



# Operation Manual

## eyc-tech DPM11

### Signal Display Monitor



eyc-tech DPM11



## Contents

1. Security considerations .....	2
2. Dimension .....	3
3. Connection.....	3
4. Installation.....	4
5. Configuration Software.....	4
5.1 Application Program Introduction .....	4
5.2 Establish RS-485 connection .....	4
5.3 Scan RS-485 connection.....	7
5.4 Setting RS-485 ModBus Protocol .....	11
5.5 Measurement Programming.....	13
5.6 Linearity Computation .....	17
5.7 Export and Import Configuration.....	18
5.8 Device Information.....	19
5.9 Display and Data Log.....	20
6. Menu Operation .....	24
6.1 Menu Flowchart .....	25
6.2 Abbreviation.....	27
7. Inspection and maintenance.....	28

## 1. 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.

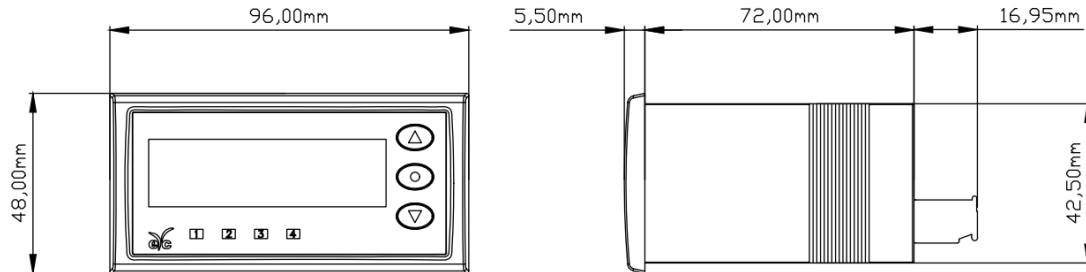
eyc-tech will not bear any responsibility for the results produced by the operators !

### Warning!

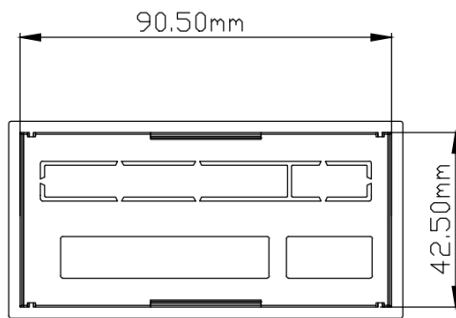
- Installation and wiring must be performed by qualified personnel in accordance with all applicable safety standards.
- This product must be operated under the operating conditions specified in manual to prevent equipment damages.
- Please using the product under the ordinary pressure, or it will influence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

## 2. Dimension

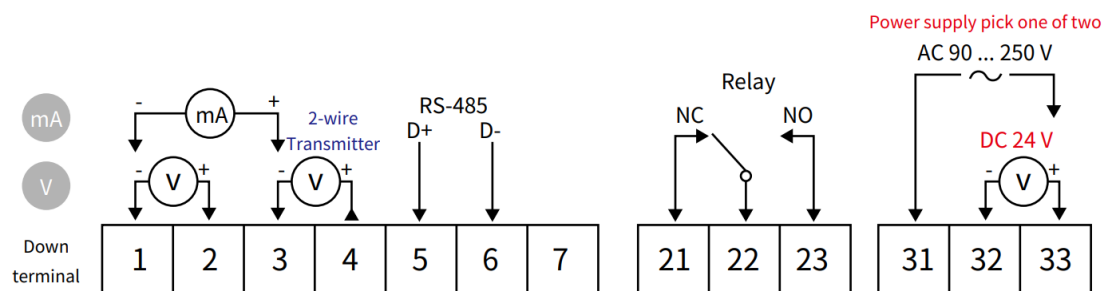
### Dimension



### Installation Dimension

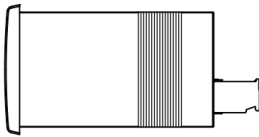


## 3. Connection

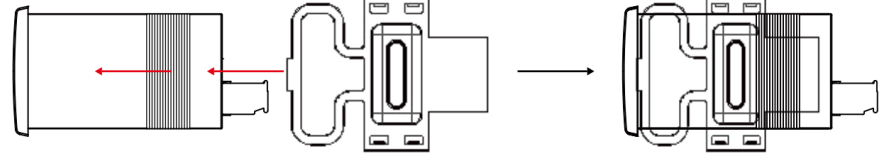


## 4. Installation

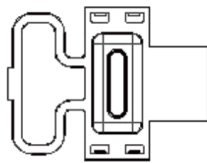
### ■ Side



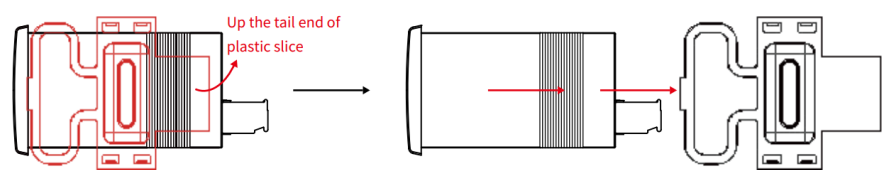
### ■ Fixed way : Push the plastic fixed slide in horizontally



### ■ Plastic fixed slice



### ■ Remove way : Up the tail end of plastic slice, then pull it out



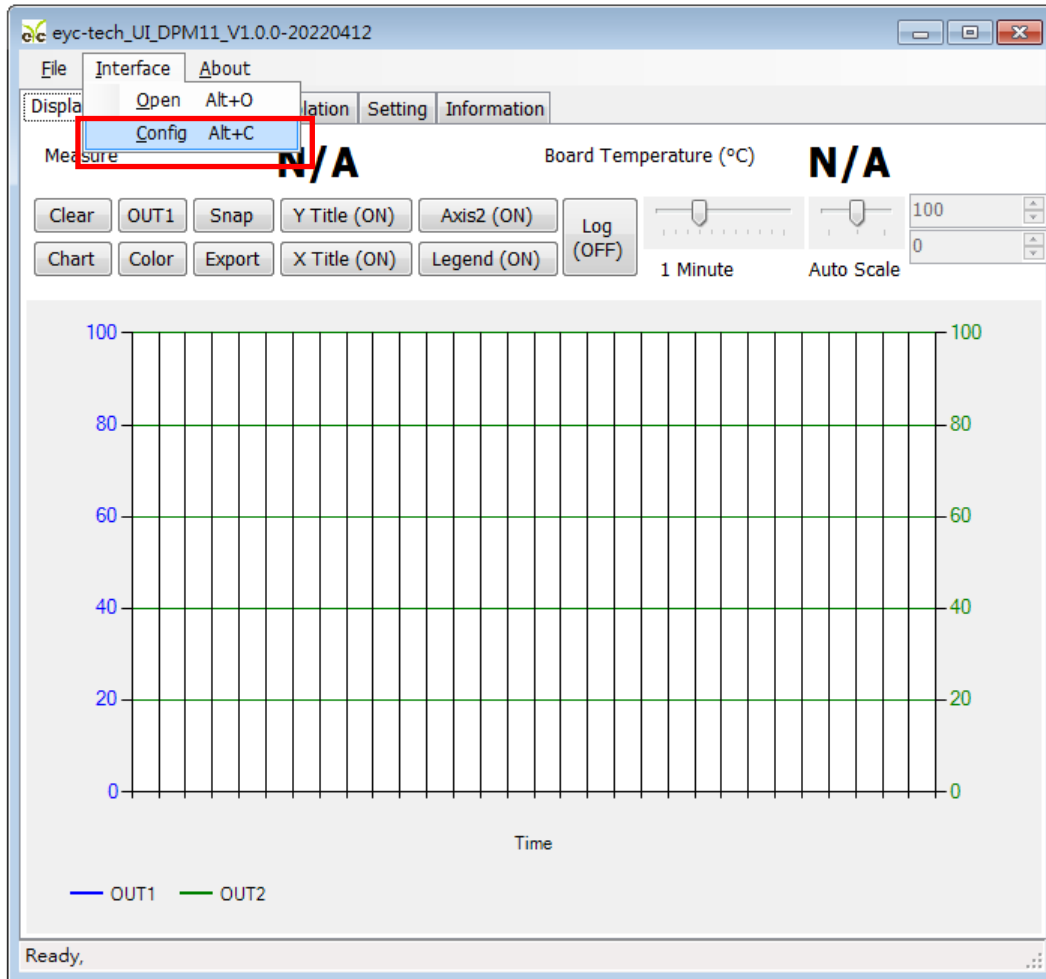
## 5. Configuration Software

### 5.1 Application Program Introduction

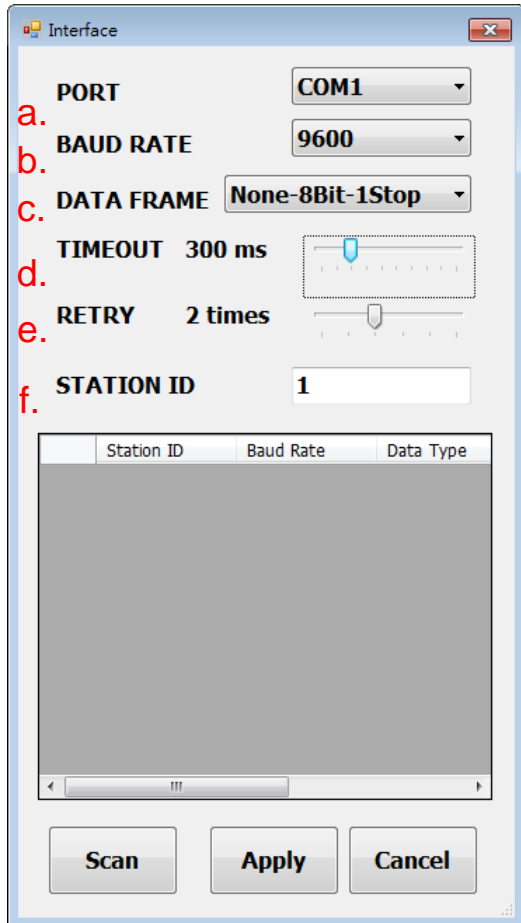
User may download the configuration software on eyc-tech web site. Please decompress the application prior to execute it. Operating System requirements: above Windows XP. Other application program requirements: above Microsoft Office 2003. Hardware requirements: USB to RS-485 converter.

