

# Hot Wire Anemometer

## User's Manual

WD9829



### **Description of product**

This Hot Wire Anemometer is a kind of sophisticated and precise instrument. It will lead you make a new step in the field of precision measurement. Its high precise and sensitive probe will make your measurement more convenient.

### **Features**

1. Hot Wire Anemometer, available for low air velocity measurement.
2. Slim probe, ideal for grilles & narrow space.
3. Combination of hot wire and standard thermistor, deliver rapid and precise measurements even in a very low air velocity.
4. Records maximum/minimum readings with recall & data hold.
5. Microprocessor circuit assures maximum possible accuracy, provides special functions and features.
6. Super large LCD display with backlight, reading the air velocity, air quantity & temp, at the same time.
7. Multi-functions for air quantity measurement: m/s, km/h, ft/min, MPH, Knots & build in Volume CFM/CMM
8. Build-in thermistor sensor for temperature measurement, fast response for thermal measurement. Built in °C/°F.

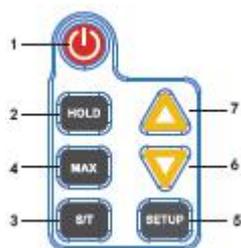
### **Technical Specification**

Display	43mm X 57mm large LCD display
	Dual functions display
Measurement	m/s (meter/second)
	km/h (kilometer/hour)
	ft/min (feet/minute)
	MPH (mile/minute)
	Knots (nautical miles per hour)
	°C/°F (temperature)
	Data hold (data holding function)
Sampling rate	About 0.8S
Operating temperature	0~50°C(32~122°F)
Operating humidity	Less than 80%RH
Power supply	Build-in 3.7V re-chargeable lithium battery
Weight	240g (Host computer)
Size	200mm X 85mm X 38mm
Accessory	Hot wire sensor and adapter

## Measurement Parameters

Air Velocity Measurement			
Measurement	Range	Resolution	Accuracy
m/s	0.1~25.0m/s	0.01 m/s	±(5%+1d) of reading or ±(1%+1d) of full range
km/h	0.3~90.0km/h	0.1 km/h	
ft/min	20~4921ft/min	1 ft/min	
MPH	0.2~55.9 MPH	0.1MPH	
Knots	0.2~48.5knots	0.1 knots	
Air Velocity Unit			
m/s-meter per second		km/h-kilometers per hour	
ft/min-feet per minute		MPH-miles per hour	
Knots-nautical miles per hour			
Temperature measurement			
Range	0°C to 50°C (32°F to 122°F)		
Resolution	0.1°C/0.1°F		
Accuracy	±1°C/1.8°F		
Volume Range			
Volume unit	Range	Resolution	
CFM	0-999900ft <sup>3</sup> /min	0.001 to 100	
CMM	0-999900m <sup>3</sup> /min	0.001 to 100	
CFM: cube feet per minute			
CMM: cube meter per minute			

## Key



1. On/ off key
2. Data holding
3. Switch air quantity/temperature display
4. Switch max/min measurement modes
5. Short press to turn on/off backlight, long press to enter setting mode
6. In normal measurement status, switch air quantity/temperature unit; in area setting mode, decrease input value
7. In normal measurement status, switch air velocity unit; in area setting mode, increase input value

## Screen Display

1. Battery level indicator
2. Main display: wind speed value
3. Wind speed unit
4. Measurement type
5. Lower display: air quantity, temperature.
6. Max/Min display
7. Multiples display
8. Air quantity display
9. Temperature unit
10. Area unit
11. Auto power off symbol
12. Data holding
13. Setting model symbol
14. Wind speed measurement

## Setting Function

In the measurement interface, long press the SETUP key to enter the setting mode, the following operations can be conducted. After the completion, long press the SETUP key once again to save and exit.

Select area unit:

While enter the area setting model shown in the Fig.1, Press ▲ to choose the area unit you want, ft<sup>2</sup> or m<sup>2</sup>.

Enter the area of air duct:

After entering the setting mode, press the SETUP key to enter the interface shown in Fig. 2, press the ▲/▼ keys to adjust the value (long press for quick add/subtract), press the S/T key to move decimal point.

Turn on/off the auto power off function:

After entering the setting mode, press the SETUP key twice to enter the interface shown in the Fig. 3, press the ▲ key to select ON/OFF.

If the automatic shutdown function is turned on, the meter will be automatically shut down after 20 minutes.



Figure 1



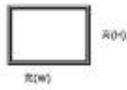
Figure 2



Figure3

### Air Quantity Calculation Formula

Area calculation formula for rectangular or square ducts:



面积=宽×高

Height (H)

Width (W)

Area = width x height

Area calculation formula for round ducts:



面积=π×r<sup>2</sup>

Radius r

Area = π×r<sup>2</sup>

CFM (ft<sup>3</sup>/min) = wind speed (ft/min)×area (ft<sup>2</sup>)

CMM (m<sup>3</sup>/min) = wind speed (m/sec) x area (m<sup>2</sup>) x 60

## **Operations**

1. Insert the probe to the probe socket.
2. Press power off key to turn on the meter, screen enters the measurement interface after 8 seconds countdown.
3. Choose the wind speed unit and temperature unit.
4. Zeroing operation: Slide to close the sensor cover; press “Hold” key for 2 seconds until the screen displays four zeros, zeroing operation is completed.
5. Open the sensor cover, adjust the sensor handle to the right length and let the sensor exposed in the air.
6. Direction of the sensor. The direction sign on the top of the "sensor" should face to the measuring wind direction. Then the main screen displays the wind speed value, the lower screen displays the temperature or air quantity value.
7. MAX / MIN measurement: in the measurement interface, short press MAX key to switch the MAX / MIN measurement modes. The instrument always displays the measured maximum or minimum value. Long press the MAX key to exit.

## **Application:**

Environmental measurement, air conveyors, flow hoods, clean rooms, air velocity, air balancing, fans/motors/blowers, furnace velocity, refrigerated case, paint spray booths, etc.

## **Charging**

**The product has built-in chargeable lithium battery. When the screen displays low battery, please charge the product in time with use of the attached power adaptor.**