Operation Manual

eYc THE120

OEM Temperature and Humidity Transmitter

eYc THE120

50 PCS/LOT

Contents

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.

I. Connection Diagram
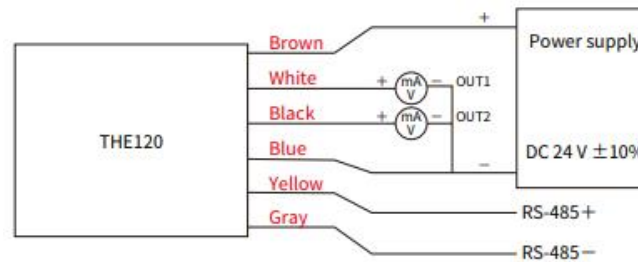
II. RS-485 and Modbus

THE120 integrate a RS-485 interface for digital communication as an option feature.

Based on Modbus protocol makes the general convenience on PLC, HMI and PC

connection. For Modbus protocol information please download the file from website.

Besides the PLC, HMI application, the user software provide the device setting and data

logging function, it also can free download from website.

Technical Data:

(1)   Max. Network size: 32 transmitters

(2)   Communication: with COM-Port (serial interface) of PC

(3)   Max. Network expansion: 1200m (3937ft) total length at 9600 baud

(4)   Transmission rate: 9600, 19200, 38400, 57600, 115200 Baud

(5)   Parity: None, Even, Odd

(6)   Data length: 8 bit

(7)   Stop bit: 1 or 2 bit

(8)   Factory default Station address = 1, Data format= 9600, N81

## III. Software and calibration operation step

1. Portable application:eYc-THE120-UI-20211020-1.0.0 (EXE)

2. Installation program: eYc-THE120-UI-20211020-1.0.0 (INSTALLER).rar

(※Please contact us to download installation program when free program doesn't execute.)

a. Operating System requirements: above Windows XP SP2

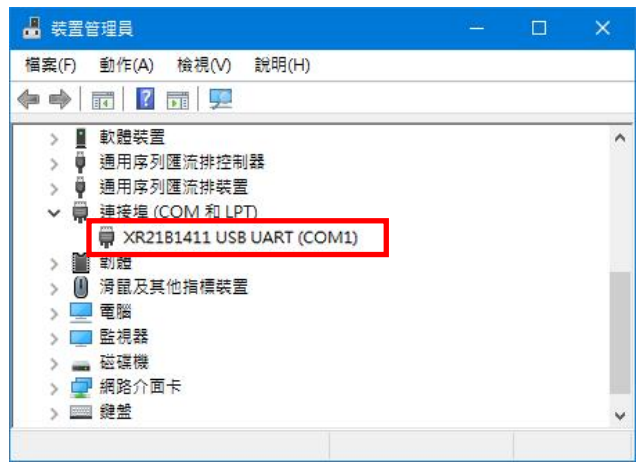b. Decompress installation program and click Setup to install
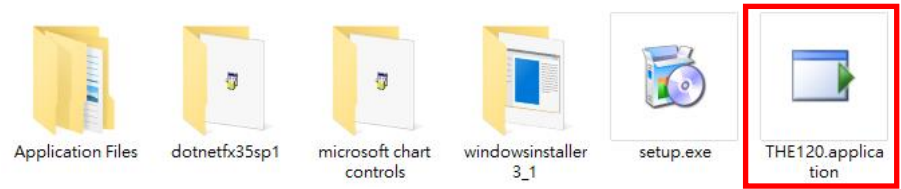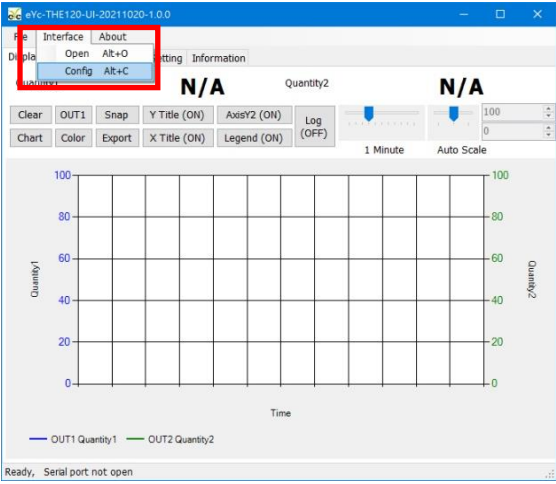
c. Navigate to program and click THE120
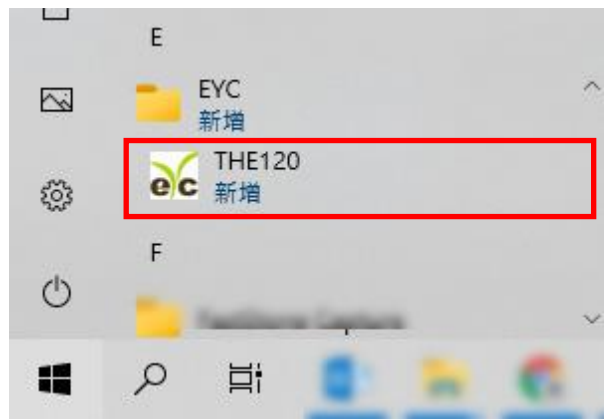
1. Hardware connection: Connect the THE120 to PC through USB to RS-485 converter