### 5.2 Establish RS-485 connection

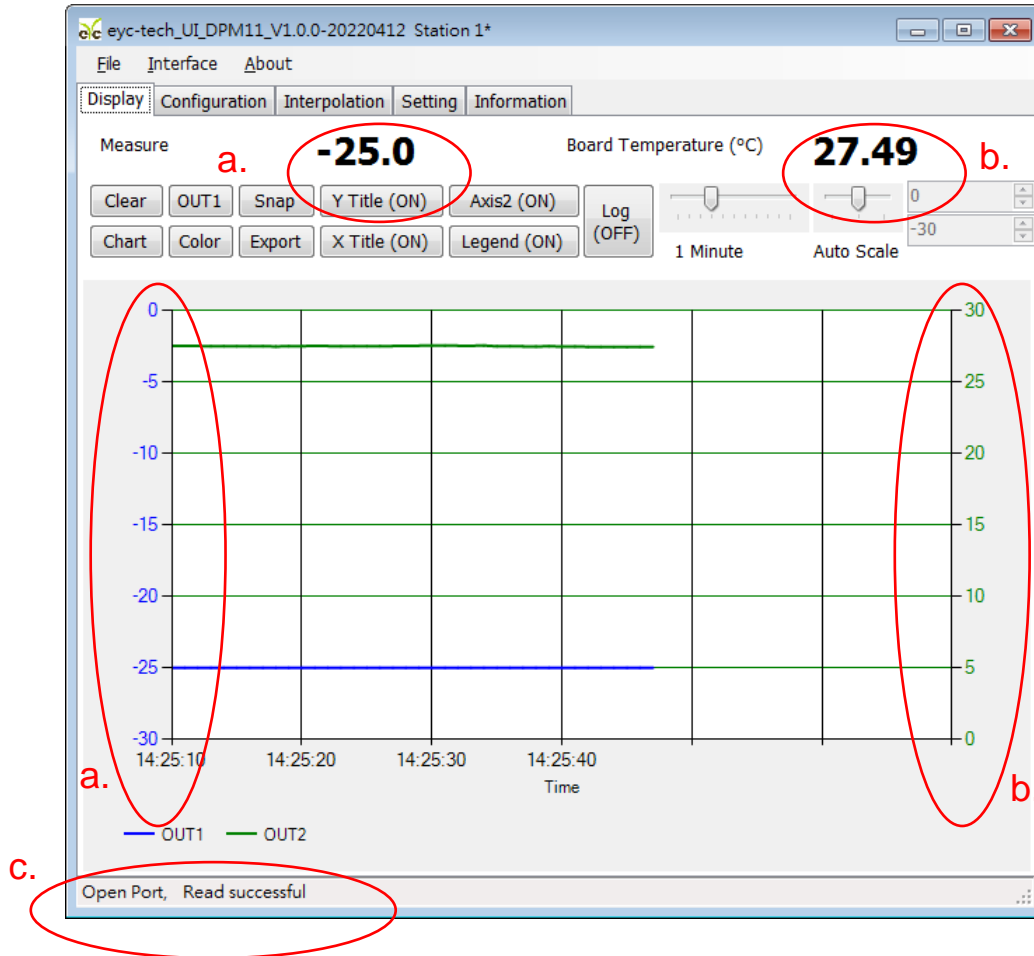
1. Connect product to PC via RS-485 converter
2. Execute configuration software
3. Click "Interface > Config"



4. Select the corresponding values of com port as following :
  - a. Port: Please confirm the connection com port first
  - b. Baud Rate (DPM11 default 9600)
  - c. Data Frame (device default None Parity Check, 8 data bits, 1 stop bit)
  - d. Response Timeout (default 300ms)
  - e. Retry, trial cycles if communication error (default 2 times)
  - f. Station ID (default 1)



5. Click "Apply"
6. Connect successfully
  - a. Show value and trend chart of the measurement
  - b. Show value and trend chart of device mcu temperature
  - c. Show "Open Port, Read successful"

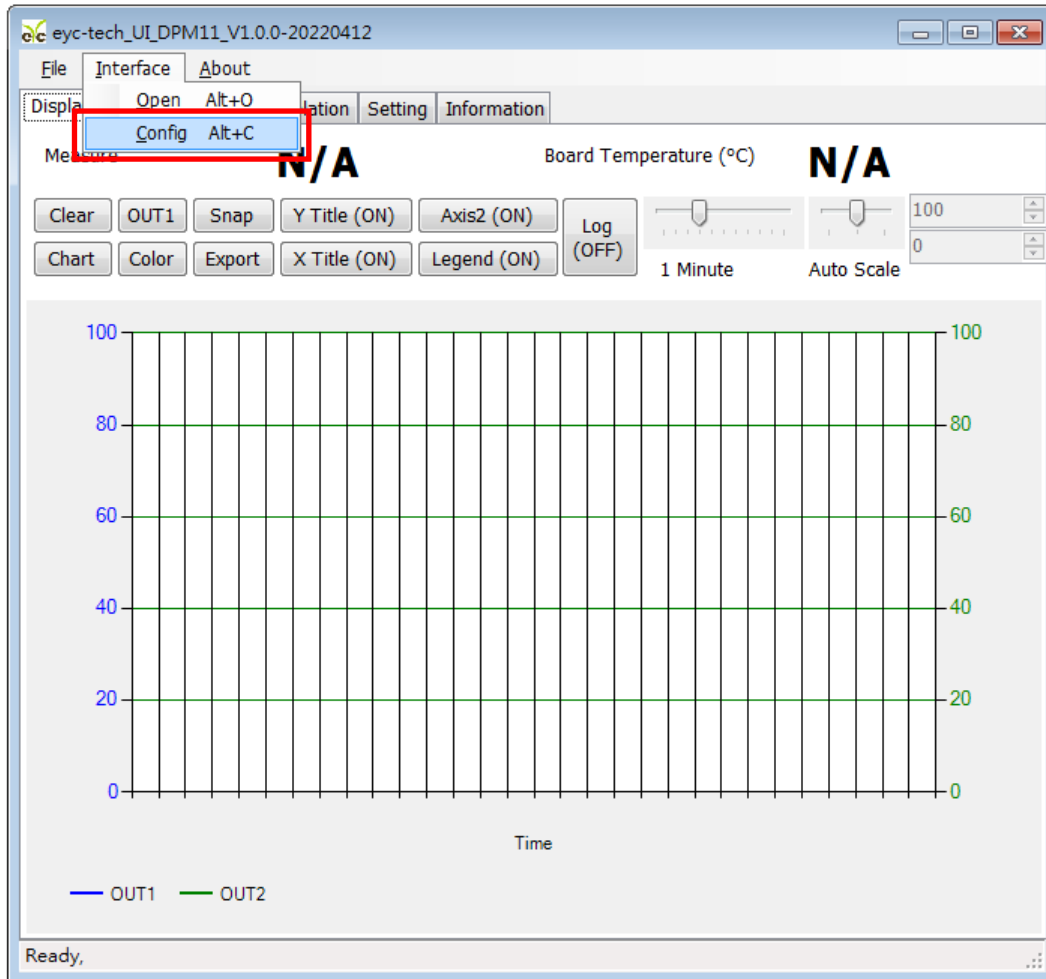


### 5.3 Scan RS-485 connection

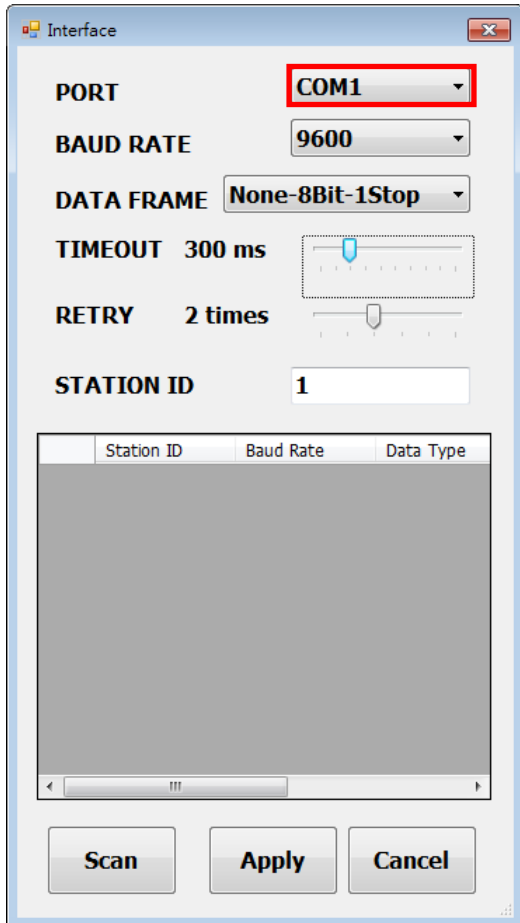
※Use scan function to connect when forgetting the connection information or having more facilities.

