

Overview



- Analog outputs
- For the connection of analog actuators

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Technical specifications

	6ES7 332-5HB01-0AB0	6ES7 332-5HD01-0AB0	6ES7 332-5HF00-0AB0	6ES7 332-7ND02-0AB0
Supply voltages				
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 5 V DC, max.	60 mA	60 mA	100 mA	120 mA
Power losses				
Power loss, typ.	3 W	3 W	6 W	3 W
Connection method				
required front connector	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 k Ω	1 k Ω	1 k Ω	1 k Ω
• with voltage outputs, capacitive load, max.	1 μ F	1 μ F	1 μ F	1 μ F
• 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

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Analog modules

SM 332 analog output module

Technical specifications (continued)

	6ES7 332-5HB01-0AB0	6ES7 332-5HD01-0AB0	6ES7 332-5HF00-0AB0	6ES7 332-7ND02-0AB0
Analog value creation				
Integration and conversion time/ resolution per channel				
• Resolution with overrange (bit including sign), max.	12 bit; +/-10 V, +/-20 mA, 4 to 20 mA, 1 to 5 V: 11 bits + sign; 0 to 10 V, 0 to 20 mA: 12 bits	12 bit; +/-10 V, +/-20 mA, 4 to 20 mA, 1 to 5 V: 11 bits + sign; 0 to 10 V, 0 to 20 mA: 12 bits	12 bit; +/-10 V, +/-20 mA, 4 to 20 mA, 1 to 5 V: 11 bits + sign; 0 to 10 V, 0 to 20 mA: 12 bits	16 bit
• Conversion time (per channel)	0.8 ms	0.8 ms	0.8 ms	200 µs; in isochronous mode 640 µs
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 (1 mH); 3.3 ms (10 mH)	0.5 ms; 0.5 ms (1 mH); 3.3 ms (10 mH)	0.5 ms; 0.5 ms (1 mH); 3.3 ms (10 mH)	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 %
Alarms/diagnostics/status information				
Substitute values connectable	Yes; parameterizable	Yes; parameterizable	Yes; parameterizable	Yes; Pparameterizable
Alarms				
• Diagnostic alarm	Yes; parameterizable	Yes; parameterizable	Yes; parameterizable	Yes
Diagnostics				
• Diagnostic information readable	Yes	Yes	Yes	
Isolation				
Isolation checked with	500 V DC	500 V DC	500 V DC	1500 V DC
Galvanic isolation				
Galvanic isolation analog outputs				
• between the channels and the backplane bus	Yes	Yes	Yes	Yes
Dimensions and weight				
Dimensions				
• 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
Weight				
• Weight, approx.	220 g	220 g	272 g	220 g

SIMATIC S7-300

Analog modules

SM 332 analog output module

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 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	Label cover 10 units (spare part), for modules with 20-pin front connector Labeling strips 10 units (spare part), for modules with 20-pin front connector S7 SmartLabel V3.0 Software for automatic labeling of modules direct from the STEP 7 project Single license J 2XV9 450-1SL03-0YX0 Upgrade single license J 2XV9 450-1SL03-0YX4
Front connectors 20-pin, with screw contacts • 1 unit • 100 units 20-pin, with spring-loaded contacts • 1 unit • 100 units 20-pin, with FastConnect • 1 unit 40-pin, with screw contacts • 1 unit • 100 units 40-pin with spring-loaded contacts • 1 unit • 100 units 40-pin, with FastConnect • 1 unit	6ES7 392-1AJ00-0AA0 6ES7 392-1AJ00-1AB0 6ES7 392-1BJ00-0AA0 6ES7 392-1BJ00-1AB0 6ES7 392-1CJ00-0AA0 6ES7 392-1AM00-0AA0 6ES7 392-1AM00-1AB0 6ES7 392-1BM01-0AA0 6ES7 392-1BM01-1AB0 6ES7 392-1CM00-0AA0	Labeling sheets for machine labeling For 16-channel signal modules, DIN A4, for printing with laser printer; 10 units petrol 6ES7 392-2AX00-0AA0 light-beige 6ES7 392-2BX00-0AA0 yellow 6ES7 392-2CX00-0AA0 red 6ES7 392-2DX00-0AA0 For 32-channel signal modules, DIN A4, for printing with laser printer; 10 units petrol 6ES7 392-2AX10-0AA0 light-beige 6ES7 392-2BX10-0AA0 yellow 6ES7 392-2CX10-0AA0 red 6ES7 392-2DX10-0AA0
Front door, elevated design e.g. for 32-channel modules; for connecting 1.3 mm ² /16 AWG wires	6ES7 328-0AA00-7AA0	SIMATIC manual collection J 6ES7 998-8XC01-8YE0 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
SIMATIC TOP connect	see page 5/290	SIMATIC manual collection update service for 1 year D 6ES7 998-8XC01-8YE2 Current "Manual Collection" DVD and the three subsequent updates
Bus connectors 1 unit (spare part)	6ES7 390-0AA00-0AA0	S7-300 manual Design, CPU data, module data, instruction list German 6ES7 398-8FA10-8AA0 English 6ES7 398-8FA10-8BA0
Shield connecting element 80 mm wide, with 2 rows for 4 terminal elements each	6ES7 390-5AA00-0AA0	
Terminal elements 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	

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