



Operation-Manual

THS30X Series (THS301 / 302 / 304 / 307)

Multifunction Temp-Humid Transmitter

Indoor / Duct / Remote / Outdoor



THS301



THS302



THS304



THS307

eYc THS30X



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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 !

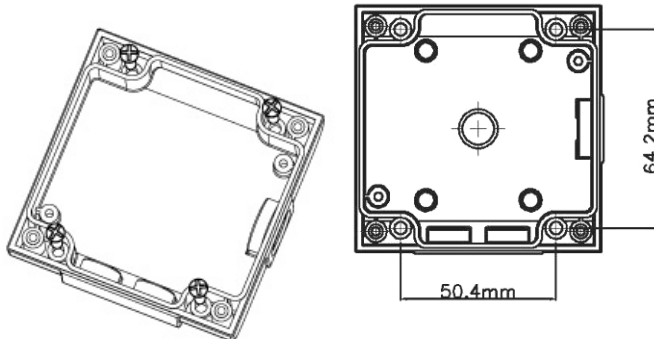
Warning!!

- 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.

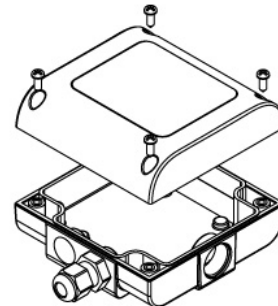
II. Installation

1. Indoor

Wall mount



Cover

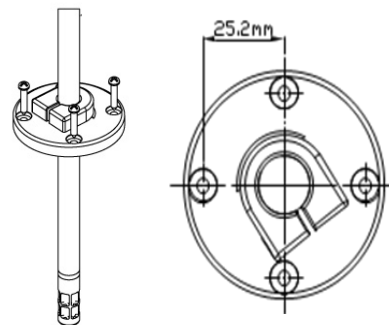


2. Outdoor

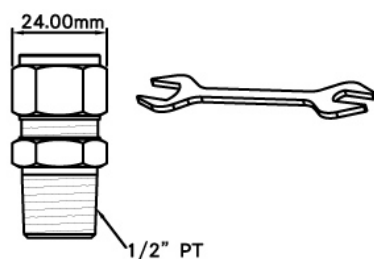
Fixed board for wall type



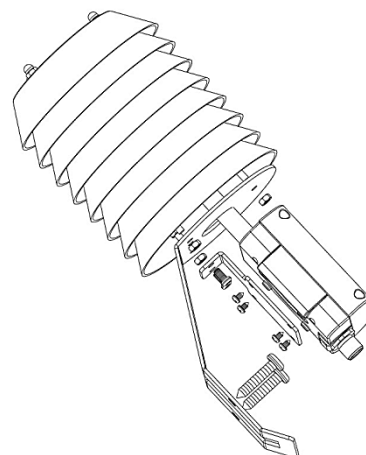
Plastic flange



Installing Fitting thread

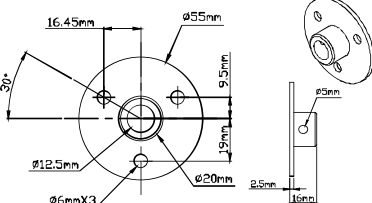
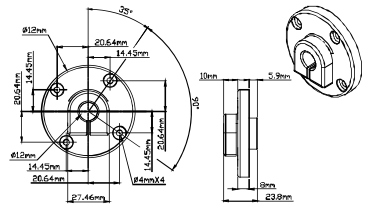
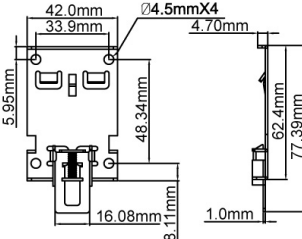
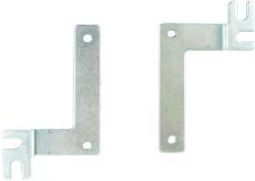
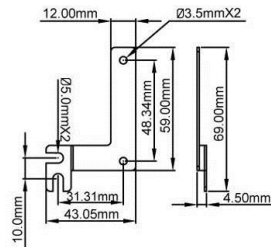
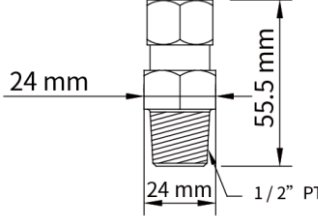


Radiation shield



III. Option accessory

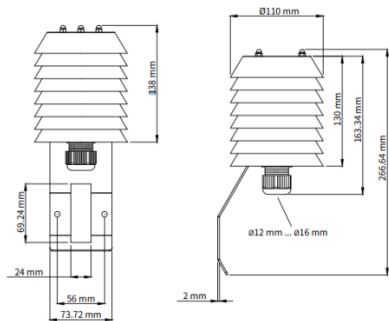
1. Fixed type

Order code	Name	Description	Dimension
4415000022 Metal Flange		Material : Stainless Steel 304	
8203104015 Plastic flange (Standard)		Material : PC fire-proof class	
AS-HS-S Fixed board		Material : Stainless Steel 304	
8203104014 Fixed board for wall type(Standard)		Material : SPCC	
8203104012 Fitting thread		Material : Stainless Steel 304	

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 μ m 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

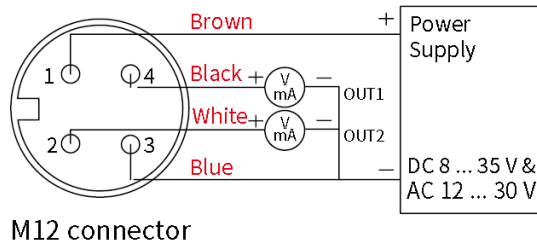
3. Radiation shield

Order code	Name	Description	Dimension
THSA-0304 Radiation shield		Material : UVPC+S.S.	

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

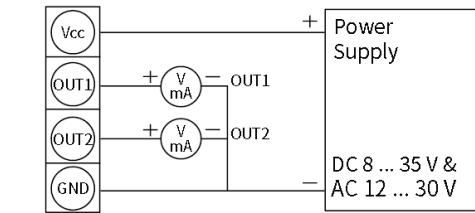
IV. Diagram

1. Analog Diagram



M12 connector

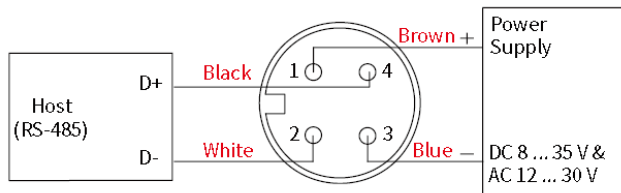
M type(4P)



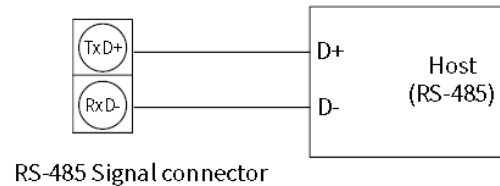
4P terminal

N type

2. RS-485 Diagram



M type(4P)

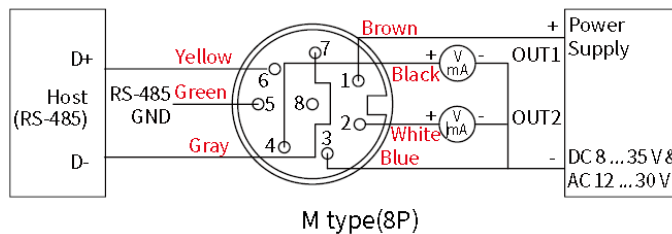


RS-485 Signal connector

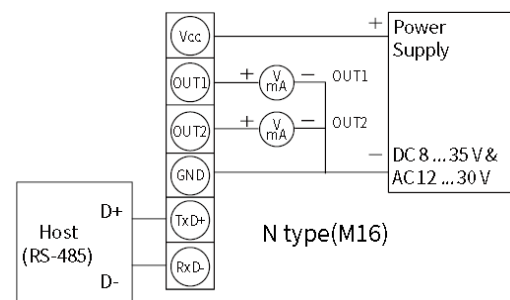
N type

※ 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)

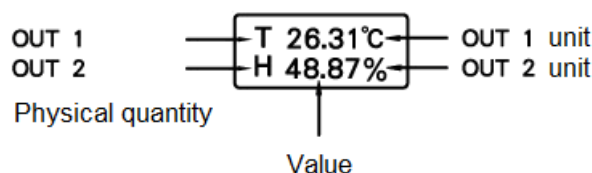
V. Physical Quantity Measuring Range List

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/m³	0 ... 290 g/m³		
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)

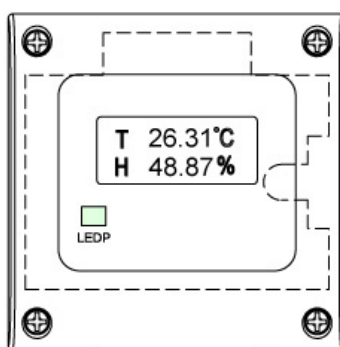
VI. Display and LED instruction

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

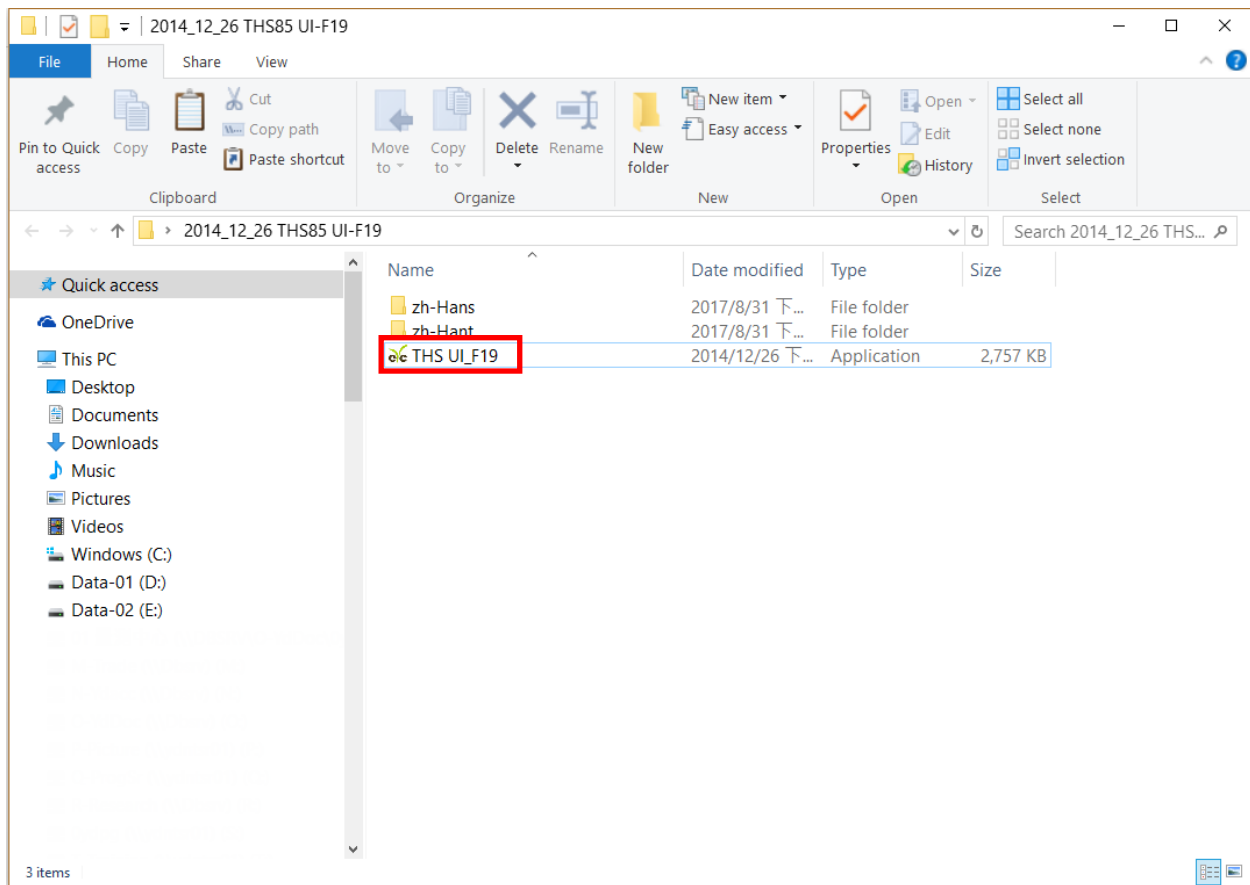
※ Product calibration requires a standard device to perform

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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

6.1 Application Program statement

1. Free installation program : THS UI_F19.exe

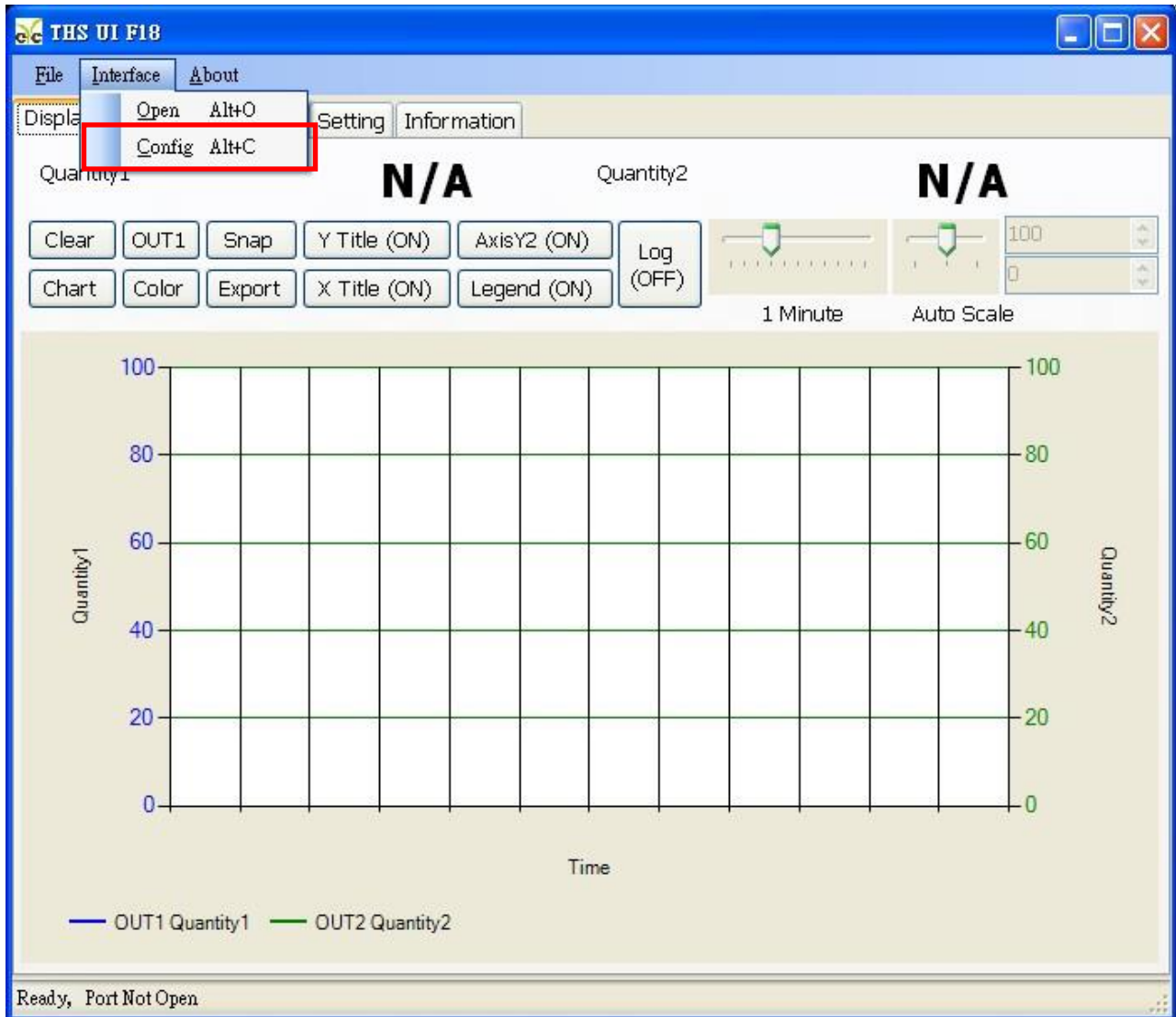
a. Operating System requirements : Above Windows XP SP2



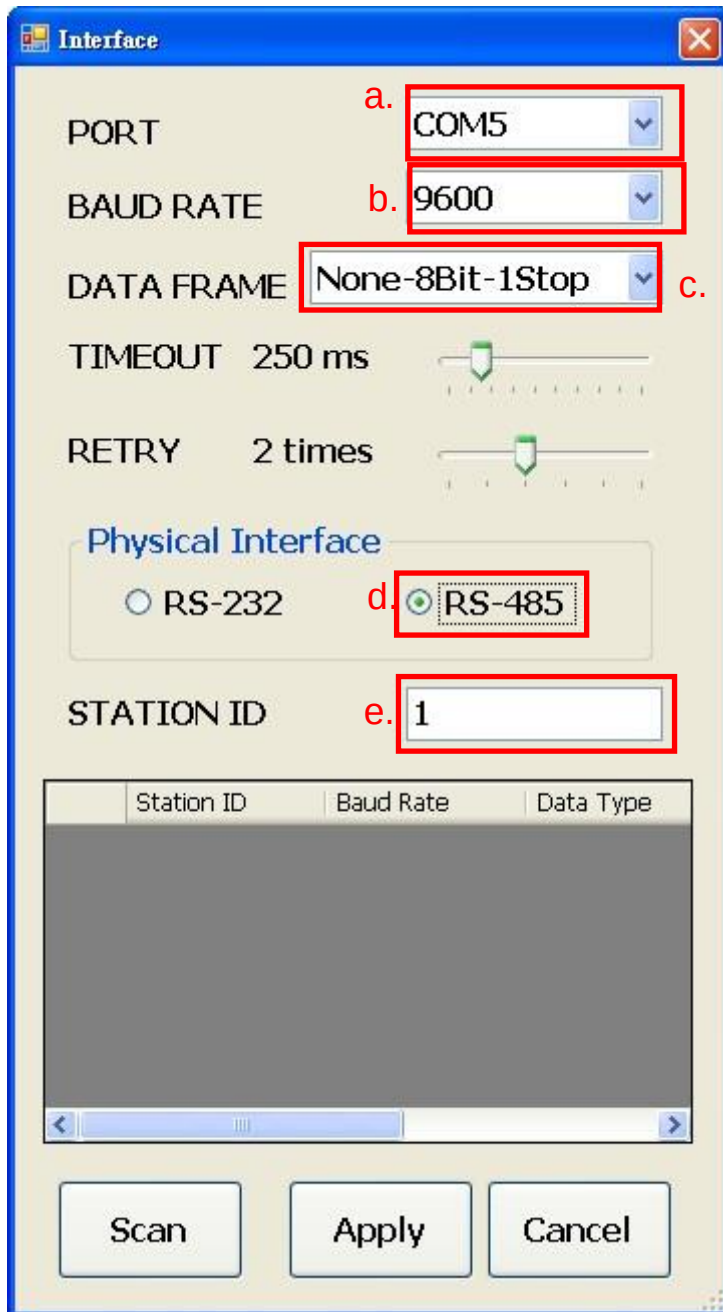
2. Other application program requirements : Above Microsoft Office 2003

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

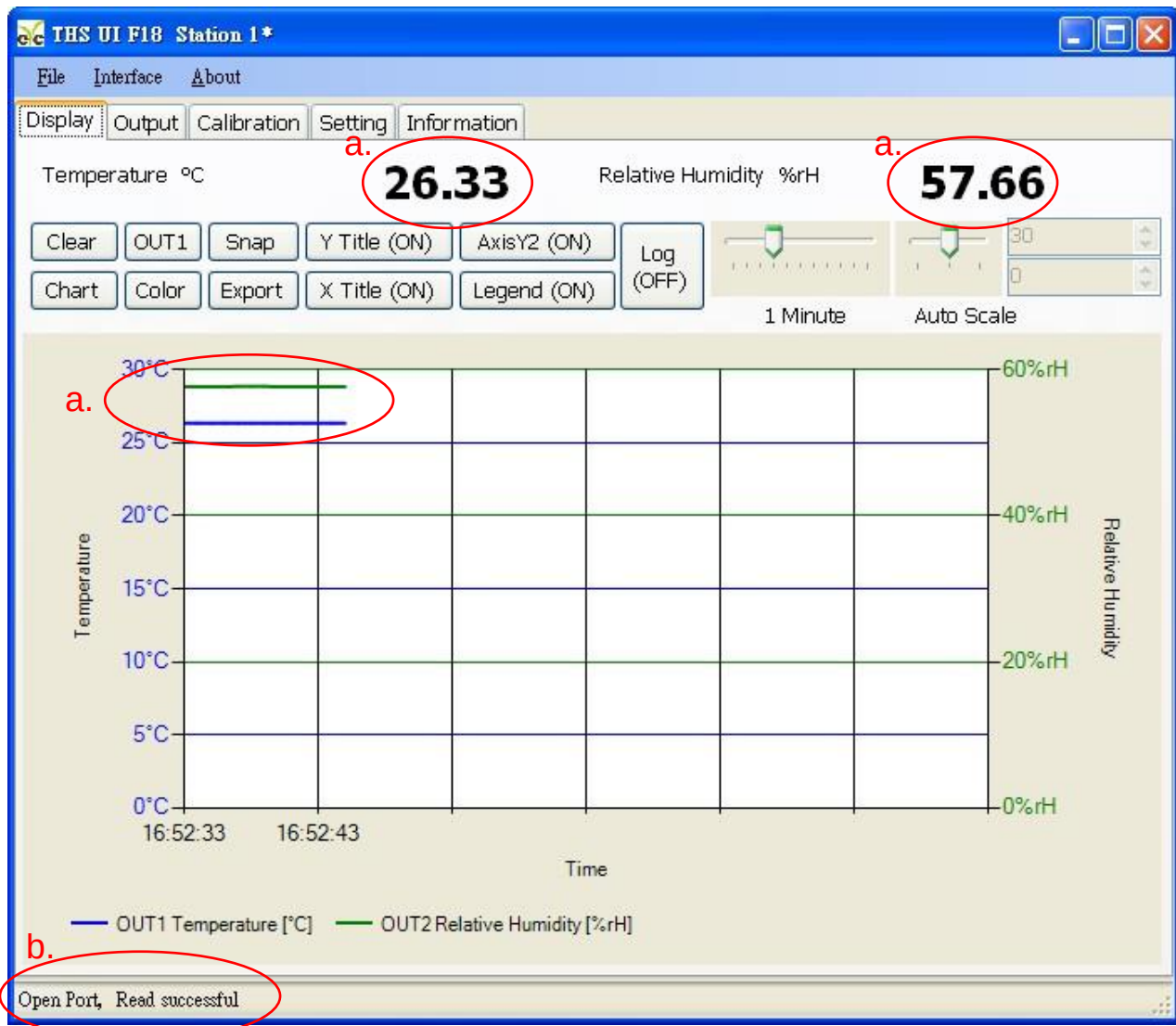
STATION ID e. 1

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

Scan Apply Cancel

5. Click "Apply " complete setup

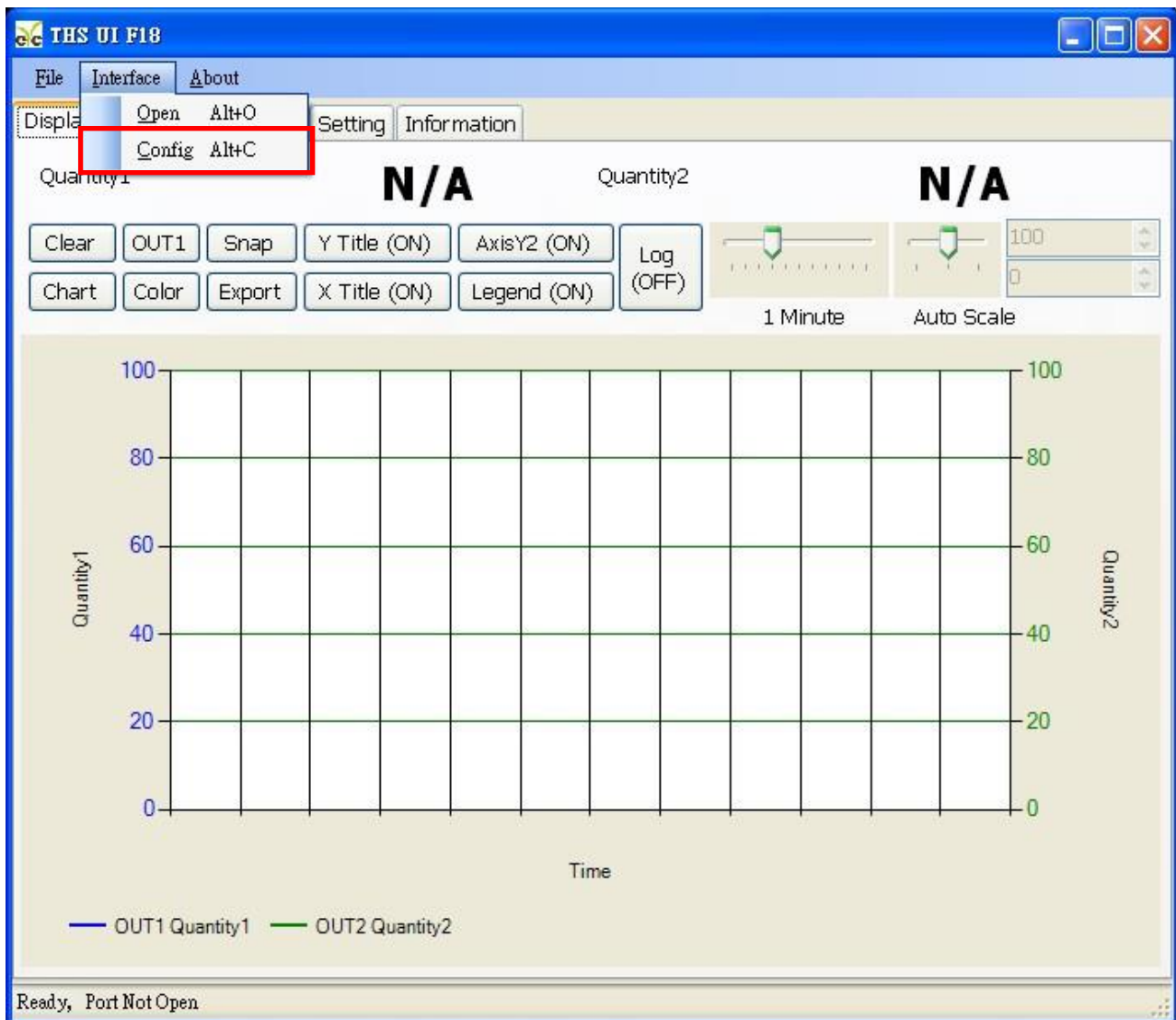
6. Connect successfully
 - a. Show value and trend chart of Temperature and Relative Humidity
 - b. Show Open port, Read successful



