Operation-Manual

eyc-tech FTE120

Inline Type Air Flow Transmitter

eyc-tech FTE120-I

Contents

I. Safety Precautions

- Before using this product, the user must to read the details of this user's manual, then use this product with correct steps.
- This user's manual is for reference while using / Setting this product, and required to conserve properly.
- This product is improperly to use in explosion-proof area, do not use this product in dangerous situation where human health & life may be threaten & affected.
- If the user install this product in special environments as Dust-Free Room, Breed Environment for Animals, etc., please initiate a specialized product consultation to our professional sales of our company.
- If the improper & dangerous results which result from improper operator or improper environment, our company will not bear any legal responsibility.

Warning

- Please ensure the outlook / outbox do not have any damage which result from improper transportation, or malfunction which results from lost attachments.
- In order to prevent the GM from damages. This product must be used in the proper environment which specified in this user's manual.
- Please implement the wiring operation under power-off status; otherwise it will cause electric shock, or become the root cause of machinery breakdown.
- For prevent equipment damage, disconnect the power supply from the product before performing any wiring and installation.
- This product must be operated under ruled power supplying value, and be operated under the ruled normal operation conditions which described in the user's manual；otherwise it may cause the disasters as fire accident or be the root cause of machinery breakdown.
- This product must be operated under the operating conditions specified in manual to prevent equipment damage.
- Installation and wring must be performed by qualified personnel in accordance with all applicable safety standards, According to applicable safety standards all wiring must comply with local codes of indoor wiring and electric installation rules.
- All wiring must comply with the rule for indoor wiring and electrical installation rules. The screw must be tight for upper cover & lower base.
- In order to prevent the interferences from frequency converter, etc., and avoid error signal to result in the product damage, please use the isolated conducting wire.
- 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.
- While discard this product, the user must to comply with the related rules for industrial domestic wastes for different country / location.

II. Connection Diagram
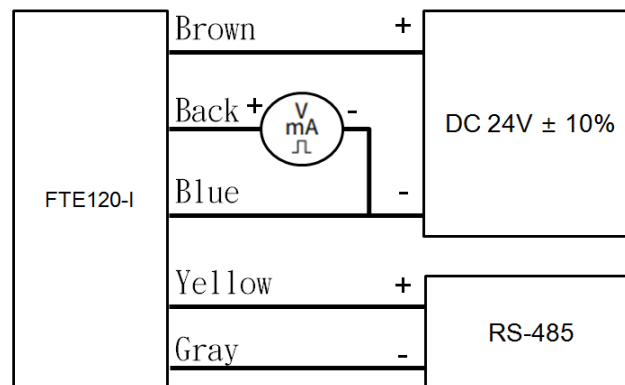
III. Installation

Installation instructions:

90° pipe (flow passes through the pipe turn)	Continuous 90° pipes in different horizontal planes (vertical flow and through curved pipes)
Tube expanding state (flow becomes large from small)	Control valve status (switch switching / flow adjustment)
Shrinking tube state (flow from large to small)	The flows continuously through the 90° bend in the same horizontal plane

IV.RS-485 and Modbus

FTE120-I 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

V. Software and calibration operation step

User may download the configuration software on eyc web site. Please decompress the

application prior to execute it. Operating System requirements：above Windows XP.　Other