1. Connect the product to PC via RS-485 converter
2. Execute configuration software
3. Click "Interface > Config"

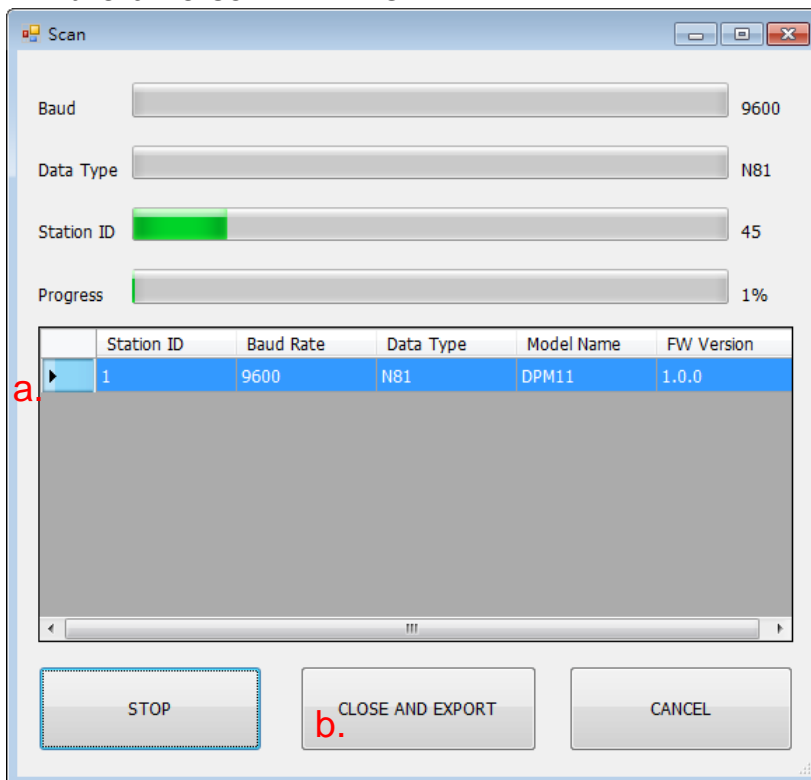




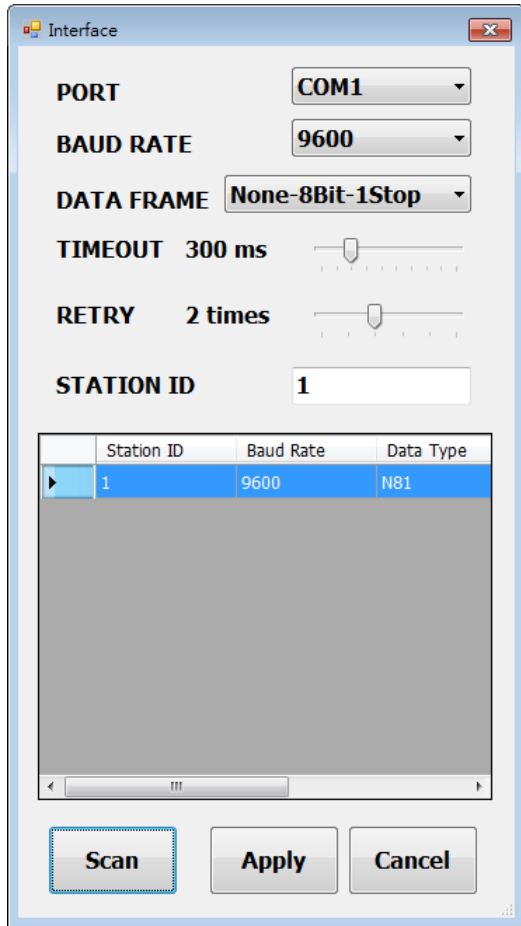
4. Select the corresponding values of com port as following:



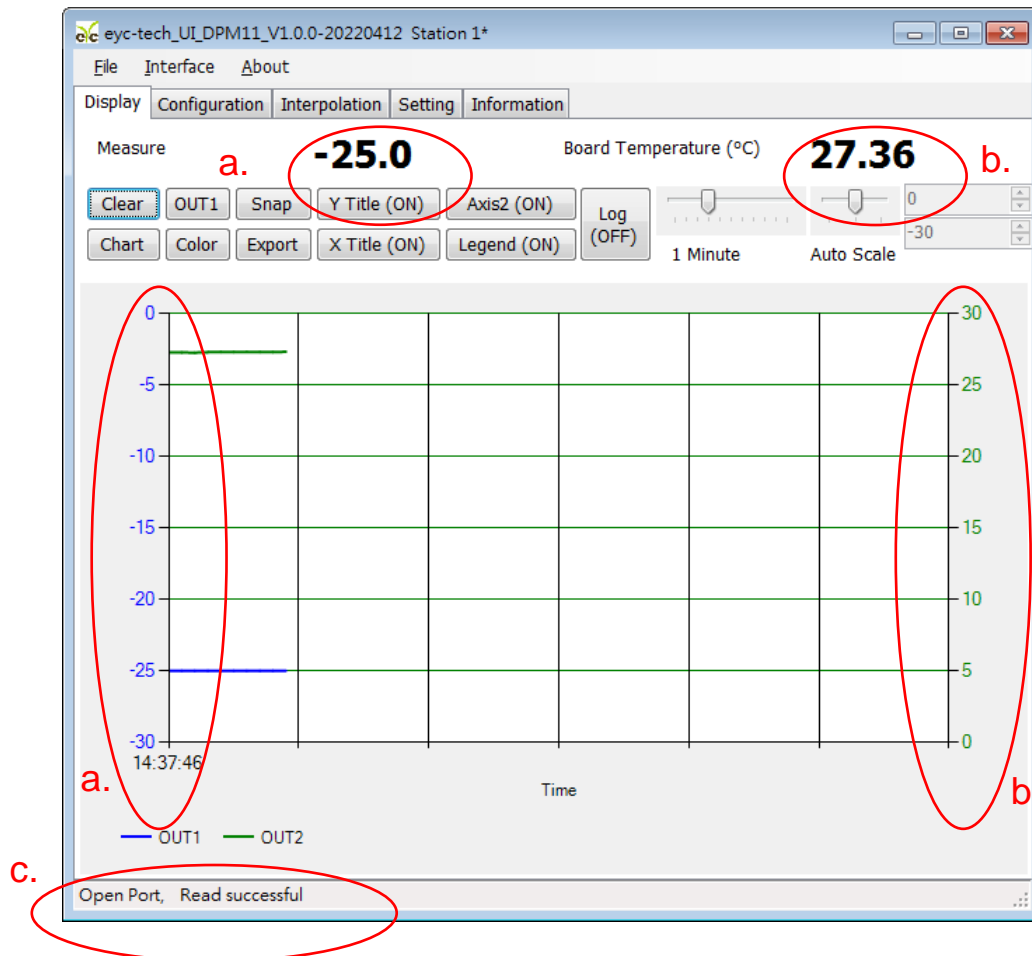
5. Click "Scan" to execute connection facilities
6. Scan connection facilities and set up
  - a. Select Station ID
  - b. Click "CLOSE AND EXPORT"



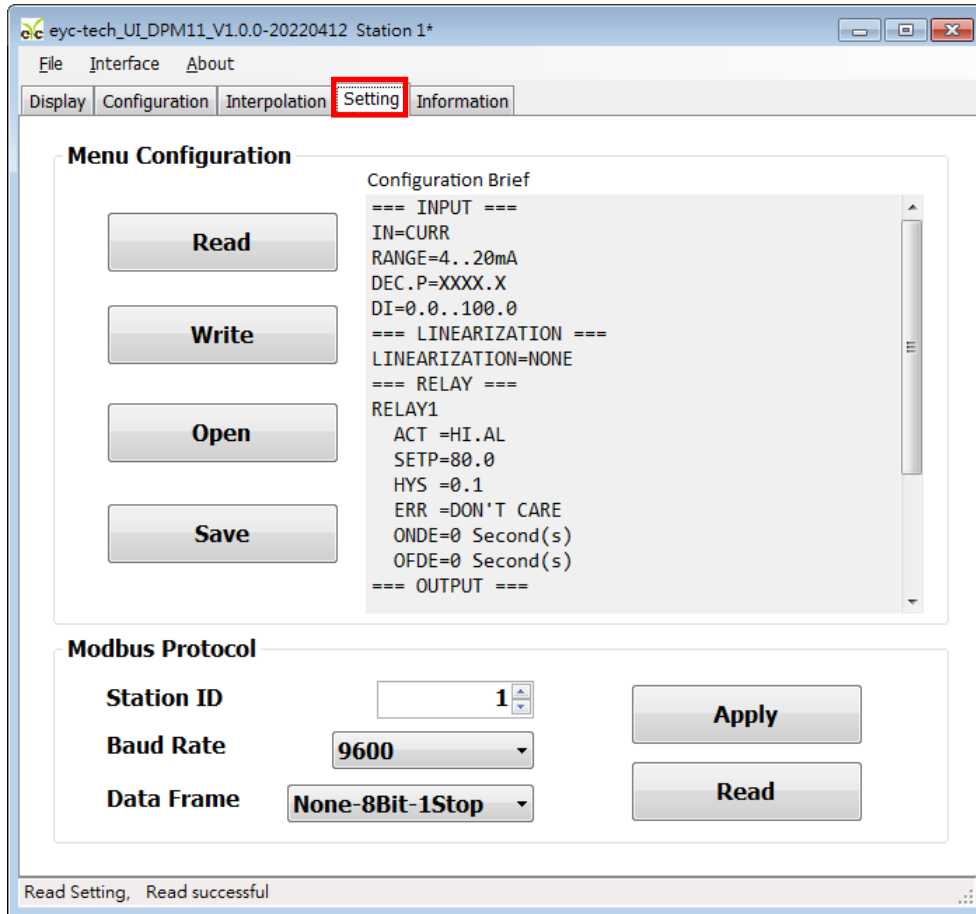
7. Click "Apply"



