

SIMATIC S7-300 Advanced Controllers

I/O modules

Digital modules

SM 322 digital output modules

Overview



- Digital outputs
- For connecting solenoid valves, contactors, low-power motors, lamps and motor starters

Technical specifications

Article number	6ES7322-1BH01-0AA0	6ES7322-1BH10-0AA0	6ES7322-1BL00-0AA0	6ES7322-1BP00-0AA0	6ES7322-1BP50-0AA0	6ES7322-8BF00-0AB0
	SM322, 16DO 24V DC, 0,5A	SM322 HIGH SPEED, 16DO 24V DC, 0,5A	SM322, 32DO 24V DC, 0,5A	SM322 64DA, DC24V, 0,3A P-WRITE	SM322 64DO, DC24V, 0,3A M-WRITE	SM322, 8DO, 24V DC, 0,5A
Supply voltage						
Load voltage L+						
• Rated value (DC)	24 V	24 V	24 V	24 V	24 V	24 V
Input current						
from load voltage L+ (without load), max.	80 mA	110 mA	160 mA	75 mA	75 mA	90 mA
from backplane bus 5 V DC, max.	80 mA	70 mA	110 mA	100 mA	100 mA	70 mA
Power loss						
Power loss, typ.	4.9 W	5 W	6.6 W	6 W	6 W	5 W
Digital outputs						
Number of digital outputs	16	16	32	64	64	8
Limitation of inductive shutdown voltage to	L+ (-53 V)	L+ (-53 V)	L+ (-53 V)	L+ (-53 V)	M+ (45 V)	L+ (-45 V)
Switching capacity of the outputs						
• on lamp load, max.	5 W	5 W	5 W	5 W	5 W	5 W
Load resistance range						
• lower limit	48 Ω	48 Ω	48 Ω	80 Ω	80 Ω	48 Ω
• upper limit	4 kΩ	4 kΩ	4 kΩ	10 kΩ	10 kΩ	3 kΩ
Output voltage						
• for signal "1", min.	L+ (-0.8 V)	L+ (-0.8 V)	L+ (-0.8 V)	L+ (-0.5 V)	M+ (0.5 V)	L+ (-0.8 to -1.6 V)
Output current						
• for signal "1" rated value	0.5 A	0.5 A	0.5 A	0.3 A	0.3 A	0.5 A
• for signal "1" permissible range, min.				2.4 mA	2.4 mA	
• for signal "1" permissible range, max.				0.36 A	0.36 A	
• for signal "1" permissible range for 0 to 40 °C, min.	5 mA	5 mA	5 mA			10 mA
• for signal "1" permissible range for 0 to 40 °C, max.	0.6 A	0.6 A	0.6 A			0.6 A
• for signal "1" permissible range for 40 to 60 °C, min.	5 mA	5 mA	5 mA			10 mA
• for signal "1" permissible range for 40 to 60 °C, max.	0.6 A	0.6 A	0.6 A			0.6 A
• for signal "1" minimum load current	5 mA	5 mA	5 mA			10 mA
• for signal "0" residual current, max.	0.5 mA	0.5 mA	0.5 mA	0.1 mA		0.5 mA

Technical specifications (continued)

Article number	6ES7322-1BH01-0AA0 SM322, 16DO 24V DC, 0,5A	6ES7322-1BH10-0AA0 SM322 HIGH SPEED, 16DO 24V DC, 0,5A	6ES7322-1BL00-0AA0 SM322, 32DO 24V DC, 0,5A	6ES7322-1BP00-0AA0 SM322 64DA, DC24V, 0,3A P-WRITE	6ES7322-1BP50-0AA0 SM322 64DO, DC24V, 0,3A M-WRITE	6ES7322-8BF00-0AB0 SM322, 8DO, 24V DC, 0,5A
Switching frequency						
• with resistive load, max.	100 Hz	1 000 Hz	100 Hz	100 Hz	100 Hz	100 Hz
• with inductive load, max.	0.5 Hz	0.5 Hz	0.5 Hz	0.5 Hz	0.5 Hz	2 Hz
• on lamp load, max.	10 Hz	10 Hz	10 Hz	10 Hz	10 Hz	10 Hz
Total current of the outputs (per group)						
horizontal installation						
- up to 40 °C, max.	4 A	4 A	4 A	1.6 A	1.6 A	4 A
- up to 60 °C, max.	3 A	3 A	3 A	1.2 A	1.2 A	3 A
vertical installation						
- up to 40 °C, max.	2 A	2 A	2 A	1.6 A	1.6 A	4 A
Total current of the outputs (per module)						
horizontal installation						
- up to 60 °C, max.				4.8 A	4.8 A	
all other mounting positions						
- up to 40 °C, max.				6.4 A	6.4 A	
Cable length						
• shielded, max.	1 000 m	1 000 m	1 000 m	1 000 m	1 000 m	1 000 m
• unshielded, max.	600 m	600 m	600 m	600 m	600 m	600 m
Interrupts/diagnostics/status information						
Diagnostic functions	No	No	No	No	No	Yes; Parameterizable
Alarms						
• Diagnostic alarm	No	No	No	No	No	Yes; Parameterizable
Potential separation						
Potential separation digital outputs						
• between the channels	Yes	Yes	Yes	No	No	
• between the channels, in groups of	8	8	8	16	16	8
• between the channels and backplane bus	Yes; Optocoupler	Yes; Optocoupler	Yes; Optocoupler	Yes; Optocoupler	Yes; Optocoupler	Yes; Optocoupler
Isolation						
Isolation tested with	500 V DC	500 V DC	500 V DC	500 V DC	500 V DC	500 V DC
Connection method						
required front connector	20-pin	20-pin	40-pin	Cable: 6ES7392-4Bxx0-0AA0 terminal blocks: 6ES7392-1xN00-0AA0	Cable: 6ES7392-4Bxx0-0AA0 terminal blocks: 6ES7392-1xN00-0AA0	20-pin
Dimensions						
Width	40 mm	40 mm	40 mm	40 mm	40 mm	40 mm
Height	125 mm	125 mm	125 mm	125 mm	125 mm	125 mm
Depth	120 mm	120 mm	120 mm	112 mm	112 mm	120 mm
Weights						
Weight, approx.	190 g	200 g	260 g	230 g	230 g	210 g