application program requirements：above Microsoft Office 2003

1. Hardware connection：Connect the FTE120-I to PC through USB to RS-485 or RS-232 to RS-485

   converter

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

   illustration
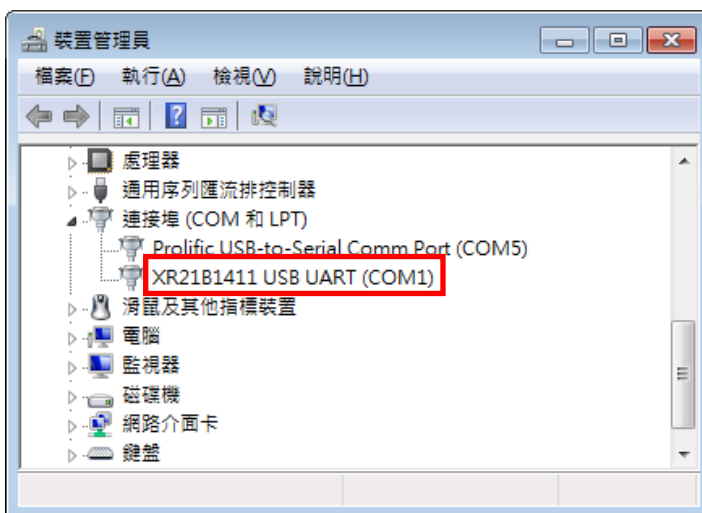
3. Open the FTE120-I UI, go to function "Interface", click item "Config" and then setting COM port, BAUD rate, data format and Station ID, pressed "Apply" for connection
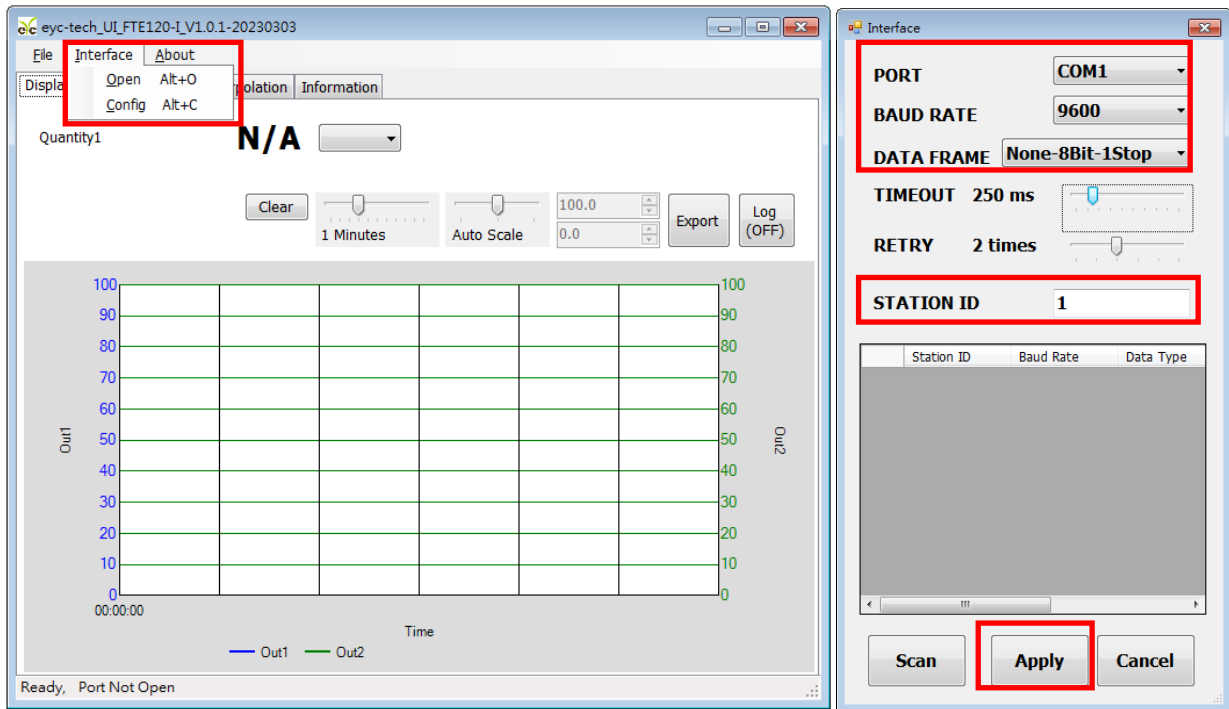
4. Scan RS-485 connection

