

multicomp^{PRO}



**Hot Wire Anemometer
MP780109**

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1. Features

- Thermal anemometer, available for very low air velocity measurement.
- Slim probe, ideal for grilles & diffusers.
- Combination of hot wire and standard thermistor, deliver rapid and precise measurements even at low air velocity.
- Records Maximum and Minimum readings with recall.
- Microprocessor circuit assures maximum possible accuracy, provides special functions and features.
- Super large LCD with dual function meter's display, read the air velocity & temp. at the same time.
- Data Hold.
- Power supply by 3.7V Rechargeable Battery.
- The portable anemometer provides fast, accurate readings, with digital readability and the convenience of a remote probe separately.
- Multi-functions for air velocity measurement: m/s, km/h, ft/min, MPH, Knots. And it features 2 selectable units of flow measure: CFM, CMM.
- Build in temperature °C , °F measurement.
- Thermistor sensor for Temp. Measurement, fast response time.
- Used the durable, long-lasting components, including a strong, light weight ABS-plastic housing case.
- Deluxe hard carry case.
- Applications: Environmental testing, Air conveyors, Flow hoods, Clean rooms, Air velocity, Air balancing, Fans/motors/blowers, Furnace velocity, Refrigerated case, Paint spray booths.
- USB interface, USB to UART Bridge Controller.
- Probe length for the shortest 0.32 m, 1.15 m for the longest elongation. Line length is 1.75 m.

2. Specifications

General Specifications

Display	40.8mm × 60 mm larger LCD display. Dual function meter's display.
measurement	m/s (meters per second) km/h (kilometers per hour) ft/min (feet per minute) MPH (miles per hour) knots (nautical miles per hour) Temp. --°C, °F
Memory	Maximum and Minimum with recall
Sampling	Approx.0.8 sec
Operating Temperature	32°F to 122°F (0°C to 50°C)
Operating Humidity	Less than 80% RH
Power Supply	3.7V Rechargeable Battery
Power Current	Approx. DC 80~250mA
weight	320g
Dimension	160mm×58mm×27mm
Accessories included	Hot wire sensor 3.7V Rechargeable Battery
















Electrical Specifications

Air Velocity			
Measurement	Range	Resolution	Accuracy
m/s	0.1~25.0m/s	0.01m/s	±(5%+1d)reading Or ±(1%+1d)full scale
km/h	0.3~90.0km/h	0.1km/h	
ft/min	20~4925/min	1ft/min	
MPH	0.2~ 55.8 MPH	0.1MPH	
Knots	0.2~48.5knots	0.1knots	
Notes:			
m/s-meters per second		km/h-kilometers per hour	
ft/min-feet per minute		MPH-miles per hour	
knots-nautical miles per hour			
Temperature			
Measuring Range	32°F to 122°F (0°C to 50°C)		
Resolution	0.1°F/0.1°C		
Accuracy	±1.8°F/1°C		

Rang of Air Flow		
Measurement	Range	Resolution
CFM	0-99999ft3/min	0.001 to 100
CMM	0-99999m3/min	0.001 to 100

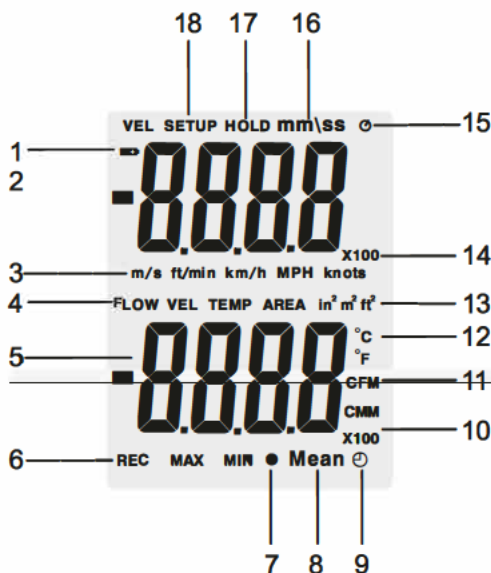
$CFM(ft^3/min) = \text{Air Velocity}(ft/min) \times \text{Area}(ft^2)$
 $CMM(m^3/min) = \text{Air Velocity}(m/s) \times \text{Area}(m^2) \times 60$
 CFM: cubic feet per minute CMM: cubic meters per minute

3. Button

- Press  .The thermal sensor is heated up (9s). Measurement view is opened: The current reading is displayed, or “ ”lights up if no reading is available. Press  again, turn off the instrument.
- Press  to freeze or unfreeze the displayed readings or air velocity Zero Adjust.
- Press  to enter a Setup option. Press  again to store the displayed setting in memory.
- Press  to turn on the backlight. Press it again to turn off the backlight. Press  button for 3 seconds to start or exit Setup. (See "Changing Setup Options.")
- Press  to perform a multi-point mean calculation or perform a mean calculation in time. If we enter a Setup option, press  to scroll to the Setup option you want to change. Press  to increase the displayed setting.
- To change between displaying the temperature, flow velocity, and calculated volumetric flow rate: Press  .if we enter a Setup option .scroll to the Setup option you want to change. Press  o decrease the displayed setting.
- Press  to change the station of flashing digit. Or press  to step through the maximum and minimum readings. To exit the MAN/MIX mode, press the  button for 2 seconds to return to normal operation.

