



Operation Manual

eyc-tech THS88ECO

Industrial Dew Point Transmitter



eyc-tech THS88ECO



Contents

I. Security considerations	2
II. Dimension	3
III. Diagram	3
IV. Accessories for measuring atmospheric dew point..	4
V. Software and calibration operation step	5
VI. Inspection and maintenance	17

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 cannot be used for any explosion-proof area.

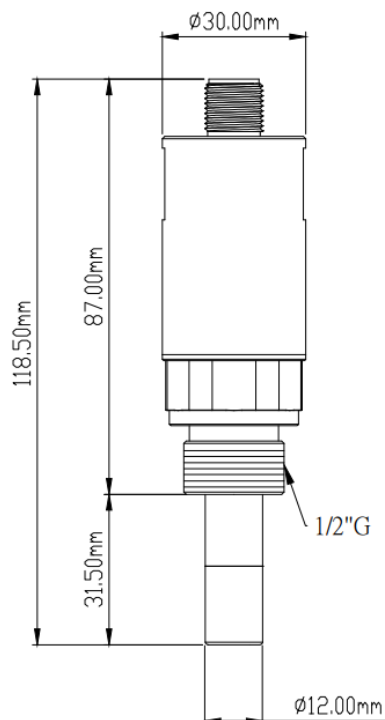
Do not use this product in a situation where human life may be affected.

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

Warning!

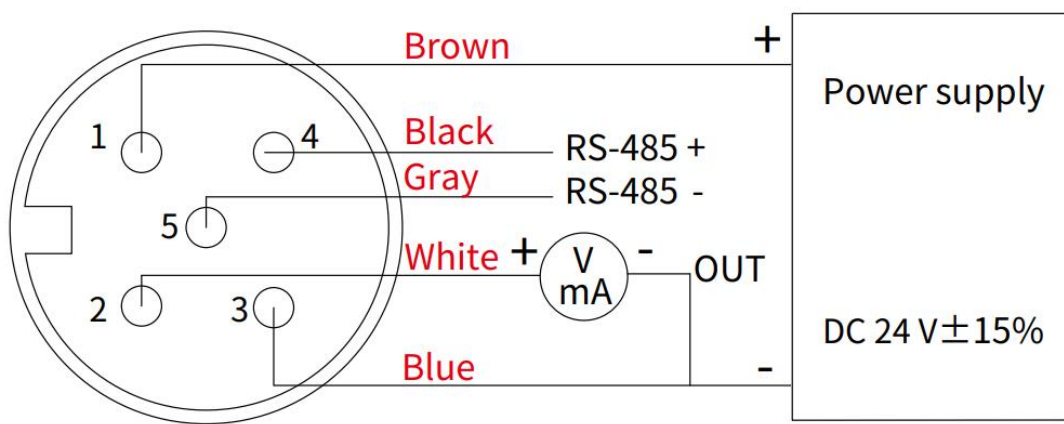
- Installation and wiring must be performed by qualified personnel in accordance with all applicable safety standards.
- This product must be operated under the operating conditions specified in manual to prevent equipment damages.
- Please using the product under the ordinary pressure, or it will influence 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. Dimension



※ Standard — M12-5PIN 2M waterproof cable

III. Diagram



M12 Connector

*Please make sure the product and the device which connect with RS-485 are on common ground, avoid damaged product.

IV. Accessories for measuring atmospheric dew point

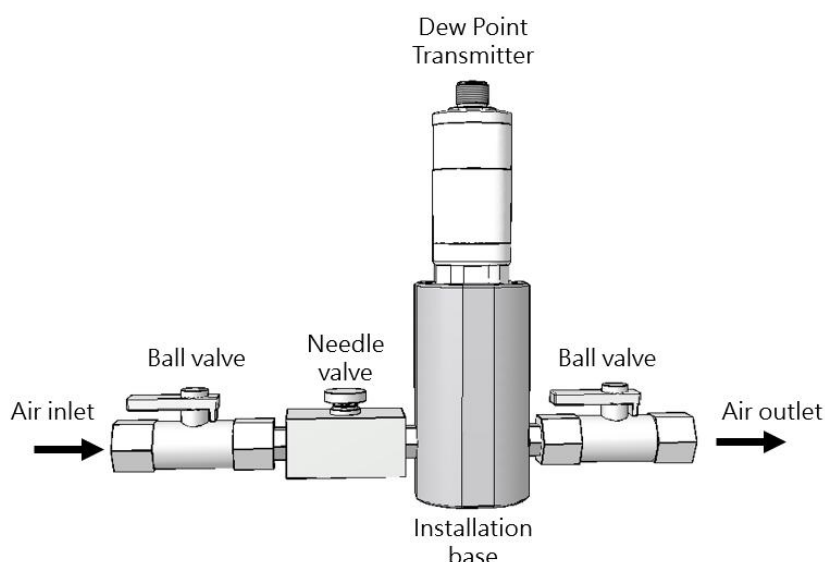
- Environment pressure affects the value of dew point. When environment pressure is higher, water vapor condensate easier. Thus, dew point value in high pressure environment is higher than atmospheric dew point.
- In process line, pressure could change and fluctuate easily, and leads to inconstant reading value. To avoid this problem, eyc-tech suggest user to measure dew point at atmospheric pressure (atmospheric dew point).
- To help user measuring atmospheric dew point easily, eyc-tech provide related accessories, which including installation base for dew point transmitter, pressure regulator and flowmeter ...etc. User can select accessories depends on installation. Please ask our sales personnel for further information.