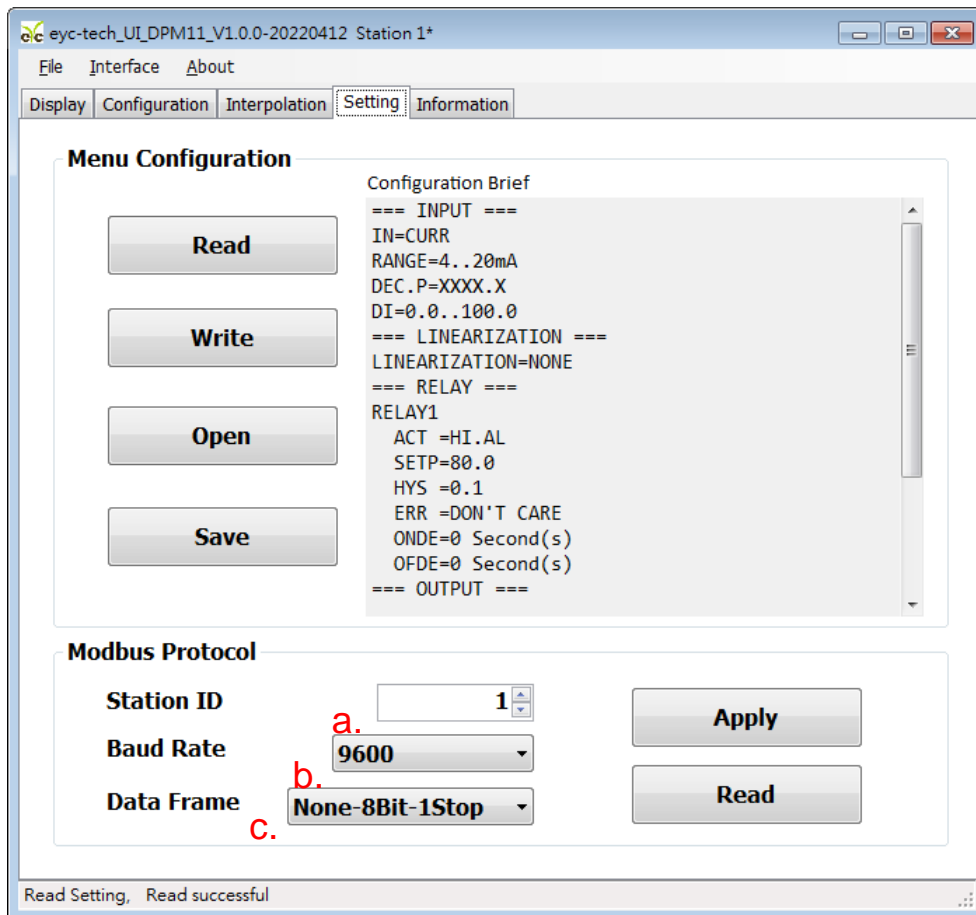
8. Connect successfully
  - a. Show value and trend chart of the measurement
  - b. Show value and trend chart of device mcu temperature
  - c. Show "Open Port, Read successful"



- 5.4 Setting RS-485 ModBus Protocol
1. Setting RS-485 connection as step 5.1
  2. Click "Setting" tab



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

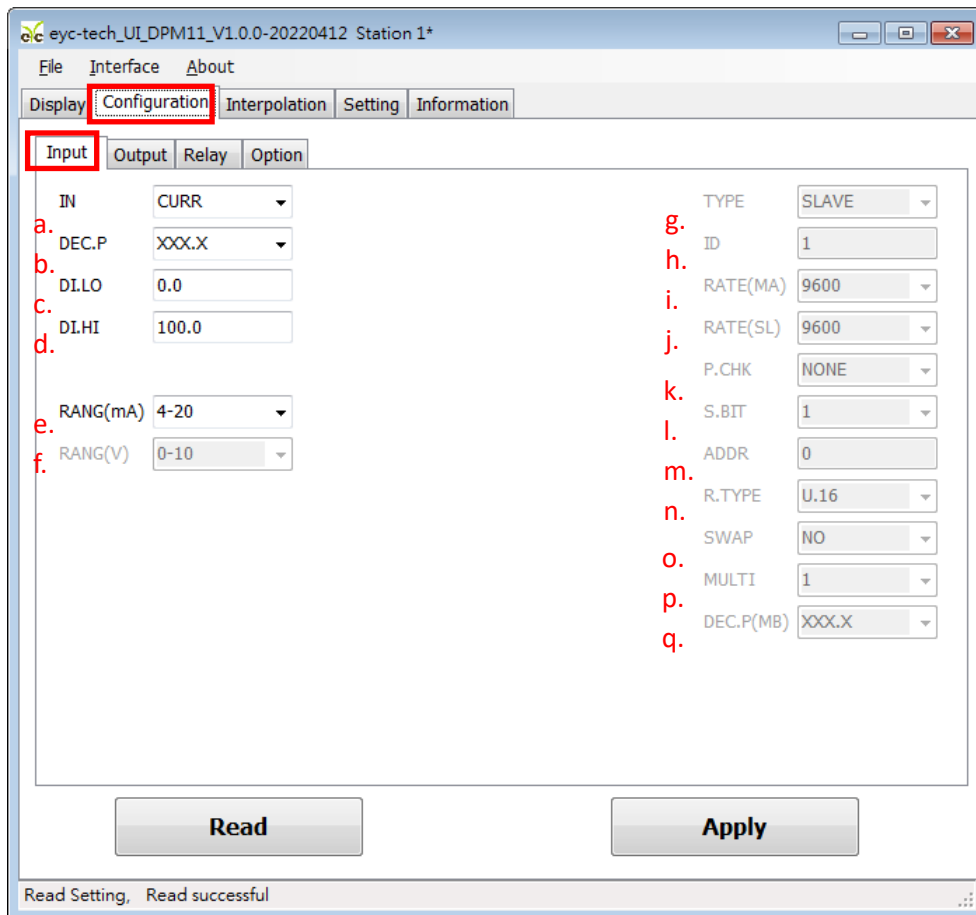


4. Click "Apply"
5. Execute connection as step 5.2 or 5.3 again

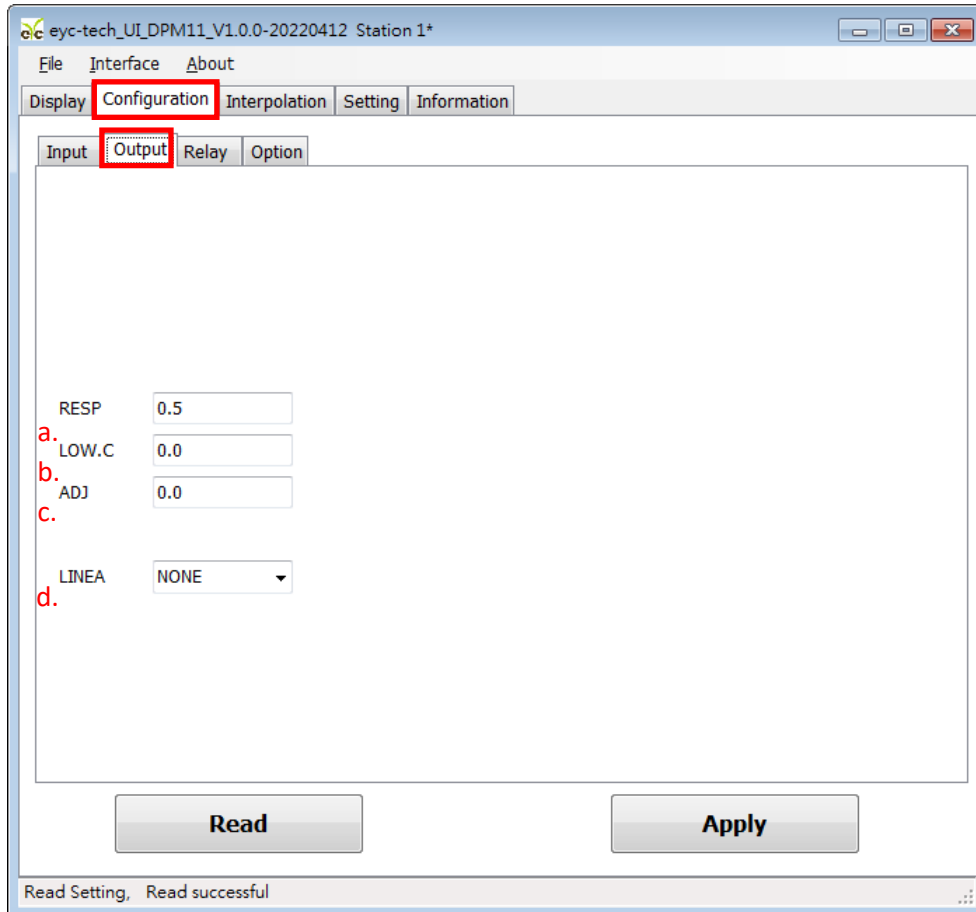
### 5.5 Measurement Programming

Click the "Configuration" tab, the configuration divide by 4 sub groups as following.

