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Manual
PCE-THB38

TABLE OF CONTENTS

1. FEATURES

* Barometer, Humidity, Temperature meter, three in one, professional.
* Barometer unit : hPa, mmHg, inHg.
* Humidity with Dew point measurement
* Temperature measurement with ℃, ℉ 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	℃, ℉	
Barometer unit	hPa, mmHg, inHg.	
Humidity unit	%RH	
Dew point	℃, ℉	
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 ℃.	
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 ℃)

Humidity / Dew point

a. Humidity

Range	10 % to 95 % R.H.
Resolution	0.1 % R.H.
Accuracy	≧70% RH ± (3% reading + 1% RH). < 70% RH - 3% RH. ± 3% RH.

b. Dew point

℃	Range	-25.3 ℃ to 48.9 ℃
	Resolution	0.01 ℃
℉	Range	-13.5 ℉ to 120.1 ℉.
	Resolution	0.01 ℉.

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

3

Temperature

Measuring Range	0 ℃ to 50 ℃/32 ℉ to 122 ℉
Resolution	0.1 ℃/0.1 ℉
Accuracy	± 0.8 ℃/1.5 ℉

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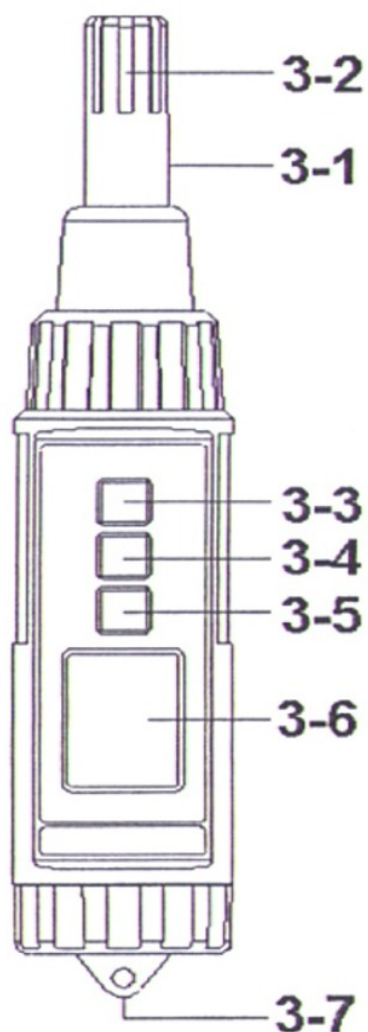
3. FRONT PANEL DESCRIPTION

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 "
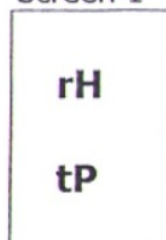   (3-3, Fig. 1) momentarily.

   * 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
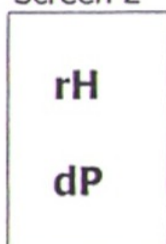will show the following 4 kind screens in sequence :

Screen 1

rH
tP

Humidity/Temp. measurement
* Upper Display show Humidity value
* Lower Display show Temp. value
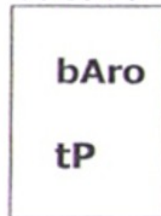
Screen 2

rH
dP

Humidity/Dew point measurement
* Upper Display show Humidity value
* Lower Display show Dew point Temp. value

Screen 3

bAro	**Barometer/Temp. measurement**
tP	* Upper Display show Barometer value * Lower Display show Temp. value

Screen 4

bAro	**Barometer/Humidity measurement**
rH	* 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, ressing 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 (℃, ℉) 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 (℃, ℉) of Display is lit, then release the " Hold Button " will change the Temp. unit from ℃ to ℉ or ℉ to ℃ 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 ⊏╳⊐ rner 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

In this direction will find a vision of the measurement technique:
http://www.industrial-needs.com/measuring-instruments.htm

NOTE: "This instrument doesn't have ATEX protection, so it should not be used in potentially explosive atmospheres (powder, flammable gases)."