Part number	Description
BASE-THS-001	Installation base(1/2 "PT for transmitter), SUS304, Connection for air inlet and outlet: 1/4" PT
BASE-THS-002	Installation base(1/2 "PF for transmitter), SUS304, Connection for air inlet and outlet: 1/4" PT

- A schematic of installation is shown below. Using pressure regulator to regulate pressure to 1 atm, and adjust airflow to 1~5 LPM to have stable reading of atmospheric pressure.

Calibration and Measurement Conditions:

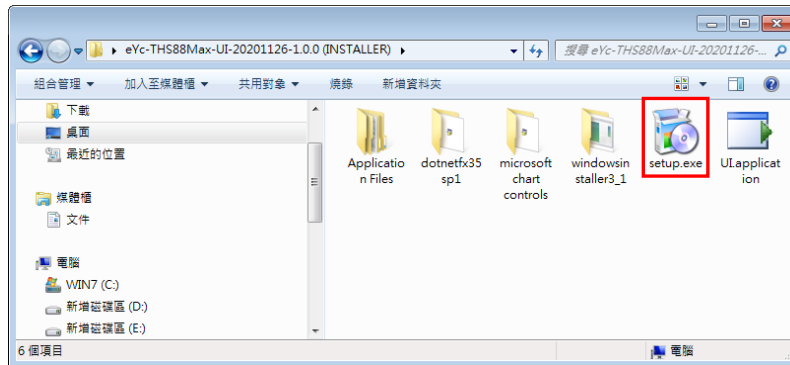
- Each eyc-tech THS88ECO Dew Point Transmitter undergoes a rigorous calibration process to ensure high accuracy under ultra-low dew point conditions. The calibration is conducted under the following defined parameters:
- Calibration is performed in a controlled environment with dew point lower than -70 dp°C, simulating extremely dry conditions.
- A flow rate of 2 L/min is applied to ensure consistent exposure of the sensor to the dry air stream.
- The sensor must be dried continuously for 24 hours under these conditions before calibration and measurement, to eliminate residual moisture.



V. Software and calibration operation step

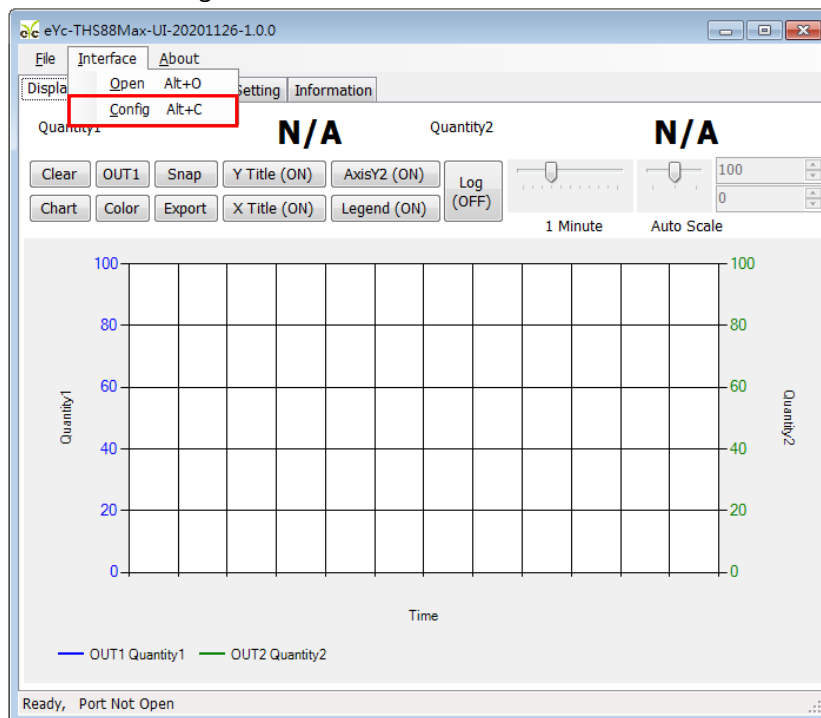
5.1 Application Program statement

User may download the configuration software on eyc-tech web site. Please decompress the application prior to execute it. Operating System requirements : above Windows 10.