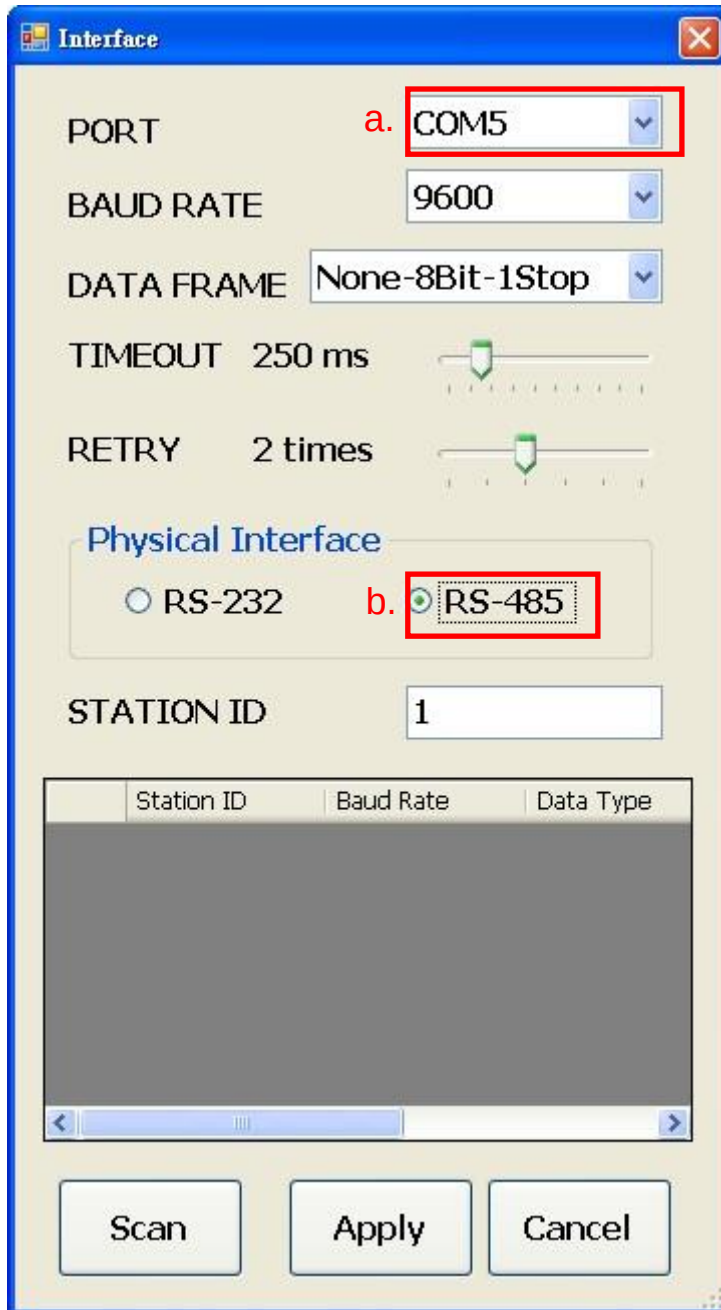
6.3 Scan RS-485 connection

※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
- (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

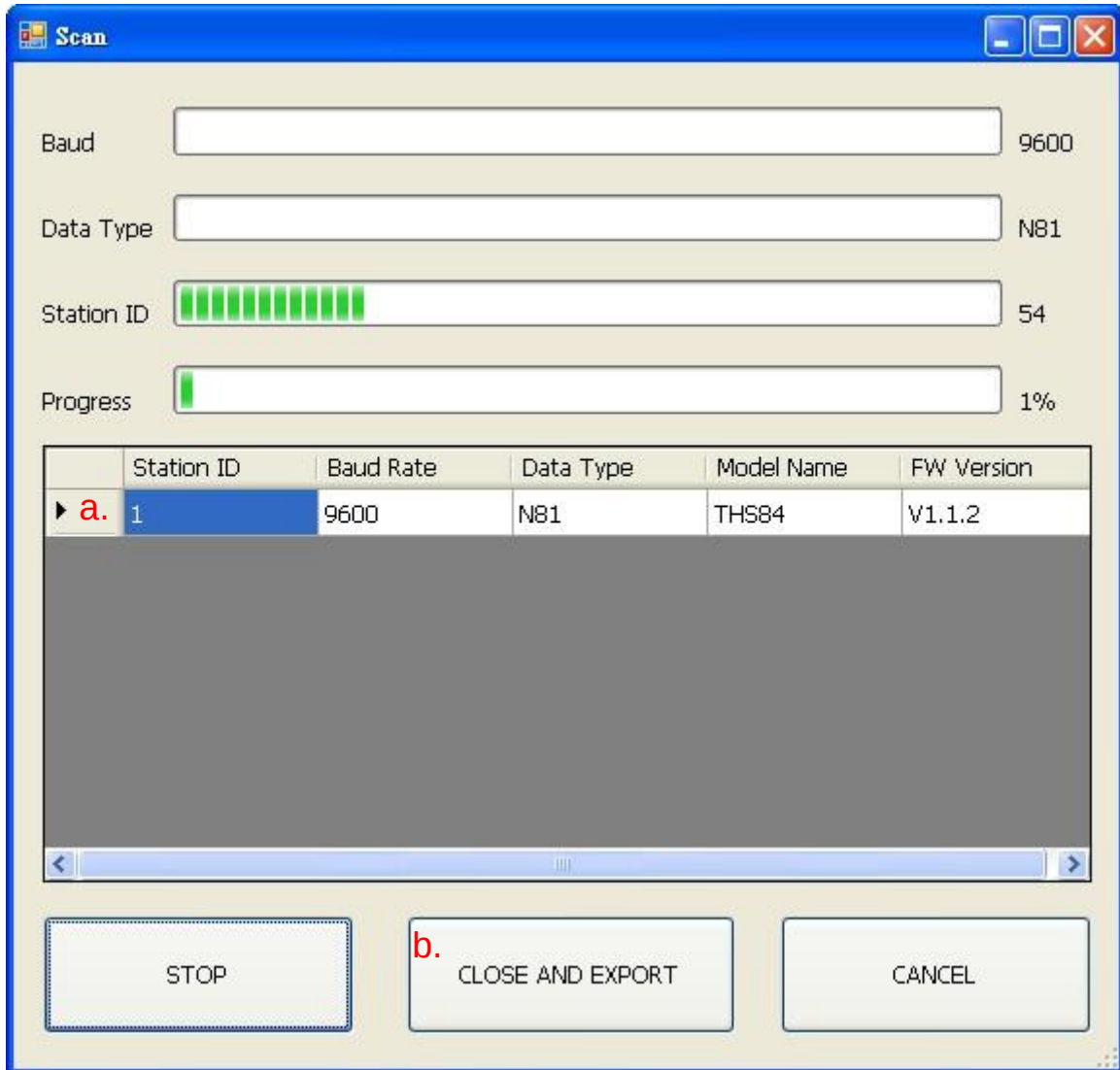
☐ RS-232 b. ☒ RS-485

STATION ID 1

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

Scan Apply Cancel

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

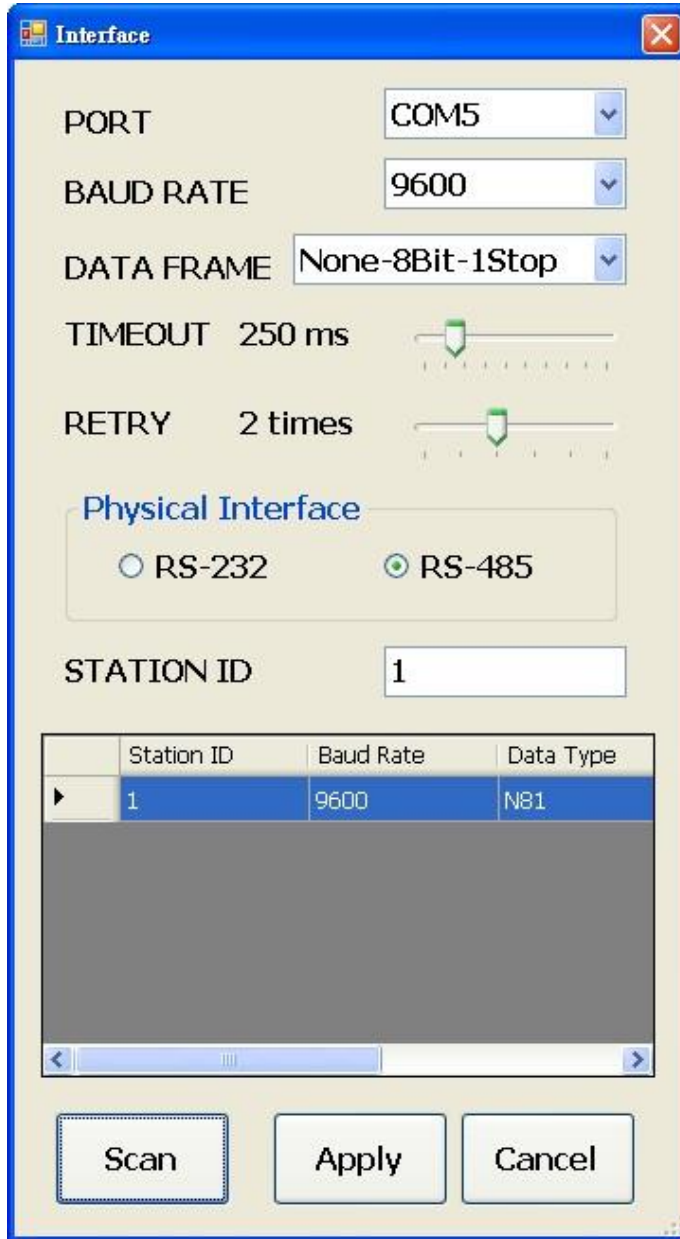


The screenshot shows a window titled "Scan" with the following fields and controls:

- Baud:** A text box containing "9600".
- Data Type:** A text box containing "N81".
- Station ID:** A text box containing "54" with a green bar indicator on the left.
- Progress:** A progress bar showing 1% completion.
- Table:** A table with 6 columns: Station ID, Baud Rate, Data Type, Model Name, and FW Version. The first row is highlighted in blue and contains the value "1" in the Station ID column, which is also marked with a red "a.".
- Buttons:** Three buttons at the bottom: "STOP", "CLOSE AND EXPORT" (marked with a red "b."), and "CANCEL".

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

(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

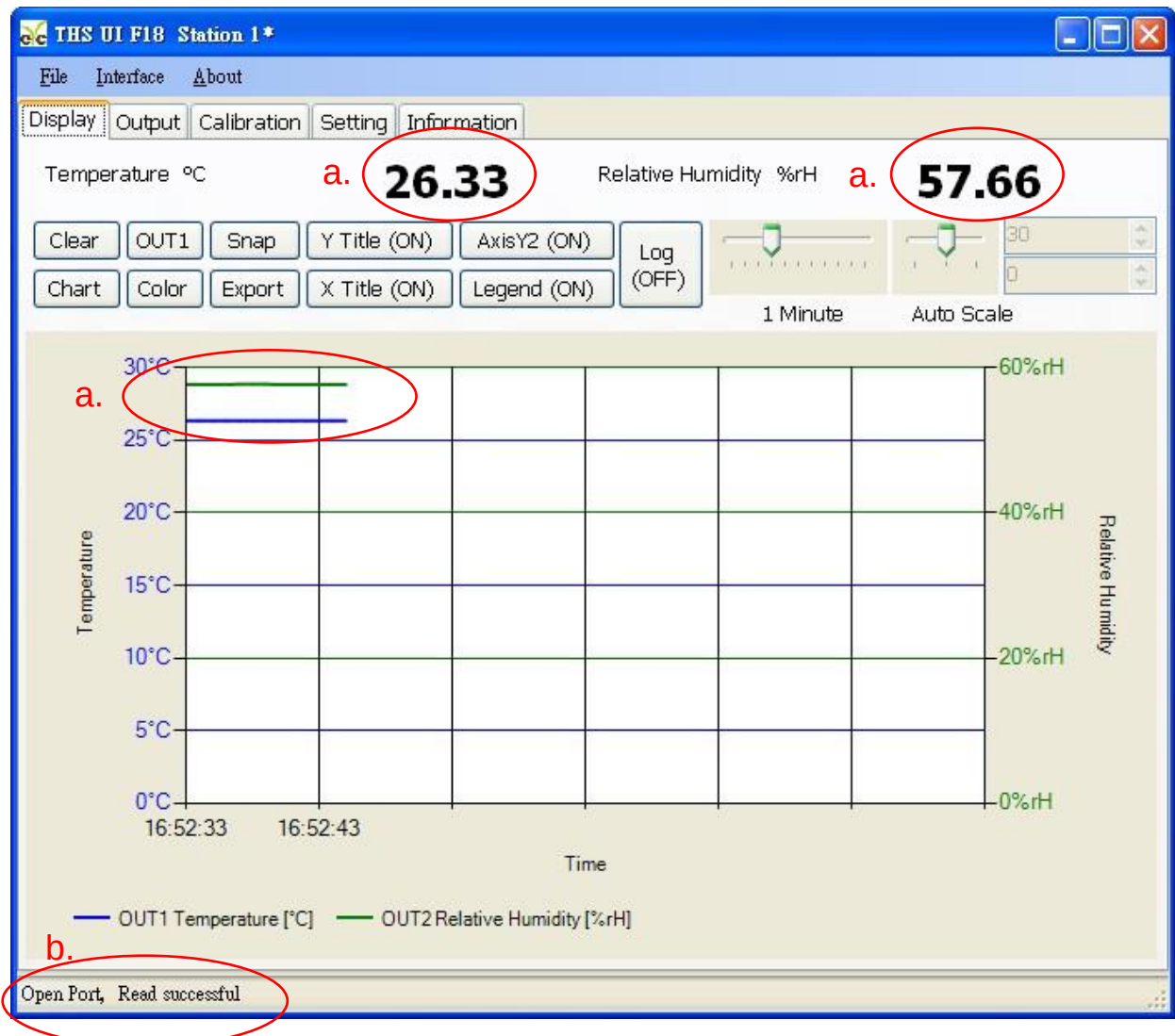
STATION ID: 1

Station ID	Baud Rate	Data Type
1	9600	N81

Scan Apply Cancel

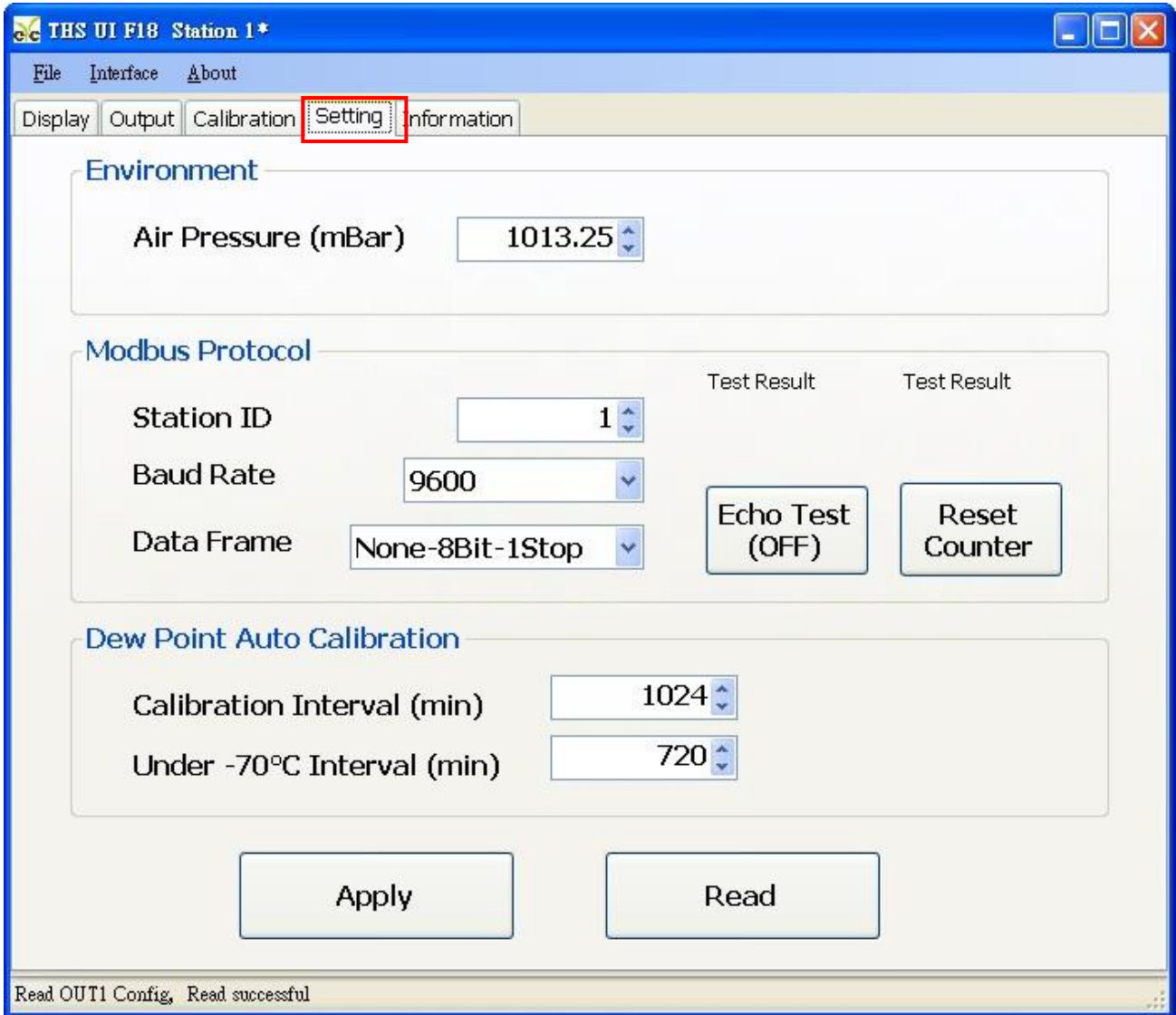
Multifunction Temperature & Humidity Transmitter (Indoor / Duct / Remote / Outdoor)

- (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"



The screenshot shows the THS UI F18 Station 1* software interface. The 'Setting' tab is selected and highlighted with a red box. The interface is divided into three main sections: Environment, Modbus Protocol, and Dew Point Auto Calibration.

Environment

- Air Pressure (mBar): 1013.25

Modbus Protocol

- Station ID: 1
- Baud Rate: 9600
- Data Frame: None-8Bit-1Stop
- Test Result: (Two empty fields)
- Echo Test (OFF): (Button)
- Reset Counter: (Button)

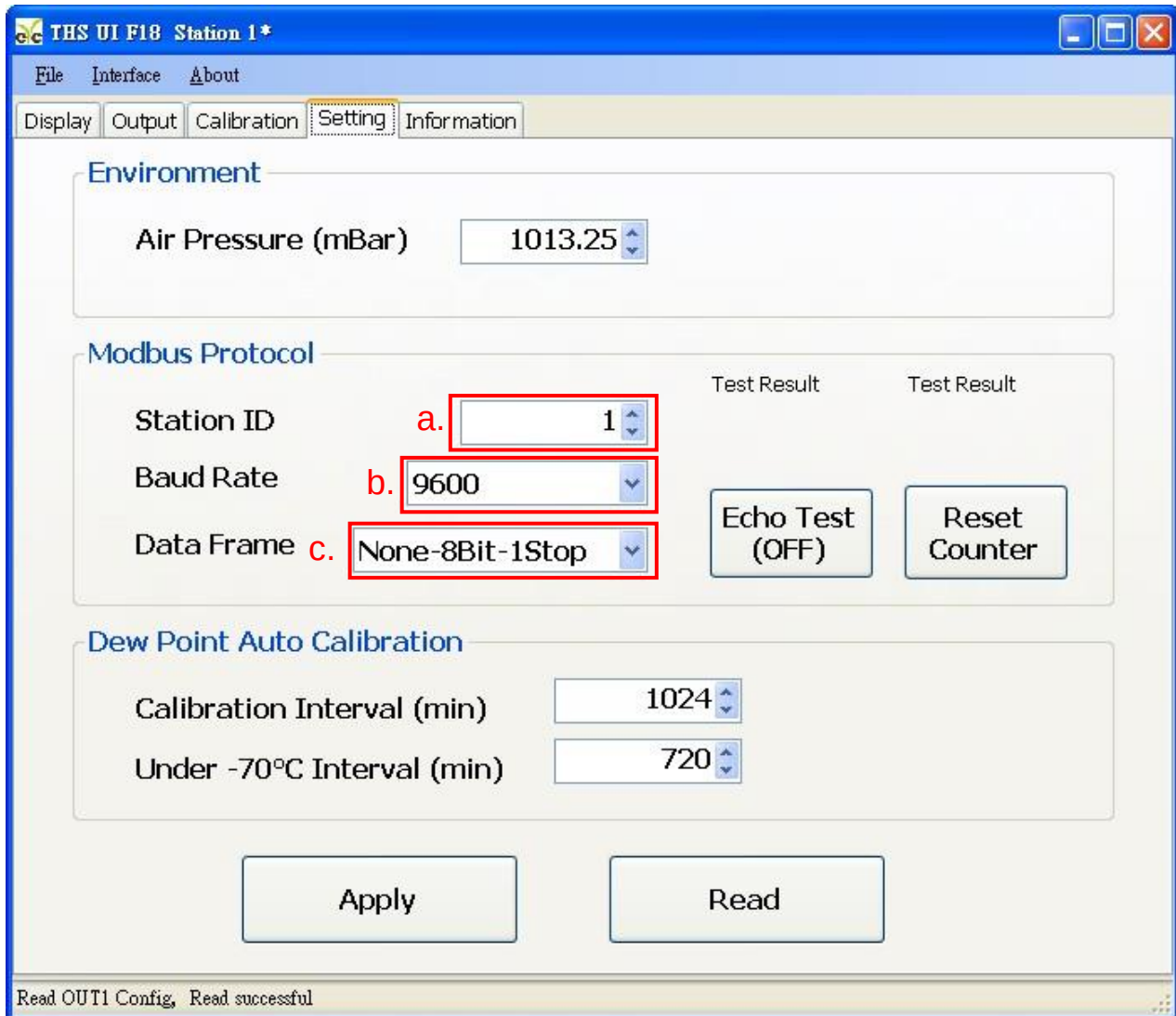
Dew Point Auto Calibration

- Calibration Interval (min): 1024
- Under -70°C Interval (min): 720

At the bottom, there are two buttons: 'Apply' and 'Read'.

