AVT AIR VELOCITY TRANSMITTER

AVT air velocity transmitters are engineered for building automation in the HVAC/R industry. They are electronic air velocity and temperature transmitters for air. They measure air velocity and temperature in ventilation ducts, with field selectable options for measurement range and output settings in a single device. AVT has a duct mount probe and an adjustable duct flange suitable for both round and rectangular ducts.

AVT SERIES MODELS INCLUDE:

- Separate readings and outputs for air velocity and temperature
- Proportional output options: voltage (0...10 V) and current (4...20 mA)
- PID controller for air velocity (-D models)
- Three field selectable measurement ranges for air velocity, selectable with jumpers (models without display)
- Freely selectable measurement range for air velocity via menu (-D models)
- Field selectable measurement units (-D models):
  - air velocity: m/s, ft/min
  - temperature: Celsius, Fahrenheit
- Three different probe lengths:
  - 100 mm (-100 models)
  - 200 mm (standard models)
  - 400 mm (-400 models)

DEVICE OPTIONS:

- Display (-D models)
- Field adjustable relay (-R models)
- Modbus (-MOD models)

APPLICATIONS

AVT series devices are commonly used in HVAC/R systems for:

- In-duct air flow and velocity monitoring
- In-duct temperature monitoring
- VAV applications

MODEL SUMMARY

Example:	**Product series**					
AVT-D-R	AVT	Air velocity transmitter				
		Modbus				
		-MOD	with Modbus (not available for -R models)			
			without Modbus			
			Display			
			-D	with display		
				without display (not available for -MOD and -R models)		
				Relay		
				-R	with relay (not available for -MOD models)	
					without relay	
					Probe length	
						200 mm
					-100	100 mm
					-400	400 mm
Model	AVT		-D	-R		

TECHNICAL SPECIFICATIONS

Property	Value
Supply	24 Vac/dc ± 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	
Measurement range	0...2 m/s, 0...10 m/s, 0...20 m/s, freely selectable
Accuracy (typ. at 25 °C)	v ≥ 0.15 m/s and ≤ 2 m/s (0.2 m/s + 2 % from reading) v > 2 m/s and ≤ 10 m/s (0.5 m/s + 3 % from reading) v > 10 m/s (1.0 m/s + 3 % from reading)
Temperature measurement	
Measurement range	-25...50 °C (probe)
Accuracy (25 °C)	±0.5 °C (air velocity > 0.5 m/s)
Warm-up time	15 seconds
Outputs	
Output signal 1 (T out [C])	0...10 Vdc, load > 1 kΩ 4...20 mA, load 20...400 Ω
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

Property	Value	
	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)	
Communication (MOD models)	Modbus RTU	
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)	
Operating conditions		
Temperature	-25...50 °C (probe) 0...50 °C (transmitter housing)	
Humidity	0...95 %rH (non-condensing)	
IP protection class	IP54, cable downwards / -R and -MOD models: IP54, cables downwards and cables in both cable glands	
Wire	0.2...1.5 mm^2 (24...16 AWG)	
Cable gland	M16 (2 x M16: -R and -MOD models)	
Mounting	with a duct flange, probe immersion length adjustable: 50...80 mm (probe length 100 mm) 50...180 mm (probe length 200 mm) 50...380 mm (probe length 400 mm)	
Materials		
Housing	ABS plastic	
Cover	PC plastic	
Probe	Stainless steel (AISI 304)	
Duct flange	LLPDP	
Dimensions (w x h x d)	86 x 95 x 168 mm (probe length 100 mm) 86 x 95 x 268 mm (probe length 200 mm) 86 x 95 x 468 mm (probe length 400 mm)	
Weight	220 g	
Storage temperature	-20...70 °C	
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