

SIMATIC S7, ANALOG INPUT SM336 6 AI; 15 BIT; FAILSAFE ANALOG INPUTS FOR SIMATIC SAFETY, WITH HART SUPPORT, UP TO CATEGORY 4 (EN954-1)/ SIL3 (IEC61508)/PLE (ISO13849), 1 X 20 PIN,



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
Input ranges (rated values), currents	
• 0 to 20 mA	Yes
• 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
<b>Cable length</b>	
• shielded, max.	1 000 m

### Analog value generation for the inputs

<b>Integration and conversion time/resolution per channel</b>	
• 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	$f=n \times (f1\pm0.5\%)$

### Encoder

<b>Connection of signal encoders</b>	
• for current measurement as 2-wire transducer	Yes
• for current measurement as 4-wire transducer	Yes

### Errors/accuracies

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

### Interrupts/diagnostics/status information

Diagnostic functions	Yes
<b>Alarms</b>	
• Diagnostic alarm	Yes
<b>Diagnostic messages</b>	
• Diagnostic information readable	Yes
<b>Diagnostics indication LED</b>	
• Fail-safe operation	Yes
• Group error SF (red)	Yes
• Encoder supply Vs (green)	No

### Potential separation

<b>Potential separation analog inputs</b>	
• 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

4  
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:** 03/24/2017