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Manual Hygrometer PCE-THB 38



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1. FEATURES

- * Barometer, Humidity, Temperature meter, three in one, professional.
- * Barometer unit : hPa, mmHg, inHg.
- * Humidity with Dew point measurement
- * Temperature measurement with °C, °F unit.
- * Fast response time for humidity measurement.
- * Barometer measurement with high accuracy.
- * Two display can select the four mode (function) : Humidity/Temp., Humidity/Dew point, Barometer/Temp., Barometer/Humidity.
- * 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.
- * 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. | |
| Temp. unit | °C, °F | |
| Barometer unit | hPa, mmHg, inHg. | |
| Humidity unit | %RH | |
| Dew point | °C, °F | |
| Circuit | Custom one-chip of microprocessor LSI circuit. | |
| Sensor Structure | Barometer | Semiconductor |
| | Humidity | Capacitance humidity sensor, semiconductor |
| | Temperature | Semiconductor |
| 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 (REC function). | |
| Operating Temperature | 0 to 50 °C. | |
| Operating Humidity | Less than 80% R.H. | |
| Power Supply | DC 1.5 V battery (UM4/AAA) x 4 PCs, | |
| Power Current | Approx. DC 3.0 mA | |
| Weight | 157 g/ 0.35 LB. @ Battery is included. | |
| Dimension | 210 x 40 x 40 mm (8.3" x 1.6" x 1.6") | |
| Accessories Included | Instruction manual.....1 PC | |
| Optional Accessory | Soft carrying case with sash (210 x 80 x 50 mm), Model : CA-52A | |

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

Humidity / Dew point

a. Humidity

| | |
|------------|--|
| Range | 10 % to 95 % R.H. |
| Resolution | 0.1 % R.H. |
| Accuracy | $\geq 70\% \text{ RH}$ $\pm (3\% \text{ reading} + 1\% \text{ RH})$. $< 70\% \text{ RH} - 3\% \text{ RH}$. $\pm 3\% \text{ RH}$. |

b. Dew point

| | | |
|----|------------|-----------------------|
| °C | Range | -25.3 °C to 48.9 °C |
| | Resolution | 0.01 °C |
| °F | Range | -13.5 °F to 120.1 °F. |
| | Resolution | 0.01 °F. |

Remark :

** Dew Point display value is calculated from the Humidity/Temp. measurement automatically.*

** The Dew Point accuracy is sum accuracy value of Humidity & Temperature measurement..*

Barometer

| Measurement | Range | Resolution | Accuracy @ reading |
|-------------|---------------|------------|--------------------|
| hPa | 10.0 to 999.9 | 0.1 | ± 1.5 hPa |
| | 1000 to 1100 | 1 | ± 2 hPa |
| mmHg | 7.5 to 825.0 | 0.1 | ± 1.2 mmHg |
| inHg. | 0.29 to 32.48 | 0.01 | ± 0.05 inHg |

Temperature

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

* Above specification tests under the environment RF Field Strength less than 3 V/M & frequency less than 30 MHz only.

3. FRONT PANEL DESCRIPTION

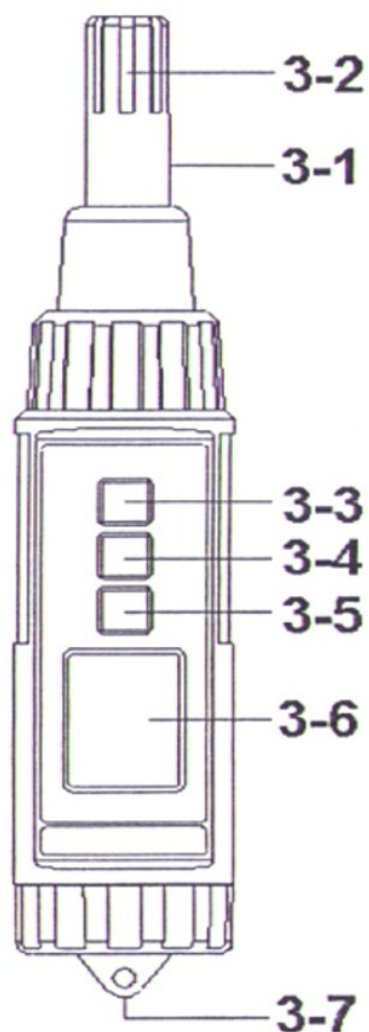


Fig. 1

- 3-1 Probe head
- 3-2 Humidity/Temp. Sensor
- 3-3 Power Button
- 3-4 Hold Button, Unit Button
- 3-5 REC Button, Mode Button
- 3-6 LCD Display
- 3-7 Battery Compartment/Cover

4. MEASURING PROCEDURE

4-1 Mode (Function) selection

1) Turn on the meter by pressing the " Power Button " (3-3, Fig. 1) momentarily.