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-1Stop



THS UI F18 Station 1*

File Interface About

Display Output Calibration Setting Information

Environment

Air Pressure (mBar) 1013.25

Modbus Protocol

Station ID a. 1

Baud Rate b. 9600

Data Frame c. None-8Bit-1Stop

Test Result Test Result

Echo Test (OFF) Reset Counter

Dew Point Auto Calibration

Calibration Interval (min) 1024

Under -70°C Interval (min) 720

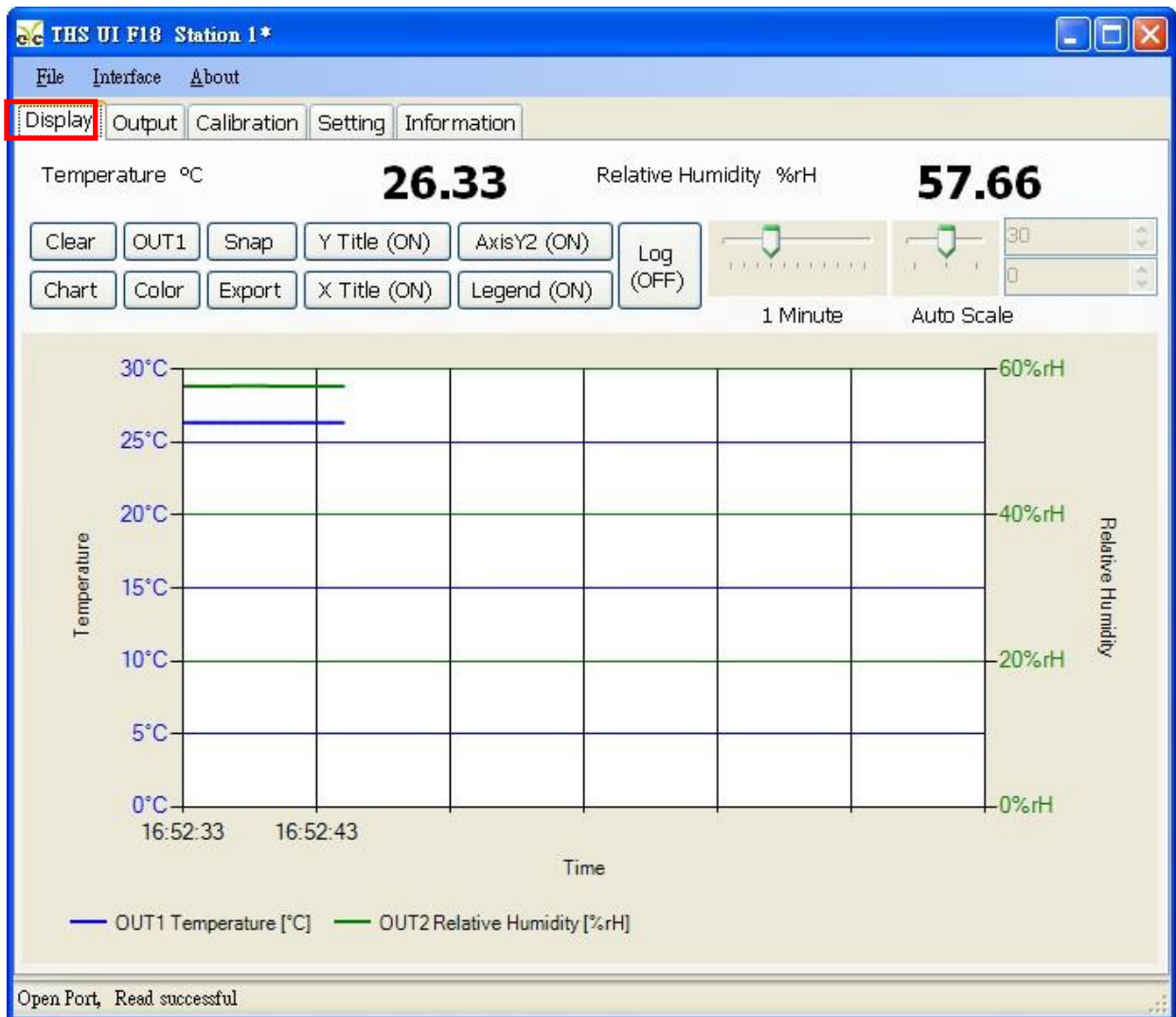
Apply Read

Read OUT1 Config, Read successful

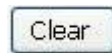
- (4) Click "Apply"
- (5) Execute connection as step 6.2 or 6.3 again

6.5 Display and save data

(1) Show data : Click "Display"



(2) Icon function statements



Clear the chart records



Change the chart style



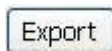
Select the OUTPUT channel



Set line color chosen from OUTPUT



Snap chart



Save the data measuring when the system start connecting

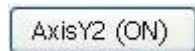
before clicking the Export icon



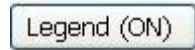
Show/Not show the statement of Y axis



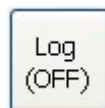
Show/Not show the statement of X axis



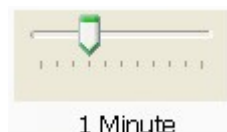
Show/Not show the statement of Y secondary axis



Show/ Not show chart



Show/Not show measuring data



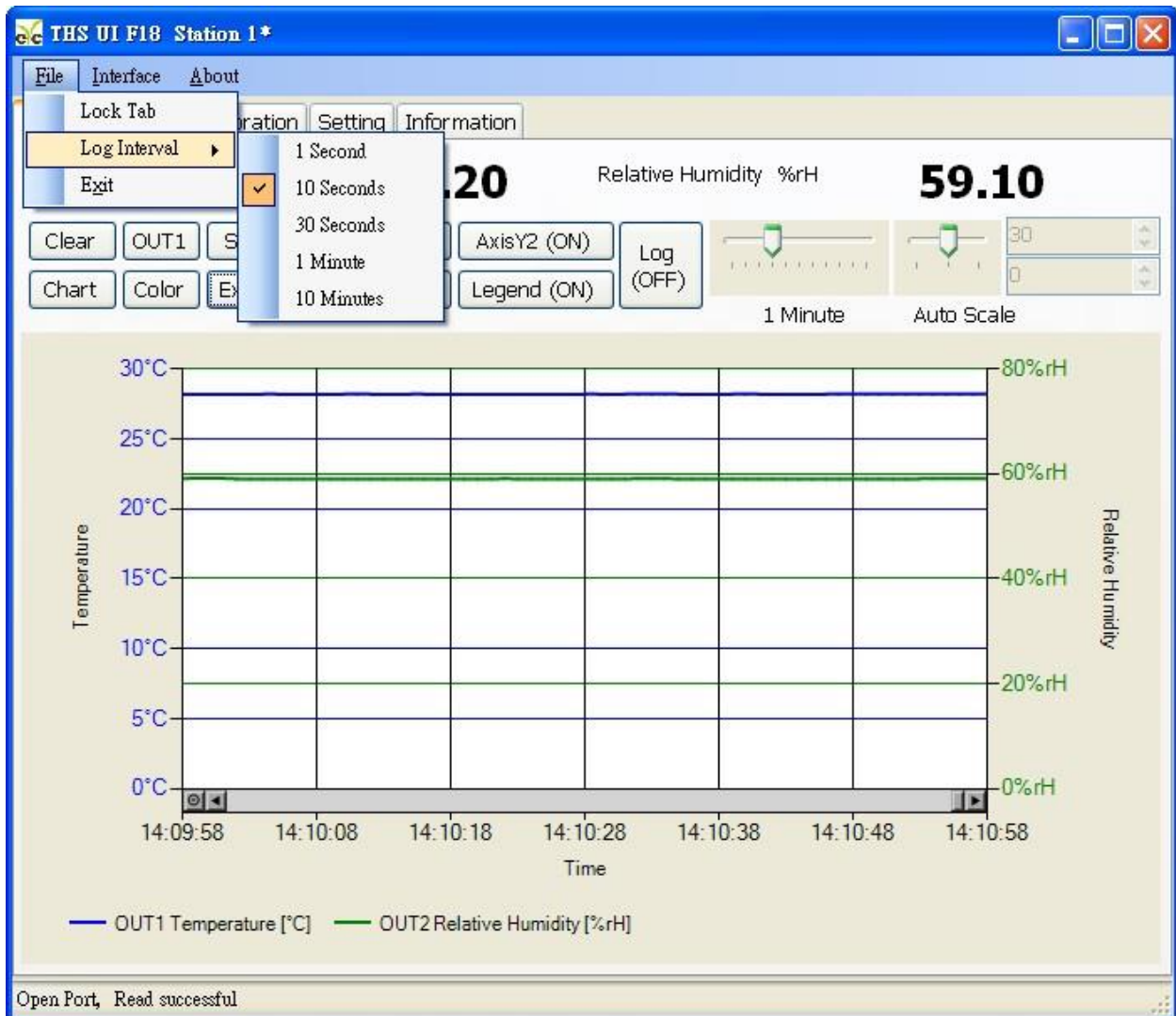
Adjust time range of X axis



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

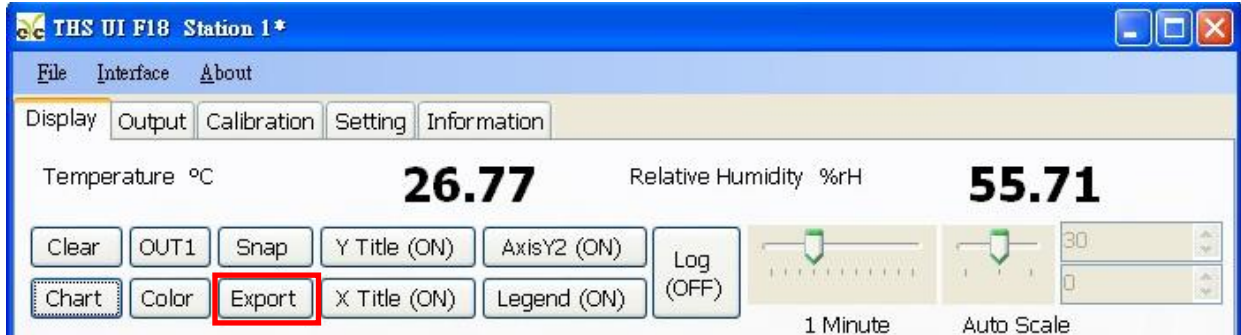


Multifunction Temperature & Humidity Transmitter (Indoor / Duct / Remote / Outdoor)

(4) Save/Log measuring data

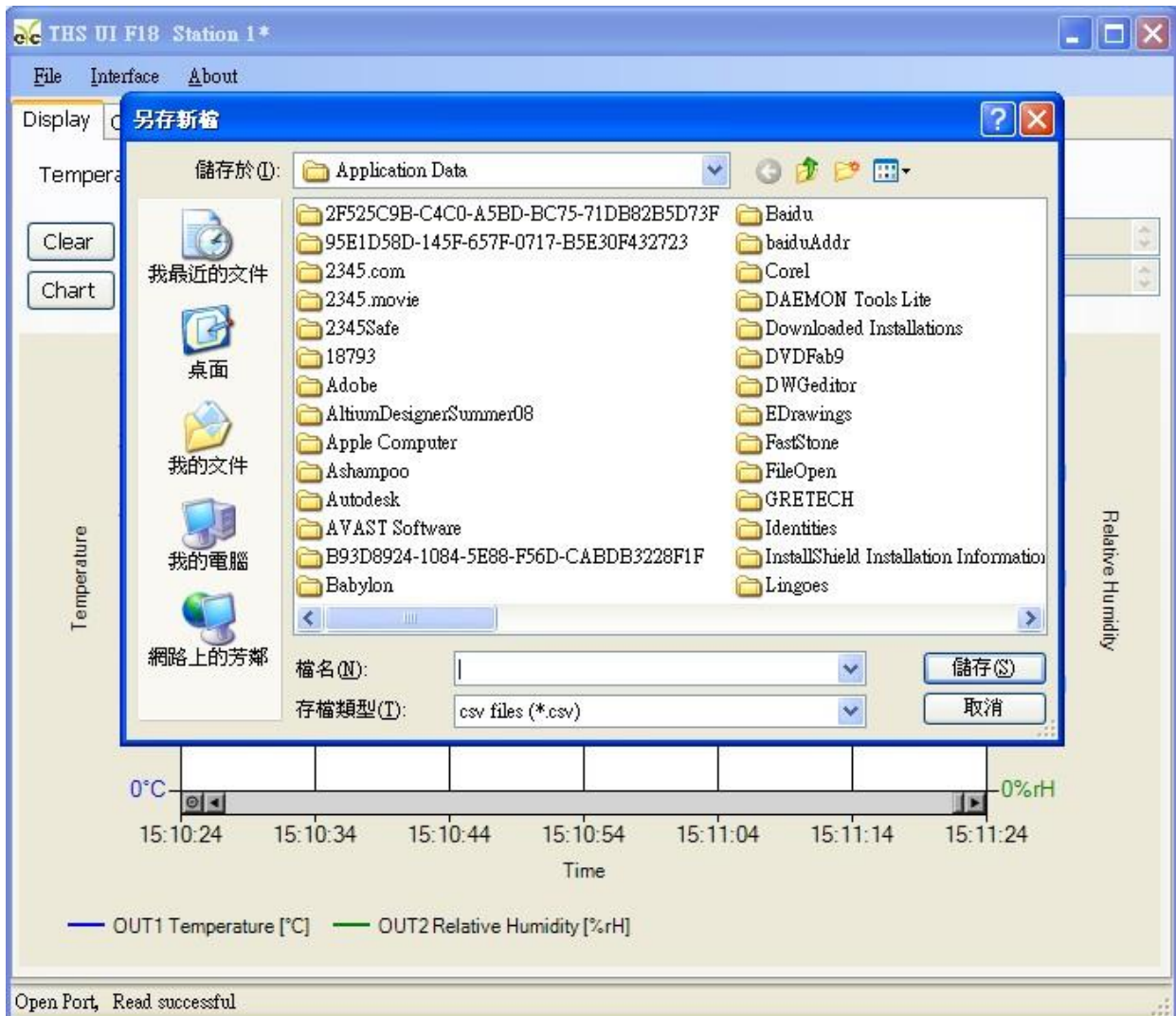
a. Log measuring range : Save the data measuring when the system start connecting before clicking the Export icon

a-1. Click Display → Export



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

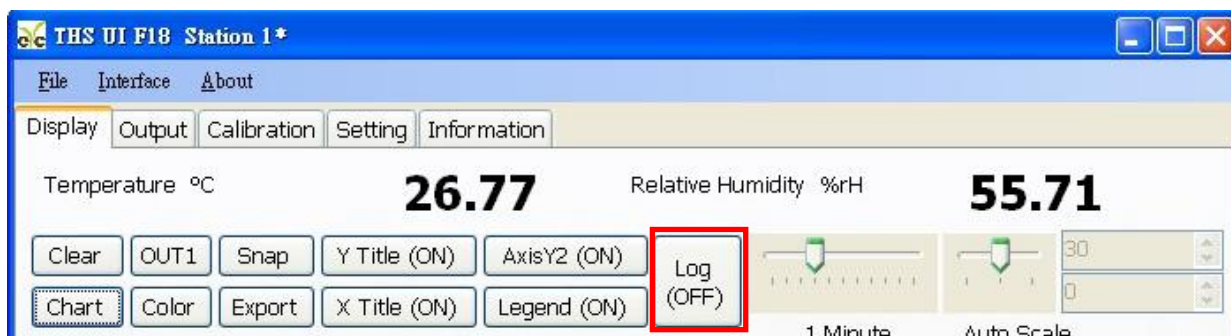
※ If file name is some as the path name, the original file will be covered.



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

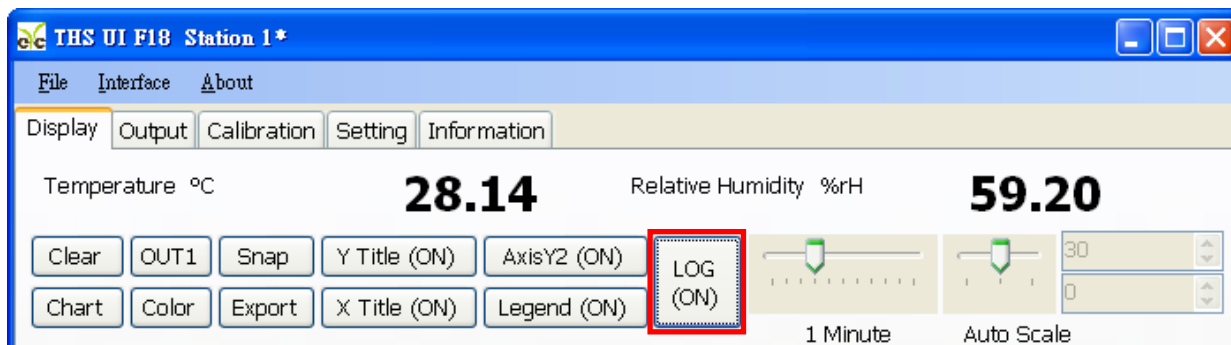
b. Log measuring data : Log the data which is on from start or off

b-1. Display →Log(OFF)



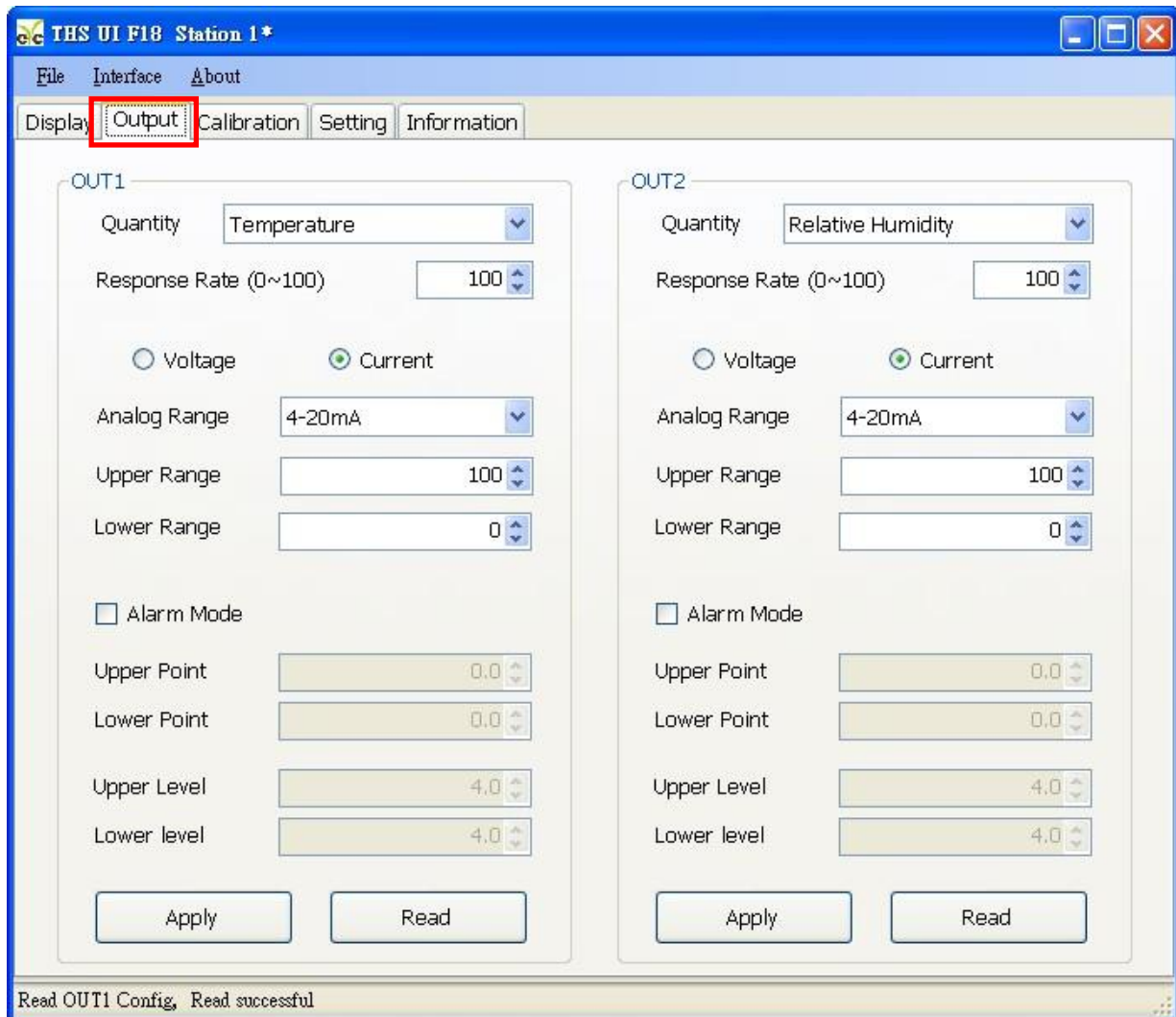
b-1. Appoint path and Key in file name > save > Log(ON)

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



6.6 Choose parameter of Output

(1) Click "Output"



IHS UI F18 Station 1*

File Interface **Output** Calibration Setting Information

OUT1

Quantity: Temperature

Response Rate (0~100): 100

☐ Voltage ☒ Current

Analog Range: 4-20mA

Upper Range: 100

Lower Range: 0

☐ Alarm Mode

Upper Point: 0.0

Lower Point: 0.0

Upper Level: 4.0

Lower level: 4.0

Apply Read

OUT2

Quantity: Relative Humidity

Response Rate (0~100): 100

☐ Voltage ☒ Current

Analog Range: 4-20mA

Upper Range: 100

Lower Range: 0

☐ Alarm Mode

Upper Point: 0.0

Lower Point: 0.0

Upper Level: 4.0

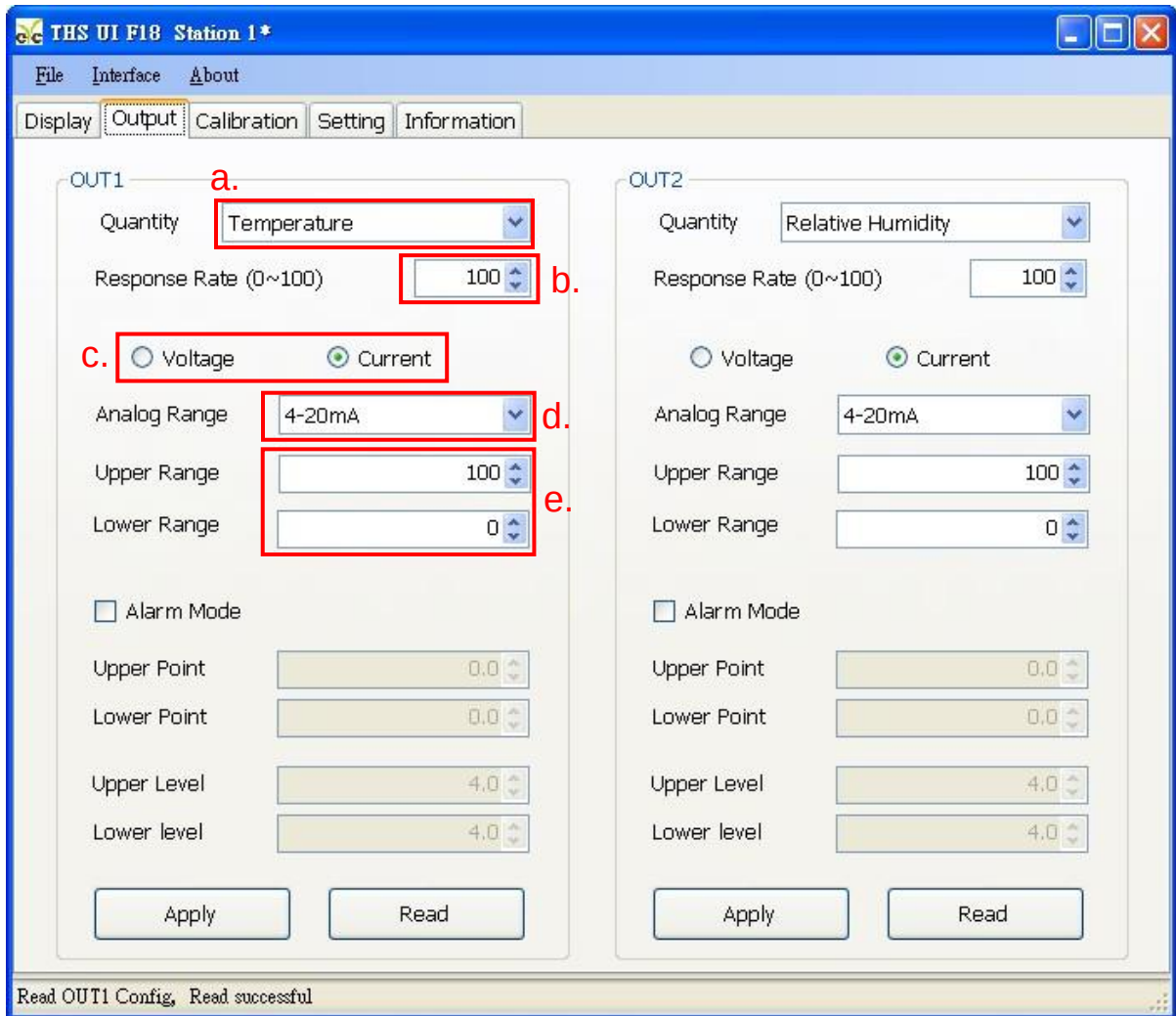
Lower level: 4.0

Apply Read

Read OUT1 Config, Read successful

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"



The screenshot shows the 'Output' configuration window for 'THS UI F18 Station 1*'. The window has tabs for 'Display', 'Output', 'Calibration', 'Setting', and 'Information'. The 'Output' tab is active, showing settings for two outputs: OUT1 and OUT2.

