1 000 m	1 000 m	1 000 m
• unshielded, max.	600 m	600 m	600 m

SIMATIC S7-300 Advanced Controllers

I/O modules

Digital modules

SM 323/SM 327 digital input/output modules

Technical specifications (continued)

Article number	6ES7323-1BH01-0AA0 SM323, 8DI/8DO, DC24V, 0,5A	6ES7323-1BL00-0AA0 SM323, 16DI/DO, DC24V, 0,5A	6ES7327-1BH00-0AB0 SIMATIC S7-300, DIGITAL MODULE
Digital outputs			
Number of digital outputs	8	16	8; can also be parameterized individually as DI
Short-circuit protection	Yes	Yes	Yes
• Response threshold, typ.	1 A	1 A	1 A
Limitation of inductive shutdown voltage to	L+ (-53 V)	L+ (-48 V)	L+ (-54 V)
Controlling a digital input	Yes	Yes	Yes
Switching capacity of the outputs			
• on lamp load, max.	5 W	5 W	5 W
Load resistance range			
• lower limit	48 Ω	48 Ω	48 Ω
• upper limit	4 kΩ	4 kΩ	4 kΩ
Output voltage			
• for signal "1", min.	L+ (-0.8 V)	L+ (-0.8 V)	L+ (-1.5 V)
Output current			
• for signal "1" rated value	0.5 A	0.5 A	0.5 A
• for signal "1" permissible range, min.	5 mA	5 mA	5 mA
• for signal "1" permissible range, max.	0.6 A	0.6 A	0.6 A
• for signal "1" minimum load current	5 mA	5 mA	
• for signal "0" residual current, max.	0.5 mA	0.5 mA	0.5 mA
Output delay with resistive load			
• "0" to "1", max.	100 μs	100 μs	350 μs
• "1" to "0", max.	500 μs	500 μs	500 μs
Parallel switching of two outputs			
• for uprating	No	No	No
• for redundant control of a load	Yes; only outputs of the same group	Yes; only outputs of the same group	Yes; only outputs of the same group
Switching frequency			
• with resistive load, max.	100 Hz	100 Hz	100 Hz
• with inductive load, max.	0.5 Hz	0.5 Hz	0.5 Hz
• on lamp load, max.	10 Hz	100 Hz	10 Hz
Total current of the outputs (per group)			
horizontal installation			
- up to 40 °C, max.	4 A	4 A	4 A
- up to 60 °C, max.	4 A	3 A	3 A
vertical installation			
- up to 40 °C, max.	4 A	2 A	2 A
Cable length			
• shielded, max.	1 000 m	1 000 m	1 000 m
• unshielded, max.	600 m	600 m	600 m

Technical specifications (continued)

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Encoder			
Connectable encoders			
• 2-wire sensor	Yes	Yes	Yes
- permissible quiescent current (2-wire sensor), max.	2 mA	1.5 mA	1.5 mA
Isochronous mode			
Isochronous operation (application synchronized up to terminal)	No	No	No
Interrupts/diagnostics/status information			
Alarms	No	No	No
Diagnostic functions	No	No	No
Diagnostics indication LED			
• Status indicator digital input (green)	Yes	Yes	Yes
• Status indicator digital output (green)	Yes	Yes	Yes
Potential separation			
Potential separation digital inputs			
• between the channels	Yes	Yes	No
• between the channels, in groups of 8	8	16	
• between the channels and backplane bus	Yes; Optocoupler	Yes; Optocoupler	Yes; Optocoupler
Potential separation digital outputs			
• between the channels	Yes	Yes	No
• between the channels, in groups of 8	8	8	
• between the channels and backplane bus	Yes; Optocoupler	Yes; Optocoupler	Yes; Optocoupler
Isolation			
Isolation tested with	500 V DC	500 V DC	500 V DC
Connection method			
required front connector	20-pin	40-pin	20-pin
Dimensions			
Width	40 mm	40 mm	40 mm
Height	125 mm	125 mm	125 mm
Depth	120 mm	120 mm	120 mm
Weights			
Weight, approx.	220 g	260 g	200 g

SIMATIC S7-300 Advanced Controllers

I/O modules

Digital modules

SM 323/SM 327 digital input/output modules

Ordering data	Article No.		Article No.
SM 323 digital input/output modules		Labeling sheets for machine inscription	
incl. labeling strips, bus connector		for modules with 20-pin front connector, DIN A4, for printing with laser printer; 10 units	
8 inputs, 8 outputs	6ES7323-1BH01-0AA0	Petrol	6ES7392-2AX00-0AA0
16 inputs, 16 outputs	6ES7323-1BL00-0AA0	Light beige	6ES7392-2BX00-0AA0
		Yellow	6ES7392-2CX00-0AA0
		Red	6ES7392-2DX00-0AA0
SM 327 digital input/output modules		for modules with 40-pin front connector, DIN A4, for printing with laser printer; 10 units	
incl. labeling strips, bus connector		Petrol	6ES7392-2AX10-0AA0
8 inputs, 8 inputs or outputs (can be configured)	6ES7327-1BH00-0AB0	Light beige	6ES7392-2BX10-0AA0
		Yellow	6ES7392-2CX10-0AA0
		Red	6ES7392-2DX10-0AA0
Front connector		SIMATIC Manual Collection	6ES7998-8XC01-8YE0
20-pin, with screw contacts		Electronic manuals on DVD, multilingual: LOGO!, SIMADYN, SIMATIC bus components, SIMATIC C7, SIMATIC distributed I/O, SIMATIC HMI, SIMATIC Sensors, SIMATIC NET, SIMATIC PC Based Automation, SIMATIC PCS 7, SIMATIC PG/PC, SIMATIC S7, SIMATIC Software, SIMATIC TDC	
• 1 unit	6ES7392-1AJ00-0AA0		
• 100 units	6ES7392-1AJ00-1AB0		
20-pin, with spring-loaded contacts			
• 1 unit	6ES7392-1BJ00-0AA0		
• 100 units	6ES7392-1BJ00-1AB0		
40-pin, with screw contacts			
• 1 unit	6ES7392-1AM00-0AA0		
• 100 units	6ES7392-1AM00-1AB0		
40-pin, with spring-loaded contacts			
• 1 unit	6ES7392-1BM01-0AA0		
• 100 units	6ES7392-1BM01-1AB0		
Front door, elevated design	6ES7328-0AA00-7AA0	SIMATIC Manual Collection update service for 1 year	6ES7998-8XC01-8YE2
e.g. for 32 channel modules; enables connection of 1.3 mm ² /16 AWG wires		Current "Manual Collection" DVD and the three subsequent updates	
SIMATIC TOP connect	See page 5/248		
Bus connectors	6ES7390-0AA00-0AA0		
1 unit (spare part)			
Labeling strips			
10 units (spare part)			
for modules with 20-pin front connector	6ES7392-2XX00-0AA0		
for modules with 40-pin front connector	6ES7392-2XX10-0AA0		
Label cover			
10 units (spare part)			
for modules with 20-pin front connector	6ES7392-2XY00-0AA0		
for modules with 40-pin front connector	6ES7392-2XY10-0AA0		