

INSTRUCTION MANUAL PEN TYPE HYGROMETER

800127 – 8720



CE

INTRODUCTION

Congratulation on your purchase of the Pen type Thermo-Hygrometer .

This is a low cost and easy use instrument.

MATERIAL SUPPLIED

The package supplied with a standard :

- 1) The meter
- 2) Battery CR2032 x1
- 3) Operation manual

Optional accessory :

- a) 33% Salt solution (0033AZ1)
- b) 75% Salt solution (0075AZ1)

LCD DISPLAY



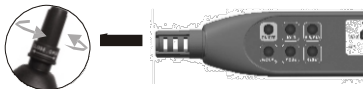
KEY PAD



6 keys: ON/OFF,HOLD
MIN/MAX,F/C
CAL,MODE,
RESET.

OPERATION

- (1) Power on the meter by pressing ON/OFF button. You will see a full display on the screen, such as "DP", "WB" will also show on the screen. for one second, now the meter will start measuring the temp. and humidity and display both readings at the same time.



Note: Make sure you have rotated the sensor cap for ready to measure.

- (2) "AIR" icon shows current environment temperature and humidity.
- (3) The default setting of temperature display can be in °F or °C. You can press F/C button to change the temperature display .



- (4) Press MIN/MAX button , MIN appears on display. The LCD screen is now showing the minimum humidity and temperature readings in memory.

Press MIN/MAX button again, MAX will show on the LCD screen. Press MIN/MAX button once again, it backs to the normal measurement.



To clear current MIN and MAX readings from memory, press and hold RESET button, now the meter reading turns to the normal mode and data in memory is clear now.



- (5) Press hold button until "HLD" appears in display. The current reading is now being held and will not change until Hold function is cancelled. Press "HOLD" key to cancel HOLD function. Hold function can be used for Humidity and Temperature .



- (6) Unit will turn itself off after 20 min. (Sleep mode). To override Auto Power Off function (Non-Sleep Mode), press ON/OFF ,HOLD keys simultaneously before powering on. Now the display shows "n" on the screen. When "n" appears then release ON/OFF button. Unit will now be in Non-sleep mode for long time operation purposes .



- (7) Press "MODE" key to switch the mode of temp. display. When meter is in AIR temperature mode, press "MODE" to toggle between "AIR", "DP", and "WB" readings.

RH CALIBRATION

Before calibrating the humidity 33% or 75% , make sure you purchased Salt solution 33% (dark brown bottle) , 75% (blue bottle).

- 1) Turn off the meter, plug the meter probe into 32.8% salt bottle and press "ON/OFF+F/C" key more than one second to turn on the meter and enter Calibration mode.
- 2) You will see 3x.x% display on the LCD, after 60 minutes the flashing stops to indicate the finish of "3x.x%" calibration (with saving)
- 3) Move the meter probe to 75.3% and press "MN/MX" key more than one second to enter 7x.x% calibration.
- 4) Now "7x.x%" is flashing on the LCD.
- 5) Flashing will stop after 60 minutes, it means the whole calibration is completed .

Note:

1. You can exit calibration without saving by pressing "ON/OFF" key.
2. Auto power off is disable in calibration mode.

3. In order to get high accuracy, you have to do the calibration at $23 \pm 2^\circ\text{C}$.
4. If the reading difference is not within 0.3% after calibration, it means the calibration is failed. (Please see trouble shooting).

RH CALIBRATION SOLUTION

NOTE:

A convenient look-up table has been built in to aid calibration.

HR 33 MgCl

TEMP	15 °C	20 °C	25 °C	30 °C	35 °C
RH%	33.30	33.07	32.78	32.44	32.05

If different temperatures, say 25°C , the RH of MgCl is 32.78 and in 30°C , the RH is 32.44.

The same reference says 30°C , the RH of NaCl is 75.09 RH% humidity and in 35°C , the RH is 74.87%.
(See the table)

HR75 NaCl

TEMP	15 °C	20 °C	25 °C	30 °C	35 °C
RH%	75.61	75.47	75.29	75.09	74.87

The relations are recorded in the look-up table.