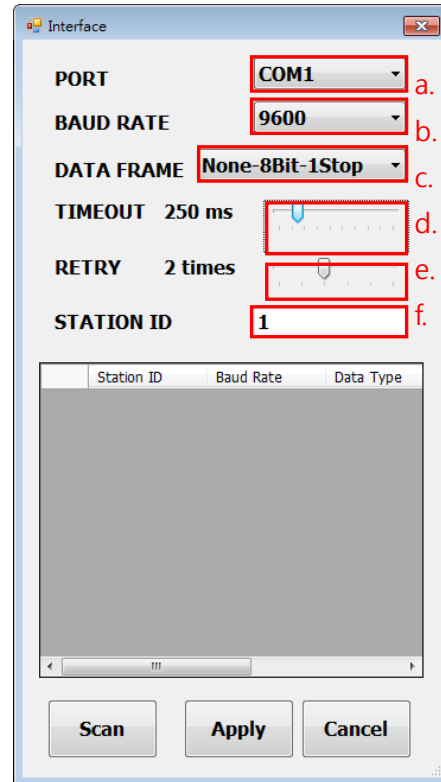
5.2 Setting RS-485 connection

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

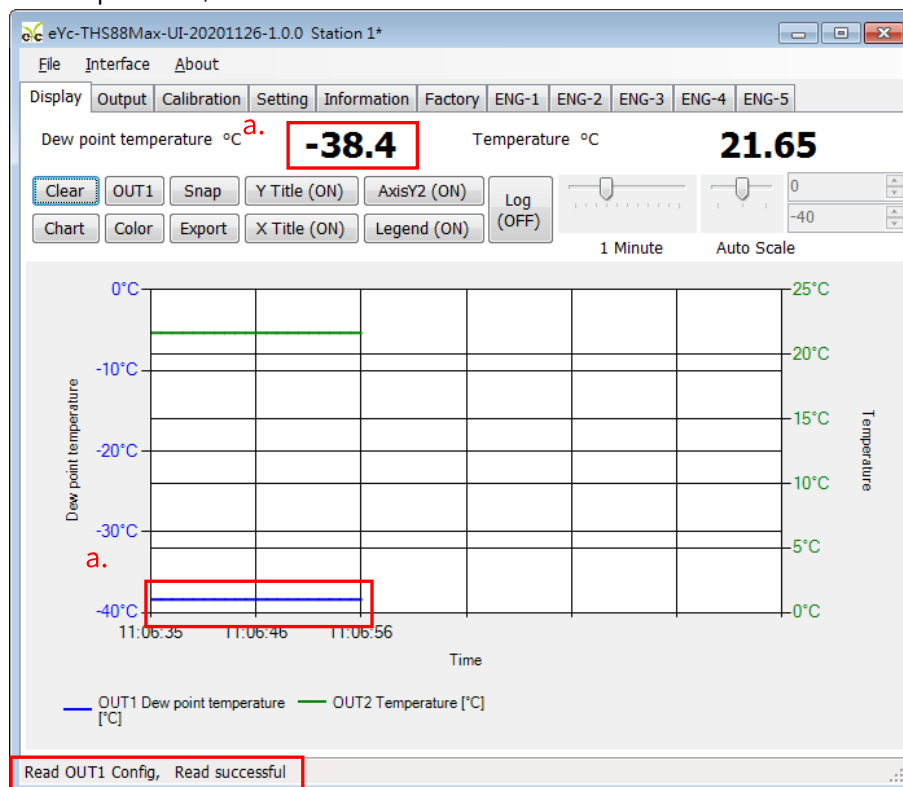


4. Select the corresponding values of com port as following :

- Port : Check Come Port
- Baud Rate
- Data Frame
- Timeout
- Retry
- Station ID(Default 1)



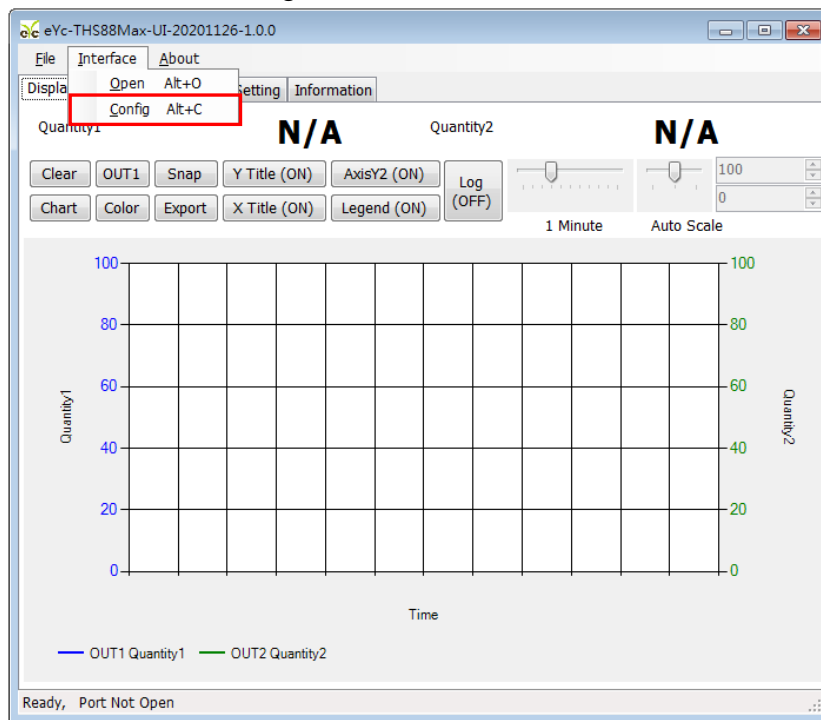
- Click "Apply"
- Connect successfully
 - Show value and trend chart of Dew point temperature
 - Show "Open Port, Read successful"