Open the FTE120-I UI, go to function "Interface", click item "Config" and then setting COM port, pressed "Scan" bottom for scan devices and pressed "Close and Export" when the interested devices found.
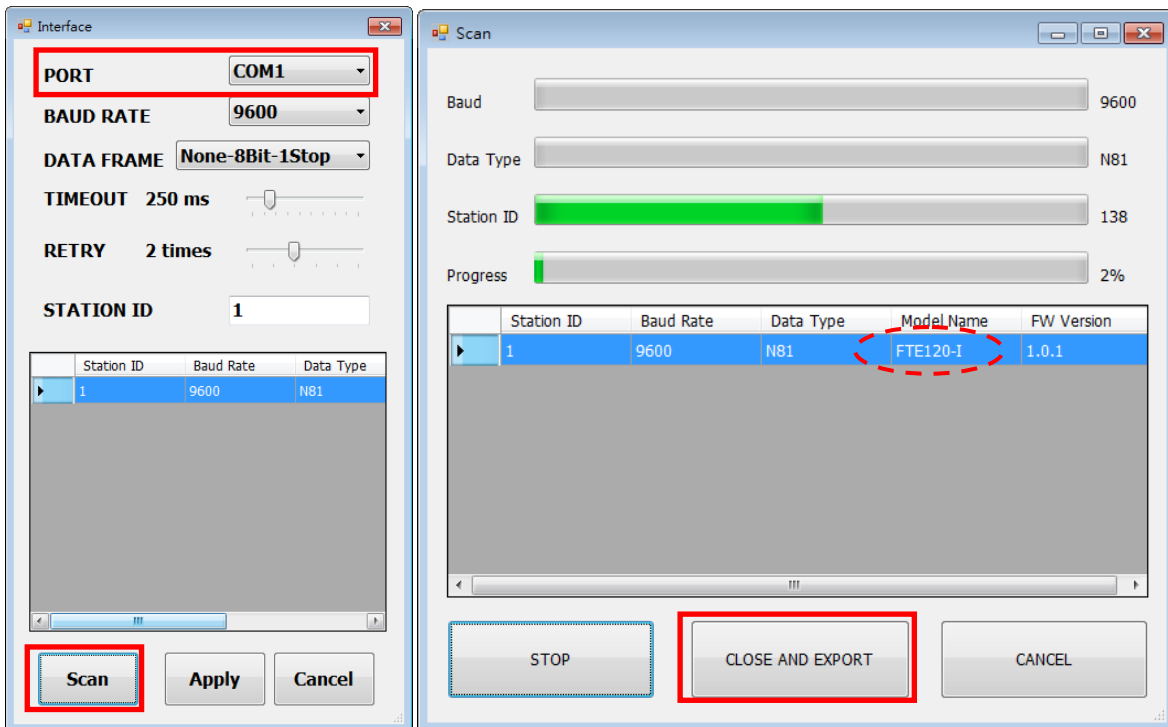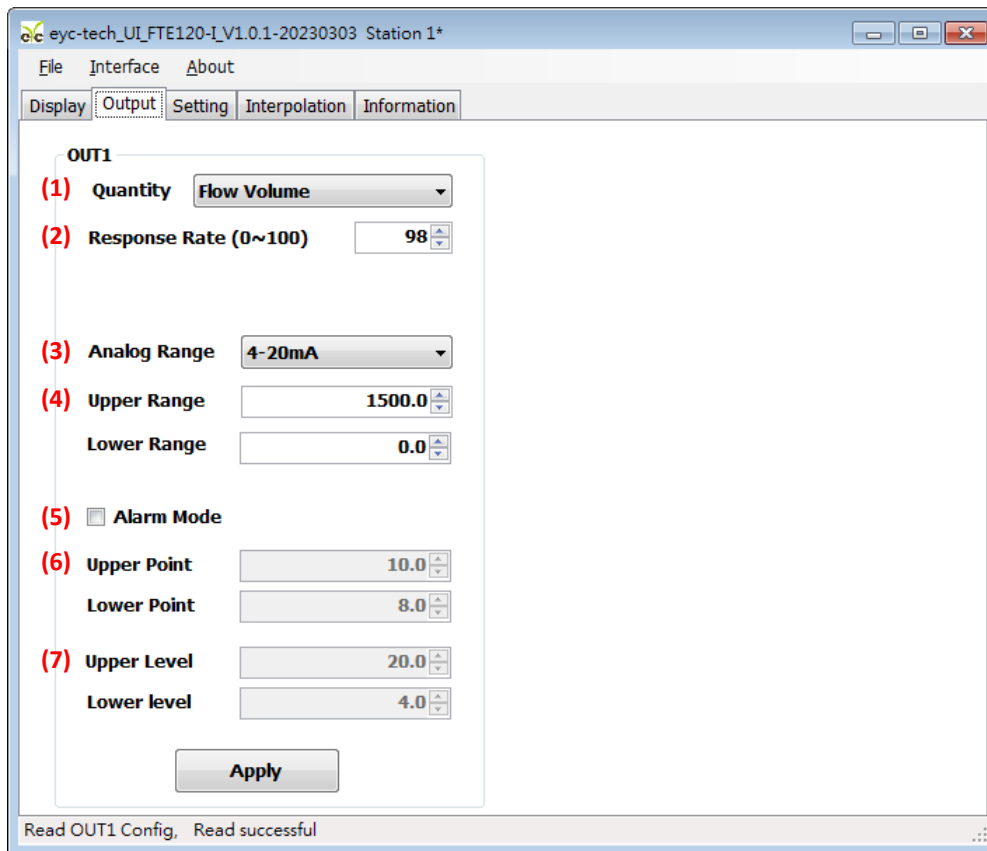

Pick up the device that you want to connect to and then press "Apply" to go.

