EASTERN ENERGY

OPERATION MANUAL

WALL-MOUNTED INDOOR AIR QUALITY MONITOR& LOGGER

8808

8809

$C \epsilon$

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Models: ■ **8808, LCD type temp.& RH%**
■ **8809, LED type temp.& RH%**
■ **8806, LCD type temperature**
■ **8807, LED type temperature**

INTRODUCTION

Thank you for purchasing this wall-mounted indoor air quality monitor (8806/07/08/09). This meter is designed with big monitor, audible/visible alarm and quick response sensor to help you monitor the air temp & humidity easily. The 16K Memory capacity also help you to record the air quality any time.

The monitor is divided into three distinct sections for 8808 or two distinct sections for 8809. There is no RH% display for 8806 8807 so one section of the monitor will always shows - - - . The manual is written based on 8808/09. For 8806/8807, please neglect the description of humidity. Please read this manual thoroughly before operation. You will find it is a easy to operate and a valuable instrument to measure & record the air temperature & humidity.

MATERIAL SUPPLIES

The standard package of this product contains:

- The meter x 1pc
- Operation manual x1pc
- USB cable + CD x 1pc
- Plain paper box x1pc
- AA battery x 4pcs

The optional accessories are:

- 9V adaptor (>= 500mA. Depth:9mm Inner:ϕ1.35mm. Outer: ϕ 3.5mm)
- 33% & 75% calibration salt bottles (VZ0033AZ1, VZ0075AZ1)for RH calibration purposes.

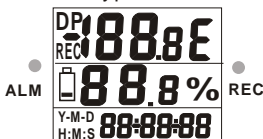Please contact the store where you bought the meter to inquire above accessories.

FEATURES

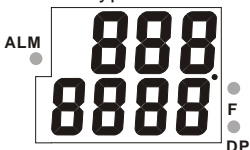**The meter offers below functions:**

- Big LCD display(8808/8806) or LED display (8809/8807)
- Up to 16000 points recording
- Temperature display (8806/07) or temp. & RH% display (8808/09)
- Visible & audible alarm
- Easy to set logging function through keypad or PC
- USB port for uploading memories to PC for further analysis
- Wall-mounted design for hanging on the wall and use a detachable standers to put on the table.
- Tripod screw hole on the bottom of the meter
- 9VDC port for long time using *[1]

*[1] **It is always needed to use adaptor when using logging function**

DISPLAY

LCD type 8808/8806

LED type 8809/8807

8808/8806
- The primary display shows the measured air temperature in C or F for both models.
- The secondary display shows the air humidity for #8808.
  In 8806, the section will be - - -
- Year/Month/Date and Hour/Minute/Second are displayed interchangeably at the bottom of the screen for both models.
- DP icon is at the left side of the primary display for #8808 and the value is showed on after DP icon.
- REC is at the left side of the primary display for both models and will appear when the meter is in logging status.

8809/8807
- The primary display shows the measured air humidity in % for #8809. In 8807, the section will be - - -
- The secondary display shows the air temperature in C for both models. When switching the unit to F, the F LED will lit.
- When switch the mode to DP, the DP LED will lit and the value will show on the secondary display
- REC LED is at the left side of the monitor for both models and will lit when the meter is in logging status.

Dot LED flash (8809)
While in logging mode:
  - **DP** LED flashing stands for temp. exceeds the threshold setting.
  - **F** LED flashing stands for the RH% exceeds the threshold setting.
  - **REC** LED flashing stands for the meter is in logging status.
Beeper will sound if any of above is happened(W**hen adaptor is plugged)**
NOTE: Beeper will not alarm when adaptor is unplugged .

Dot LED flash (8808):
- **REC** LED flashes when the meter is in the logging status.
- **ALM** LED flashes when temp. or RH is exceeding threshold setting.

PORTS

Right side view

☐ USB PORT

O DC 9V

KEY PAD OPERATION

START/STOP   MODE   SET   ▲   ▼

START/STOP -Turn on / off monitor by pressing the key <1sec
- Start or stop logging by pressing the key >2sec (**NOTE**:need to set the start mode as KEY start)
- Change 33%RH calibration to 75% caibration in RH calibration mode.
- Press START & SET keys at the same time >2 sec to start 33% RH calibration.

MODE -Press key >2 sec to switch Dew Point (8808/09) & air temperature.
- Press key <1 sec to switch temp. unit.

SET -In normal measurement mode, press this key to enter set mode in order to change and set up.
- Saving the setting: sample rate/ sample point/ start mode/ start time/ real time/ alarm.

▲ -Change the setting upwards.

▼ -Change the setting downwards.

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LOGGER SETTING

There are two methods to set logger parameters: Through PC or via meter's keypad.