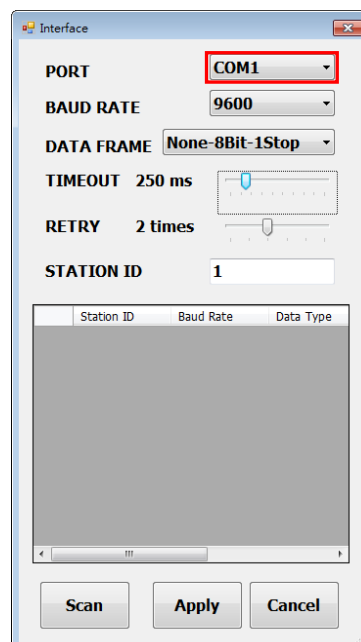
5.3 Scan RS-485 connection

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

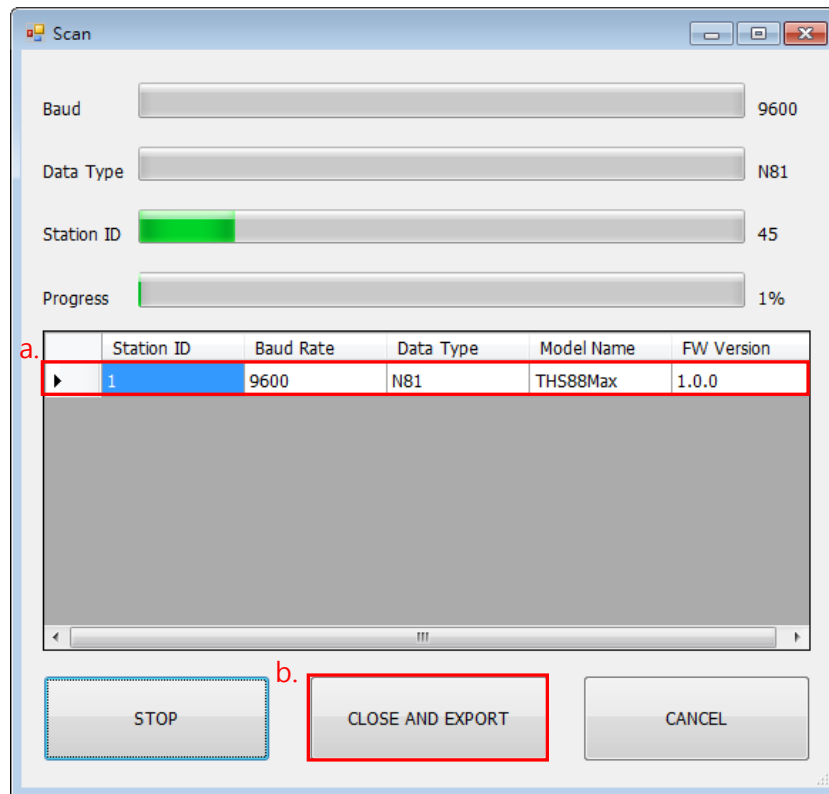
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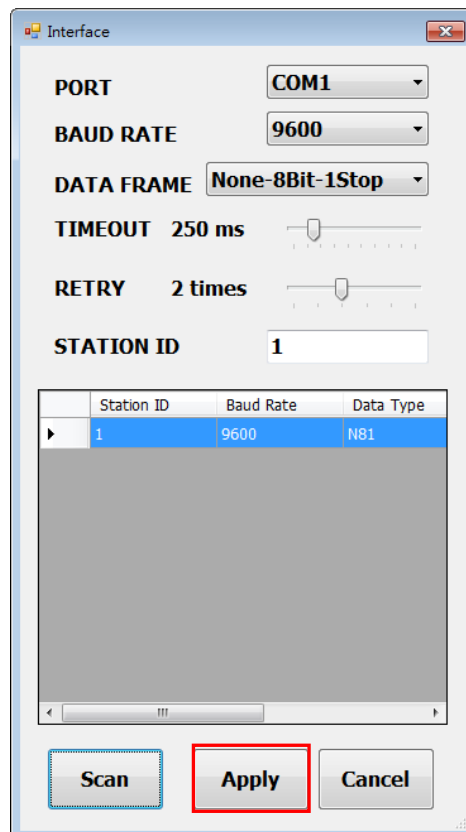
4. Select the corresponding values of com port as following:
 - a. Port :
 - b. RS-485



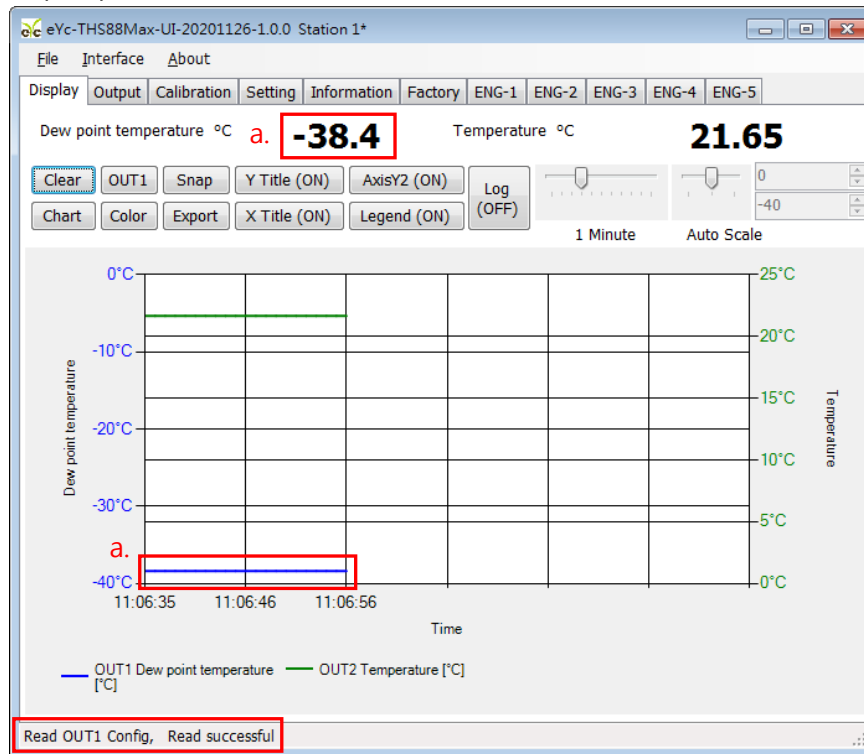
5. Click "Scan" to execute connection facilities
6. Scan connection facilities and set up
 - a. Select Station ID
 - b. Click "CLOSE AND EXPORT"