2. Check the COM port number from Device Manager in Computer Management. e.g.
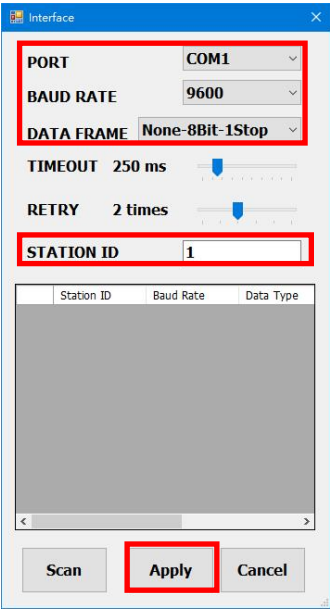
   COM1 in illustration

OEM Temperature and Humidity

3. Open the THE120 UI

   (1). Go to function **Interface**

   (2). Click **Config**

4. Connection method - If known station number ID:

   (1). Setting **COM PORT**

   (2). Setting **BAUD RATE**

   (3). Setting **DATA FRAME**

   (4). Setting **Station ID**

   (5). Click **Apply** for connection


5. Connection method - If unknown station number ID (Scan RS-485):

   (1). Setting **COM PORT**, click **Scan** for scan devices

   (2). Choose the device and click **Close and Export**

   (3). Click **Apply** for connection

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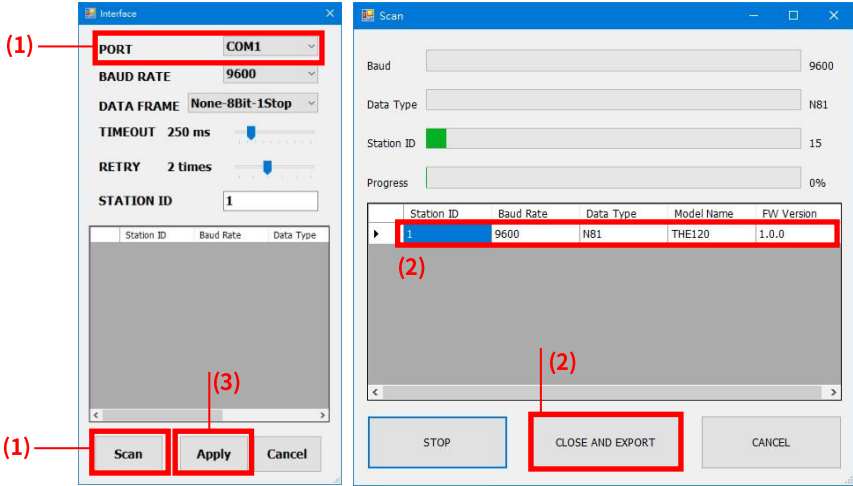
6. Setting on analog output

    In **Output** tab, OUT1/OUT2 group, the output related setting could be found:

    (1)   Quantity：Temperature, Relative Humidity

    (2)   Response rate (0 ... 100)

           100：Filter OFF，90：Filter = 60 sec.，80：Filter = 120 sec., etc.

