

S-DIAS Analog Mixed Module AM 821



with 2 analog outputs
8 analog inputs

The S-DIAS analog mixing module AM 821 has 8 analog inputs with 0-10 V/0-20 mA and 16-bit resolution, which can be switched via software. It also has 2 analog outputs with 0-10 V/0-20 mA and 12-bit resolution, which can also be switched via software.

Analog Input Specifications

Number of channels	8		
Measurement range	0-10 V	0-20 mA	4-20 mA
Measurement value	0-10,000 0-30,000 (at full range) When the input is open/short-circuited, the hardware class -2147483632 is supplied.	0-20,000 0-30,000 (at full range)	4.000-20.000 6,000-30,000 (at full range) When the input is open/short-circuited, the hardware class -2147483632 is supplied.
Input type	differential input		
Resolution current	16 bits (ca. 0.15 mV/LSB)	16 bits (ca. 0.3 µA/LSB)	
Conversion time for all channels	1 ms		
Common mode range	±12 V	±8 V	
Input resistance	> 1 MΩ	-	
Load	-	typically 50 Ω	
Input filter hardware	typically 1 kHz, 3 rd order low pass		
Input filter software	configurable		

Maximum permissible input current	-	continuous 30 mA single pulse 1 s 0.12 A single pulse 40 ms 0.25 A single pulse 200 µs 0.75 A	
Cable break monitoring	yes	no	yes
Short-circuit monitoring	no	no	yes
Accuracy	±0.50 % of the maximum output value		

Analog Output Specifications

Number of channels	2		
Output range	0-10 V	0-20 mA	4-20 mA
Output value	0-10,000	0-20,000	4,000-20,000
Resolution	12 bits (ca. 2.5 mV/LSB)	12 bits (ca. 5 µA/LSB)	
Refresh time of all channels	≥ 500 µs (corresponds to the S-DIAS cycle time)		
Load capacity of the output voltage	> 5 kΩ	-	
Load	-	maximum 500 Ω	
Permissible capacitive load	maximum 100 nF	-	
Permissible output inductance	-	maximum 0.5 mH at 50 Ω maximum 5 mH at 500 Ω	
Settling time	< 250 µs (99% of final value)		
Short-circuit monitoring	yes		
Cable break monitoring	no	yes	
Output accuracy	±0.5 % of the maximum output value		

Electrical Requirements

Power supply from S-DIAS bus	+24 V	
Current consumption on the SDIAS bus without load on the current outputs	typically 78 mA	maximum 93 mA
Current consumption on the SDIAS bus with maximum load on the current outputs	typically 85 mA	maximum 101 mA

Article Number and Miscellaneous

Article number	20-017-821	
Dimensions	12.5 x 104.2 x 72 mm (W x H x D)	
Printed circuit board coating	no	
Approvals	CE	yes
	UL	designed according to UL
	Functional Safety	no
	UKCA	no

Environmental Conditions

Storage temperature	-20 ... +85 °C	
Environmental temperature	0 ... +55 °C	
Humidity	0-95 %, non-condensing	
Installation altitude above sea level	0-2000 m without derating > 2000 m up to a maximum of 5000 m with derating of the maximum environmental temperature by 0.5 °C per 100 m	
Operating conditions	pollution degree 2	
Noise emission	≤ 70 dB	
EMC resistance	EN 61000-6-2 (industrial area)	
EMC noise generation	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 (147.15 m/s²)
Protection type	EN 60529/NEMA 250	IP20/Type1

Notes