OPERATION MANUAL

DIGITAL SLING PSYCHROMETER

Authorized Distributor
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Model: ■ 8726
■ 8736
■ 8746

CE

INTRODUCTION

Thank you very much for purchasing this psychrometer!

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

The psychrometer is a micro processor-based design. A must device for HVAC engineers use. No need to whirle the meter or refer to the chart. Easy to get Wet Bulb/ Dry Bulb and Dew Point temperature quickly!

Features :

- **Turnable cap** to protect sensor.
- **External Temp.** probe.
- **QUINTUPLE LCD** digital display.
- Display **Temperature Differential**.
- **Data Hold** to freeze readings.
- **99 points** memory.
- **Time display** and **real time** adjustable.
- **Pocket size**, easy to fit in pocket.
- **Low** battery indication.
- **Backlight** for dark room operation.
- **C/F** unit switchable.
- **Maximum** /**Minimum** review function .
- **Average** review function.
- **Dew Point** calculated in seconds.
- **Wet Bulb** calculated in seconds.
- **RS232** port for connecting to computer. (Model:8736,8746)
- **IrDA port** for IrDA printer (SIR format)
- **Auto power off** time frame selectable.
- **Disable power off**.
- **Tripod mountable**.

MATERIAL SUPPLIED

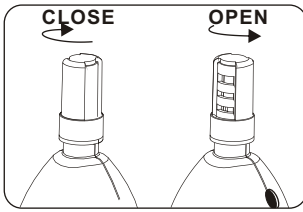
This package contains:

✓ The meter x 1
✓ Battery x 4 (AAA size)
✓ Operation manual
✓ Plain box or color box

Optional accessory :

✓ Penetrate temperature probe (for 8726)
✓ K type thermocouple (for 8736,8746)
✓ Cal. salt bottles: 33% HR33, 75% HR75
✓ Hard carry case
✓ RS232 cable / Software (for 8736,8746)
✓ RS232 to USB converter
✓ IrDA Receiver: AZ9660
✓ IrDA Printer: AZ9680

WARNING



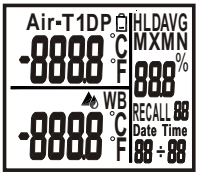
IMPORTANT:

BE SURE TO TWIST THE SENSOR PROTECTION CAP BEFORE STARTING THE MEASUREMENT IN ORDER TO GET ACCURATE VALUE.

LCD & KEYPAD

Model:8726/8736

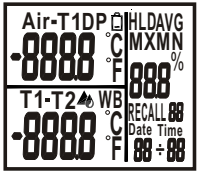
LCD DISPLAY



Air=Air Temp.
T1=External Temp.
(8726:penetrate probe
8736:K Type thermocouple)
DP=Dew Point Temp.
=T1-DP
WB=Wet Bulb Temp.

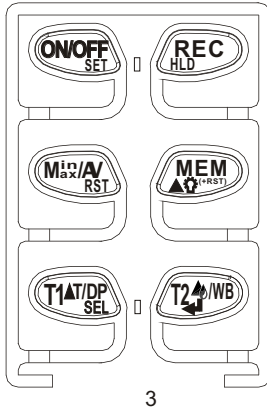
Model:8746

LCD DISPLAY



Air=Air Temp.
T1=1st K Probe Temp.
DP=Dew Point Temp.
T2=2nd K Probe Temp.
=T1-DP
WB=Wet Bulb Temp.

Keypad: for 8726/8736/8746



POWER ON/OFF

Press the ON/OFF SET to turn on the meter with auto-sleep mode. Press again to turn off the meter in any mode.

SETTINGS

When the meter is off, press ON/OFF SET more than one second to enter Setting mode. Press T1 AT/DP SEL to select setting item: Print, Unit and Year/Date/Time setting are programmable in sequence.

While at "print" mode, press T2 ↑/WB SET to begin IR transmitting, now, the meter start to transmit stored data to IrDA receiver or printer. (Fig.A). Please see page13 for the details. Press T1 AT/DP SEL to enter Unit setting mode.

While at "Unit" setting mode, press MEM ▲0 HOLD to change the unit (C or F) and then press T2 ↑/WB SET to confirm the setting and return to Normalmode or you can press T1 AT/DP SEL to select Year/Date/Time setting(Fig.B)

While at "Year/Date/Time" setting, press T1 AT/DP SEL to select Year/Month/Day/ Hour/Minute in sequence. Press MEM ▲0 HOLD to change the reading. The value will be saved when press T1 AT/DP SEL into next setting. After setting, press T2 ↑/WB SET to confirm and return to Normalmode (Fig.C&D).

