



Operation-Manual

THS30X Series (THS301 / 302 / 304 / 307)

Multifunction Temp-Humid Transmitter

Indoor / Duct / Remote / Outdoor



THS301



THS302



THS304



THS307

eYc THS30X



Table of Contents

I. Security considerations	3
II. Installation	4
III. Option accessory	5
IV. Connection	7
V. Physical Quantity Measuring Range List	8
VI. Display and LED instruction	8
VII. Software and calibration operation step	9
VIII. Inspection and maintenance	60

I. Security considerations

Please read this Specification carefully, prior to use of this, and keep the manual properly, for timely reference.

Solemn Statement :

This product can not be used for any explosion-proof area.

Do not use this product in a situation where human life may be affected.

eYc-tech will not bear any responsibility for the results produced by the operators !

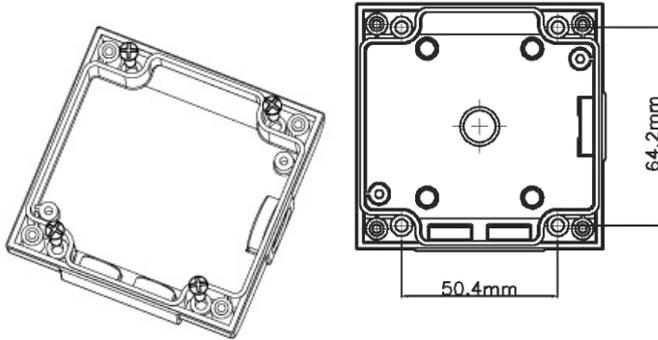
Warning!!

- Installation and wiring must be performed by qualified personnel in accordance with all applicable safety standards.
- This product must be operated under the operating conditions specified in manual to prevent equipment damages.
- Please using the product under the ordinary pressure, or it will influence safe problem.
- This product must be operated under the operating condition specified in this manual to prevent equipment damages.
- This product must be operated under the normally atmospheric condition to prevent equipment damages.
- To prevent products damage, always disconnect the power supply from the product before performing any wiring and installation.
- All wiring must comply with local codes of indoor wiring and electrical installation rules.
- Please use crimp type terminal.
- To prevent personal injury, do not touch the moving part of product in operation.
- It may cause high humidity atmosphere during the product was breakdown. Please take safety strategy.

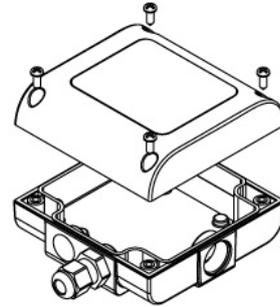
II. Installation

1. Indoor

Wall mount



Cover

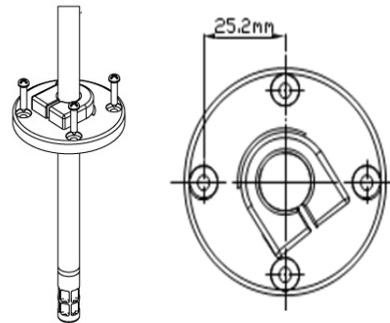


2. Outdoor

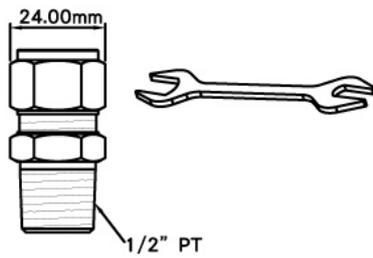
Fixed board for wall type



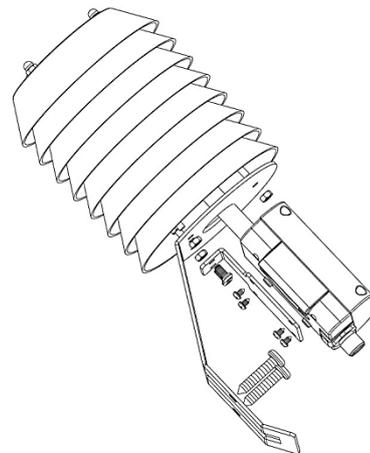
Plastic flange



Installing Fitting thread



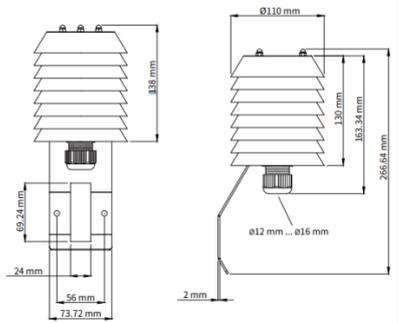
Radiation shield



2. Filter

Order code	Name	Description	Dimension
8203104010 PC membrane filter		Material : PC fire-proof class+cotton filter Outside diameter : 12 mm Length : 32 mm	Common filtering effect Max. Temp. : 80°C
4425000013 SUS sintered filter		Material : SUS sintered filter Aperture : 40 μm Outside diameter : 12 mm Length : 38 mm	Resist pressure, pollution and corrodent Nice filtering ability Max. Temp. : 200°C
8203104011 Metal grid filter with mesh		Material : Metal grid filter with mesh Outside diameter : 12 mm Length : 32 mm	Common resisting pollution React quickly Endure high Temp. Nice ventilation Max. Temp. : 200°C
8203104013 PC membrane filter +Metal mesh		Material : PC fire-proof class+Metal mesh Outside diameter : 12 mm Length : 32 mm	Fitting in with high humidity environment Max. Temp. : 120°C

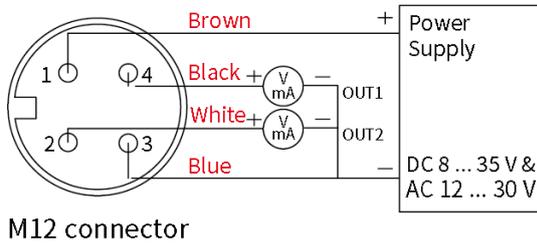
3. Radiation shield

Order code	Name	Description	Dimension
THSA-0304 Radiation shield		Material : UVPC+S.S.	 <p>Technical drawing showing two views of the radiation shield. The left view shows a side profile with dimensions: 69.24 mm (top width), 24 mm (bottom width), 56 mm (bottom diameter), and 73.72 mm (bottom diameter). The right view shows a top-down perspective with dimensions: 138 mm (total height), 130 mm (height to top of shield), 163.34 mm (height to top of sensor), 266.64 mm (total height including sensor), 110 mm (top diameter), and 2 mm (bottom thickness). The sensor diameter is labeled as φ12 mm ... φ16 mm.</p>

Multifunction Temperature & Humidity Transmitter (Indoor / Duct / Remote / Outdoor)

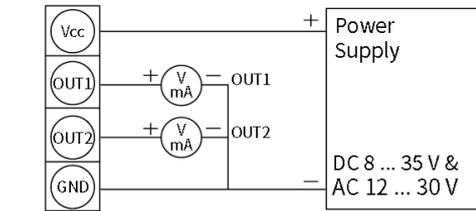
IV. Diagram

1. Analog Diagram



M12 connector

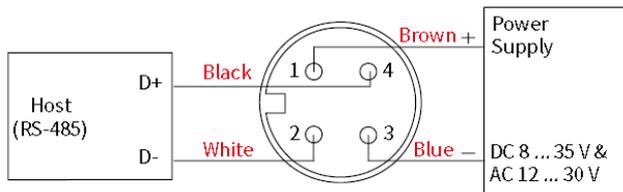
M type(4P)



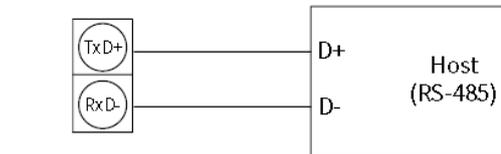
4P terminal

N type

2. RS-485 Diagram



M type(4P)

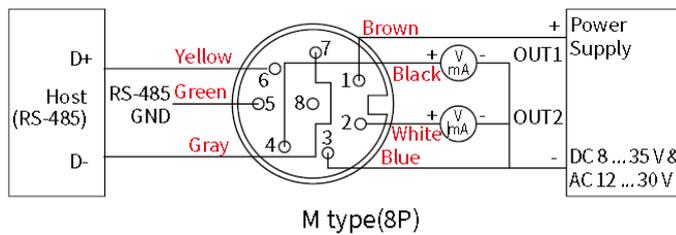


RS-485 Signal connector

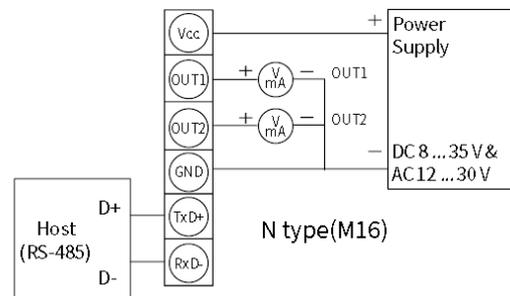
N type

※ When output of ordering code is RS-485(without analog), RS-485 diagram of default setting is M type.

3. Analog + RS-485 Diagram



M type(8P)



N type(M16)

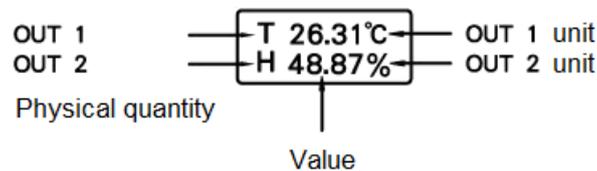
V. Physical Quantity Measuring Range List

Physical quantity	THS301 Indoor	THS302 Duct	THS304 Remote (PVC cable)	THS307 Outdoor (Shield)
Temperature(T)	0 ... 50°C		- 40 ... + 80°C	
Humidity(H)	0 ... 100%RH		0 ... 100%RH	
Dew point(D)	- 40 ... + 50 dp°C		- 40 ... + 60 dp°C	
Frost point(F)	-46 ... 0 fp°C		-46 ... 0 fp°C	
Wet-bulb temp.(W)	0 ... 50°C		0 ... 80°C	
Vapor pressure(E)	0 ... 123 mbar		0 ... 473 mbar	
Mixture ratio(R)	0 ... 86 g/kg		0 ... 546 g/kg	
Absolute humidity(A)	0 ... 82 g/m ³		0 ... 290 g/m ³	
Specific enthalpy(S)	0 ... 273 kJ/kg		0 ... 1526 kJ/kg	

※In addition to temperature and humidity, other physical quantities can be set by the UI software(for use with the RS-485 function)

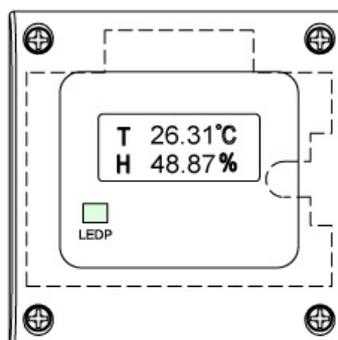
VI. Display and LED instruction

1.1 LCM display



1.2 LED Indication

1. Power : LED P, **Green light ON**
2. RS-485 : LED P, **Red light ON**
3. LED light position statement :



VII. Software and calibration operation step

※ Product calibration requires a standard device to perform

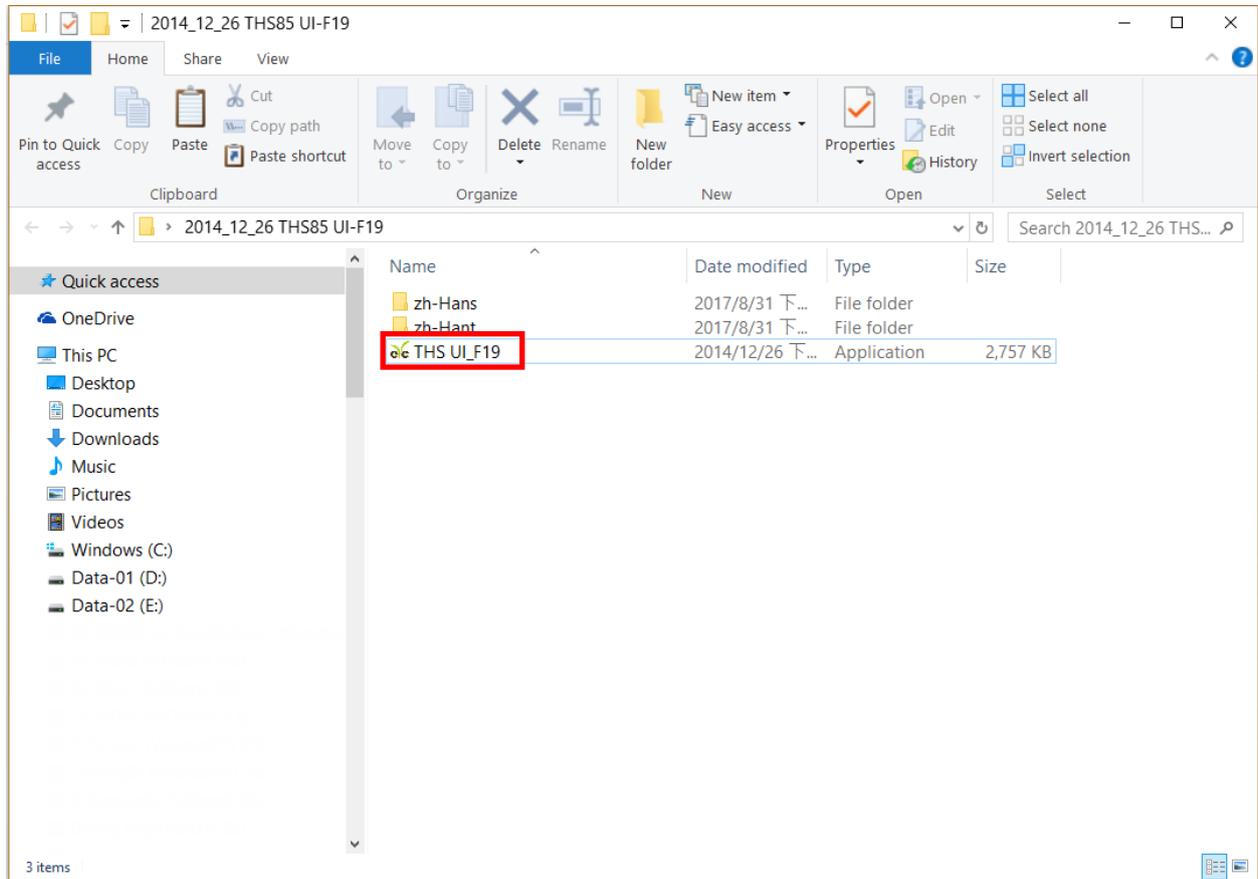
6.1 Application Program statement	11
6.2 Setting RS-485connection.....	12
6.3 Scan RS-485 connection.....	15
6.4 Setting RS-485 ModBus Protocol.....	20
6.5 Display and save data	22
6.6 Choose parameter of Output.....	27
6.7 Temperature Calibration with two points	29
6.8 Humidity Calibration with two points	34
6.9 Temperature Calibration with signal points	39
6.10 Humidity Calibration with signal point	42
6.11 Restore factory setting of signal/two point(s)	45
6.12 Temperature Calibration with more points	47
6.13 Humidity Calibration with more points	53
6.14 Restore factory setting of more points	59

Multifunction Temperature & Humidity Transmitter (Indoor / Duct / Remote / Outdoor)

6.1 Application Program statement

1. Free installation program : THS UI_F19.exe

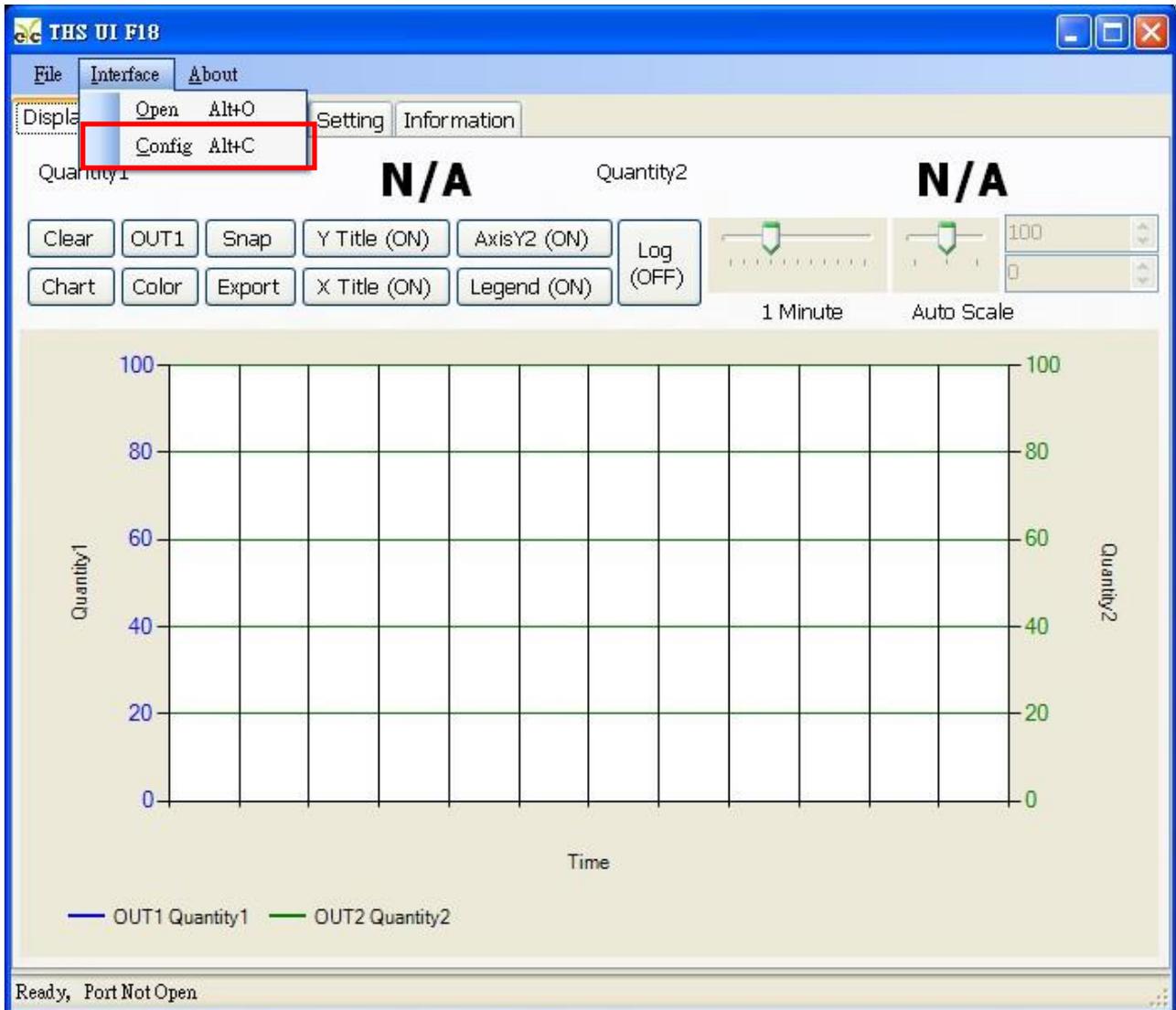
a. Operating System requirements : Above Windows XP SP2



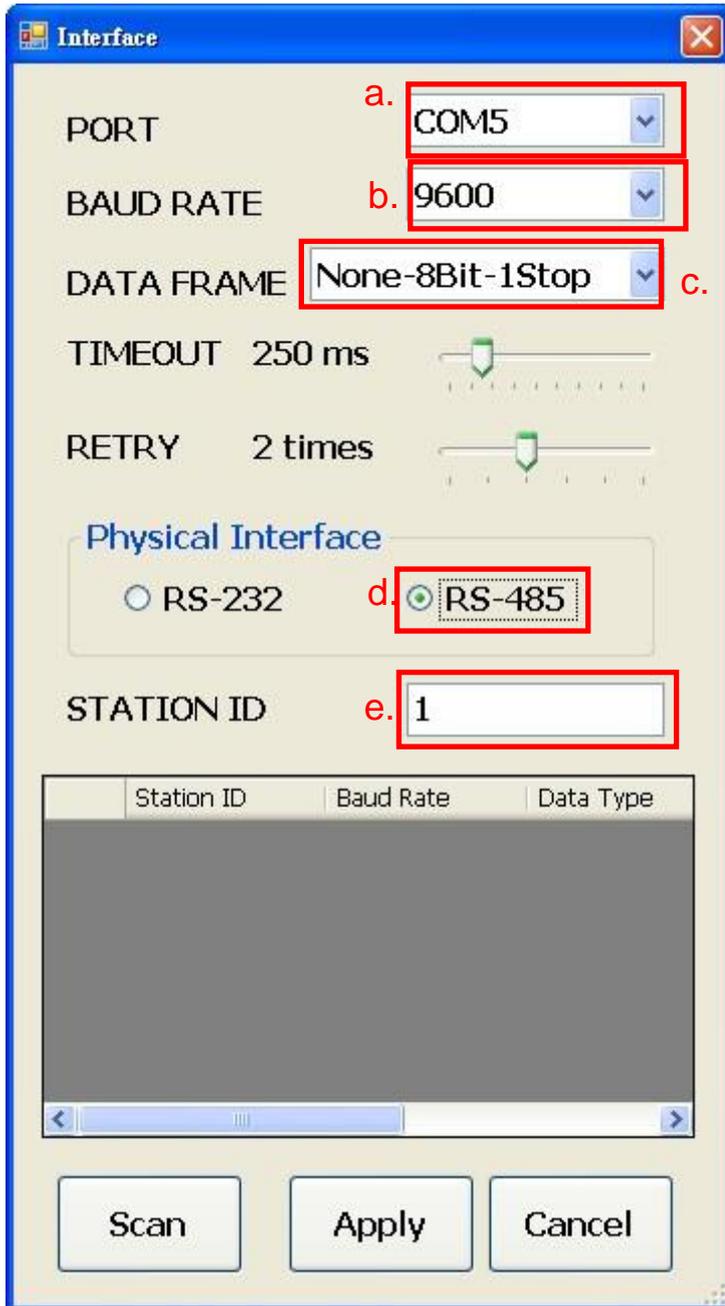
2. Other application program requirements : Above Microsoft Office 2003