7. Click "Apply"

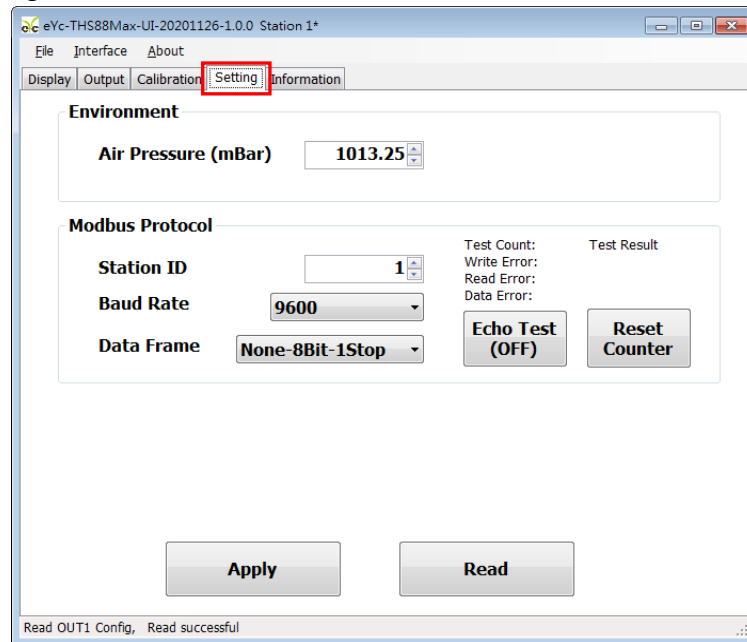


8. Connect successfully
 - a. Show values and trend chat Dew point Temperature
 - b. Show "Open port, Read successful"

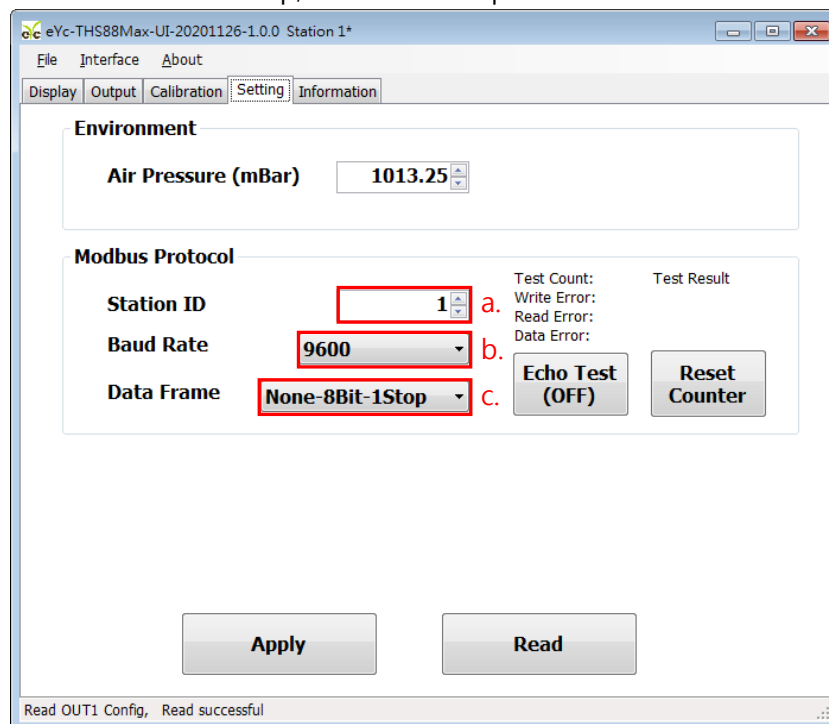


5.4 Setting RS-485 ModBus Protocol

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

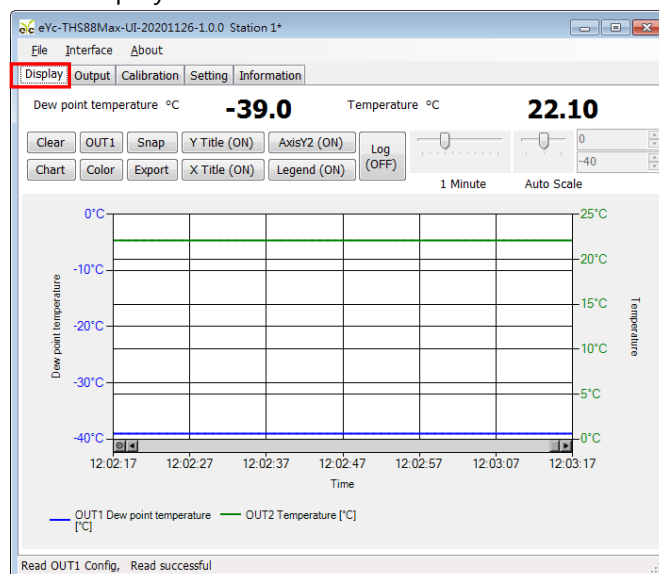


3. Select Modbus Protocol parameter
 - a. Station ID : 1~247
 - b. Baud Rate : 9600, 19200, 38400, 57600, 115200
 - c. Data Frame : None-8Bit-1Stop, None-8Bit-2Stop, Even-8Bit-1Stop, Even-8Bit-2Stop, Odd-8Bit-1Stop, Odd-8Bit-1Stop

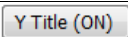
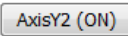
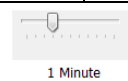
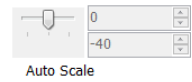