Fig.A

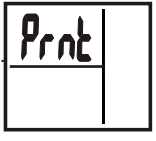
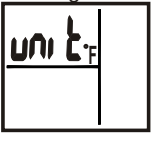


Fig.B



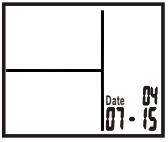


Fig.C

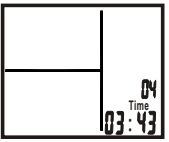


Fig.D

RECALL

In Normalmode, press REC HLD to freeze the current reading. Press REC HLD key again to unlock the holding. (Fig.E)

While in hold or Normalmode, press MEM to store the current reading. The LCD will flash 2~3 times.

Press REC HLD more than one second to enter Recall mode, "**RECALL**" will flash on the LCD.(Fig.F)

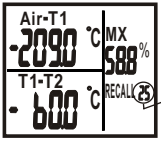
While in Recall mode, press Min/Max/AV RST to switch record recall/ Min. recall/Max. recall / Average recall in turn. (Fig.G)

When in Min./ Max /Avg.of recall mode, meter will search the min./max.and average of every stored measurement.

Fig. E

Fig. F

Fig. G



The number means the total stored value number in memory.

While in Recall mode, press MEM to review the storage data one by one.

In Recall mode, press REC/HLD + MEM more than one second to clear the storage. The memory number will revert to zero.(Fig.H)

In Recall mode, pressing REC/HLD more than one second to return to Normal mode.

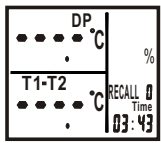


Fig.H

MIN./MAX./AVG.

In Normal mode, press MAX/AV/RST to switch the current reading, min., max. and average reading in turns. Above values are picked out from all measured value since power on.(Fig.I)

Press MAX/AV/RST more than one second to reset the Min./ Max./AVG. Reading.

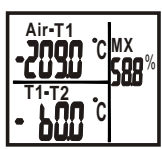


Fig.I

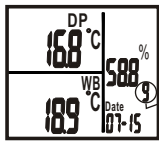
Remark: The date & time appeared in Average mode is just a indication of current time.

MEMORY

In Normal mode or Hold mode, press MEM to store the current reading into memory. The LCD display will flash 2~3 times.

AIR/T1/dT(AIR-T1)/DP

Press T1/AT/DP SEL to switch Air, T1, Air-T1 and DP in sequence when in Normal, Hold, Recall or Max/Min/AVG. Mode. (Fig.J)



The number means the total stored value number in memory.

Fig.J

T1-T2/T2/dD(T1-DP)/WB

For 8746

Press T2/WB to switch T1-T2, T2, T1-DP and WB in sequence when in Normal, Hold, Recall or Max/Min/AVG mode.

For 8726 & 8736

Press T2/WB to switch T1-DP and WB in sequence when in Normal, Hold ,Recall or Max/Min/AVG mode.

NON-SLEEP MODE

When the meter is power off, press ON/OFF SET + REC HLD more than one second to enter auto-sleep setting.

Press MEM to select non-sleep (n) , 2, 5, 10, 20, 40 and 60 minutes auto-sleep and then press T2 A/WB to confirm the selection.(Fig.K)

While turning on the meter next time, the meter will be in the same auto-sleep time as the last choice except Non-sleep mode.

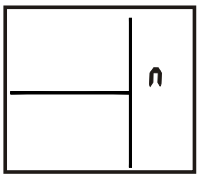


Fig.K

BACKLIGHT

Press M/A RST + MEM to turn on the backlight for ten seconds while the meter is on.

CALIBRATION

1. Turn off and plug the meter into 33% salt bottle.

2. Press ON/OFF SET + M/A RST more than one second to turn on the meter and enter Calibration mode.

3.3x.x% (31.9% ~ 33.5%)text will flash on LCD (note c). After 30 minutes , the flashing will stop to indicate the first step calibration is finished. (Fig.L)

4.Move the meter into the 75% salt bottle.Press M1/AV RST more than one second to enter 75% calibration.

5.The same as point 3 that 7x.x% (74.9% ~ 75.6%) text will flash on LCD (note c).

6.Flashing will stop after 30 minutes, up to now the whole calibration has been completed and return to Normal mode. The calibration data has been saved in memory.

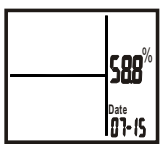


Fig.L

Note:

a)You can exit calibration without saving by pressing ON/OFF SET any time before step 6.

b)Auto power off is disable in Calibration Mode.

c)While doing calibration, the temp. compensation of RH has been taken into consideration so RH calibration procedure can be operated while Air temperature is 15 ~ 35℃.