    (3)   Analog type: 4 ... 20 mA (Current) / 0 ... 10 V (Voltage)\

    (4)   Measuring range: Upper and Lower
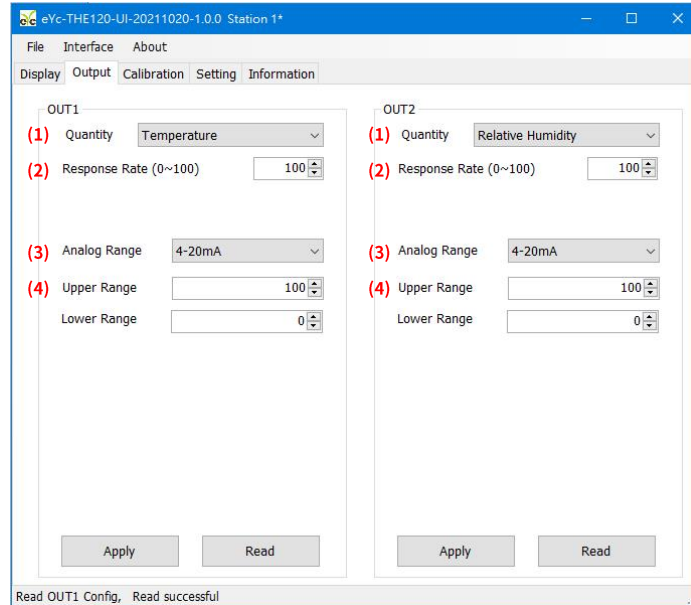
7. Setting **Environment, Modbus Protocol**
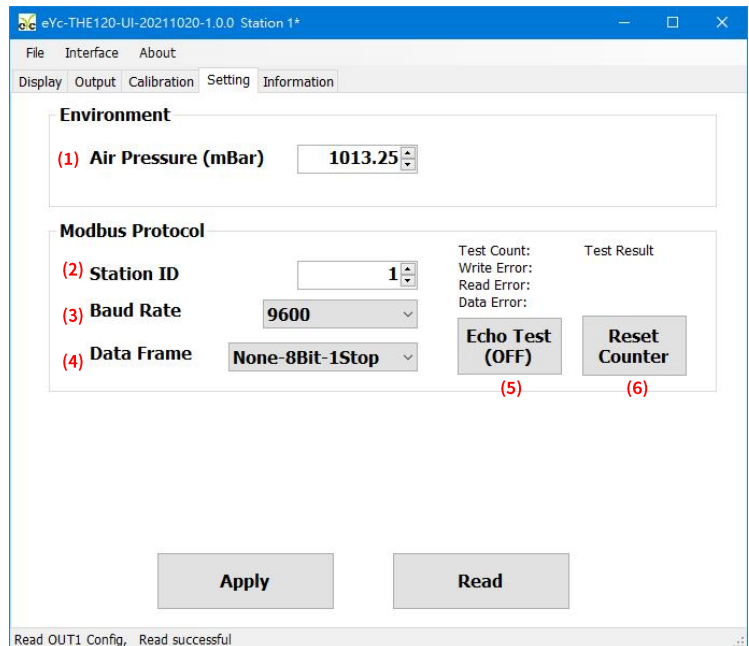
    There are 2 groups in setting tab. The description of each item as below.

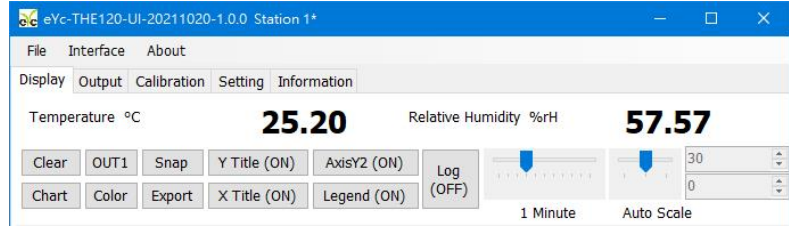   **Environment：**

    (1)   Air Pressure (mBar)

    Modbus Protocol：

    (2)   Station ID

    (3)   Baud Rate

    (4)   Data Frame

    (5)   Modbus Echo Test

   Enable / Disable

    (6)   Modbus Echo Test Result

           Reset

8. Data display and logging

Clear	Clear the chart records	Export		Save the data measuring when the system start connecting before clinking the Export icon (File format .CVS)
Chart	Change the chart style (5 types)	Y Title (ON)		Display / Hide the statement of Y axis (Temperature / Humidity)
OUT1	Select the OUTPUT channel	X Title (ON)		Display / Hide the statement of X axis
Color	Set line color chosen from OUTPUT	AxisY2 (ON)		Display / Hide the statement of Y axis (Unit: °C/%RH)
Snap	Snap chart	Legend (ON)		Display / Hide the statement of chart
Log (OFF)	Display / Hide the measuring data (File format .CVS)			
	Adjust time range of X axis			
	Adjust scale range of Y axis			

9. Device Information

(1) Serial number

(2) Model name

(3) Firmware version

(4) RS-485

(5) Temperature range(°C)

(6) Calibration date

(7) Firmware checksum

(8) Hardware version

(9) Humidity calibration data

(10) Temperature calibration data

(11) Analog output calibration data

(12) Analog output programming span
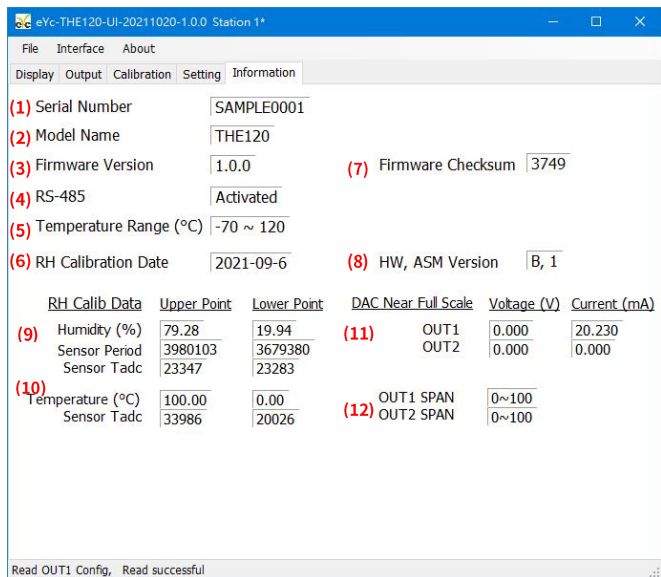
IV. Inspection and maintenance

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

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