4. Click "Apply"
5. Execute connection as step 5.2 or 5.3 again
- 5.5 Display and save data

1. Show Data : Click " Display"



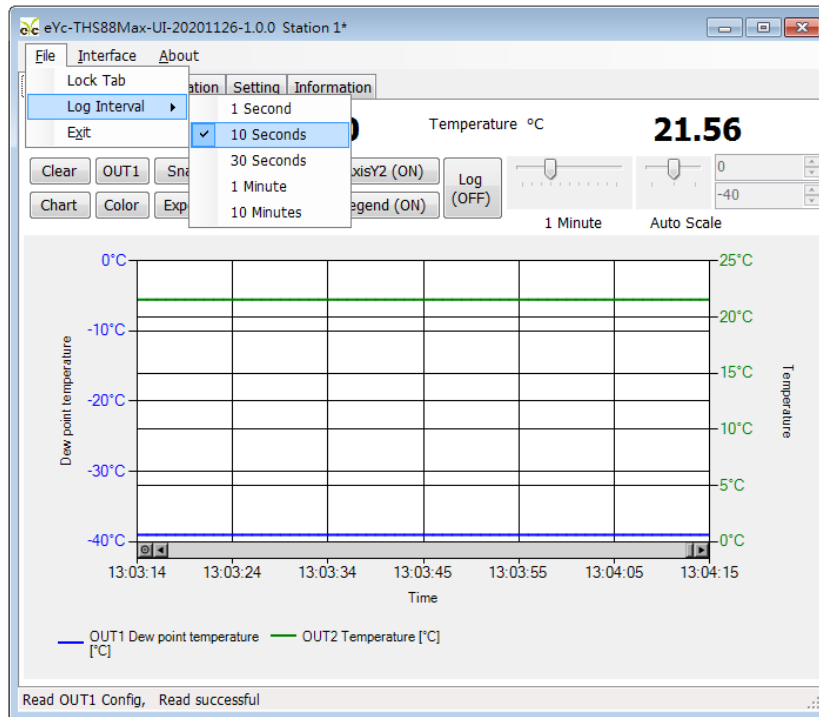
2. Icon function statements

	Clear the chart records		Save the data measuring when the system start connecting before clicking the Export icon
	Change the chart style		Show/Not show the statement of Y axis
	Select the OUTPUT channel		Show/Not show the statement of X axis
	Set line color chosen from OUTPUT		Show/Not show the statement of Y secondary axis
	Snap chart		Show/ Not show chart
	Show/Not show measuring data		
	Adjust time range of X axis		
	Adjust time range of Y axis		

3. Setting time interval of record

a. File > Log Interval

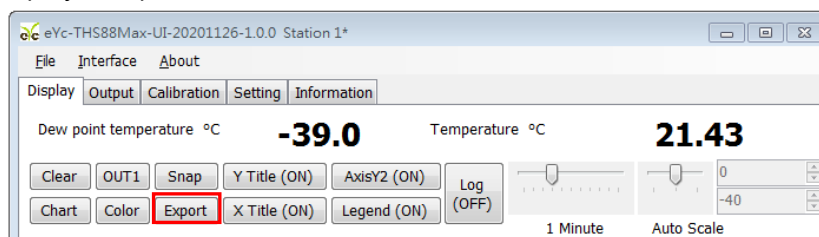
b. Select time interval of record



4. Save/Log measuring data

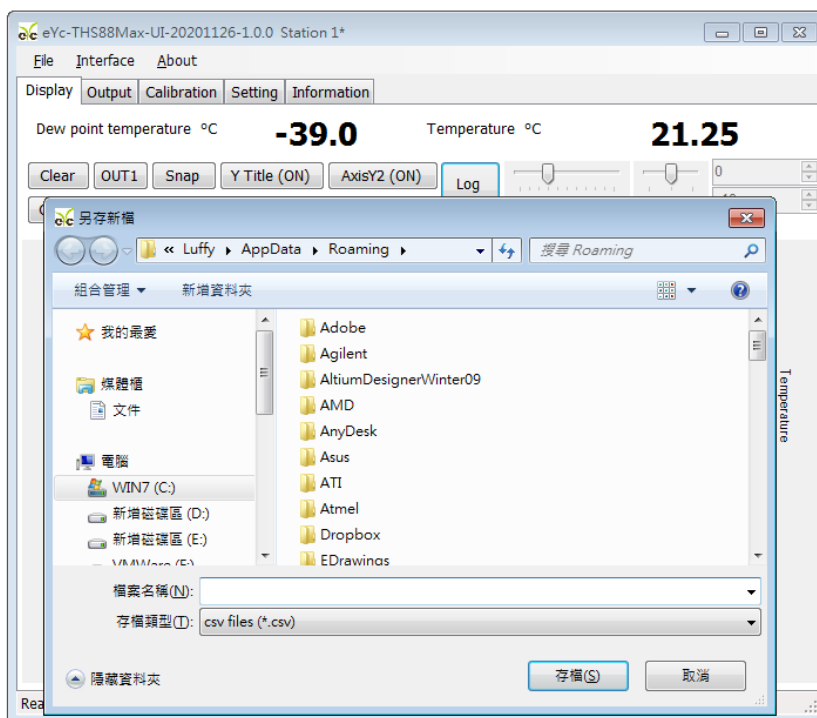
- Log measuring range : Save the data measuring when the system start connecting before clicking the Export icon

a-1. Click Display > Export



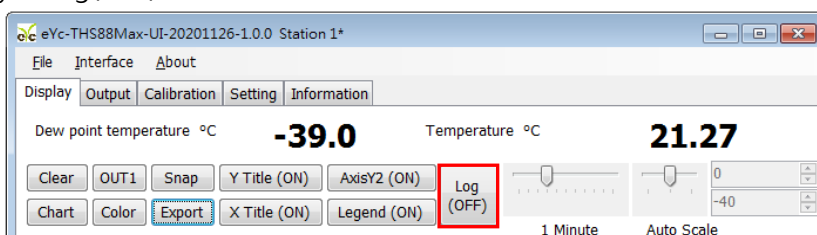
a-2. Appoint path and Key in file name > save

- ※1. If file name is some as the path name, the original file will be over write.



