

Overview



- Analog outputs
- For the connection of analog actuators

Technical specifications

	6ES7 332-5HB01-0AB0	6ES7 332-5HD01-0AB0	6ES7 332-5HF00-0AB0	6ES7 332-7ND02-0AB0
Voltages and currents				
Load voltage L+				
• Rated value (DC)	24 V	24 V	24 V	24 V
Current consumption				
from load voltage L+ (without load), max.	135 mA	240 mA	340 mA	290 mA
from backplane bus DC 5 V, max.	60 mA	60 mA	100 mA	120 mA
Power loss, typ.	3 W	3 W	6 W	3 W
Connection point				
required front connectors	20-pin	20-pin	40-pin	20-pin
Analog outputs				
Number of analog outputs	2	4	8	4; isochronous mode
Cable length, shielded, max.	200 m	200 m	200 m	200 m
Voltage output, short-circuit protection	Yes	Yes	Yes	Yes
Voltage output, short-circuit current, max.	25 mA	25 mA	25 mA	40 mA
Current output, no-load voltage, max.	18 V	18 V	18 V	18 V
Output ranges, voltage				
• 0 to 10 V	Yes	Yes	Yes	Yes
• 1 to 5 V	Yes	Yes	Yes	Yes
• -10 to +10 V	Yes	Yes	Yes	Yes
Output ranges, current				
• 0 to 20 mA	Yes	Yes	Yes	Yes
• -20 to +20 mA	Yes	Yes	Yes	Yes
• 4 to 20 mA	Yes	Yes	Yes	Yes
Load impedance (in rated range of output)				
• with voltage outputs, min.	1 kΩ	1 kΩ	1 kΩ	1 kΩ
• with voltage outputs, capacitive load, max.	1 μF	1 μF	1 μF	1 μF
• with current outputs, max.	500 Ω	500 Ω	500 Ω	500 Ω
• with current outputs, inductive load, max.	10 mH	10 mH	10 mH	1 mH

SIMATIC S7-300

Analog modules

SM 332 analog output modules

Technical specifications (continued)

	6ES7 332-5HB01-0AB0	6ES7 332-5HD01-0AB0	6ES7 332-5HF00-0AB0	6ES7 332-7ND02-0AB0
Analog value creation				
Integrations and conversion time/resolution per channel				
• Resolution with overload area (bit including sign), max.	12 Bit; +/- 10 V, +/-20mA, 4 to 20 mA, 1 to 5 V: 11 bit + sign, 0 to 10 V, 0 to 20 mA: 12 bit	12 Bit; +/- 10 V, +/- 20mA, 4 to 20 mA, 1 to 5 V: 11 bit + sign, 0 to 10 V, 0 to 20 mA: 12 bit	12 Bit; +/- 10 V, +/- 20mA, 4 to 20 mA, 1 to 5 V: 11 bit + sign, 0 to 10 V, 0 to 20 mA: 12 bit	16 Bit
• Conversion time (per channel)	0,8 ms	0,8 ms	0,8 ms	200 µs; in clocked mode 640µs
Settling time				
• for resistive load	0.2 ms	0.2 ms	0.2 ms	0.2 ms
• for capacitive load	3.3 ms	3.3 ms	3.3 ms	3.3 ms
• for inductive load	0.5 ms; 0.5 ms (1mH); 3.3ms (10mH)	0.5 ms; 0.5ms (1mH); 3.3ms (10mH)	0.5 ms; 0.5ms (1mH); 3.3ms (10mH)	0.5 ms
Errors/accuracies				
Operational limit in overall temperature range				
• Voltage, relative to output area	+/- 0.5 %	+/- 0.5 %	+/- 0.5 %	+/- 0.12 %
• Current, relative to output area	+/- 0.6 %	+/- 0.6 %	+/- 0.6 %	+/- 0.18 %
Basic error limit (operational limit at 25 °C)				
• Voltage, relative to output area	+/- 0.4 %	+/- 0.4 %	+/- 0.4 %	+/- 0.02 %
• Current, relative to output area	+/- 0.5 %	+/- 0.5 %	+/- 0.5 %	+/- 0.02 %
Status information/alarms/diagnostics				
Substitute values connectable	Yes; parameterizable	Yes; parameterizable	Yes; parameterizable	Yes; parameterizable
Alarms				
• Diagnostic alarm	Yes; parameterizable	Yes; parameterizable	Yes; parameterizable	Yes
Diagnoses				
• Diagnostic information readable	Yes	Yes	Yes	
Isolation				
Isolation checked with	500 V DC	500 V DC	500 V DC	1500 V DC
Isolation				
Isolation, analog outputs				
• between the channels and the backplane bus	Yes	Yes	Yes	Yes
Dimensions and weight				
Width	40 mm	40 mm	40 mm	40 mm
Height	125 mm	125 mm	125 mm	125 mm
Depth	120 mm	120 mm	120 mm	120 mm
Weights				
Weight, approx.	220 g	220 g	272 g	220 g

