

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
Load voltage L+	
<ul style="list-style-type: none"> <li>Rated value (DC)</li> </ul>	24 V
<ul style="list-style-type: none"> <li>Reverse polarity protection</li> </ul>	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	
<ul style="list-style-type: none"> <li>Voltage</li> </ul>	No
<ul style="list-style-type: none"> <li>Current</li> </ul>	Yes

• Thermocouple	No
• Resistance thermometer	No
• Resistance	No
<b>Input ranges (rated values), currents</b>	
• 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 x (f1 ±0.5 %)

### 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

• Diagnostics function	Yes
<b>Alarms</b>	
• Diagnostic alarm	Yes
<b>Diagnoses</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

### Standards, approvals, certificates

Highest safety class achievable in safety mode

- 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

### Dimensions

Width 40 mm

Height 125 mm

Depth 120 mm

### Weights

Weight, approx. 350 g

**last modified:** 09/03/2020