However, to get accurate RH reading, Proceed calibration at 23±2 ˚C &stable RH environment is recommended.

If the reading is out of 75.3%± 0.5% in step 6 means the calibration is failed. (Please see trouble shooting 3)

LOW-BATTERY

There are two-level low battery indicator. In first level, battery symbol will flash on display when the power is low but the meter can work normally.(Fig.M)

In second level, the battery symbol will always appear on the LCD. It means changing batteries immediately is needed .

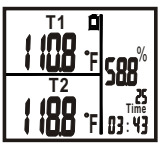


Fig.M

Failure to replace batteries will have effect on the accuracy of the readings.

Please follow up below procedures to replace the batteries.

1. Open the battery cover on the rear side and remove the expired batteries.
2. Insert new 4pcs AAA batteries and make sure the batteries are inserted with correct polarity, put back the cover.

TROUBLE SHOOTING

1.Power on but no display

a)Make sure the time of pressing ON/OFF SET key is more than 100 mS.

b)Check the batteries are in place and make sure good contact and correct polarity.

c)Replace 4 new batteries & try again.

d)Take off the batteries for one minute and then put back again.

E)See trouble shooting 4 to reset.

2.Display disappear

Check whether the low battery indicator appear before display disappear or not? If yes, replace with new batteries.

3.Calibration failure

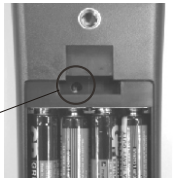
a)Check whether low battery indicator appear before calibration or not? If yes, use new batteries and try again.

b)The seal between probe and salt bottle must be tight to avoid leakage.

c)Make sure the free air temperature is within 23±2°C and the environment humidity is stable enough.

4. Meter cann't work or turn on/off

There is a small hole on the meter rear side, open the battery cover and use small metal tip to touch and reset the meter. The meter will be reset immediately.



Using small metal tip to touch in order to reset the meter!

5. Error code

E 02:Air temperature is over the range.
E 03:Air temperature is below the range.
E 04:Channel 1 is disconnected with meter
E 05:T1 temperature is over the range.
E 06:T1 temperature is below the range.
E 07:Channel 2 is disconnected with meter
E 08:T2 temperature is over the range.
E 09:T2 temperature is below the range.
E 11:Operation temp. of external probe is over the range.
E 12:Operation temp. of external probe is below the range.
E 21~E26: Circuit error, return to the local dealer for repairing.

PC CONNECTION (8736/8746 ONLY)

Accessories

Connect the optional RS232 cable from meter to communication port of the computer.

-RS232 cable:
Contact your dealer to order this cable.

-**Software:**
***Free software*:**Telex.exe or Windows® HyperTerminal both can be used here.
Professional software:
Contact dealer to order professional software for this meter.

Data Format

A.9600 bps, 8 data bits, no parity.
B.Format: Tx. ASCII code by every sec. while meter is on.

Txxx.xC:Hxx.x%:dxxx.xC:wxxx.xC:Txxxx.xC:Txxxx.xC
@xxxx-xx-xx xx:xx:xx LRCCRLF or
Txxx.xF:Hxx.x%:dxxx.xF:wxxx.xF:Txxxx.xF:Txxxx.xF
@xxxx-xx-xx xx:xx:xx LRCCRLF

Where:
1st value is AIR temp.
2nd value is Humidity.
3rd value is Dew point temperature.
4th value is Wet bulb temperature.
5th value is T1 temperature.
6th value is T2 temperature.
The x here means one of {0|1|2|....|9|-}

C.Format for error value:
ExxNul: xx is error code (see page 12), the unit shown as Nul.

Ex: In8746,if T1 is disconnected:
Txxx.xC:Hxx.x%:dxxx.xC:wxxx.xC:E04Nul:Txxxx.xC
@xxxx-xx-xx xx:xx:xx LRCCRLF or
Txxx.xF:Hxx.x%:dxxx.xF:wxxx.xF:E04Nul:Txxxx.xF
@xxxx-xx-xx xx:xx:xx LRCCRLF

Ex: In 8736, if T1 is disconnected:
Txxx.xC:Hxx.x%:dxxx.xC:wxxx.xC:E04Nul
@xxxx-xx-xx xx:xx:xx LRCCRLF or
Txxx.xF:Hxx.x%:dxxx.xF:wxxx.xF:E04Nul
@xxxx-xx-xx xx:xx:xx LRCCRLF

IRDA PORT CONNECTION

For 8726&8736&8746, measurement or memory can be sent to IrDA receiver or printer. Contact the dealer to order:

AZ 9680 IrDA receiver & printer or
AZ 9660 IrDA receiver

Memory transmit to receiver

-AZ 9680 IrDA receiver & printer:
Select the mode to "PRN" as standby status to receive data anytime.

