1 YEAR
WARRANTY

User's Guide

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WARNING: These products are not designed for use in, and should not be used for, human applications.

INTRODUCTION

This unique meter designed as pocket size, battery operated instrument for Humidity, Dry Bulb, Dew Point, Wet Bulb External Temperature & Temperature Differential measurement. The sensor is also specially protected by turnable cap.

The psychrometer is a micro processor-based design. A must device for HVAC Tenchniclans use.

Features :

- **Field Calibratable**
- **Turnable cap** to protect sensor.
- **External Temp.** Probe.(Model:EM8716)
- **Triple LCD** digital display.
- **T1-T2** & **T2-DP** function.(Model:EM8716)
- **Data Hold** to capture readings.
- **Pocket size.**
- **Low** battery indication.
- **Fast** response .
- **Accurate** reading .
- **Min/Max.**record function .
- **Dew Point** calculated in seconds.
- **Wet Bulb** calculated in seconds.
- **Microprocessor** circuitry for reliability
- **Auto power off** time frame selectable.
- **Auto power off** may be disabled to record.

MATERIAL SUPPLIED

This package contains:

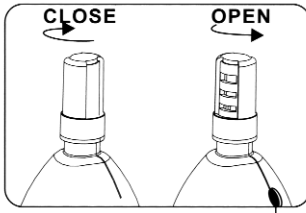
✓ Meter
✓ Battery x 2 (AAA size)
✓ Operation manual

Optional accessory :

✓ External temperature probe :
P/N: P8706

✓ Calibration salt bottles :
(33% and 75%)
P/N: CS338706 Low Hum.ref.
CS758706 Low Hum.ref.

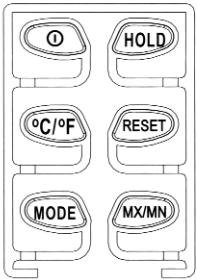
WARNING



External probe port

IMPORTANT:

BE SURE TO OPEN THE SENSOR PROTECTION CAP BEFORE STARTIN THE MEASUREMENT IN ORDER TO GET ACCURATE VALUE FOR ALL MODELS.



1) ⏻ Key
   - Power on/off
2) °C/°F Key
   -Switch between display of °C and °F
3) MODE key
   -Switch between display of Db & DP
   (Db=Air Temp.)
   Dry Bulb

4) HOLD Key
   - Hold display
   - ⏻+ HOLD = Non-Sleep mode (The default setting is auto-sleep in 5 min.)

5) RESET Key
   - Reset Min/Max memory
   - Wb and Ex mode switch (Press to display while external probe is plugged in.)

6) MN/MX Key
   - Display minimum value of memory from power on current moment.
   - Display maximum value of memory from power on current moment.

AUTO POWER OFF (SLEEP FUNCTION)

Unit will turn itself off after 5 minutes To override Auto Power Off function, press⏻+ HOLD while the meter is off. When " **n** " appears (See Fig.A), release **HOLD** button. Unit now is in Non-Sleep Mode.

Fig. A➔

MODE OPTIONS

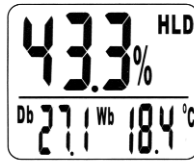
(1) Turning on the protective sensor cap in counterclockwise direction.
(2) Turn meter on by pressing⏻
(3) Press **C/F** key more than 1 sec. to convert reading to desired unit. Both temperature and relative humidity measurement will display simultaneously.(See Fig. B

Fig. B

DATA HOLD FUNCTION

Press "**HOLD**" button until (**HLD**) appears in display.
The current reading is now held and will not change until Hold function cancelled (See Fig. C).
Press "**HOLD**" button again to cancel Hold function. Hold function can be used for humidity, dew-point, dry bulb/ T1, Ext. Temp./T2, wet bulb and temp.differential.

FIG. C ➔



DEW POINT FUNCTION

Press **MODE** button until "**DP**" appears on display. Select to display dew point or dry bulb (air temp.) in any mode while the unit is on. See Fig. D

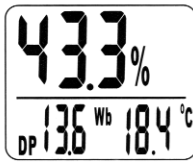


Fig. D↑

WET BULB FUNCTION

Turn the meter on by pressing ⏻ button. User will see "**Wb**" temperature indicated on the display. See Fig. D

EXTERNAL TEMPERATERE FUNCTION

Plug the external probe into the meter. Press **RESET** button until "**Ex**" appears on display. Unit will now display external probe temperature. See Fig. E

Remark: If the probe isn't plugged in meter, **"Ex"**or **"T2"** won't appear on display even pressing the R SET or ▲/WB T2 key.

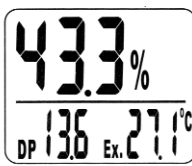


Fig. E ↑

MIN./MAX. FUNCTION

(1) Press **MN/MX** button until (**MIN**) appears on display.(See Fig. F) Display is now showing minimum humidity and temperature reading in the memory.

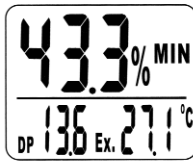
(2) To return back current temperature and humidity readings press the **MN/MX** until Min or Max disappear from the display.

(3) Press **RESET** for more than two seconds to clear current reading from the memory.

WARNING: While checking MIN/MAX value for EX,T2, ▲T and ▲, don't replace the probe. Otherwise an error code will be displayed.
If you don't plug the probe into socket before turning the meter on, the error code will also appear when you check MIN/MAX value.

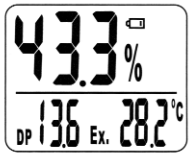
Note: Remember Low Batteries will tend to give inaccurate readings, so make sure you have new batteries.

