



Figure similar

SIMATIC S7-200 SMART, Analog input SM AI04, 4 AI, 0...10V, 0...5V, +/-5 V, +/-2.5 V, or 0/4-20 mA 11 bit + sign (12 bit ADC)

General information	
Product type designation	SM AI04, AI 4x12 bit
CiR - Configuration in RUN	
Reparameterization possible in RUN	No
Supply voltage	
Type of supply voltage	DC
Rated value (DC)	24 V; -15 / +20 %
permissible range, lower limit (DC)	20.4 V
permissible range, upper limit (DC)	28.8 V
Input current	
Current consumption, typ.	40 mA
from backplane bus 5 V DC, typ.	80 mA
Power loss	
Power loss, typ.	1.5 W
Analog inputs	
Number of analog inputs	4
Input ranges	
• Voltage	Yes; ±10V, ±5V, ±2.5V
• Current	Yes; 0 to 20 mA
• Thermocouple	No
• Resistance thermometer	No
• Resistance	No
Input ranges (rated values), voltages	
• -10 V to +10 V	Yes
— Input resistance (-10 V to +10 V)	9 MΩ
• -2.5 V to +2.5 V	Yes
— Input resistance (-2.5 V to +2.5 V)	9 MΩ
• -5 V to +5 V	Yes
— Input resistance (-5 V to +5 V)	9 MΩ
Input ranges (rated values), currents	
• 0 to 20 mA	Yes
— Input resistance (0 to 20 mA)	250 Ω
Analog value generation for the inputs	
Integration and conversion time/resolution per channel	
• Resolution with overrange (bit including sign), max.	12 bit; voltage mode: 11 bit + sign bit, current mode: 11 bit
• Interference voltage suppression for interference frequency f1 in Hz	10 / 50 / 60 / 400 Hz
Smoothing of measured values	
• parameterizable	Yes; In 4 stages: 1x, 4x, 16x, 32x cycle time

- Step: None
- Step: low
- Step: Medium
- Step: High

Yes; 1x

Yes; 4x

Yes; 16x

Yes; 32x

Interrupts/diagnostics/status information

Diagnostics function	Yes
Diagnoses	
- Monitoring the supply voltage - Wire-break - Short-circuit	Yes No No
Diagnostics indication LED	
for status of the inputs	Yes

Degree and class of protection

IP degree of protection	IP20
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Standards, approvals, certificates

CE mark	Yes
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Dimensions

Width	45 mm
Height	100 mm
Depth	81 mm

Weights

Weight, approx.	147 g
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Classifications

	Version	Classification
eClass	14	27-24-22-01
eClass	12	27-24-22-01
eClass	9.1	27-24-22-01
eClass	9	27-24-22-01
eClass	8	27-24-22-01
eClass	7.1	27-24-22-01
eClass	6	27-24-22-01
ETIM	9	EC001420
ETIM	8	EC001420
ETIM	7	EC001420
IDEA	4	3562
UNSPSC	15	32-15-17-05

Approvals / Certificates

General Product Approval



last modified:

3/12/2024