1. Input function, this function could be found in "Input" tab
  - a. Input type, current, voltage or 485
  - b. Number of decimal places, up to 3
  - c. Low point of display range
  - d. High point of display rang
  - e. Analog input range (valid when the input selects current)
  - f. Analog input range (valid when the input selects voltage)  
The following input is valid when 485 is selected
  - g. Modbus protocol type, master or slaver
  - h. station ID
  - i. Baud rate (valid when the input selects the master node)
  - j. Baud rate (valid when the input selects the slaver node)
  - k. Parity check
  - l. Stop bit
  - m. Register address
  - n. Register data type
  - o. Data high and low exchange
  - p. Numerical magnification
  - q. Number of decimal places

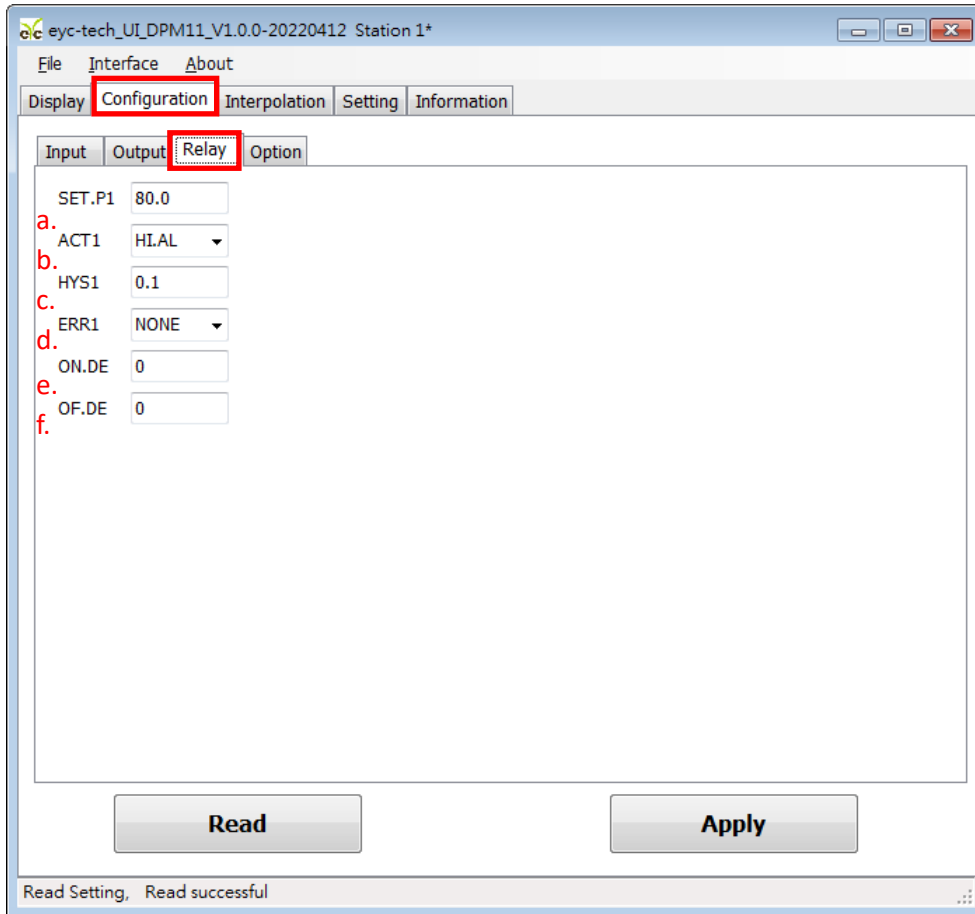


2. Output function, this function could be found in "Output" tab
  - a. response time, e.g. set 0.5 if take 0.5 seconds for rise time T90
  - b. output cut-off, disable if set 0
  - c. output adjustment, the actual output is the analog input plus the adjustment value
  - d. linear correction, NONE if disable, SQRT if root extraction, INTER if linear interpolation

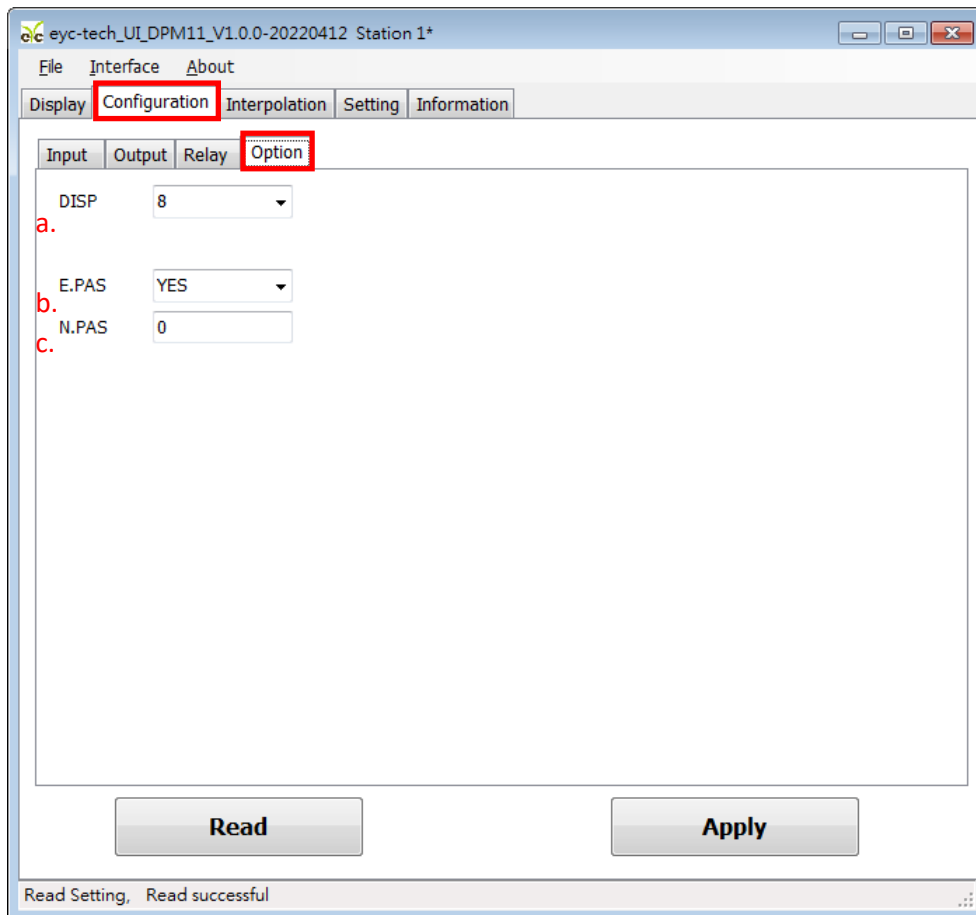


3. Relay function, this function could be found in "Relay" tab
  - a. set point
  - b. action mode, HI.AL if upscale active, LO.AL if downscale active
  - c. hysteresis
  - d. alarm, NONE if disable, HOLD if memory and hold the first alarm until reboot, ACTI if active when alarm assert, DEAC if inactive when alarm assert
  - e. relay on delay time (seconds)
  - f. relay off delay time (seconds)





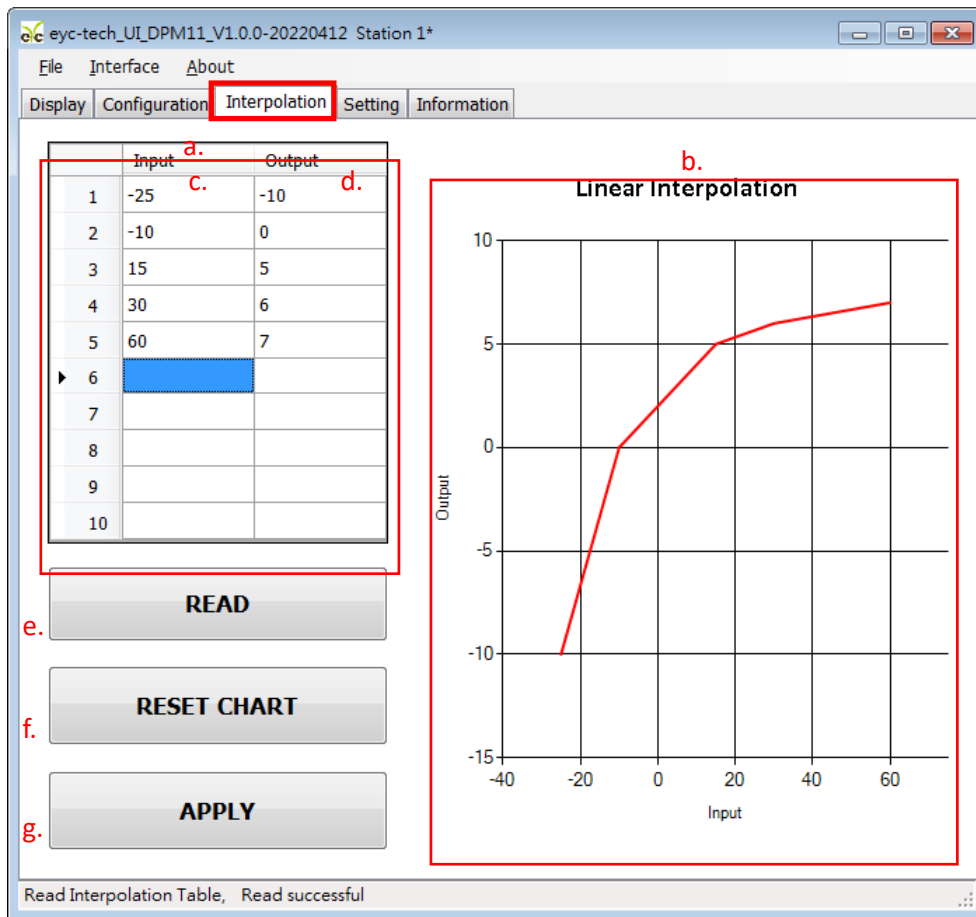
4. The other items could be found in "Option" tab
- LED brightness, 1 darkest, 10 brightest
  - password validation, NO if disable, YES is enable
  - new password



## 5.6 Linearity Computation

Click the Interpolation tab to specify the linear interpolation points

- a. interpolation table
- b. interpolation curve
- c. Interpolate input column, device measured value (raw value)
- d. Interpolate output column, device output value (standard value or correction value)
- e. Read the interpolation table of the device
- f. Clear the interpolation table on configuration software. Note: this action will not modify the interpolation table of the device
- g. apply, the interpolation would be written in device



Read Interpolation Table, Read successful

	Input	Output
1	-25	-10
2	-10	0
3	15	5
4	30	6
5	60	7
6		
7		
8		
9		
10		

**Linear Interpolation**

Graph showing Output vs Input. The curve starts at (-25, -10) and ends at (60, 7).

