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# MicroFlowSens Amplifier **Module**

## **Thermal Mass Flow Sensor** Optimal for demonstration and evaluation of the MFS02

#### Benefits & Characteristics

- Single supply 12 V<sub>DC</sub>
- Separate temperature sensor on chip
- Interfacing with screw termination
- 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<sup>1)</sup>

1) For actual size, see dimensions

#### Technical Data

Dimensions (L x W x H in mm):	70 x 35 x 30
Operating measuring range;	$\geq$ 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 <sub>DC</sub> to 5 V <sub>DC</sub>
Current consumption:	< 50 mA
Supply voltage:	12 $V_{DC}$ external supply (no reverse polarity protection)
Output signal range (flow):	-1.8 $\rm V_{\rm DC}$ to 12 $\rm V_{\rm DC}$ (not linearized), adjustable with trimming potentiometer
Gain:	23 to 10000, adjustable with trimming potentiometer
Analog output load:	$R_L \ge 25 \text{ k}\Omega$ (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 <sup>2</sup>
Mounting:	2 x M3 screw
Operating mode:	full bridge mode



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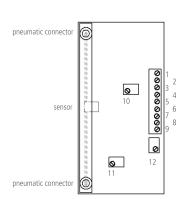








### Pin Assignment



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 <sub>DC</sub> out
7	8	9	10	11	12
-5 V <sub>DC</sub> out	Heater voltage output [0 V <sub>DC</sub> to 5.7 V <sub>DC</sub> ]	Offset voltage output $[-1.8 V_{DC} to 5.7 V_{DC}]$	R <sub>1</sub> (gain)	R <sub>4</sub> (offset)	R <sub>5</sub> (heater)

#### Order Information

	IST_A05_Flowmodul mit MFS02
Order code	104955
Former order code	350.00097

#### Additional Documents

	Document name:
Data Sheet:	DFMFS02_E



Innovative Sensor Technology IST AG, Stegrütistrasse 14, 9642 Ebnat-Kappel, Switzerland Phone: +41 71 992 01 00 | Fax: +41 71 992 01 99 | Email: info@ist-ag.com | www.ist-ag.com