

# Installation and operating manual



## Pen type hygrometer HYTE8709



„ S „ for 2 seconds and then resume normal measurement  
5. Turn off the meter. The calibration of 75% is completed.

### Auto calibration

a. If you want to calibrate the meter without checking the accuracy, please plug the meter probe into the 33% salt bottle and then power on the meter by pressing ON/OFF button and the F/C button at the same time.  
b. When LCD screen shows a full display, release the ON/OFF button. You will see the display of „C“ and „F“ at the lower right corner of LCD screen, then release the F/C button. The LCD will display only the default setting of temperature unit, C or F.

Press RESET key and you will see a „% MIN“ display on the right upper corner. Please leave the meter in the bottle for at least 40 minutes and the meter will start the auto calibration process.

c. When the calibration for 33% is done, you will see a „MIN„ and „MAX“ display on the LCD screen. Please remove the meter probe from the 33% salt bottle and plug it into the 75% salt bottle. Then press the MIN/MAX button, you will see a „% MAX“ display on the LCD. Then leave the meter in the 75% bottle for another 40 minutes. When the calibration for 75% is completed, the meter will be back to normal measuring mode for temperature and humidity. You can then remove the meter from the 75% bottle.

### 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.

### Material supplied

The package supplied with a standard:

1) The unit, 2) Battery CR2031 x1, 3) Operation manual

Optional accessory:

a) 33% Salt solution, b) 75% Salt solution, c) Carrying Case .

### Specification

Size: 17.5x4.2x1.6 cm

Battery: (1) 2032 Life-150hrs.

Sensor: Electronic Capacitance Ploymer Film Sensor

Accuracy:  $\pm 5\%$  from 5 to 95%RH at 25 °C  $\pm 1$  °C from 10 to 45 °C

Resolution:0.1 C/ 0.1 F

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.

CE approval: electromagnet conductivity EN 61326-1:2013 in accordance with 2004/108/EG

The relations are recorded in the look-up table. Once the calibration mode in ON, the meter will search the right humidity value according to the current temperature to get more accurate calibration.

### 1.1. CHECK HUMIDITY 33%

1.1.1. Turn on the meter. Plug unit in 33% salt reference bottle and put unit into the carrying case as shown FIG2. Check the reading on LCD after 40 minutes. If the display reads between 31.5% and 34.5%, that means the meter is accurate. Otherwise, it needs to be recalibrated.

Please calibrate the meter by following calibration instruction 1.3.A.

### 1.2.CHECK HUMIDITY 75%

1.2.1. Turn on the meter.Plug unit in 75% salt reference bottle as you do in step1.1.1. Check the reading on the LCD after 40 minutes. If the display reads between 73.5% and 76.5%, that means the meter is accurate. Otherwise, it needs to be calibrated. Please calibrate the meter by following calibration instruction 1.3.B.

### 1.3.CALIBRATION

#### A. CALIBRATION FOR RELATIVE HUMIDITY 33%

1. Turn off the meter.
2. Press ON/OFF button. When LCD displays full readings, press F/C button after plugging the meter in the 33% salt reference bottle for 40 minutes (you have done in 1.a).
3. Press RESET button and the LCD shows „%MIN „
4. Press F/C button to save the calibration value of 33%. The LCD shows „S“ for 2 seconds and then the „%MAX“ shows right up the corner of LCD
5. Turn off the meter. The calibration of 33% is completed.

% MIN

S

% MAX

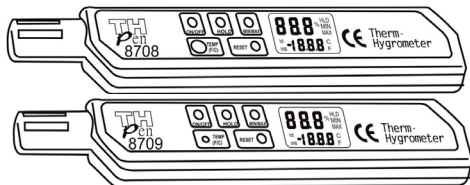
#### B. CALIBRATION FOR RELATIVE HUMIDITY 75%

1. Turn off the meter.
2. Press ON/OFF button. When LCD displays full readings, press F/C button after plugging the meter in the 75% salt reference bottle for 40 minutes.(you have done in 1.2.1)
3. Press RESET button twice and the LCD shows „%MAX“.
4. Press F/C button to save the calibration value of 75%. The LCD will show

% MAX



**Introduction**



Congratulations on your purchase of the Pen type Thermo-Hygrometer. This is a low cost but easy use to get accurate measurement.