Fig. F➔



LOW-BATTERY

Battery symbol will appear on display in right hand corner when the power is low. Failure to replace batteries will have an effect on the accuracy of the reading.



1. Open the battery cover on the rear side.
2. Remove the expired batteries.
3. Insert new 2pcs AAA batteries and make sure the batteries are inserted with correct polarity then return the cover.

CALIBRATION

1. Turn the meter off and plug the sens into 33% salt bottle. Press "**ON/OFF + C/F** " key more than one sec. to enter calibration mode.
2. "**32.8**%" will flash on LCD and DP, WB is displayed as "---.-" that means the values are invalid in the calibrati process. After 30 min, the flashing wi stop to indicate the procedure is finished.
3. Move the sensor to 75% salt bottle and press "**MN/MX**" more than one sec. to enter 75.3% calibration. "**75.3**%" will flash on LCD.
4. Flashing stop after 30 min, and the calibration is completed ,In addition calibration data has been saved in the memory.

Note:

a. You can exit calibration procedure without saving in the memory by pressir "ON/OFF"key before step 4. At step 4, pressing "ON/OFF" key to exit calibration.

b. Auto power off is disable in the calibration mode.

c. To get high accuracy, calibration should be operated at (23°C,73.4°F)

d. If the reading is out of 75.3% ±0.5% at step 4, it means the calibration has failed. See troubleshooting 3.

TROUBLESHOOTING

? Power on but no display.

A) You must press the ⏻ **ON/OFF** key more than 0.1 sec.

B) Check the battery are in place and making good contact and correct polarity.

C) Replace a new battery and retry.

D) Remove the batteries for one min. And then put them back for second try.

? **No Display.**

A) Check whether the low battery Indicator is displayed before display Disappear, if yes, replace with a new battery.

B) Check whether sleep mode is active. If yes, press ⏻ + **HOLD** or **ON/OFF+HOLD** key to disable the auto power off function.

? **Er 1.**

Circuit error in RH measurement channel, return the meter to your distributor for repair.

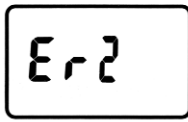
? **Er 2 .**

Circuit error in Internal temperature measurement channel, return the meter to the distributor for repairing.

? **Er 3.**
Circuit error in reference resistor channel, return the meter to the distributor for repair.

? **Er 4.**
Internal temperature is out of range.

? **Er 5.**
External temperature is out of range.



Note:

a. Dry Bulb temperature means air (Internal) temperature.
Dew point & Web Bulb are calculated from internal temperature.

b. When the meter is on, pluging in an external probe might cause " **ER 5** " error in min. or max mode of ext. Temperature,T2-T1 and T2-DP.

SPECIFICATION

Temp. range : -4~ 122°F(-20~ +50°C)

RH% range : 0~100%RH

Wet bulb range :
-6.88~122°F(-21.6 ~ 49.9°C)

Dew point range :
-90.4~122°F(-68 ~49.9°C)

External temp. range :
-4~158°F(-20~ 70°C)

Accuracy: **RH%:** ±3% at 25°C
Temperature: ±1°F (0.6°C)

Response time : 60 seconds typical.

Pocket size :
24.7(H) x 48.4(W) x178.5mm(L)

Extension cable length:
116cm (with phone jack 2.5(L) mm)

Probe (with handle):20cm (approx.)

Power:2 x 1.5V AAA battery

Optional accessory: External temp. Probe :P8706

WARRANTY/DISCLAIMER

OMEGA ENGINEERING, INC. warrants this unit to be free of defects in materials and workmanship for a period of **13 months** from date of purchase. OMEGA's WARRANTY adds an additional one (1) month grace period to the normal **one (1) year product warranty** to cover handling and shipping time. This ensures that OMEGA's customers receive maximum coverage on each product.

If the unit malfunctions, it must be returned to the factory for evaluation. OMEGA's Customer Service Department will issue an Authorized Return (AR) number immediately upon phone or written request. Upon examination by OMEGA, if the unit is found to be defective, it will be repaired or replaced at no charge. OMEGA's WARRANTY does not apply to defects resulting from any action of the purchaser, including but not limited to mishandling, improper interfacing, operation outside of design limits, improper repair, or unauthorized modification. This WARRANTY is VOID if the unit shows evidence of having been tampered with or shows evidence of having been damaged as a result of excessive corrosion; or current, heat, moisture or vibration; improper specification; misapplication; misuse or other operating conditions outside of OMEGA's control. Components in which wear is not warranted, include but are not limited to contact points, fuses, and triacs.

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RETURN REQUESTS/INQUIRIES

Direct all warranty and repair requests/inquiries to the OMEGA Customer Service Department. BEFORE RETURNING ANY PRODUCT(S) TO OMEGA, PURCHASER MUST OBTAIN AN AUTHORIZED RETURN (AR) NUMBER FROM OMEGA'S CUSTOMER SERVICE DEPARTMENT (IN ORDER TO AVOID PROCESSING DELAYS). The assigned AR number should then be marked on the outside of the return package and on any correspondence.

The purchaser is responsible for shipping charges, freight, insurance and proper packaging to prevent breakage in transit.

FOR **WARRANTY** RETURNS, please have the following information available BEFORE
contacting OMEGA:

1. Purchase Order number under which the product was PURCHASED,
2. Model and serial number of the product under warranty, and
3. Repair instructions and/or specific problems relative to the product.

FOR **NON-WARRANTY** REPAIRS, consult OMEGA for current repair charges. Have the following information available BEFORE contacting OMEGA:

1. Purchase Order number to cover the COST of the repair,
2. Model and serial number of the product, and
3. Repair instructions and/or specific problems relative to the product.

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