OUT1 Configuration:

- Quantity:** Temperature (highlighted with a red box and 'a.')
- Response Rate (0~100):** 100 (highlighted with a red box and 'b.')
- Output Style:** ☐ Voltage, ☒ Current (highlighted with a red box and 'c.')
- Analog Range:** 4-20mA (highlighted with a red box and 'd.')
- Upper Range:** 100 (highlighted with a red box and 'e.')
- Lower Range:** 0 (highlighted with a red box and 'e.')
- Alarm Mode:** ☐ Alarm Mode
- Upper Point:** 0.0
- Lower Point:** 0.0
- Upper Level:** 4.0
- Lower level:** 4.0
- Buttons:** Apply, Read

OUT2 Configuration:

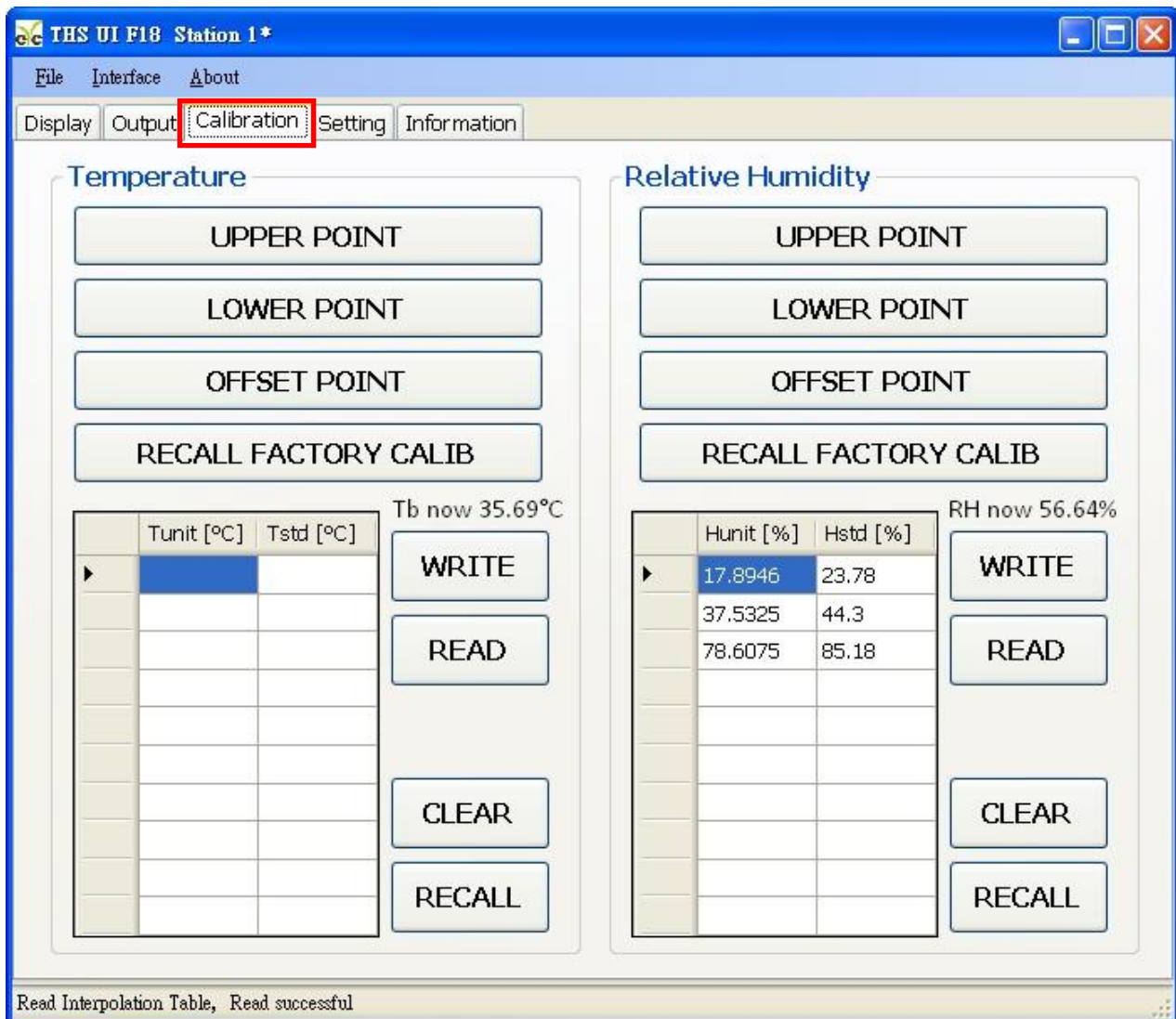
- Quantity:** Relative Humidity
- Response Rate (0~100):** 100
- Output Style:** ☐ Voltage, ☒ Current
- Analog Range:** 4-20mA
- Upper Range:** 100
- Lower Range:** 0
- Alarm Mode:** ☐ Alarm Mode
- Upper Point:** 0.0
- Lower Point:** 0.0
- Upper Level:** 4.0
- Lower level:** 4.0
- Buttons:** Apply, Read

Status Bar: Read OUT1 Config. Read successful

6.7 Temperature Calibration with two points

(1) Calibrate upper point of temperature

a. Click "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 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)

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

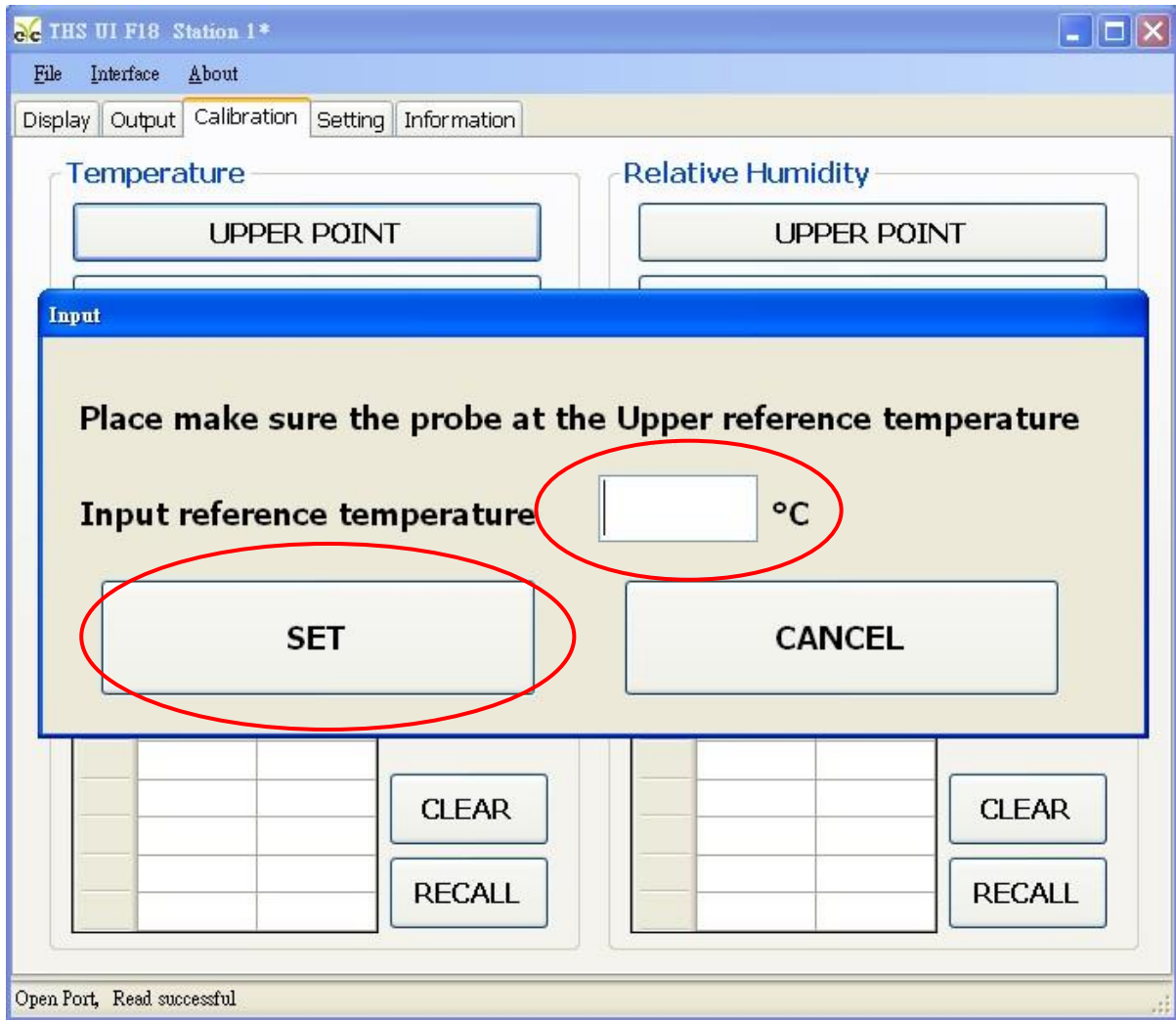
CLEAR

RECALL

Read Interpolation Table, Read successful

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

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



THS UI F18 Station 1*

File Interface About

Display Output Calibration Setting Information

Temperature Relative Humidity

UPPER POINT UPPER POINT

Input

Place make sure the probe at the Upper reference temperature

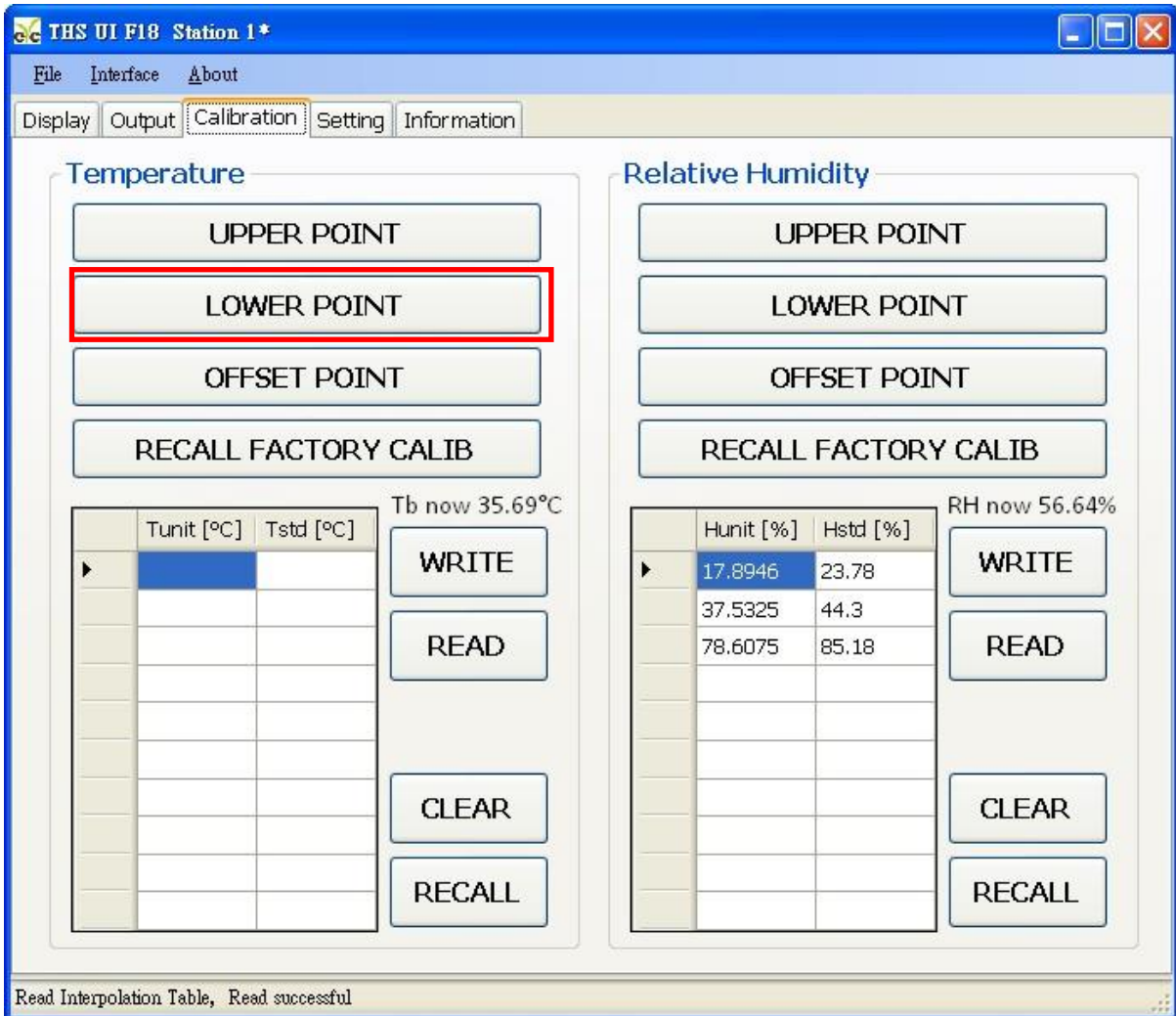
Input reference temperature °C

SET CANCEL

CLEAR RECALL CLEAR RECALL

Open Port, Read successful

- (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



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

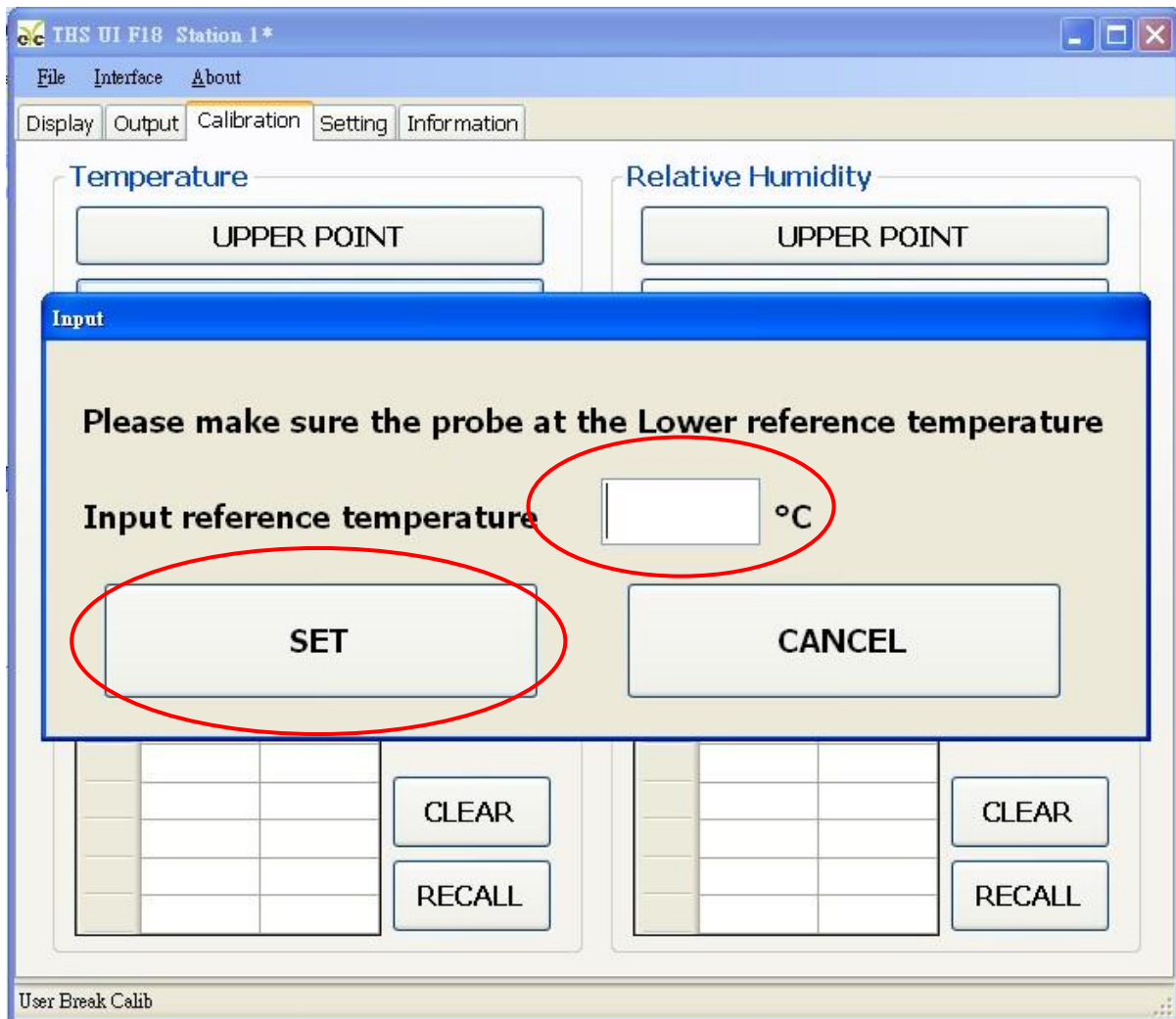
READ

CLEAR

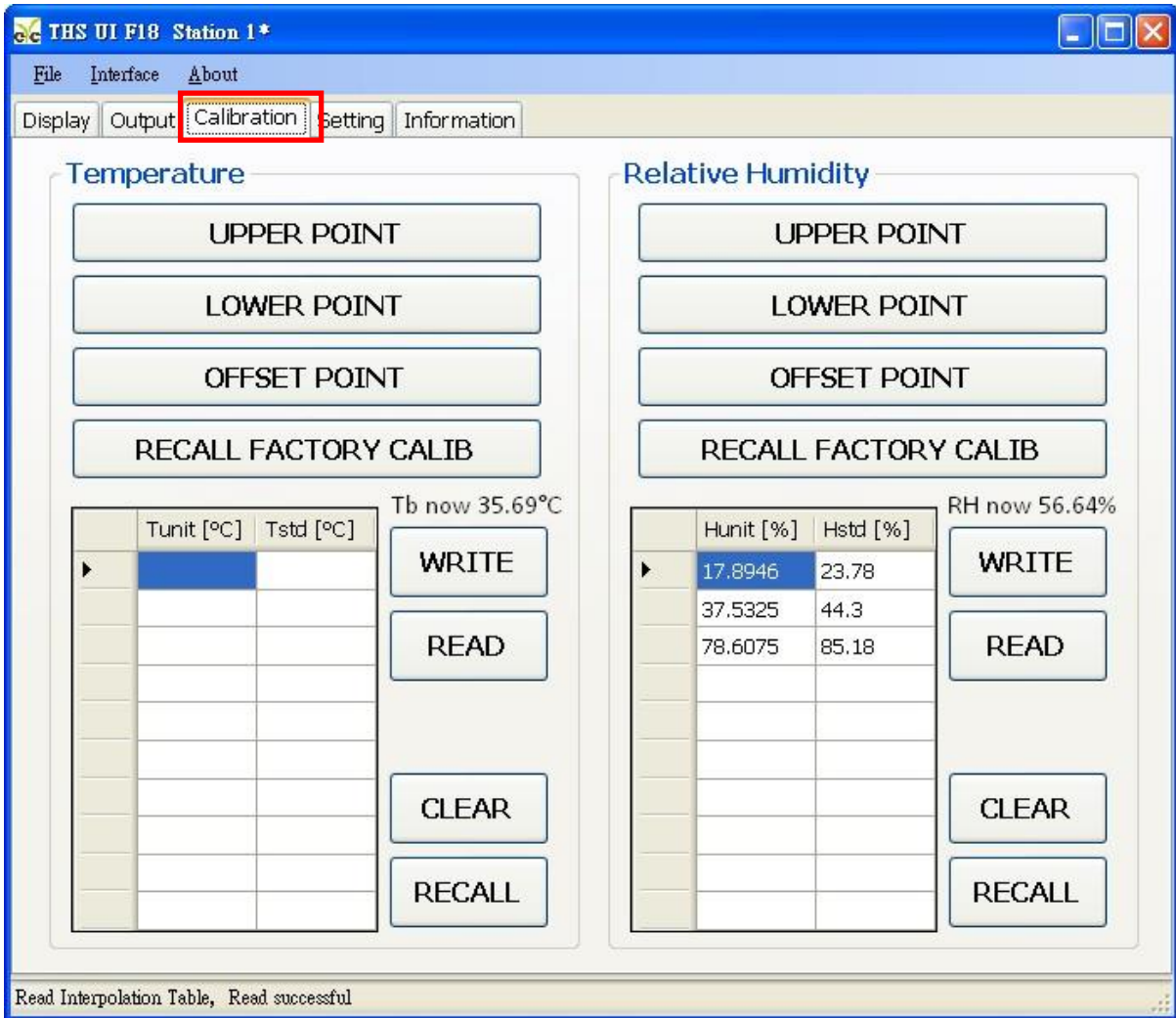
RECALL

Read Interpolation Table, Read successful

- 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' 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]
- 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.

