Thermo-anemometer probe
Type FV A935-TH4 / -TH5

Typ FV A935-TH4Kx / -TH5Kx

Thermo-anemometer probes FVA935TH4 and FVA935TH5 are especially suitable for measuring and recording flow velocity and temperature data even when measuring operations are performed in cramped and restricted conditions.

Measured values can be acquired with a high level of accuracy even at velocities below 0.5 m/s (100 ft/min).

The sensor can be used with either side facing the direction of flow.

Temperature is compensated over a wide range. 0 to +50 °C.

The sensor tube is only 6 mm in diameter (0.24”).

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**Technical data**

**Flow**

- Measuring range
  - FVA935TH4 / TH4Kx: 0.08 to 2 m/s
  - FVA935TH5 / TH5Kx: 0.2 to 20 m/s

- Resolution
  - FVA935TH4 / TH4Kx: 0.001 m/s
  - FVA935TH5 / TH5Kx: 0.01 m/s

- Response time: <1.5 s

- Accuracy
  - FVA935TH4 / TH4Kx: ± (0.04 m/s + 1% of meas. val.)
  - FVA935TH5 / TH5Kx: ± (0.2 m/s + 2% of meas. val.)

**Temperature compensation**

- 0 to +50 °C

**Influence of temperature**

- FVA935TH4 / TH4Kx: ±0.5% of measured value /°C at 0.3 to 2 m/s
- FVA935TH5 / TH5Kx: ±0.3% of measured value /°C at 0.3 to 20 m/s

**Direction facing the flow**

- Bidirectional

**Angle dependence**

- <3% of measured value with deviation <15°

**Pressure range**

- Ambient pressure

**Nominal conditions**

- Temperature: 22 °C ±2 K
- Atmospheric humidity: 45 ± 10% relative humidity (non-condensing)
- Atmospheric pressure: 1013 mbar

**Power supply**

- 6 to 13 V / 40 mA

**Dimensions**

- Probe diameter: 6 mm

- FVA935TH4/TH5
  - Probe with handle, probe lengths: 210 mm (plus handle)
  - ALMEMO® cable, 1.5 meters

- FVA935TH4Kx/TH5Kx
  - Probe with remote electronics in the cable housing
  - Probe lengths ThxK1, 80 mm / ThxK2, 300 mm
  - Probe cable 5 m to electronics, ALMEMO® cable, 1.5 m

**Variant (including works certificate)**

- Sensor 2 m/s, length = 210 mm, with handle
- Sensor 2 m/s, length = 80 mm, with electronicbox
- Sensor 2 m/s, length = 300 mm, with electronicbox
- Sensor 20 m/s, length = 210 mm, with handle
- Sensor 20 m/s, length = 80 mm, with electronicbox
- Sensor 20 m/s, length = 300 mm, with electronicbox

**Order No.**

- FVA935TH4
- FVA935TH4K1
- FVA935TH4K2
- FVA935TH5
- FVA935TH5K1
- FVA935TH5K2
Thermoelectric Flow Sensor
Type FV A605 TA

- Probe tube with heated miniature thermistor for flow measurement and precision NTC resistance for automatic compensation.
- Evaluation electronics are located in a separate sensor transmitter module.
- High accuracy as a result of integrated temperature compensation and individual calibration in wind tunnel, with laser Doppler anemometer as reference system.
- Response time only 2s for smoothing the measured value indicated, optionally without smoothing with 100ms response time.
- Suitable for measuring small flow velocities in gaseous substances, particularly for control systems and monitoring.
- Typical applications include comfort index measurements, HVAC applications, environmental technology, clean room technology and process measuring and control technology.

A special connector cable allows to connect the flow sensors to all ALMEMO® multi-purpose devices, data loggers and data acquisition systems. For volume flow rate measurements the cross section of the ventilating shaft can be easily entered into ALMEMO® devices. A problem-free averaging is then possible.

**Technical Data:**

**Electronics Box with Sensor**

<table>
<thead>
<tr>
<th>Measuring range</th>
<th>Resolution</th>
<th>Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>FV A605 TA1(O)</td>
<td>0.01 to 1m/s</td>
<td>±1.0% of final value and ±1.5% of meas. value</td>
</tr>
<tr>
<td>FV A605 TA5(O)</td>
<td>0.15 to 5m/s</td>
<td>±0.5% of final value and ±1.5% of meas. value</td>
</tr>
<tr>
<td>FV A605 TA1(O)</td>
<td>0.001 m/s</td>
<td></td>
</tr>
<tr>
<td>FV A605 TA5(O)</td>
<td>0.01m/s</td>
<td></td>
</tr>
</tbody>
</table>

**Nominal conditions:** 22°C, 960hPa

**Automatic temperature compensation:** effective in range 0 to 40°C

**Temperature influence:** ±0.5% of fin. value/°C

**Sensor**

- Head size: Ø 8mm
- Shaft: Ø 15mm
- Operative range: 0 to 40°C
- Angle of attack:
  - FV A605 TA1/TA5 ±30°
  - FV A605 TA1O/TA5O ±180°
- Inlet opening:
  - FV A605 TAx: 9mm
  - FV A605 TAxO: protecting cage 110mm
- Sensor length:
  - FV A605 TAx: 300mm
  - FV A605 TAxO: 310mm
- Sensor cable length: 1.5m

**General Technical Specifications**

- Measurement medium: dry air or inert gases
- Response time:
  - FVA605TAxD smoothened, 1 τ = 2s
  - FVA605TAxU not smoothened, 1 τ = 100ms
- Power supply: through ALMEMO® device (approx. 7…10V)
- Current consumption: approx. 70mA
- Output signal: 0 … 1V, linearised, load resistance min. 10kohms
- Housing:
  - Dimensions: 100 x 60 x 35mm (L x W x H)
  - Protection system: IP 40 (aluminium housing)
  - Weight: approx. 250g
- Operating temperature: 0 to 40°C
- Storage temperature: −30 to +90°C
- Air humidity: 0 … 90% r.H., non-condensing
- Adjusting reference: laser Doppler wind tunnel, adjustment at 22°C/approx. 960hPa, (certificate according to SN EN 45001)