

S-DIAS Analog Mixed Module

AM 442



with 4 current inputs
4 current outputs

The S-DIAS AM 442 analog mixed module has four current inputs, 0-20 mA and 4-20 mA respectively, each with a 16-bit resolution as well as two current outputs, 0-20 mA and 4-20 mA respectively, with a 12-bit resolution. The voltage supply for the current inputs and outputs are monitored for under voltage.

Analog Input Specifications

Number of channels	4	
Measurement range	0-20 mA	4-20 mA
Measurement value	0-20,000	4,000-20,000
Input type	differential input	
Current resolution	16-bit (ca. 0.3 μ A/LSB)	
Conversion time for all channels	1 ms	
Common mode range	± 10 V	
Load	typically 50 Ω	
Input filter hardware	typically 1 kHz, low pass 3rd order system	
Input filter	configurable	
Cable break monitor	no	yes
Short circuit monitor	no	yes
Basic precision incl. calibration error, linearity and noise at 25 °C	± 0.30 % of maximum measurement value	
Temperature drift 0-60 °C	± 0.20 % of maximum measurement value	
Total measurement precision (0-60 °C)	$\pm 0,50$ % of maximum measurement value	

Analog Output Specifications

Number of channels	4	
Output range	0-20 mA	4-20 mA
Output value	0-20,000	4,000-20,000
Current resolution	12-bit (ca. 5 μ A/LSB)	
Refresh time for all channels	1 ms	
Settling time	50 μ s + load * capacitive load (63 % of the end value) 100 μ s + 2*load * capacitive load (86 % of the end value) 250 μ s + 5*load * capacitive load (99 % of the end value)	
Load	maximum 500 Ω	
Allowable output capacity	1 μ F at 50 Ω load	
Cable break monitor	no	
Basic precision incl. calibration error, linearity and noise at 25 °C	± 0.30 % of maximum output value	
Temperature drift 0-60 °C	± 0.20 % of maximum output value	
Total output precision (0-60 °C)	$\pm 0,50$ % of maximum output value	

Analog In and Output Voltage Supply Specifications

External supply	+18-30 V
Current consumption	maximum 70 mA

Voltage Monitor External +24 V Supply

+24 V supply voltage	supply voltage > 18 V (DC OK-LED lights green)
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Electrical Requirements

External +24 V supply	+18-30 V DC	
Current consumption of the +24 V supply without load on the analog outputs	typically 27 mA at +18 V typically 24 mA at +24 V typically 23 mA at +30 V	maximum 31 mA at +18 V maximum 28 mA at +24 V maximum 27 mA at +30 V
Current consumption of the +24 V supply with maximum load on the analog outputs	typically 99 mA at +18 V typically 78 mA at +24 V typically 66 mA at +30 V	maximum 110 mA at +18 V maximum 87 mA at +24 V maximum 73 mA at +30 V
Voltage supply from S-DIAS bus	+5 V	
Current consumption on the S-DIAS bus (+5 V supply)	typically 55 mA	maximum 62 mA

Article Number and Miscellaneous

Article number	20-017-442
Dimensions	12.5 x 104.2 x 72 mm (W x H x D)
Standard	UL 508 (E247993)
Approvals	UL, cUL, CE

Environmental Conditions

Storage temperature	-20 ... +85 °C	
Environmental temperature	0 ... +60 °C	
Humidity	0-95 %, non-condensing	
Operating conditions	pollution degree 2 altitude up to 2000 m	
EMC resistance	in accordance with EN 61000-6-2 (industrial area)	
EMC noise generation	in accordance with EN 61000-6-4 (industrial area)	
Vibration resistance	EN 60068-2-6	3,5 mm from 5-8,4 Hz 1 g from 8,4-150 Hz
Shock resistance	EN 60068-2-27	15 g
Protection type	EN 60529	IP20

Notes