6.2 Setting RS-485connection

1. Connect product to PC via RS-485 cable
2. Execute " THS UI "
3. Click " Interface → Config "



4. Select the corresponding values of com port as following :
 - a. Port : Come Port
 - b. Baud Rate
 - c. Data Frame
 - d. RS-485
 - e. Station ID(Factory default 1)



Interface

PORT a. COM5

BAUD RATE b. 9600

DATA FRAME c. None-8Bit-1Stop

TIMEOUT 250 ms

RETRY 2 times

Physical Interface

RS-232 d. RS-485

STATION ID e. 1

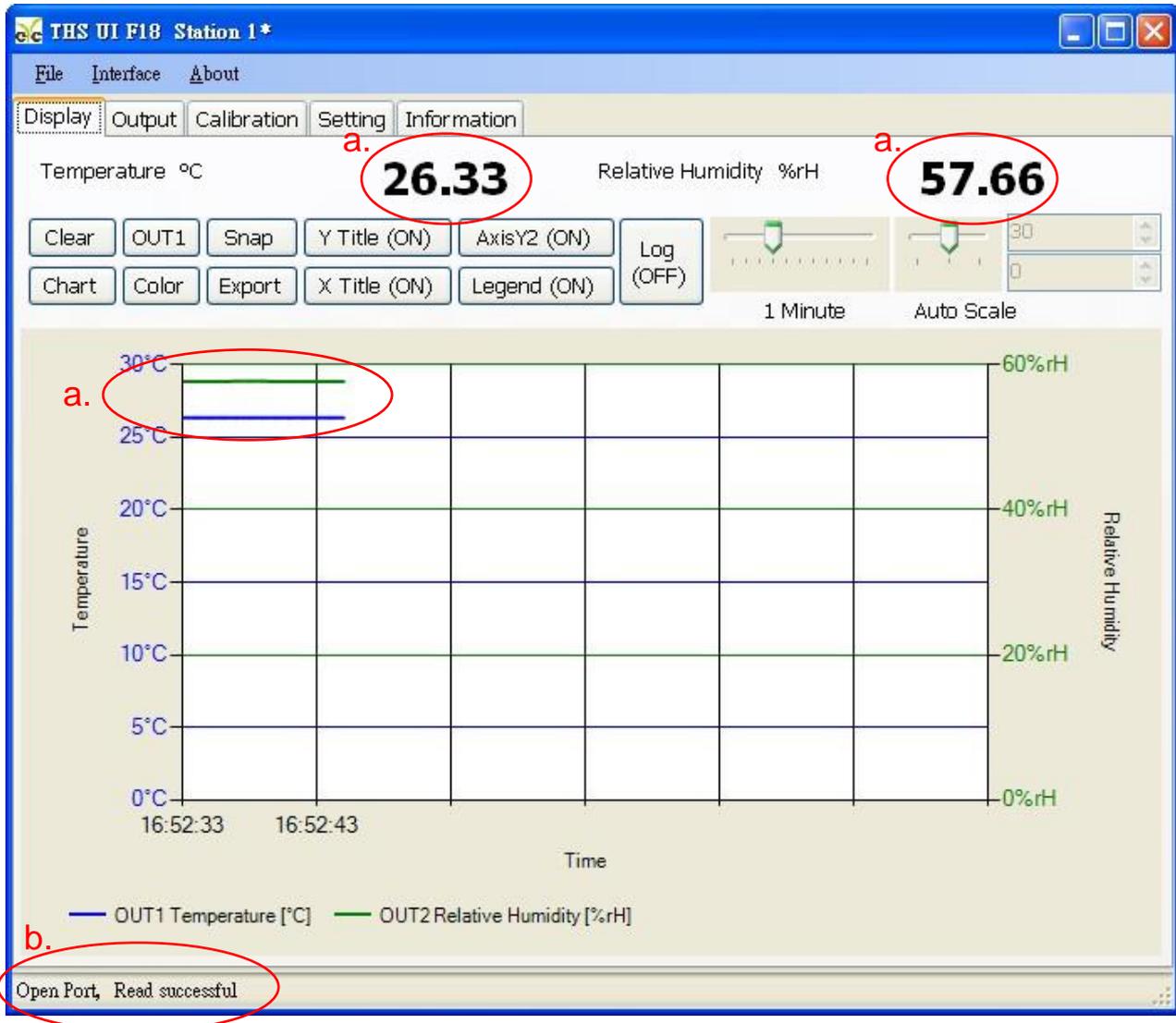
Station ID	Baud Rate	Data Type
------------	-----------	-----------

Scan Apply Cancel

5. Click "Apply " complete setup

Multifunction Temperature & Humidity Transmitter (Indoor / Duct / Remote / Outdoor)

6. Connect successfully
 - a. Show value and trend chart of Temperature and Relative Humidity
 - b. Show Open port, Read successful

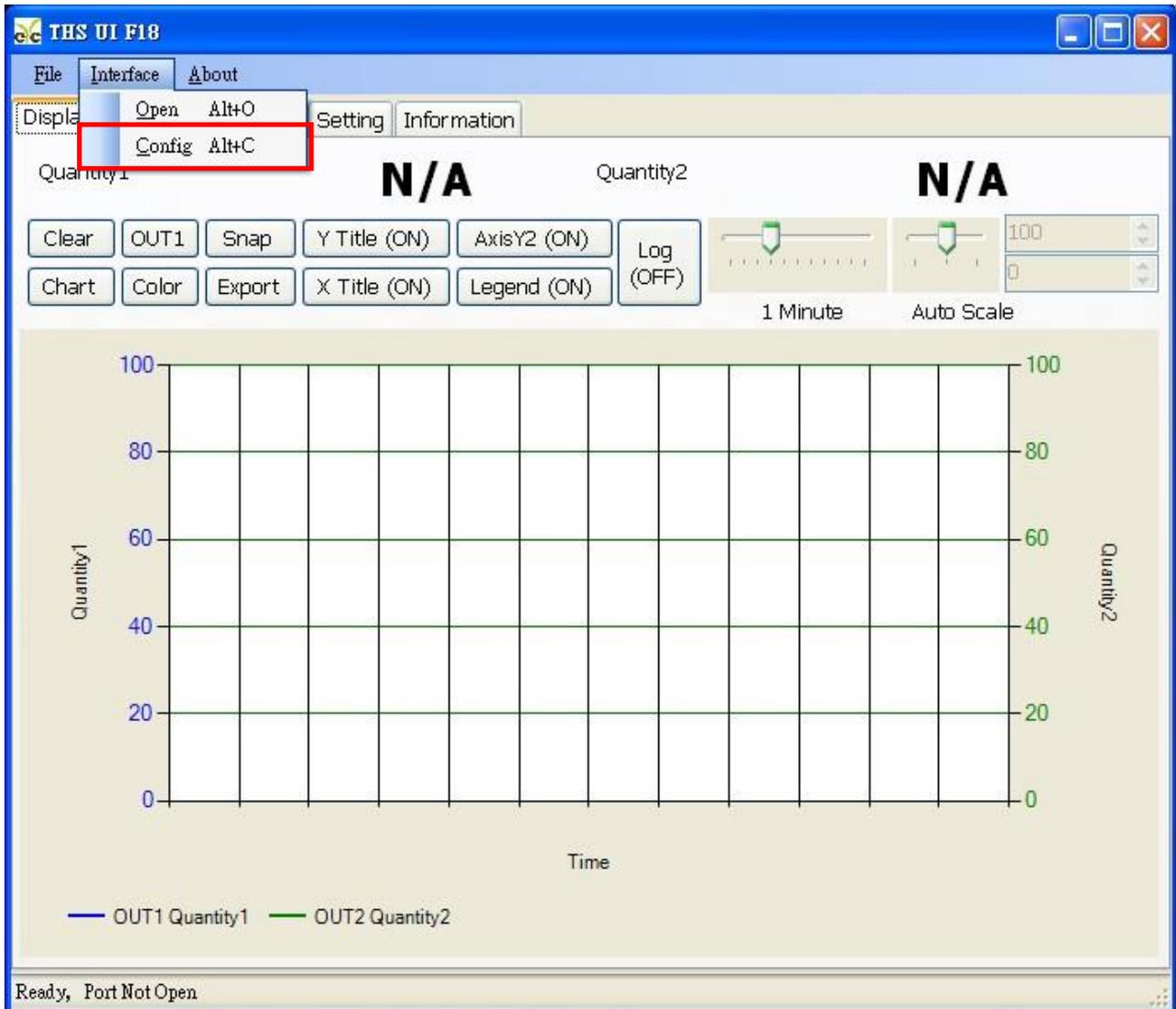


Multifunction Temperature & Humidity Transmitter (Indoor / Duct / Remote / Outdoor)

6.3 Scan RS-485 connection

※Use scan function to connect when forgetting the connection information or having more facilities.

- (1) Connect the product to PC via RS-485 cable
- (2) Execute " THS UI "
- (3) Click " Interface → Config "



Multifunction Temperature & Humidity Transmitter (Indoor / Duct / Remote / Outdoor)

- (4) Select the corresponding values of com port as following
 - a. Port :
 - b. RS-485
- (5) Click " Scan" to execute connection facilities

Interface

PORT a. COM5

BAUD RATE 9600

DATA FRAME None-8Bit-1Stop

TIMEOUT 250 ms

RETRY 2 times

Physical Interface

RS-232 b. RS-485

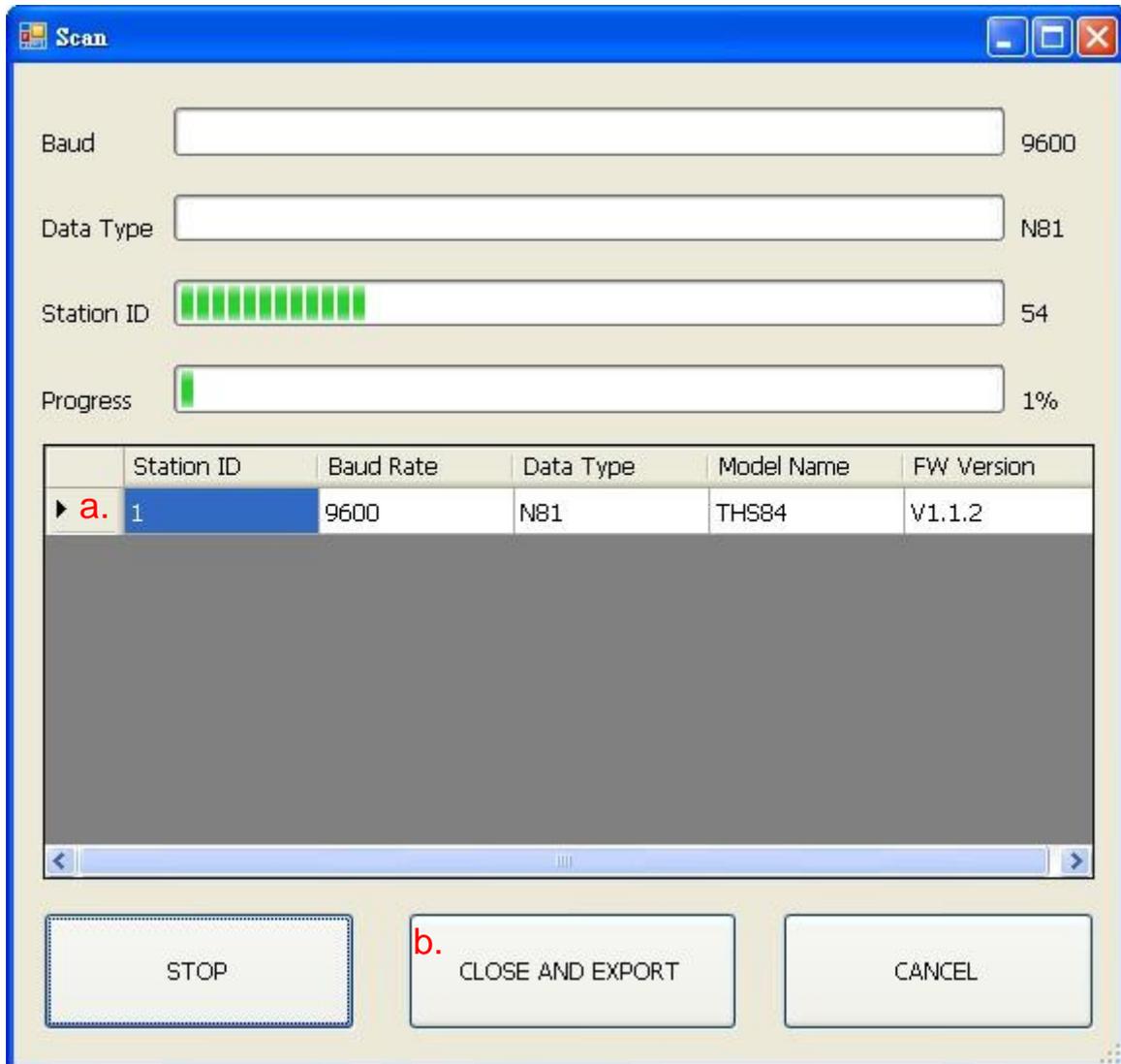
STATION ID 1

Station ID	Baud Rate	Data Type
------------	-----------	-----------

Scan Apply Cancel

Multifunction Temperature & Humidity Transmitter (Indoor / Duct / Remote / Outdoor)

- (6) Scan connection facilities and set up
 - a. Select "Station ID"
 - b. Click "CLOSE AND EXPORT"



- (7) Click "Apply"

Interface

PORT COM5

BAUD RATE 9600

DATA FRAME None-8Bit-1Stop

TIMEOUT 250 ms

RETRY 2 times

Physical Interface

RS-232 RS-485

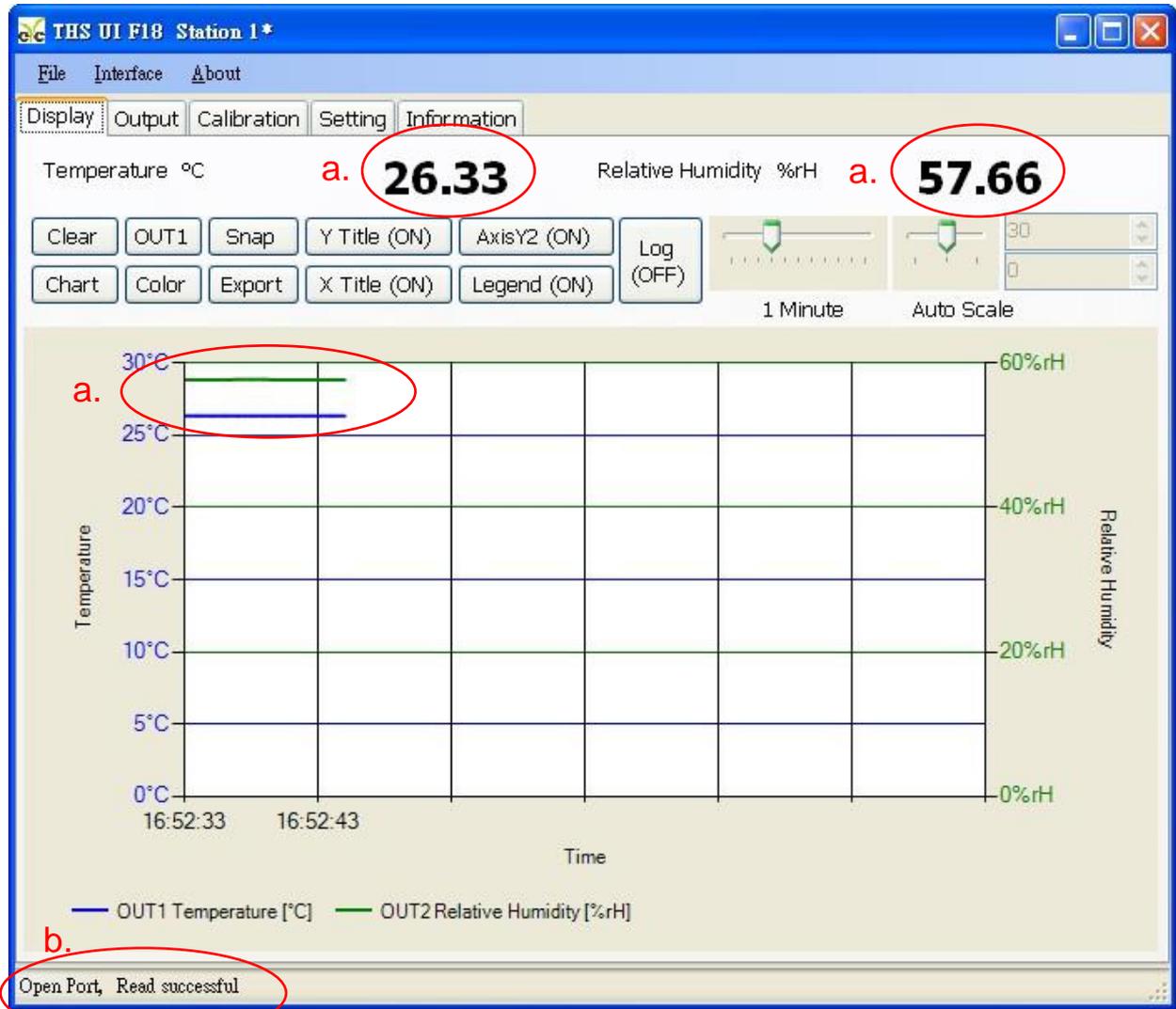
STATION ID 1

Station ID	Baud Rate	Data Type
1	9600	NB1

Scan Apply Cancel

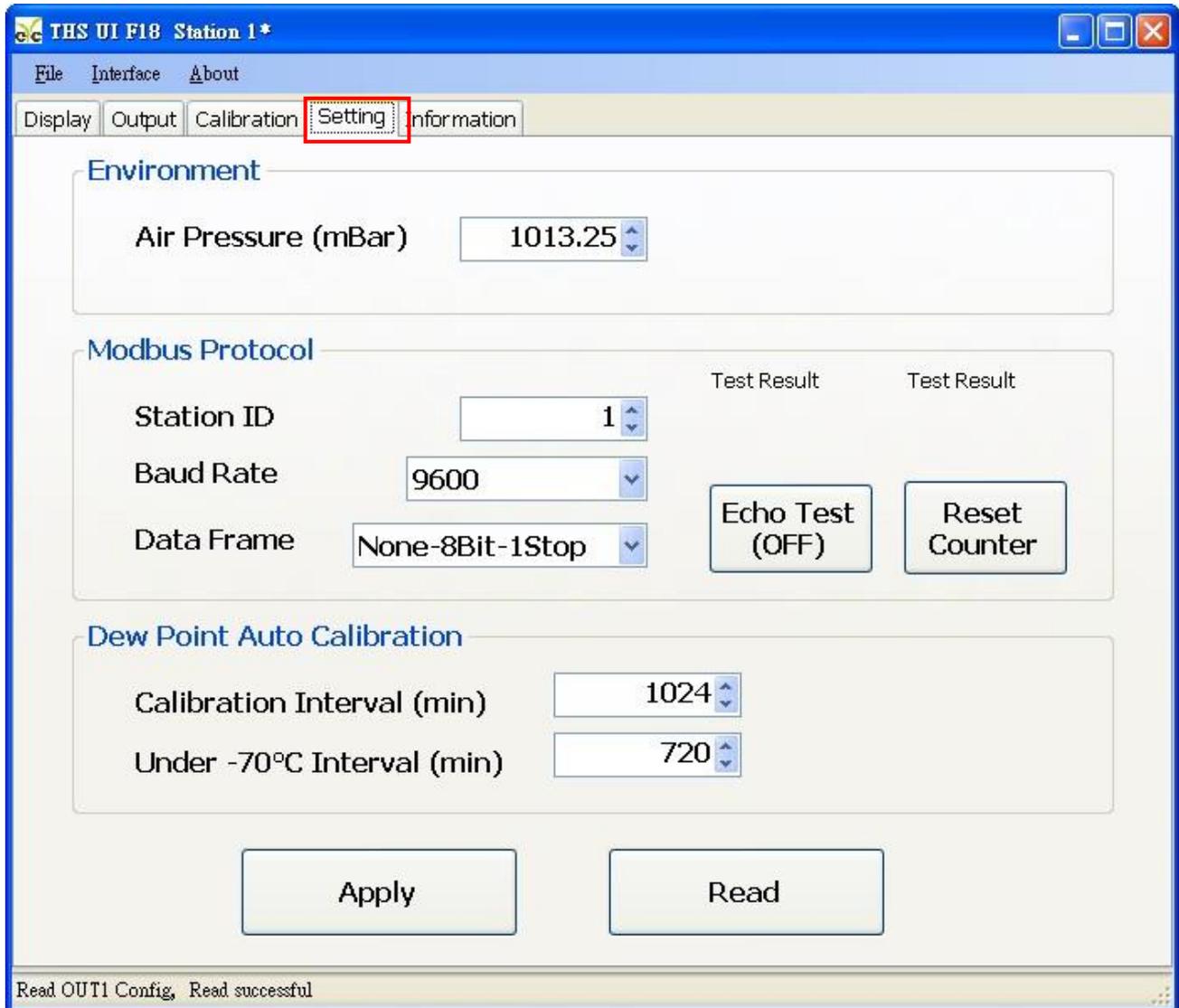
Multifunction Temperature & Humidity Transmitter (Indoor / Duct / Remote / Outdoor)

