## + Temperature VANE ANEMOMETER Model : AM-4222



Your purchase of this ANEMOMETER marks a step forward for you the field into of precision measurement. Although this METER is a complex and delicate instrument, its durable structure will allow many years of use if proper operating techniques are developed. Please read the following instructions carefully and always keep this manual within easy reach



# **OPERATION MANUAL**

## TABLE OF CONTENTS

| 1. FEATURES                                  | 1 |
|--|---|
| 2. SPECIFICATIONS                            | 2 |
| 2-1 General Specifications                   | 2 |
| 2-2 Electrical Specifications                | 3 |
| 3. FRONT PANEL DESCRIPTION                   | 4 |
| 3-1 Vane                                     | 4 |
| 3-2 Anemometer Probe                         | 4 |
| 3-3 Power Button                             |   |
| 3-4 Hold Button, Unit Button                 | 4 |
| 3-5 REC Button, $^{\circ}C/^{\circ}F$ Button | 4 |
| 3-6 LCD Display                              | 4 |
| 3-7 Battery Compartment/Cover                | 4 |
| 4. MEASURING PROCEDURE                       | 5 |
| 4-1 Air velocity /Temp. measurement          | 5 |
| 4-2 Unit selection                           | 5 |
| 4-3 °C/°F selection                          | 6 |
| 4-4 Data Hold                                | 6 |
| 4-5 Data Record (Max., Min. reading)         | 6 |
| 4-6 Auto power off management                | 7 |
| 5. BATTERY REPLACEMENT                       | 7 |
| 6. OPTIONAL CARRYING CASE                    | 8 |

## **1. FEATURES**

- \* Anemometer, Temperature meter, two in one, professional.
- \* Anemometer unit : m/S, Km/h, FPM, mph, Knot.
- \* Temperature measurement with  $^\circ\!C$  ,  $^\circ\!F$  unit.
- \* Vane anemometer, available for air velocity measurement, high reliability.
- \* Two display show air velocity and temperature value at the same time.
- \* Bright LCD display.
- \* Microprocessor circuit ensures high accuracy and provides special functions and features.
- \* Records Maximum and Minimum readings with recall.
- \* Auto power off saves battery life.
- \* Operates from DC 1.5V ( UM4/AAA ) x 4 PCs batteries.
- \* Low-friction ball vane wheels is accurate in both high and low velocities.
- \* Durable, long-lasting components, enclosed in strong, compact ABS-plastic housing.

## 2. SPECIFICATIONS

#### 2-1 General Specifications

| Display       | LCD size : 28 mm x 19 mm.             |                             |  |  |
|---------------|---------------------------------------|-----------------------------|--|--|
| Anemometer    | m/S (meters per second)               |                             |  |  |
| Unit          | Km/h ( kilometers per hour )          |                             |  |  |
|               | FPM (feet per minute)                 |                             |  |  |
|               | mph ( miles per hour )                |                             |  |  |
|               | Knot ( nautical miles per hour )      |                             |  |  |
| Temp. unit    | °C , °F                               |                             |  |  |
| Circuit       | Custom one-chip of microprocessor LSI |                             |  |  |
|               | circuit.                              |                             |  |  |
| Sensor        | Anemometer                            | Van probe with low friction |  |  |
| Structure     |                                       | ball bearing design.        |  |  |
|               | Temperature                           | Thermister                  |  |  |
| Data Hold     | Freeze the display reading.           |                             |  |  |
| Memory Recall | Maximum & Minimum value.              |                             |  |  |
| Sampling Time | Approx. 1 second.                     |                             |  |  |
| Power off     | Auto shut off saves battery life or   |                             |  |  |
|               | manual off ( R                        | REC function ).             |  |  |
| Operating     | 0 to 50 ℃.                            |                             |  |  |
| Temperature   |                                       |                             |  |  |
| Operating     | Less than 80% R.H.                    |                             |  |  |
| Humidity      |                                       |                             |  |  |
| Power Supply  | DC 1.5 V battery ( UM4/AAA ) x 4 PCs, |                             |  |  |
| Power Current | Approx. DC 4 mA                       |                             |  |  |
| Weight        | 182 g/ 0.4 LB. @ Battery is included. |                             |  |  |
| Dimension     | 205 x 48 x 40 mm (8.1" x 1.9" x 1.6") |                             |  |  |

| Accessories | Instruction manual1 PC               |
|-------------|--------------------------------------|
| Included    |                                      |
| Optional    | Soft carrying case with sash         |
| Accessory   | ( 210 x 80 x 50 mm ), Model : CA-52A |

