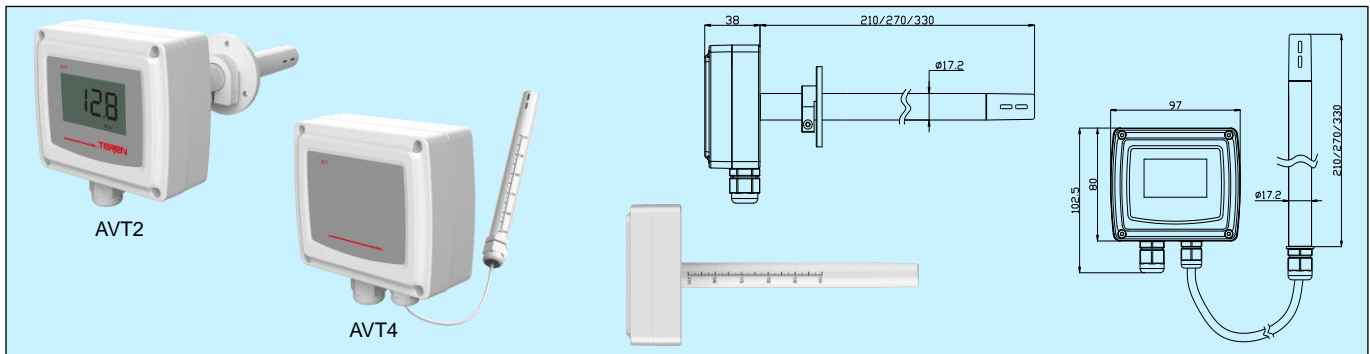


## AVT Air Velocity Transmitter



### Applications & Features

- It is designed for air velocity monitoring and controlling in the ventilation system and reducing energy consumption in BMS and various HVAC application. It is applied for single point air velocity measurement. AVT2 is for duct mount, AVT4 is for remote installation
- Based on thermal anemometer principle, use innovative and sensitive hot-film sensor, which is insensitive to dust and dirt, easy to install and maintain
- No moving parts, provide accurate, reliable, sensitive and long-term measurement, with good temp. compensation
- Digital technology applied to ensure output accuracy
- Over voltage and reverse polarity protection with high reliability and anti-interference capacity
- Multiple outputs, ranges and optional LCD display
- Innovative probe design with various lengths available with scales on

### Specifications

**Air velocity sensor:** Hot-film sensor

**Range:** 0~5/10/15/20m/s or 0~16/32/48/64ft/s, jumper selectable

**Accuracy:** m/s:  $\pm(0.2\text{m/s}+5\%\text{ reading})$  or  $\pm(0.2\text{m/s}+3\%\text{ reading})$

@ 0.5~20m/s; ft/s:  $\pm(0.65\text{ft/s}+5\%\text{ reading})$  or  $\pm(0.65\text{ft/s}+3\%\text{ reading})$

