



MicroFlowSens Amplifier Module



innovative
Sensor
Technology

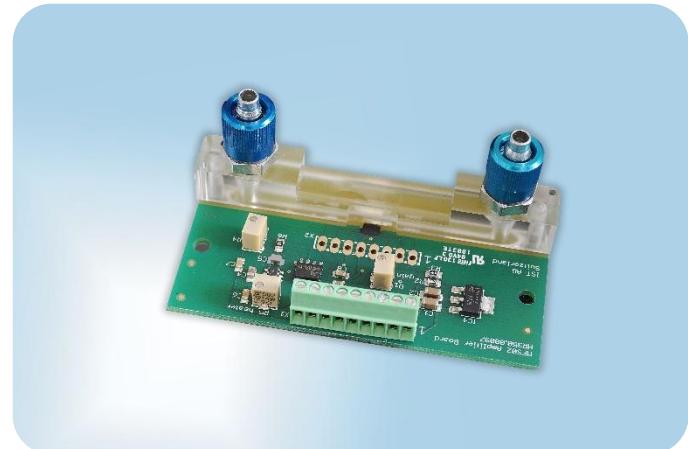
physical · chemical · biological

Thermal mass flow sensor

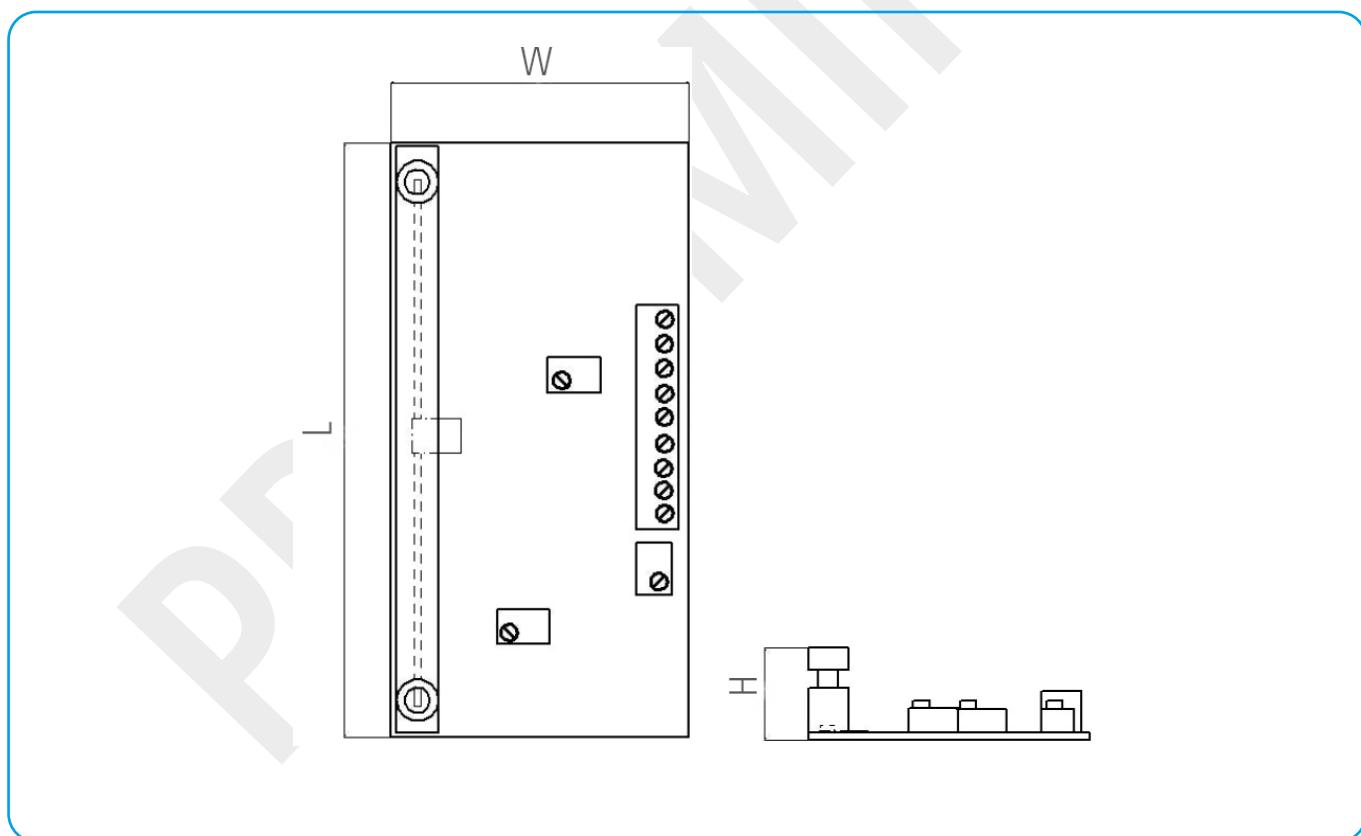
Optimal for demonstration and evaluation of the MFS02

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)



Illustration¹⁾



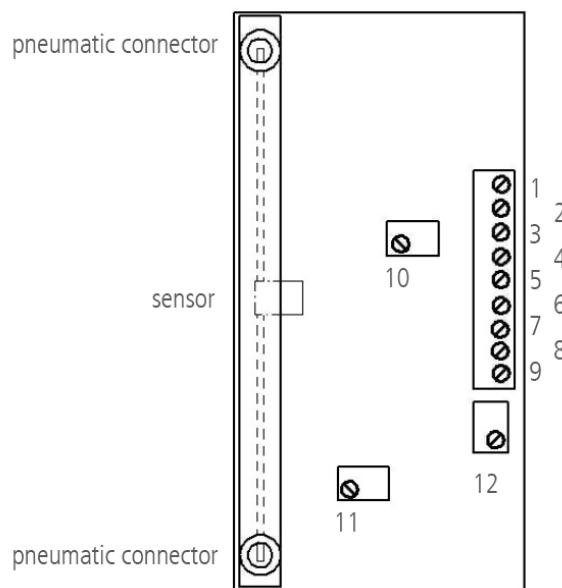
¹⁾ For actual size, see dimensions



Technical data

Dimensions (L x W x H mm)	75 x 35 x 30
Operating measuring range:	$\geq 0 \text{ m/s}$ 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 \geq 25 k Ω (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



Product name	Description	Dimensions L x W x H	Order code
IST_A05_Flowmodul mit MFS02	with MFS02, with circuit and analog sensor electronic	75 x 35 x 30mm	104955

Additional Documents:

Document name:

Amplifier Module

DFMFS02_E