5. Setting on Analog Output

In the group of OUT1, Output tab. The output1 related setting could be found.

(1)   Quantity：Flow Volume

(2)   Response rate：0 … 100，100：filter off，90：filter = 60 second，80：filter = 120 second, etc.

(3)   Analog type：0 … 20 mA / 4 … 20 mA (if output current) / 0 … 10 V (if output voltage)

(4)   Range for Upper and Lower

(5)   Alarm Mode: Check the box if analog output pretend a alarm switch output

(6)   Alarm Trigger Point: Upper and Lower

(7)   Alarm Output Level: Upper and Lower

6. Setting on Frequency Output (Optional, Only Available if Function Equipped)

In the group of OUT2, Output tab. The Frequency output related setting could be found.

(1) Quantity：Flow Velocity, Flow Volume and Sensor Temperature

(2) Response rate：0 … 100，100：filter off，90：filter = 60 second，80：filter = 120 second, etc.

(3) Frequency：Upper and Lower

(4) Measures：Upper and Lower

(5) Alarm Mode：The output would be switch between upper and lower correspond to measures

(6) Alarm Point：Upper and Lower

(7) Alarm Output：Upper and Lower
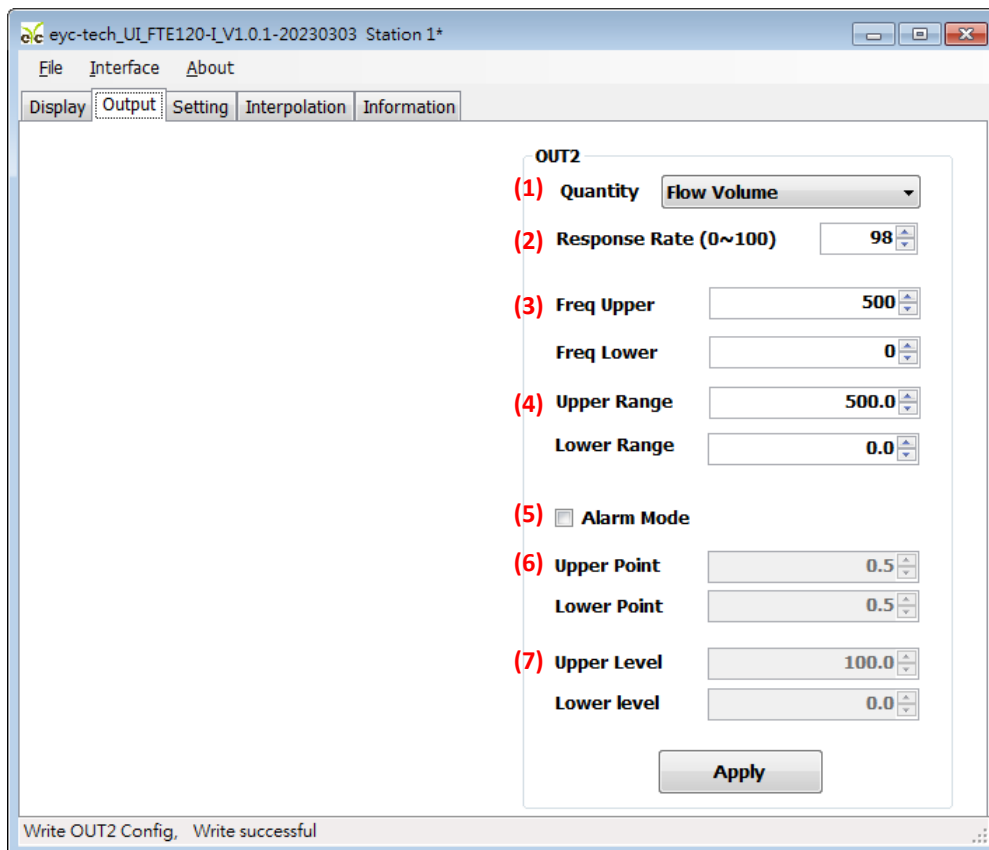
7. Setting on Impulse Output (Optional, Only Available if Function Equipped)

In the group of OUT2, Output tab. The Impulse output related setting could be found.

