

## AVT AIR VELOCITY TRANSMITTER



The AVT air velocity transmitters are electronic air velocity and temperature transmitters for air. They measure air velocity and temperature in ventilation ducts using a duct mount probe.

The transmitter provides separate readings and outputs for air velocity and temperature. The transmitter has one velocity output and one temperature output. The available output signal modes are voltage (Vdc) and current (mA). The voltage output is scalable.

The transmitter options include:

- Display (-D models)
- Field adjustable relay (-R models)
- Modbus RTU communication (-MOD models)
- Three probe lengths
  - 112 mm (-100 models)
  - 212 mm (standard models)
  - 412 mm (-400 models)

The models without a display have three field selectable measurement ranges for air velocity. You can select the measurement range with jumpers.

The -D models provide a freely selectable measurement range for air velocity. You can select the measurement range via the device menu (-D models).

The -D models have a PID controller for air velocity. The PID controller controls the output according to the air velocity setpoint you define for the controller.

You can configure the device settings using:

- the device menu (-D models)
- Modbus communication (-MOD models)

The transmitter comes with an adjustable duct flange suitable for both round and rectangular ducts.

The AVT air velocity transmitters are typically used in building automation systems in the HVAC/R industry for in-duct air flow and velocity monitoring, in-duct temperature monitoring, and VAV applications.

## MODEL SUMMARY

<b>Example:</b> AVT-D-R	<b>Product series</b>			
	AVT	Air velocity transmitter		
		<b>Modbus</b>		
	-MOD	with Modbus (not available for -R models)		
		without Modbus		
		<b>Display</b>		
	-D	with display		
		without display (not available for -MOD and -R models)		
		<b>Relay</b>		
		-R	with relay (not available for -MOD models)	
		without relay		
		<b>Probe length</b>		
			212 mm	
		-100	112 mm	
		-400	412 mm	
Model	AVT		-D	-R

## TECHNICAL SPECIFICATIONS

Property	Value
Supply	24 Vac/dc $\pm$ 10 %
Current consumption	max. 80 mA + 40 mA with mA output + 10 mA with relay option (DC supply voltage)
Relay (-R models)	250 Vac, 6 A res., adjustable operating direction, switching point and hysteresis
Air velocity measurement	* factory setting / ** selectable in -D models
Range	0...2 m/s, *0...10 m/s, 0...20 m/s, **freely selectable **200...4000 ft/min
Accuracy (typ. at 25 °C)	$v \geq 0.15$ m/s and $\leq 2$ m/s (0.2 m/s + 2 % from reading) $v > 2$ m/s and $\leq 10$ m/s (0.5 m/s + 3 % from reading) $v > 10$ m/s (1.0 m/s + 3 % from reading)
Response time	T63: 1.5 s (typical, 63 % of the change)
Measurement units	*m/s, **ft/min
Temperature measurement	* factory setting / ** selectable in -D models
Range	*0...50 °C, **-25...50 °C, **-13...122 °F (probe)
Accuracy (25 °C)	$\pm 0.5$ °C (air velocity > 0.5 m/s)
Measurement units	*Celsius, **Fahrenheit
Warm-up time	15 seconds
Outputs	
Output signal 1 (T out [C])	0...10 Vdc, load > 1 k $\Omega$ 4...20 mA, load 20...400 $\Omega$



Property	Value
Output signal 2 (v out [m/s])	0...10 Vdc, load > 1 kΩ 4...20 mA, load 20...400 Ω
Accuracy	Vout: ± 0.025 V at 25 °C  Iout: typically ±0.04 mA at 25 °C, load 100 Ω max. ± 0.1 mA at 25 °C, load 20...400 Ω
Relay output (-R models)	3-screw terminal block (NC, COM, NO), potential free SPDT 30 Vdc, 6 A / 230 Vac, 6 A res. (IEC 60664-1 OVC II)
Modbus communication (-MOD models)	* factory setting
Protocol	Modbus RTU
Interface	RS-485
Bus speed	9600/*19200/38400 bit/s
Data bits	8
Parity	*none/odd/even
Stop bits	1
Unit load	1/8 UL
Display (-D models)	2-line display (12 characters/line), 46.0 x 14.5 mm Line 1: velocity / Line 2: temperature (default) Line 1: direction of control output (optional) Line 2: relay status (optional)
Wiring terminals	
Type	Tilted screw terminals
Wire	0.2...1.5 mm <sup>2</sup> (24...16 AWG)
Tightening torque	0.4 Nm
Commissioning tool	MyTool® Connect dongle with Pro dual MyTool® application
	
Appliance class (IEC 60664-1)	III
Operating conditions	
Ambient temperature	-25...50 °C (probe) 0...50 °C (transmitter housing)
Ambient humidity	0...95 %rH (non-condensing)
Storage conditions	
Temperature	-20...70 °C
Housing	
Protection class	IP54, cable downwards / -R and -MOD models: IP54, cables downwards and cables in both cable glands
Cable gland	M16 (2 x M16: -R and -MOD models)
Materials	ABS plastic, PC plastic (cover)
Probe	

Property	Value	
Dimensions	10 x 112/212/412 mm	
Materials	Stainless steel (AISI 304) (probe), LLPDP (duct flange)	
Mounting	with a duct flange, probe immersion length adjustable: 50...95 mm (-100 models) 50...195 mm (standard models) 50...395 mm (-400 models)	
Dimensions (w x h x d)	86 x 93 x 163 mm (-100 models) 86 x 93 x 263 mm (standard models) 86 x 93 x 463 mm (-400 models)	
Weight	220 g	
Warranty	5 years	
Company certificates		
Quality management	ISO 9001	
Environmental management	ISO 14001	
Conformance	CE	UKCA
EMC	2014/30/EU	S.I. 2016 No. 1091
RoHS	2011/65/EU + (EU) 2015/863	S.I. 2012 No. 3032
WEEE	2012/19/EU	S.I. 2013 No. 3113
LVD	2014/35/EU	S.I. 2016 No. 1101