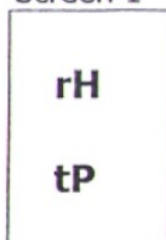
** Pressing the " Power Button " (3-3, Fig. 1) momentarily again will turn off the meter.*

2) The meter can select 4 kind mode (function) as :

- a. Humidity/Temp.**
- b. Humidity/Dew point**
- c. Barometer/Temp.**
- d. Barometer/Humidity**

Pressing the " Mode Button " (3-5, Fig. 1) continuously (not release the button), the Display will show the following 4 kind screens in sequence :

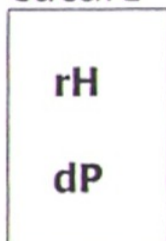
Screen 1



Humidity/Temp. measurement

- * Upper Display show Humidity value
- * Lower Display show Temp. value

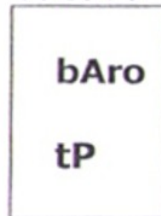
Screen 2



Humidity/Dew point measurement

- * Upper Display show Humidity value
- * Lower Display show Dew point Temp. value

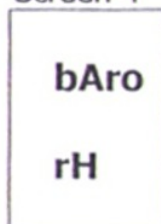
Screen 3



Barometer/Temp. measurement

- * Upper Display show Barometer value
- * Lower Display show Temp. value

Screen 4



Barometer/Humidity measurement

- * Upper Display show Barometer value
- * Lower Display show Humidity value

Until the Display show the desired model (Function), just release the " Mode Button " (3-5, Fig. 1), the meter will execute this function with default.

4-2 Unit selection

- 1) The Unit selection only available for the upper Display Barometer mode.
- 2) Turn on the meter by pressing the " Power Button " (3-3, Fig. 1) momentarily.
- 3) Under the Barometer mode, pressing the " Unit Button " (3-4, Fig. 1) continuously (not release the button), the upper Display will show the following indicator in sequence :

hPa, mmHg, inHg.

Until the Display show the desired unit, just release the " Unit Button " (3-4, Fig. 1), the meter will execute this measuring unit with default.

4-3 Temp. Unit (°C, °F) selection

- 1) Power off the meter.
- 2) Use one finger to press (not release) the " Hold Button " (3-4, Fig. 1), turn on the meter by pressing the " Power Button " (3-3, Fig. 1) momentarily, until the temperature unit (°C, °F) of Display is lit, then release the " Hold Button " will change the Temp. unit from °C to °F or °F to °C with default.

4-4 Humidity measurement

- 1) Turn on the meter by pressing the " Power Button " (3-3, Fig. 1) momentarily.
- 2) For the above 4-1 mode (function) selection, please set to :
 - a. **Humidity/Temp.**
(Upper display show humidity value , lower display show Temp. value)
 - c. **Barometer/Humidity**
(Upper display show Barometer value , lower display show humidity value)

4-5 Barometer measurement

- 1) Turn on the meter by pressing the " Power Button " (3-3, Fig. 1) momentarily.
- 2) For the above 4-1 mode (function) selection, please set to :
 - c. **Barometer/Temp.**
(Upper display show Barometer value , lower display show Temp. value)
 - d. **Barometer/Humidity**
(Upper display show Barometer value , lower display show humidity value)

4-6 Dew point measurement

- 1) Turn on the meter by pressing the " Power Button " (3-3, Fig. 1) momentarily.
- 2) For the above 4-1 mode (function) selection, please set to :

b. Humidity/Dew point

(Upper display show humidity value , lower display show dew point value)

4-7 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.

4-8 Data Record (Max., Min. reading)

- 1) 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 record function, press the " REC " button for 2 seconds at least. The display will revert to the current reading, not show " REC "

4-9 Auto power off management

- 1) 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  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