(1) Quantity：Flow Velocity, Flow Volume and Sensor Temperature

(2) Response rate：0 … 100，100：filter off，90：filter = 60 second，80：filter = 120 second, etc.

(3) Impulse Duration：High and Low

(4) Measures：Upper and Lower

(5) Impulse Value：The valence of single impulse quantity

(6) Impulse Unit：m^3, Liter, mL, mm^3, ft^3, $inch^3$, gal,us (Gallon, us), gal,uk (Gallon, uk)
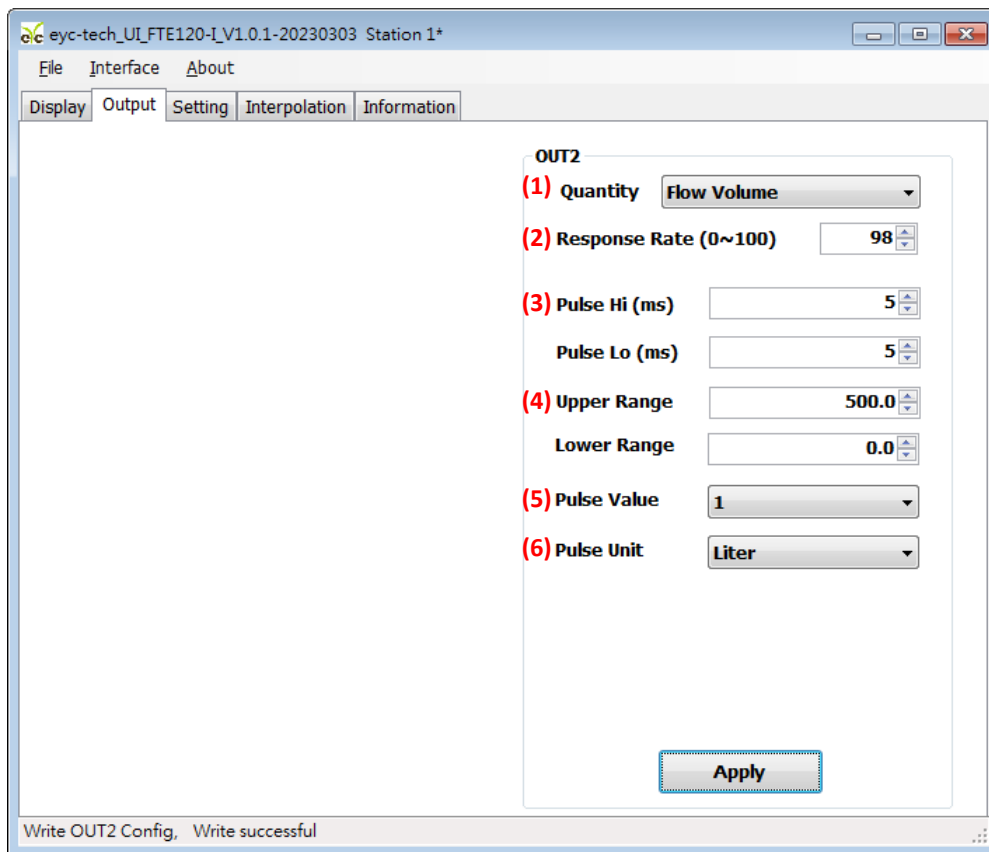
8. Setting on RS-485, Process Parameters and offset adjustment