-8726&8736&8746:
Press ON/OFF SET more than one second to enter setting mode.

While at "print" mode, press T1 AT/DP SEL to begin IR transmitting. In transmitting, the "print" text will flash.

Single measurement to receiver

-8726&8736&8746:
Above three meters send out IrDA signal automatically every one second so it is no need to do special setting.

-AZ 9680 IrDA receiver & printer:
Select the mode to "MEAS" or "MEM" to receive data first and then printing.
Please refer to 9680 printer manual for the details.

-AZ 9660 IrDA receiver*:*
Select the mode to "MEAS" or "MEM" to receive data first and then uploading to computer.
Please refer to 9680 printer manual for the details.

IrDA Data Format

IR Protocol: Compatible with SIR.
Format:
Txxx.xC:Hxx.x%:dxxx.xC:wxxx.xC:Txxxx.xC:
Txxxx.xC #xx @xxxx-xx-xx xx:xx:xx LRCCRLF or
Txxx.xF:Hxx.x%:dxxx.xF:wxxx.xF:Txxxx.xF:
Txxxx.xF #xx @xxxx-xx-xx xx:xx:xx LRCCRLF
Where:
1st value is AIR temp.
2nd value is Humidity.
3rd value is Dew point temperature.
4th value is Wet bulb temperature.
5th value is T1 temperature.
6th value is T2 temperature.

*The number after # is sequence number of the memory.
*The number after @ is YYYY-MM-DD HH:MM:SS,
*There is one space before # and @
*The x here means one of {0|1|2|....|9|-}

Format of error value:
ExxNul: xx is error code(see page.12), the unit shown as Nul.

Ex: In 8746, if T1 is disconnected:
Txxx.xC:Hxx.x%:dxxx.xC:wxxx.xC:E04Nul:Txxxx.xC
@xxxx-xx-xx xx:xx:xx LRCCRLF
or
Txxx.xF:Hxx.x%:dxxx.xF:wxxx.xF:E04Nul:Txxxx.xF
@xxxx-xx-xx xx:xx:xx LRCCRLF

EX: In 8726(8736), if T1 is disconnected:
Txxx.xC:Hxx.x%:dxxx.xC:wxxx.xC:E04Nul
@xxxx-xx-xx xx:xx:xx LRCCRLF
or
Txxx.xF:Hxx.x%:dxxx.xF:wxxx.xF:E04Nul
@xxxx-xx-xx xx:xx:xx LRCCRLF

SPECIFICATION

Air Temp. Range:-20~+50°C(-4~122°F)

RH% Range:0~100%RH

Wet Bulb Temp. Range:

-21.6 ~ 50.0°C(-6.9~122°F)

Dew Point Range:

-78.7 ~50.0°C (-109.7~122°F)

External Temp. Range :

8726:-20~ 70°C (-4~158°F)

8736&8746:-200~1370°C (-328~2498°F)

Accuracy:

RH%: ±3% at 25°C(10~90%),±5% at others.

Air Temp.:±0.6°C (1°F)

K Type:± (0.3%+0.7°C)

Penetrate Probe: ± 0.6°C (1°F)

Response time:60 seconds typical

Pocket size : 44(H) x 57(W) x230mm(L)

Extension cable length:
8726:probe~16cm, cable~116cm
(with phone jack Dia.2.5 mm)
8736&8746:thermocouple ~110cm

Power:4 x 1.5V AAA battery

Communication interface:
IrDA Interface:8726/8736/8746
RS232 Interface:8736/8746

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 battery, misuse, abuse, alteration, tampering, neglect, improper maintenance or damage resulting from leaking batteries. Proof of purchase is required for warranty repairs. Warranty is void if the meter has been opened.

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 returned along with good packing to prevent any damage in shipment and insured against possible damage or loss.

Accuracy, the Zenith of
Measuring / Testing Instruments !

Hygrometer/Psychrometer
Thermometer
Anemometer
Sound Level Meter
Air Flow meter
Infrared Thermometer
K type Thermometer
K.J.T. type Thermometer
K.J.T.R.S.E. type Thermometer
pH Meter
Conductivity Meter
T.D.S. Meter
D.O. Meter
Saccharimeter
Manometer
Tacho Meter
Lux / Light Meter
Moisture Meter
Data logger
Temp./RH transmitter
Wireless Transmitter .....

More products available !

2013/08 Ver.3