By Keypad Setting

Press "**SET**" key to enter set mode. There are 6 parameters in set mode:
-<u>Sample Point:</u>
 '**PtS**' & '**P1**' show on the screen .
-<u>Start Mode:</u>
 '**5ER**' & '**P2**' show on the screen.
-<u>Start Time:</u>
 '**Stt**' & '**P3**' show on the screen.
-<u>Sample Rate:</u>
 '**Sr**' & '**P4**' show on the screen.
-<u>Alarm Set:</u>
 '**AL**' & '**P5**' show on the screen.
-<u>Real time:</u>
 '**rtC**' & '**P6**' show on the screen

Press "**Up**" / "**Down**" to choose the mode.
Press "**SET**" to enter each mode.
Press "**MODE**" to escape to previous status.

NOTE: If the start mode is not Scheduled, you won't see the Start Time in the setting menu.

Sample Point:
- After pressing "**SET**" key to enter, the selectable sample point values will appear. They are 1, 2, 4, 8, 12, 16. 1 means 1000 sample points. ....16 stands for 16000 points. For the models measure relative humidity, 1 means 500 Temp +500 RH points , 16 means 8,000 Temp +8000 RH points.

- In Pts (P1) mode, press "**SET**" to enter this mode and to change the value.
- Press "**Up**" or "**Down**" to choose the sample point value.
- Press "**SET**" to save and return to P1. or press "**MODE**" to escape without saving the value.

Pts	Pts
P1	16h
	8808

NOTE: "**h**" in above diagram means K. Please refer to page 18 for reference.

Start Mode

-After pressing "**SET**" key to enter start mode setting, there are 4 start modes for you to choose. "**StM**", "**P2**" show on the screen.

■ **Repeat** :
'**rEp**' displays on the bottom of the monitor. **Repeat** means the logger will automatically record again once the memories are uploaded to PC.

■ **Key start**:
'**hEy**' displays on the bottom of the monitor. **Key start** means the logger will start to record when you press the **start/stop** key > 2 seconds.
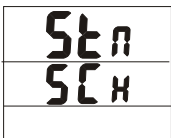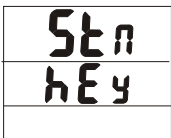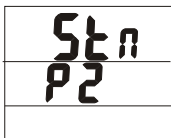
■ **Immediately**:
'**,Mn**' displays on the bottom of the monitor. **Immediately** means the logger will start to record right away after you saving the setting.

■ **Schedule**
'**SCh**' displays on the bottom of the monitor. **Schedule** means the logger will start to record from the date & time you preset in P3.(Page 7)

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-Press "Up " or "Down" to choose the start mode you need.

-Press "SET" to save the start mode, or press "MODE" to return to main menu without saving setting.

Stn P2	Stn rEP
Stn hEy	Stn ,Nn
	8808
Stn SCH	

Start Time Setting (start mode is **SCH**)

- After pressing "**SET**" to enter start time setting, "**Stt**" "**P3**" show on the screen.

■ **Year set**
'**yEr**' displays on the top(8809/07) or middle (8808/06) of the monitor.

■ **Month set**
'**Non**' displays on the top(8809/07) or middle (8808/06) of the monitor.

■ **Date set**
'**dAt**' displays on the top(8809/07) or middle (8808/06) of the monitor.

■ **Hour set**
'**Hor**' displays on the top(8809/07) or middle (8808/06) of the monitor.

■ **Minute set**
'**N. n**' displays on the top(8809/07) or middle (8808/06) of the monitor.

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■**Second set**

'**SEc**' displays on the top(8809/07) or middle (8808/06) of the monitor.

- The values for above 6 parameters will display on the bottom of the monitor.
- Press "**Up**" or "**Down**" to adjust the setting values.
- Press "**SET**" to save the setting and enter next parameter.
- Repeat above steps to finish the whole setting.
- Press "**MODE**" to return to main menu if you don't want to save the setting.

NOTE: While in logging mode, press START/STOP key >2 seconds to stop logging. The parameters only could be set while the meter is not in logging mode.

NOTE: While in logging mode, press SET key could enter setting mode to "VIEW" the setting.

5tt P3	5tt YEr Y-M-D 07-02-08
5tt Mon Y-M-D 07-02-08	5tt dAt Y-M-D 07-02-08
5tt Hor H:M:S 11:08:26	5tt Min H:M:S 11:08:26
5tt SEc H:M:S 11:08:26	8808

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Sample Rate

-Press "**SET**" key to enter sample rate
 setting. The parameters are Hour/
 Minute/Second.
- **Hour set:**
 '**Hor**' displays on the top (8809/07) or
 middle (8808/06) of the monitor. The
 selectable range is 00~12.
- **Minute set:**
 '**ⵑ₁ ₙ**' displays on the top (8809/07) or
 middle (8808/06) of the monitor. The
 selectable range is 00~59.
- **Second set:**
 '**SEc**' displays on the top (8809/07) or
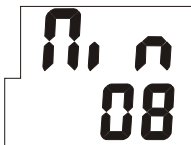 middle (8808/06) of the monitor. The
 selectable range is 00~59.
 To be summarized, the selectable
 sample rate is 00:00:01 to 12:00:00.
-Press "**Up**" or "**Down**" to adjust the
 setting values.
-Press "**SET**" to save the sampling rate
 value.
-Repeat above steps to finish the whole
 setting.
-Press " **MODE**" to return to main menu
 if you don't want to save the setting of
 sampling rate .