- (8) Connect successfully
 - a. Show values and trend chat Temperature and Relative Humidity
 - b. Show Open port, Read successful



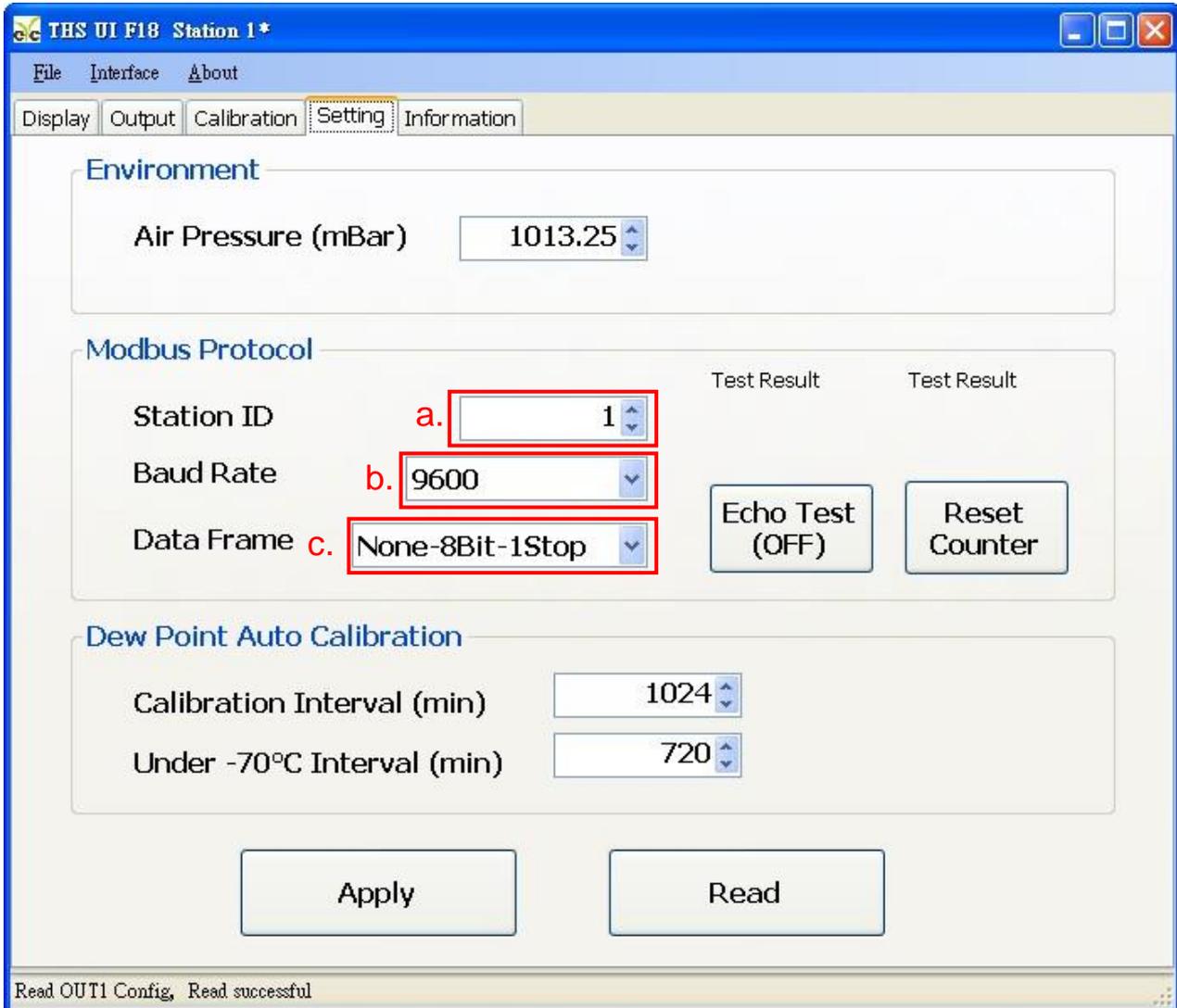
6.4 Setting RS-485 ModBus Protocol

- (1) Setting RS-485 connection step as step 6.1
- (2) Click “Setting”



Multifunction Temperature & Humidity Transmitter (Indoor / Duct / Remote / Outdoor)

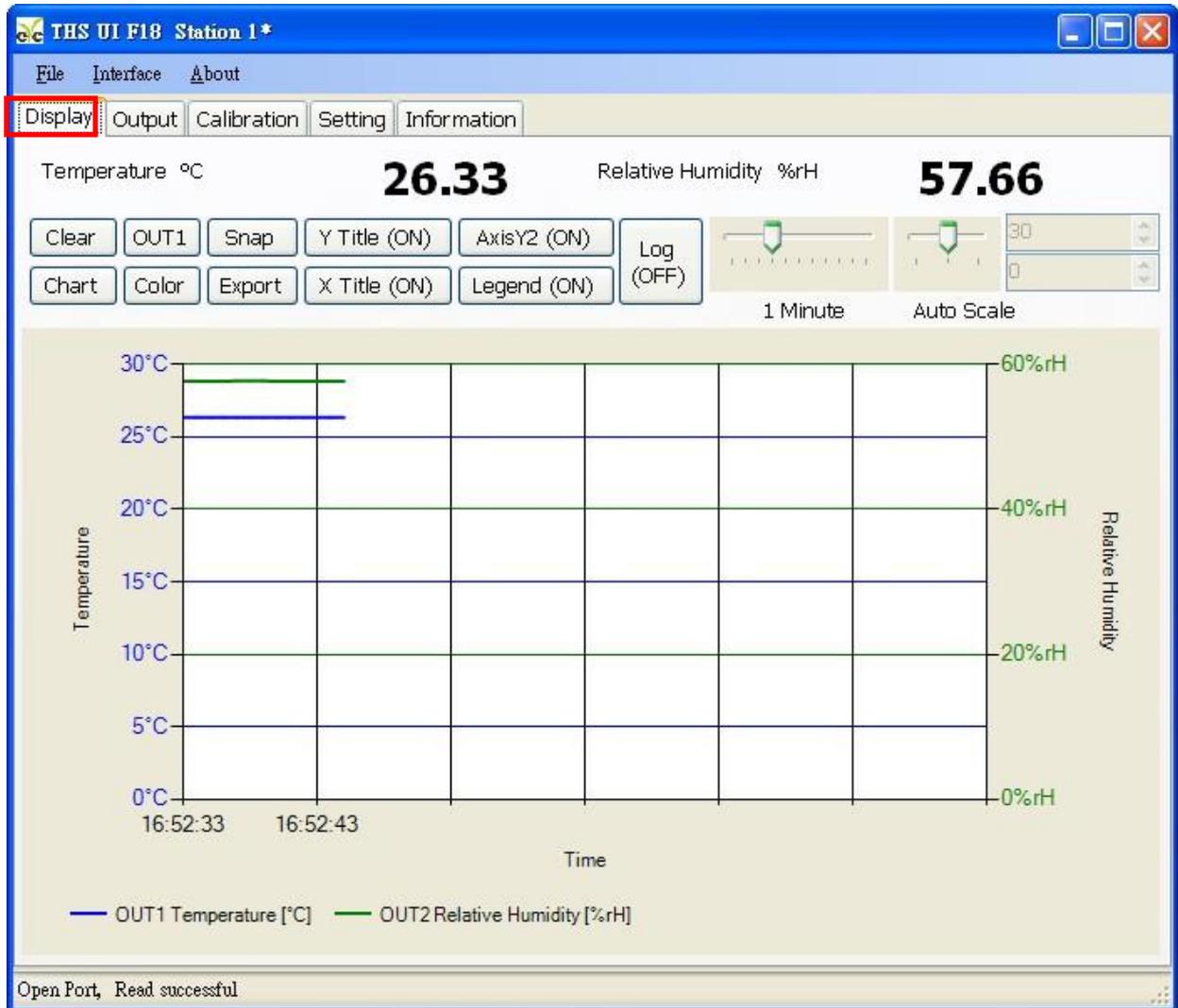
- (3) Select Modbus Protocol parameter
 - a. Station ID : 1 ... 247
 - b. Baud Rate : 9600 , 19200 , 38400 , 57600 , 115200
 - c. Data Frame : None-8Bit-1Stop , None-8Bit-2Stop , Even-8Bit-1Stop , Even-8Bit-2Stop ,
Odd-8Bit-1Stop , Odd-8Bit-1Stop



- (4) Click "Apply"
- (5) Execute connection as step 6.2 or 6.3 again

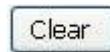
6.5 Display and save data

- (1) Show data : Click "Display"



Multifunction Temperature & Humidity Transmitter (Indoor / Duct / Remote / Outdoor)

(2) Icon function statements



Clear the chart records



Change the chart style



Select the OUTPUT channel



Set line color chosen from OUTPUT

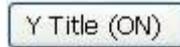


Snap chart

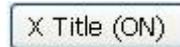


Save the data measuring when the system start connecting

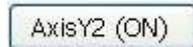
before clicking the Export icon



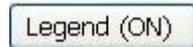
Show/Not show the statement of Y axis



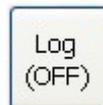
Show/Not show the statement of X axis



Show/Not show the statement of Y secondary axis



Show/ Not show chart



Show/Not show measuring data



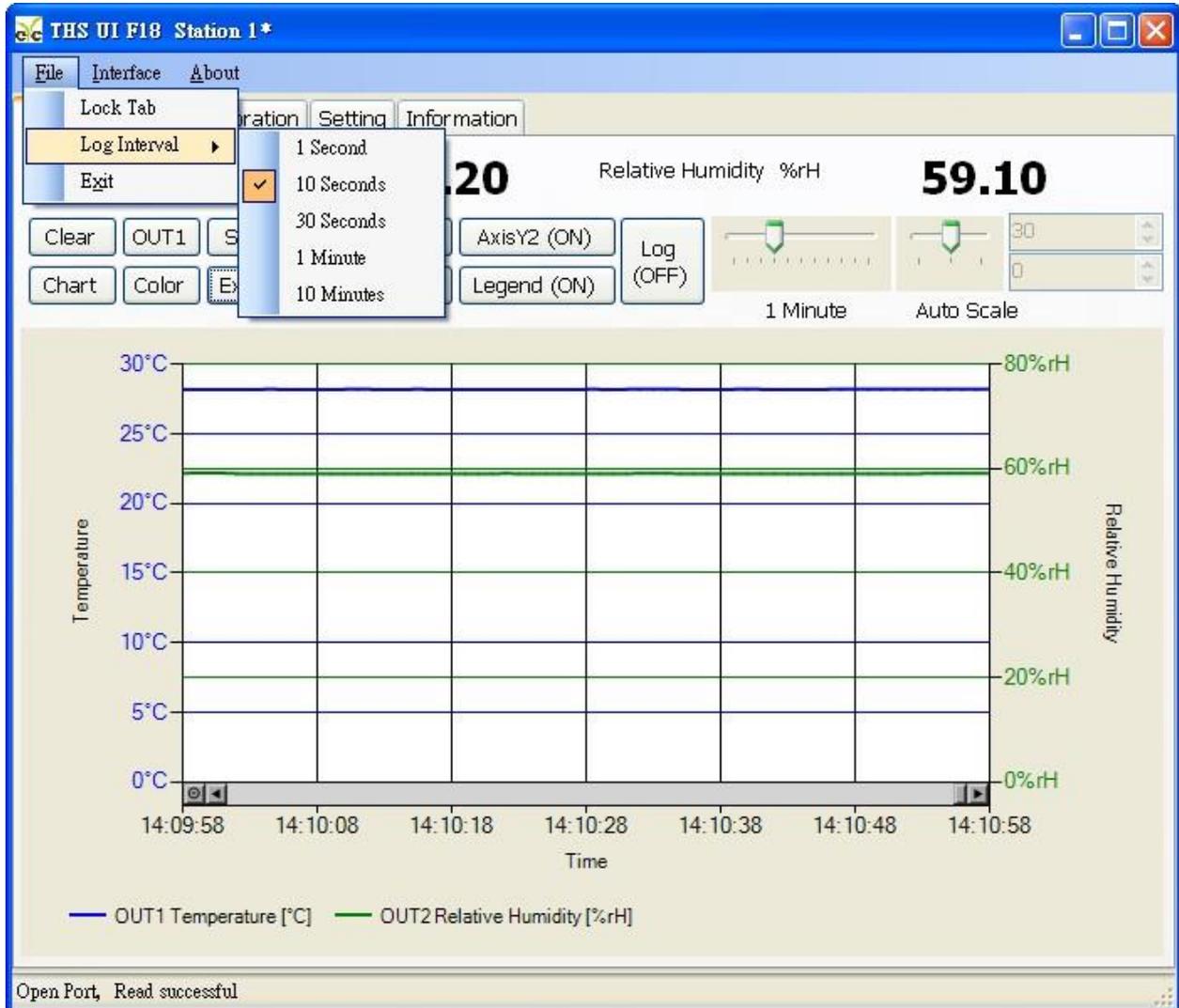
Adjust time range of X axis



Adjust range of Y axis

Multifunction Temperature & Humidity Transmitter (Indoor / Duct / Remote / Outdoor)

- (3) Setting time interval of record
 - a. File → Log Interval
 - b. Select time interval of record

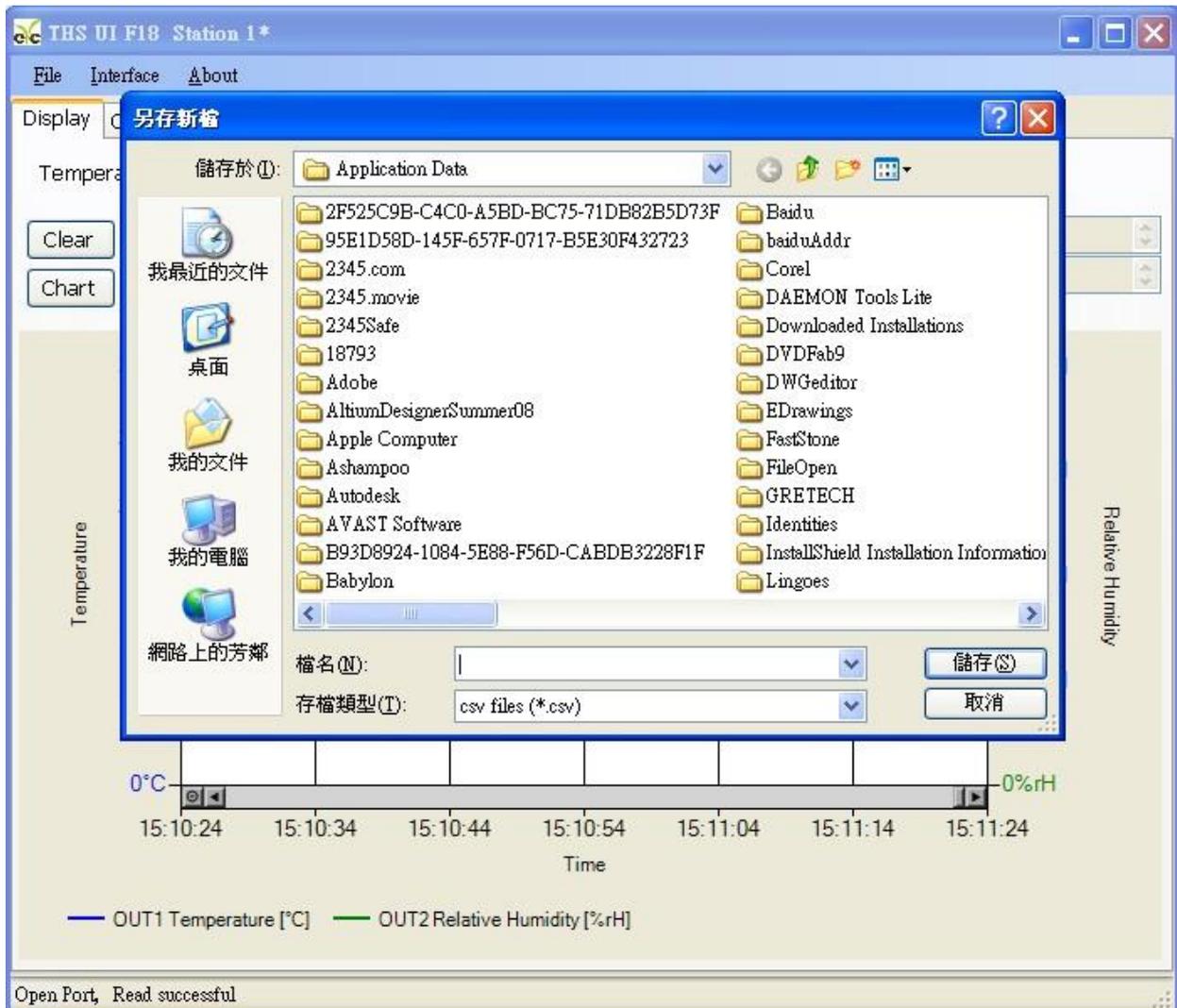


Multifunction Temperature & Humidity Transmitter (Indoor / Duct / Remote / Outdoor)

- (4) Save/Log measuring data
- a. Log measuring range : Save the data measuring when the system start connecting before clicking the Export icon
 - a-1. Click Display → Export



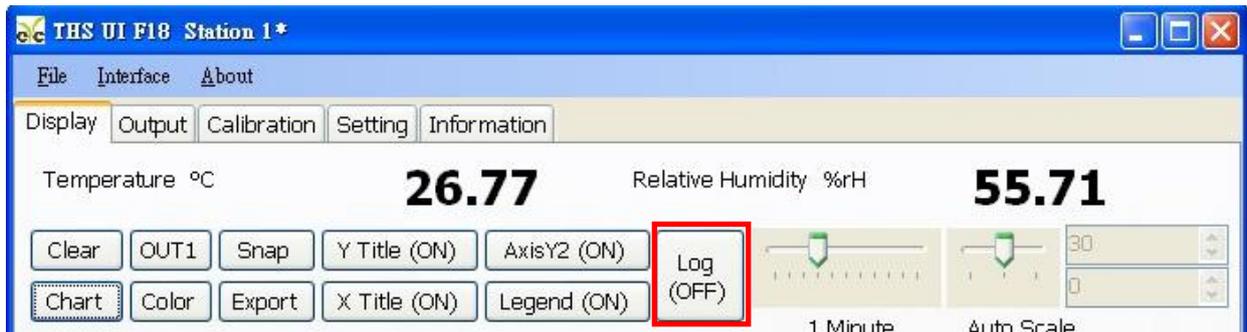
- a-2. Appoint path and Key in file name → save
- ※ If file name is some as the path name, the original file will be covered.