@ 1.6~64ft/s 25°C, 55%RH, 1013hPa

**Response time:** typical 2s

**Angle dependence:**  $< 3\%\text{reading} @ |\Delta\alpha| < 10^\circ$

**Temperature compensation:** 10~40°C

**Temp. output(option):** range 0~50°C, accuracy  $<\pm 0.5^\circ\text{C}@25^\circ\text{C}$

**Output:** 4~20mA(3 wires), 0~10/0~5VDC, RS485/Modbus

**Output Load:**  $\leq 500\Omega$ (current),  $\geq 2\text{k}\Omega$ (voltage)

**Display:** LCD, with unit m/s or ft/s, DIP switch selectable

**Power:** 16~28VAC/16~35VDC

**Working Environment:** -20~70°C, 0~95%RH(Non cond.)

**Housing:** fire retardant PC (UL94 V-0)

**Protection:** IP65

**Weight:** 440g

**Approval:** CE

### Models

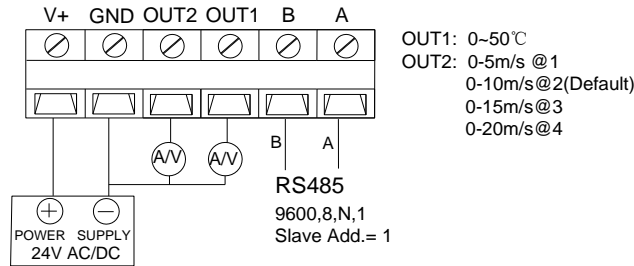
Model	AVT2	AVT4				Duct mount air velocity transmitter Remote mount air velocity transmitter
Accuracy		3 5				$\pm(0.2\text{m/s}+3\%\text{ reading})$ $\pm(0.2\text{m/s}+5\%\text{ reading})$
Output			1 8			4~20mA/0~10V/0~5VDC RS485/Modbus
LCD Display				0 1		N/A LCD
Probe Length					1 2 3	210 mm 270 mm 330 mm

1. All products are factory set to 4-20mA as output default, and can be set to 0-10V or 0-5V by DIP switch.

2. When temperature output is needed, add suffix -T after the model number. And the output is the same as air velocity

## Connection

Different models have different electrical terminals. Please wire specific model according to the wiring diagram inside the front cover.



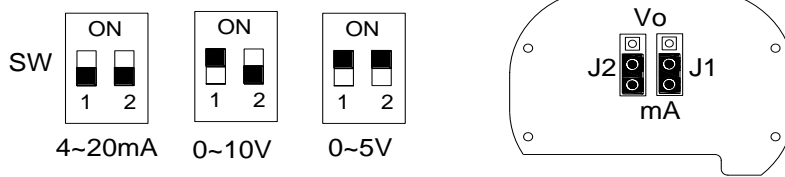
## DIP Switch and Jumper setting

1. Use DIP SW and jumpers J1/J2 to set the output of OUT1 and OUT2:

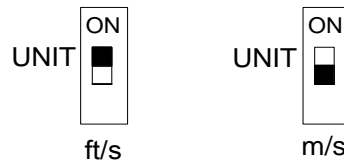
Switch SW setting: 4~20mA (default), 0~10V, 0~5VDC.

Jumper J1/J2 setting: Vo, mA.

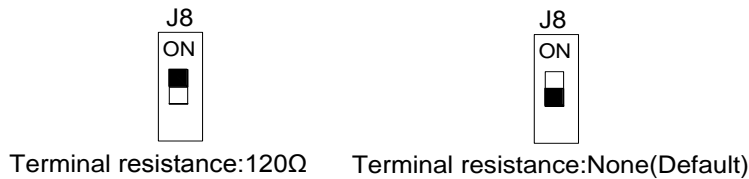
J1 and J2 set to "Vo": voltage output 0~10V or 0~5V; J1 and J2 set to "mA": current output 4~20mA.



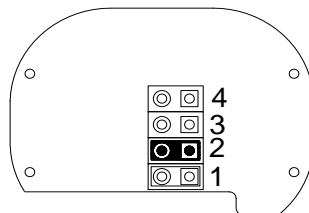
2. Unit setting: Set the engineering unit ft/s or m/s(default) for air velocity



3. RS485 terminal resistance (120Ω) setting: When "J8" is ON, the terminal resistance (120Ω) is applied.



4. Range setting: 1: 0~5m/s; 2: 0~10m/s(Default); 3: 0~15m/s; 4: 0~20m/s, or for 0~16/32/48/64 ft/s respectively.



## Installation and instruction

To ensure the best installation and application, please strictly follow the instructions below.

- (1) The air velocity probe should be installed in stable air flow. It should be installed in the middle of a long duct, with front >10D and back >5D, as Fig 1 below. And try to insert the probe end (location of the sensor) near the duct center as much as possible.
- (2) The depth of the probe insertion: the probes have scales as shown in Fig 2 below. The scale value is the length from the end of the probe to this position. It means, the scale value can be seen and read from outside is the depth of the inserted part.
- (3) The flow direction and angle: It was calibrated in standard wind tunnel with fixed air flow direction in factory. So, it should be installed with the same flow direction, as Fig 2 and 3 below. The flow direction should be exactly 90° angle with the scale line on the probe, as shown in Fig 5.

