TENMARS

Hot-Wire
Air Velocity Meter

TM-4001 / TM-4002

User's Manual

CE

HB2TM4001005

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1. PREFACE

Thank you for purchasing out 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 batter 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	±(3%of reading +1.6%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

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

5. LCD DESCRIPTION

First window: Air velocity display

- SET : Setting mode indication.
- REC : Record 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 and Absolute pressure display.

- WET: Wet bulb temperature indication.
- DEW: Dew point temperature indication.
- %RH: humidity indication.
- °C: Degree Celsius.
- °F: Degree Fahrenheit.
- hPa: Hectopascal indication.
- inHg: Inch of mercury.
- mmHg: Millimeter of mercury.
- 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.
- INTV: Sample interval 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.
- ft^2: Square feet indication.
- m^2: 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 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 Unit button to change the air velocity unit.
m/s→knots→km/hr→mile/hr→ft/min→Beaufort

10. CHANGE UNIT

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

11. CHANGE FUNCTION

Press ▼ button and Mode 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 Mode 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 ▲, ▼, ◄Read, Mem► button to change the digit and press ↵ to confirm.

13. AIR FLOW SETTING MODE

Press Mode 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 ◄Read button or Mem► 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 ▲, ▼, ◄Read, Mem► button to change the digit and press ↵ to confirm.

14. DATA HOLD

Press HOLD button to enable or disable hold function.

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

15. SINGLE DATA RECORD

Press (Mem ▶) button to record the current measured result.

16. VIEWING OR CLEARING DATA RECORDS

Press (◀ Read) button to read the data records and press (▼) or wait 15 second to exit.

Press (◀ Read) 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 (Min/Max) button simultaneously lockup data maximum and minimum and average value of measuring data.

Press (Min/Max) button for more than 2 seconds to disable this feature.

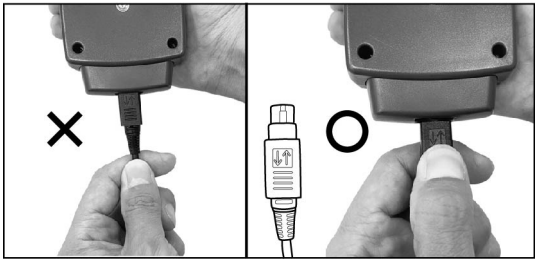
18. PRECAUTIONS

- 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.

- 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. COMPUTER GRADE

- CPU：Pentium Ⅲ 1000MHZ.
- RAM：SDRAM 256MB.
- Hard disk：200MB.
- OS：Windows 2000，Windows XP.
- Display : 800×600 256 color.

20. 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.

21. 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.

22. 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, CO_2 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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