

SIMATIC S7, Analog input SM 336, 6 AI; 15 bit; fail-safe analog inputs for SIMATIC Safety, with HART support, up to Category 4 (EN 954-1)/ SIL3 (IEC61508)/PLE (ISO13849), 1x 20-pole



Supply voltage	
Rated value (DC)	24 V
Reverse polarity protection	Yes
Input current	
From power supply L+, typ.	150 mA
from backplane bus 5 V DC, max.	90 mA
Power loss	
Power loss, typ.	4.5 W
Analog inputs	
Number of analog inputs	6
permissible input current for current input (destruction limit), max.	40 mA
Input ranges	
• Voltage	No
• Current	Yes
• Thermocouple	No
• Resistance thermometer	No
• Resistance	No

Input ranges (rated values), currents	
<ul style="list-style-type: none"> • 0 to 20 mA <ul style="list-style-type: none"> — Input resistance (0 to 20 mA) • 4 mA to 20 mA <ul style="list-style-type: none"> — Input resistance (4 mA to 20 mA) 	<p>Yes</p> <p>150 Ω; typ. 150 ohms max. 175 ohms</p> <p>Yes</p> <p>150 Ω; typ. 150 ohms max. 175 ohms</p>
Cable length	
<ul style="list-style-type: none"> • shielded, max. 	1 000 m
Analog value generation for the inputs	
Integration and conversion time/resolution per channel	
<ul style="list-style-type: none"> • Resolution with overrange (bit including sign), max. • Integration time (ms) • Interference voltage suppression for interference frequency f1 in Hz 	<p>16 bit; 15 bit + sign</p> <p>20 ms @ 50 Hz, 16.7 ms @ 60 Hz</p> <p>$f=n \times (f1 \pm 0.5 \%)$</p>
Encoder	
Connection of signal encoders	
<ul style="list-style-type: none"> • for current measurement as 2-wire transducer • for current measurement as 4-wire transducer 	<p>Yes</p> <p>Yes</p>
Errors/accuracies	
Operational error limit in overall temperature range	
<ul style="list-style-type: none"> • Current, relative to input range, (+/-) 	0.2 %; 40 μA
Basic error limit (operational limit at 25 °C)	
<ul style="list-style-type: none"> • Current, relative to input range, (+/-) 	0.1 %
Interrupts/diagnostics/status information	
Diagnostics function	Yes
Alarms	
<ul style="list-style-type: none"> • Diagnostic alarm 	Yes
Diagnostic messages	
<ul style="list-style-type: none"> • Diagnostic information readable 	Yes
Diagnostics indication LED	
<ul style="list-style-type: none"> • Fail-safe operation • Group error SF (red) • Encoder supply Vs (green) 	<p>Yes</p> <p>Yes</p> <p>No</p>
Potential separation	
Potential separation analog inputs	
<ul style="list-style-type: none"> • between the channels • between the channels and backplane bus • between the channels and the power supply of the electronics 	<p>Yes</p> <p>Yes</p> <p>Yes</p>
Isolation	

Isolation tested with	370V for 1 min
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Standards, approvals, certificates

Highest safety class achievable in safety mode	
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|----------------------------------------------|-------|
| • acc. to EN 954 | 4 |
| • Performance level according to ISO 13849-1 | e |
| • SIL acc. to IEC 61508 | SIL 3 |

Connection method

required front connector	20-pin
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Dimensions

Width	40 mm
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Height	125 mm
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Depth	120 mm
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Weights

Weight, approx.	350 g
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last modified:	05/09/2020
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