Relative Humidity Table Data:

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)

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

THS UI F18 Station 1*

File Interface About

Display Output Calibration Setting Information

Temperature

UPPER POINT

LOWER POINT

OFFSET POINT

RECALL FACTORY CALIB

Tunit [°C]	Tstd [°C]

Tb now 35.69°C

WRITE

READ

CLEAR

RECALL

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 56.64%

WRITE

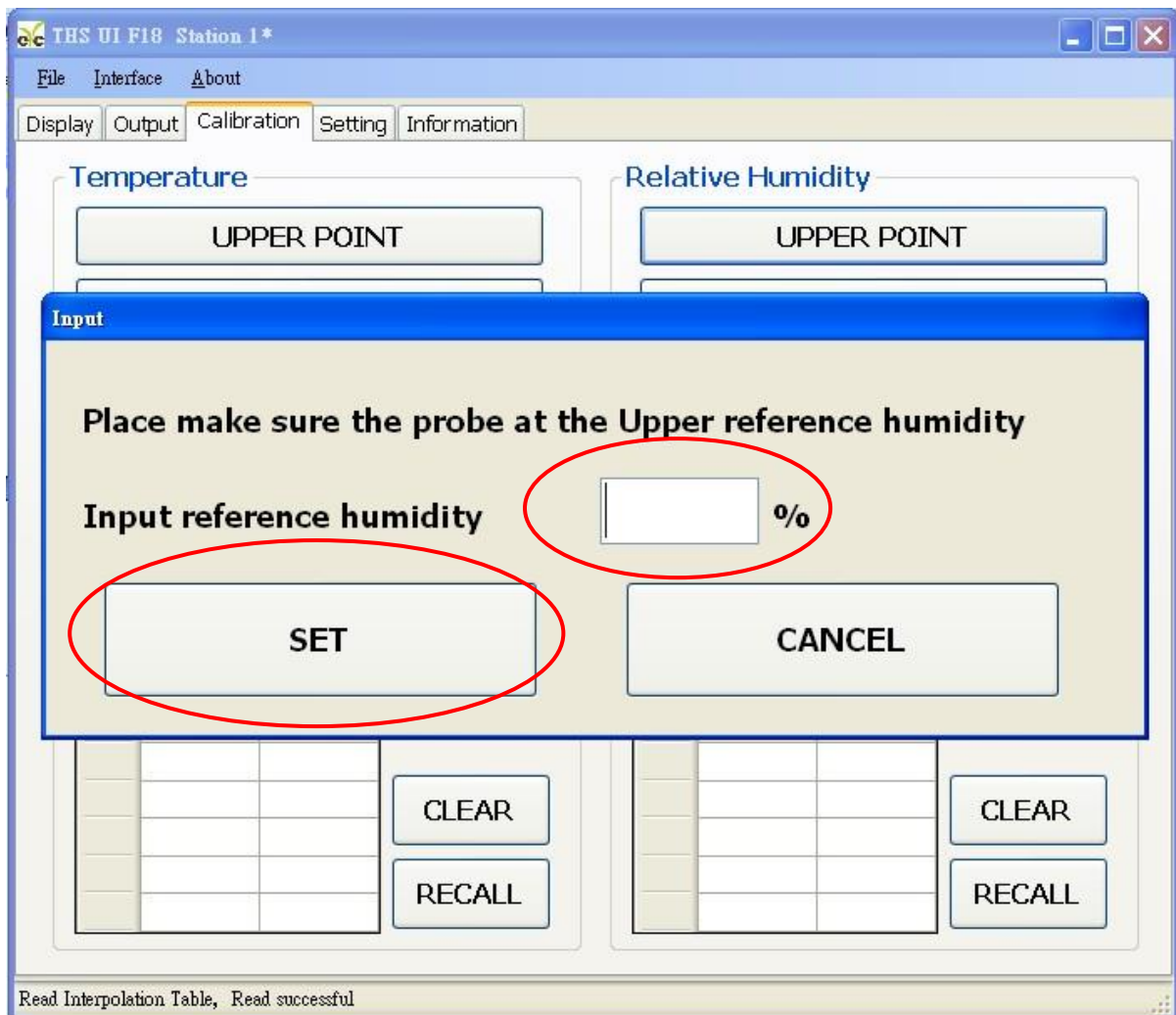
READ

CLEAR

RECALL

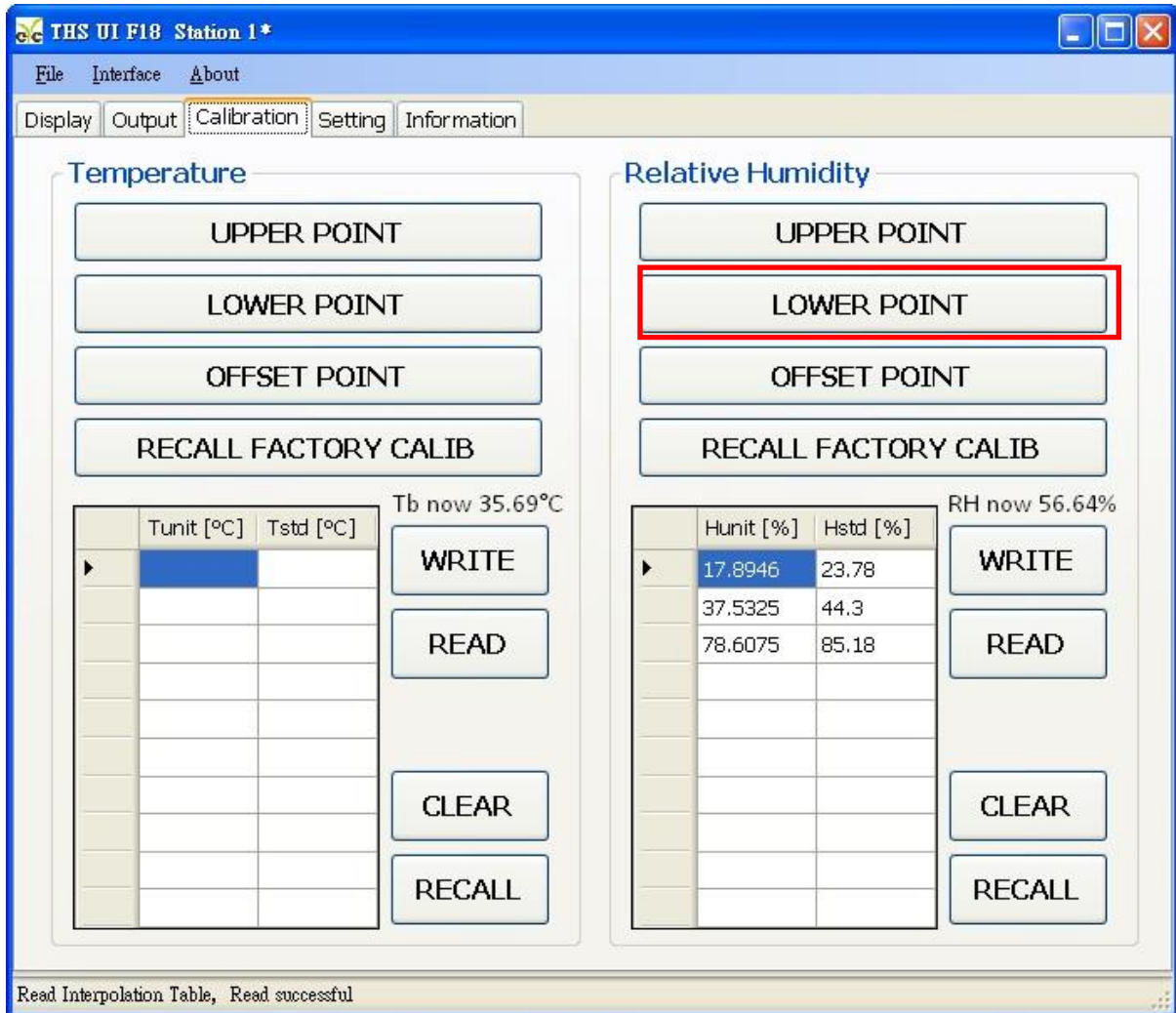
Read Interpolation Table, Read successful

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



(2) Calibrate humidity lower point

- Put the 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

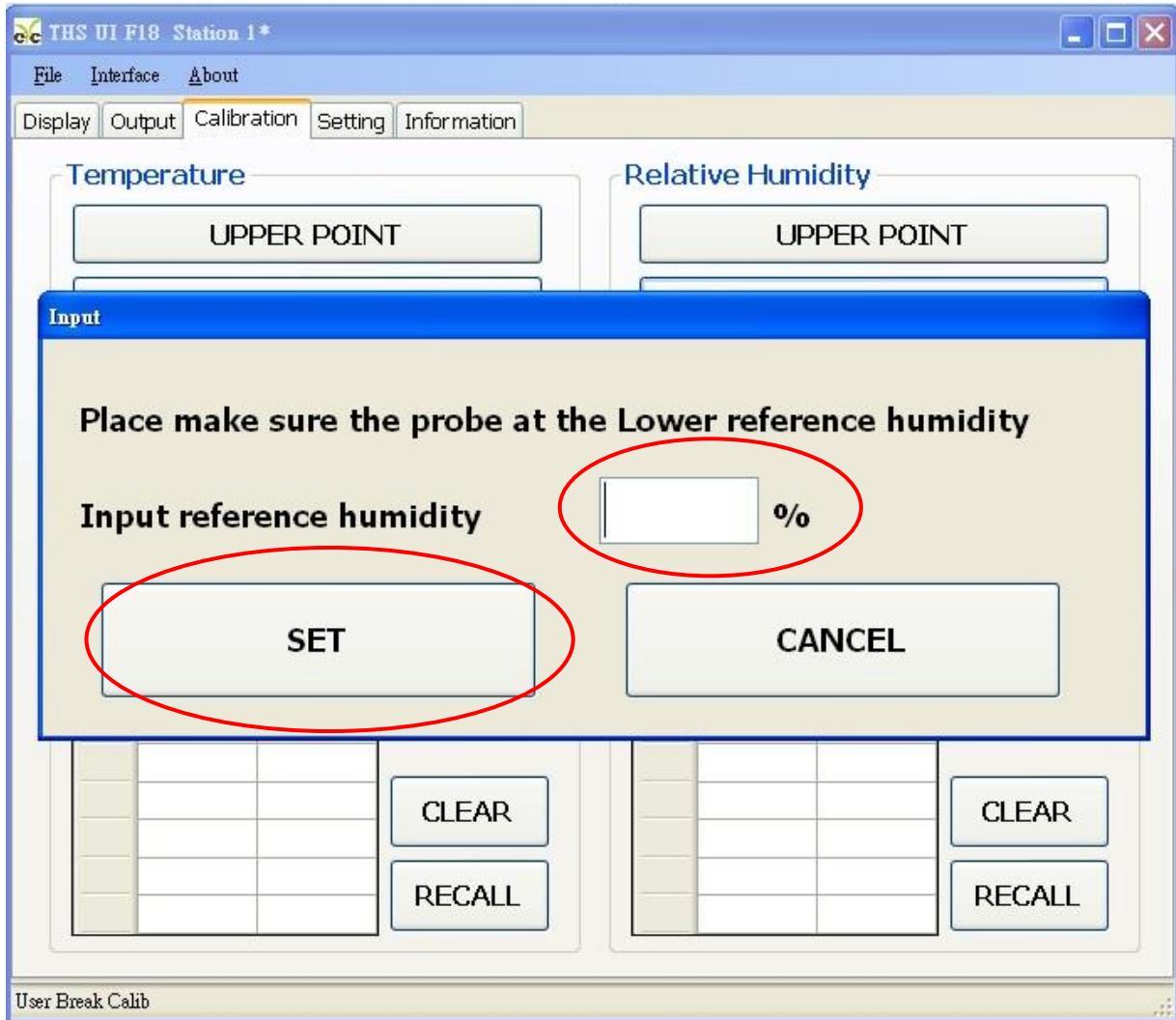
READ

CLEAR

RECALL

Read Interpolation Table, Read successful

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



THS UI F18 Station 1*

File Interface About

Display Output Calibration Setting Information

Temperature

UPPER POINT

Relative Humidity

UPPER POINT

Input

Place make sure the probe at the Lower reference humidity

Input reference humidity %

SET CANCEL

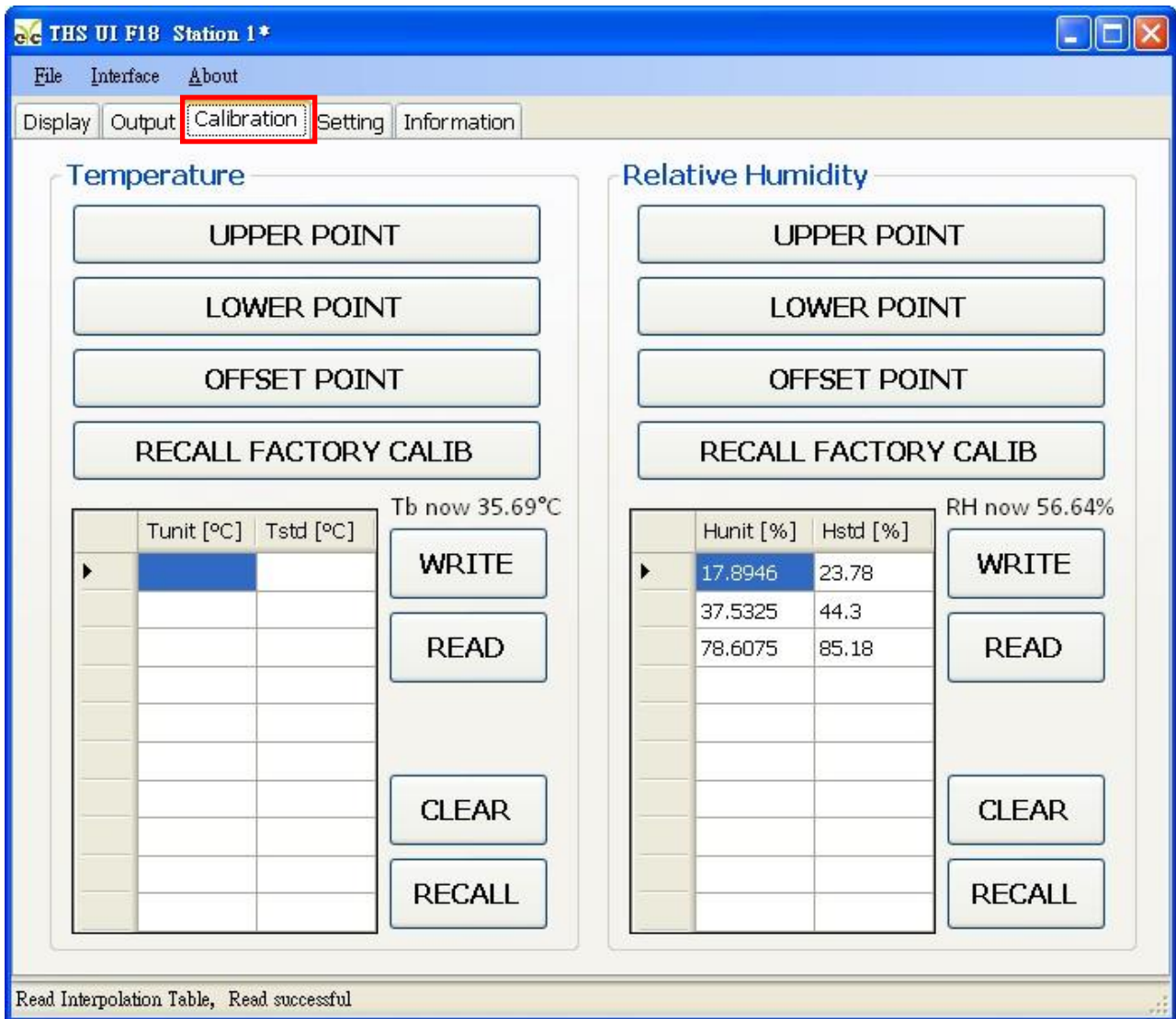
CLEAR RECALL

CLEAR RECALL

User Break Calib

6.9 Temperature Calibration with signal points

(1) Click "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 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

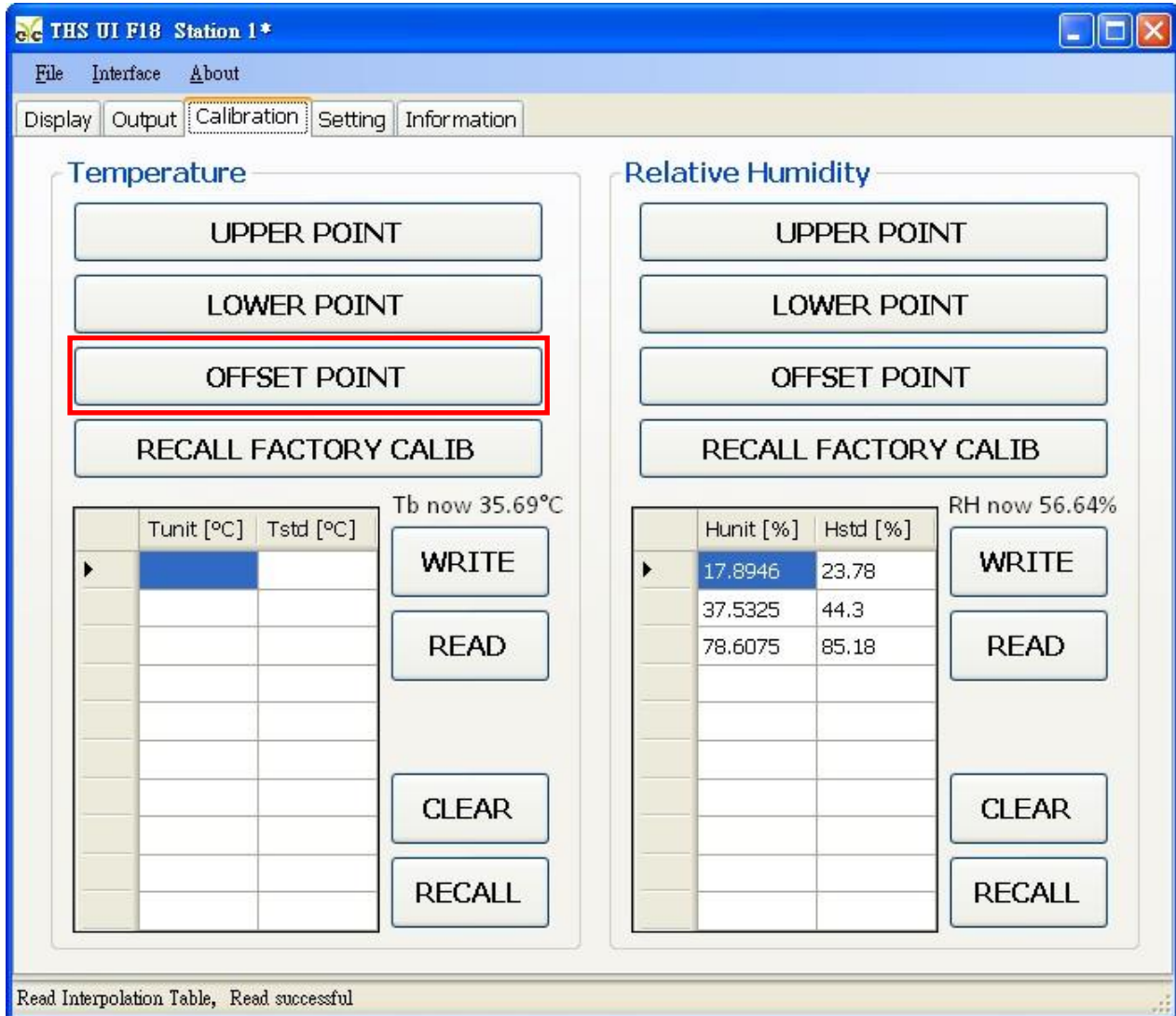
READ

CLEAR

RECALL

Read Interpolation Table, Read successful

- (2) Put the 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



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

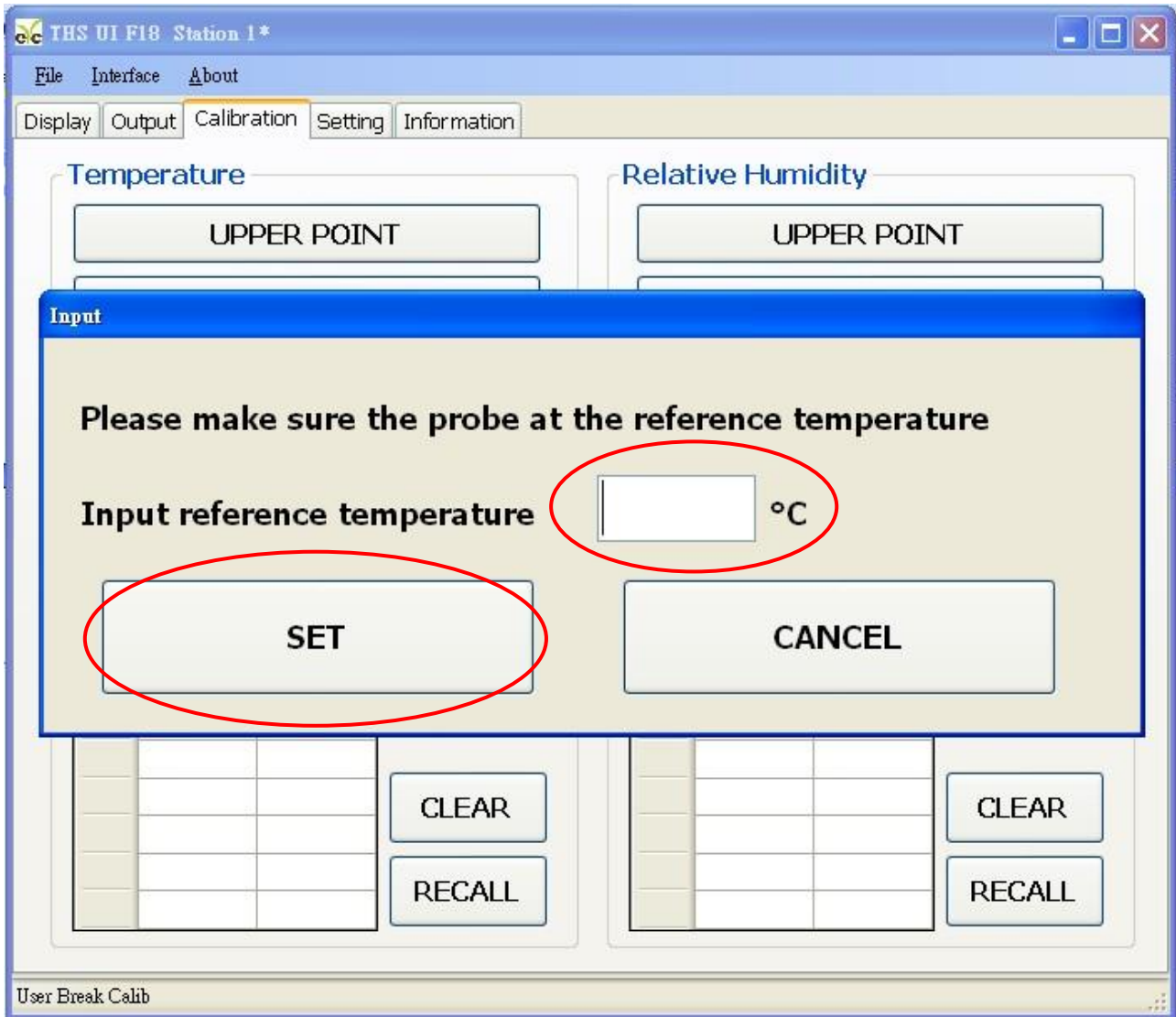
READ

CLEAR

RECALL

Read Interpolation Table, Read successful

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



THS UI F18 Station 1*

File Interface About

Display Output Calibration Setting Information

Temperature

UPPER POINT

Relative Humidity

UPPER POINT

Input

Please make sure the probe at the reference temperature

Input reference temperature °C

SET CANCEL

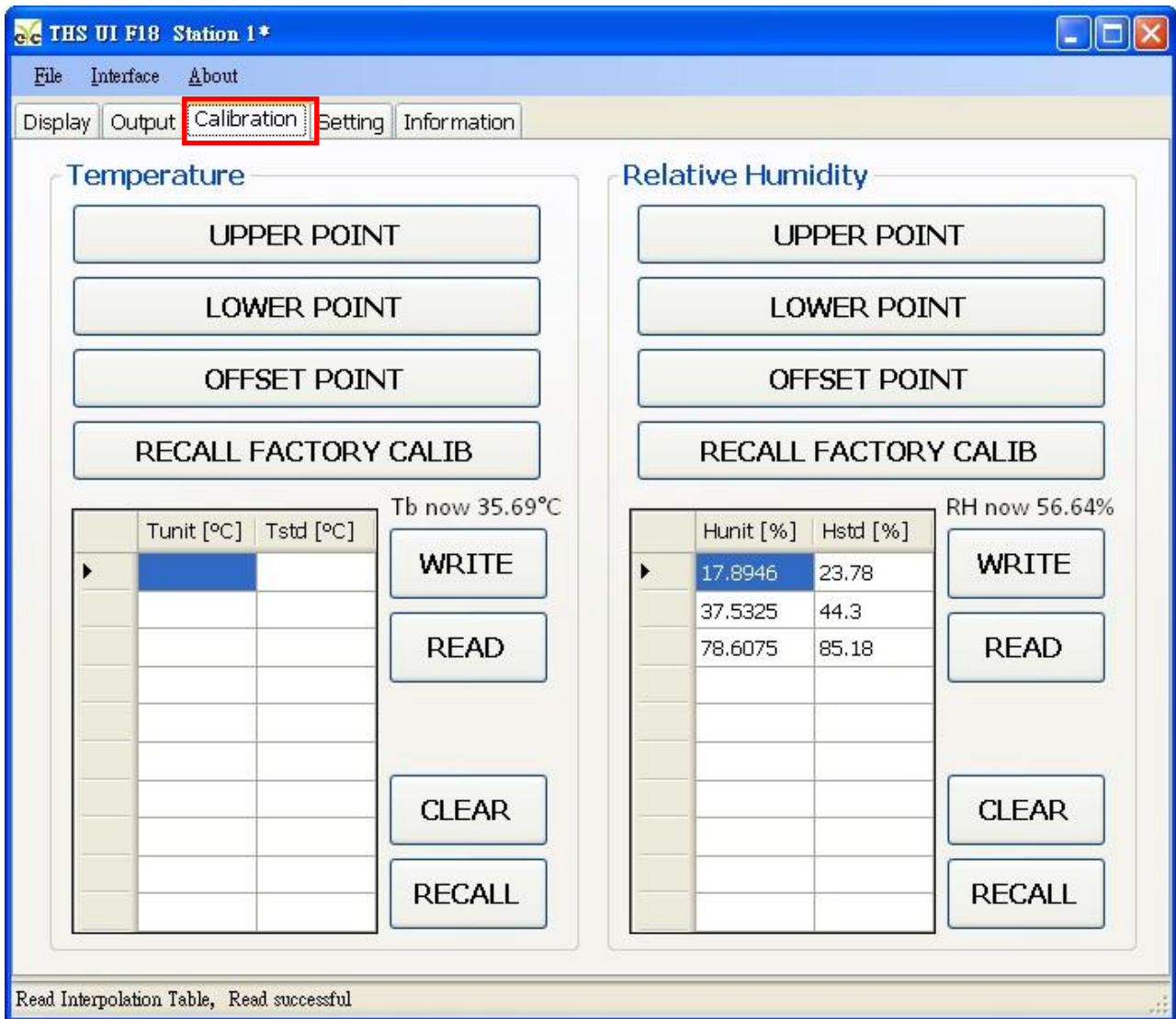
CLEAR RECALL

CLEAR RECALL

User Break Calib

6.10 Humidity Calibration with signal point

- (1) Click "Calibration"



The screenshot shows the 'THS UI F18 Station 1*' software interface. The 'Calibration' tab is selected, which 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]. The first row is highlighted in blue.
- Buttons: WRITE, READ, CLEAR, RECALL.