SIMATIC S7-300

Analog modules

SM 332 analog output modules

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Ordering data	Order No.	Order No.
SM 332 analog output modules incl. labeling strips, bus connector 4 outputs, 11/12 bit 4 outputs, 16 bit A) 2 outputs, 11/12 bit 8 outputs, 11/12 bit	6ES7 332-5HD01-0AB0 6ES7 332-7ND02-0AB0 6ES7 332-5HB01-0AB0 6ES7 332-5HF00-0AB0	Labeling strips 10 units (spare part), for modules with 20-pin front connector 6ES7 392-2XX00-0AA0 S7 SmartLabel Software for automatic labeling of modules based on data of the STEP 7 project 2XV9 450-1SL01-0YX0
Front connectors 20-pin, with screw contacts • 1 unit • 100 units 20-pin, with cage clamp terminals • 1 unit • 100 units 40-pin, with screw contacts • 1 unit • 100 units 40-pin, with cage clamp terminals • 1 unit • 100 units	6ES7 392-1AJ00-0AA0 6ES7 392-1AJ00-1AB0 6ES7 392-1BJ00-0AA0 6ES7 392-1BJ00-1AB0 6ES7 392-1AM00-0AA0 6ES7 392-1AM00-1AB0 6ES7 392-1BM01-0AA0 6ES7 392-1BM01-1AB0	Labeling sheets for machine labeling For 16-channel signal modules, DIN A4, for printing with laser printer; 10 units petrol light-beige yellow red For 32-channel signal modules, DIN A4, for printing with laser printer; 10 units petrol light-beige yellow red 6ES7 392-2AX00-0AA0 6ES7 392-2BX00-0AA0 6ES7 392-2CX00-0AA0 6ES7 392-2DX00-0AA0 6ES7 392-2AX10-0AA0 6ES7 392-2BX10-0AA0 6ES7 392-2CX10-0AA0 6ES7 392-2DX10-0AA0
Front door, elevated design A) e.g. for 32 channel modules; for connecting 1.3 mm ² /16 AWG wires	6ES7 328-0AA00-7AA0	SIMATIC Manual Collection D) Electronic manuals on DVD, multilingual: S7-200, S7-300, C7, S7-400, SIMATIC DP (Distributed I/O), SIMATIC PC, SIMATIC PG, STEP 7, Engineering Tools, Runtime Software, SIMATIC PCS 7, SIMATIC HMI (Human Machine Interface), SIMATIC NET (Industrial Communication), SIMATIC Machine Vision, SIMATIC Sensors 6ES7 998-8XC01-8YE0
SIMATIC TOP connect See page 4/225; Information about which components can be used for the respective module, see A&D Mall or Catalog KT 10.2		
Bus connectors 1 unit (spare part)	6ES7 390-0AA00-0AA0	
Shield connecting element 80 mm wide, with 2 rows for 4 shielding connection clamps each	6ES7 390-5AA00-0AA0	SIMATIC Manual Collection D) update service for 1 year Current S7 Manual Collection DVD and the three subsequent updates 6ES7 998-8XC01-8YE2
Shielding connection clamps 2 units For 2 cables with 2 mm to 6 mm diameter For 1 cable with 3 mm to 8 mm diameter For 1 cable with 4 mm to 13 mm diameter	6ES7 390-5AB00-0AA0 6ES7 390-5BA00-0AA0 6ES7 390-5CA00-0AA0	S7-300 manual Design, CPU data, module data, instruction list German English French Spanish Italian 6ES7 398-8FA10-8AA0 6ES7 398-8FA10-8BA0 6ES7 398-8FA10-8CA0 6ES7 398-8FA10-8DA0 6ES7 398-8FA10-8EA0
Label cover 10 units (spare part), for modules with 20-pin front connector	6ES7 392-2XY00-0AA0	

A) Subject to export regulations: AL: N and ECCN: EAR99H

D) Subject to export regulations: AL: N and ECCN: 5D992B1