Once the calibration mode is ON, the meter will search the right humidity value according to the current temperature to get more accurate calibration.

CHANGE BATTERY

- (1) Turn off the meter , then use a coin to open the battery cover.
- (2) Put the battery (CR2032) whose "+" faces out into the battery compartment and place the battery cover back and lock it with a coin.

TROUBLE SHOOTING

?POWER ON BUT NO DISPLAY

- Make sure the time of pressing "ON/OFF" key is more than 300mS.
- Check the battery is in place and make sure good contact and correct polarity.
- Replace a new battery and try again.
- Remove the battery. Press "ON/OFF" for 10 seconds. Install the battery and try again.

?DISPLAY DISAPPEAR

- Check whether the low battery indicator is displayed on before display off , if yes , please replace with a new battery.
- Turn on the meter by pressing "ON/OFF+HOLD" key to disable Auto Power Off function for a long time using.

?CALIBRATION FAILURE

- Check whether the low battery icon is displayed on before cabliration , if yes, please replace with a new battery and try again.
- Make sure the good sealing when the meter probe plug into the salt bottle.
- Make sure the free air temperature is within 23 ± 2 °C when calibration.

?Error Code

Error Code	Problem	Solution
Tair (see the error code in temperature column)		
E02	-Measured temp. is lower than the lowest limit -temp. sensor and circuit is damaged.	Put the meter in room temp. for 30 mins, if E02 still appear, means the sensor or circuit is damaged, send back for repair.
E03	-Measured temp. is higher than the highest limit -temp. sensor and circuit is damaged.	Same as above.
RH (see the error code in relative humidity column)		
E04	Temp. measurement has error code	Refer to above temp. error code solution.
E11	-Humidity calibration is fail -Humidity sensor or circuit is damaged	Re-calibrate the RH. If E11 still appear after calibration, send back for repair.
E33	Humidity sensor or circuit is damaged	Send back for repair.
DP (see error code in temp. column when meter is in DP mode)		
E04	Temp. or RH measurement has error code	Refer to above temp. & RH error code solution.
WBT(see error code in temp. column when meter is in WBT mode)		
E04	Temp. or RH measurement has error code	Refer to above temp. & RH error code solution.

SPECIFICATION

Size: 17.5cm x 4.2cm x 1.6cm Battery:
1pc CR 2032. BAT. Life-100hrs. Sensor:
Electronic Capacitance

Ploymer Film Sensor

Temp. range: -20~60°C

RH. range: 0~100%

Accuracy:±3% from 10 to 95%RH (at 25°C)
+5% for other RH range

Resolution:0.1 °C/ 0.1 °F/ 0.1%

Storage temp.: -10~60°C

Storage RH%.: <95%

- ※ Remember Low Batteries will tend to give inaccurate readings, so make sure you have good batteries.
- ※ Please do not immerse probe into liquids as this will cause permanent damage to the sensor.

WARRANTY

The meter is warranted to be free from defects in material and workmanship for a period of one year from the date of purchase.

This warranty covers normal operation and does not cover batteries, misuse, abuse, alteration, tampering, neglect, improper maintenance, or damage resulting from leaking batteries.

Proof of purchase is required for warranty repairs.

RETURN AUTHORIZATION

Authorization must be obtained from the supplier before returning items for any reason .

When requiring a RA (Return Authorization) , please include data regarding the defective reason, the meters are to be returned along with good packing to prevent any damage in shipment and insured against possible damage or loss .

CE APPROVAL

The meter conforms to the following standards:

* EN 50081-1/1992 : EN 55022

* EN 50082-1/1997 : EN 55024

(EN 61000-4-2/-3/-8, ENV 50204)

, the meter complies with the essential protection requirements of Council Directive 89/336/EEC on the approximation of the laws of the Member States relating to electromagnetic compatibility.