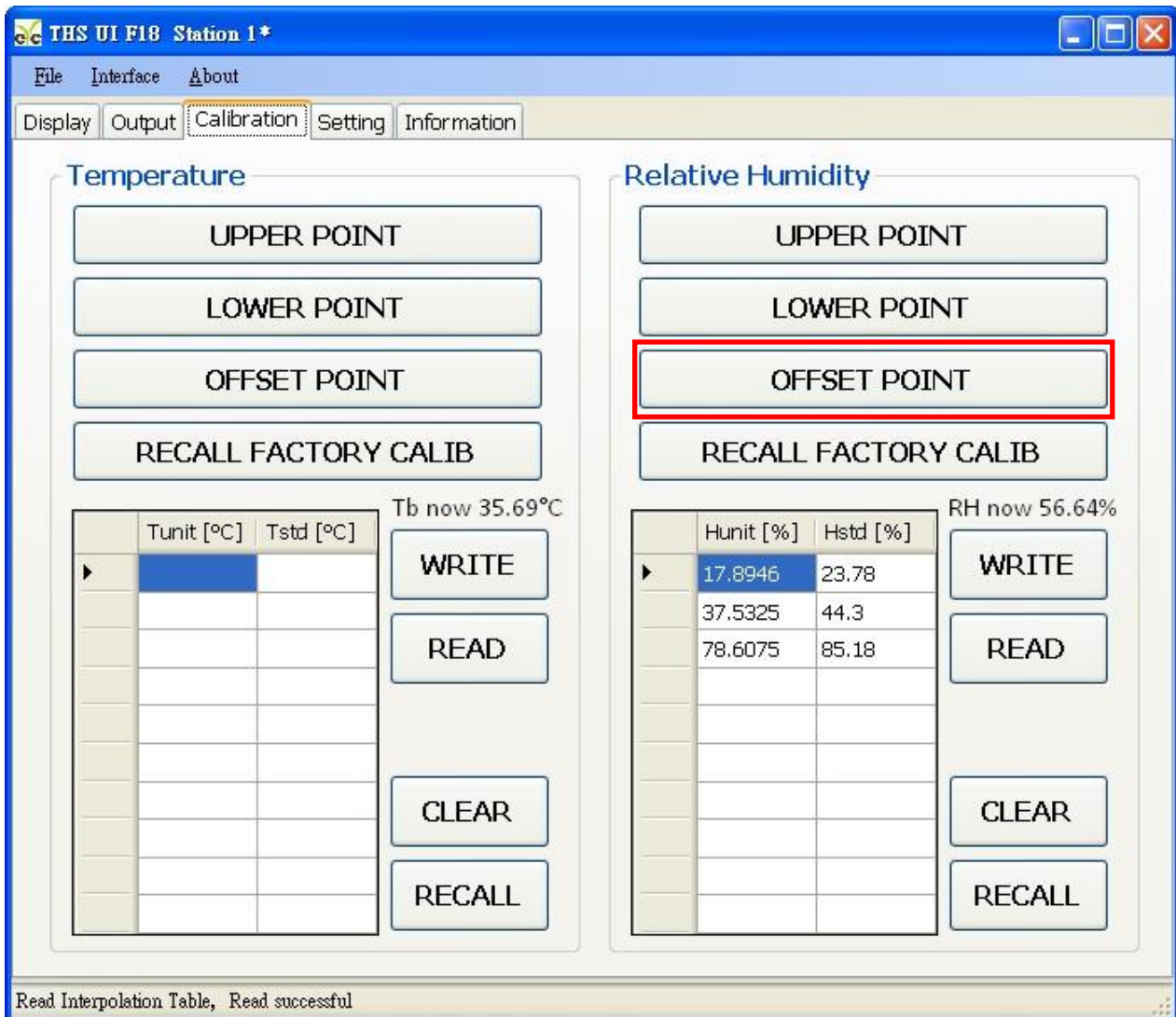
Relative Humidity Section:

- 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 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, showing two main sections: 'Temperature' and 'Relative Humidity'.

Temperature Section:

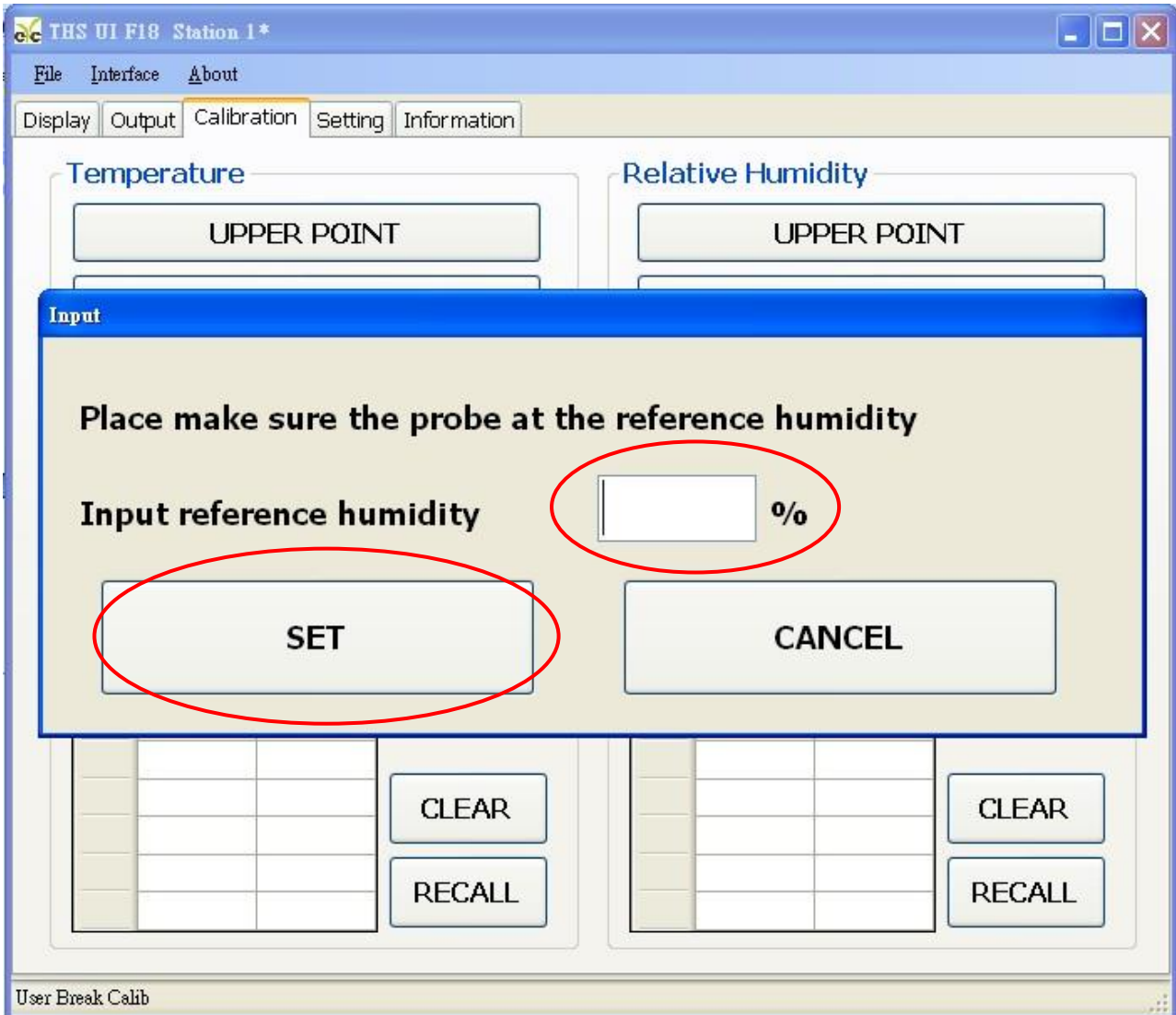
- Buttons: UPPER POINT, LOWER POINT, OFFSET POINT, RECALL FACTORY CALIB.
- Current value: Tb now 35.69°C
- Table with columns: Tunit [°C], Tstd [°C]. The first row is highlighted in blue.
- Buttons: WRITE, READ, CLEAR, RECALL.

Relative Humidity Section:

- Buttons: UPPER POINT, LOWER POINT, **OFFSET POINT** (highlighted with a red box), RECALL FACTORY CALIB.
- Current value: RH now 56.64%
- Table with columns: Huni [%], Hstd [%]. The first row is highlighted in blue.
- Buttons: WRITE, READ, CLEAR, RECALL.

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

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



TBS UI F18 Station 1*

File Interface About

Display Output Calibration Setting Information

Temperature

UPPER POINT

LOWER POINT

Relative Humidity

UPPER POINT

LOWER POINT

Input

Place make sure the probe at the reference humidity

Input reference humidity %

SET CANCEL

CLEAR RECALL

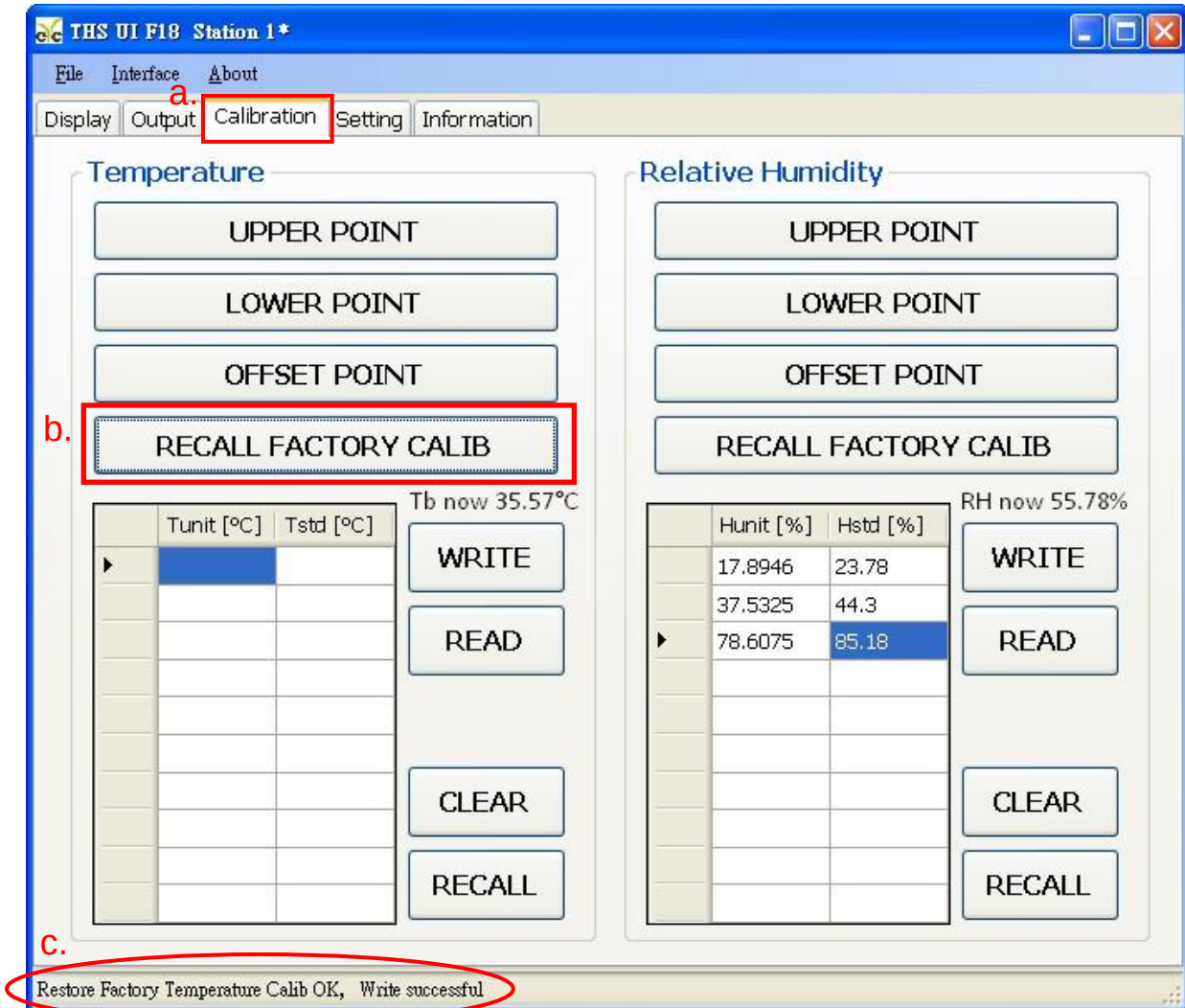
CLEAR RECALL

User Break Calib

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

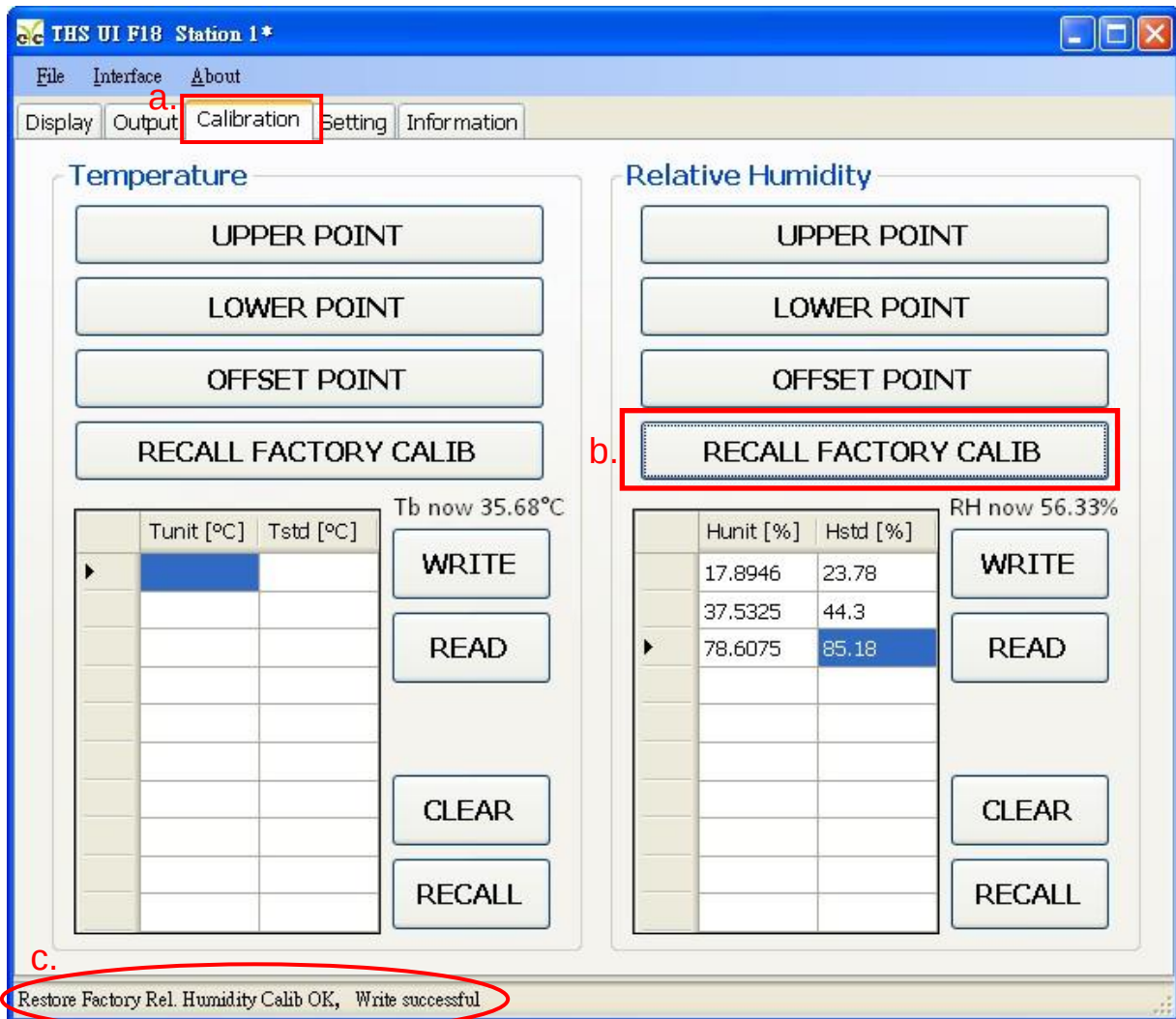
(1) Restore factory setting temperature

- Click "Calibration"
- Click temperature → RECALL FACTORY CALIB
- Show "Restore Factory Temperature Calib OK, Write successful"
- That restore temperature of factory setting is done



(2) Restore humidity of factory setting

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

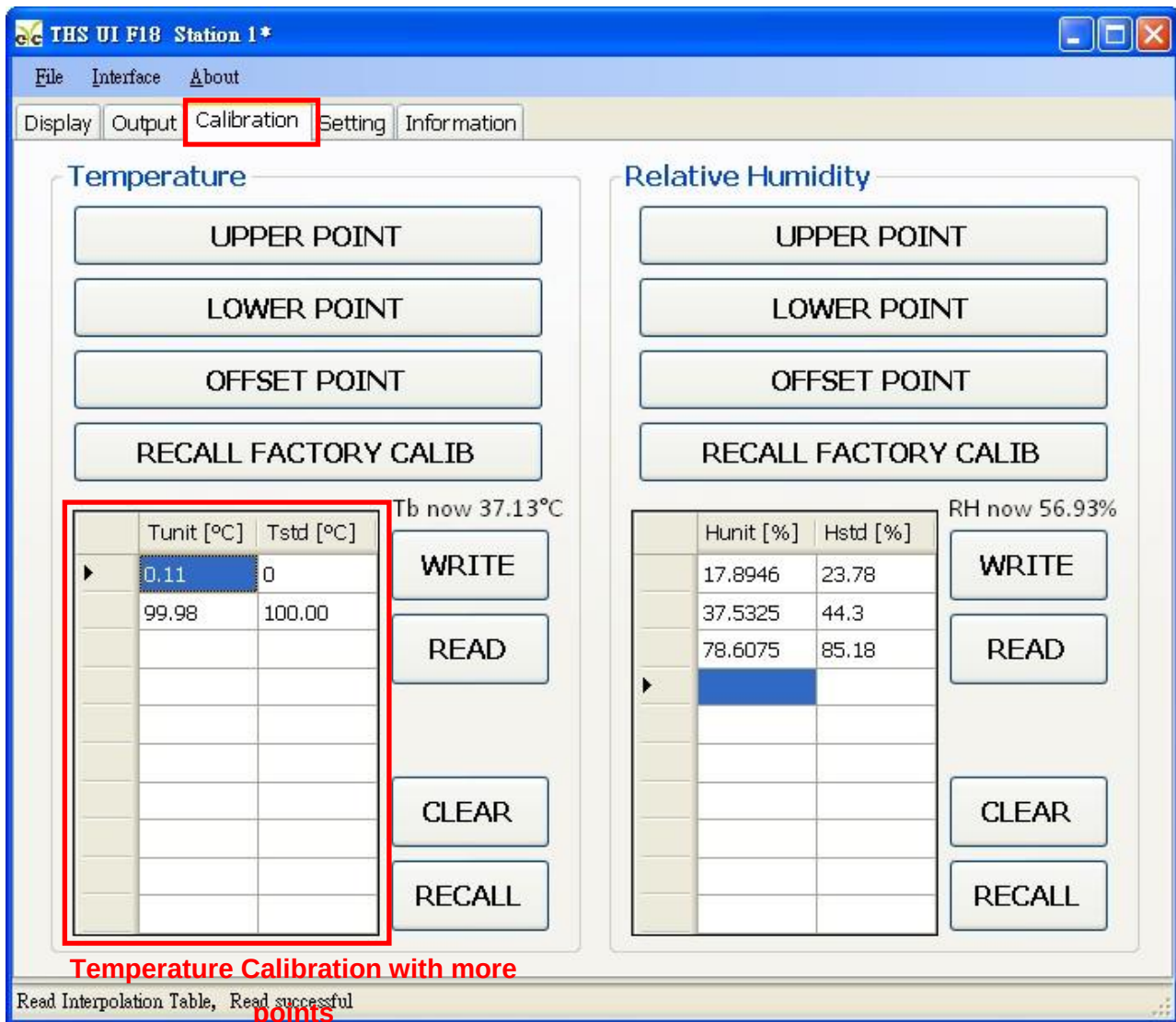


6.12 Temperature Calibration with more points

※ 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

Tb now 37.13°C

Relative Humidity

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

RH now 56.93%

Read Interpolation Table, Read successful

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

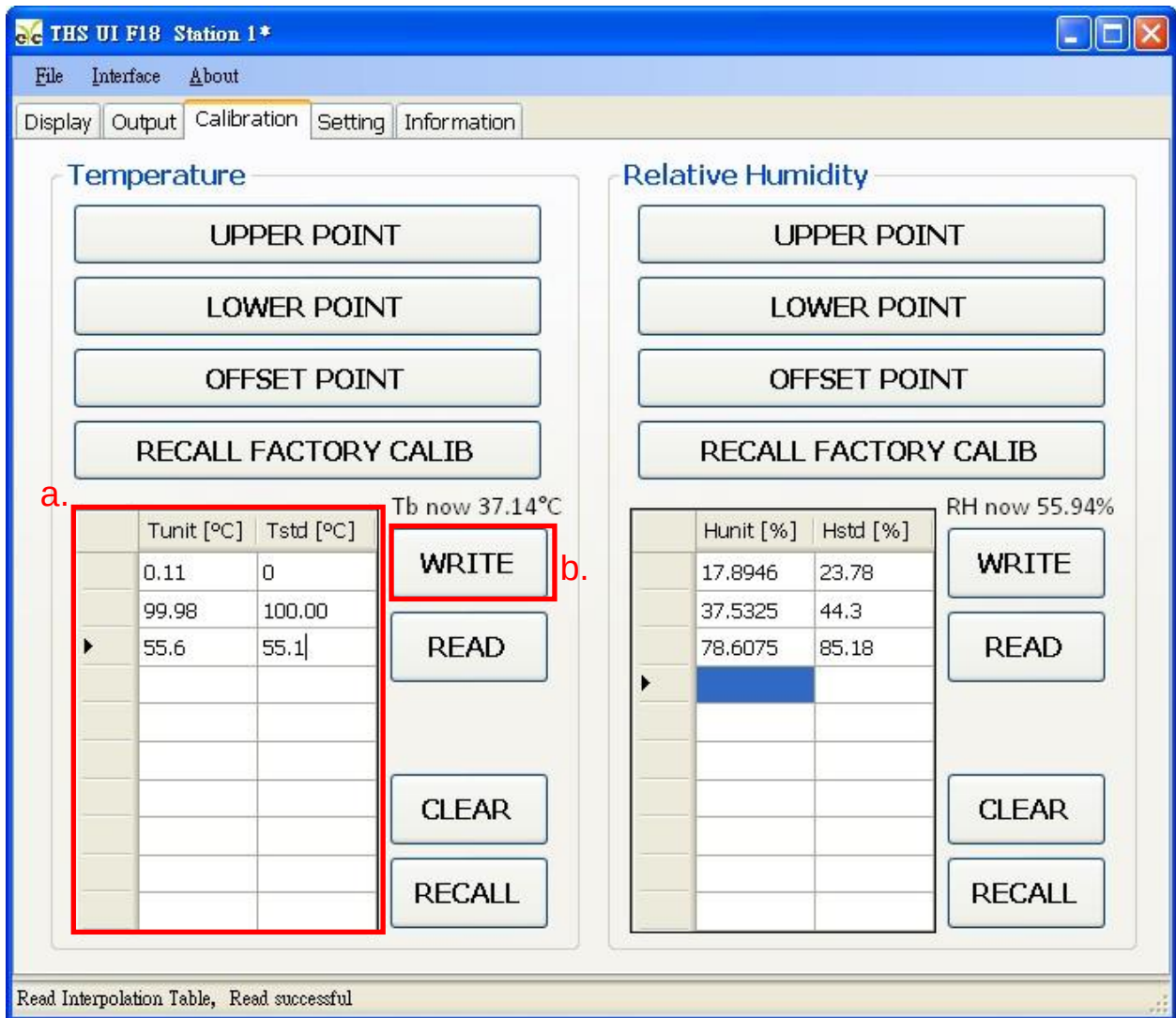
- (2) Put the product in the environment of temperature which you want to calibrate
- (3) Wait the environment of temperature is becoming stable
- (4) Retain the factory setting :
 - a. Input the value which you want to calibrate in the Temperature area (ex : 25°C)
 - a-1. Tunit [°C] Value which product 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
 - b. Click Temperature → WRITE