Multifunction Temperature & Humidity Transmitter (Indoor / Duct / Remote / Outdoor)

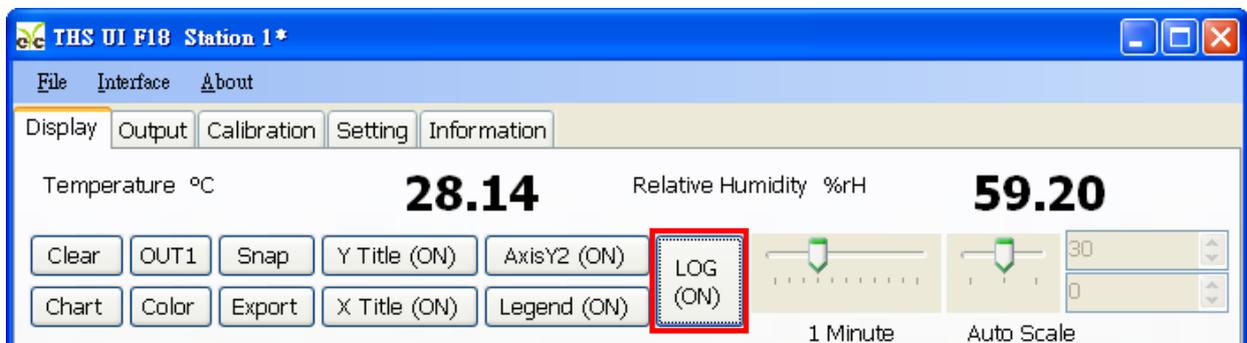
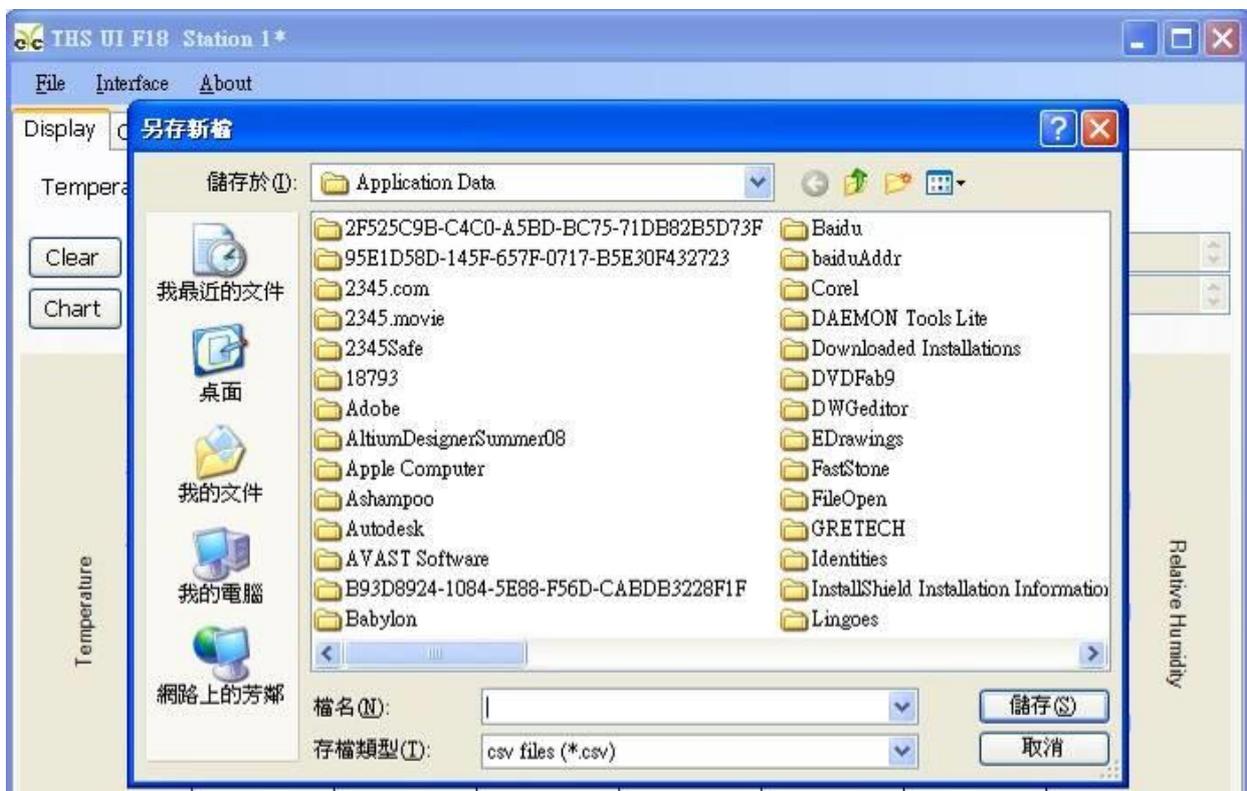
b. Log measuring data : Log the data which is on from start or off

b-1. Display →Log(OFF)



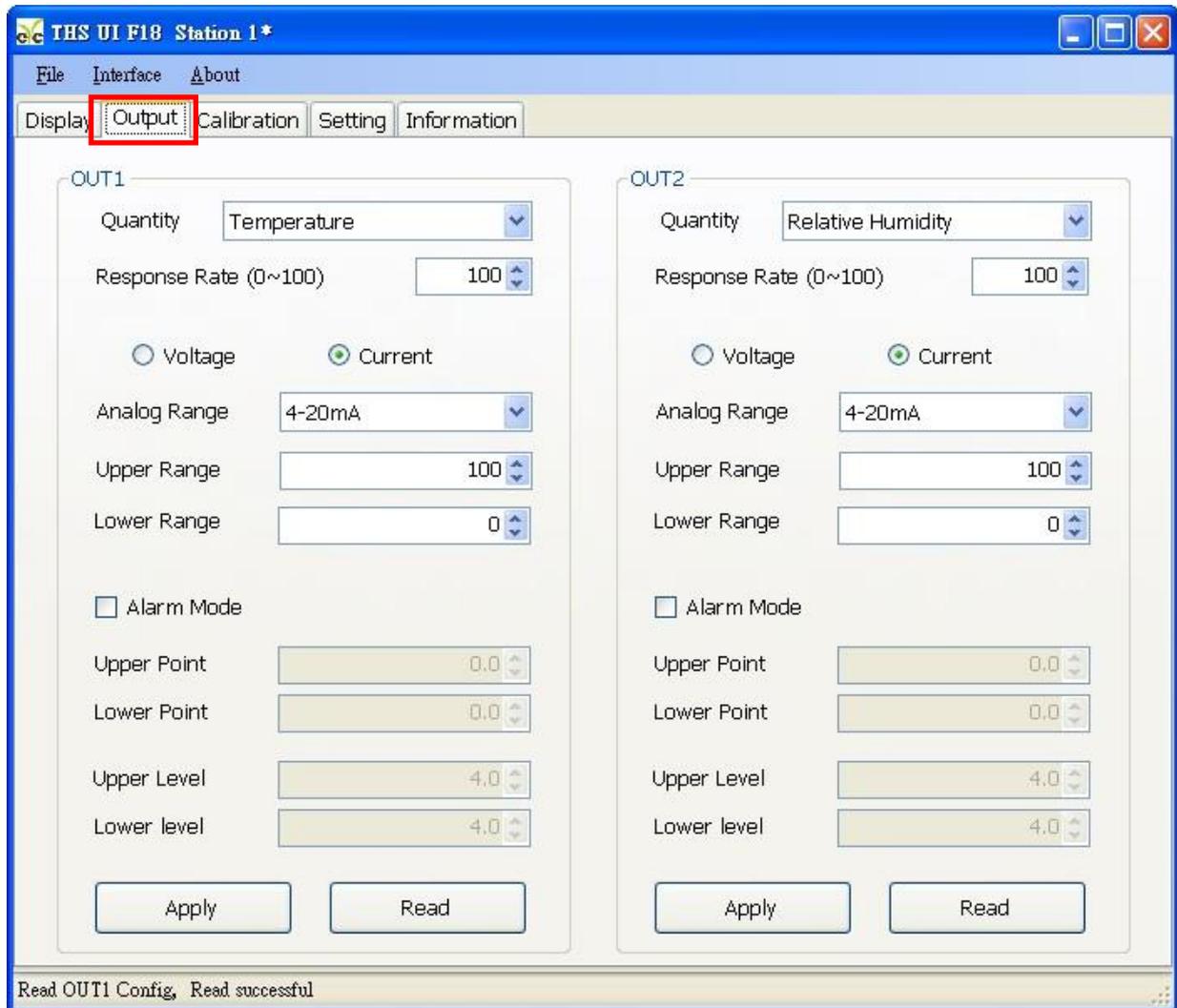
b-1. Appoint path and Key in file name > save > Log(ON)

※ If file name is some as the path name, the original file will be covered.



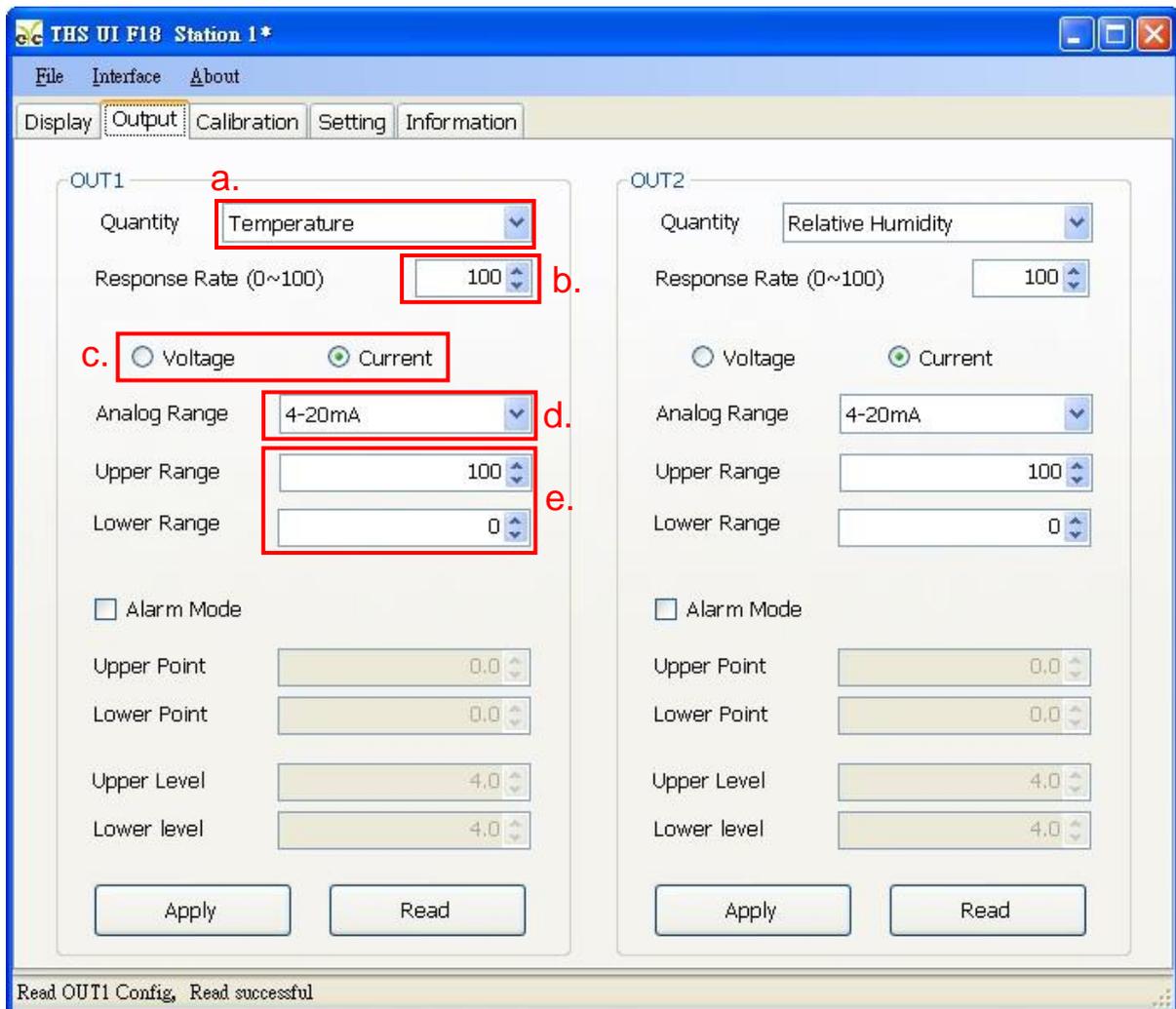
6.6 Choose parameter of Output

(1) Click "Output"

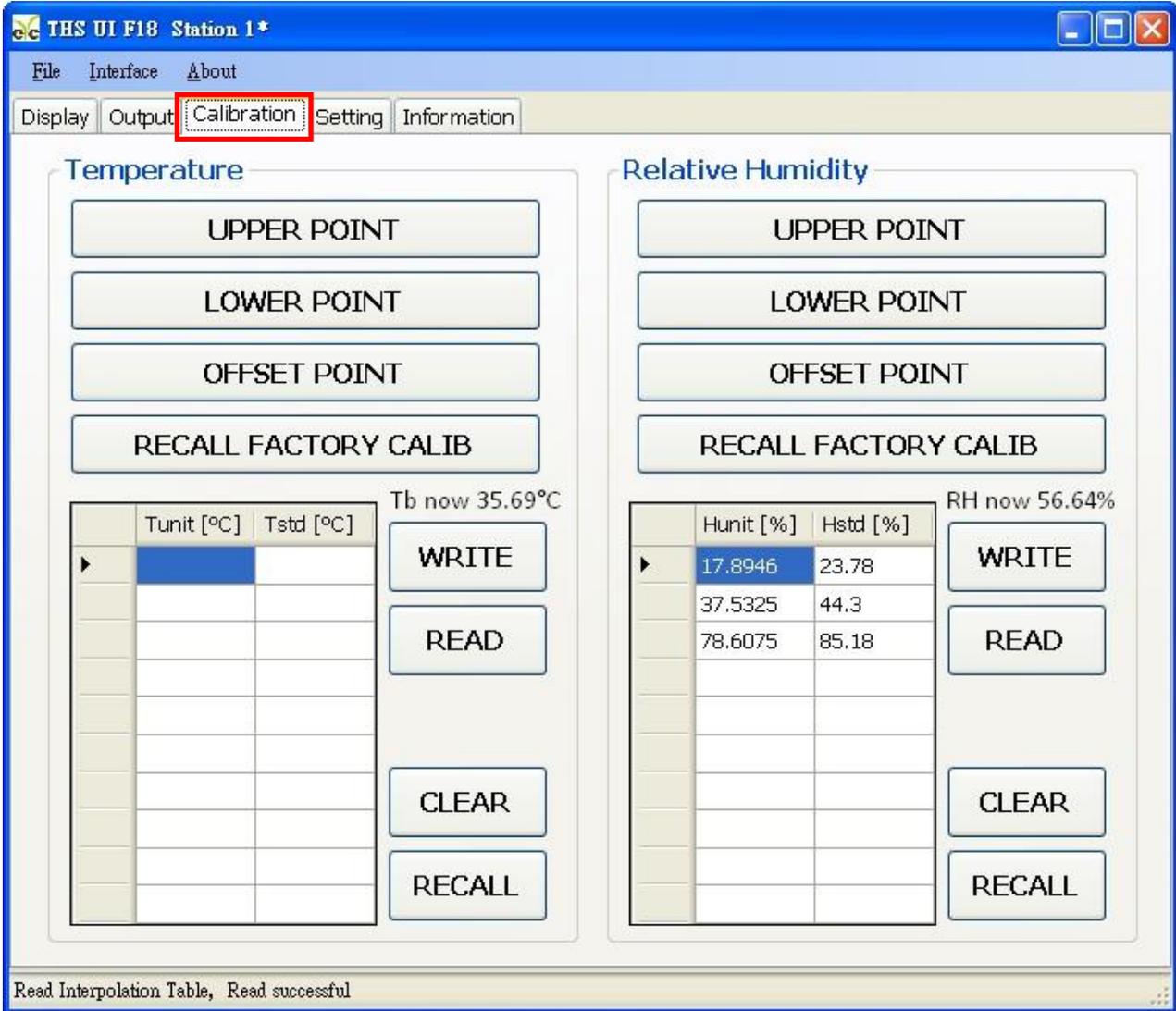


Multifunction Temperature & Humidity Transmitter (Indoor / Duct / Remote / Outdoor)

- (2) Select relative parameters from Output1 and Output2
 - a. Output style
 - b. Responding time
 - c. Voltage or current Output
 - d. Voltage or current analog range
 - e. Upper and Lower point of Output
- (3) Click "Apply"



- 6.7 Temperature Calibration with two points
- (1) Calibrate upper point of temperature
 - a. Click "Calibration"



The screenshot shows the THS UI F18 Station 1* software interface. The 'Calibration' menu item is highlighted with a red box. The interface is divided into two main sections: Temperature and Relative Humidity.

Temperature Section:

- Buttons: UPPER POINT, LOWER POINT, OFFSET POINT, RECALL FACTORY CALIB
- Current reading: Tb now 35.69°C
- Table:

Tunit [°C]	Tstd [°C]
- Buttons: WRITE, READ, CLEAR, RECALL

Relative Humidity Section:

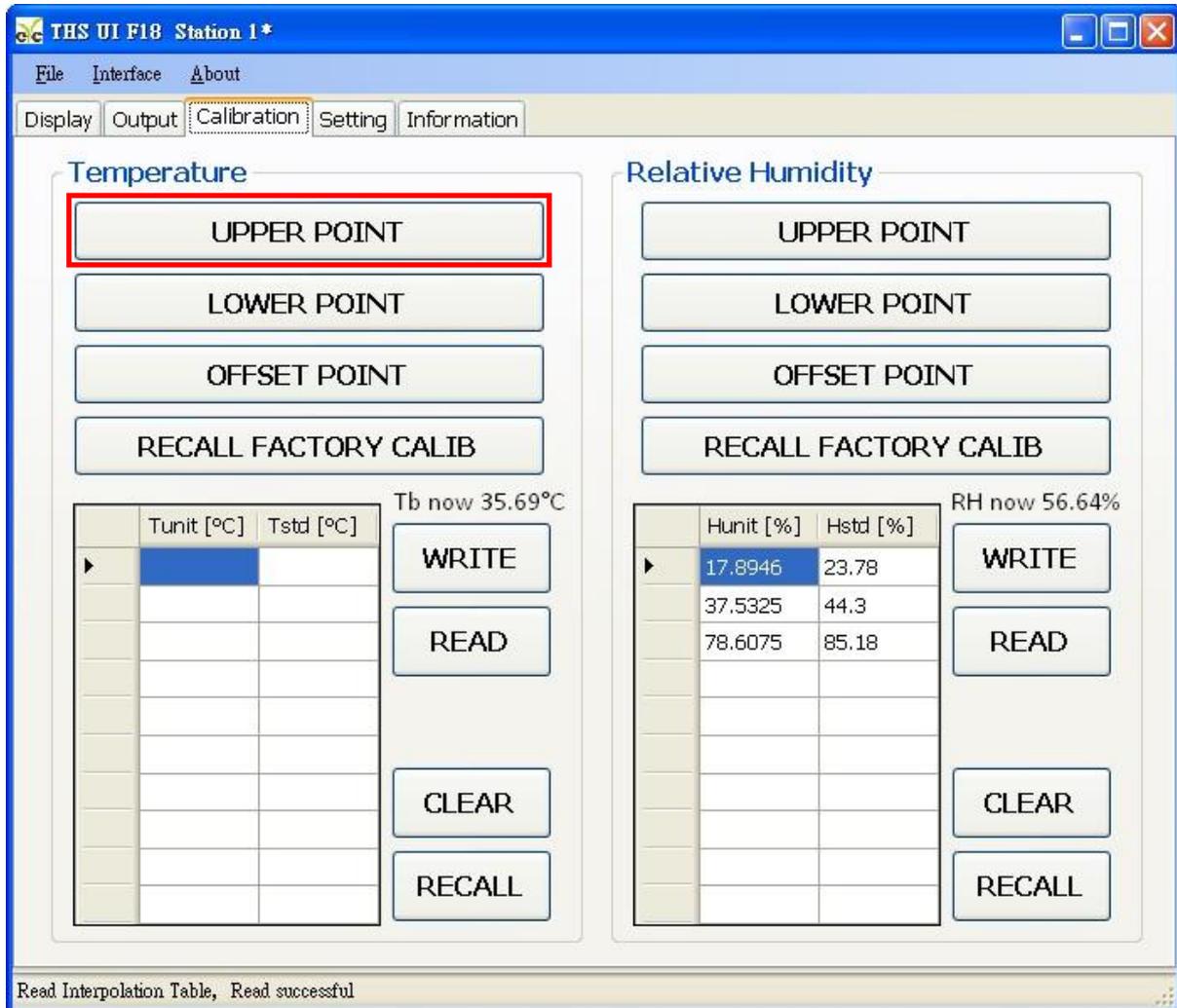
- Buttons: UPPER POINT, LOWER POINT, OFFSET POINT, RECALL FACTORY CALIB
- Current reading: RH now 56.64%
- Table:

Hunit [%]	Hstd [%]
17.8946	23.78
37.5325	44.3
78.6075	85.18
- Buttons: WRITE, READ, CLEAR, RECALL