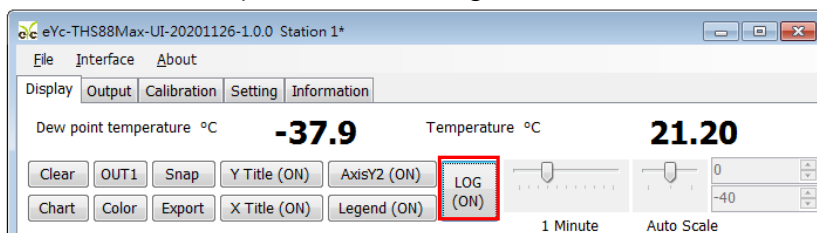
b. Log measuring data : Log the data which is on from start or off

b-1. Display > Log(OFF)



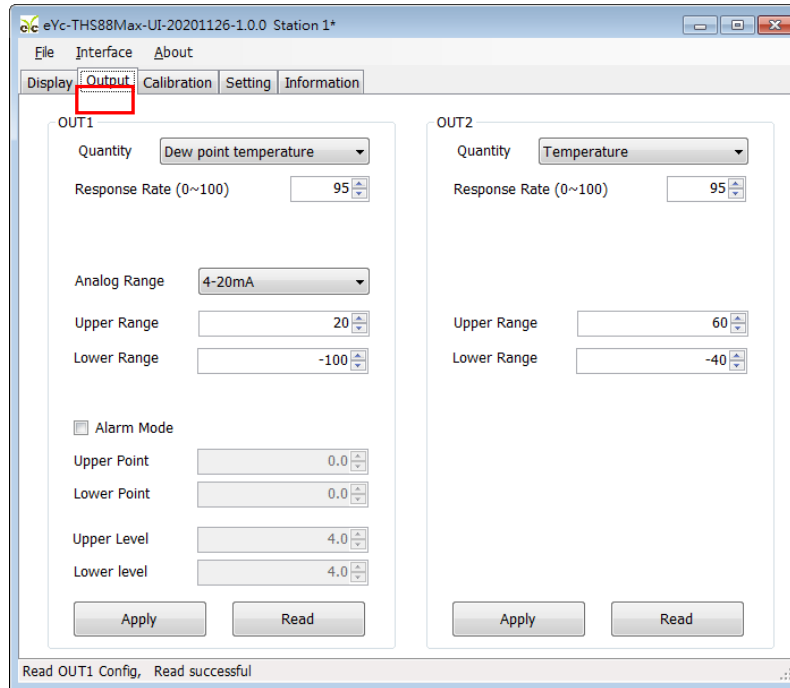
b-2. Appoint path and Key in file name > save > Log (ON)

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



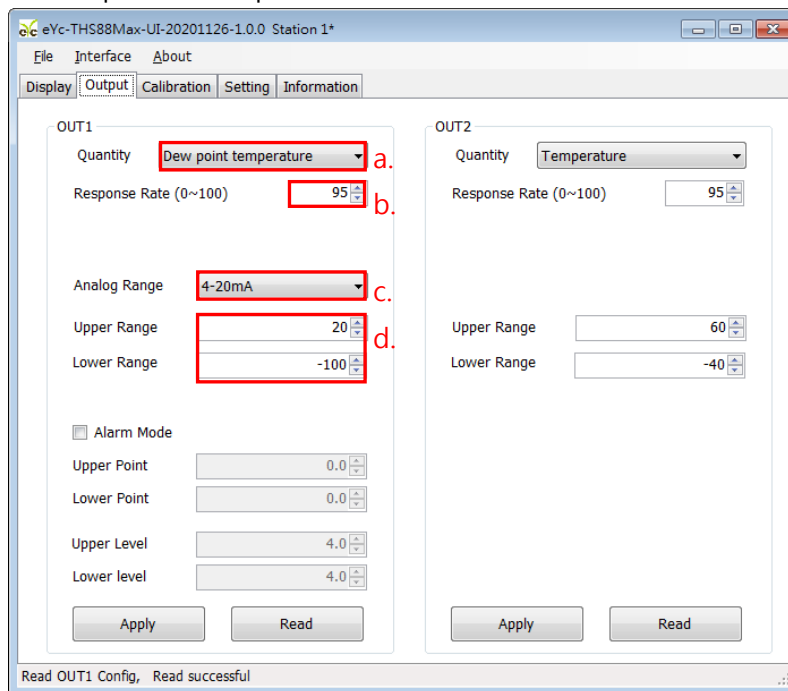
5.6 Choose parameter of Output

1. Click "Output"



2. Select relative parameters of Output1

- Measures
- Responding Rate
- Voltage or current analog range
- Upper and Lower point of Output

