



THM80X Series Operation Manual

Industry Degree Temp. & Humidity Transmitter

V 0.1



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1. Features

- IP67 protection degree, rugged aluminum case, fit in variety harsh environment
- Capable of temperature compensation
- Linear adjustment temperature & humidity by computer, analogue output or option RS-485
- Measure high accuracy temperature & humidity, reaction quickly, the sensor can work well after temporary condensation, long term stable in high humidity environment
- Process temp. : up to 200°C, S.S. probe proof pressure : 10 bar, metal connector : installation repeatedly
- Switch multifunction physical quantities : [%RH] 、 [°C] 、 [mbar] 、 [g/kg] 、 [g/m³] 、 [kJ/kg]
- Calibration physical quantities, measuring range, analogue output, station, etc
- Free calibration software : data logger / record 65535 datas/ charts

Applications

- Industrial Process Monitoring / Air Conditioning/ Environmental Ventilation Control
- Buildings, factories, hospitals, clean rooms, laboratories, weather stations Environmental monitoring
- Storage rooms, environmental chambers, greenhouses, mushroom farms
- Semiconductor, electronics, paper, printing, textiles, steel and iron Industry, food, chemical, pharmaceutical, biotechnology industry

2. 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 explosion-proof area.

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

This product can not be used for 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.

CE

EN 61326-1:2006 EN61326-2-2:2006

Emissions

EN55011:2009/A1:2010

Immunity

IEC 61000-4-2:2008 , IEC 61000-4-3:2006/A1:2007/A2:2010 , IEC 61000-4-8:2009)



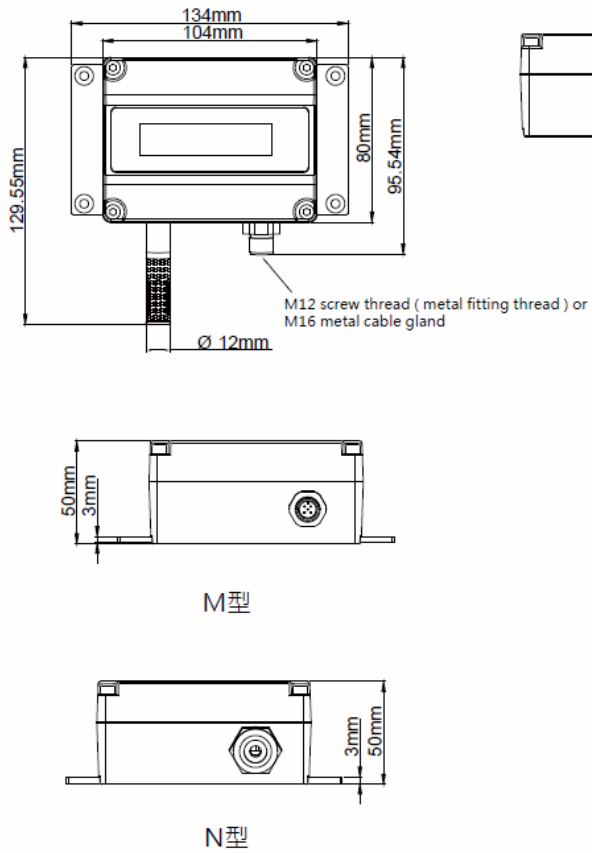
Warning!!

- 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 electric 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.

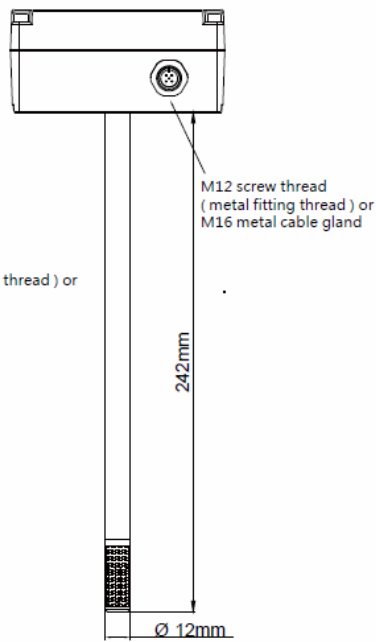
3. Installation

3.1 Dimension

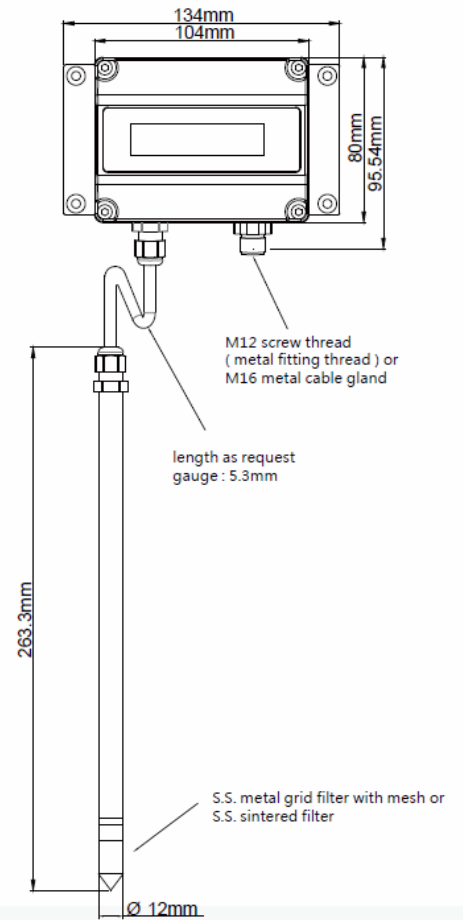
THM801 (wall)



THM802 (duct)

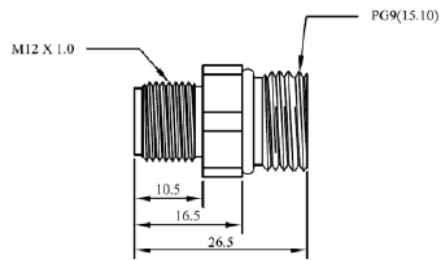


THM803 (remote)

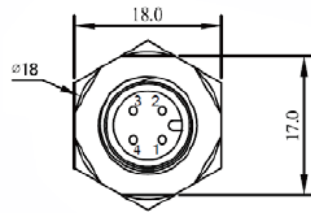


3.2 Electric Connector Dimension

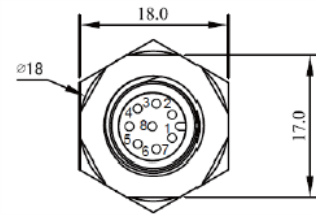
unit : mm



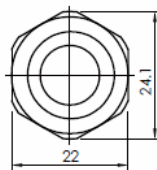
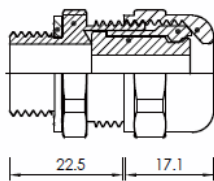
【 M type (M12-4PIN metal connector) 】
RS-485 or analogue



【 M type (M12-8PIN metal connector) 】
RS-485+analogue



【 N type (M16 cable gland) 】 RS-485+analogue



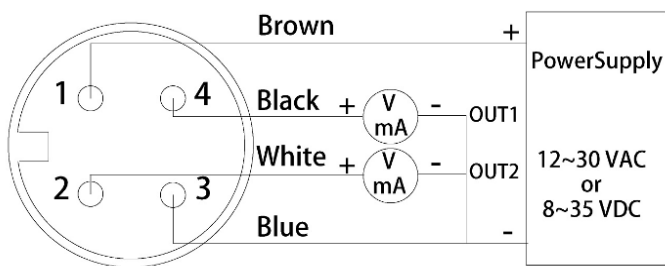
3.3 Option accessory

Filter SPEC. :

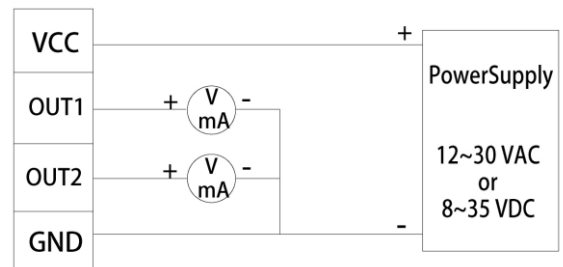
Order code	Name	Description	Features
4425000011	SUS sintered filter 	Material : SUS316L Sinter type HD : 40μm OD : 12mm L : 34.5mm	Excellent filterable, and pollution, corrosion and pressure resistance. Max. Temper. : 200°C max
8203104011	Metal grid filter with mesh 	Material : SUS304 OD : 12mm L : 32mm	Common resisting pollution. React quickly. Endure high temp. Nice ventilation. Max. temp.:200°C

4. Connection

4.1 Analogue Diagram

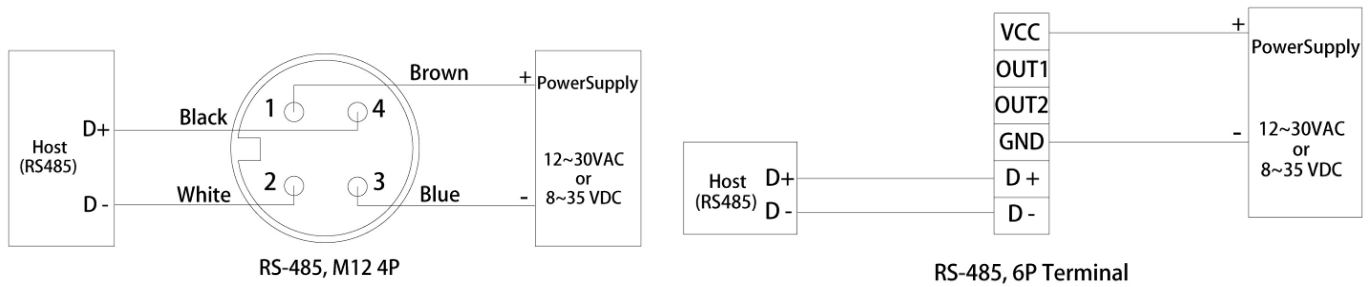


Analogue, M12 4P

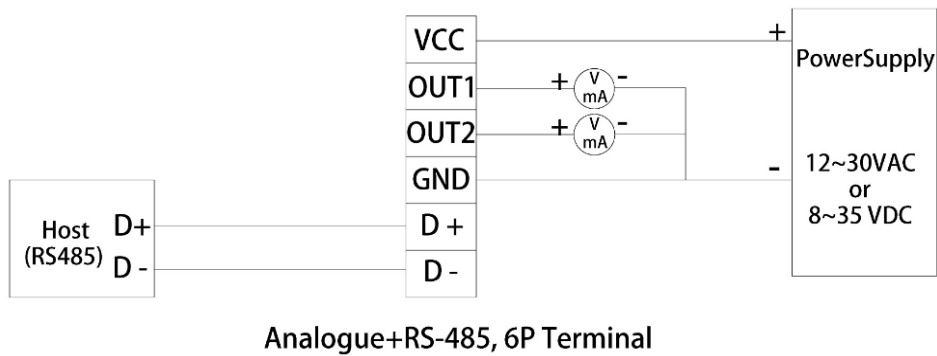
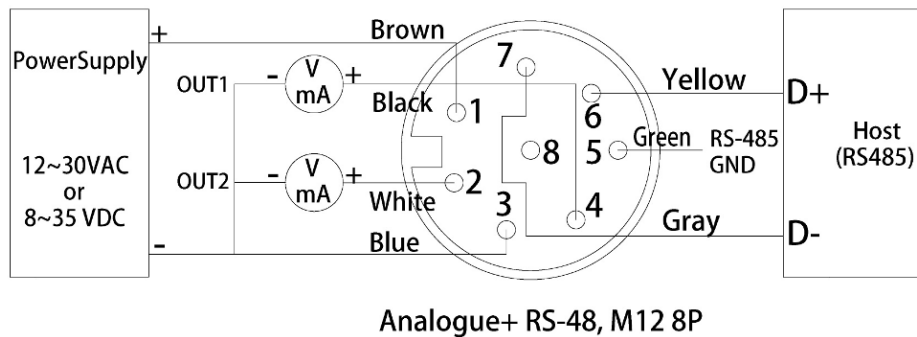


Analogue, 4P Terminal

4.2 RS-485 Diagrams



4.3 Analogue + RS-485 Diagram



5. Software and calibration operation step

5.1 Application Program statement

5.2 Setting RS-485connection

5.3 Scan RS-485 connection

5.4 Setting RS-485 ModBus Protocol

5.5 Display and save data

5.6 Choose parameter of Output

5.7 Temperature Calibration with two points

5.8 Humidity Calibration with two points

5.9 Temperature Calibration with signal points

5.10 Humidity Calibration with signal point

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

5.12 Temperature Calibration with more points

5.13 Humidity Calibration with more points

5.14 Restore factory setting of more points

5.1 Application Program statement

1. Free installation program : THM85_UI_1.0.1.exe

(※Please use installation program when free program doesn't execute)

2. Installation program : THM85_UI_XXXXXXX(date)_1.0.1(EXE).rar

a. Operating System requirements : above Windows XP

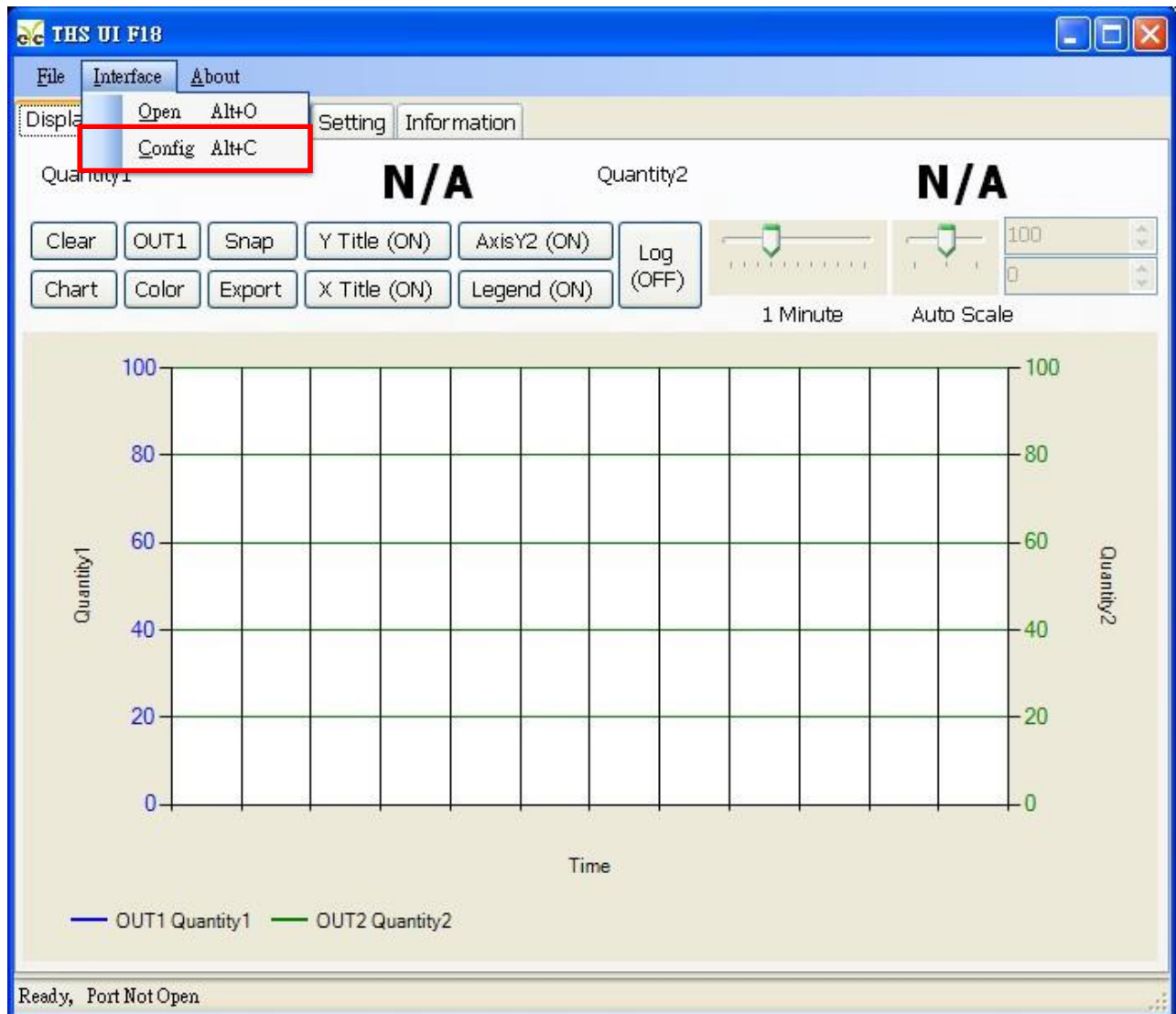
b. Click Setup to install

名稱	修改日期	類型	大小
zh-Hans	2017/12/19 下午 ...	檔案資料夾	
zh-Hant	2017/12/19 下午 ...	檔案資料夾	
 THM85_UI_1.0.1	2017/2/14 上午 1...	應用程式	2,828 KB

3. Other application program requirements : above Microsoft Office 2003

5.2 Setting RS-485connection

1. Connect product to PC via RS-485 cable
2. Execute“THM UI”
3. Click“Interface > Config”



4. Select the corresponding values of com port as following :

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
------------	-----------	-----------