4. Display Elements

- 1-Low Power or Charge Display.
- 2-Primary Display: air velocity, recording data or time.
- 3-Air velocity units.
- 4-Secondly display data.
- 5-Secondly display: air flow, temperature, or air velocity data.
- 6-Record MAX, MIN display.
- 7-Sign of multi-point mean calculation.
- 8-Mean calculation
- 9-Sign of mean calculation in time.
- 10-The multiple of Secondly display data.
- 11-Flow units.
- 12-Temperature units.
- 13-Flow area units.
- 14-The multiple of Primary display data.
- 15-The Sign of Auto Power Off.
- 16-The sign of time.
- 17-Freezing the data.
- 18-Entering or Exiting Setup.



5. Changing Setup Options


Use Setup to change area unit, flow area, sleep mode settings. The thermometer stores the settings in its memory.

Setup Options







Option	Menu item	Settings
Chose temperature unit	Unit	set temperatur unit
Chose velocity unit	Unit	set velocity unit
Chose flow unit	Unit	set flow unit
Chose area unit	Unit	set area unit
Change the flow area	area	set area of measuring air flow
Auto Power Off mode	SLP	auto off or on

Entering or Exiting Setup

When the thermometer is in Setup mode, the display shows SETUP.







Press  button for 3 seconds start or exit Setup.

Changing a Setup Option







1. Press  or  to scroll to the setup option you want to change.
2. Press  to indicate that you want to change this setting.
3. Press  or  until the setting you want to use appears on the display.
2. Press  to store the new setting in memory.

Notes: Setup is disabled in **MIN MAX, Mean** mode.







Temperature unit Setting

1. When the thermometer is in Setup mode, press  or  to scroll to the area unit setup option.
2. Press  button, the string “TEMP” and thermometer unit shows in the screen.
3. Press  or  to scroll to unit that you want to change.
4. Press  to store the new area in memory.







Velocity unit Setting

1. When the thermometer is in Setup mode, press  or  to scroll to the area unit setup option.
2. Press  button, the string “VEL” and thermometer unit shows in the screen.
3. Press  or  to scroll to unit that you want to change.
4. Press  to store the new area in memory.

Flow unit Setting

1. When the thermometer is in Setup mode, press  or  to scroll to the area unit setup option .
2. Press  button, the string “FLOW” and thermometer unit shows in the screen.
3. Press  or  to scroll to unit that you want to change.
4. Press  to store the new area in memory.

Area unit Setting

1. When the thermometer is in Setup mode, press  or  to scroll to the area unit setup Option .
2. Press  button, the string “AREA” and area unit shows in the screen.
3. Press  or  to scroll to unit that you want to change.
4. Press  to store the new area in memory.

Area Setting

Changing the number digits of area and Change the number value of area. Press or to scroll to the area value setup option when the thermometer is in the setup mode. Press button, the area number flashes. Press , or to scroll to digit that you want to change (refer Fig.1). Press , the screen indicate that area number with a flashing digit. Press or to change the flashing digit from 0 to 9. Press to change the station of digit and press or to change the number, the adjust order is from right to left. Press to store the new area in memory.



Fig 1

Auto Power Off Mode

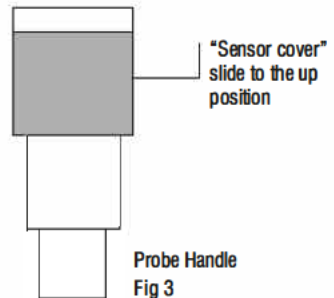
The thermometer enters sleep mode (default). That is to say, the meter will automatically shut off after 20 minutes if no button press occurs for 20 minutes. When the thermometer is in Setup mode, the display shows SETUP(refer Fig.2). Press or to scroll to the "SLP" page. Press to indicate "On" or "OFF". Press or until the setting you want to use appears on the display. Press to store the new setting in memory. On (sleep mode on) or OFF (sleep mode off).