Read Interpolation Table, Read successful

Multifunction Temperature & Humidity Transmitter (Indoor / Duct / Remote / Outdoor)

- b. Put the product in the temperature control box, and adjust the upper point of temperature (ex: 100°C)
- c. Wait the temperature of control box is becoming stable
- d. Click Temperature → UPPER POINT



Temperature

UPPER POINT

LOWER POINT

OFFSET POINT

RECALL FACTORY CALIB

Tb now 35.69°C

Tunit [°C]	Tstd [°C]

WRITE

READ

CLEAR

RECALL

Relative Humidity

UPPER POINT

LOWER POINT

OFFSET POINT

RECALL FACTORY CALIB

RH now 56.64%

Hunit [%]	Hstd [%]
17.8946	23.78
37.5325	44.3
78.6075	85.18

WRITE

READ

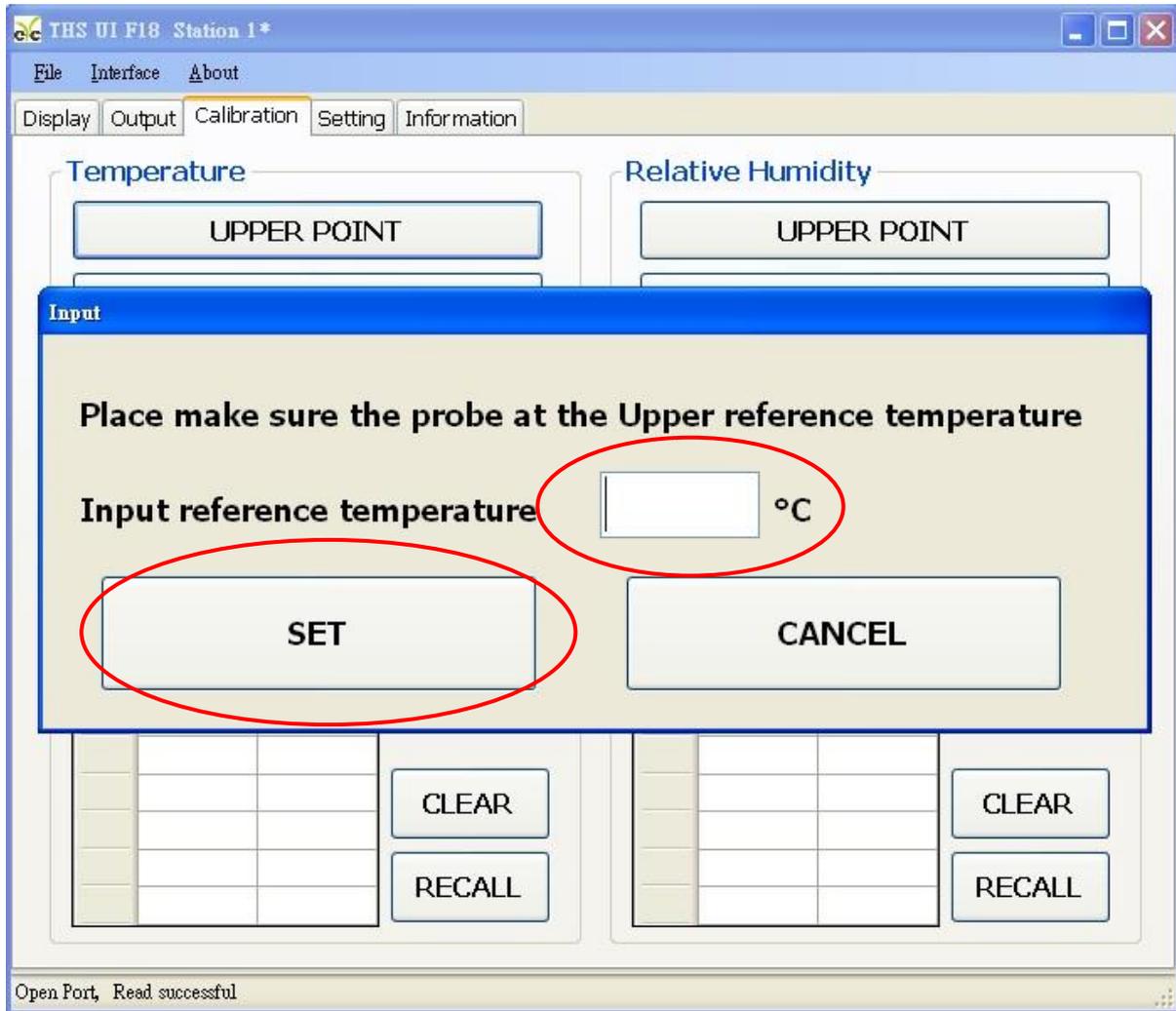
CLEAR

RECALL

Read Interpolation Table, Read successful

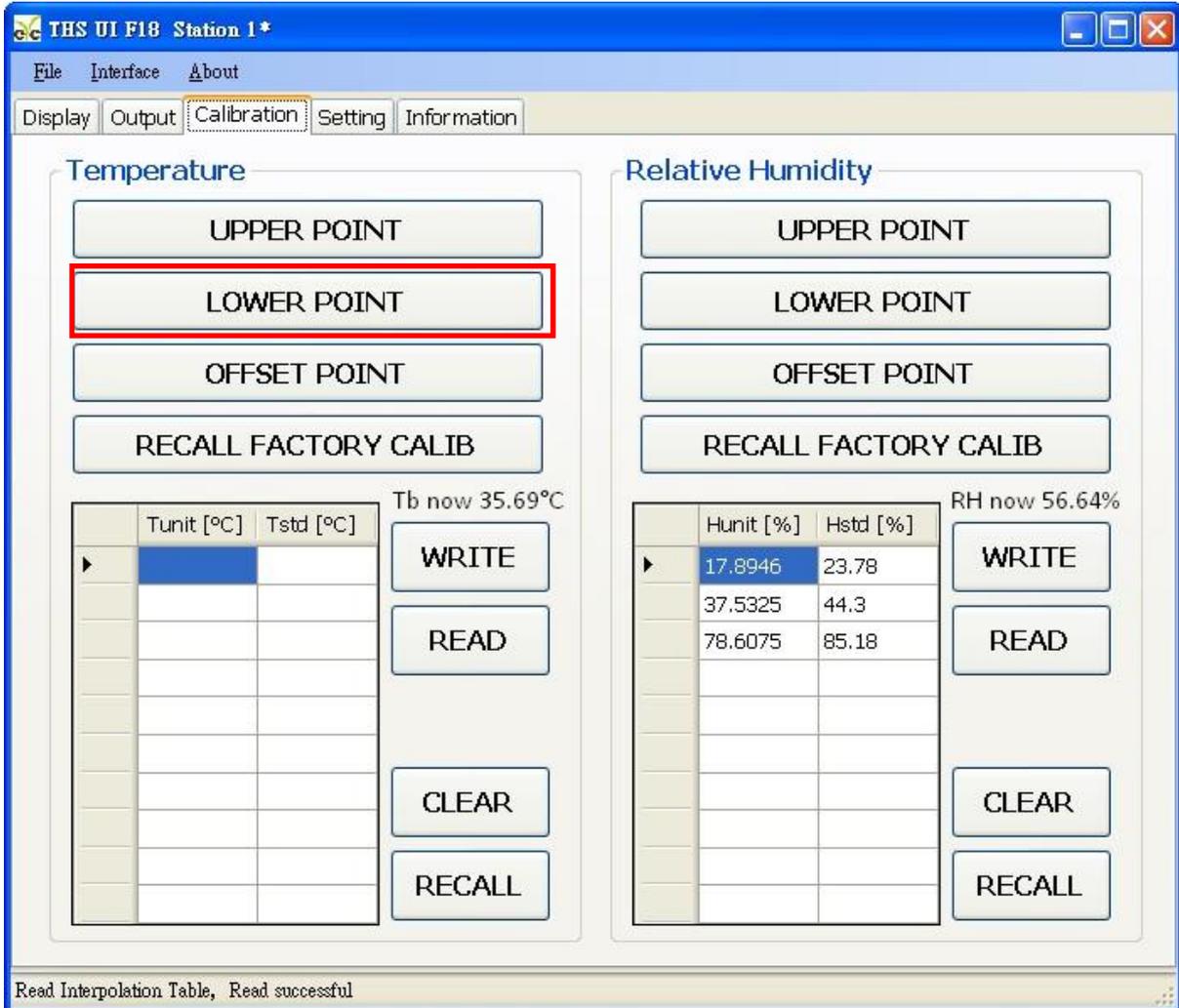
Multifunction Temperature & Humidity Transmitter (Indoor / Duct / Remote / Outdoor)

- e. Input the reference temperature, then click "SET"
- f. That calibrating upper point temperature is done.



Multifunction Temperature & Humidity Transmitter (Indoor / Duct / Remote / Outdoor)

- (2) Calibrate lower point of temperature
 - a. Put the product in the temperature control box, and adjust the lower point of temperature (ex : 0°C)
 - b. The difference temperature between Upper and Lower point must be at least 30°C.
 - c. Wait the temperature of control box is becoming stable
 - d. Click Temperature → LOWER POINT



The screenshot displays the 'THS UI F18 Station 1*' software interface. The 'Calibration' tab is active, showing settings for Temperature and Relative Humidity. The 'LOWER POINT' button under the Temperature section is highlighted with a red box. The interface includes a menu bar (File, Interface, About), a tab bar (Display, Output, Calibration, Setting, Information), and two main panels: Temperature and Relative Humidity. Each panel has buttons for UPPER POINT, LOWER POINT, OFFSET POINT, and RECALL FACTORY CALIB. Below these buttons are tables for interpolation data and control buttons (WRITE, READ, CLEAR, RECALL). The status bar at the bottom indicates 'Read Interpolation Table, Read successful'.

Temperature Section:

- Buttons: UPPER POINT, LOWER POINT (highlighted), OFFSET POINT, RECALL FACTORY CALIB
- Current Temperature: Tb now 35.69°C
- Table:

Tunit [°C]	Tstd [°C]
- Buttons: WRITE, READ, CLEAR, RECALL

Relative Humidity Section:

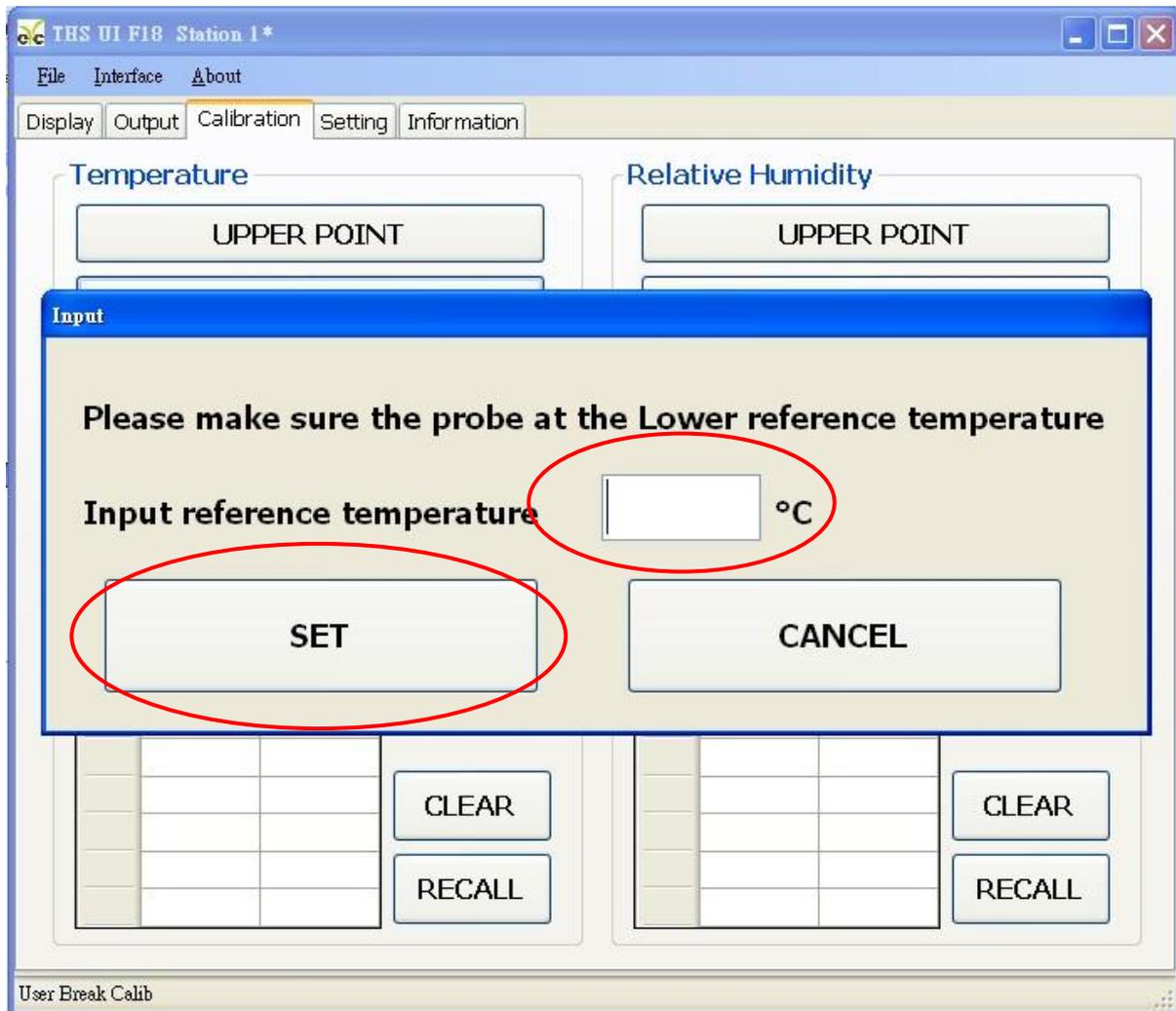
- Buttons: UPPER POINT, LOWER POINT, OFFSET POINT, RECALL FACTORY CALIB
- Current Humidity: RH now 56.64%
- Table:

Hunit [%]	Hstd [%]
17.8946	23.78
37.5325	44.3
78.6075	85.18
- Buttons: WRITE, READ, CLEAR, RECALL

Status Bar: Read Interpolation Table, Read successful

Multifunction Temperature & Humidity Transmitter (Indoor / Duct / Remote / Outdoor)

- e. Input reference temperature, then click "SET"
- f. That calibrating lower point temperature is done.



- 6.8 Humidity Calibration with two points
- (1) Calibrate Upper point of humidity
 - a. Click "Calibration"

The screenshot shows the 'THS UI F18 Station 1*' software interface. The 'Calibration' menu item is highlighted with a red box. The interface is divided into two main sections: 'Temperature' and 'Relative Humidity'.

Temperature Section:

- Buttons: UPPER POINT, LOWER POINT, OFFSET POINT, RECALL FACTORY CALIB
- Current reading: Tb now 35.69°C
- Table:

Tunit [°C]	Tstd [°C]
- Buttons: WRITE, READ, CLEAR, RECALL

Relative Humidity Section:

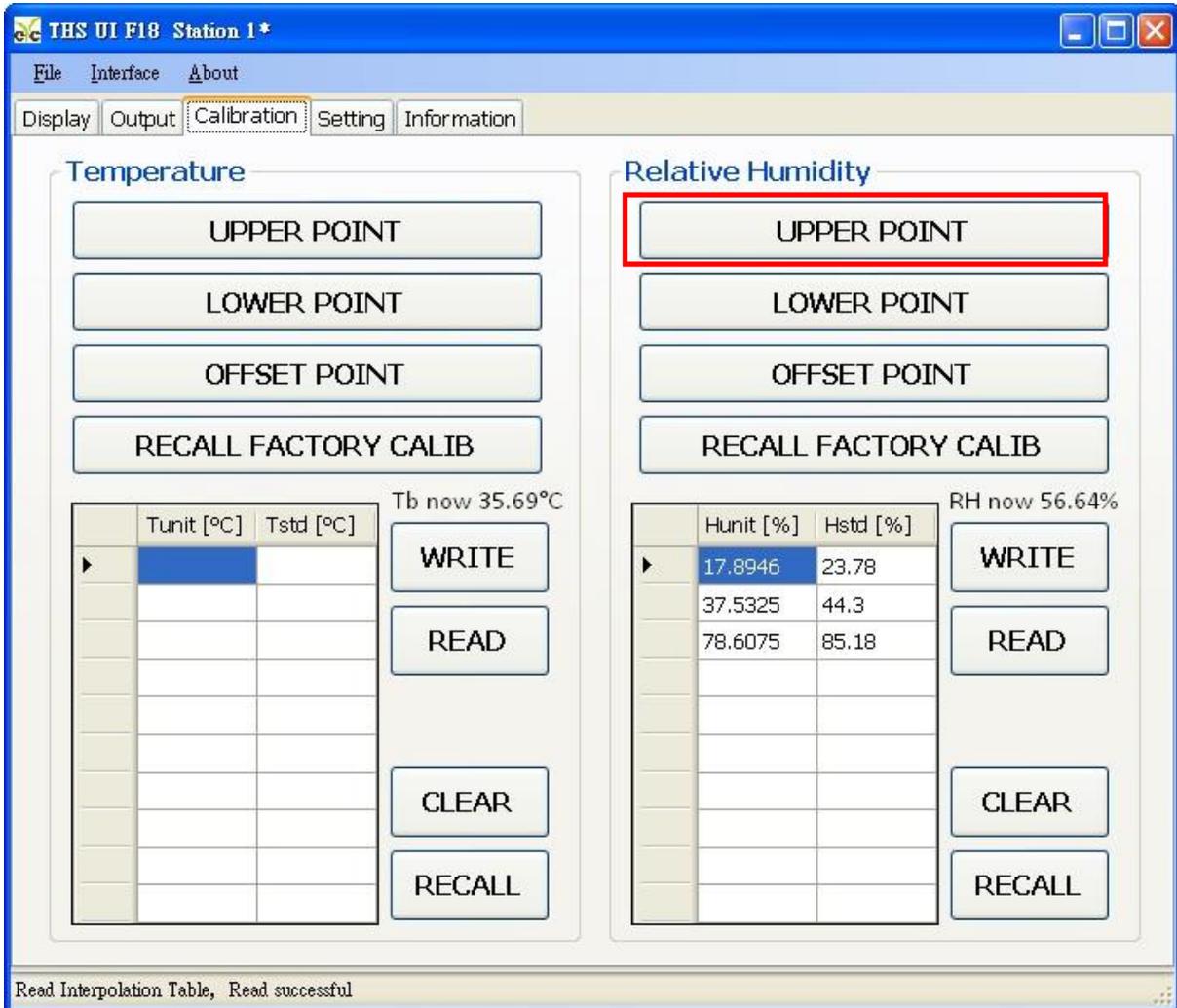
- Buttons: UPPER POINT, LOWER POINT, OFFSET POINT, RECALL FACTORY CALIB
- Current reading: RH now 56.64%
- Table:

Hunit [%]	Hstd [%]
17.8946	23.78
37.5325	44.3
78.6075	85.18
- Buttons: WRITE, READ, CLEAR, RECALL

At the bottom of the window, a status bar reads: "Read Interpolation Table, Read successful".

Multifunction Temperature & Humidity Transmitter (Indoor / Duct / Remote / Outdoor)

- b. Put the product in the humidity control box, and adjust upper point of humidity (ex : RH 80%)
- c. Wait the humidity of control box is becoming stable.
- d. Click Relative Humidity → UPPER POINT



The screenshot shows the 'THS UI F18 Station 1' software interface. The 'Calibration' tab is selected, showing two main sections: 'Temperature' and 'Relative Humidity'.