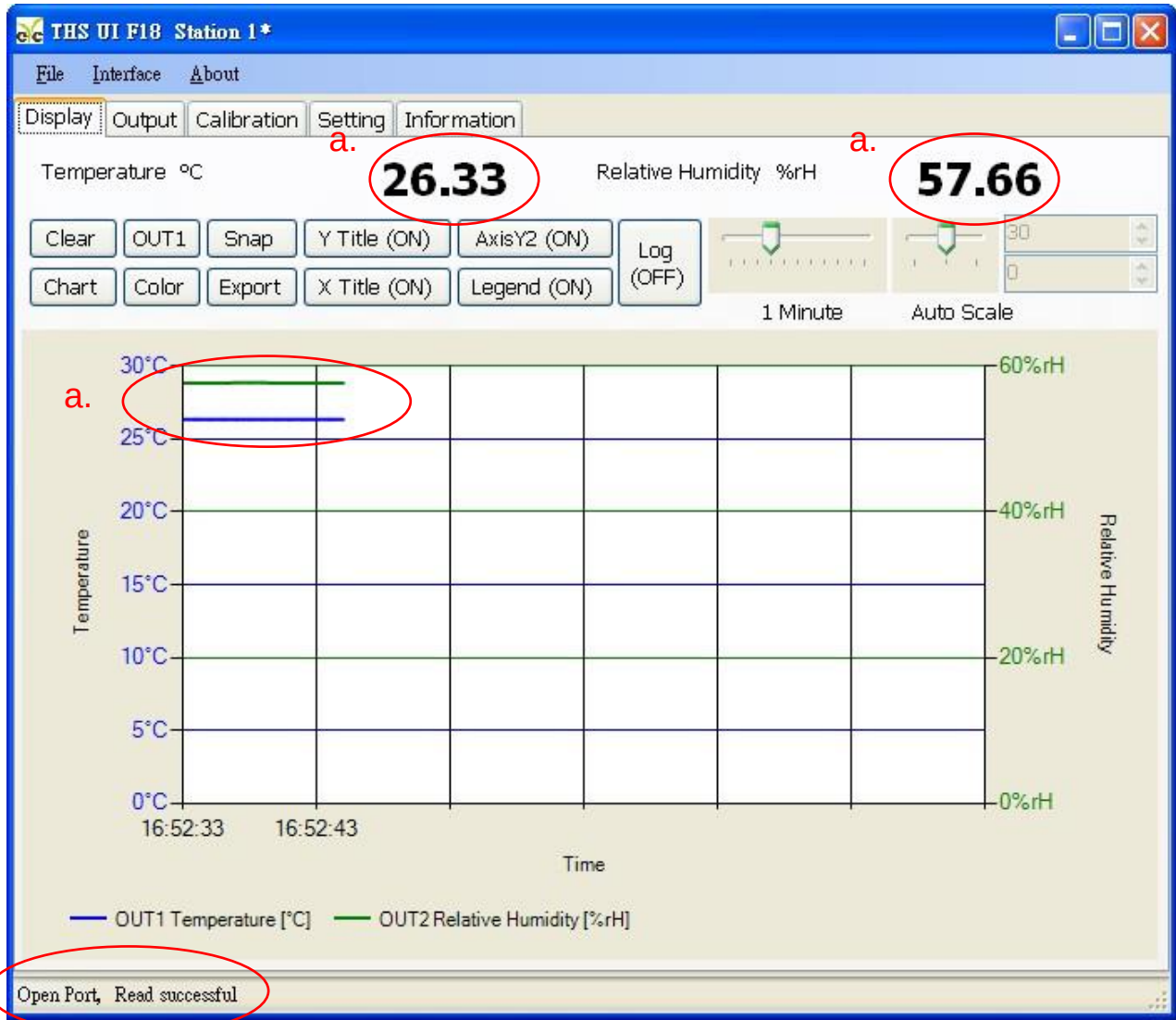
Scan Apply Cancel

5. Click “Apply”

6. Connect successfully

a. Show value and trend chart of Temperature and Relative Humidity

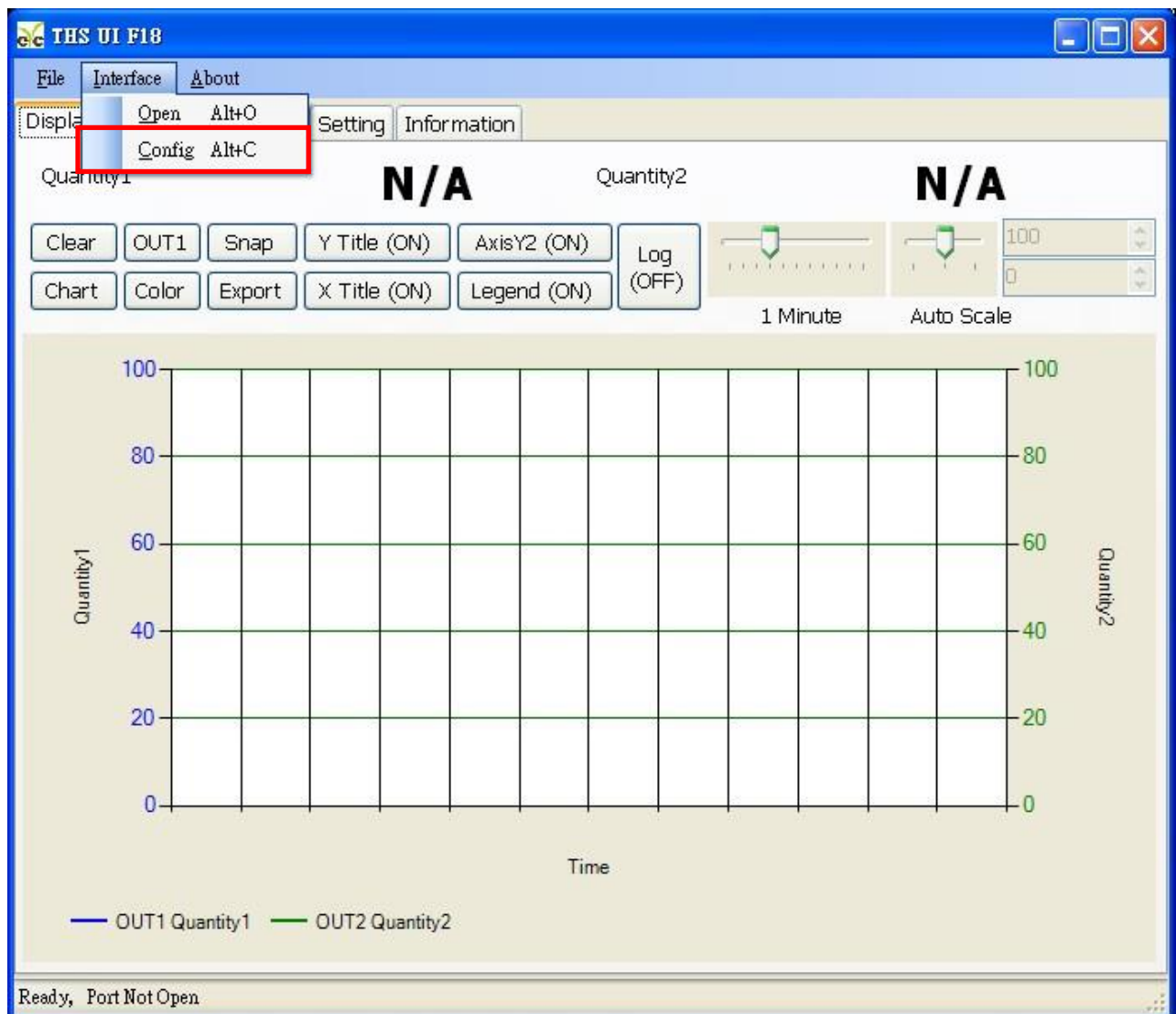
b. Show Open port, Read successful



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”



4. Select the corresponding values of com port as following:

a. Port :

b. RS-485

The screenshot shows the 'Interface' configuration window. The 'PORT' dropdown menu is set to 'COM5', which is highlighted with a red box and labeled 'a.'. The 'BAUD RATE' is set to '9600'. The 'DATA FRAME' is set to 'None-8Bit-1Stop'. The 'TIMEOUT' is set to '250 ms' and the 'RETRY' is set to '2 times'. Under the 'Physical Interface' section, the 'RS-485' radio button is selected, highlighted with a red box, and labeled 'b.'. The 'STATION ID' is set to '1'. At the bottom of the window are three buttons: 'Scan', 'Apply', and 'Cancel'.

4. Click “Scan” to execute connection facilities

5. Scan connection facilities and set up

- a. Select "Station ID"
- b. Click "CLOSE AND EXPORT"

Scan

Baud: 9600

Data Type: N81

Station ID: 54

Progress: 1%

	Station ID	Baud Rate	Data Type	Model Name	FW Version
a. ▶	1	9600	N81	THS84	V1.1.2

STOP

b. CLOSE AND EXPORT

CANCEL

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

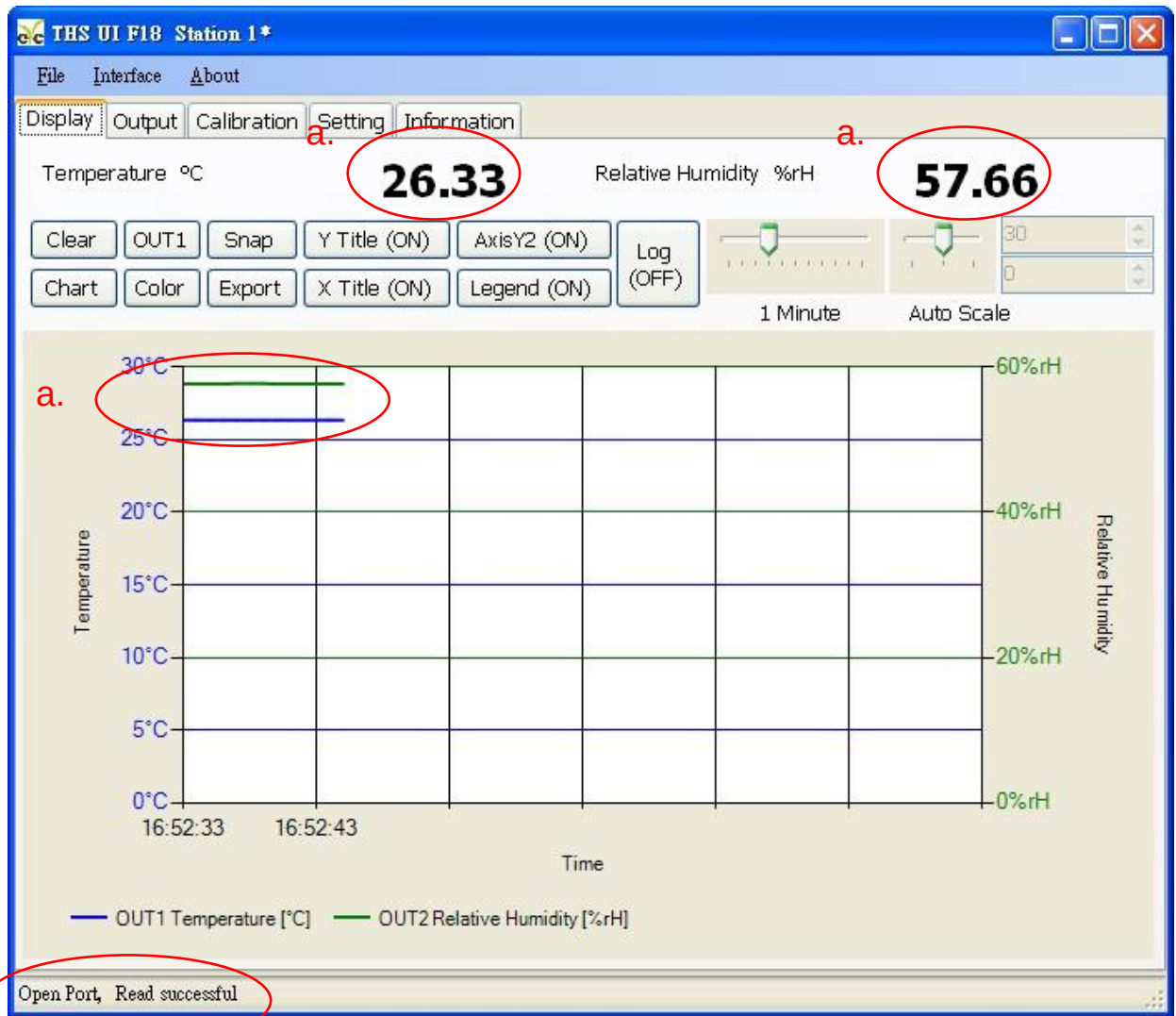
Station ID	Baud Rate	Data Type
1	9600	N81

Buttons: Scan, Apply, Cancel

6. Click “Apply”

7. Connect successfully

- Show values and trend chat Temperature and Relative Humidity
- Show Open port, Read successful



5.4 Setting RS-485 ModBus Protocol

1. Setting RS-485 connection step as step 5.1
2. Click “Setting”

The screenshot shows the 'THS UI F18 Station 1*' software window. The 'Setting' tab is selected and highlighted with a red box. The interface includes a menu bar (File, Interface, About) and a tab bar (Display, Output, Calibration, Setting, Information). The main content area is divided into three sections: 'Environment' with an 'Air Pressure (mBar)' field set to 1013.25; 'Modbus Protocol' with fields for 'Station ID' (1), 'Baud Rate' (9600), and 'Data Frame' (None-8Bit-1Stop), along with 'Echo Test (OFF)' and 'Reset Counter' buttons; and 'Dew Point Auto Calibration' with fields for 'Calibration Interval (min)' (1024) and 'Under -70°C Interval (min)' (720). At the bottom are 'Apply' and 'Read' buttons. A status bar at the very bottom displays the message 'Read OUT1 Config, Read successful'.

Section	Parameter	Value
Environment	Air Pressure (mBar)	1013.25
Modbus Protocol	Station ID	1
	Baud Rate	9600
	Data Frame	None-8Bit-1Stop
Dew Point Auto Calibration	Calibration Interval (min)	1024
	Under -70°C Interval (min)	720

Buttons: Echo Test (OFF), Reset Counter, Apply, Read

Status: Read OUT1 Config, Read successful

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-2Stop

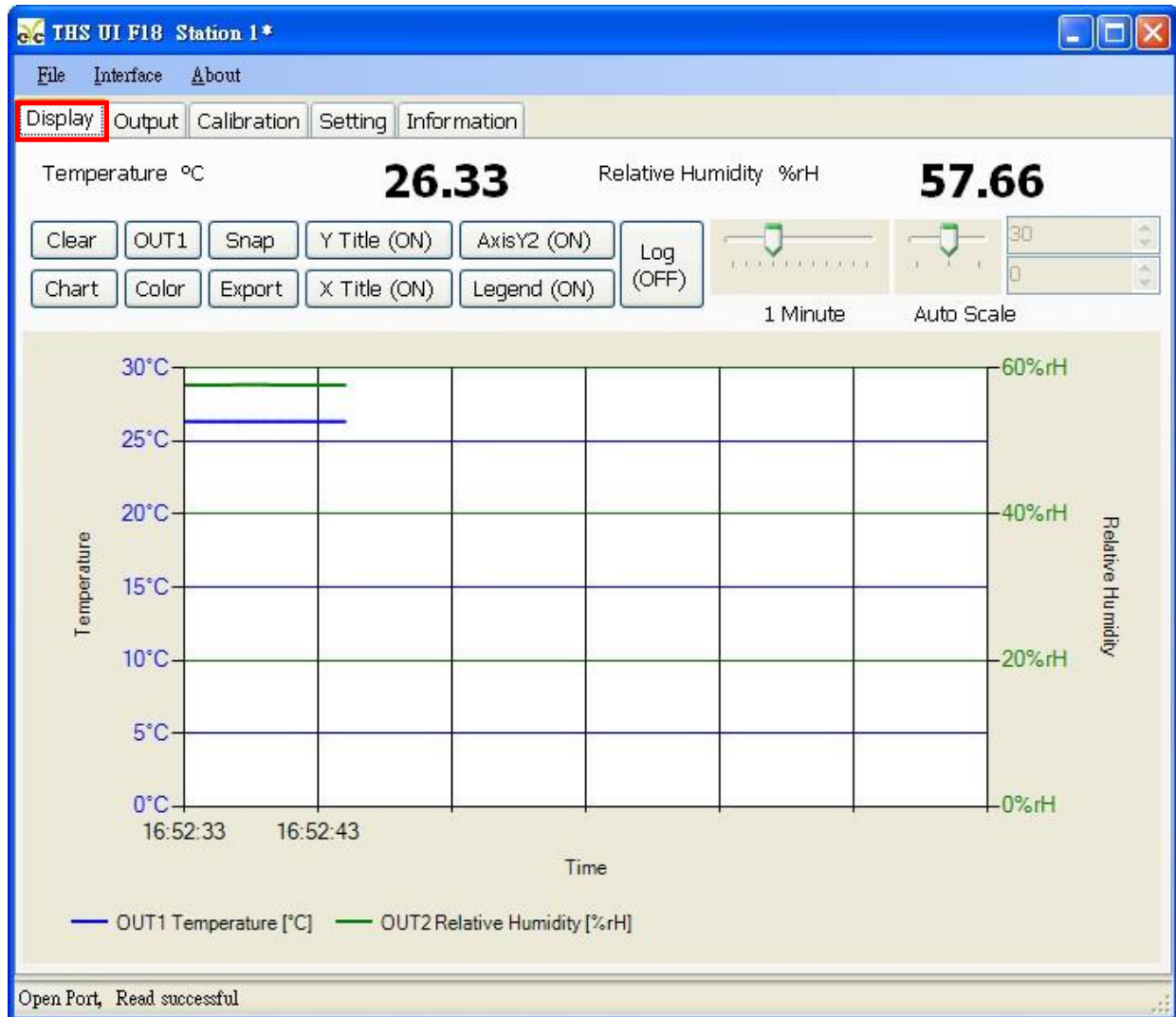
The screenshot shows the 'THS UI F18 Station 1*' software window. The 'Setting' tab is selected. Under the 'Modbus Protocol' section, the following parameters are configured: Station ID is 1, Baud Rate is 9600, and Data Frame is None-8Bit-1Stop. These three settings are highlighted with red boxes and labeled 'a.', 'b.', and 'c.' respectively. To the right of these settings are two 'Test Result' labels and two buttons: 'Echo Test (OFF)' and 'Reset Counter'. Below the Modbus Protocol section is the 'Dew Point Auto Calibration' section, which includes 'Calibration Interval (min)' set to 1024 and 'Under -70°C Interval (min)' set to 720. At the bottom of the window are 'Apply' and 'Read' buttons. A status bar at the very bottom indicates 'Read OUT1 Config, Read successful'.