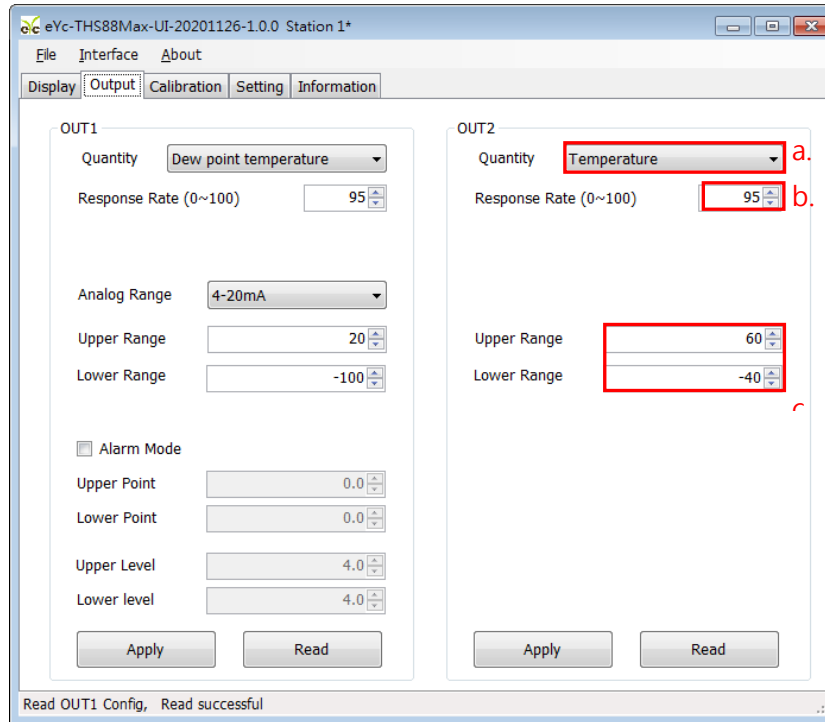


3. Click "Apply"

4. Select relative parameters of Output2

- Measures

- b. Responding Rate
- c. Upper and Lower point of Output



OUT1

Quantity: Dew point temperature

Response Rate (0~100): 95

Analog Range: 4-20mA

Upper Range: 20

Lower Range: -100

☐ Alarm Mode

Upper Point: 0.0

Lower Point: 0.0

Upper Level: 4.0

Lower level: 4.0

Apply Read

OUT2

Quantity: Temperature a.

Response Rate (0~100): 95 b.

Upper Range: 60

Lower Range: -40

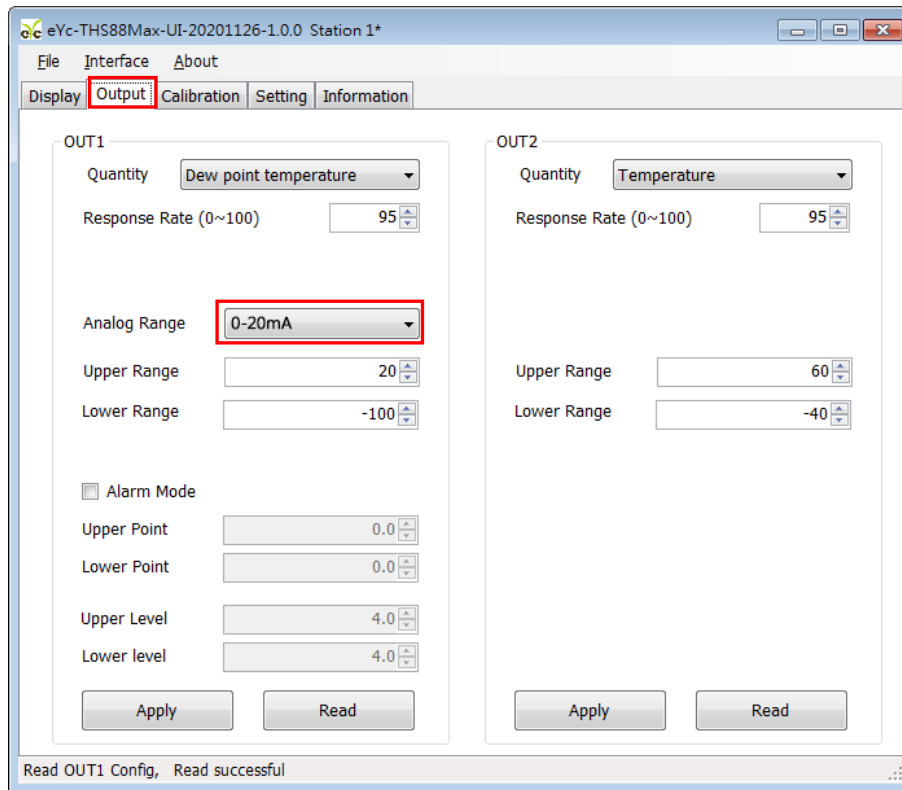
Apply Read

Read OUT1 Config, Read successful

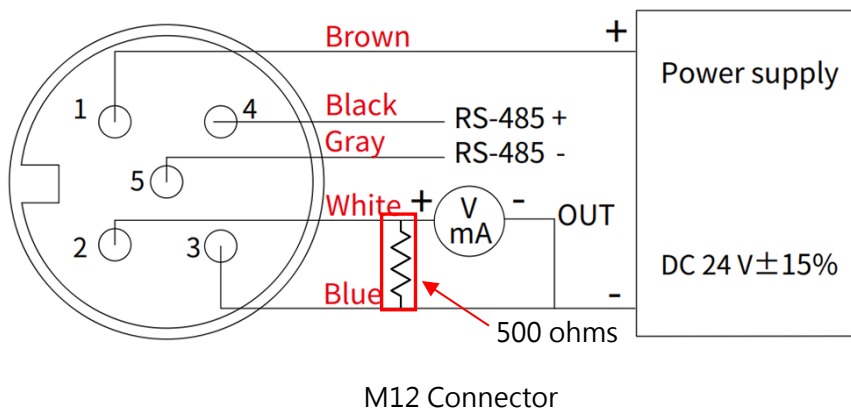
- 5. Click "Apply"

5.7 Convert 4-20mA to 0-10V

1. Select Current to 0-20mA in UI.



1. Please Connect 500 ohms in parallel at the output.



VI. 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 :

- 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. Troubleshooting

- Sensor maintenance

Do not damage sensor surface during the maintenance process.

- Troubleshooting

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

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 installed angle ● 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 ● Align measurement head with flow direction ● Cleaning the filter ● Changing the filter ● Calibrate ● Replace the sensor

eyc-tech Measuring Specialist

enhance your capability with **sensor** technology

Air flow | Humidity | Dew point | Differential pressure | Liquid flow
Temp. | Pressure | Level | Air quality | Signal meter



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