

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
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Analog inputs

Number of analog inputs	6
permissible input current for current input (destruction limit), max.	40 mA

Input ranges

<ul style="list-style-type: none"> Voltage 	No
<ul style="list-style-type: none"> Current 	Yes

Input ranges (rated values), currents

<ul style="list-style-type: none"> 0 to 20 mA 	Yes
<ul style="list-style-type: none"> Input resistance (0 to 20 mA) 	150 Ω; typ. 150 ohms max. 175 ohms

• 4 mA to 20 mA	Yes
• Input resistance (4 mA to 20 mA)	150 Ω; typ. 150 ohms max. 175 ohms
Cable length	
• shielded, max.	1 000 m

Analog value generation for the inputs

Integration and conversion time/resolution per channel	
• Resolution with overrange (bit including sign), max.	16 bit; 15 bit + sign
• Integration time (ms)	20 ms @ 50 Hz, 16.7 ms @ 60 Hz
• Interference voltage suppression for interference frequency f1 in Hz	$f=n \times (f1 \pm 0.5 \%)$

Encoder

Connection of signal encoders	
• for current measurement as 2-wire transducer	Yes
• for current measurement as 4-wire transducer	Yes

Errors/accuracies

Operational error limit in overall temperature range	
• Current, relative to input range, (+/-)	0.2 %; 40 μA
Basic error limit (operational limit at 25 °C)	
• Current, relative to input range, (+/-)	0.1 %

Interrupts/diagnostics/status information

Diagnosics function	Yes
Alarms	
• Diagnostic alarm	Yes
Diagnostic messages	
• Diagnostic information readable	Yes
Diagnostics indication LED	
• Fail-safe operation	Yes
• Group error SF (red)	Yes
• Encoder supply Vs (green)	No

Potential separation

Potential separation analog inputs	
• between the channels	Yes
• between the channels and backplane bus	Yes
• between the channels and the power supply of the electronics	Yes

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
- SIL acc. to IEC 61508

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SIL 3

Connection method

required front connector 20-pin

Dimensions

Width 40 mm
Height 125 mm
Depth 120 mm

Weights

Weight, approx. 350 g

last modified: 08/30/2019