#### 2-2 Electrical Specifications (23±5 °C)

Anemometer ( Air velocity )

| Measurement                  | Range              | Resolution                       | Accuracy        |
|------------------------------|--------------------|----------------------------------|-----------------|
| m/S                          | 0.4 to 30.0 m/s    | 0.1 m/S                          | $\leq$ 20 m/s : |
| Km/h                         | 1.4 to 108.0 km/h  | 0.1 Km/h                         | ± 3% F.S.       |
| FPM                          | 80 to 5910 ft/min  | 1 Ft/min                         | > 20 m/s :      |
| mph                          | 0.9 to 67.0 mile/h | 0.1 Mile/h                       | ± 4% F.S.       |
| Knot                         | 0.8 to 58.3 knots  | 0.1 Knots                        |                 |
| Note :                       |                    |                                  |                 |
| m/S (meters per second)      |                    | mph ( miles per hour )           |                 |
| Km/h ( kilometers per hour ) |                    | Knot ( nautical miles per hour ) |                 |
| FPM ( feet per minute )      |                    |                                  |                 |

#### Temperature

| Measuring Range | 0 ℃ to 50 ℃/32 ℉ to 122 ℉ |
|-----------------|---------------------------|
| Resolution      | 0.1 °C/0.1 °F             |
| Accuracy        | ± 0.8 °C/1.5 °F           |

 $^{\star}$  Above specification tests under the environment RF Field Strength less than 3 V/M & frequency less than 30 MHz only.

### **3. FRONT PANEL DESCRIPTION**





- 3-1 Vane
- 3-2 Anemometer Probe
- 3-3 Power Button
- 3-4 Hold Button, Unit Button
- 3-5 REC Button,  $^\circ\!C/^\circ\!F$  Button
- 3-6 LCD Display
- 3-7 Battery Compartment/Cover

### 4. MEASURING PROCEDURE

#### 4-1 Air velocity /Temp. measurement

- 1) Turn on the meter by pressing the "Power Button" (3-3, Fig. 1) momentarily.
  - \* Pressing the "Power Button" (3-3, Fig. 1) momentarily again will turn off the meter.
- 2) Face the "Anemometer Probe " (3-2, Fig. 1) to the source of wind, the upper display will show the air velocity value, the lower display will show the temperature unit.

#### Note :

Allow time for the reading to become stable and note the value indicated. From a practical point of view the velocity may fluctuate.

#### 4-2 Unit selection

- 1) The air velocity unit can be selected to m/S, Km/h, FPM, mph, Knot
- 2) Pressing the "Unit Button" (3-4, Fig. 1) continuously at least 2 seconds, then air velocity unit will change from m/S, Km/h, FPM, mph, Knot in sequence and cycling.
  Until the desiring unit be selected, then release the finger from the "Unit Button" (3-4, Fig. 1) will enter.
- 3) After the air velocity unit is selected, it will be memorized into the memory circuit. If power off and on again will present the existing selected air velocity unit.

#### 4-3 °C/°F selection

- 1) The temperature units can be selected to  $^{\circ}C$  or  $^{\circ}F$ .
- 2) Pressing the "  $^{\circ}C/^{\circ}F$  Button " (3-5, Fig. 1) continuously at least 2 seconds, then air velocity unit will change from  $^{\circ}C$  to  $^{\circ}F$  in sequence and cycling.
- After the temperature unit is selected, it will be memorized into the memory circuit. If power off and on again will present the existing selection Temp. unit.

#### 4-4 Data Hold

- During the measurement, press the "Hold Button " (3-4, Fig. 1) momentarily to hold the measured value. The LCD will show a "HOLD " symbol.
- \* Press the" Hold Button " once again to release the data hold function.

#### 4-5 Data Record (Max., Min. reading)

- The data record function records the maximum and minimum readings. Press the "REC Button " (3-5, Fig. 1) momentarily to start the Data Record function, shows "REC " on the display.
- 2) With the "REC " symbol on the display.
  - a) Press the "REC Button " (3-5, Fig. 1) momentarily, the "REC MAX " symbol along with the maximum value will appear on the display.
  - b) Press the "REC Button " (3-5, Fig. 1) momentarily again, the "REC MIN " symbol along with the minimum value will appear on the display.

- \* When display shows " REC MAX " or " REC MIN ", press the " Hold Button " ( 3-4, Fig. 1 ) momentarily will delete the max. ( min. ) value, the display will show the " REC. " only and execute the memory function continuously.
- c) To exit the memory rec10

" REC " button for 2 seconds at least. The display will revert to the current reading, not show " REC "

#### 4-6 Auto power off management

- The instrument has built-in "Auto Power Shut-off " function in order to prolong battery life. The meter will switch off automatically if none of the buttons are pressed within 10 min.
- 2) To de-activate this feature, Select the memory record function during measurement, by pressing the
  " REC Button " (3-5, Fig. 1).

#### **5. BATTERY REPLACEMENT**

- \* Replace the batteries when the left corner of the LCD displays the low battery icon " , using 4 fresh 1.5 V ( UM4, AAA ) batteries.
- \* To change the batteries, open (rotate clockwise direction) the "Battery Cover" (3-7, Fig. 1).
- \* Make sure the "Battery cover " (3-7, Fig 1) is secured after changing the batteries.

## 6. OPTIONAL CARRYING CASE



Soft carrying case with sash. Size : 210 x 80 x 50 mm Model : CA-52A