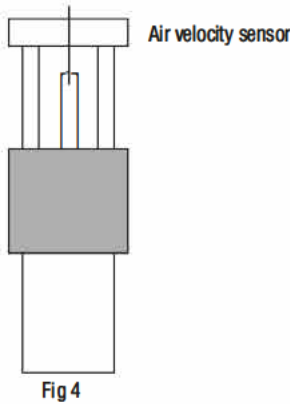
Fig 2

6. Measuring Procedure

1. Connect the "Probe's Plug" to the "Probe Input Socket".
2. Power on the meter by push the "Power On/Off Button".
3. Select the desire air velocity units and temperature units.
4. Zero setting:
 - On the "Sensing Head", slide the sensor cover to the up position to let the air velocity sensor isolated from the environment.
 - Push the "Zero Button" to let reading value of air velocity shows zero value.


Probe Handle
Fig 3

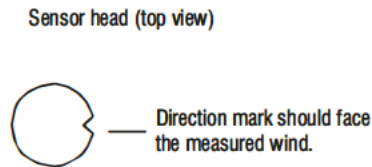
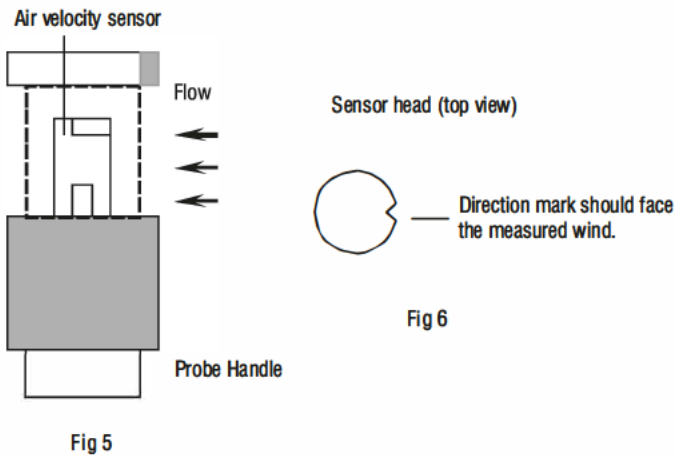
5. Slide the sensor cover to the down position, let the air velocity sensor to contact the air, refer Fig.4. Extend the telescope probe to the convenient length, refer Fig.5








6. Direction of the sensor head:

There is mark on the top of the “Sensor Head”, When make the measurement, then this mark should against the measured wind, refer Fig. 6, Fig7. When sensor head face against the measurement air, then the upper display will show the air velocity value. The lower display will show the temperature value.








7. To change between displaying the temperature, flow velocity, and calculated volumetric flow rate: Press  .






Performing a multi-point mean calculation

- Press  .
 - **Mean** is lit. The latest registered reading is displayed in the upper line, while the current reading is displayed in the lower line.
- To change between displaying the temperature, flow velocity and calculated volumetric flow rate: Press  .
- To include readings (in the desired quantity): Press  (several times).
- To end measurement and calculate the mean value: Press  .
 - **Mean** flashes. The calculated spot mean value is displayed.
- To return to measurement view: Press  .



Performing a mean calculation in time

- Press  for 2 seconds.
 - Mean**  is lit. The current reading is displayed in the lower line.
- To change between displaying the temperature, flow velocity and calculated volumetric flow rate: Press  .
- To interrupt/continue measurement: Press  each time. The elapsed measuring time (mm:ss) is displayed in the upper line.
- To end measurement and calculate the mean value: Press  .
 - Mean**  Mean flashes. The calculated mean value in time is displayed.
- To return to measurement view: Press  .

Holding the Displayed Readings

- Press  to freeze the readings on the display .The display shows **HOLD**.
- To change between displaying the temperature, flow velocity and calculated volumetric flow rate: Press  .
- Press  again to turn off the **HOLD** function.





Viewing the MIN, MAX Readings

- Press  button simultaneously lockup data maximum (MAX) and minimum (MIN) value of measure data.
- Press  button for 2 seconds to exit MAX/MIN mode.

USB

The meter has a USB port for use with the optional PC interface Data Acquisition Software.

Battery Charge

- If the meter is working, the appearance of the “+” is to remind the user of the battery power status, and you can continue to use the meter. When the battery power is low, the wind speed numbers will flash, and the meter needs to be charged to use. After a full battery, working time is 3 ~ 4 hours.
- The meter allows charging from a USB port.
- When the battery is charging, the “+” flashes. The charge cycle ends after 4~5 Hours.
- When the battery charging is finished. If the meter is working, “+” will disappear. If the meter is off, “+” will show on the screen without flashing.

INFORMATION ON WASTE DISPOSAL FOR CONSUMERS OF ELECTRICAL & ELECTRONIC EQUIPMENT.

When this product has reached the end of its life it must be treated as Waste Electrical & Electronics Equipment (WEEE). Any WEEE marked products must not be mixed with general household waste, but kept separate for the treatment, recovery and recycling of the materials used. Contact your local authority for details of recycling schemes in your area.



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