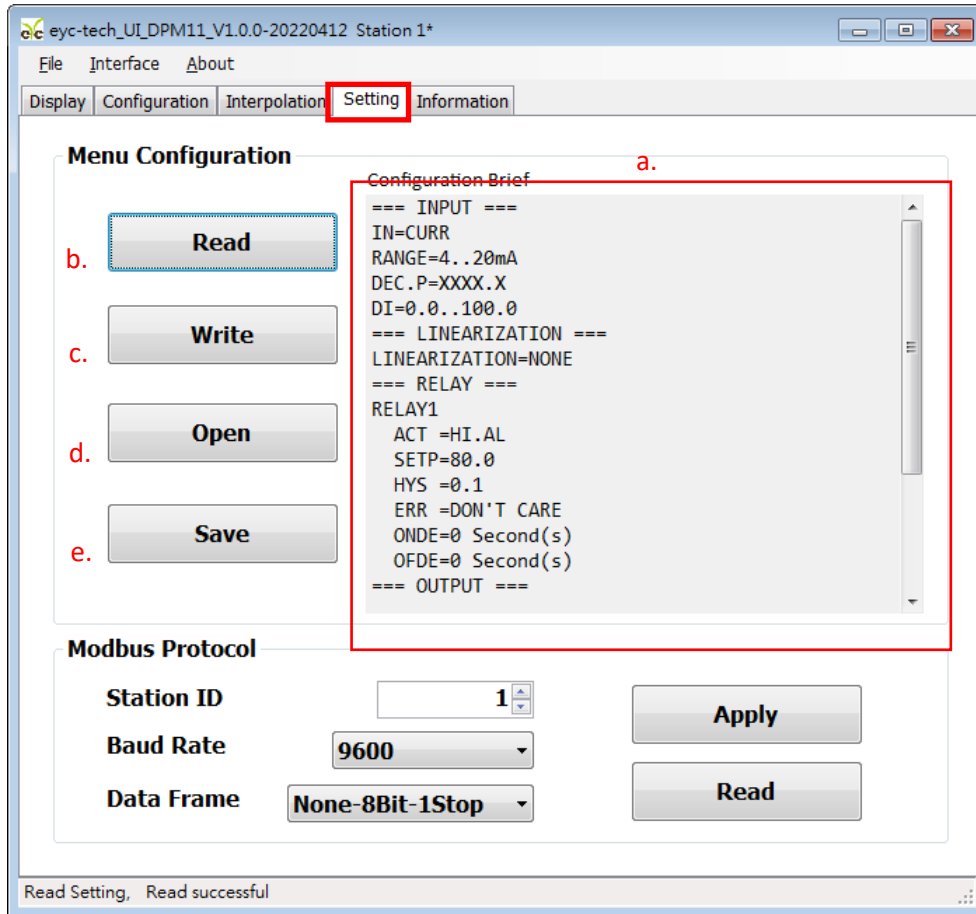
### 5.7 Export and Import Configuration

Click the Setting tab to export and import device configuration

- summary text of device configuration
- read device configuration
- write device configuration
- load device configuration
- save device configuration

export procedure: device connection → step b → step e

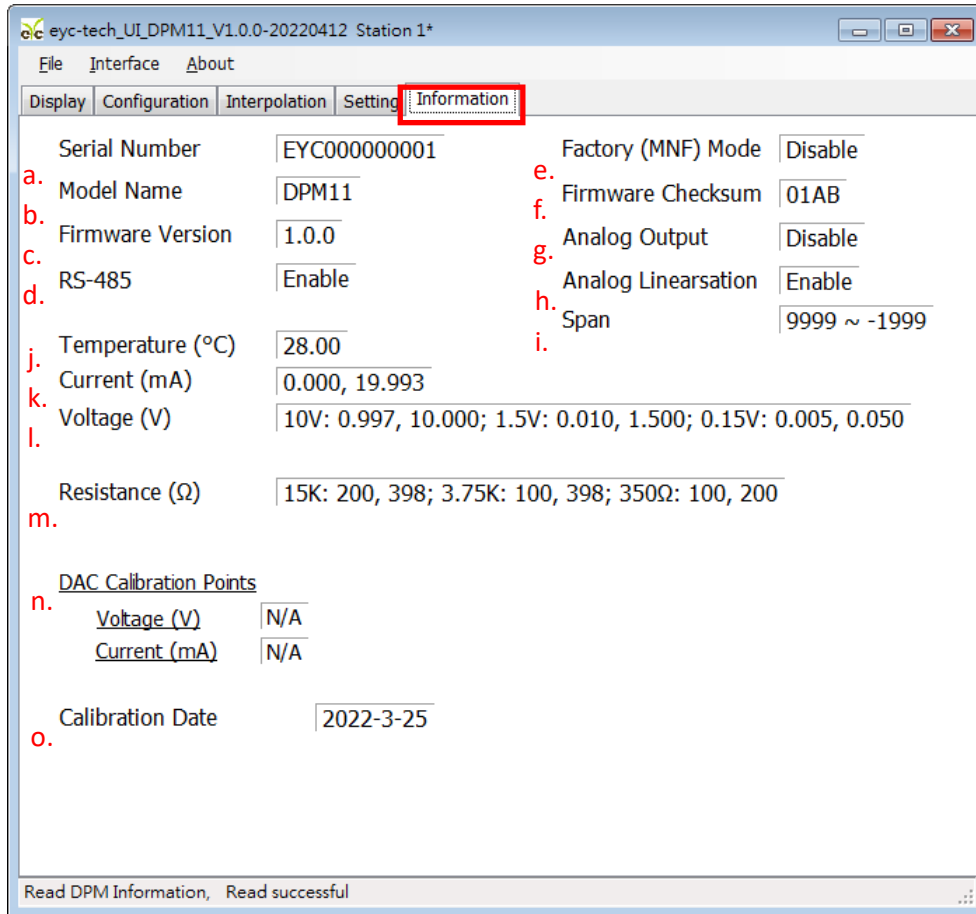
import procedure: device connection → step d → step c



## 5.8 Device Information

Click the Information tab to get device information

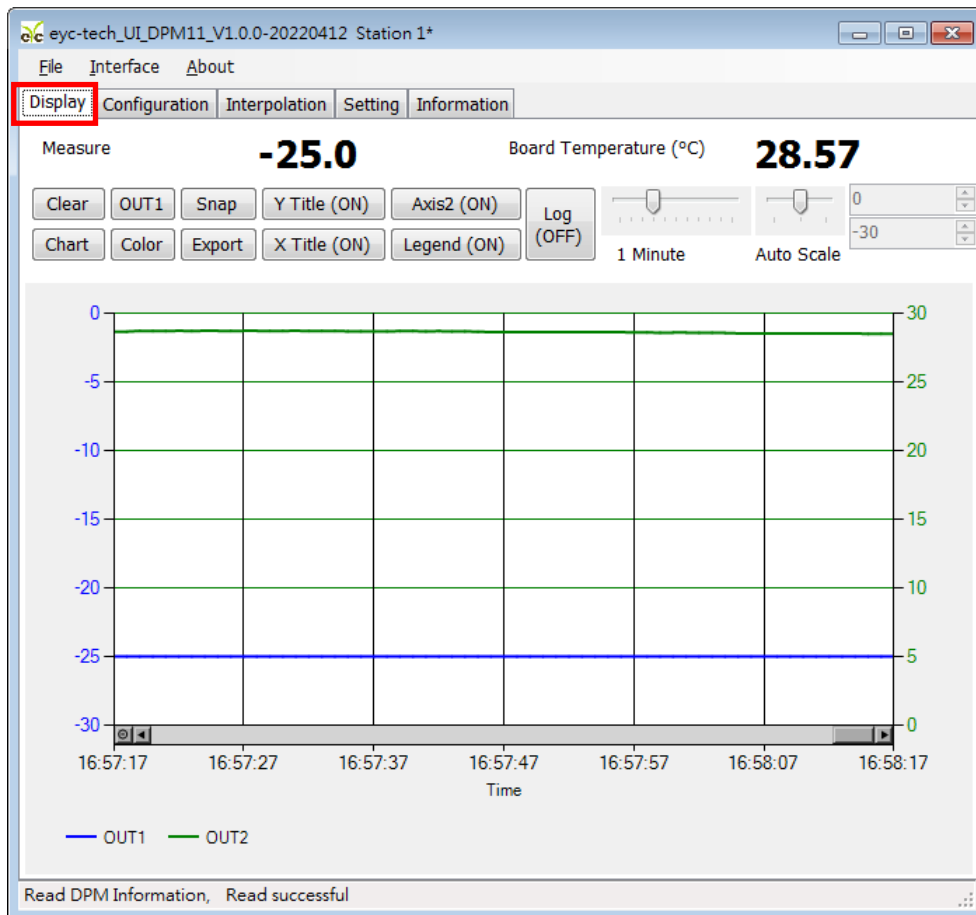
- a. device serial number
- b. device model name
- c. firmware version
- d. RS-485 enabled state
- e. factory mode enabled state
- f. firmware checksum
- g. analog output enabled state
- h. linear correction function enabled state
- i. programmable range (integer part)  
input calibration information
- j. MCU temperature calibration point
- k. analog current input calibration points
- l. analog voltage input calibration points (partially applicable)
- m. analog resistance input calibration points (not applicable for DPM11)  
Output calibration information
- n. Analog output calibration points (not applicable for DPM11)
- o. Calibration date