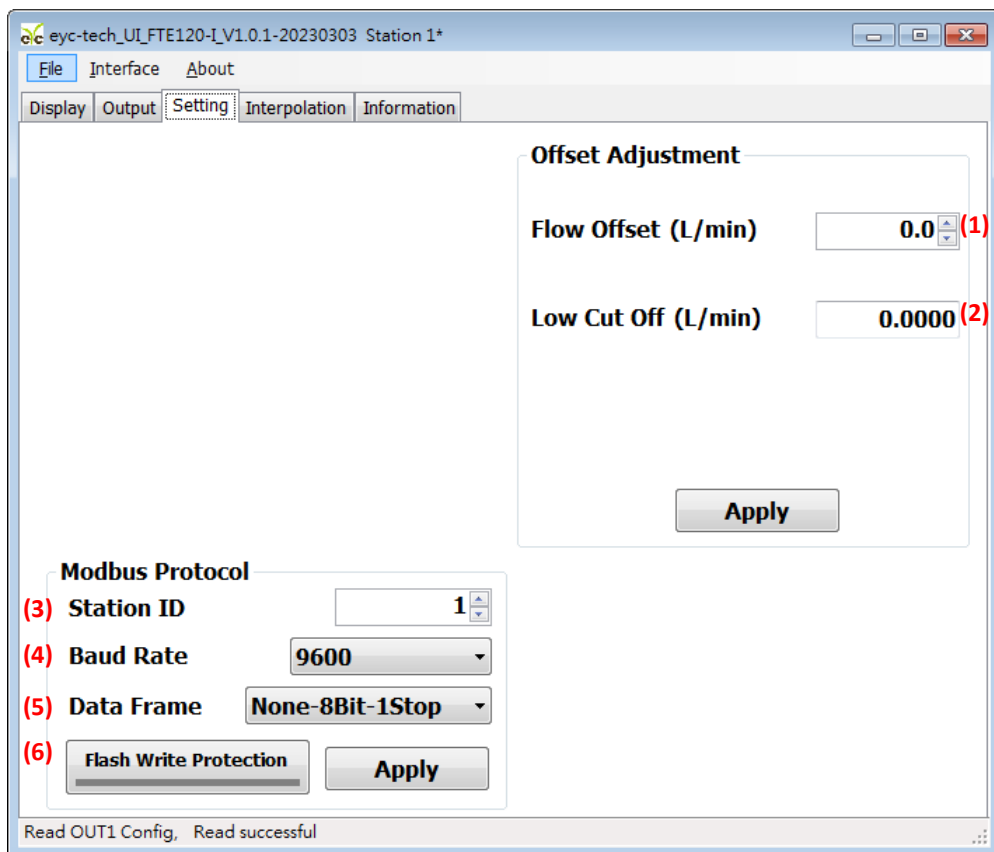※ Offset Adjustment：

(1) Volume offset

(2) Volume cut off
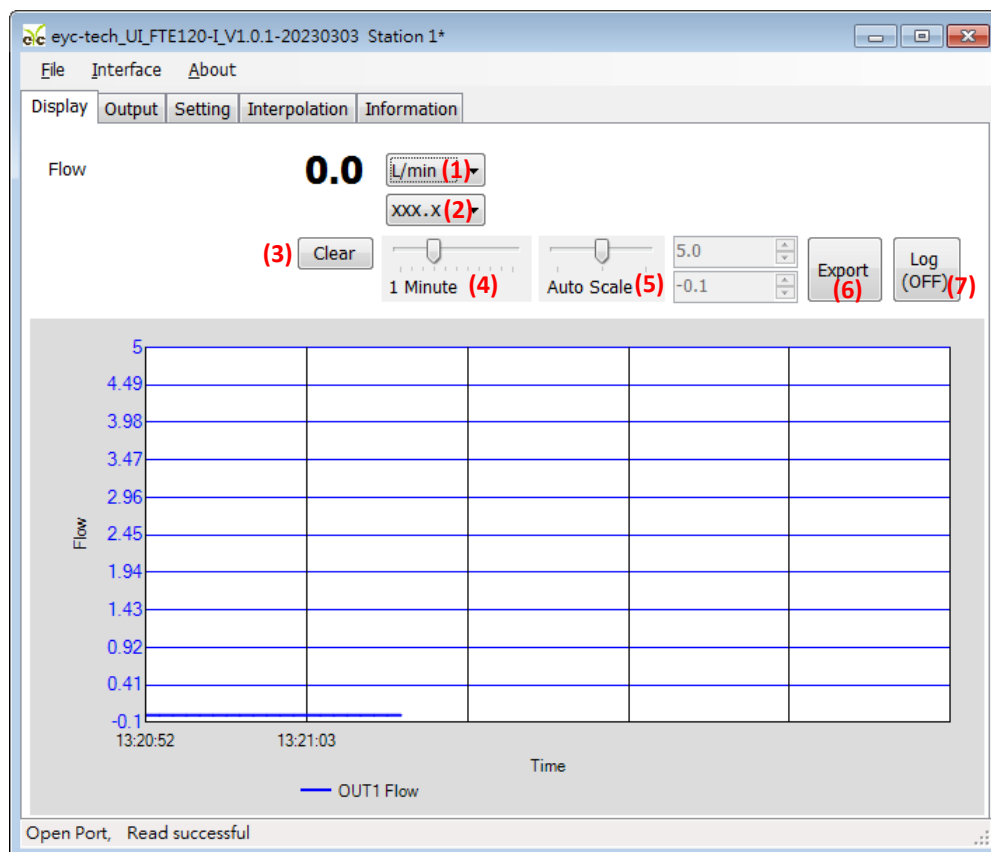
※ Modbus Protocol：

(3) station ID

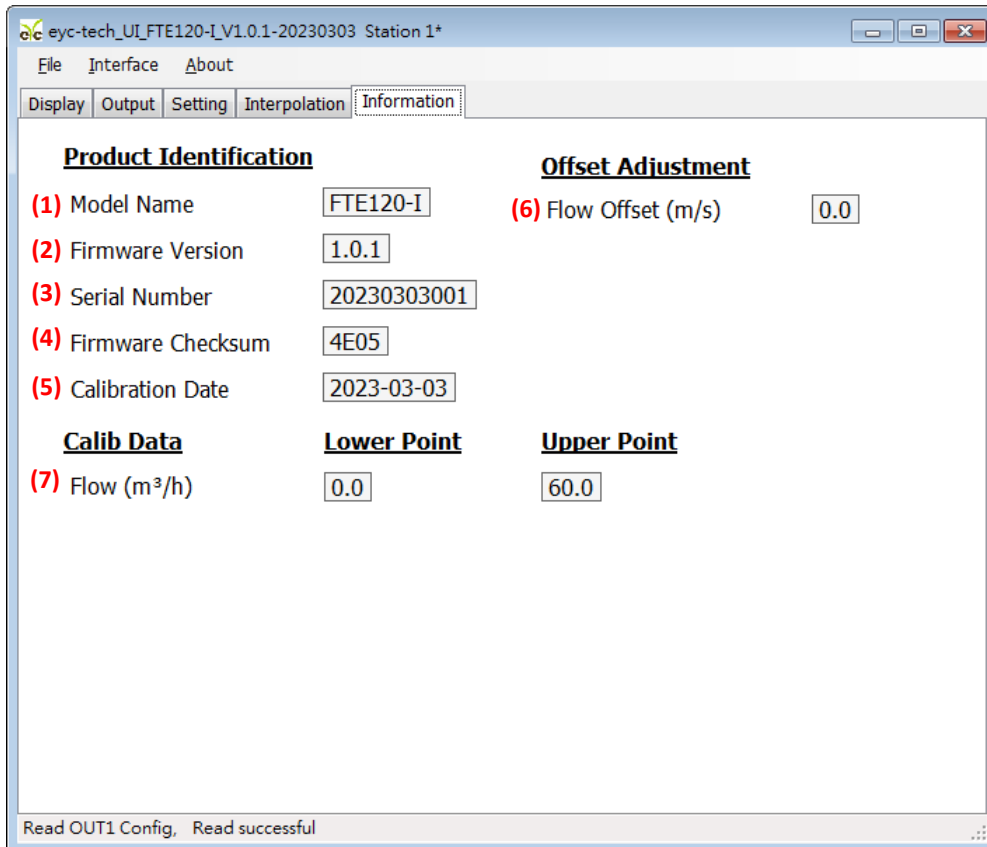(4) Baud Rate

(5) Date Frame

(6) Flash memory write protect

9. Data display and logging

 (1) Assign Volume Unit：m³/h, L/min, m³/min

 (2) Display Decimals

 (3) Clear Measure Plot Chart

 (4) Time scale of plot

 (5) Vertical scale of plot

 (6) Export all logging data since device is connected

 (7) Start/Stop data logging

10. Device Information

    (1)   Model Name of Device

    (2)   Firmware Version of Device

    (3)   Serial Number of Device

    (4)   Firmware Checksum

    (5)   Calibration Date

    (6)   Flow Offset

    (7)   Flow Calibration Range

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：

   (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 ●Error 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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