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Ordering data	Article No.	Article No.
SM 322 digital output modules incl. labeling strips, bus connector 8 outputs, 24 V DC, 2 A 16 outputs, 24 V DC, 0.5 A 16 outputs, 24 V DC, 0.5 A, high speed 32 outputs, 24 V DC, 0.5 A 64 outputs, 24 V DC, 0.3 A Note: 6ES7392-4...0-0AA0 connecting cable and 6ES7392-1.N00-0AA0 terminal blocks necessary. 64 outputs, 24 V DC, 0.3 A, sink output Note: 6ES7392-4...0-0AA0 connecting cable and 6ES7392-1.N00-0AA0 terminal blocks necessary. 8 outputs, 24 V DC, 0.5 A, diagnostics-capable 16 outputs, 24/48 V DC, 0.5 A 8 outputs, 48 to 125 V DC, 1.5 A 8 outputs, 120/230 V AC, 1 A 8 outputs, 120/230 V AC, 2 A 16 outputs, 120/230 V AC, 1 A 32 outputs, 120 V AC, 1 A 8 outputs, relay contacts, 2 A 8 outputs, relay contacts, 5 A 8 outputs, relay contacts, 5 A, with RC filter, overvoltage protection 16 outputs, relay contacts, 8 A Front connector 20-pin, with screw contacts • 1 unit • 100 units 20-pin, with spring-loaded contacts • 1 unit • 100 units 40-pin, with screw contacts • 1 unit • 100 units 40-pin, with spring-loaded contacts • 1 unit • 100 units S7-300 connecting cable For 64-channel modules; 2 units 1 m 2.5 m 5 m Terminal block For 64-channel modules; 2 units With screw contacts With spring-loaded contacts	6ES7322-1BF01-0AA0 6ES7322-1BH01-0AA0 6ES7322-1BH10-0AA0 6ES7322-1BL00-0AA0 6ES7322-1BP00-0AA0 6ES7322-1BP50-0AA0 6ES7322-8BF00-0AB0 6ES7322-5GH00-0AB0 6ES7322-1CF00-0AA0 6ES7322-1FF01-0AA0 6ES7322-5FF00-0AB0 6ES7322-1FH00-0AA0 6ES7322-1FL00-0AA0 6ES7322-1HF01-0AA0 6ES7322-1HF10-0AA0 6ES7322-5HF00-0AB0 6ES7322-1HH01-0AA0 6ES7392-1AJ00-0AA0 6ES7392-1AJ00-1AB0 6ES7392-1BJ00-0AA0 6ES7392-1BJ00-1AB0 6ES7392-1AM00-0AA0 6ES7392-1AM00-1AB0 6ES7392-1BM01-0AA0 6ES7392-1BM01-1AB0 6ES7392-4BB00-0AA0 6ES7392-4BC50-0AA0 6ES7392-4BF00-0AA0 6ES7392-1AN00-0AA0 6ES7392-1BN00-0AA0	Front door, elevated design e.g. for 32-channel modules; for connecting 1.3 mm ² /16 AWG conductors 6ES7328-0AA00-7AA0 SIMATIC TOP connect See page 5/248 Bus connectors 1 unit (spare part) 6ES7390-0AA00-0AA0 Set of fuses for SM 322 10 fuses 8 A quick-response, 2 fuse holders; for 6ES7 322-1FF01-0AA0, 6ES7 322-1FH00-0AA0 6ES7973-1HD00-0AA0 10 fuses 6.3 A; for 6ES7 322-1CF00-0AA0 6ES7973-1GC00-0AA0 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 Labeling sheets for machine inscription for modules with 20-pin front connector, DIN A4, for printing with laser printer; 10 units Petrol 6ES7392-2AX00-0AA0 Light beige 6ES7392-2BX00-0AA0 Yellow 6ES7392-2CX00-0AA0 Red 6ES7392-2DX00-0AA0 for modules with 40-pin front connector, DIN A4, for printing with laser printer; 10 units Petrol 6ES7392-2AX10-0AA0 Light beige 6ES7392-2BX10-0AA0 Yellow 6ES7392-2CX10-0AA0 Red 6ES7392-2DX10-0AA0 SIMATIC Manual Collection 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 6ES7998-8XC01-8YE0 SIMATIC Manual Collection update service for 1 year Current "Manual Collection" DVD and the three subsequent updates 6ES7998-8XC01-8YE2