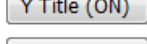
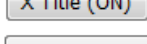
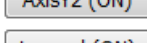
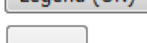


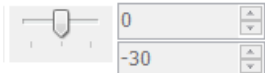
### 5.9 Display and Data Log

Click the Display tab to display the measurement data and start data log function

1. data display: click the “Display” tab

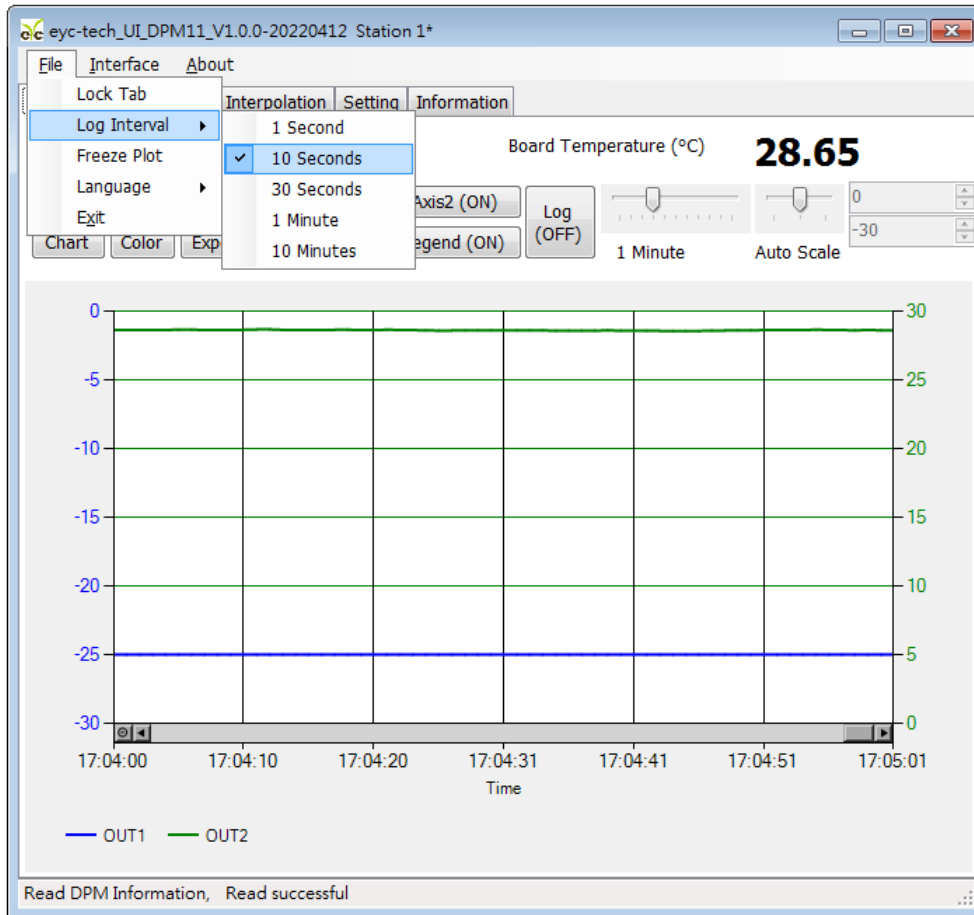


## 2. button description

-  clear the plot chart
-  toggle chart plotting line style
-  select the OUTPUT channel you want to set
-  set the line color of the selected OUTPUT channel
-  snap the currently chart plot
-  export data log since device is connected
-  axis Y main coordinate, ON or OFF
-  axis X coordinate, ON or OFF
-  axis Y secondary coordinate, ON or OFF
-  legend, ON or OFF
-  measurement data logging, ON or OFF
-  axis X time scale
-  axis Y amplitude scale

## 3. Set the logging time interval

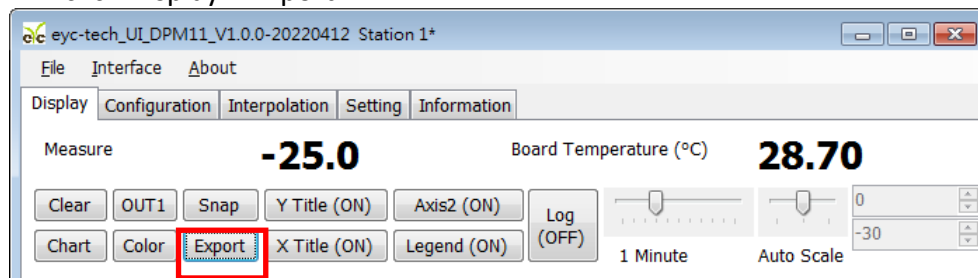
- a. Click File > Log Interval
- b. select the logging interval



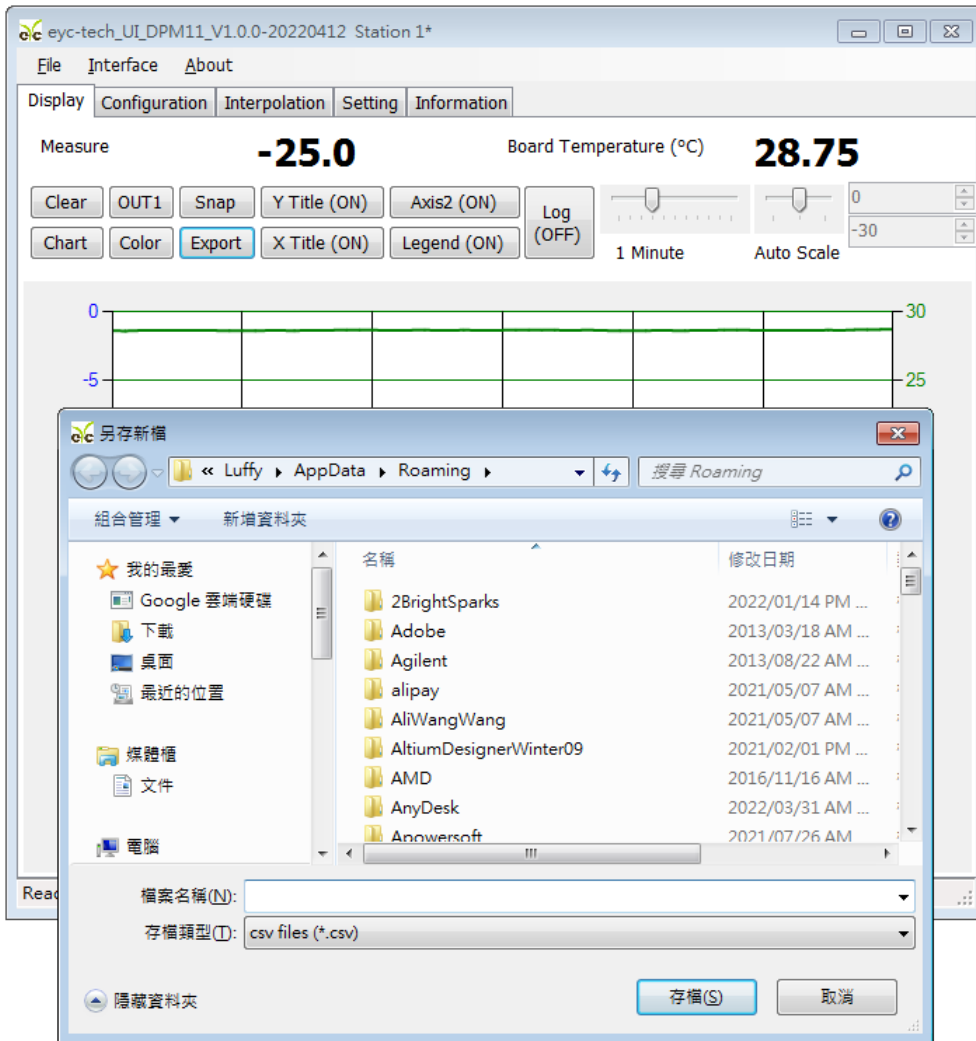
4. Store/log measurement data

1. store measurement data: save the logging data since device is connected

1-1. click Display > Export



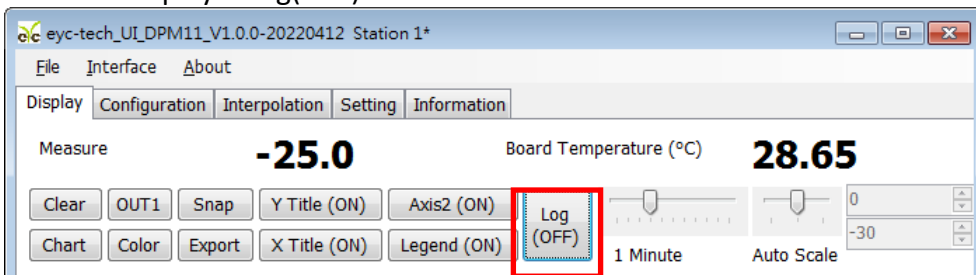
1-2. specify the path and filename > Save