4. Click “Apply”

5. Execute connection as step 5.2 or 5.3 again

5.5 Display and save data

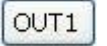
1. Show data : Click “Display”



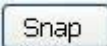
2. Icon function statements

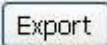
 Clear the chart records

 Change the chart style

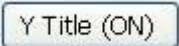
 Select the OUTPUT channel

 Set line color chosen from OUTPUT

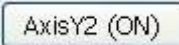
 Snap chart

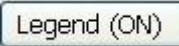
 Save the data measuring when the system start connecting before clicking the

Export icon

 Show/Not show the statement of Y axis

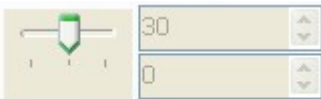
 Show/Not show the statement of X axis

 Show/Not show the statement of Y secondary axis

 Show/ Not show chart

 Log/Not Log measuring data

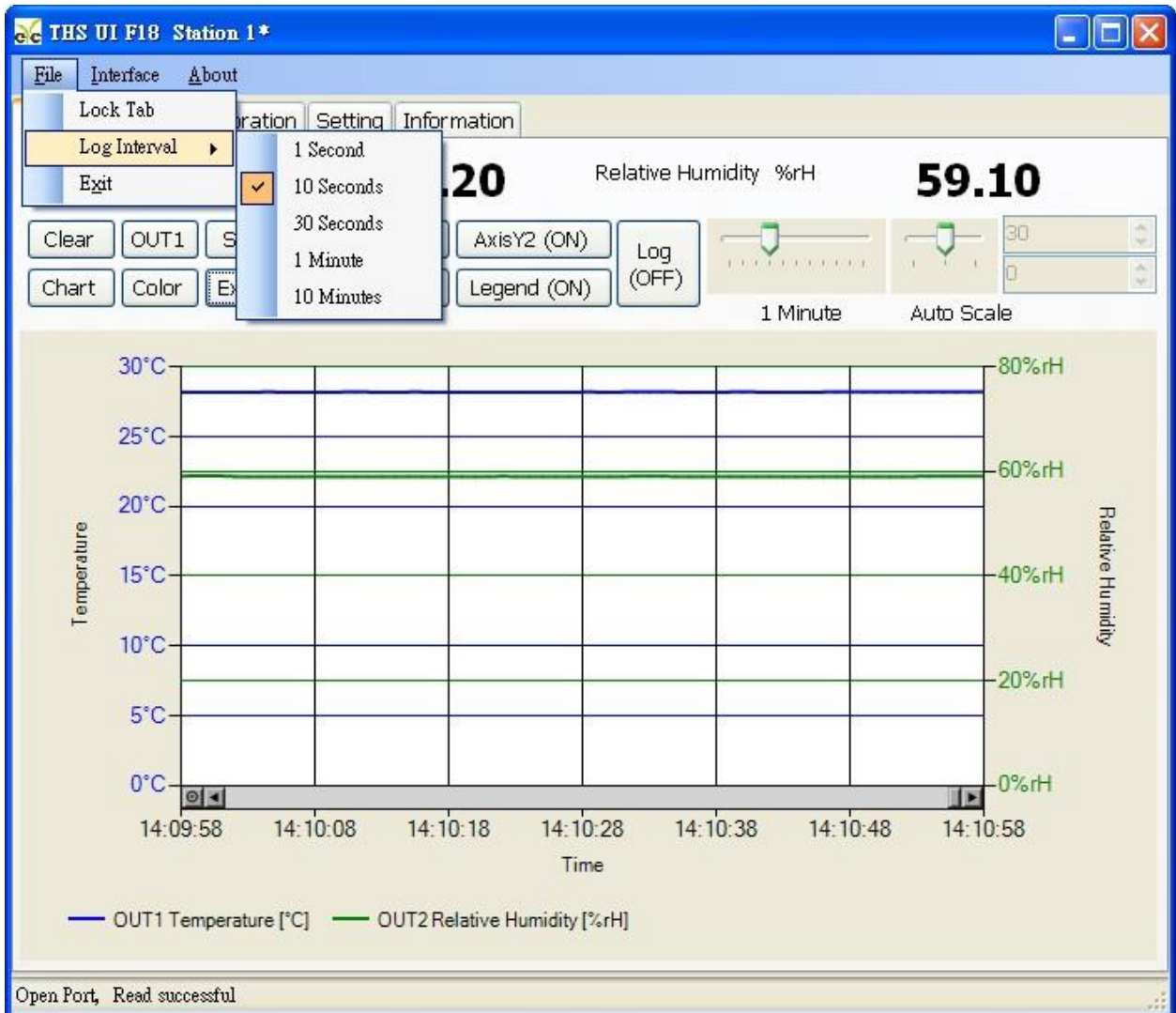
 Adjust time range of X axis

 Adjust range of Y axis

3. Setting time interval of record

a. File > Log Interval

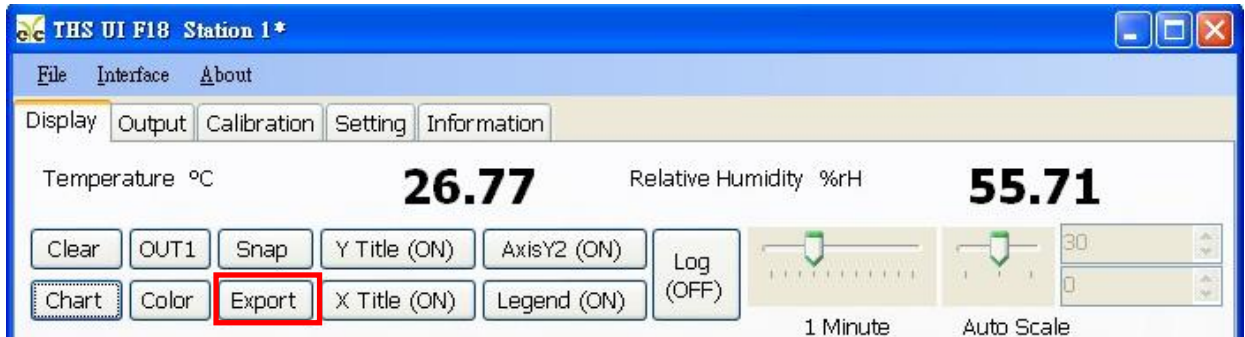
b. Select time interval of record



4. Save/Log measuring data

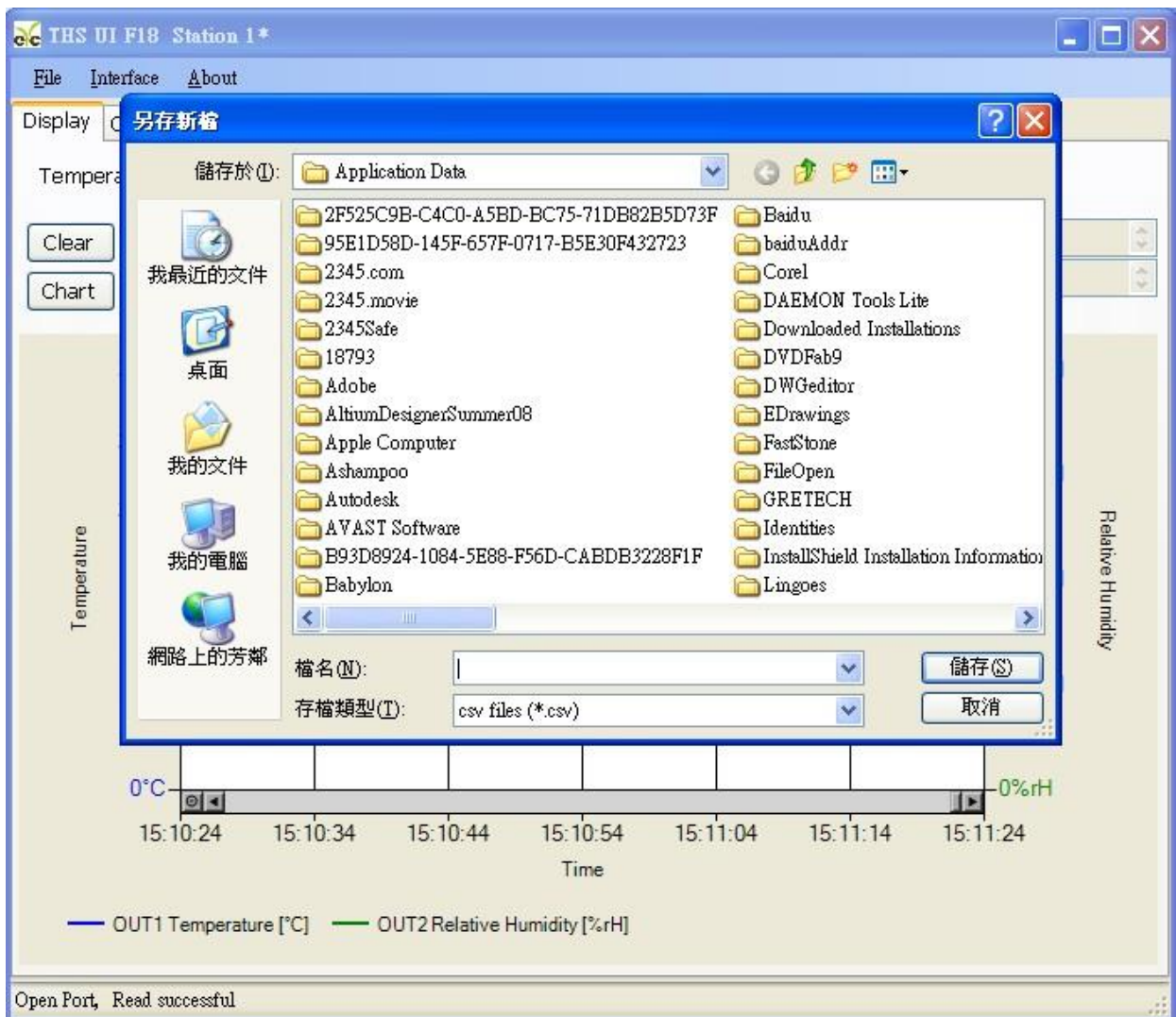
a. Log measuring range : Save the data measuring when the system start connecting before clicking the Export icon

a-1. Click Display > Export



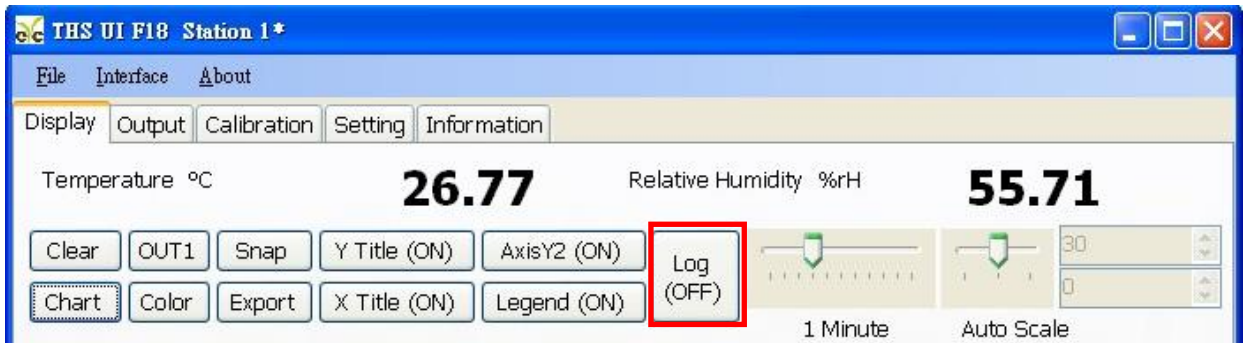
a-2. Appoint path and Key in file name > save

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



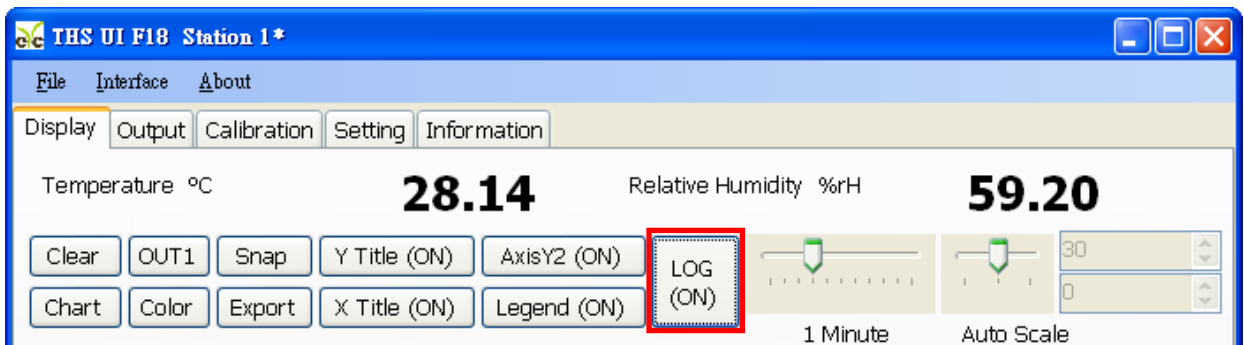
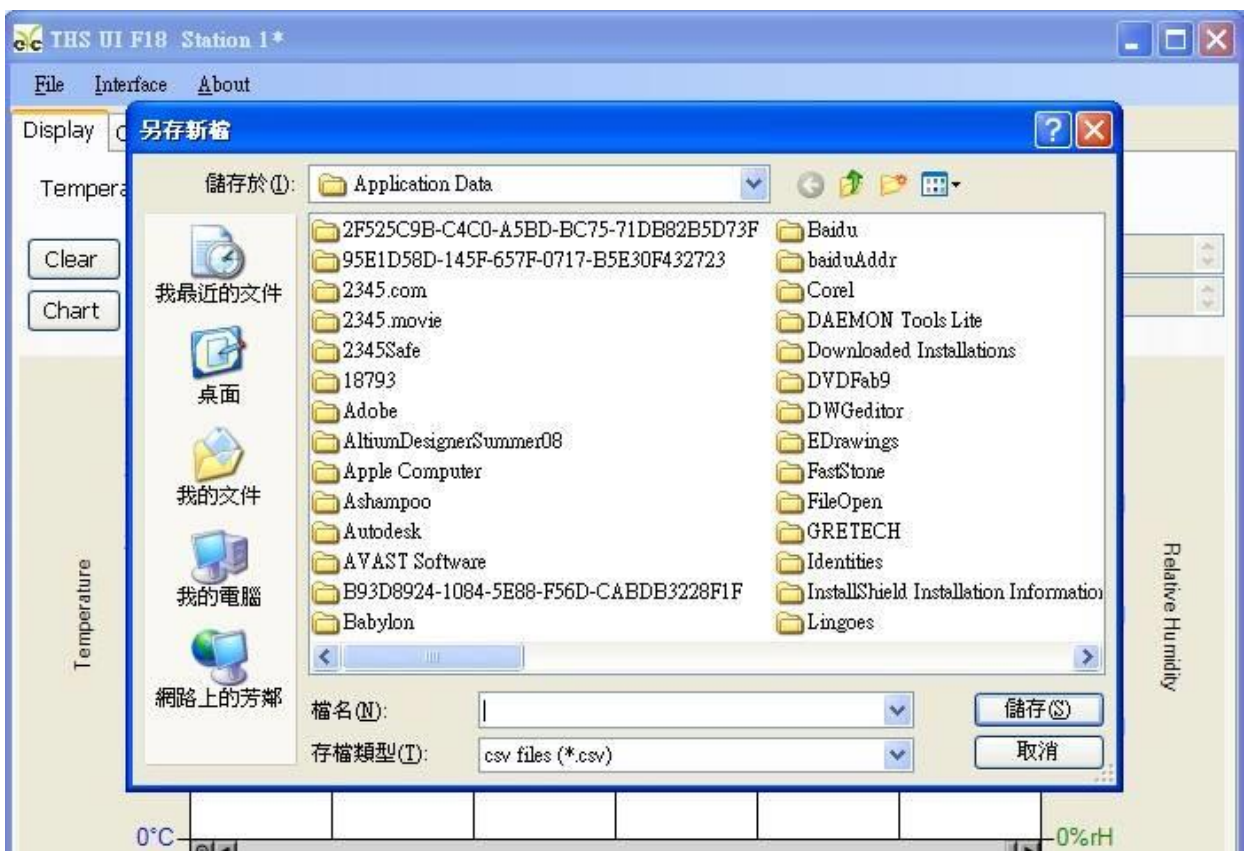
b. Log measuring data : Log the data which is on from start or off

b-1. Display > Log(OFF)