### • AVT2 duct mount installation:

AVT2 is recommended to be installed with flange. Open a hole of Φ19 mm on duct, install the flange on the duct with 3 screws, insert the probe and adjust required depth, then use another screw to tighten the probe with the flange.

- AVT4 remote mount installation:

Housing installation: open the front cover, as shown in Fig 5 below, and fix the base on the installation surface with 4 screws.

Probe installation: it is recommended to be installed with the flange. Open a hole of  $\Phi 19$  mm on duct, install the flange on the duct with 3 screws, insert the probe and adjust required depth, then use another screw to tighten the probe with the flange.

- Electrical connection: Open the front cover, connect the wires according to the wiring diagram.

- During the above procedures, the sealing ring must be used correctly to ensure overall protection rate could meet up to IP65.

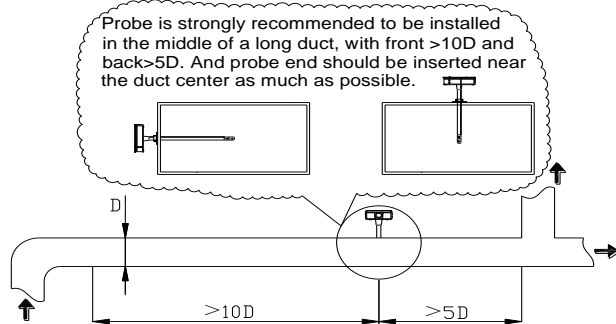


Fig 1

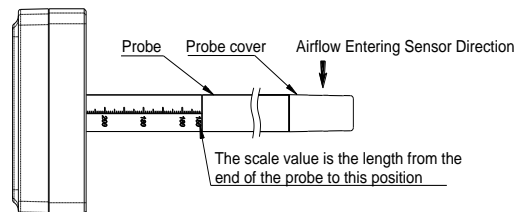


Fig 2

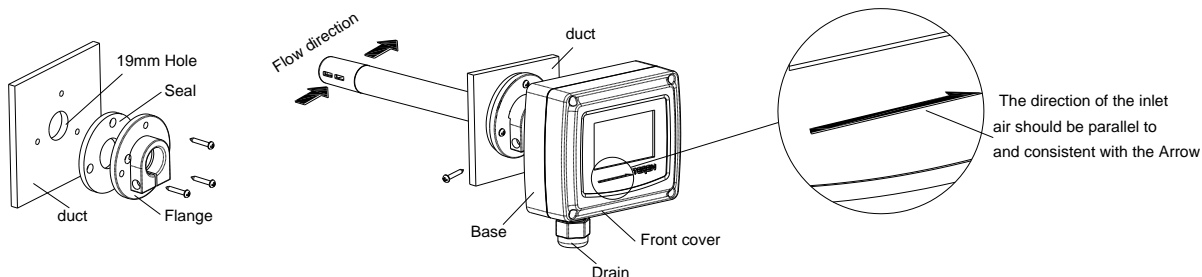


Fig 3

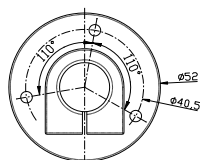


Fig 4

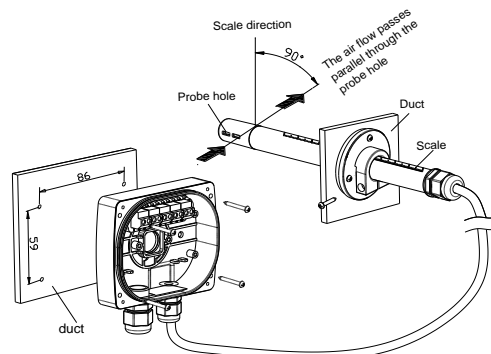


Fig 5

### Attention

It should be power OFF during installing and wiring. When using 24VAC, it is strongly recommended to power the unit with independent transformer. If sharing a 24VAC transformer with other equipment such as controllers, transmitters or actuators, please make sure the terminals 24V and GND are connected correctly. Otherwise, it may reduce serious damages.

### Warranty

It has limited warranty for eighteen (18) months after the production date.



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