TVA – air velocity transmitter

Duct transmitter for air velocity measurement in HVAC systems



The appearance of the product may differ from the illustration. Technical specifications are subject to change.

TVA SERIES

APPLICATION AND USE

TVA is intended for mounting in ventilation ducts or similar applications.

The air velocity sensor operates on the hot-wire anemometer principle. The sensor element is a specially designed thin film element which is heated. The cooling rate of the element, which depends on the air velocity, is measured and is transformed by the built-in electronics to an analogue output signal proportional to the air speed. The signal is compensated for varying temperature. The very thin measuring element has the advantage of being highly resistant to contamination by dust etc.

KEY FEATURES

- Selectable working range 0...10/15/20 m/s
- Output signal 0...10 V_{DC} or 4...20 mA
- Power supply 24 $V_{AC/DC}$
- Adjustable damping time
- Short reaction time
- Adjustable probe insertion length

Selectable working range

The working range can be set by means of a jumper on the printed circuit board. This facilitates easy adjustment to the correct working range on start-up.

See overleaf for further information.

Output signal

The sensor output signal is selectable 0...10 V or 4...20 mA.

Sensor casing

The sensor casing has protection class IP65.

Probe length

The sensor can be mounted with stepless insertion length 20...200 mm. *See next page.*

Mounting

The sensor can be mounted with the whole of the probe length (220 mm) inside the duct. The sensor is then fastened to the bottom of the casing by two screws. If only part of the probe is to be inserted the mounting device is used. This enables the probe to be inserted between 20 and 200 mm.

Note: The sensor is to be mounted so that the direction of air-flow is parallel to the sensor duct.

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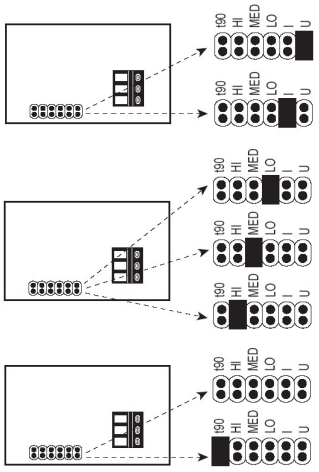
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TECHNICAL SPECIFICATION

Power supply	24 $V_{AC/DC}$ ±20%
Power consumption	5 VA
Wiring connection	Screw connection
Ambient temperature	-10...+50°C
Storage temperature	-20...+60°C
Time constant	1.5 s at 10 m/s
Protection class	IP65
CE	**EMC emissions & immunity standards:** This product conforms to the requirements of the EMC Directive 2004/108/EC through product standards EN 61326-1 and EN 61326-2-3.
	RoHS: This product conforms with the Directive 2002/95/EU (RoHS) of the European Parliament and of the Council.
Inputs	
Sensor	Thin film element
Working range	0...10 / 0...15 / 0...20 m/s, selectable
Accuracy	
Range 0...10 m/s	± (0.3 m/s + 3% of measured value)
Range 0...15 m/s	± (0.3 m/s + 3% of measured value)
Range 0...20 m/s	± (0.3 m/s + 4% of measured value)
Response time	Selectable 0.7 or 4 s
Outputs	
Output signal	0...10 V_{DC} or 4...20 mA, selectable

Wiring, settings and dimensions

1	Supply voltage: 24 V_{AC}
2	Weight
3	0...10 V or 4...20 mA



Output
Jumper
Voltage (U) = default setting

Jumper
Current (I)

Working range
Jumper
0...10 m/s

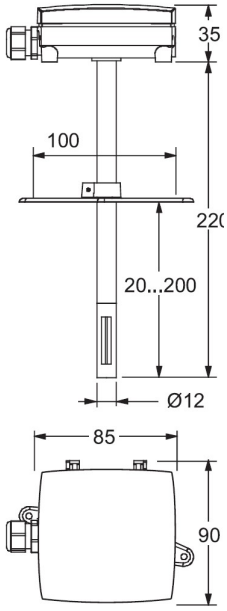
Jumper
0...15 m/s

Jumper
0...20 m/s = default setting

Response time
No jumper
FAST approx. 0.7 s

Jumper
SLOW approx. 4 s = default setting

The output signal, working range and response time are selected via the jumpers according to the picture.



Due to continuous product improvement, specifications are subject to change without notice.

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