Innovative Sensor Technology

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MicroFlowSens Amplifier Module

Thermal Mass Flow Sensor

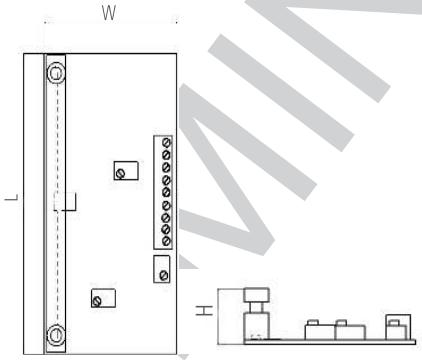
Optimal for demonstration and evaluation of the MFS02

PRELIMINARY

Benefits & Characteristics

- Single supply 12 V_{DC}
- Separate temperature sensor on chip
- Interfacing with screw termination block
- Flow channel and pneumatic connectors mounted
- Monitoring for internal supply, offset and heater voltages at termination block
- Adjustment with three trimming potentiometers (gain, offset, heater voltage)

Illustration[1)]

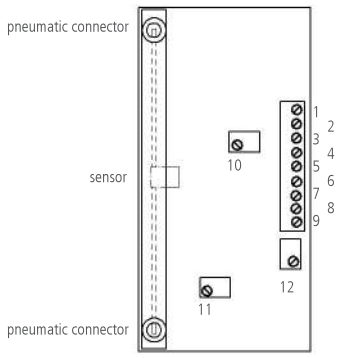


1) For actual size, see dimensions

Technical Data

Dimensions (L x W x H in mm):	70 x 35 x 30
Operating measuring range:	≥ 0 m/s to 2 m/s (0 ml/min to 240 ml/min)
Integrated sensor:	MFS02
Temperature sensor:	Pt RTD similar to Pt1000 (passive - directly wired to output)
Voltage range (heater):	2 V_{DC} to 5 V_{DC}
Current consumption:	< 50 mA
Supply voltage:	12 V_{DC} external supply (no reverse polarity protection)
Output signal range (flow):	-1.8 V_{DC} to 12 V_{DC} (not linearized), adjustable with trimming potentiometer
Gain:	23 to 10000, adjustable with trimming potentiometer
Analog output load:	R_L ≥ 25 kΩ (output short circuit protected)
Heater power:	approx. 6.6 mW at 2 V heater voltage, 14.9 mW at 3 V heater voltage approx. 26.4 mW at 4 V heater voltage, 41.3 mW at 5 V heater voltage
Channel cross section:	2 mm^2
Mounting:	2 x M3 screw
Operating mode:	full bridge mode

Pin Assignment



1	2	3	4	5	6
V_{CC} = 12 V_{DC}	GND	V_{out} diff [-1.8 V_{DC} to 12 V_{DC}]	temperature sensor PT1000	temperature sensor PT1000	5.5 V_{DC} out
7	8	9	10	11	12
-5 V_{DC} out	Heater voltage output [0 V_{DC} to 5.7 V_{DC}]	Offset voltage output [-1.8 V_{DC} to 5.7 V_{DC}]	R_1 (gain)	R_4 (offset)	R_5 (heater)

Order Information

	IST_A05_Flowmodul mit MFS02
Order code	104955
Former order code	*350.00097*

Additional Documents

	Document name:
Data Sheet:	DFMFS02_E

PRELIMINARY

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