

SIMATIC S7-300

Analog modules

SM 334 analog input/output module

Overview



- Analog inputs and outputs
- For the connection of analog sensors and actuators

Technical specifications

	6ES7 334-0CE01-0AA0	6ES7 334-0KE00-0AB0
Supply voltages		
Load voltage L+		
• Rated value (DC)	24 V	24 V
Current consumption		
from load voltage L+ (without load), max.	110 mA	80 mA
from backplane bus 5 V DC, max.	55 mA	60 mA
Power losses		
Power loss, typ.	3 W	2 W
Connection method		
required front connector	20-pin	20-pin
Analog inputs		
Number of analog inputs	4	4
Number of analog inputs for voltage measurement	4	2
Number of analog inputs for resistance measurement		4
Cycle time (all channels) max.	5 ms	85 ms
Input ranges (rated values), voltages		
• 0 to +10 V	Yes	Yes
Input ranges (rated values), currents		
• 0 to 20 mA	Yes	
Input ranges (rated values), resistance thermometers		
• Pt 100		Yes; only climatic range
Input ranges (rated values), resistors		
• 0 to 10000 Ohm		Yes
Voltage input		
• permissible input voltage for voltage input (destruction limit), max.	20 V	20 V; permanent; 75 V for max. 1 s (mark to space ratio 1:20)
Current input		
• permissible input current for current input (destruction limit), max.	40 mA	
Analog outputs		
Number of analog outputs	2	2
Cable length, shielded, max.	200 m	100 m
Voltage output, short-circuit protection	Yes	Yes
Voltage output, short-circuit current, max.	11 mA	10 mA
Current output, no-load voltage, max.	15 V	

Technical specifications (continued)

	6ES7 334-0CE01-0AA0	6ES7 334-0KE00-0AB0
Output ranges, voltage • 0 to 10 V	Yes	Yes
Output ranges, current • 0 to 20 mA	Yes	
Load impedance (in rated range of output) • with voltage outputs, min. • with voltage outputs, capacitive load, max. • with current outputs, max. • with current outputs, inductive load, max.	5 kΩ 1 μF 300 Ω 1 mH	2.5 kΩ 1 μF
Analog value creation Integrations and conversion time/ resolution per channel • Resolution with overrange (bit including sign), max. • Integration time, ms	8 bit	12 bit 16.67/20 ms
Settling time • for resistive load • for capacitive load • for inductive load	0.3 ms 3 ms 0.3 ms	0.8 ms 0.8 ms
Encoder Connection of signal encoders • for current measurement as 4-wire transducer • for resistance measurement with 2-conductor connection • for resistance measurement with 3-conductor connection • for resistance measurement with 4-conductor connection	Yes	Yes Yes Yes
Errors/accuracies Operational limit in overall temperature range • Voltage, relative to input area • Current, relative to input area • Impedance, relative to input area • Resist.-type thermometer, relative to input area • Voltage, relative to output area • Current, relative to output area	+/- 0,9 % +/- 0,8 % +/- 0,6 % +/- 1 %	+/- 0,7 %; 0 to 10 V +/- 3,5 %; 10 kΩ +/- 1 % +/- 1 %
Basic error limit (operational limit at 25 °C) • Voltage, relative to input area • Current, relative to input area • Impedance, relative to input area • Resist.-type thermometer, relative to input area • Voltage, relative to output area • Current, relative to output area	+/- 0,7 % +/- 0,6 % +/- 0,5 % +/- 0,5 %	+/- 0,5 %; 0 to 10 V +/- 2,8 %; 10 kΩ +/- 0,8 % +/- 0,85 %
Alarms/diagnostics/status information Alarms • Alarms	No	No
Diagnostics • Diagnostic functions	No	No
Isolation Isolation checked with	500 V DC	500 V DC
Galvanic isolation Galvanic isolation analog inputs • between the channels and the backplane bus	No	Yes
Galvanic isolation analog outputs • between the channels and the backplane bus	No	Yes
Dimensions and weight Dimensions • Width • Height • Depth	40 mm 125 mm 120 mm	40 mm 125 mm 120 mm
Weight • Weight, approx.	285 g	200 g

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Ordering data	Order No.	Order No.
SM 334 analog input/output modules incl. labeling strips, bus connector 4 inputs, 2 outputs 4 inputs, 2 outputs, resistance measurement, Pt 100	6ES7 334-0CE01-0AA0 6ES7 334-0KE00-0AB0	Labeling strips 10 units (spare part), for modules with 20-pin front connector 6ES7 392-2XX00-0AA0
Front connectors 20-pin, with screw contacts • 1 unit • 100 units 20-pin, with spring-loaded terminals • 1 unit • 100 units 20-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	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 door, elevated design e.g. for 32-channel modules; for connecting 1.3 mm ² /16 AWG wires	6ES7 328-0AA00-7AA0	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
SIMATIC TOP connect	see page 5/290	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
Bus connectors 1 unit (spare part)	6ES7 390-0AA00-0AA0	SIMATIC manual collection update service for 1 year D 6ES7 998-8XC01-8YE2 Current "Manual Collection" DVD and the three subsequent updates
Shield connecting element 80 mm wide, with 2 rows for 4 terminal elements each	6ES7 390-5AA00-0AA0	S7-300 manual Design, CPU data, module data, instruction list German 6ES7 398-8FA10-8AA0 English 6ES7 398-8FA10-8BA0
Terminal elements 2 units For 2 cables with 2 mm to 6 mm diameter 6ES7 390-5AB00-0AA0 For 1 cable with 3 mm to 8 mm diameter 6ES7 390-5BA00-0AA0 For 1 cable with 4 mm to 13 mm diameter 6ES7 390-5CA00-0AA0		
Label cover 10 units (spare part), for modules with 20-pin front connector	6ES7 392-2XY00-0AA0	

D: Subject to export regulations AL: N and ECCN: 5D992

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