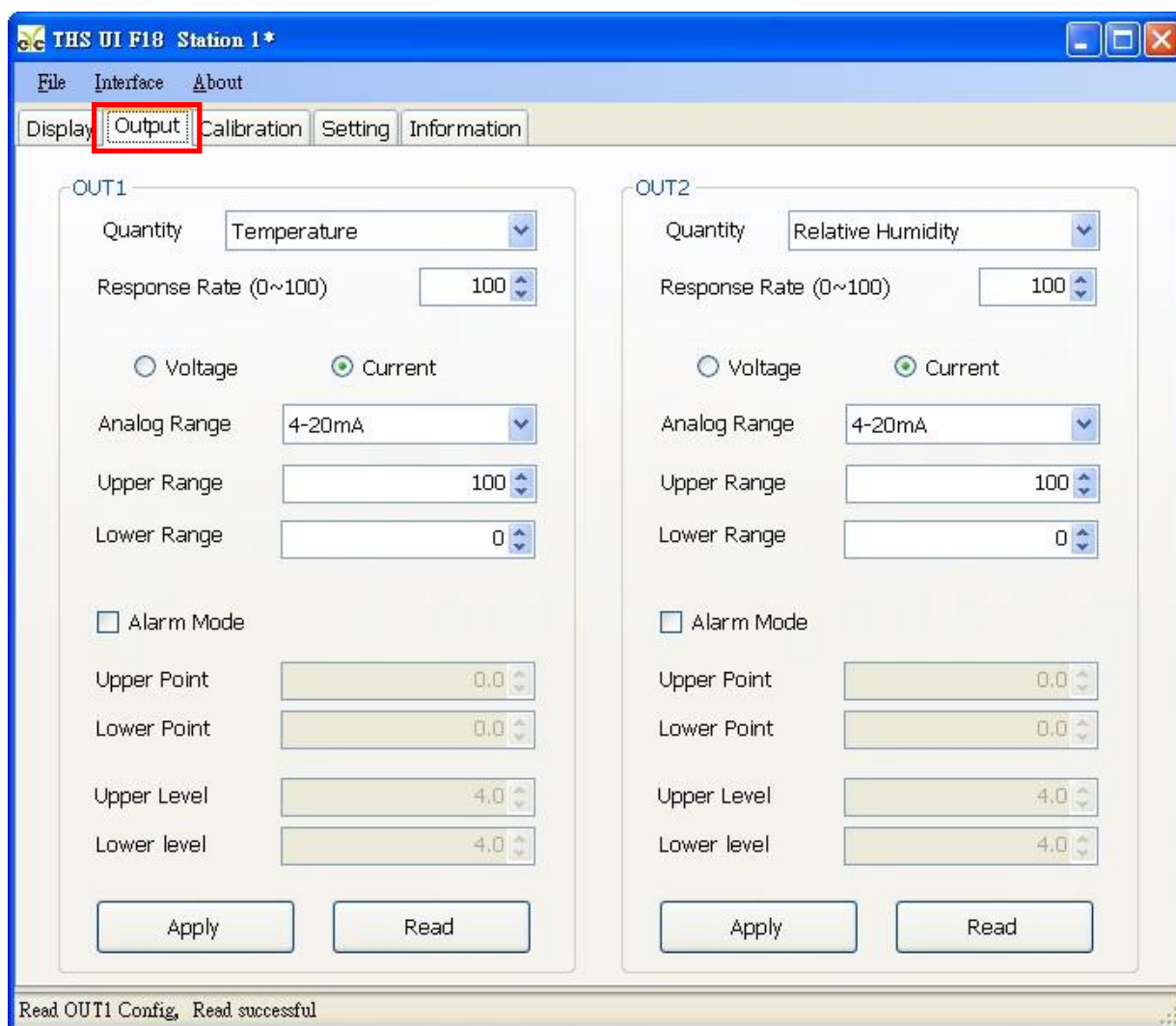
b-1. Appoint path and Key in file name > save > Log(ON)

- ※1. If file name is same as the path name, the original file will be covered.
- ※2. If logging records exceed 65536, the log file will be split 65536 records each file which the file name append “_NNN” and N start from 1.



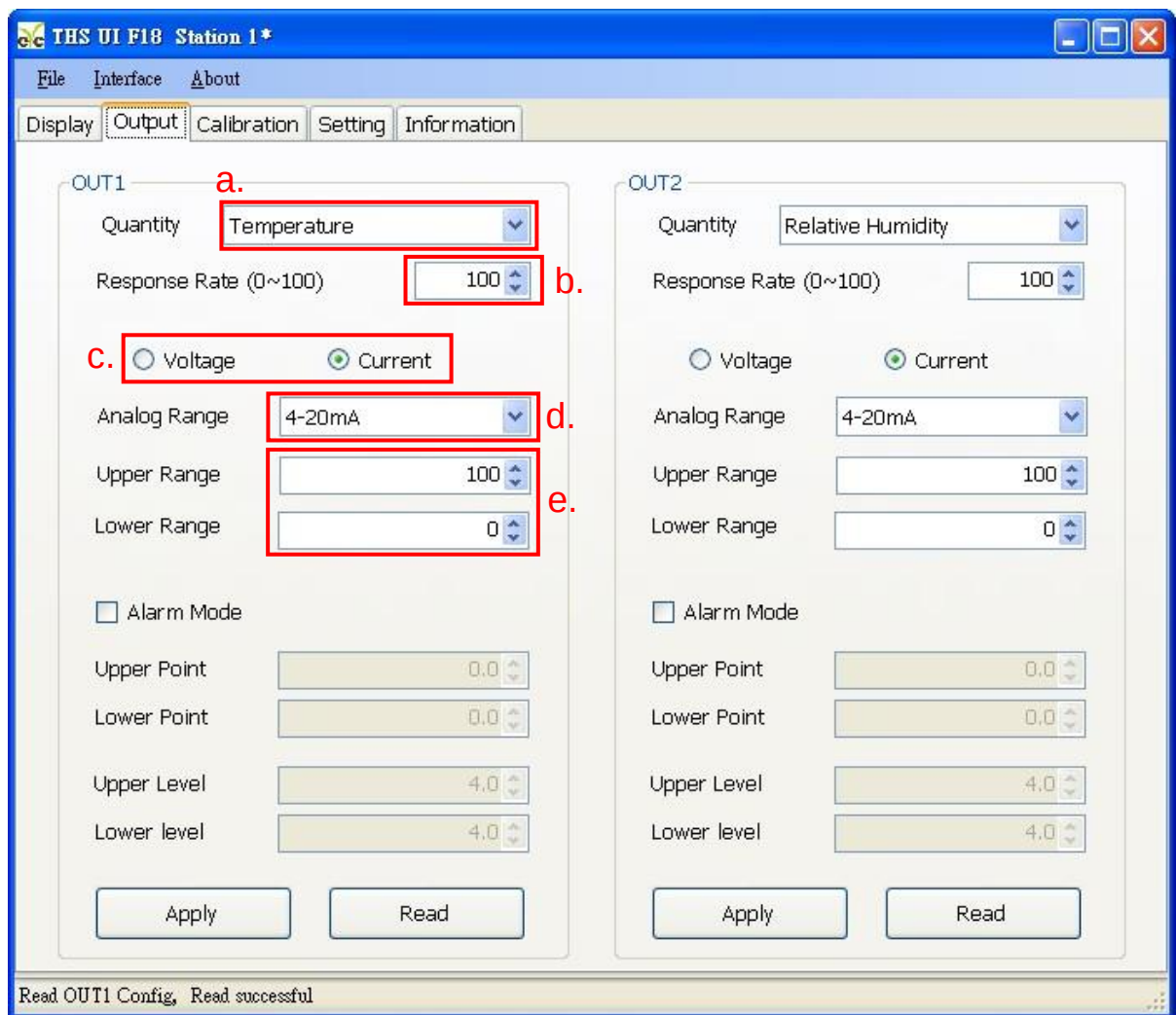
5.6 Choose parameter of Output

1. Click “Output”



2. Select relative parameters from Output1and Output2

- a. Output selection
- b. Responding time
- c. Voltage or currant Output
- d. Voltage or current analog range
- e. Upper and Lower point of Output

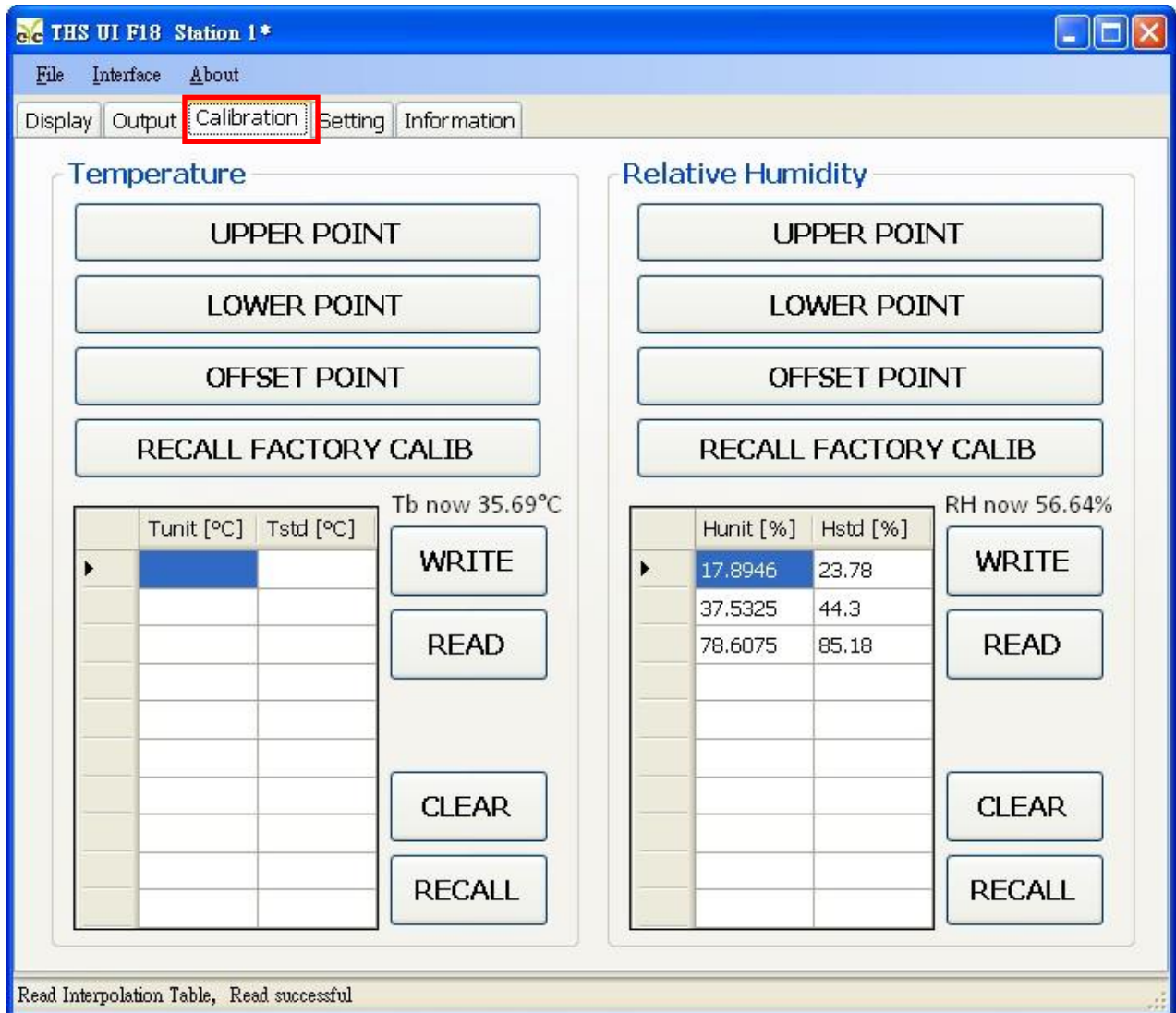


3. Click "Apply"

5.7 Temperature Calibration with two points

1. Calibrate upper point of temperature

a. Click "Calibration"



