

## Sensors



### Air Mass Flow Meter

The mass flow meter works on a hot film anemometer principle. This well-established measurement method is based on a system whereby heat is extracted from a heated body by the gas flowing around it. Flow-dependent cooling is used as a measuring effect.

By using modern techniques, this principle has been developed to produce a stable and operationally reliable measuring instrument unaffected by sensor coating. It is possible to cover a very large measuring range, typically 1:40 (idle: full load) with constant accuracy (max. error 1% of the **measured value**). The evaluation unit is available as a 19" plug-in rack or portable desktop unit with direct digital display of the mass in kg/h. The analogue or digital interface enables the transmission of measured values to the data acquisition system.

#### Areas of Usage

A key application area is motor vehicle testing technology. In a combustion engine, for example, determination of the mass ratio of fuel to air ( $\lambda$ ) is of major importance for pollutant emission and operating behaviour. Optimisation of carburettor and injection systems.

#### Your Benefits at a Glance

- Measurement range from idle to full load
- Dynamic behaviour for rapid flow changes
- Prompt measurement stand-by
- Very easy handling

## Air Mass Flow Meter

**Technical Features**

- Direct mass flow measurement
- High accuracy (1 % of reading)
- Wide measurement range (1:40)
- Short response time ( $t_{63} = 12 \text{ msec}$ )
- Low pressure drop
- Interchangeable transducers (measuring tubes)



## Air Mass Flow Meter

**Technical Data**

Accuracy:	1 % of the measured value Reduced accuracy with 0-5 % of the range
Reproducibility:	0.25 % of the measured value
Temperature influence:	< 0.03 %/K of the measured value
Pressure influence:	< 0.2 %/1 bar of the measured value
Operating temperature:	-25 ... +80 °C medium and environment of the measuring tube
Response time:	t 63 = 12 ms
Large measurement range:	(1:40)

The stated specifications are only valid if the upstream and downstream tubes available from AVL are used.