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**

READ

CLEAR

RECALL

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

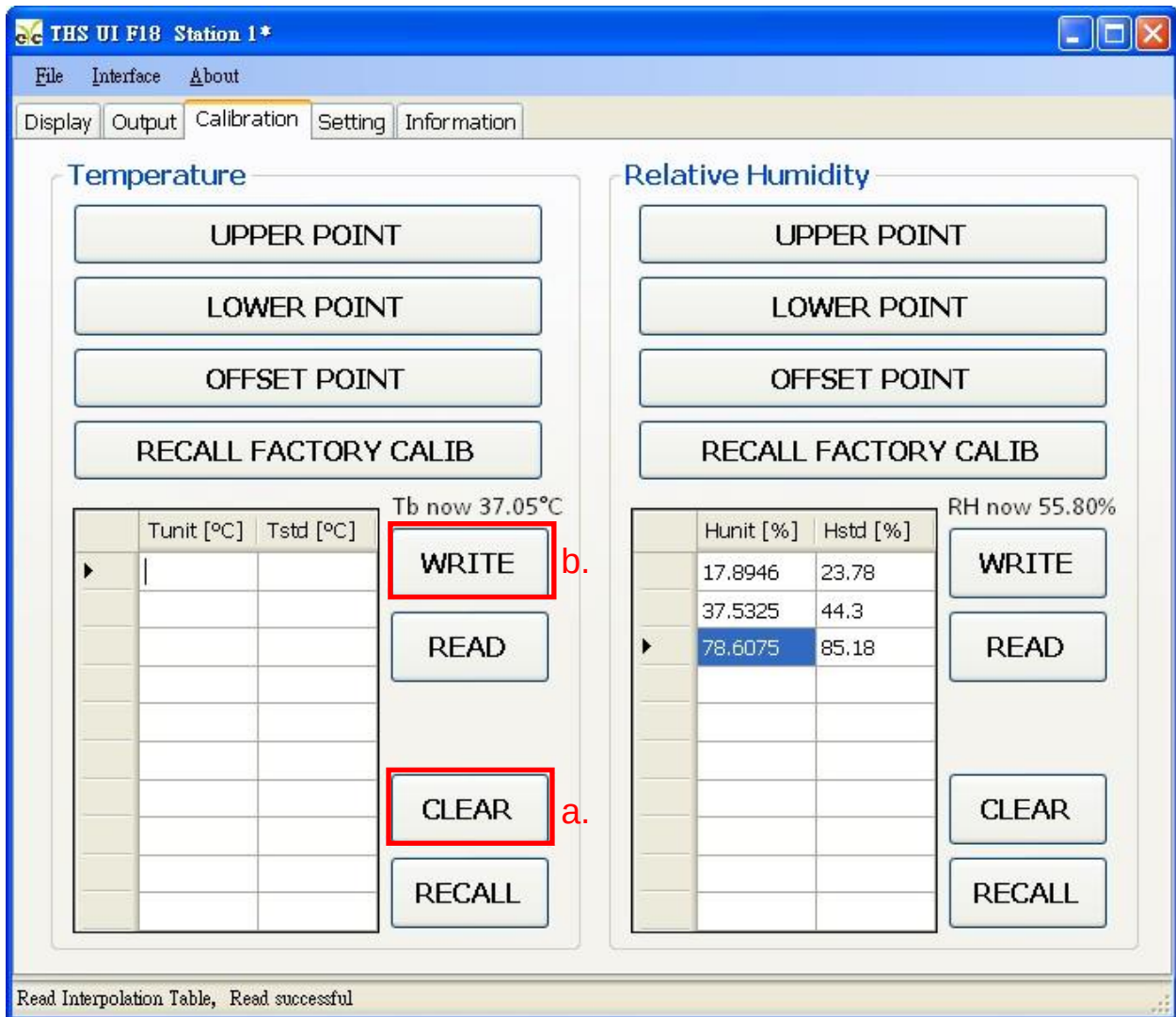
CLEAR

RECALL

Read Interpolation Table, Read successful

(5) Delete factory setting :

- Click Temperature → CLEAR(Clear data)
- 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)

c. Input the value which you want to calibrate

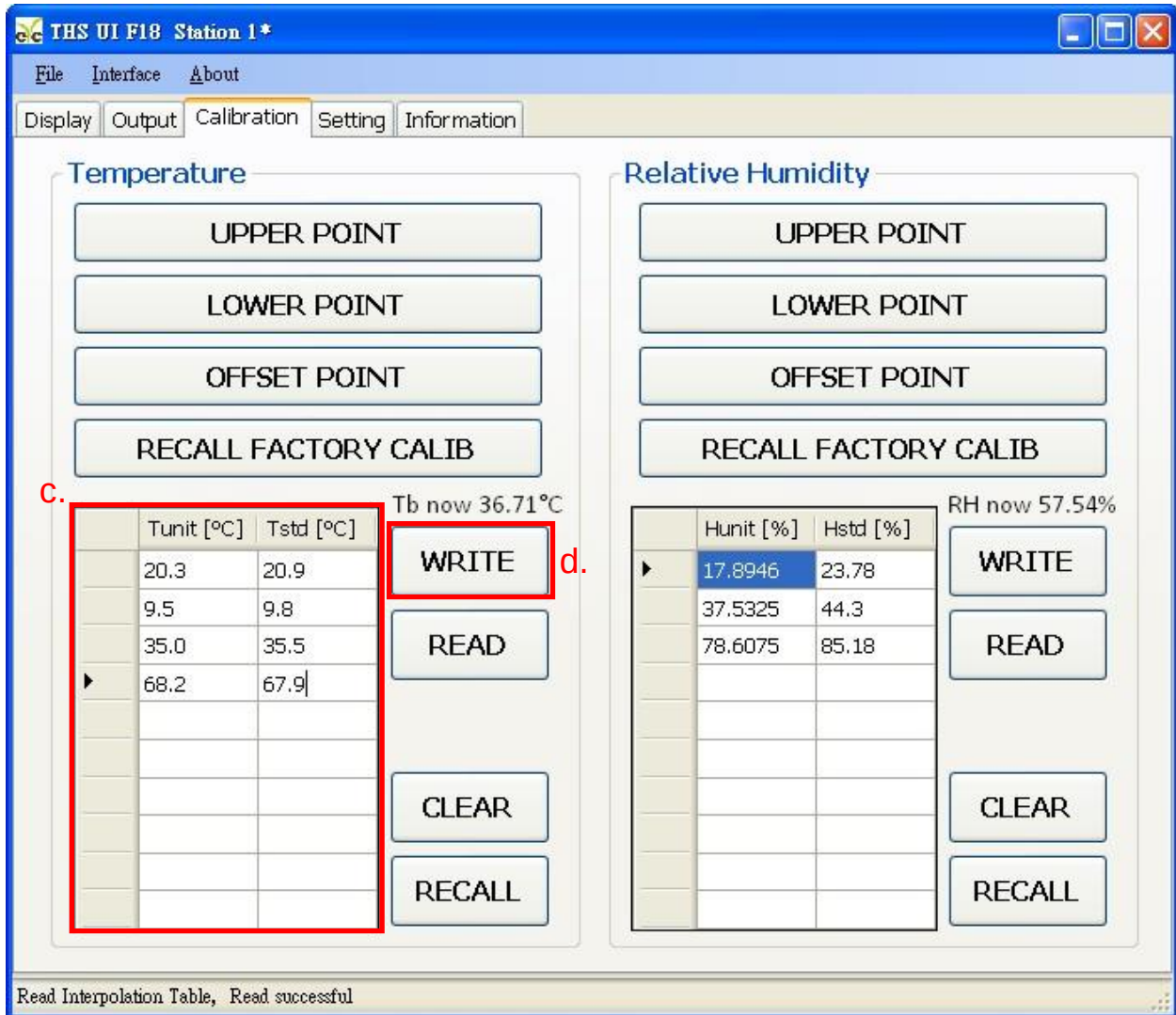
c-1. Tunit[°C] : Value which product shows

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

d. click Temperature → WRITE



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

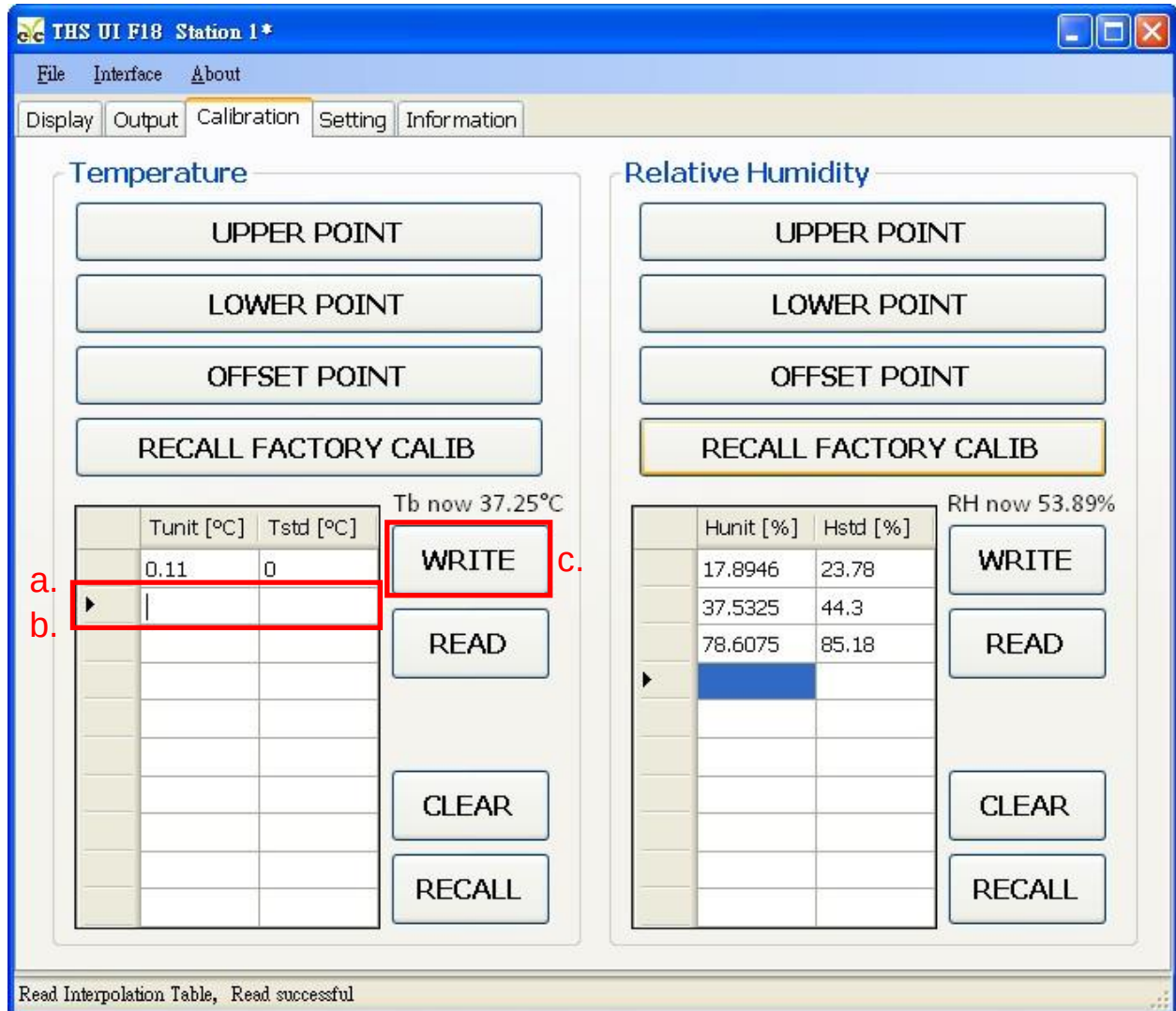
READ

CLEAR

RECALL

Read Interpolation Table, Read successful

- (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)



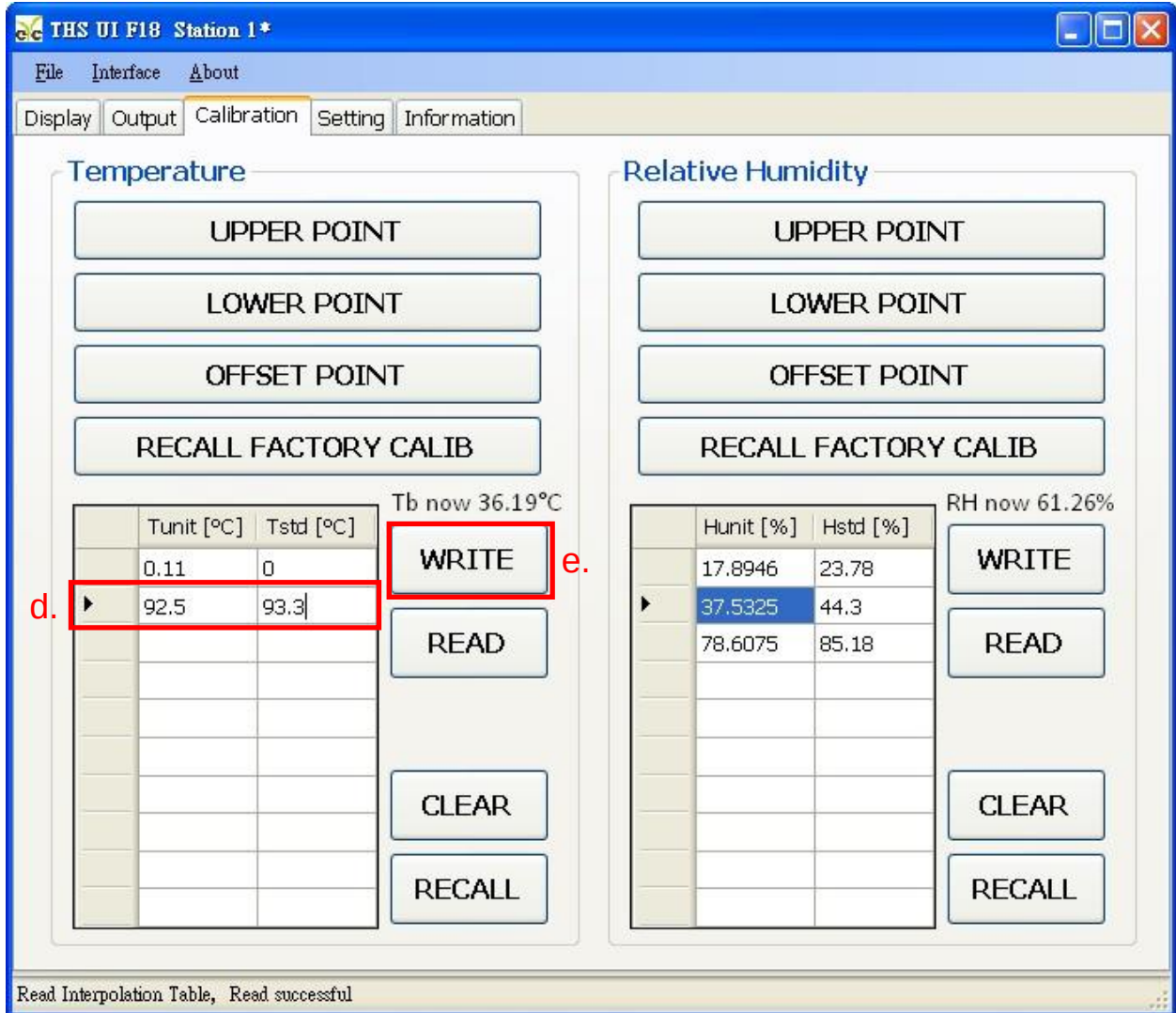
Multifunction Temperature & Humidity Transmitter (Indoor / Duct / Remote / Outdoor)

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 in 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 36.19°C
- Table:

	Tunit [°C]	Tstd [°C]
	0.11	0
d. ▶	92.5	93.3
- Buttons: WRITE (highlighted with a red box and labeled 'e.'), READ, CLEAR, RECALL.

Relative Humidity Section:

- Buttons: UPPER POINT, LOWER POINT, OFFSET POINT, RECALL FACTORY CALIB.
- Current reading: RH now 61.26%
- Table:

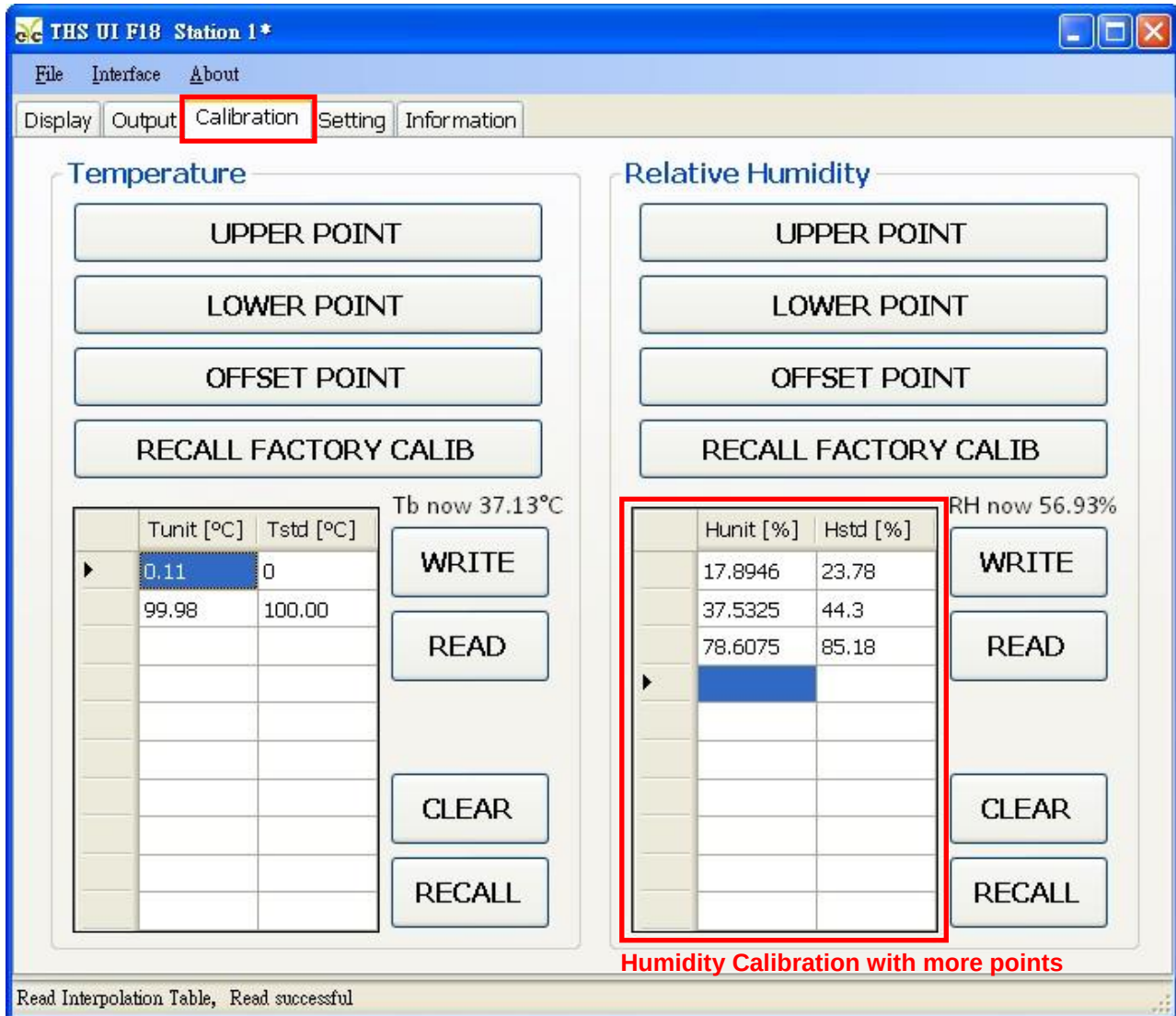
	Hunit [%]	Hstd [%]
	17.8946	23.78
▶	37.5325	44.3
	78.6075	85.18
- Buttons: WRITE, READ, CLEAR, RECALL.

At the bottom, a status bar reads: '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.



Temperature

UPPER POINT

LOWER POINT

OFFSET POINT

RECALL FACTORY CALIB

Tb now 37.13°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 56.93%

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

WRITE

READ

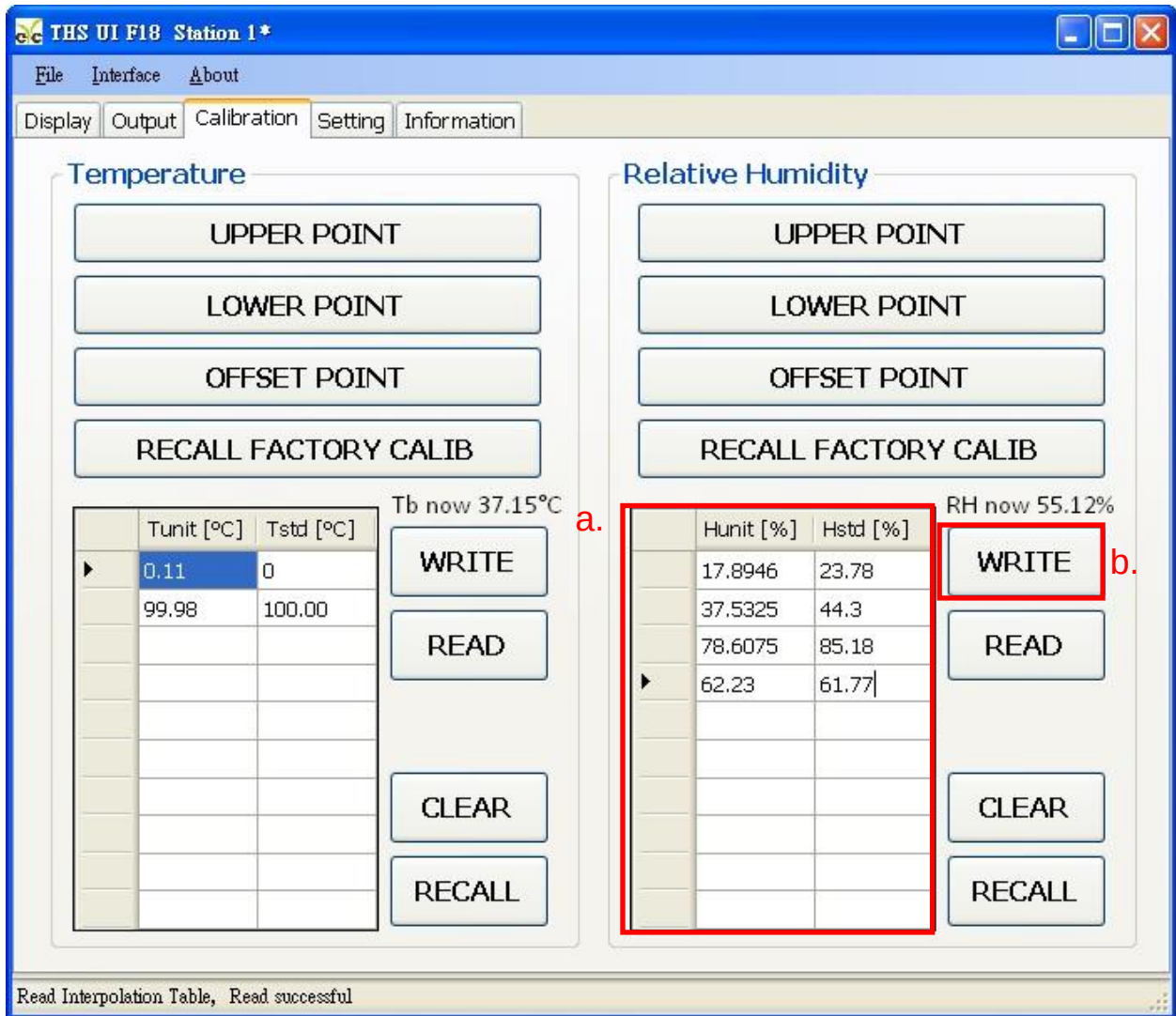
CLEAR

RECALL

Humidity Calibration with more points

Read Interpolation Table, Read successful

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 TBS UI F18 Station 1* software interface. It has a menu bar with 'File', 'Interface', and 'About'. Below the menu bar are tabs for 'Display', 'Output', 'Calibration', 'Setting', and 'Information'. The 'Calibration' tab is selected, and the 'Temperature' and 'Relative Humidity' sections are visible.