Temperature Section:

- Buttons: UPPER POINT, LOWER POINT, OFFSET POINT, RECALL FACTORY CALIB
- Current value: Tb now 35.69°C
- Table with columns: Tunit [°C], Tstd [°C]
- Buttons: WRITE, READ, CLEAR, RECALL

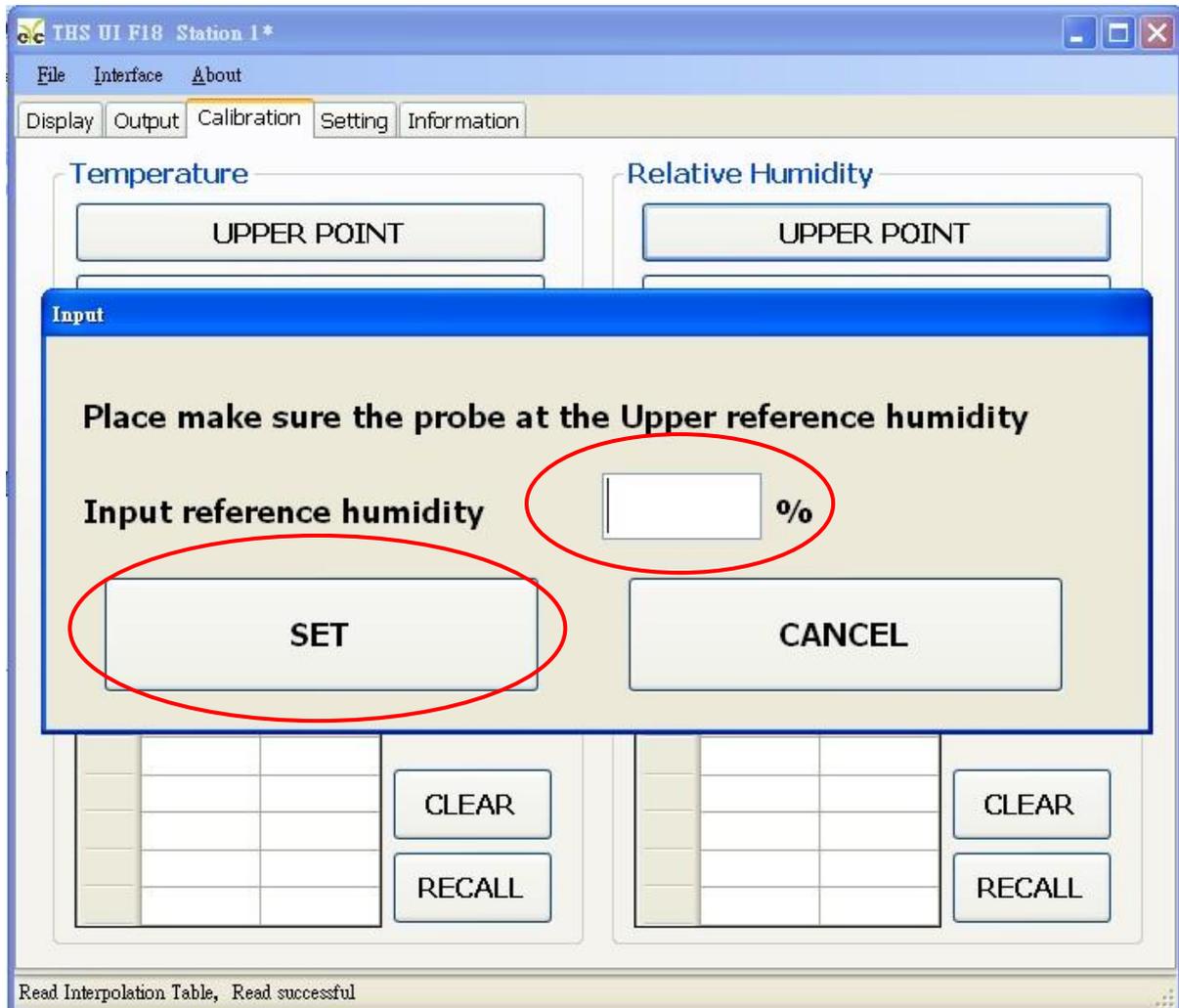
Relative Humidity Section:

- The 'UPPER POINT' button is highlighted with a red box.
- Buttons: LOWER POINT, OFFSET POINT, RECALL FACTORY CALIB
- Current value: RH now 56.64%
- Table with columns: Hunit [%], Hstd [%]
- Buttons: WRITE, READ, CLEAR, RECALL

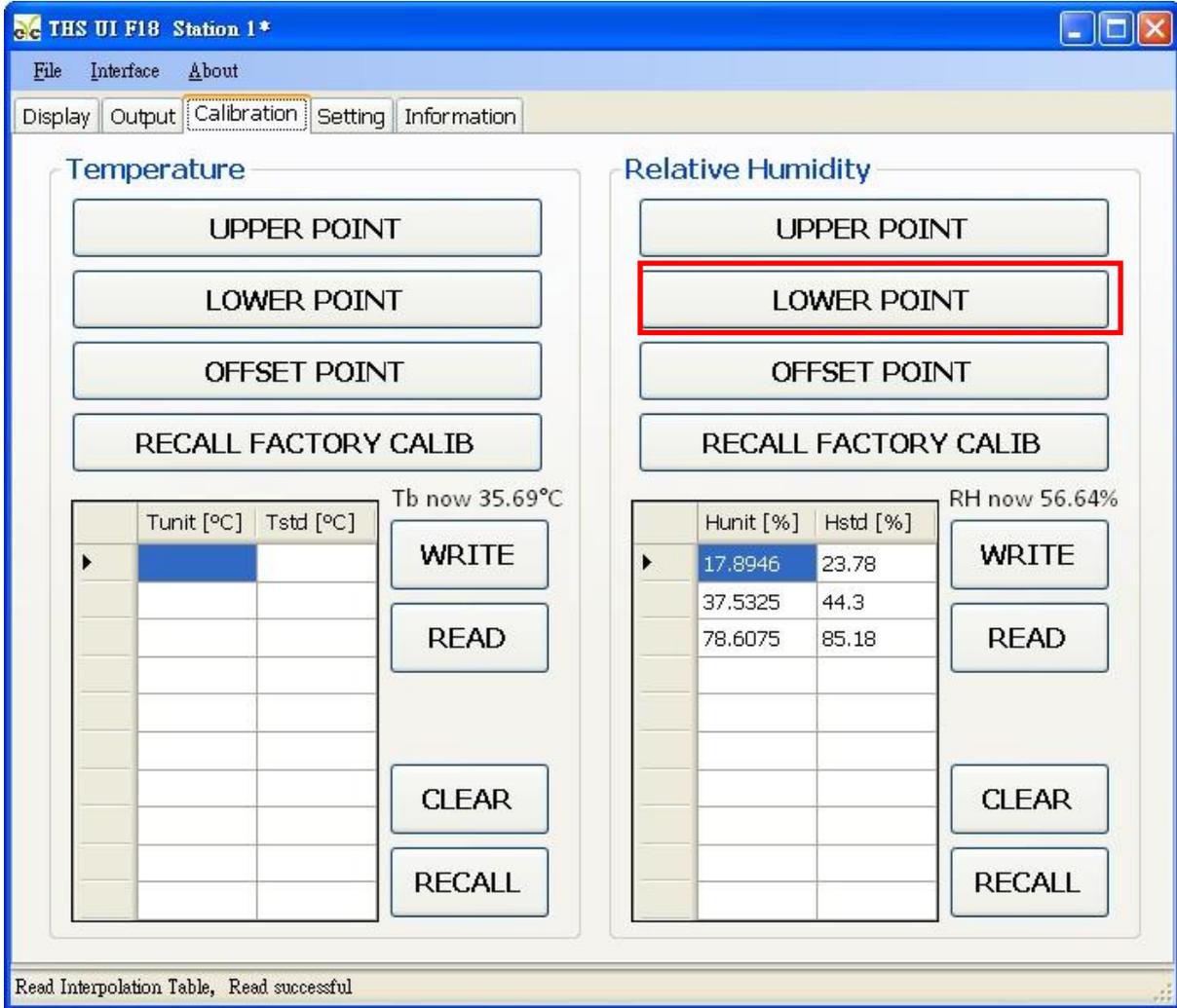
At the bottom of the window, a status bar reads: 'Read Interpolation Table, Read successful'.

Multifunction Temperature & Humidity Transmitter (Indoor / Duct / Remote / Outdoor)

- e. Input reference humidity, then click "SET"
- f. That calibrating upper point humidity is done



- (2) Calibrate humidity lower point
 - a. Put the product in the humidity control box, and adjust lower point of humidity (ex : RH 20%)
 - b. Wait the humidity of control box is becoming stable.
 - c. Click Relative Humidity → LOWER POINT



The screenshot shows the 'Calibration' tab of the THS UI F18 Station 1* software. The interface is divided into two main sections: Temperature and Relative Humidity. Each section has four buttons: UPPER POINT, LOWER POINT, OFFSET POINT, and RECALL FACTORY CALIB. The Relative Humidity LOWER POINT button is highlighted with a red box. Below the buttons are data tables and control buttons (WRITE, READ, CLEAR, RECALL).

Temperature Section:

- Buttons: UPPER POINT, LOWER POINT, OFFSET POINT, RECALL FACTORY CALIB
- Current value: Tb now 35.69°C
- Table:

Tunit [°C]	Tstd [°C]
- Buttons: WRITE, READ, CLEAR, RECALL

Relative Humidity Section:

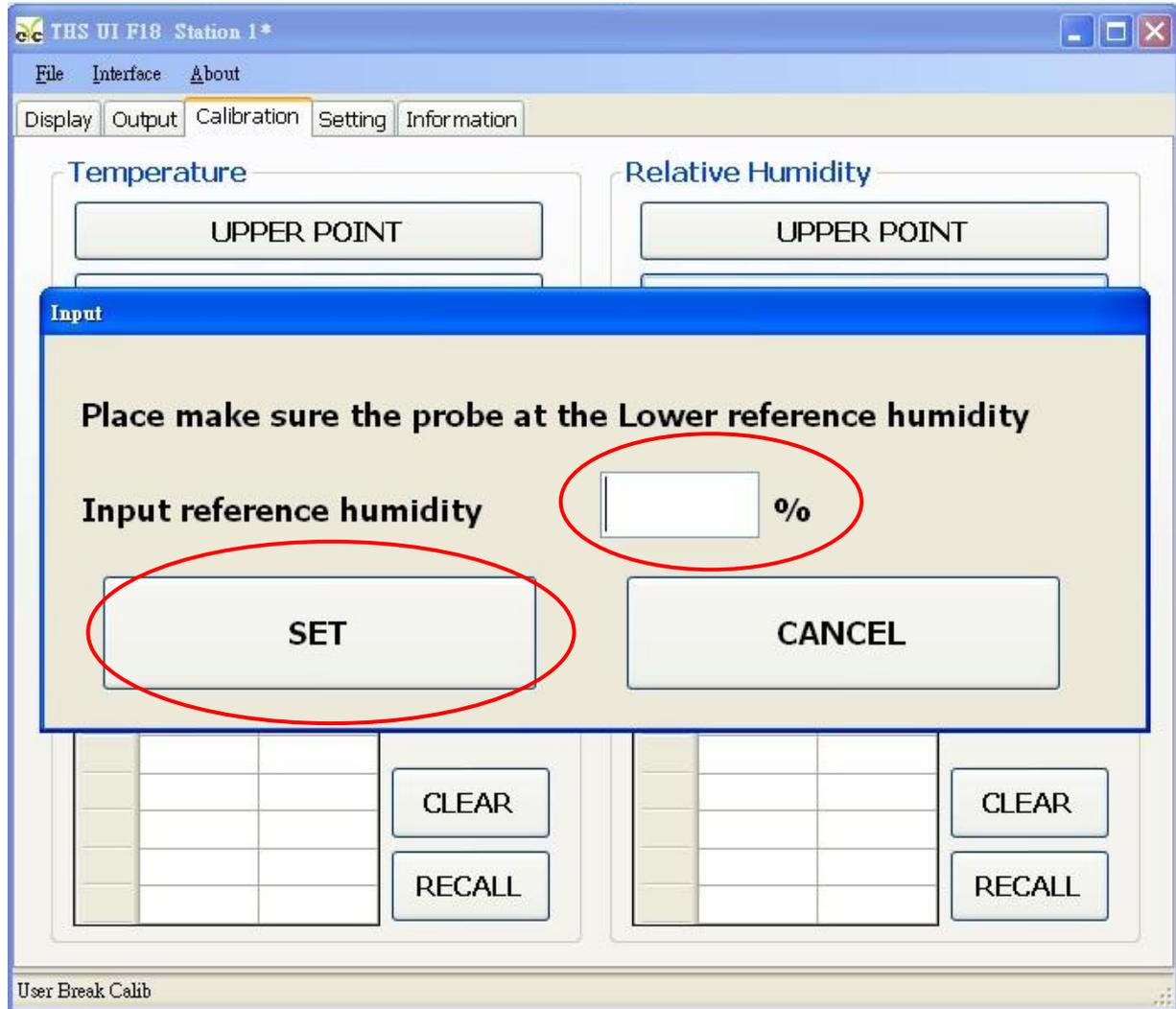
- Buttons: UPPER POINT, LOWER POINT (highlighted), OFFSET POINT, RECALL FACTORY CALIB
- Current value: RH now 56.64%
- Table:

Hunit [%]	Hstd [%]
17.8946	23.78
37.5325	44.3
78.6075	85.18
- Buttons: WRITE, READ, CLEAR, RECALL

Read Interpolation Table, Read successful

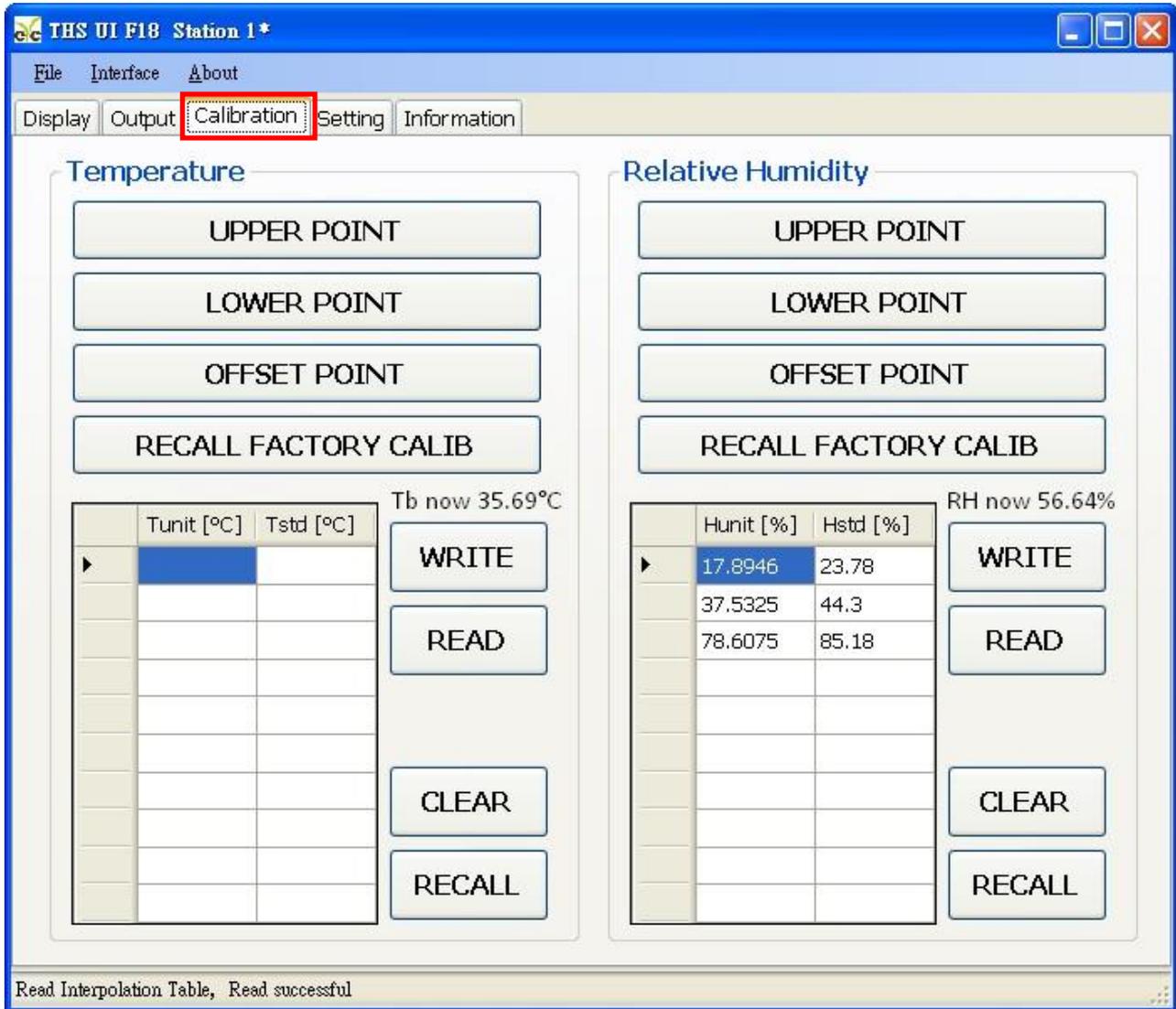
Multifunction Temperature & Humidity Transmitter (Indoor / Duct / Remote / Outdoor)

- d. Input reference humidity, then click "SET"
- e. That calibrating lower point humidity is done



6.9 Temperature Calibration with signal points

- (1) Click "Calibration"



The screenshot shows the THS UI F18 Station 1* software interface. The 'Calibration' menu item is highlighted with a red box. The interface is divided into two main sections: Temperature and Relative Humidity.

Temperature Section:

- Buttons: UPPER POINT, LOWER POINT, OFFSET POINT, RECALL FACTORY CALIB
- Current reading: Tb now 35.69°C
- Table with columns: Tunit [°C], Tstd [°C]
- Buttons: WRITE, READ, CLEAR, RECALL

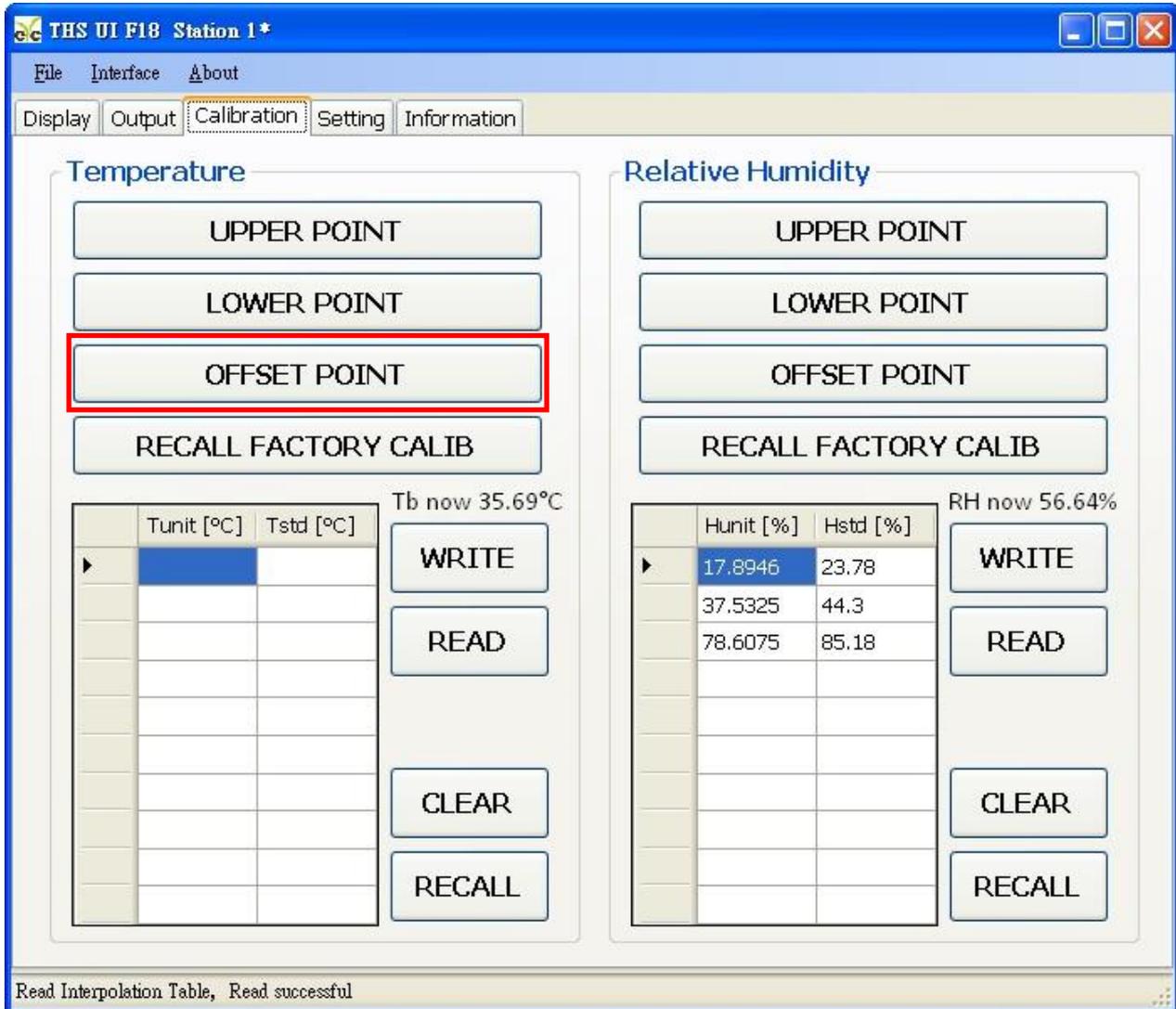
Relative Humidity Section:

- Buttons: UPPER POINT, LOWER POINT, OFFSET POINT, RECALL FACTORY CALIB
- Current reading: RH now 56.64%
- Table with columns: Hunit [%], Hstd [%]
- Buttons: WRITE, READ, CLEAR, RECALL

At the bottom of the window, a status bar reads: "Read Interpolation Table, Read successful"

Multifunction Temperature & Humidity Transmitter (Indoor / Duct / Remote / Outdoor)

- (2) Put the product in the temperature control box, and adjust the temperature point which you want to calibrate (ex : 50°C)
- (3) Wait the temperature of control box is becoming stable
- (4) Click Temperature → OFFSET POINT



The screenshot shows the 'THS UI F18 Station 1*' software interface with the 'Calibration' tab selected. The interface is divided into two main sections: 'Temperature' and 'Relative Humidity'.