THS UI F18 Station 1*

File Interface **Calibration** Setting Information

Display Output

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

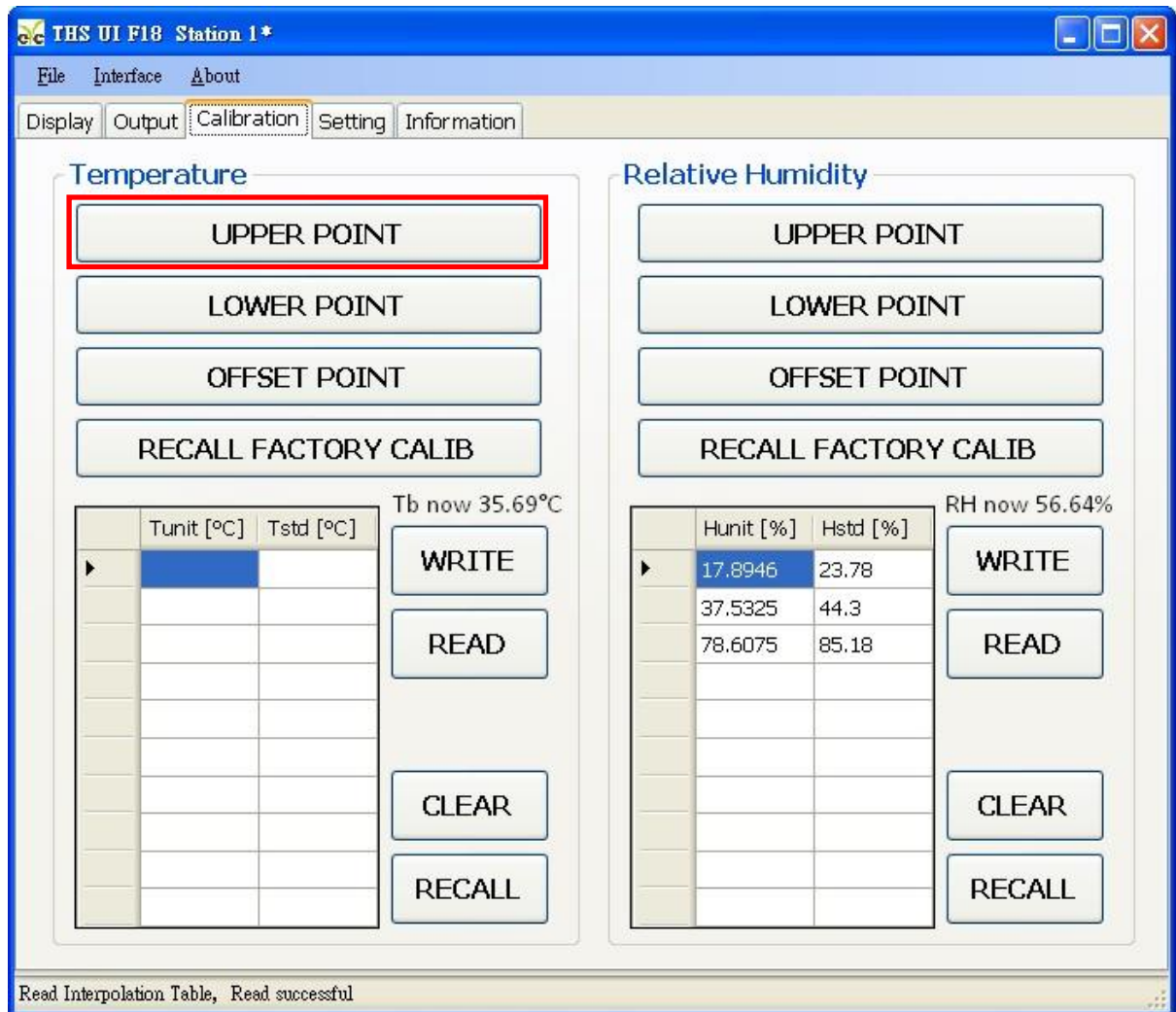
READ

CLEAR

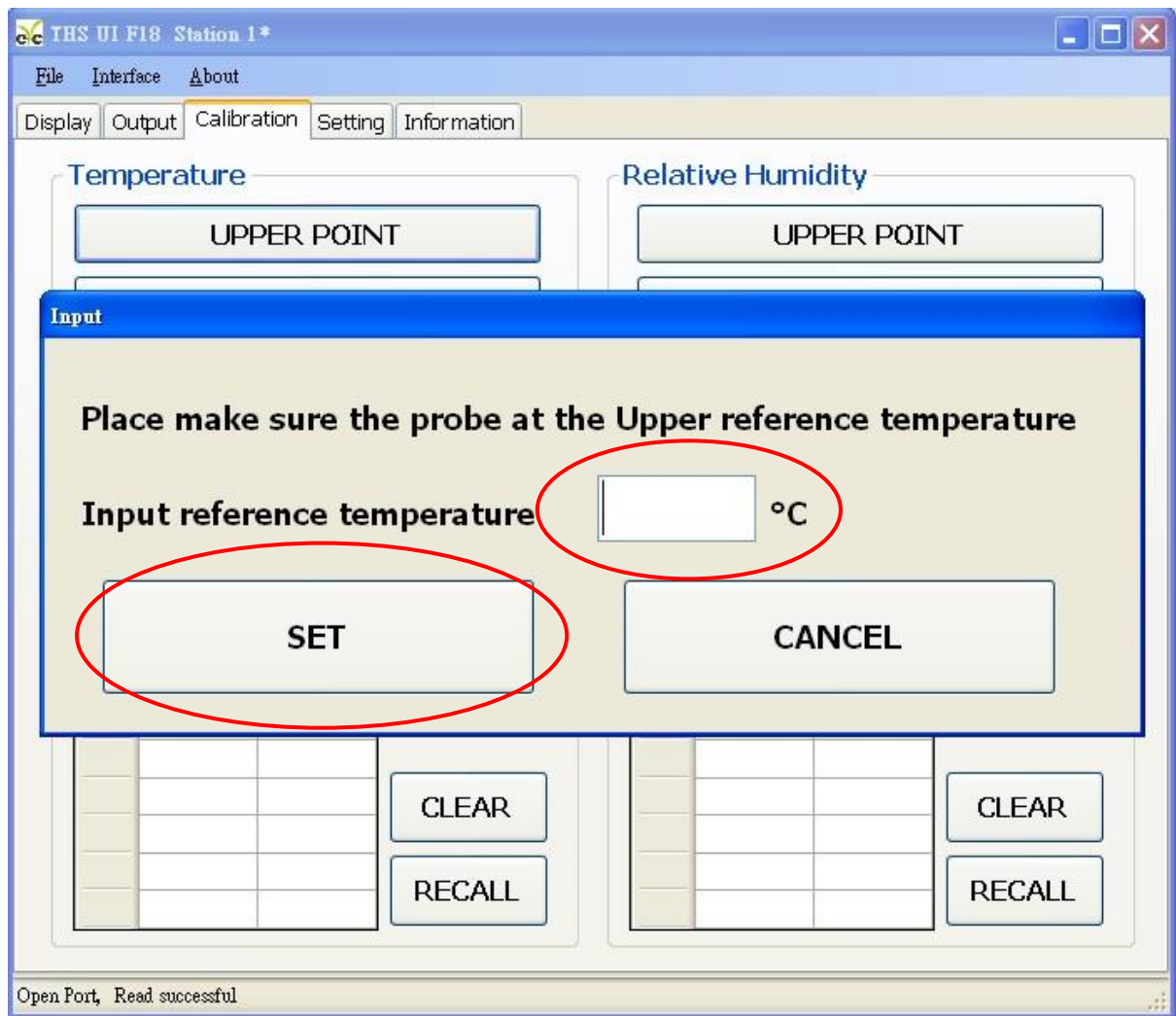
RECALL

Read Interpolation Table, Read successful

- b. Put the sensor unit of 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



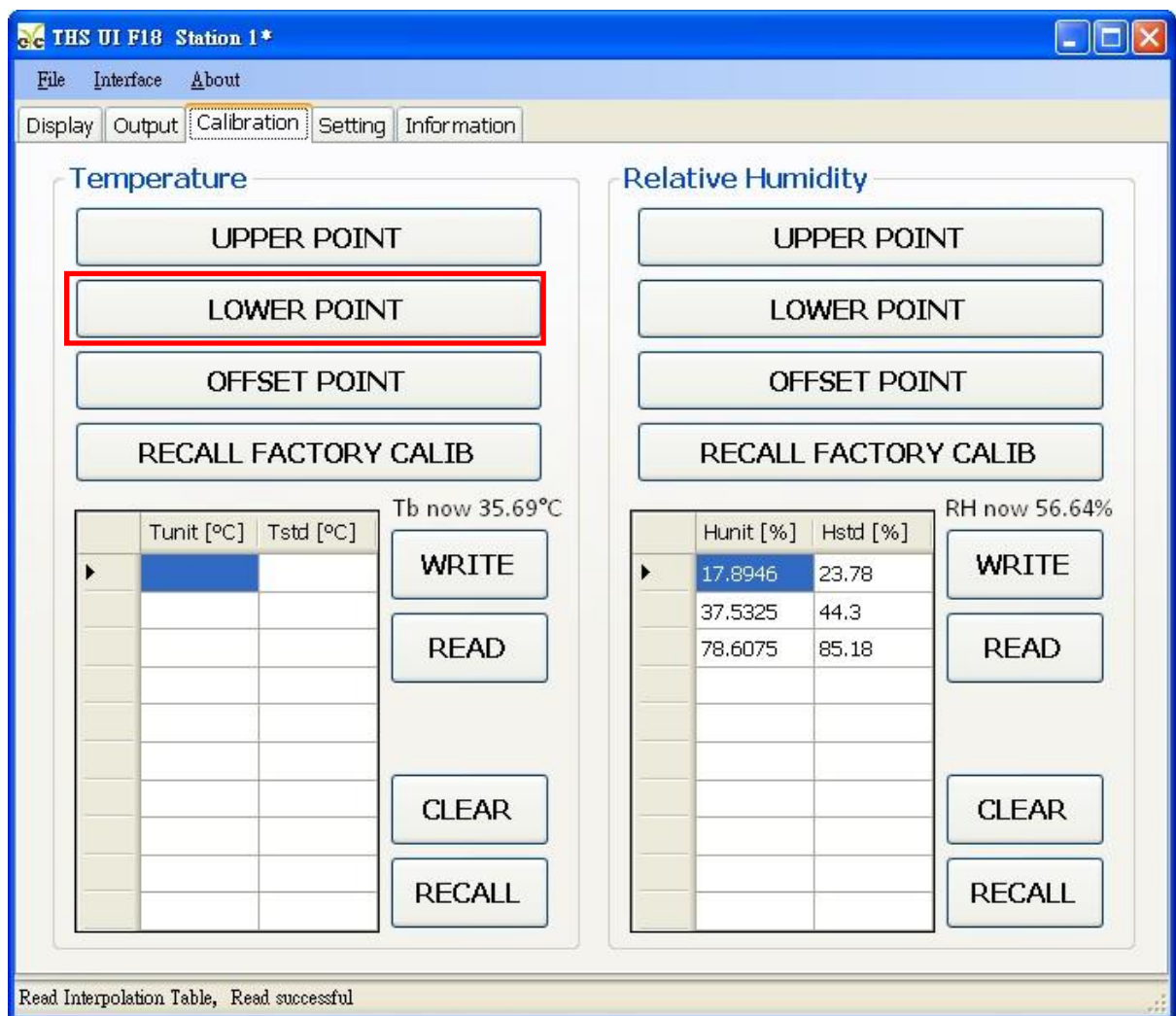
- e. Input the reference temperature, then click "SET"



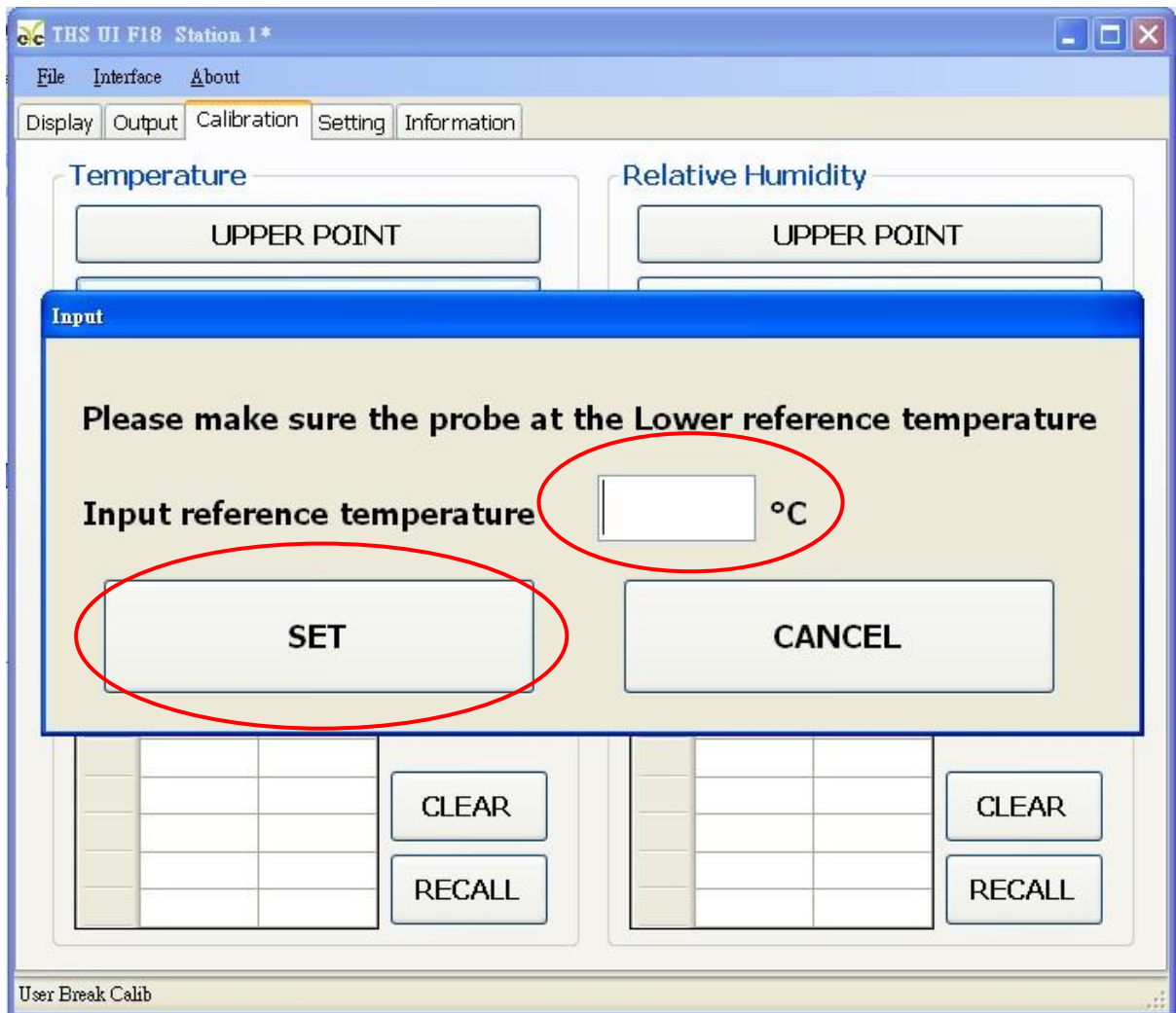
- f. That calibrating upper point temperature is done.

2. Calibrate lower point of temperature

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



- e. Input reference temperature, then click "SET"



- f. That calibrating lower point temperature is done.

5.8 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' tab is selected and highlighted with a red box. The interface is divided into two main sections: 'Temperature' and 'Relative Humidity'.

Temperature Section:

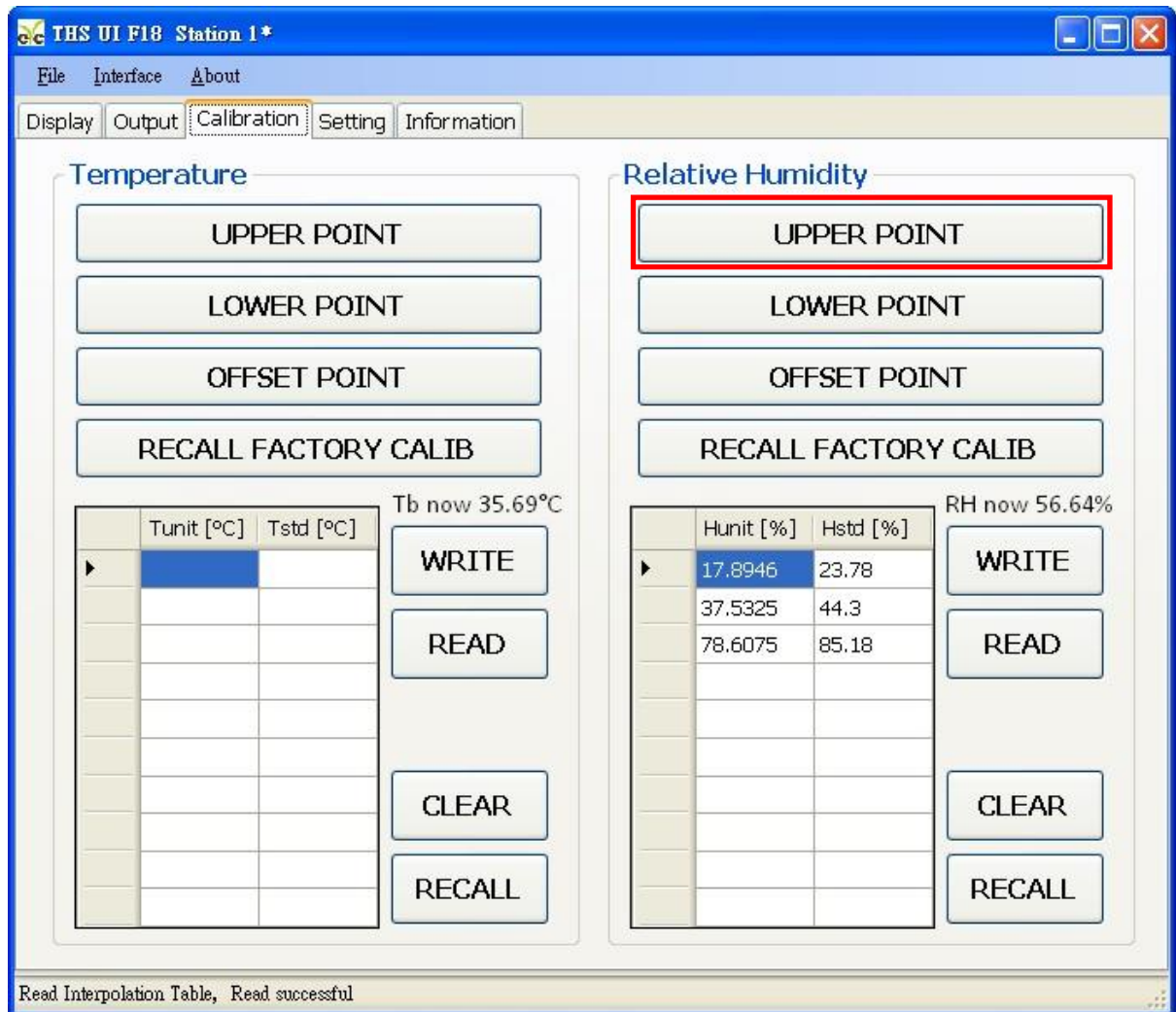
- Buttons: UPPER POINT, LOWER POINT, OFFSET POINT, RECALL FACTORY CALIB.
- Current reading: Tb now 35.69°C
- Table with columns: Tunit [°C], Tstd [°C]. The first row is highlighted in blue.
- Buttons: WRITE, READ, CLEAR, RECALL.

Relative Humidity Section:

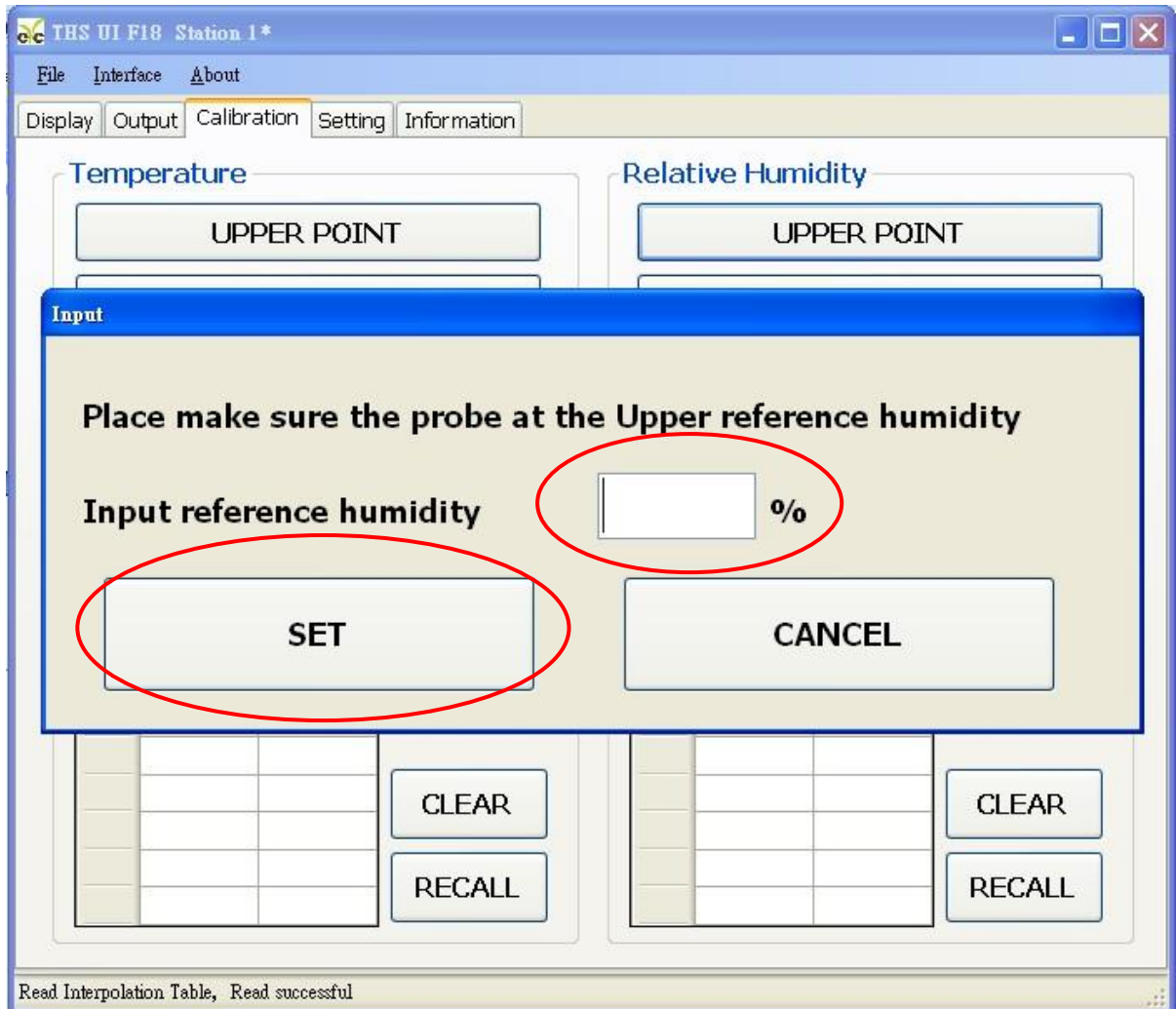
- Buttons: UPPER POINT, LOWER POINT, OFFSET POINT, RECALL FACTORY CALIB.
- Current reading: RH now 56.64%
- Table with columns: Hunit [%], Hstd [%]. The first row is highlighted in blue.
- Buttons: WRITE, READ, CLEAR, RECALL.