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<u>Alarm Setting</u>

-Pressing "**SET**" key to enter alarm
 setting. The set items of 8808/09 are
 TempHi, TempLo, RHHi, RHLo. The
 set items of 8806/07 are **TempHi,
 TempLo**. <u>**NOTE:Above are valid both
 in "monitoring" or "logging" mode.**</u>
■**TempHi set** (Threshold of Hi Temp)
 'tHi' displays on the top (8809/07) or
 middle (8808/06) of the monitor. The
 selectable range is -20.0~70.0
■**TempLo set** (Threshold of Lo Temp.)
 'tLo' displays on the top (8809/07) or
 middle (8808/06) of the monitor. The
 selectable range is -20.0~70.0
■ **RHHi set (**Threshold of Hi RH)
 '**Hhi**' displays on the top (8809/07) or
 middle (8808/06) of the monitor. The
 selectable range is 0.0~100.0
■ **RHLo set**
 '**HLo**' displays on the top (8809/07) or
 middle (8808/06) of the monitor. The
 selectable range is 0.0~100.0
 <u>**NOTE: The value of Lo Temp/RH
 exceeds the setting of Hi. Temp/RH
 is not allowed and invalid.**</u>
-Press "**Up**" or "**Down**" to adjust the
 values. Press "**SET**" to save the alarm
 setting. Repeat above steps to finish
 the whole setting.
-Press "**MODE**" to
 return to main menu
 if you don't want to
 save the alarm
 values..

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Real Time Setting

-Press "**SET**" to enter real time setting, "**rtC**" "**P6**" show on the screen . It is important to input your local time before you running the logger function. Wrong time setting will cause you fail to get correct logging data.

Year set:
'**yEr**' displays on the top(8809/07) or middle (8808/06) of the monitor.
Month set:
'**ñon**' displays on the top(8809/07) or middle (8808/06) of the monitor.
Date set:
'**dAt**' displays on the top(8809/07) or middle (8808/06) of the monitor.
Hour set:
'**Hor**' displays on the top(8809/07) or middle (8808/06) of the monitor.
Minute set:
'**ñ.n**' displays on the top(8809/07) or middle (8808/06) of the monitor.
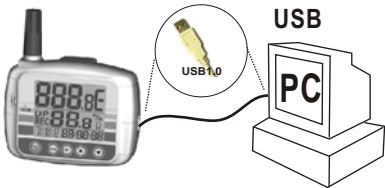**Second set:**
'**SEc**' displays on the top(8809/07) or middle (8808/06) of the monitor.

- Press "**Up**" or "**Down**" to adjust the setting value. Press "**SET**" to save the real time setting. Repeat above steps to finish the whole setting.
-Press " **MODE**" to return to main menu if you don't want to save the real time setting.

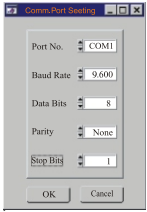|	
rtC	rtC
P6	ñ.n
	H:M:S 11:08:26 8808

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By Computer Setting

USB

PC

USB1.0

The meter can link with computer to set the logging parameters which are introduced in Page5~Page11.

1. Plug the standard accessory USB cable into the USB port at the right side of the meter.
2. Instert the USB connector to the computer's Com.1 or 2 or ....8 etc.
3. Start to set up logger software by inserting the CD-ROM.
4. When installing the logger software ,please review the manual enclosed in the CD to understand the function of the software.
5. It is needed to install the USB driver which is enclosed in the software CD.
6. Running the software on computer.
7. Select the correct COM port and make sure the meter is now linked well to software. While the logger contacts well, the ID information of the datalogger will appear on main screen. If not, **<< WARNING: Data Logger is not plug in interface module!>>** message will appear on screen.

Select the icon of "Com. Port Setting"
from the main screen.
Choose correct COM
port, Baud rate, Data
bits, Parity and Stop
bits. Select up to
COM 8 for special
systems. Select OK to
accept setting changes
Cancel to abort the com. port setting.

