

TENMARS

Hot-Wire Air Velocity Meter

TM-4001 / TM-4002

User's Manual



HB2TM4001006

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1. PREFACE

Thank you for purchasing our product.


Please, read the operating instructions in details before you use this Hot-Wire Velocity meter, so you will operate the meter correctly. This meter can be operated in industry and home.



WARNING

Non-compliance warning and/or operating instructions may damage the instrument or its parts or injuring the operator.

2. GENERAL DESCRIPTION

- Fast response probe.
- Air flow volume. (Use platinum-resistors sensor)
- Telescoping probe.
- Instant/ AVG/ 2/3V MAX flow measurement.
- Max/AVG/Min & data hold function.
- Low battery indication “”.
- LCD triple display with LED backlight.
- Manual data memory and read function (99 records). (TM-4001/TM-4002)
- Humidity measurement. (TM-4002)
- Calculate dew point temperature, wet bulb temperature. (TM-4002)
- Auto power off with disable function.

3. SPECIFICATIONS (23°C±5°C)

Air velocity measurement:

Unit	Range	Resolution	Accuracy
m/s	0.01~25.00	0.01	≤10m/s: ±(3% of reading +1.6%FS) >10m/s: ±(6% of reading +2% FS)
Km/hr(kph)	0.02~90.00	0.01	
mph	0.12~55.9	0.01	
Knots(kts)	0.11~48.6	0.01	
Ft/min(fpm)	0~4921.0	0.1	
Beaufort	1~10	1	-

Air flow(volume) calculate:

Unit	Range	Resolution	Accuracy
CMM	0~9999	0.1	-
CFM	0~9999	0.1	-

Temperature Measurement:

Unit	Range	Resolution	Accuracy
°C	-20~50	0.1	±1°C
°F	-4~122	0.1	±1.8°F

Humidity(TM-4002):

Unit	Range	Resolution	Accuracy @25°C
%RH	20~80	0.1	±3.5%RH
%RH	<20,>80	0.1	±5.0%RH

Dew point temperature (DEW)

Unit	Range	Resolution
°C	-35.3~48.9	0.1
°F	-31.5~120.1	0.1
The value is calculated from the RH and Air temperature.		

Wet bulb temperature (WET)

Unit	Range	Resolution
°C	-21.6~50.0	0.1
°F	-6.9~122.0	0.1
The value is calculated from the RH and air temperature.		

- Meter Dimension: 156x73x35mm(Lx W x H).
- Probe Dimension:
 - Wire length: 1500mm
 - Retractable length: 400mm to 1020mm
 - Probe diameter of tip: 16mm
 - Probe diameter of base: 32mm
- Meter weight: 250g.(without batteries)
- Probe weight: 240g.
- Power supply: UM-4(AAA)1.5V*6PCS
- Battery life: 10 hours.
- Operating temperature & humidity:
 - 20°C to +50°C, <80 %RH.
- Storage temperature & humidity :
 - 10°C to +50°C, <70 %RH.
- Display: 60mm(W) x 47mm(L) monochrome

LCD and backlight.

- Standard accessories:
UM-4(AAA)1.5V battery×6 PCS,
User's manual

**WARNING**

To ensure that the accuracy of the meter, we recommend for calibration once a year.

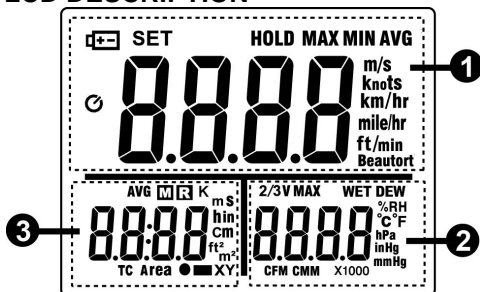
- EMC: This test was designed in accordance with EMC standards in force and its compatibility has been tested in accordance with EN61326-1 (2006).

4. INSTRUMENT DESCRIPTION



- | | |
|-------------------------|------------------------------|
| 1. HOLD Button | 12. Enter Button |
| 2. Power Button | 13. Probe Jack |
| 3. MAX/MIN Button | 14. Probes Plug (with Lock) |
| 4. Left/read Button | 15. Tripod nut |
| 5. Mode Button | 16. Holder |
| 6. Display | 17. Battery holder |
| 7. Backlight Button | 18. Battery cover |
| 8. Unit Button | 19. Hot-wire sensor |
| 9. Up Button | 20. Humidity sensor |
| 10. Right/record Button | 21. Temperature sensor |
| 11. Down Button | |

5. LCD DESCRIPTION



First window: Air velocity display

- SET : Setting mode indication.
- HOLD : Data hold indication.
- MAX : Maximum measured display indication.
- MIN : Minimum measured display indication.
- AVG : Average measured display indication.
- [] : Low battery indication.
- [] : Auto power off indication.
- m/s: Meters per second.
- Knots : knots.
- km/hr : Kilometers per hour.
- mile/hr : Miles per hour.
- ft/min : Feet per minute.
- Beau for : Beaufort.

Second window: Temperature, humidity, air velocity.



- WET: Wet bulb temperature indication.
- DEW: Dew point temperature indication.
- %RH: humidity indication.
- °C: Degree Celsius.
- °F: Degree Fahrenheit.
- CFM: Cubic feet per minute.
- CMM: Cubic meters per minute.
- 2/3V MAX : 2/3V Maximum mode is selected indication.
- ×10: Multiply reading by ten
- ×100: Multiply reading by hundred.
- ×1000: Multiply reading by thousand.