Status Bar: Read Interpolation Table, Read successful

- b. Put the sensor unit of 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



- e. Input reference humidity, then click "SET"



- f. That calibrating upper point humidity is done.

2. Calibrate humidity lower point

- Put the sensor unit of product in the humidity control box, and adjust lower point of humidity (ex: RH 20%)
- Wait the humidity of control box is becoming stable.
- Click Relative Humidity > LOWER POINT

THS UI F18 Station 1*

File Interface About

Display Output 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

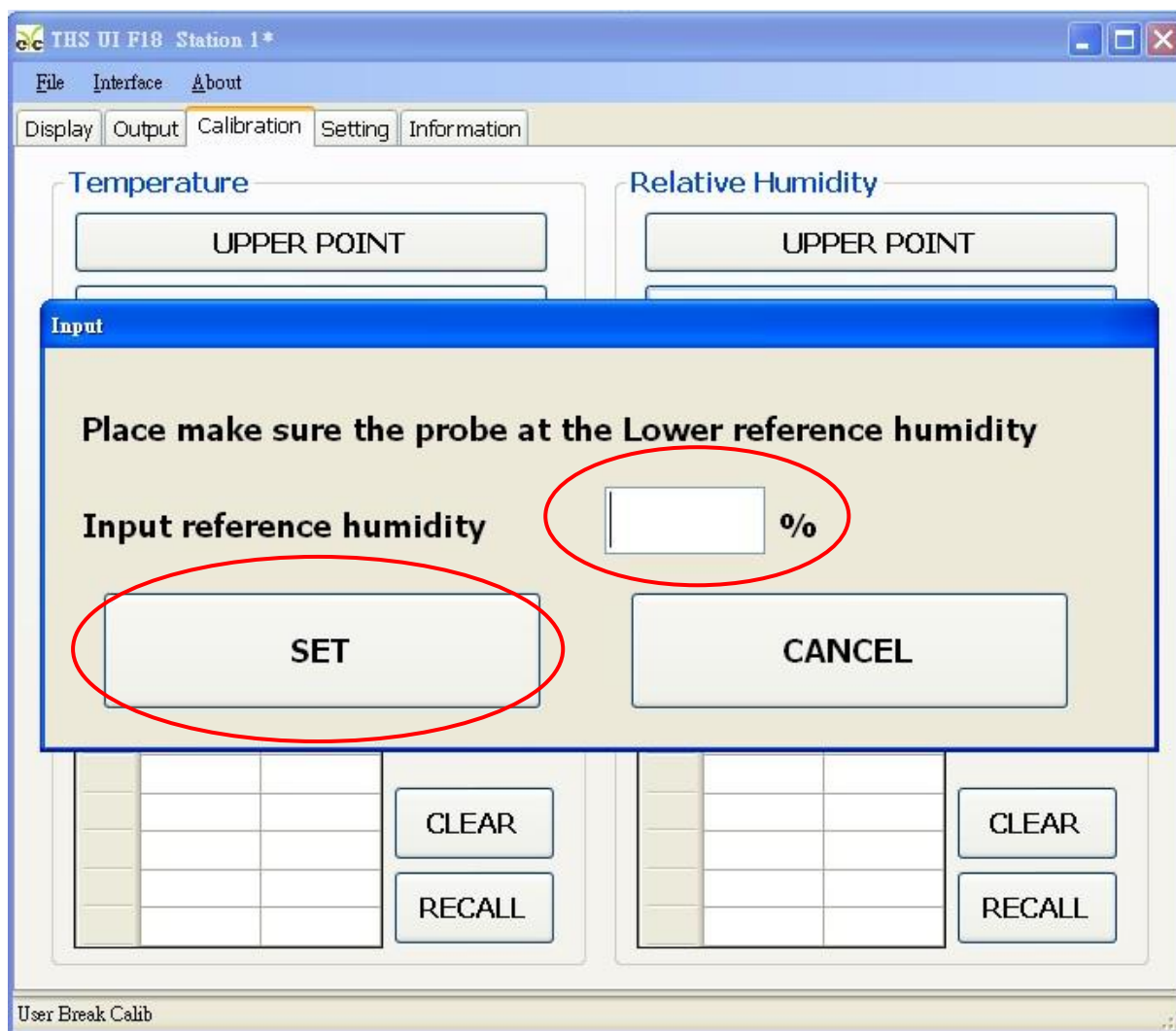
READ

CLEAR

RECALL

Read Interpolation Table, Read successful

- d. Input reference humidity, then click "SET"



- e. That calibrating lower point humidity is done.

5.9 Temperature Calibration with signal points

1. Click "Calibration"

THS UI F18 Station 1*

File Interface **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

RECALL

Read Interpolation Table, Read successful

2. Put the sensor unit of 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. The 'Calibration' tab is selected, showing two main sections: 'Temperature' and 'Relative Humidity'.

Temperature Section:

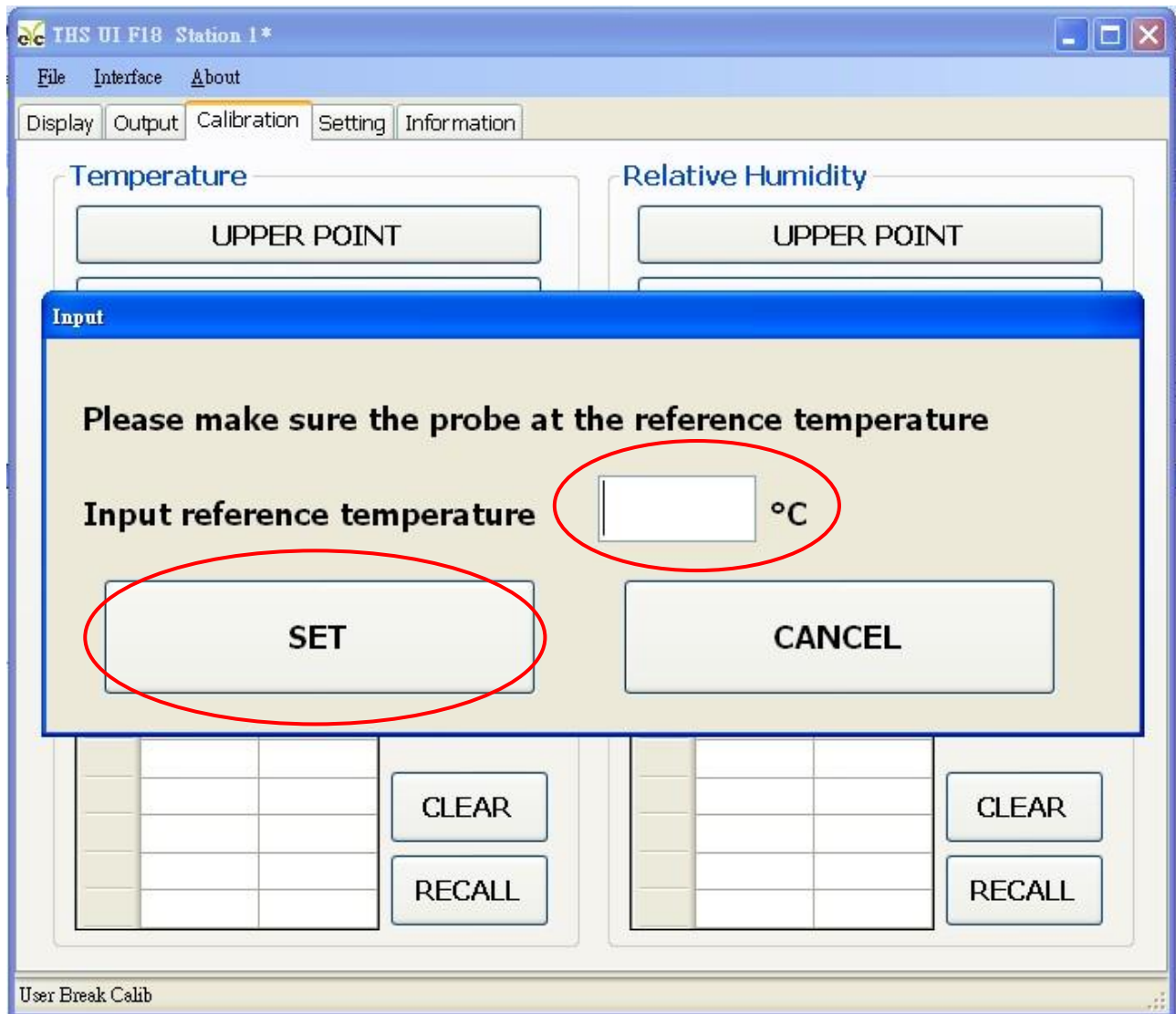
- Buttons: UPPER POINT, LOWER POINT, **OFFSET POINT** (highlighted with a red rectangle), RECALL FACTORY CALIB.
- Current reading: Tb now 35.69°C
- Table with columns: Tunit [°C], Tstd [°C]. The first row is highlighted in blue.
- Buttons: WRITE, READ, CLEAR, RECALL.

Relative Humidity Section:

- Buttons: UPPER POINT, LOWER POINT, OFFSET POINT, RECALL FACTORY CALIB.
- Current reading: RH now 56.64%
- Table with columns: Hunit [%], Hstd [%]. The first row is highlighted in blue.
- Buttons: WRITE, READ, CLEAR, RECALL.