Temperature Section:

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

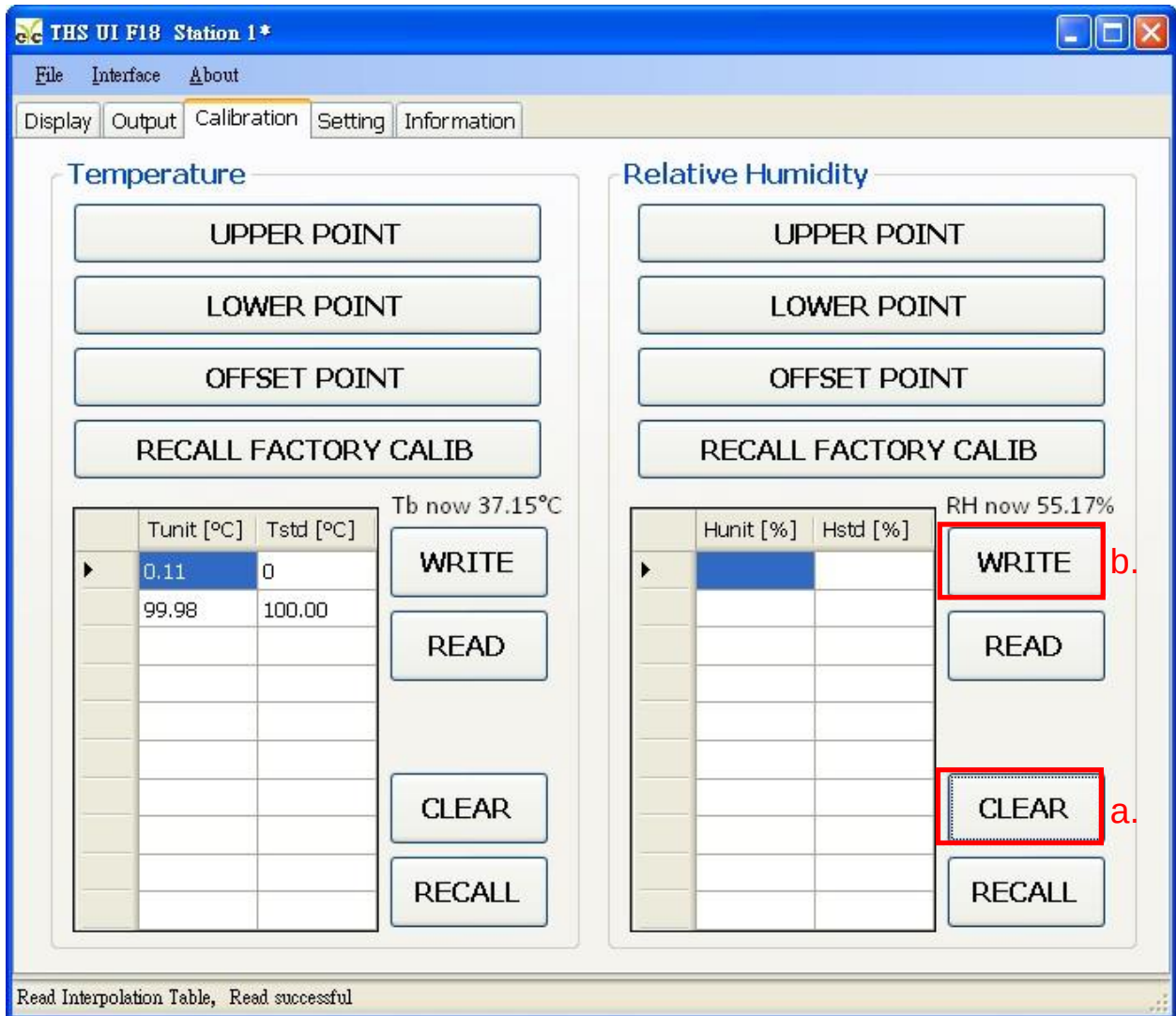
	Hunit [%]	Hstd [%]
	17.8946	23.78
	37.5325	44.3
	78.6075	85.18
▶	62.23	61.77
- Buttons: WRITE, READ, CLEAR, RECALL.

Annotations: A red box labeled 'a.' highlights the 'WRITE' button in the Temperature section. A red box labeled 'b.' highlights the 'WRITE' button in the Relative Humidity section.

Read Interpolation Table, Read successful

5. Delete factory setting :

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



The screenshot shows the 'TBS UI F18 Station 1*' software interface. It has a menu bar with 'File', 'Interface', and 'About'. Below the menu bar are tabs for 'Display', 'Output', 'Calibration', 'Setting', and 'Information'. The 'Setting' tab is active, showing two main sections: 'Temperature' and 'Relative Humidity'.

Temperature Section:

- Buttons: UPPER POINT, LOWER POINT, OFFSET POINT, RECALL FACTORY CALIB.
- Current value: 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 value: 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

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

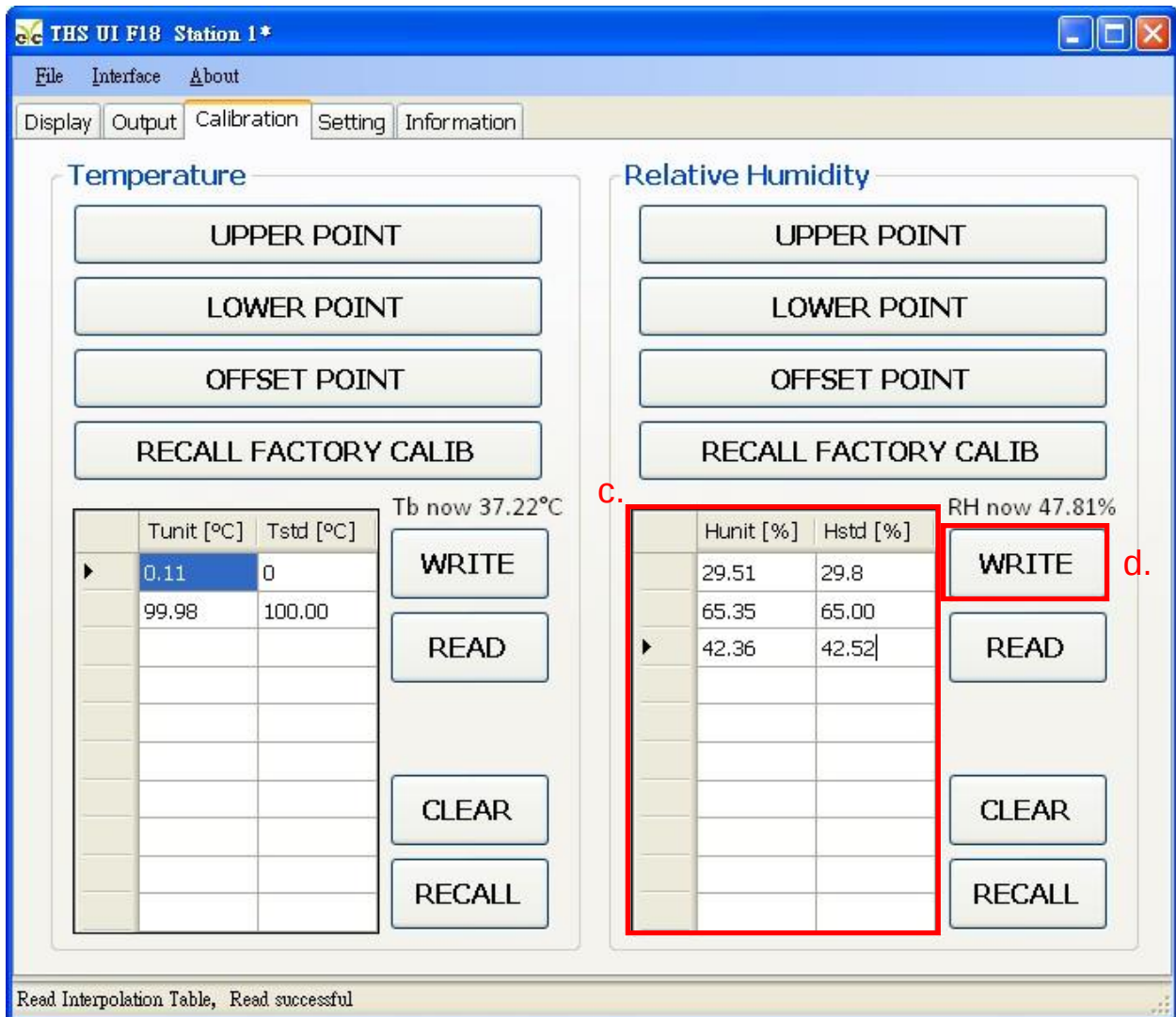
c-1. Hunit[%] : Value which product shows

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



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

RH now 47.81%

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

WRITE

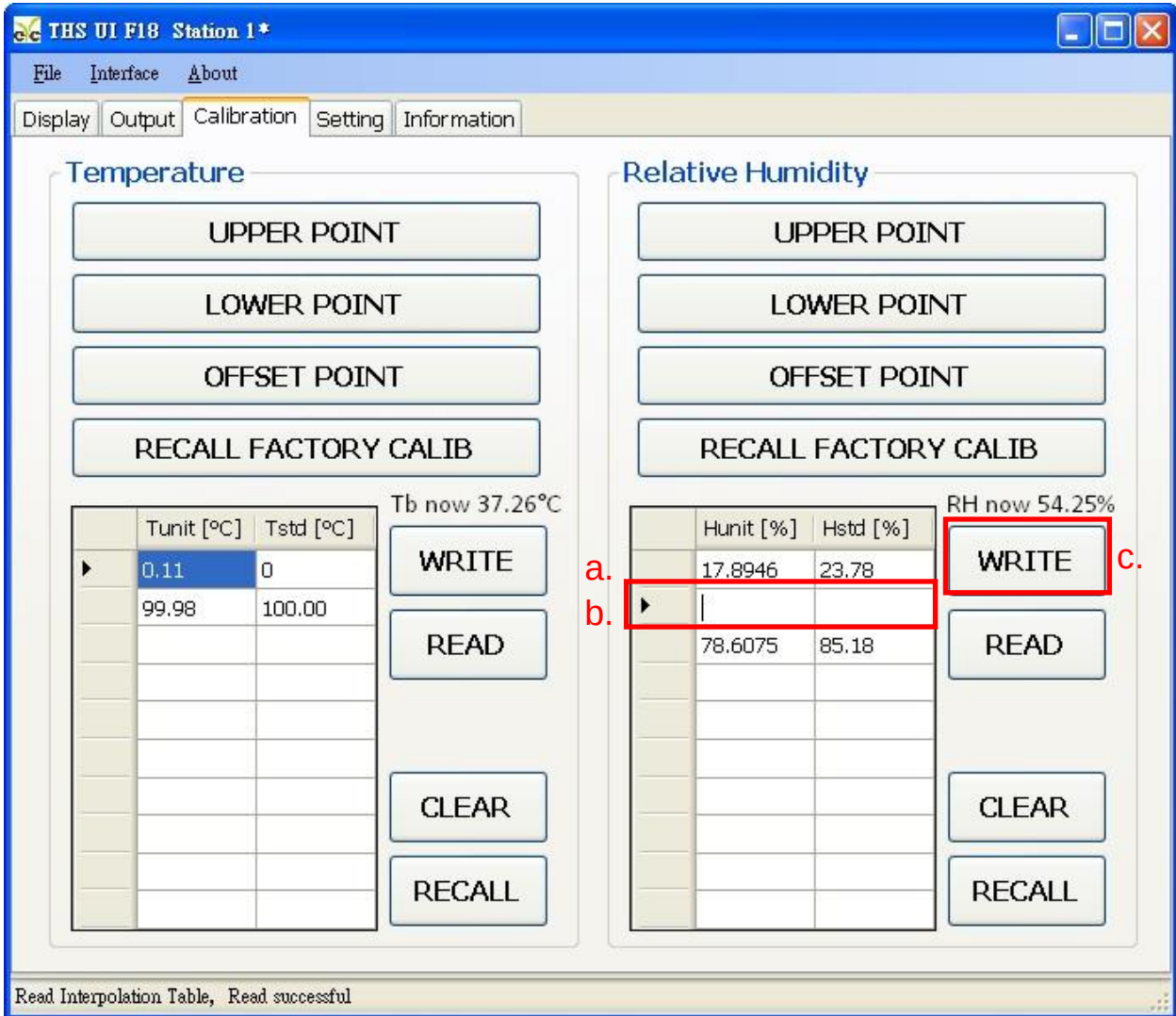
READ

CLEAR

RECALL

Read Interpolation Table, Read successful

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. 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 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 on the screenshot:

- 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.

Read Interpolation Table, Read successful

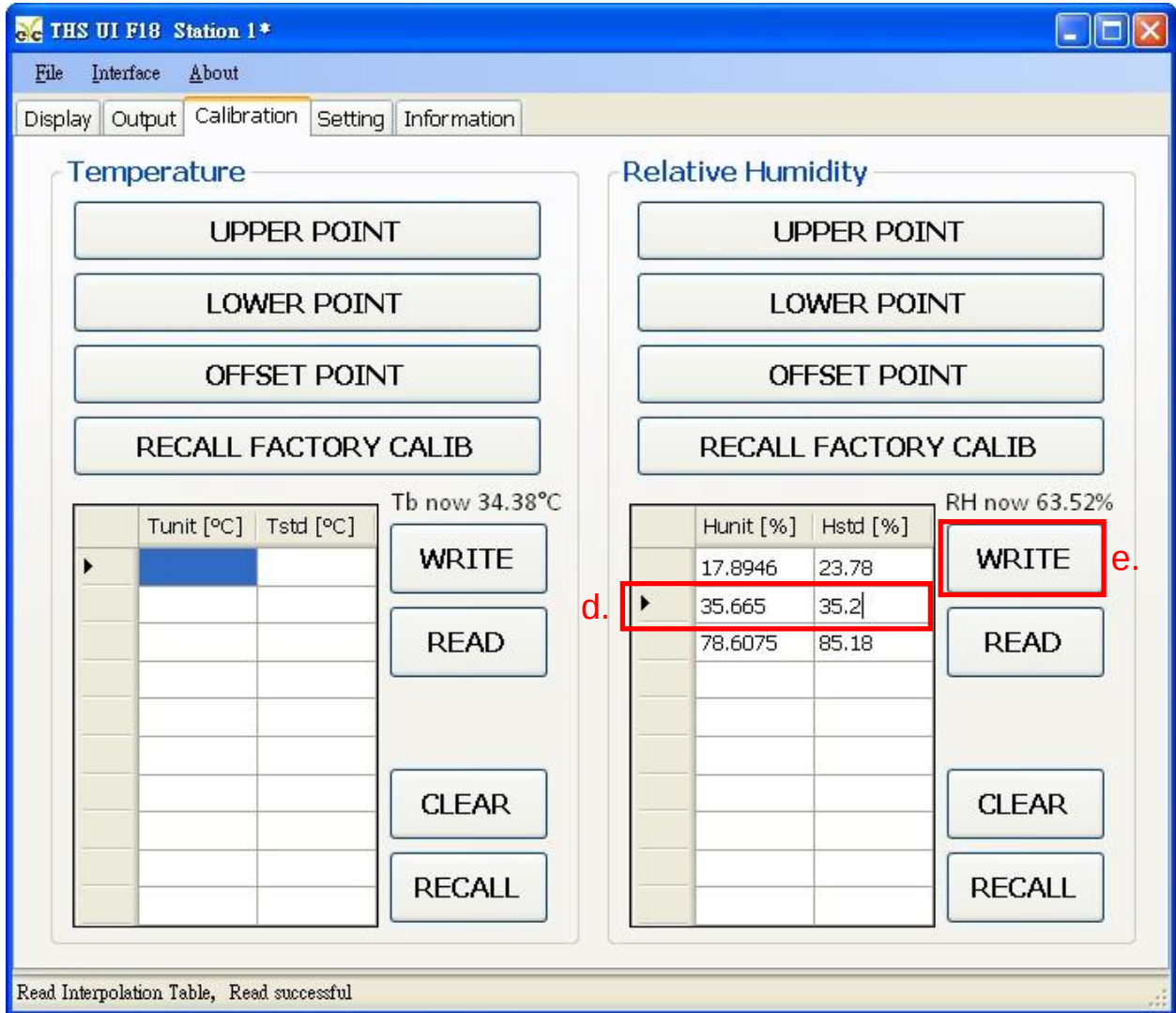
Multifunction Temperature & Humidity Transmitter (Indoor / Duct / Remote / Outdoor)

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



THS UI F18 Station 1*

File Interface About

Display Output Calibration Setting Information

Temperature

UPPER POINT

LOWER POINT

OFFSET POINT

RECALL FACTORY CALIB

Tunit [°C] Tstd [°C]

Tb now 34.38°C

WRITE

READ

CLEAR

RECALL

Relative Humidity

UPPER POINT

LOWER POINT

OFFSET POINT

RECALL FACTORY CALIB

Hunit [%] Hstd [%]

RH now 63.52%

WRITE

READ

CLEAR

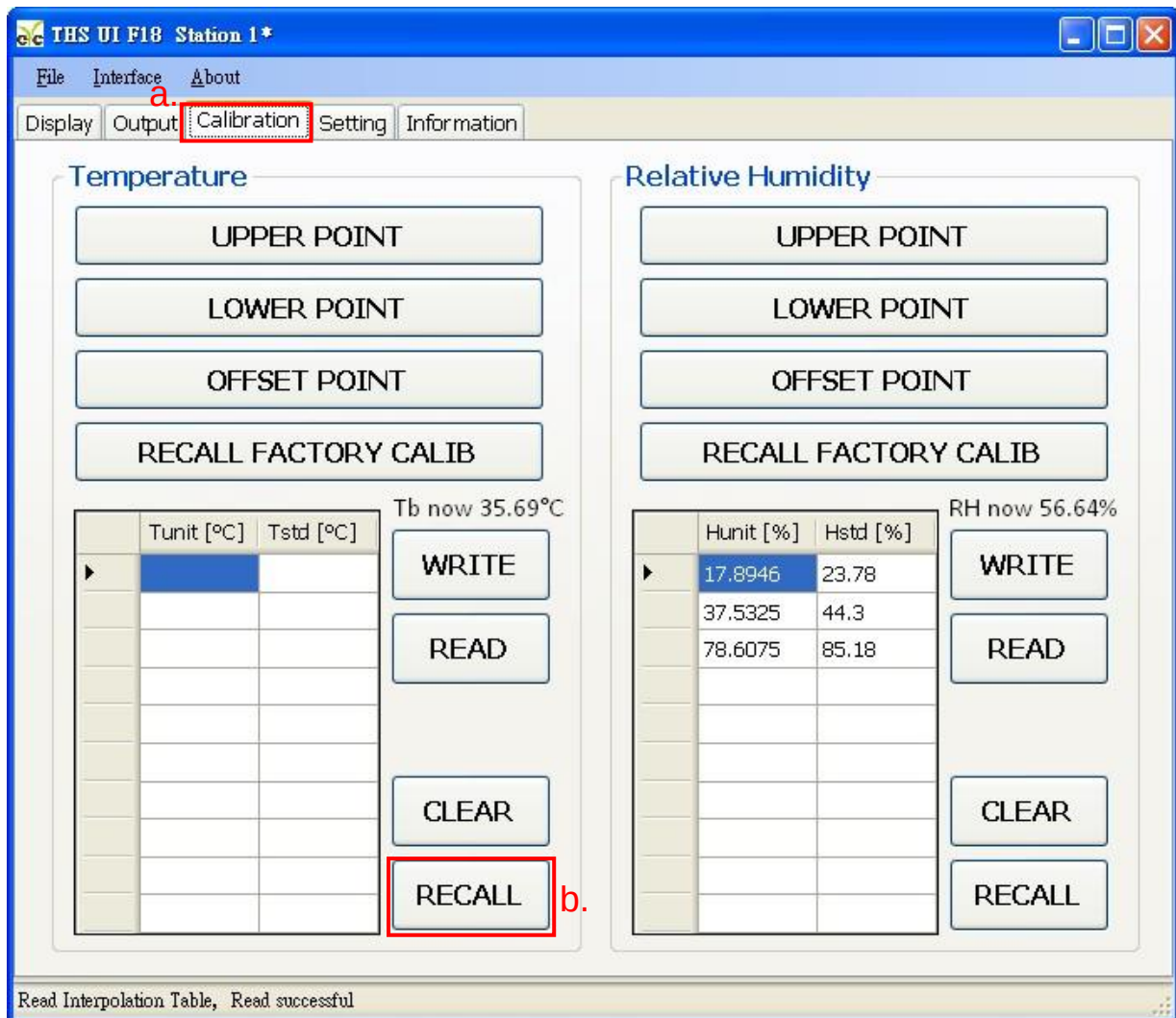
RECALL

Read Interpolation Table, Read successful

6.14 Restore factory setting of more points

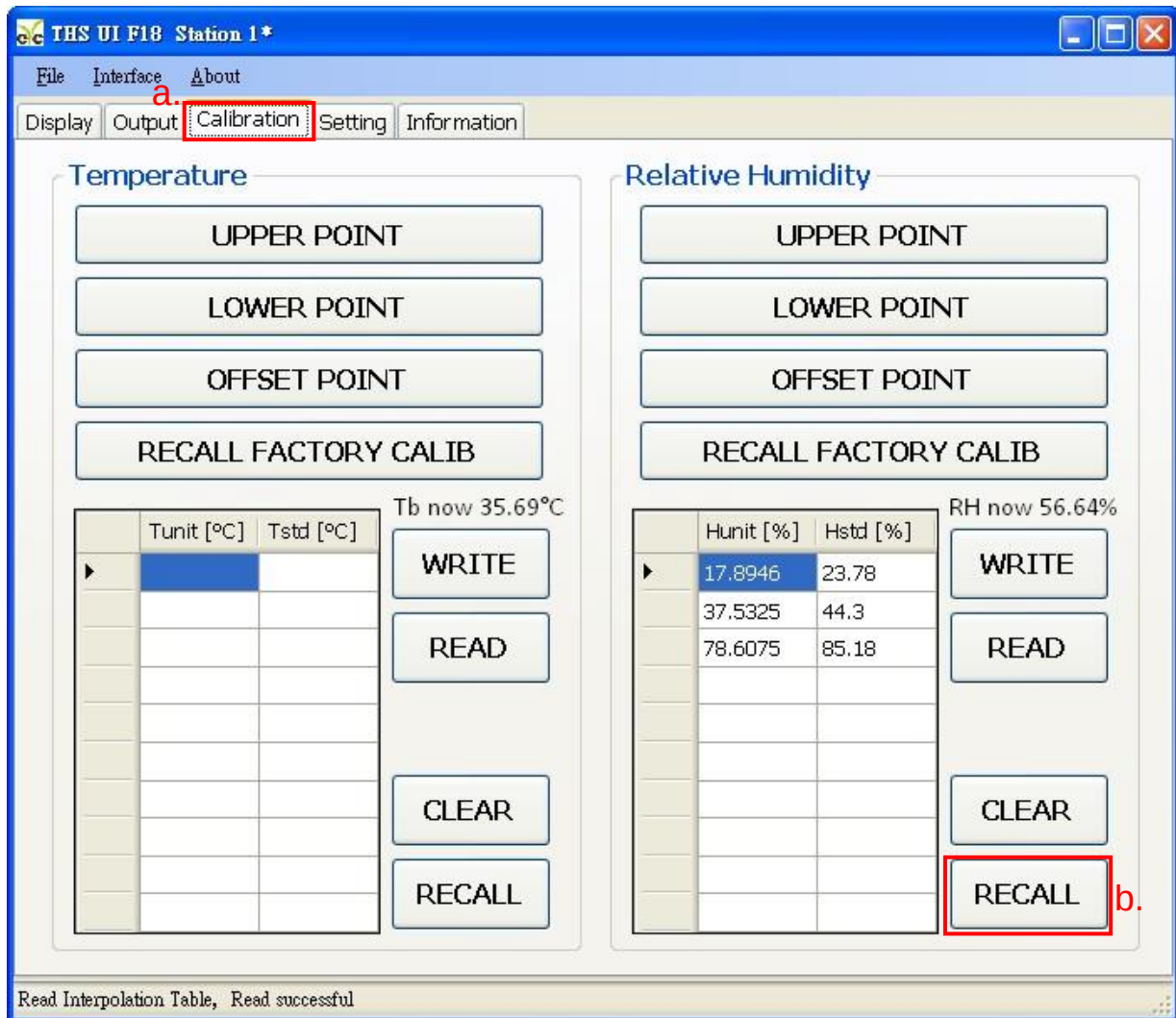
1. Recall temperature of factory setting

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



2. Recall the factory setting of more points of humidity

- Click "Calibration"
- Click "Relative Humidity" → RECALL
- That restore humidity of factory setting is done



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
● 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 ● Errow 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



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Web : www.eyc-tech.com
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