Third window: Air flow setting and record display



- Sample: Sampling indication.
- Area: Duct area indication.
- TC: Average time constant indication.
- AVG: Average mode is selected indication.
- K: Number of records by one thousand.
- [●]: Round duct diameter dimension indication.
- [■XY]: Rectangle duct XY dimension indication.
- h: Hour indication.

- m: Minute indication.
- S: Second indication.
- in: Inches indication.
- cm: Centimeter indication.
- ft²: Square feet indication.
- m²: Square meters indication.


6. POWER ON/OFF

Press  button for more than 2 seconds to turn on and press  button to turn off the power.

7. Auto power off


The duration of auto power off time is 15 minutes. If you want disable auto power off, please hold  button and press  button at the power shutdown mode. When you see the “n-SL” display on the LCD, that means the auto power off function is off. If you want enable auto power off, please restart the meter.

8. BACKLIGHT



Press  button to turn on the backlight, pres this button again to turn it off.

The backlight time is 15 seconds.



9. CHANGE AIR VELOCITY UNIT

Press  button to change the air velocity unit.
m/s→knots→km/hr→mile/hr→ft/min→Beaufort




10. CHANGE UNIT

Press  button and  button to change unit.
°C<=>°F, m<=>ft







11. CHANGE FUNCTION

Press  button and  button to change function.
Temperature→Humidity(TM-4002)→Dew point temperature(TM-4002)→Wet blub temperature(TM-4002)→Air flow→2/3 max air flow




12. TIME CONSTANT SETTING MODE

Press  button to select TC and press  button to into the time constant setting mode and press  to exit the time constant setting mode.









Time constant setting mode operation:

1. Press  to into time constant setting mode.
2. In the setting the time constant setting mode that can press , , ,  button to change the digit and press  to confirm.


13. AIR FLOW SETTING MODE

Press  button to select Area and press  button to into the air flow setting mode and press  to exit the air flow setting mode.

Air flow setting mode operation:


1. Press  button or  button to selected Area or the area of a circle, square area, and press  button to into setting the size of area.
2. In the setting the size of area that can press , , ,  button to change the digit and press  to confirm.

14. DATA HOLD



Press  button to enable or disable hold function.


※ The HOLD function will be unavailable if calibration function is enabled.

15. SINGLE DATA RECORD

Press  button to record the current measured result.


16. VIEWING OR CLEARING DATA RECORDS


Press  button to read the data records and press  or wait 15 second to exit.

Press  button for more than 2 seconds to clear the data records.

※The Viewing or cleared Data Records function will be unavailable if calibration, MAX/MIN, HOLD function is enabled.

17. MAX/MIN/AVG

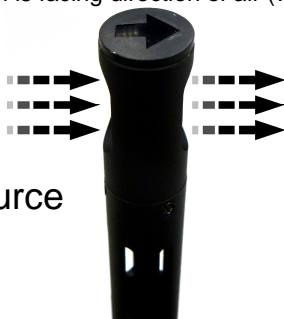
Press  button simultaneously lockup data maximum and minimum and average value of measuring data.

Press  button for more than 2 seconds to disable this feature.

18. PRECAUTIONS

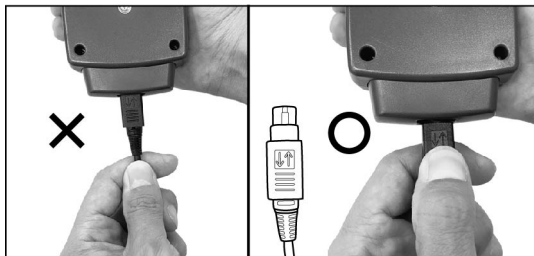
- Keep the meter away from electromagnetic interference (EMI) which may cause erratic readings.
- Please turn off the meter to avoid the sensor burned when you have finished testing the high wind speed (more than 20m/s) and remove the probe.

- To extend the probe, hold the handle in one hand while pulling on the probe tip with the other hand. Do not hold the cable while extending the probe.
- Remove the sensor protective cover, make sure the sensor window is fully exposed and the orientation is facing direction of air (wind) flow.



Air Source

- To retract the probe, hold the handle in one hand while pushing on the probe tip with the other hand. If the probe antenna binding, please gently straightened probe, and then the rest of the extension of section pressure back and don't pull the cable.
- Removing Probe (With LOCK) :



19. SAFETY AND MAINTENANCE STANDARDS

- Do not put this device in direct sunlight or where it is hot and/or damp.
- Operating altitude: below 2,000m.

20. BATTERY REPLACEMENT



WARNING

If the LCD displays "🔋" symbol, please replace the battery immediately.

Turn off the power and unplug all cables, remove the battery and replace into the new battery. Please use the correct specification of the battery and correctly installed in the battery holder.

21. END OF LIFE

Caution: This symbol indicates that equipment and its accessories shall be subject to a separate collection and correct disposal.

**WARNING**

If not using the meter, please remove the battery to avoid possible damage.

TENMARS



Professional Electrical and Environment Test & Measurement Instruments:

Battery Capacity / Impedance Tester, TACHO
Meter ,LED light meter, Temperature & Humidity
meter ,Infrared Thermometer, Sound level
meter ,Light meter, EMF meter, UV Light meter,
RF meter, Hot wire Anemometer, CO meter
Anemometer, Lan cable tester, CO₂ meter,
Solar power meter, Radiation meter,
Clamp meter, Multimeter, Phase Rotation test,
Digital Insulation tester

**Our products of high quality are selling
well all over the world**

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