Temperature Section:

- Buttons: UPPER POINT, LOWER POINT, **OFFSET POINT** (highlighted with a red box), RECALL FACTORY CALIB.
- Current reading: Tb now 35.69°C
- Table:

Tunit [°C]	Tstd [°C]
▶	
- Buttons: WRITE, READ, CLEAR, RECALL.

Relative Humidity Section:

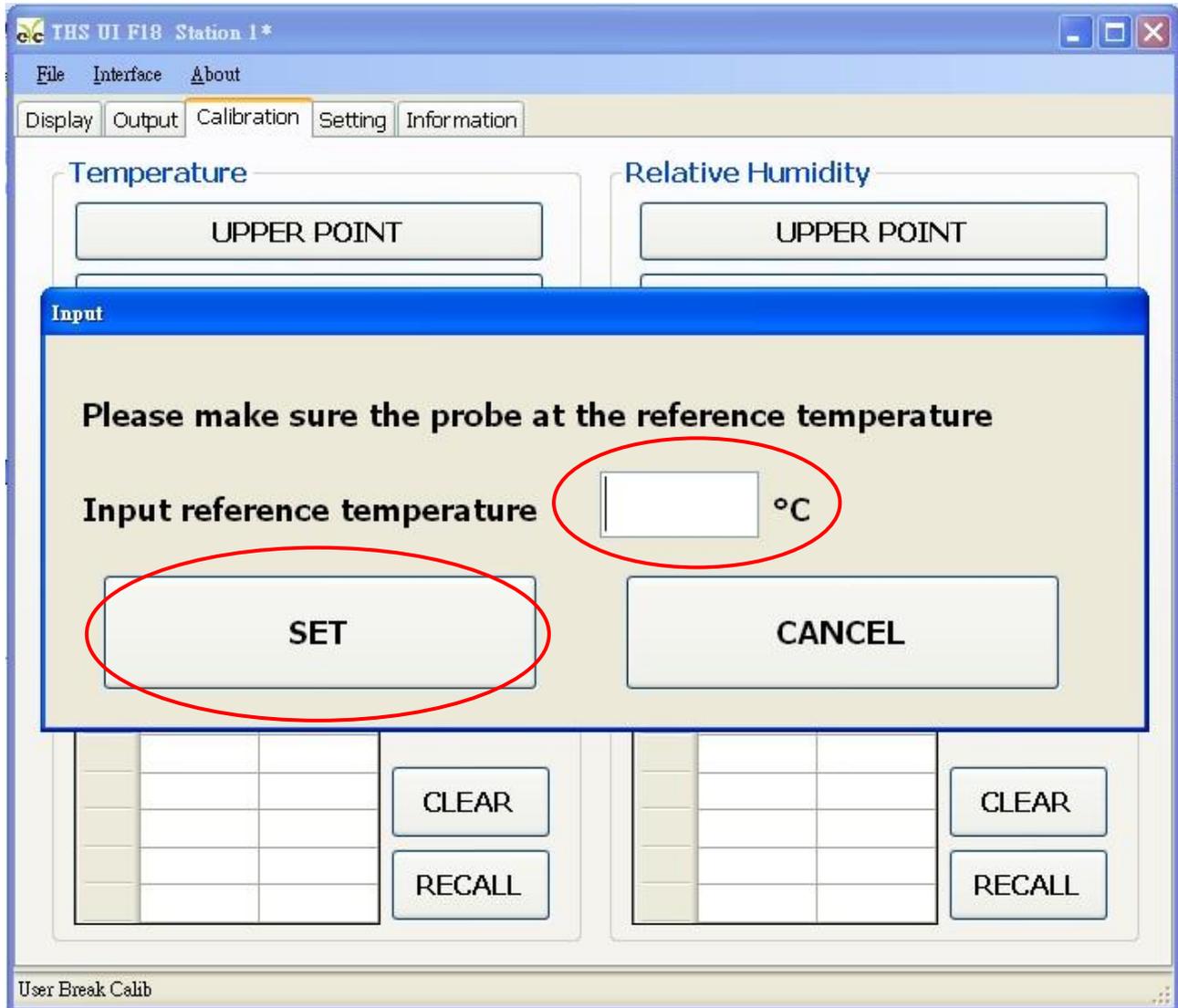
- Buttons: UPPER POINT, LOWER POINT, OFFSET POINT, RECALL FACTORY CALIB.
- Current reading: RH now 56.64%
- Table:

Hunit [%]	Hstd [%]
▶	
17.8946	23.78
37.5325	44.3
78.6075	85.18
- Buttons: WRITE, READ, CLEAR, RECALL.

At the bottom of the window, a status bar reads: "Read Interpolation Table, Read successful".

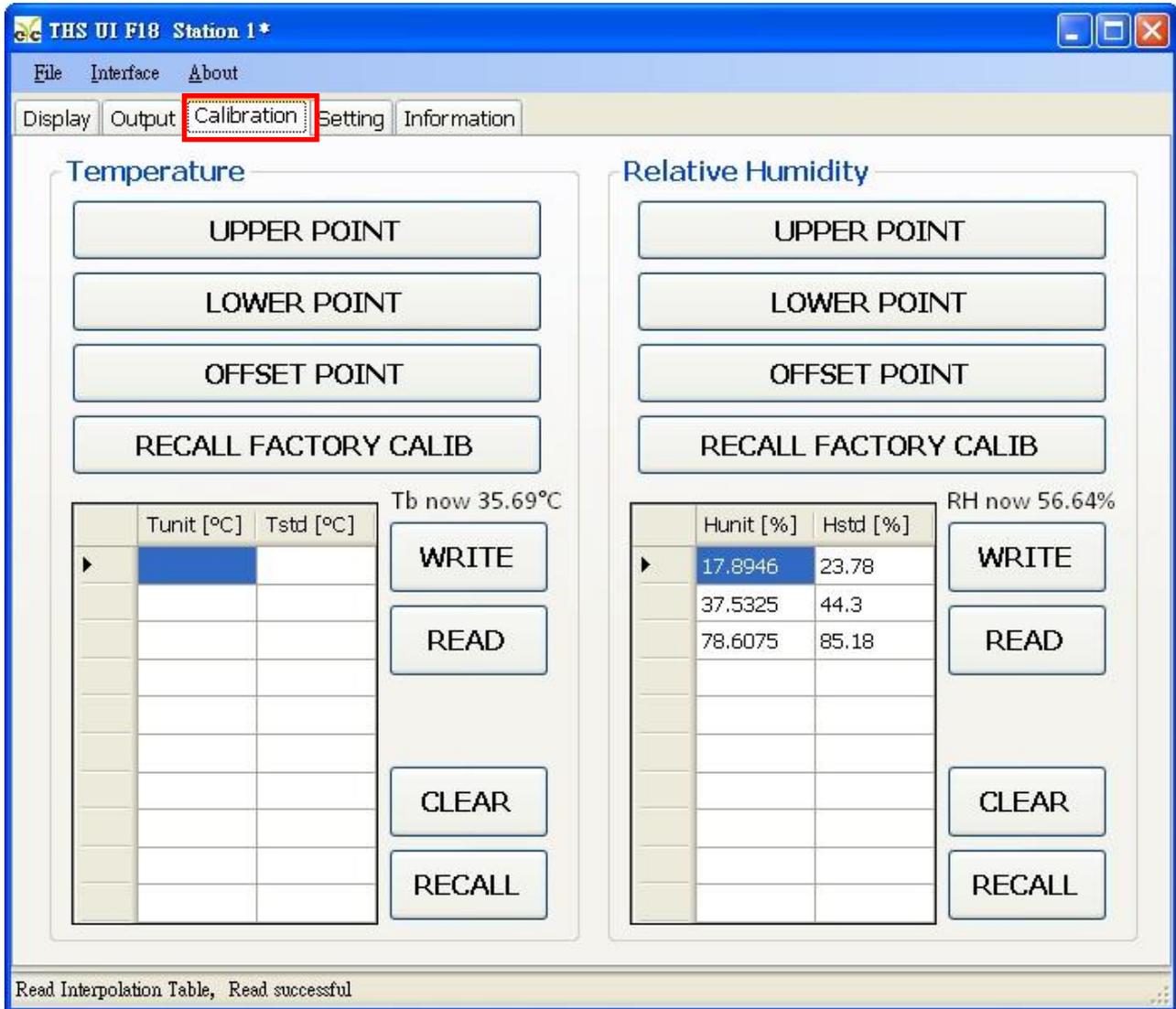
Multifunction Temperature & Humidity Transmitter (Indoor / Duct / Remote / Outdoor)

- (5) Input the reference temperature, then click "SET"
- (6) That calibrating upper point temperature is done



6.10 Humidity Calibration with signal point

- (1) Click "Calibration"



The screenshot shows the THS UI F18 Station 1* software interface. The 'Calibration' menu item is highlighted with a red box. The interface is divided into two main sections: Temperature and Relative Humidity.

Temperature Section:

- Buttons: UPPER POINT, LOWER POINT, OFFSET POINT, RECALL FACTORY CALIB
- Current reading: Tb now 35.69°C
- Table:

Tunit [°C]	Tstd [°C]
- Buttons: WRITE, READ, CLEAR, RECALL

Relative Humidity Section:

- Buttons: UPPER POINT, LOWER POINT, OFFSET POINT, RECALL FACTORY CALIB
- Current reading: RH now 56.64%
- Table:

Hunit [%]	Hstd [%]
17.8946	23.78
37.5325	44.3
78.6075	85.18
- Buttons: WRITE, READ, CLEAR, RECALL

At the bottom of the window, a status bar reads: "Read Interpolation Table, Read successful".

Multifunction Temperature & Humidity Transmitter (Indoor / Duct / Remote / Outdoor)

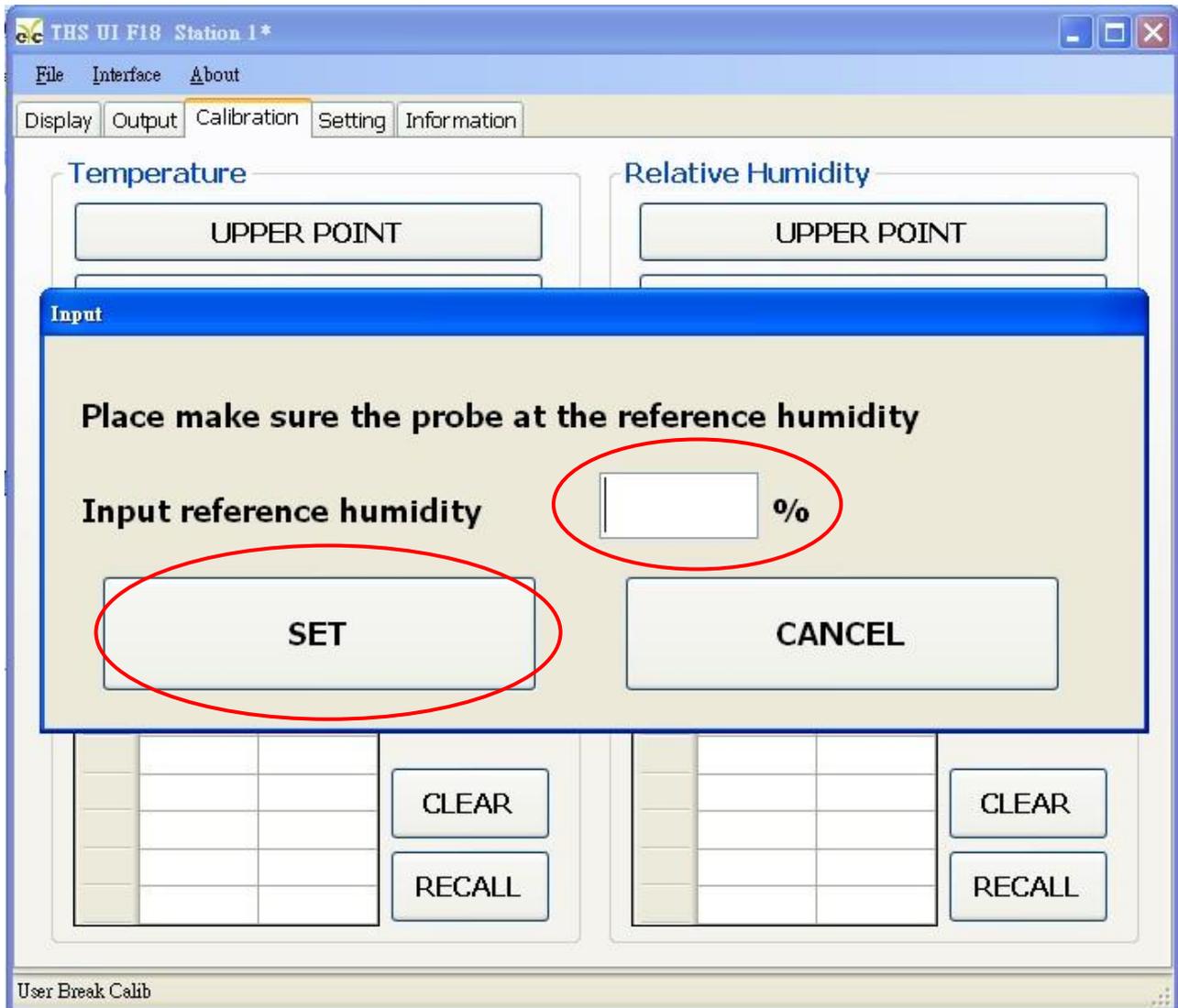
- (2) Put the product in humidity control box, then adjust the humidity point which you want to calibrate (ex: 50%RH)
- (3) Wait the humidity of control box is becoming stable
- (4) Click Relative Humidity → OFFSET POINT

The screenshot shows the 'THS UI F18 Station 1*' software interface. The 'Calibration' tab is selected. The interface is divided into two main sections: 'Temperature' and 'Relative Humidity'. Each section has four buttons: 'UPPER POINT', 'LOWER POINT', 'OFFSET POINT', and 'RECALL FACTORY CALIB'. The 'OFFSET POINT' button in the 'Relative Humidity' section is highlighted with a red box. Below the buttons are two tables. The 'Temperature' table has columns 'Tunit [°C]' and 'Tstd [°C]'. The 'Relative Humidity' table has columns 'Hunit [%]' and 'Hstd [%]'. The 'Relative Humidity' table contains three rows of data: (17.8946, 23.78), (37.5325, 44.3), and (78.6075, 85.18). The 'WRITE' button is highlighted in the 'Relative Humidity' section. The status bar at the bottom reads 'Read Interpolation Table, Read successful'.

Tunit [°C]	Tstd [°C]

Hunit [%]	Hstd [%]
17.8946	23.78
37.5325	44.3
78.6075	85.18

- (5) Input reference humidity, then click "SET"
- (6) That calibrating signal point humidity is done



6.11 Restore factory setting of signal/two point(s)

- (1) Restore factory setting temperature
 - a. Click "Calibration"
 - b. Click temperature → RECALL FACTORY CALIB
 - c. Show "Restore Factory Temperature Calib OK, Write successful"
 - d. That restore temperature of factory setting is done

The screenshot shows the THS UI F18 Station 1 software interface. The 'Calibration' menu is selected, and the 'RECALL FACTORY CALIB' button is highlighted with a red box. The interface is divided into two main sections: Temperature and Relative Humidity. Each section has buttons for UPPER POINT, LOWER POINT, OFFSET POINT, and RECALL FACTORY CALIB. Below these buttons are tables for calibration data and buttons for WRITE, READ, CLEAR, and RECALL. The current temperature is 35.57°C and the current relative humidity is 55.78%.

a. Calibration

b. RECALL FACTORY CALIB

c. Restore Factory Temperature Calib OK, Write successful

Multifunction Temperature & Humidity Transmitter (Indoor / Duct / Remote / Outdoor)

- (2) Restore humidity of factory setting
 - a. Click "Calibration"
 - b. Click Relative Humidity → RECALL FACTORY CALIB
 - c. Show "Restore Factory Rel. Humidity Calib OK, Write successful"
 - d. That restore humidity of factory setting is done

The screenshot shows the THS UI F18 Station 1* software interface. The 'Calibration' menu item is highlighted with a red box and labeled 'a.'. The 'Relative Humidity' section has the 'RECALL FACTORY CALIB' button highlighted with a red box and labeled 'b.'. The status bar at the bottom shows the message 'Restore Factory Rel. Humidity Calib OK, Write successful' circled in red and labeled 'c.'. The interface includes a menu bar (File, Interface, About), a toolbar (Display, Output, Calibration, Setting, Information), and two main panels: Temperature and Relative Humidity. Each panel has buttons for UPPER POINT, LOWER POINT, OFFSET POINT, and RECALL FACTORY CALIB. Below these buttons are tables for calibration data and buttons for WRITE, READ, CLEAR, and RECALL.

Temperature Panel:

Tunit [°C]	Tstd [°C]

Relative Humidity Panel:

Hunit [%]	Hstd [%]
17.8946	23.78
37.5325	44.3
78.6075	85.18

6.12 Temperature Calibration with more points

※ Because of that the product has high accuracy and using this calibration way can influence linear accuracy, we do not suggest to use this calibration way.

(1) Click “Calibration”

Statement : The existing value is record of more points of calibrating which was executed by factory when operators log in Calibration page at the first time.

Temperature Calibration with more points

Tunit [°C]	Tstd [°C]
0.11	0
99.98	100.00

Hunit [%]	Hstd [%]
17.8946	23.78
37.5325	44.3
78.6075	85.18

Read Interpolation Table, Read successful

Multifunction Temperature & Humidity Transmitter (Indoor / Duct / Remote / Outdoor)

- (5) Delete factory setting :
- a. Click Temperature → CLEAR(Clear data)
 - b. Click Temperature → WRITE(Clear factory setting)

Temperature

UPPER POINT

LOWER POINT

OFFSET POINT

RECALL FACTORY CALIB

Tb now 37.05°C

Tunit [°C]	Tstd [°C]

WRITE **b.**

READ

CLEAR **a.**

RECALL

Relative Humidity

UPPER POINT

LOWER POINT

OFFSET POINT

RECALL FACTORY CALIB

RH now 55.80%

Hunit [%]	Hstd [%]
17.8946	23.78
37.5325	44.3
78.6075	85.18

WRITE

READ

CLEAR

RECALL

Read Interpolation Table, Read successful

Multifunction Temperature & Humidity Transmitter (Indoor / Duct / Remote / Outdoor)

- d. Input the value which you want to calibrate
- d-1. Tunit[%] : Value which product shows
- d-2. Tstd[%] : Standard value of calibration
- e. click Temperature → WRITE

The screenshot shows the 'Calibration' tab of the TBS UI F18 Station 1* software. It is divided into two main sections: 'Temperature' and 'Relative Humidity'. Each section has four buttons: 'UPPER POINT', 'LOWER POINT', 'OFFSET POINT', and 'RECALL FACTORY CALIB'. Below these buttons are data tables and control buttons.