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

5. Input reference temperature, then click "SET"



6. That calibrating signal point temperature is done.

5.10 Humidity Calibration with signal point

1. Click "Calibration"

THS UI F18 Station 1*

File Interface **Calibration** Setting Information

Temperature

UPPER POINT

LOWER POINT

OFFSET POINT

RECALL FACTORY CALIB

Tb now 35.69°C

Tunit [°C]	Tstd [°C]
17.8946	23.78
37.5325	44.3
78.6075	85.18

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

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

THS UI F18 Station 1*

File Interface About

Display Output 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

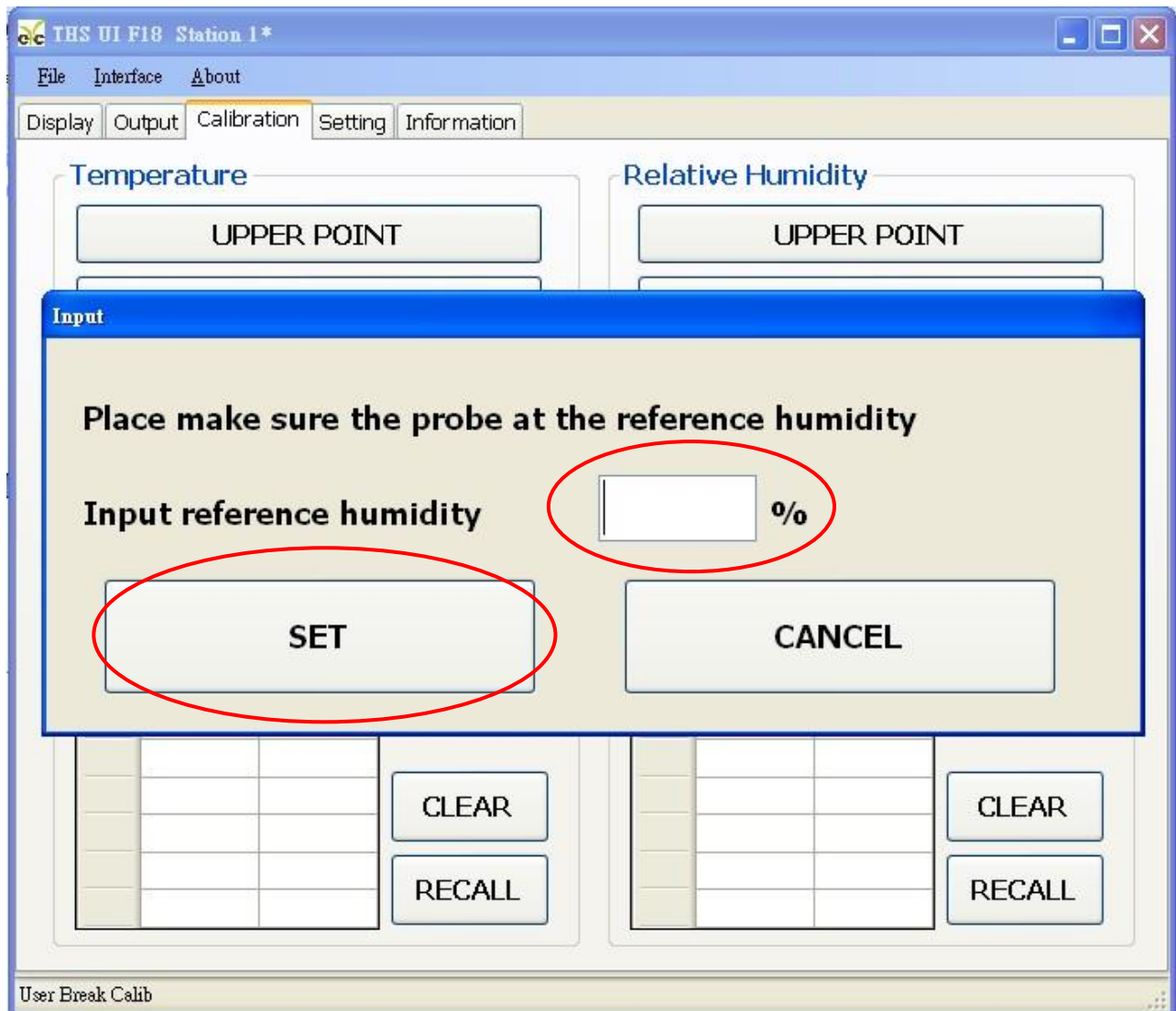
READ

CLEAR

RECALL

Read Interpolation Table, Read successful

5. Input reference humidity, and then click"SET"

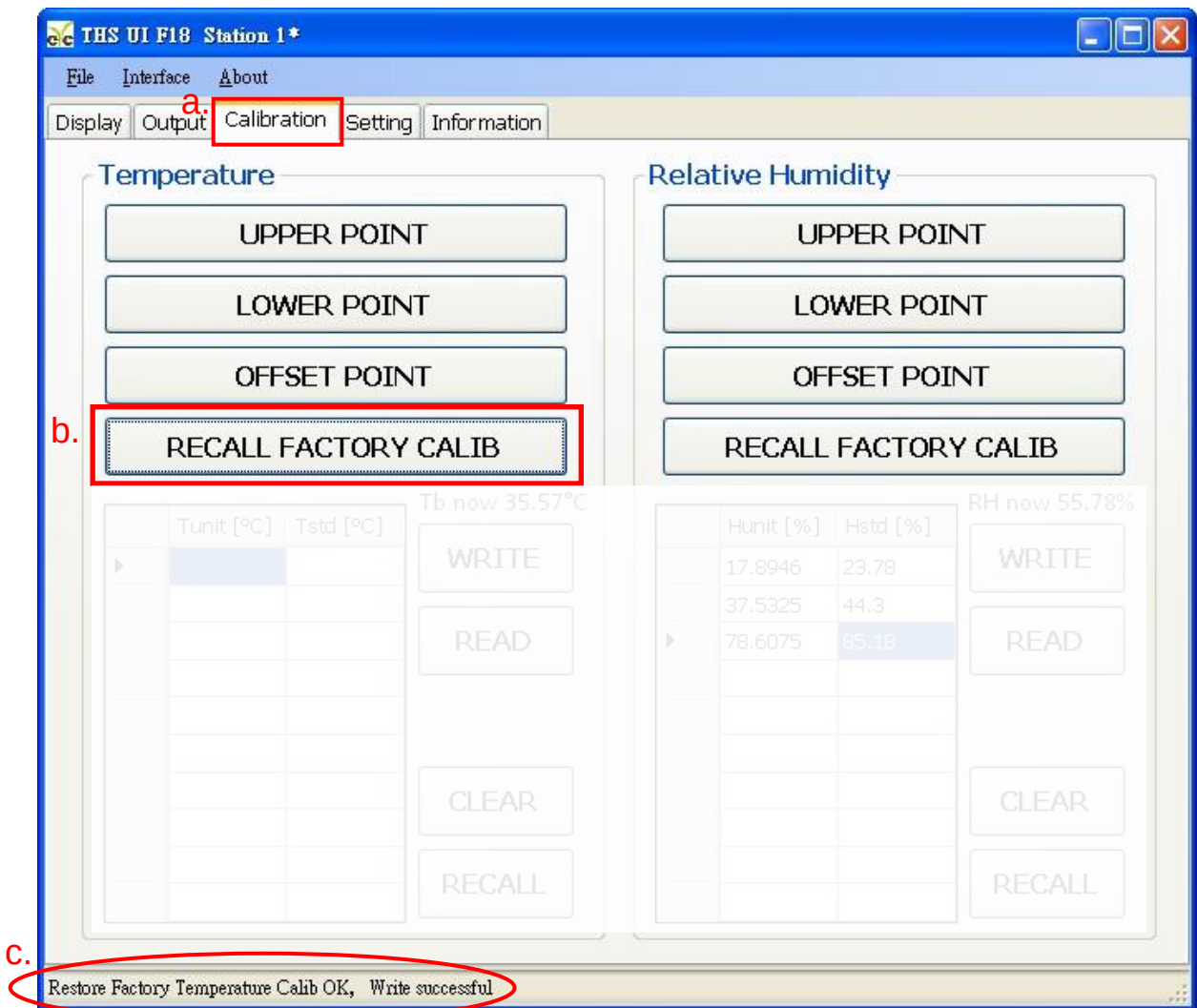


6. That calibrating signal point humidity is done.

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

1. Restore factory setting temperature

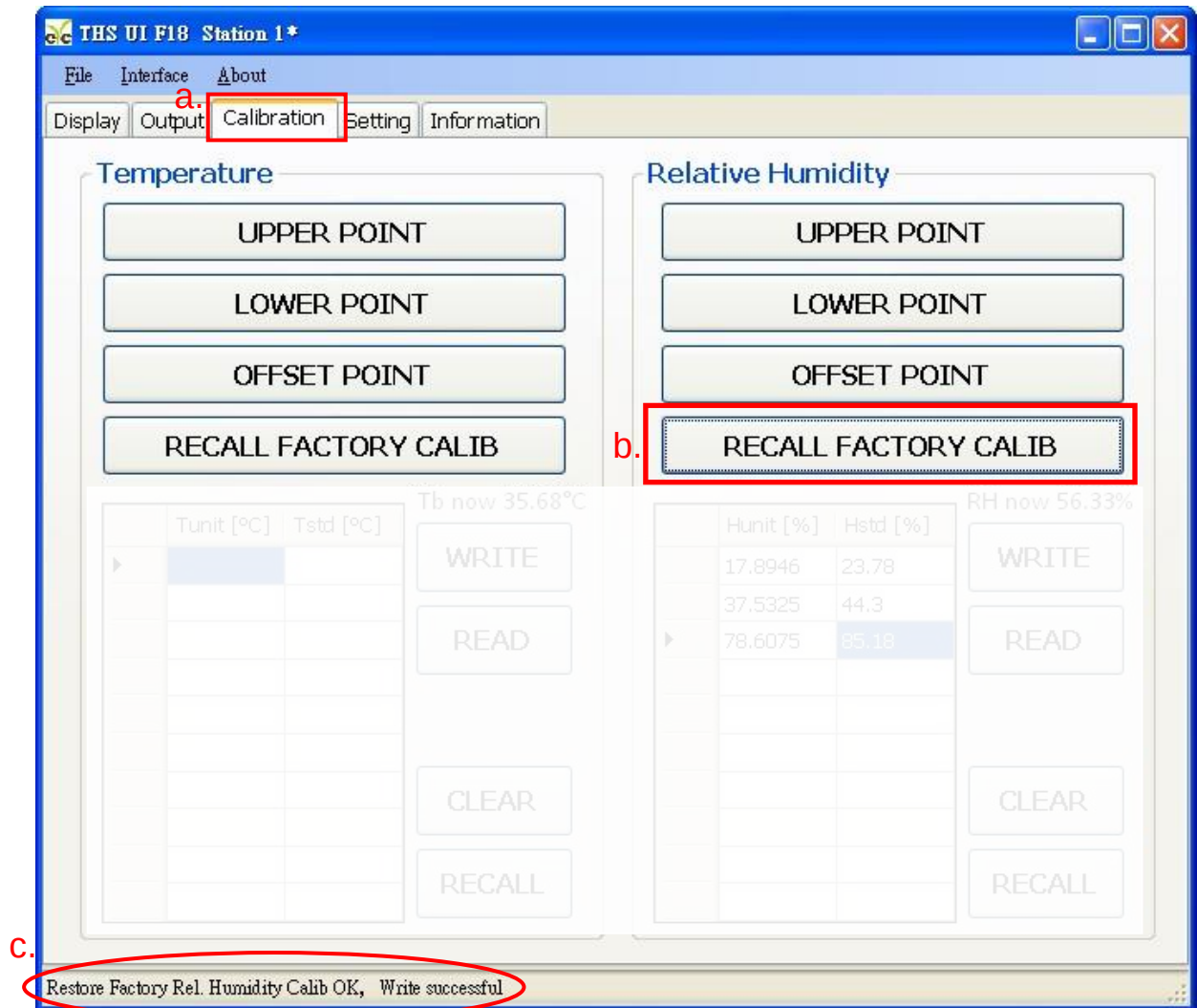
- a. Click "Calibration"
- b. Click temperature > RECALL FACTORY CALIB
- c. Show "Restore Factory Temperature Calib OK, Write successful"



- d. That restore temperature of factory setting is done.

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"

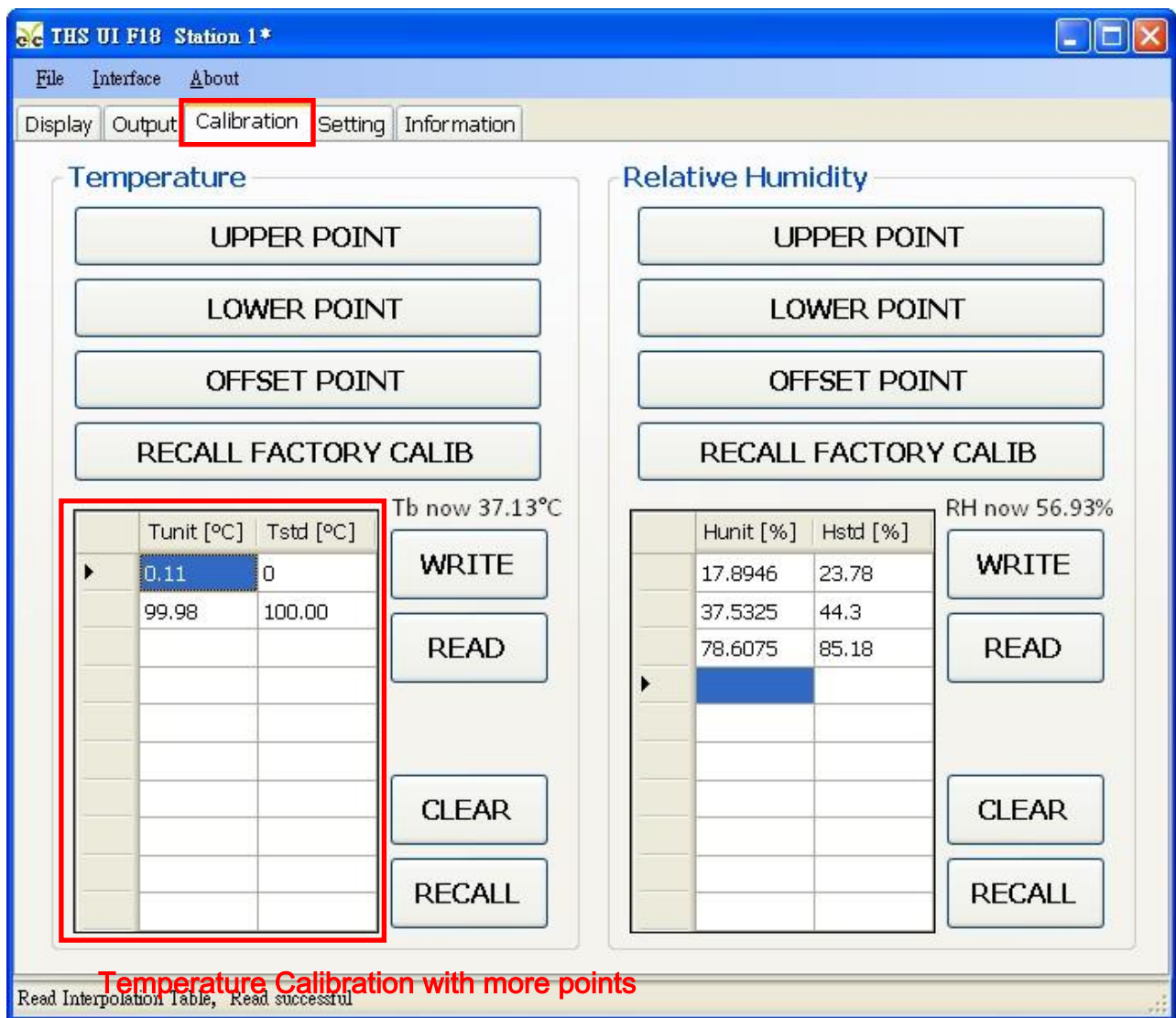


- d. That restore humidity of factory setting is done.

5.12 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.

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2. Put the sensor unit of product in the environment of temperature which you want to calibrate
3. Wait the environment of temperature is becoming stable
4. Retain the factory setting :
 - a. Input the value which you want to calibrate in the Temperature area (ex: 25°C)
 - a-1. Tunit[°C] Value which product shows
 - a-2. Tstd[°C] Standard calibration value
 - ※1 : Please enter calibration points in the blank, 10 points maximal.
 - ※2 : The interval between two points should be 10°C above.
 - ※3 : Execute step 6 when you want to repeat the calibration points and factory setting points or the temperature is less than 10°C.

THS UI F18 Station 1*

File Interface About

Display Output Calibration Setting Information

Temperature

UPPER POINT

LOWER POINT

OFFSET POINT

RECALL FACTORY CALIB

a.

	Tunit [°C]	Tstd [°C]
	0.11	0
	99.98	100.00
▶	55.6	55.1

Tb now 37.14°C

b. **WRITE**

Relative Humidity

UPPER POINT

LOWER POINT

OFFSET POINT

RECALL FACTORY CALIB

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

RH now 55.94%

WRITE

READ

CLEAR

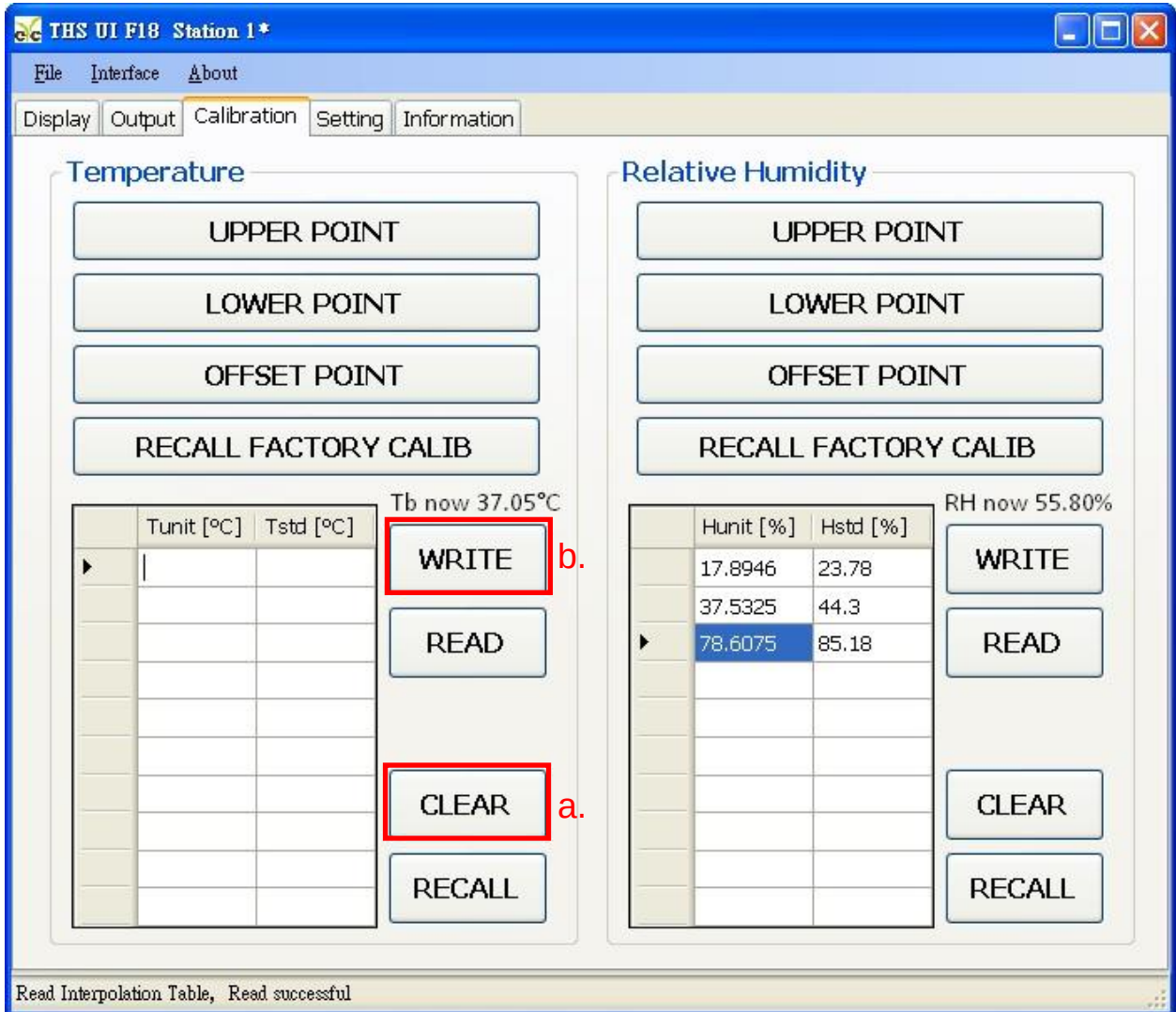
RECALL

Read Interpolation Table, Read successful

b. click Temperature > WRITE

5. Delete factory setting :

- a. click Temperature > CLEAR (clear data)
- b. Click Temperature > WRITE (clear factory setting)



c. Input the value which you want to calibrate

c-1. Tunit[°C] : Value which product shows

c-2. Tstd[°C] : Standard value of calibration

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

※2 : The interval between two points should be 10°C above.