**NOTE: Except the Port No., Others
should be set as above photo.**

8. Follow below steps to set logging
   parameters:

■ Select "**Logger Set**" button from main
   screen. The parameters needed to be
   set are **sample points**, **sample rate**,
   start mode. If "**Schedule**" is selected as
   start mode, then **start date and time**
   need to be set as well. **High/Low alarm**
   setting are optional.

■ To make sure the time of datalogger is
   correct, always remember to press "**OK** "
   at Clock Setting to make the time frame
   of logger is the same as your local time.
   **NOTE: The time of your PC must be
   correct.**

■ The selectable time frame for sampling
   rate is from 1 second to 12 hours.

9. After setting above, the meter is now
   ready to record.

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Next Logger Setting	**Logger's Clock Setting**
Sample Points [↕] 16000	Logger Date 08-04-2006
Sample Rate(HH:MM:SS)	Logger Time 11:39:01
[↕] 0 : [↕] 0 : [↕] 1	(Ok) (Cancel)
Start Mode [↕] Schedle	**Sleep Mode Setting**
Start Date 08-04-2006	Non-Sleep [▭] Sleep (Ok)
Start Time 11:38:43	
Unit [↕] oC	**Logger's ID Setting**
	Identifier 12345678
Alarm Setting	(Ok) (Cancel)
Channel Air Temp. [▾]	
High Alarm [↕] 85.0	**Calibration Setting**
Low Alarm [↕] 15.0	Calibration Setting
(Ok) (Cancel)	EXIT

DOWNLOADING

When the logging process is finished, you could upload the memories to computer for data analysis, records statistic, reviewing the curve change, saving the memories as *.txt file or printing out ......etc.

Please follow below steps to upload the memories from the meter to PC.

1. Please connect the logger to PC and execute the software.
2. Please press download key on the software main screen to transmit the data from meter to PC.
3. It takes few seconds to minute to finish the uploading.
4. You now can save the data for data analysis, records statistic ,....etc. (Please see more about the software from the manual enclosed in CD.)
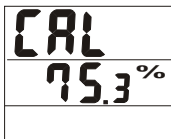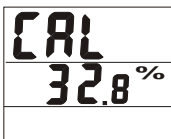
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HUMIDITY CALIBRATION (8808/09)

Please follow below steps to calibrate the humidity accuracy of the meter.

1. Turn off the meter, plug the meter probe into 33% salt bottle and press "**START/STOP**" +"**SET**" at the same time over 2sec to enter to calibration mode.
2. "**32.8%**" will flash on the monitor. 30 minutes after, the flashing stops to indicate the calibration of 33% is finished.
3. Move the meter probe to the 75% salt bottle and press "**START/STOP**" over 2 seconds to enter 75% calibration.
4. "**75.3%**" will flash on the monitor.
5. 30 minutes after, the flashing stops means the whole calibration has been completed and the calibration data have been saved in memory.
6. After step5, the meter will return to measurement mode automatically.

Note:
a) You can exit calibration without saving by pressing "START/STOP" >2sec before step 5.
b) To get high accuracy, strongly suggest you to do the calibration at 23$\pm$2 C Temperature environment.

CAL	CAL
32.8%	75.3%

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TROUBLESHOOTING

1.Power on but no display or meter doesn't work .

a)For 8808/06, please check whether the DC power is connected or not.
b)Make sure the time of pressing "**START/STOP**" key is more than 100 mS.
c)Check the batteries are in place and in good contact and correct polarity.
d)Replace new batteries and try again.
e)Move the batteries for one minute and put them back again

2.Calibration failure.

a)For 8808, please check whether the DC power is connected or not.
b)Make sure the calibration bottle is under good sealing status when the meter's probe is plugged into the salt bottle.
c)Make sure the free air temperature is within 23 ± 2 C when calibration is processed.

3. Error Codes.

a)E02: The value is underflow.
b)E03: The value is overflow.
c)E04: The wrong value is caused by E02 or E03.
d)E11: RH calibration error. Need to re-calibrate.
e)E32: IC read/write error. Need to return the meter to dealer for repair.
f)E33: Circuit error in measurement portion. Need to return the meter to dealer for repair.

SPECIFICATIONS

MODEL NO	8808/06	8809/07
RH %	0.0~100.0%	
RES.	0.1%	
ACCURACY	±3% at 10~90%, ±5 % at others	
TEMP.	-20~70ºC	
RES.	0.1ºC	
ACCURACY	±0.6ºC at 0~50ºC,± 1.2ºC at others	
MEMORY	Up to 16K(For 8808/09 are Temp:8K, RH:8K)	
REAL TIME	YES	NO
USB PORT	YES	YES

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 but 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 used to be taken apart .

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.

DISPLAY ALPHABET LIST

Display	Meaning	Display	Meaning
A	A	C	C
d	d	E	E
H	H	i	i
h	k	L	L
m	m	n	n
o	o	P	P
r	r	S	S
t	t	y	y

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