Temperature Section:

- Current temperature: Tb now 36.19°C
- Table with columns: Tunit [°C], Tstd [°C]
- Row 1: 0.11, 0
- Row 2 (highlighted): 92.5, 93.3
- Buttons: WRITE, READ, CLEAR, RECALL

Relative Humidity Section:

- Current humidity: RH now 61.26%
- Table with columns: Hunit [%], Hstd [%]
- Row 1: 17.8946, 23.78
- Row 2 (highlighted): 37.5325, 44.3
- Row 3: 78.6075, 85.18
- Buttons: WRITE, READ, CLEAR, RECALL

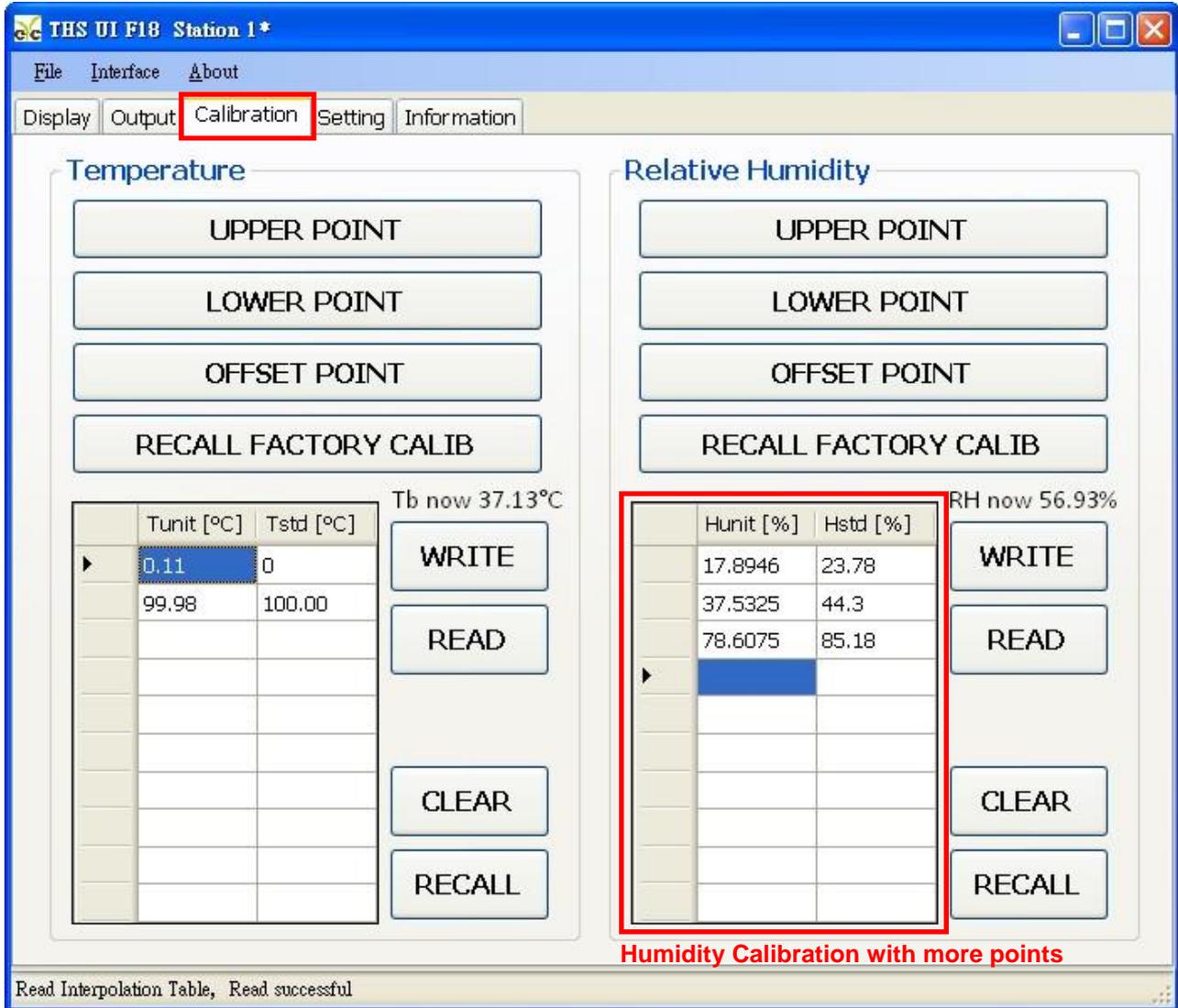
Annotations: A red box labeled 'd.' highlights the second row of the Temperature table. A red box labeled 'e.' highlights the WRITE button in the Temperature section.

Read Interpolation Table, Read successful

6.13 Humidity Calibration with more points

1. Click "Calibration"

Statement : The existing value is record of more points of calibrating which was executed by factory when operators log in Calibration page at the first time.



The screenshot shows the 'Calibration' page of the THS UI F18 Station 1* software. The 'Calibration' tab is selected. The interface is divided into two main sections: 'Temperature' and 'Relative Humidity'.

Temperature Section:

- Buttons: UPPER POINT, LOWER POINT, OFFSET POINT, RECALL FACTORY CALIB
- Current Temperature: Tb now 37.13°C
- Table:

Tunit [°C]	Tstd [°C]
0.11	0
99.98	100.00
- Buttons: WRITE, READ, CLEAR, RECALL

Relative Humidity Section:

- Buttons: UPPER POINT, LOWER POINT, OFFSET POINT, RECALL FACTORY CALIB
- Current Relative Humidity: RH now 56.93%
- Table (highlighted with a red box):

Hunit [%]	Hstd [%]
17.8946	23.78
37.5325	44.3
78.6075	85.18
- Buttons: WRITE, READ, CLEAR, RECALL

At the bottom of the interface, a status bar reads: "Read Interpolation Table, Read successful".

Humidity Calibration with more points

Multifunction Temperature & Humidity Transmitter (Indoor / Duct / Remote / Outdoor)

2. Put the product in the environmental of humidity which you want to calibrate
3. Wait the environmental of humidity is becoming stable
4. Retain the factory setting :
 - a. Input the value which you want to calibrate in the Relative Humidity area
 - a-1. Hunit[%] : Value which product shows
 - a-2. Hstd[%] : Standard value of calibration
 - ※1.Please enter calibration points in the blank, 10 points maximal
 - ※2.The interval between two points should be 10% above
 - ※3.Execute step 6 when you want to repeat the calibration points and factory setting points or the humidity is less than 10%
 - b. Click Temperature → WRITE

The screenshot shows the 'Calibration' tab of the TBS UI F18 Station 1 software. It is divided into two main sections: 'Temperature' and 'Relative Humidity'.

Temperature Section:

- Buttons: UPPER POINT, LOWER POINT, OFFSET POINT, RECALL FACTORY CALIB.
- Current reading: Tb now 37.15°C
- Table:

	Tunit [°C]	Tstd [°C]
▶	0.11	0
	99.98	100.00
- Buttons: WRITE, READ, CLEAR, RECALL.

Relative Humidity Section:

- Buttons: UPPER POINT, LOWER POINT, OFFSET POINT, RECALL FACTORY CALIB.
- Current reading: RH now 55.12%
- Table:

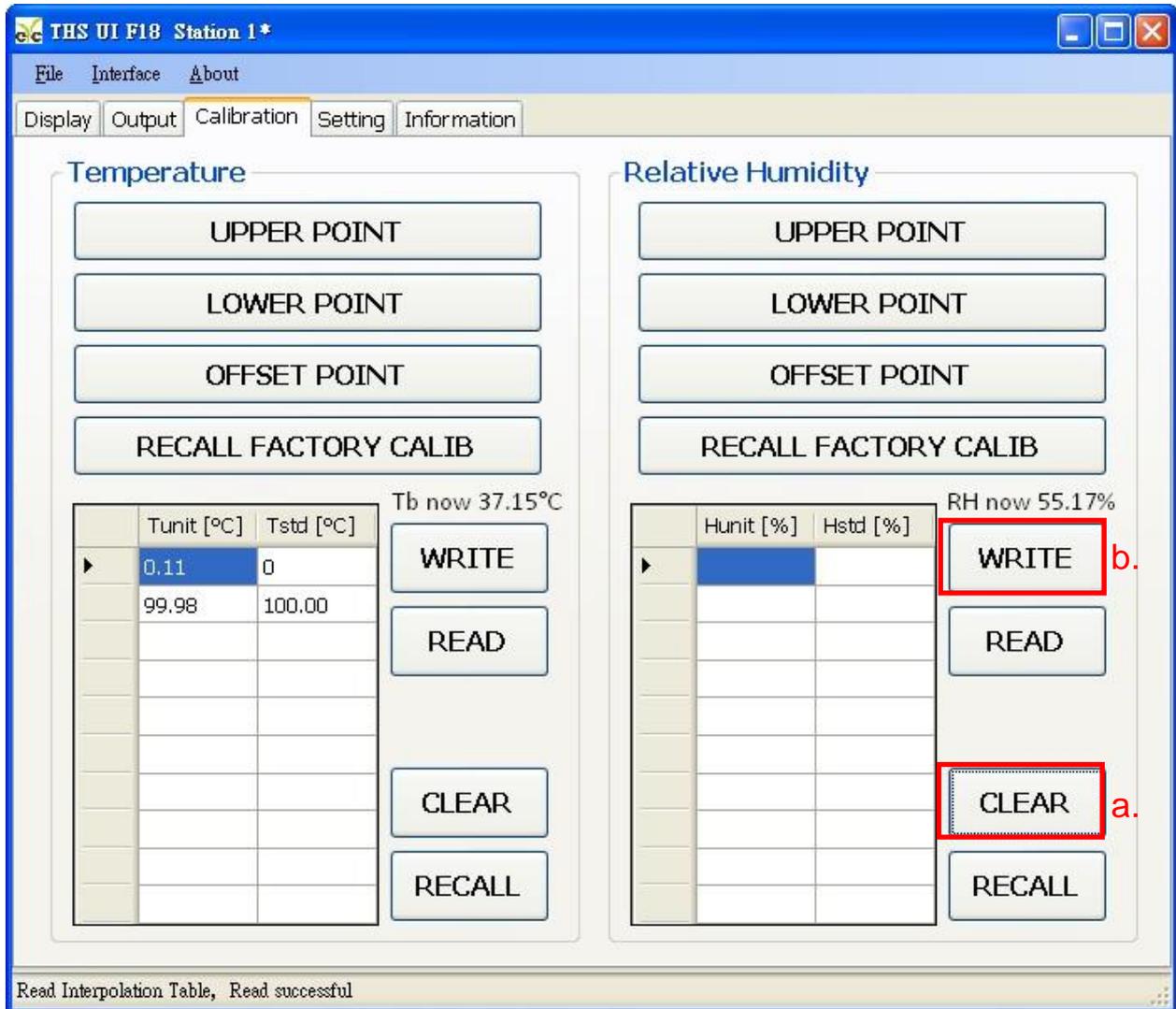
	Hunit [%]	Hstd [%]
	17.8946	23.78
	37.5325	44.3
	78.6075	85.18
▶	62.23	61.77
- Buttons: WRITE, READ, CLEAR, RECALL.

Red boxes in the image highlight the 'WRITE' button in the Relative Humidity section (labeled 'b.') and the first row of the Relative Humidity table (labeled 'a.').

Read Interpolation Table, Read successful

5. Delete factory setting :

- a. Click Relative Humidity → CLEAR(Clear data)
- b. Click Relative Humidity → WRITE(Clear factory setting)



The screenshot shows the 'Calibration' tab of the 'TBS UI F18 Station 1' software. It is divided into two main sections: 'Temperature' and 'Relative Humidity'.

Temperature Section:

- Buttons: UPPER POINT, LOWER POINT, OFFSET POINT, RECALL FACTORY CALIB.
- Current reading: Tb now 37.15°C
- Table:

	Tunit [°C]	Tstd [°C]
▶	0.11	0
	99.98	100.00
- Buttons: WRITE, READ, CLEAR, RECALL.

Relative Humidity Section:

- Buttons: UPPER POINT, LOWER POINT, OFFSET POINT, RECALL FACTORY CALIB.
- Current reading: RH now 55.17%
- Table:

	Hunit [%]	Hstd [%]
▶		
- Buttons: WRITE, READ, CLEAR, RECALL.

Red boxes highlight the 'WRITE' button in the Relative Humidity section (labeled 'b.') and the 'CLEAR' button in the Relative Humidity section (labeled 'a.').

Read Interpolation Table, Read successful

Multifunction Temperature & Humidity Transmitter (Indoor / Duct / Remote / Outdoor)

c. Input the value which you want to calibrate in the Relative Humidity area

c-1. Hunit[%] : Value which product shows

c-2. Hstd[%] : Standard value of calibration

※1. Please enter calibration points in the blank, 10 points maximal

※2. The interval between two points should be 10% above

d. Click Relative Humidity → WRITE

Temperature

UPPER POINT

LOWER POINT

OFFSET POINT

RECALL FACTORY CALIB

Tb now 37.22°C

	Tunit [°C]	Tstd [°C]
▶	0.11	0
	99.98	100.00

WRITE

READ

CLEAR

RECALL

Relative Humidity

UPPER POINT

LOWER POINT

OFFSET POINT

RECALL FACTORY CALIB

RH now 47.81%

	Hunit [%]	Hstd [%]
	29.51	29.8
	65.35	65.00
▶	42.36	42.52

WRITE

READ

CLEAR

RECALL

Read Interpolation Table, Read successful

Multifunction Temperature & Humidity Transmitter (Indoor / Duct / Remote / Outdoor)

6. Retain the part of factory setting :
 - a. Click left keyboard twice on the mouse on the factory setting which you want to delete
 - b. Click delete icon of Keyboard or right keyboard of mouse to clear data
 - c. Click Relative Humidity → WRITE (clear factory setting)

The screenshot shows the 'THS UI F18 Station 1' software interface. It has a menu bar (File, Interface, About) and a tabbed interface with 'Calibration' selected. The interface is split into two main sections: 'Temperature' and 'Relative Humidity'.

Temperature Section:

- Buttons: UPPER POINT, LOWER POINT, OFFSET POINT, RECALL FACTORY CALIB.
- Current value: Tb now 37.26°C
- Table:

	Tunit [°C]	Tstd [°C]
▶	0.11	0
	99.98	100.00
- Buttons: WRITE, READ, CLEAR, RECALL.

Relative Humidity Section:

- Buttons: UPPER POINT, LOWER POINT, OFFSET POINT, RECALL FACTORY CALIB.
- Current value: RH now 54.25%
- Table:

	Hunit [%]	Hstd [%]
	17.8946	23.78
▶		
	78.6075	85.18
- Buttons: WRITE, READ, CLEAR, RECALL.

Annotations in the image:

- a.** Points to the first row of the Relative Humidity table (17.8946, 23.78).
- b.** Points to the second row of the Relative Humidity table (|,).
- c.** Points to the WRITE button in the Relative Humidity section.

At the bottom of the window, a status bar reads: "Read Interpolation Table, Read successful".

Multifunction Temperature & Humidity Transmitter (Indoor / Duct / Remote / Outdoor)

d. Input the value which you want to calibrate in the Relative Humidity area

d-1. Hunit[%] : Value which product shows

d-2. Hstd[%] : Standard value of calibration

e. Click Relative Humidity → WRITE

Temperature

UPPER POINT

LOWER POINT

OFFSET POINT

RECALL FACTORY CALIB

Tb now 34.38°C

Tunit [°C]	Tstd [°C]

WRITE

READ

CLEAR

RECALL

Relative Humidity

UPPER POINT

LOWER POINT

OFFSET POINT

RECALL FACTORY CALIB

RH now 63.52%

Hunit [%]	Hstd [%]
17.8946	23.78
35.665	35.2
78.6075	85.18

WRITE

READ

CLEAR

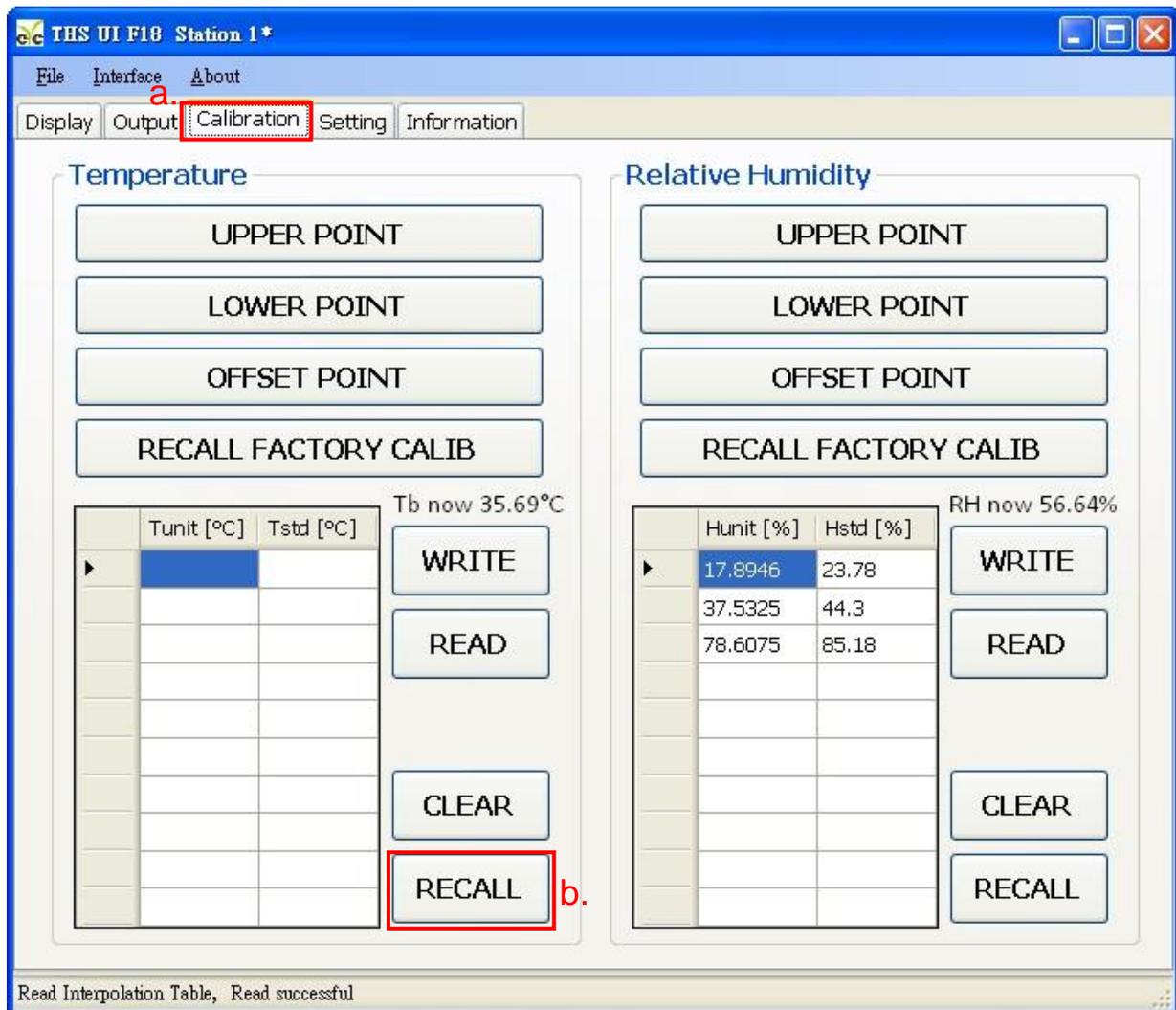
RECALL

Read Interpolation Table, Read successful

6.14 Restore factory setting of more points

1. Recall temperature of factory setting

- a. Click "Calibration"
- b. Click Temperature → RECALL
- c. That restore more point's temperature of factory setting is done



2. Recall the factory setting of more points of humidity
 - a. Click “Calibration”
 - b. Click “Relative Humidity” → RECALL
 - c. That restore humidity of factory setting is done

The screenshot shows the THS UI F18 Station 1 software interface. The 'Calibration' menu is selected, and the 'Relative Humidity' section is active. The 'RECALL' button in the Relative Humidity section is highlighted with a red box and labeled 'b.'. The 'Temperature' section also has a 'RECALL FACTORY CALIB' button. The 'Relative Humidity' section shows a table with columns 'Hunit [%]' and 'Hstd [%]' and buttons 'WRITE', 'READ', 'CLEAR', and 'RECALL'. The current RH is 56.64%.

File Interface About
a. Calibration Setting Information

Temperature

UPPER POINT
LOWER POINT
OFFSET POINT
RECALL FACTORY CALIB

Tb now 35.69°C

Tunit [°C]	Tstd [°C]

WRITE
READ
CLEAR
RECALL

Relative Humidity

UPPER POINT
LOWER POINT
OFFSET POINT
RECALL FACTORY CALIB

RH now 56.64%

Hunit [%]	Hstd [%]
17.8946	23.78
37.5325	44.3
78.6075	85.18

WRITE
READ
CLEAR
b. RECALL

Read Interpolation Table, Read successful

VIII. Inspection and maintenance

1. Maintenance

Since this product is inspected and calibrated for high accuracy at the factory before shipment, no calibration on the installation site is necessary when this product is installed. For inspection and maintenance follow the instructions below :

a. Periodic inspection

Periodically inspect this product for its sensing accuracy, and clean the cover.

Set the period between inspections based on atmospheric dust and other contaminants in the installation environment.

b. Sensor maintenance

Do not damage sensor surface during maintenance process.

c. Troubleshooting

If any problem occurs during operation, refer to the table below for appropriate solutions.

2. Troubleshooting :

Problem	Cleck items	Soluations
<ul style="list-style-type: none"> ● No output ● Unstable output 	<ul style="list-style-type: none"> ● Disconnected wiring ● Loose wiring ● Power supply voltage ● Sensor damages 	<ul style="list-style-type: none"> ● Re-perform wiring ● crew on terminal tightly or replace wires ● Replace the sensor
<ul style="list-style-type: none"> ● Slow response to output ● Errow in output 	<ul style="list-style-type: none"> ● Moisture / condensation on the product ● Check installed location ● Check dust and contamination on the sensor 	<ul style="list-style-type: none"> ● Remove the sensor and filter. Dry power-off state sensor in clean air seasoning ● Refer to the section ● Cleaning the filter ● Changing the filter ● Calibrate ● Replace the sensor



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