Temperature

UPPER POINT

LOWER POINT

OFFSET POINT

RECALL FACTORY CALIB

Tb now 36.71°C

Tunit [°C]	Tstd [°C]
20.3	20.9
9.5	9.8
35.0	35.5
68.2	67.9

WRITE

READ

CLEAR

RECALL

Relative Humidity

UPPER POINT

LOWER POINT

OFFSET POINT

RECALL FACTORY CALIB

RH now 57.54%

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

WRITE

READ

CLEAR

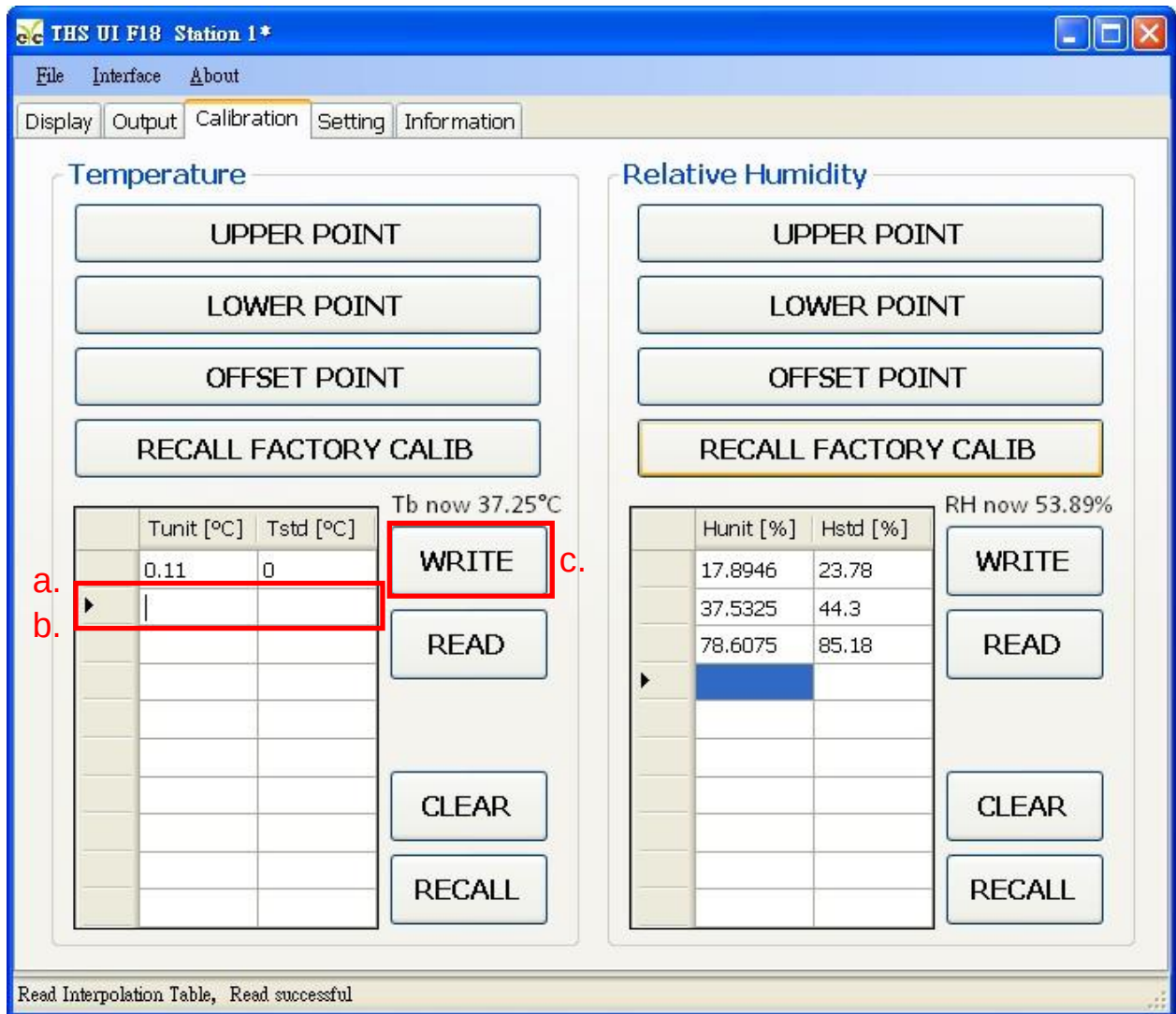
RECALL

Read Interpolation Table, Read successful

d. click Temperature > WRITE

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 Temperature > WRITE (clear factory setting)



d. Input the value which you want to calibrate

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

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

The screenshot shows the 'THS UI F18 Station 1*' software interface. The 'Calibration' tab is selected, showing settings for Temperature and Relative Humidity. The Temperature section has buttons for 'UPPER POINT', 'LOWER POINT', 'OFFSET POINT', and 'RECALL FACTORY CALIB'. Below these is a table for calibration data with columns 'Tunit [°C]' and 'Tstd [°C]'. The current temperature is 'Tb now 36.19°C'. The Relative Humidity section has similar buttons and a table with columns 'Hunit [%]' and 'Hstd [%]'. The current humidity is 'RH now 61.26%'. Both sections have 'WRITE', 'READ', 'CLEAR', and 'RECALL' buttons. A status bar at the bottom says 'Read Interpolation Table, Read successful'.

Temperature Calibration Data:

Tunit [°C]	Tstd [°C]
0.11	0
92.5	93.3

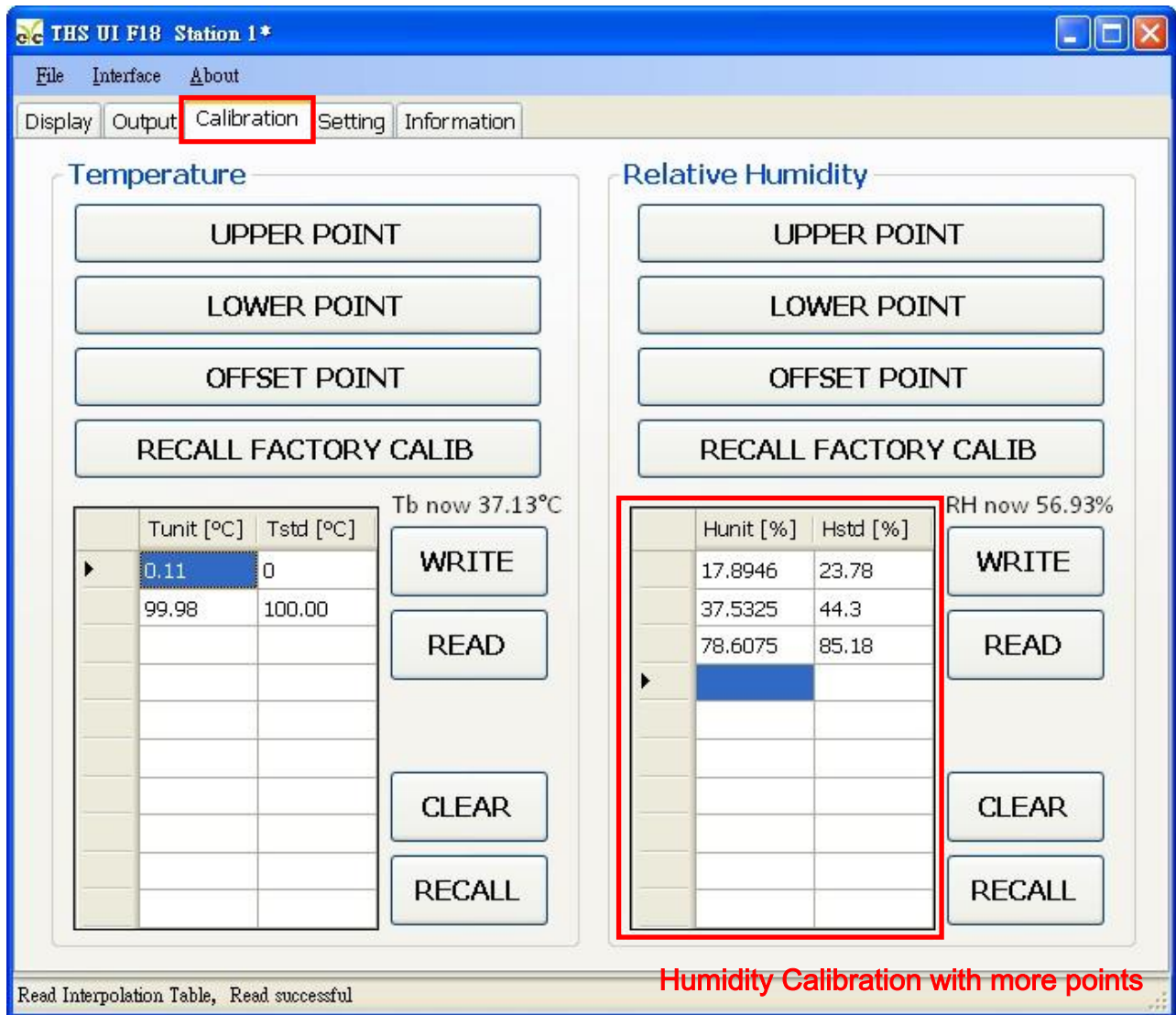
Relative Humidity Calibration Data:

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

e. click Temperature > WRITE

5.13 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.

2. Put the sensor unit of 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%.

THS UI F18 Station 1*

File Interface About

Display Output Calibration Setting Information

Temperature

UPPER POINT

LOWER POINT

OFFSET POINT

RECALL FACTORY CALIB

Tb now 37.15°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 55.12%

	Hunit [%]	Hstd [%]
	17.8946	23.78
	37.5325	44.3
	78.6075	85.18
▶	62.23	61.77

WRITE **b.**

READ

CLEAR

RECALL

Read Interpolation Table, Read successful

b. click Temperature > WRITE

5. Delete factory setting :

- a. click Relative Humidity > CLEAR (clear data)
- b. Click Relative Humidity > WRITE (clear factory setting)

THS UI F18 Station 1*

File Interface About

Display Output Calibration Setting Information

Temperature

UPPER POINT

LOWER POINT

OFFSET POINT

RECALL FACTORY CALIB

Tb now 37.15°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 55.17%

	Hunit [%]	Hstd [%]
▶		

WRITE

READ

CLEAR

RECALL

Read Interpolation Table, Read successful

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.

THS UI F18 Station 1*

File Interface About

Display Output Calibration Setting Information

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

CH 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

d. click Relative Humidity > WRITE

6. Retain the part of factory setting :

- Click left keyboard twice on the mouse on the factory setting which you want to delete
- Click delete icon of Keyboard or right keyboard of mouse to clear data
- Click Relative Humidity > WRITE (clear factory

setting)

THS UI F18 Station 1*

File Interface About

Display Output Calibration Setting Information

Temperature

UPPER POINT

LOWER POINT

OFFSET POINT

RECALL FACTORY CALIB

Tb now 37.26°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 54.25%

	Huni [%]	Hstd [%]
▶	17.8946	23.78
	78.6075	85.18

WRITE

READ

CLEAR

RECALL

Read Interpolation Table, Read successful

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

THS UI F18 Station 1*

File Interface About

Display Output Calibration Setting Information

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

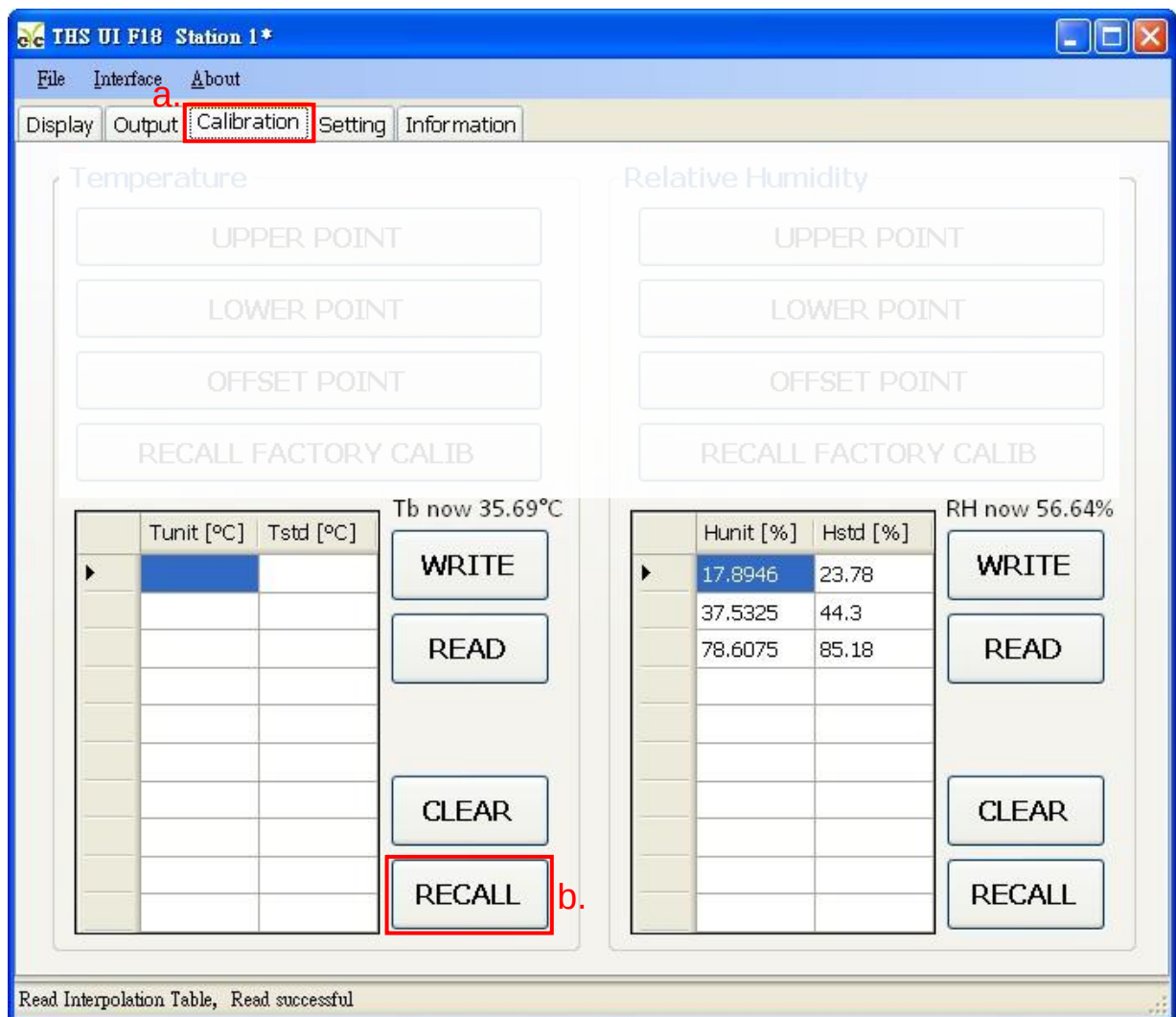
e. Click Relative Humidity > WRITE

5.14 Restore factory setting of more points

1. Recall temperature of factory setting

a. Click “Calibration”

b. Click Temperature > RECALL

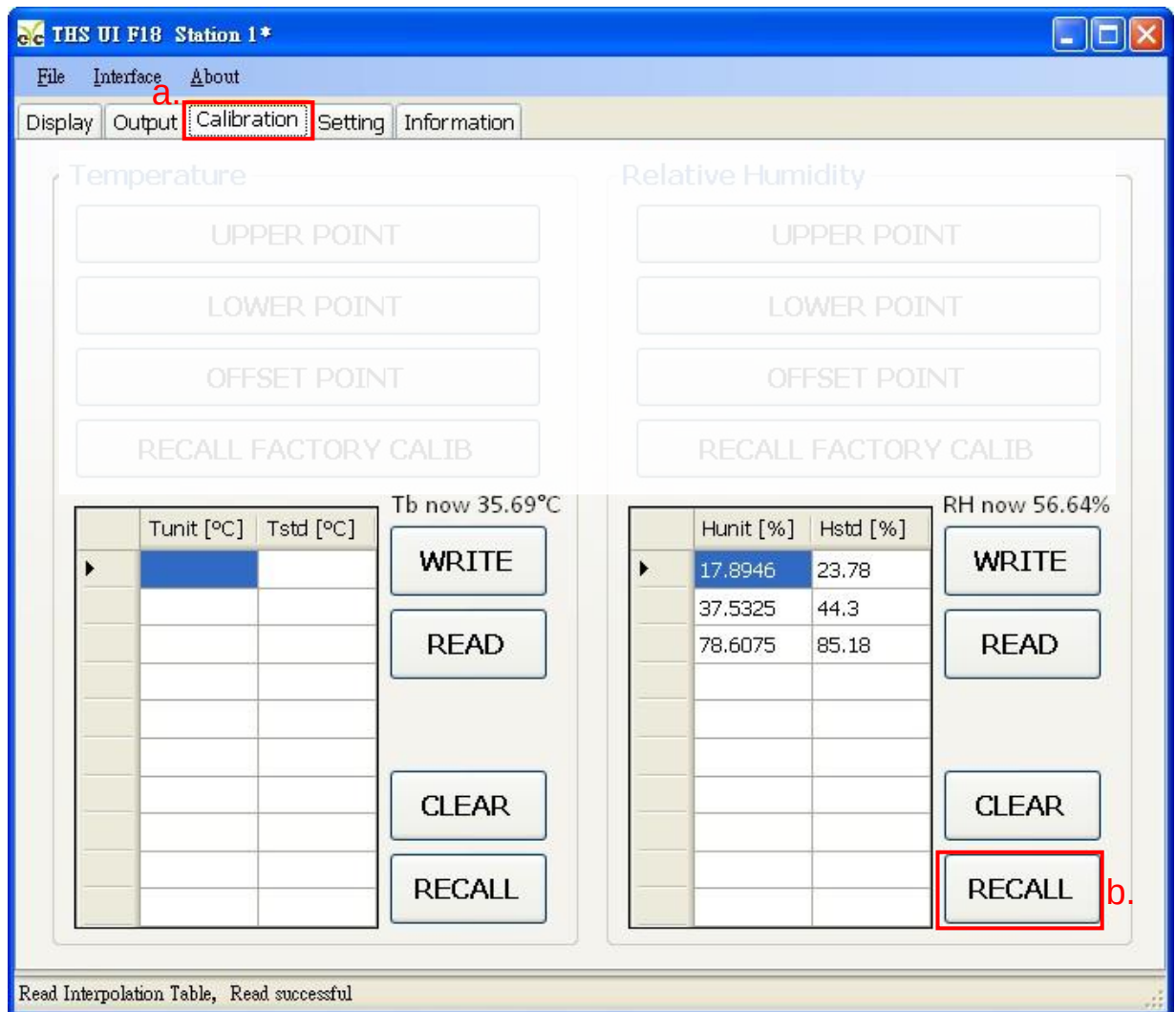


d. That restore more points temperature of factory setting is done.

2. Recall the factory setting of more points of humidity

a. Click “Calibration”

b. Click “Relative Humidity > RECALL



e. That restore humidity of factory setting is done.

6. 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 :

1) 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.

2) Sensor maintenance

Do not damage sensor surface during maintenance process.

3) Troubleshooting

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

2. Troubleshooting :

Problem	Cleck items	Soluations
●No output ●Unstable output	●Disconnected wiring ●Loose wiring ●Power supply voltage ●Sensor damages	●Re-perform wiring ●crew on terminal tightly or replace wires ●Replace the sensor
●Slow response to output ●Error in output	●Moisture/ condensation on the product ●Check installed location ●Check dust and contamination on the sensor	●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