**Normal measurement**

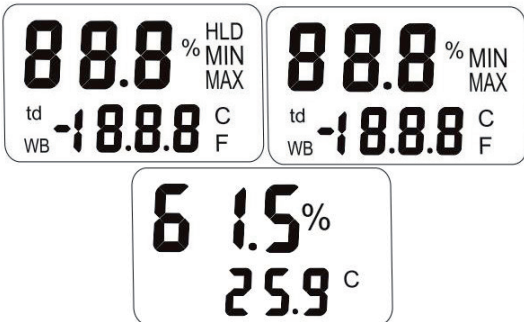


- (1) Turn meter on by pressing ON/OFF button.
- (2) Press F/C button to convert reading to desired range.

**Read before use**

- (1) Turn meter on by pressing ON/OFF button.
- (2) Use a pen tip to press F/C key whenever you need to. Press F/C to convert reading to desired range. Both temperature and relative humidity measurement will display simultaneously.




**Power on the meter**




- (1) Power on the meter by pressing ON/OFF button. You will see a full display on the screen (though you might have seen „td“, „WB“ shown on the screen, however these icons are only available for other models), then „HLD“ icon will disappear in one second, then after 3 seconds the meter will start measuring the temperature and humidity and display both readings at the same time.
- (2) The default setting of temperature display can be in °F or °C. You can press F/C button for 2 seconds to change the temperature display from °C to °F or vice versa. You may use a pen tip to press F/C button whenever convenient. (8709)




**MIN/MAX function**

- (1) Press and hold MIN/MAX button until MIN appears on display. The LCD screen is now showing the minimum humidity and temperature readings in memory. 
- (2) Press and hold MIN/MAX button again until MAX appears on display. The LCD screen is now showing the maximum humidity and temperature readings in memory. 
- (3) To return to measuring mode of current temperature and humidity, press and hold MIN/MAX button until MIN or MAX disappears from the display. 
- (4) To clear current MIN and MAX readings from memory, press and hold RESET button until the full display flashes. The meter reading turns to the normal measurement with either MIN or MAX icon, after about 10 second, the MIN/MAX icon will disappear automatically.

**Data hold function**

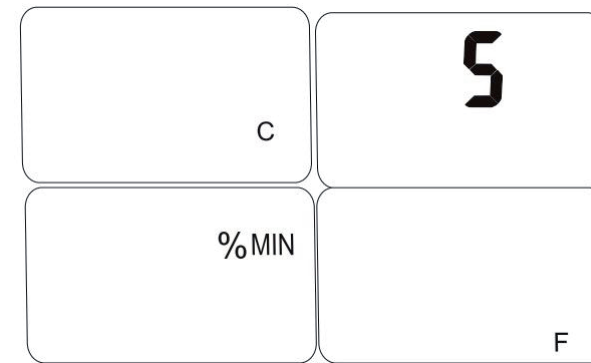
- Press hold button until „HLD“ appears in display. The current reading is now being held and will not change until Hold function is cancelled. Press RESET button to cancel Hold function. Hold function can be used for humidity and temperature.
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**Auto power off**

- Unit will turn itself off after 20 minutes. (Sleep mode) To override this function (Non-Sleep Mode) press ON/OFF, MIN/MAX keys simultaneously. After the full display appears release ON/OFF button, the display shows „n“ on the screen. Release MIN/MAX button. Unit will now be in Non-sleep mode.
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**Change default of temperature scale**

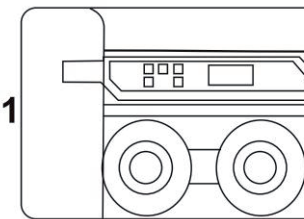
1. Turn off the meter.
2. Press ON/OFF button. When LCD displays full readings, press F/C button with a pen tip and the LCD shows original temperature default C or F right down the corner.
3. Press MAX/MIN button to switch the default C or F. Press F/C button to save the new temperature scale default and LCD will first show „S“ then show „%MIN“ right up the corner. Turn off the meter. The procedure is completed.



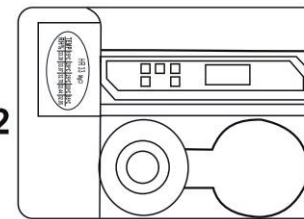
**Check and calibration**

The carrying case is for not only storage (see FIG1) but also calibration (see FIG2).

**FIG 1**



**FIG 2**



Before checking the humidity 33% or 75%, make sure you purchased model 8709 and salt solution 33% (dark brown bottle), 75% (blue bottle) as well as the carry case.

**NOTE:**

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

	HR33 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