Note: If the specified path and file name are the same, the original file data will be over written

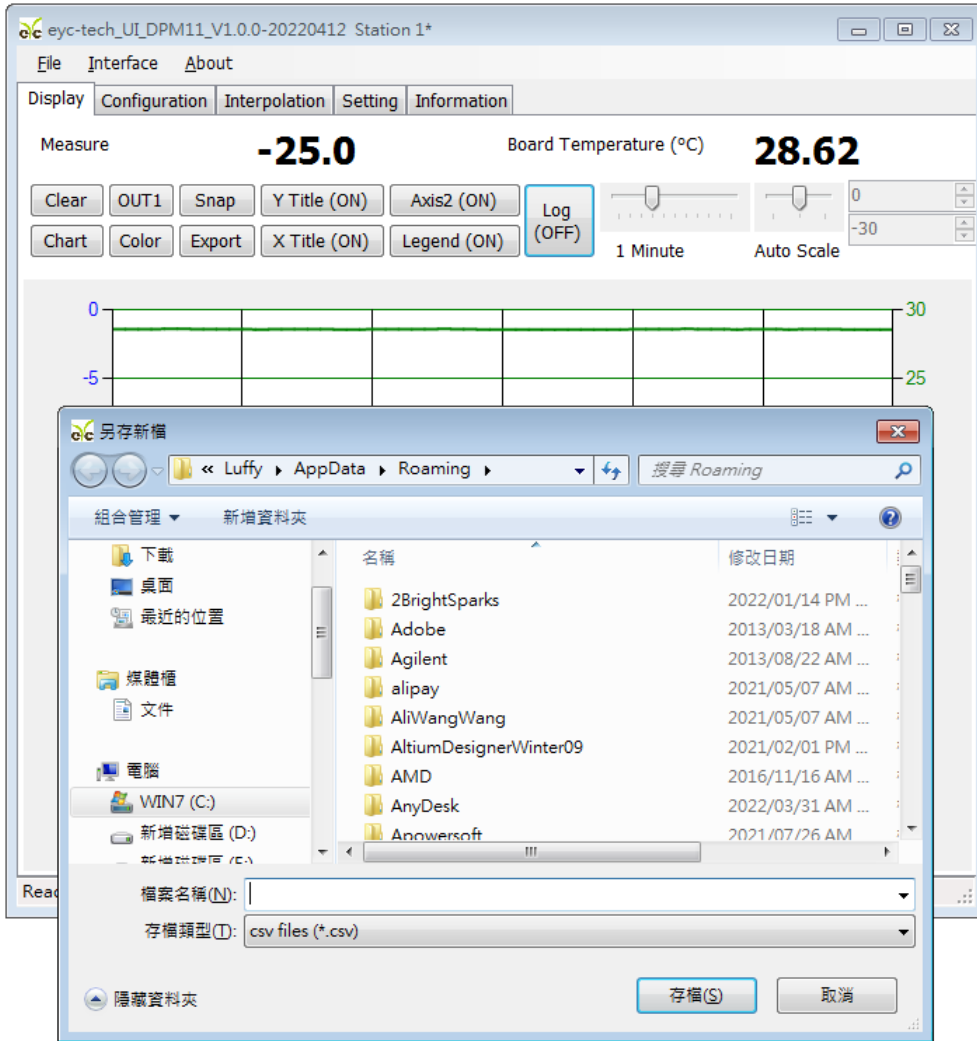
2. log measurement data: start data logginge

2-1. click Display > Log(OFF)



2-2. specify the path and filename > save

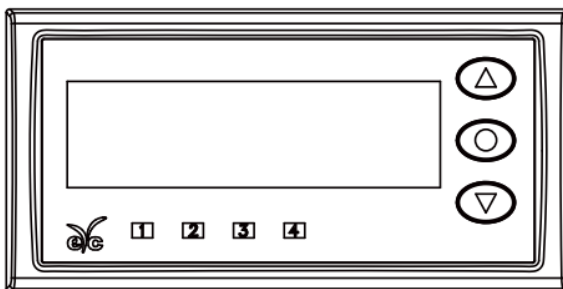




Note: If the specified path and file name are the same, the original file data will be over written

## 6. Menu Operation

Button name and location



UP button

OK button

DOWN button

DPM status and button function

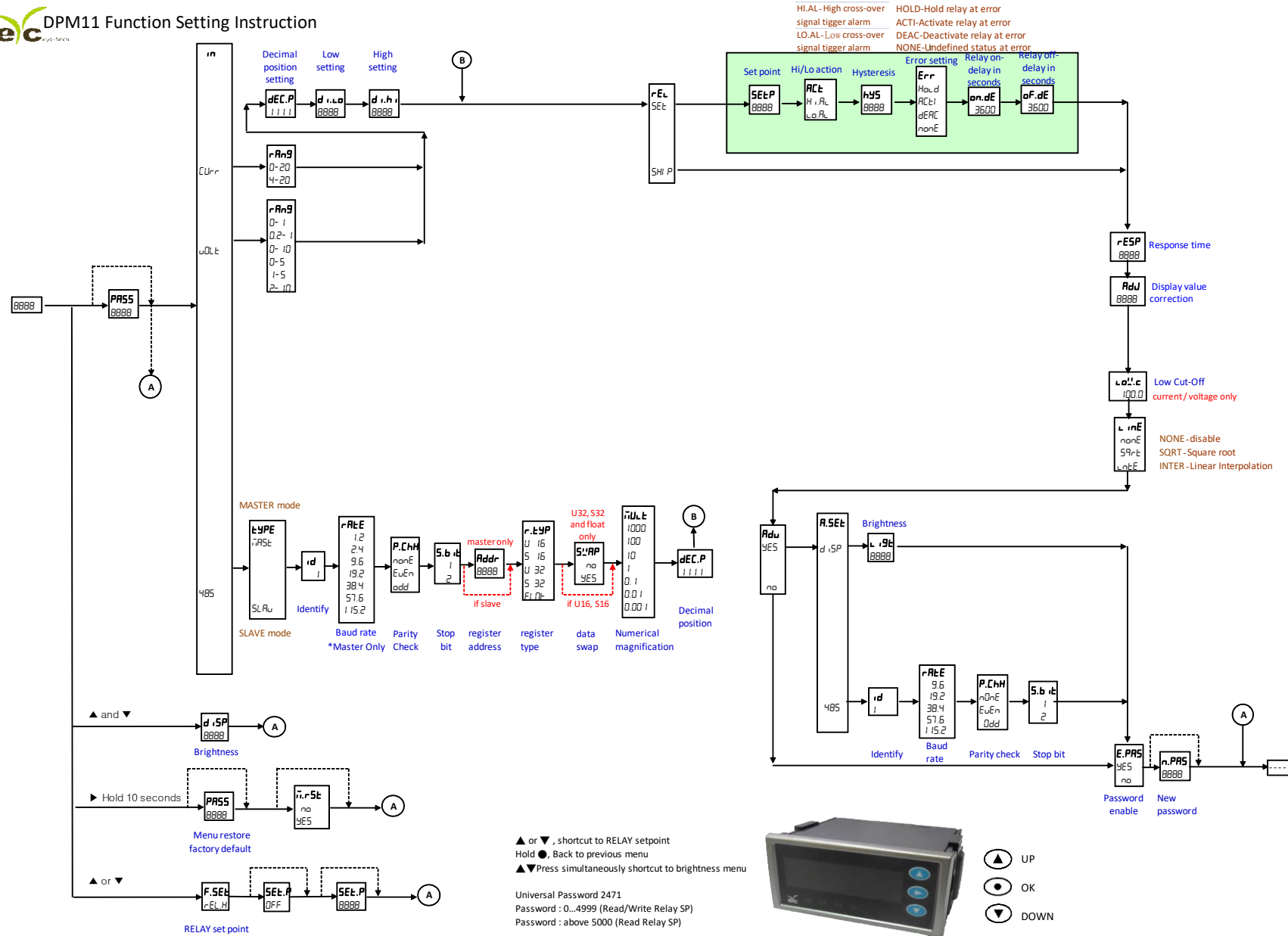
## Signal Display Monitor

Button Instruction	DPM Mode	
	Normal Mode	Menu Mode
Press UP once	Relay SP Shortcut	increase number or option once
Press OK once	Go Menu Mode	Submit the selection, go on next menu or complete the setting and then return to the normal mode
Press DOWN once	Relay SP Shortcut	decrease number or option once
Hold UP	Relay SP Shortcut	increase number or option faster
Hold OK 1.5 seconds	Reserved	Return to previous menu, or leave menu mode
Hold DOWN	Reserved	decrease number or option faster
Hold OK 10 seconds	Reset Menu	Same as "Hold OK 1.5 seconds"
Press UP and DOWN simultaneously	Brightness Shortcut	Not Available

### 6.1 Menu Flowchart

## Signal Display Monitor

### DPM11 Function Setting Instruction



- ▲ UP
- OK
- ▼ DOWN

## 6.2 Abbreviation

<u>Display</u>	<u>Description</u>
<i>PASS</i>	Password
<i>F.SET</i>	Fast Set-point
<i>MrSt</i>	Menu reset
<i>in</i>	Input
<i>cUrr</i>	Current
<i>volt</i>	Voltage
<i>485</i>	RS-485
<i>rAng</i>	Range
<i>dEc.P</i>	Decimal Point
<i>dILO</i>	Display Lo
<i>dIHl</i>	Display High
<i>tYPE</i>	Type
<i>LinE</i>	Linear
<i>dISP</i>	Display
<i>SEt</i>	Set
<i>SHiP</i>	Skip
<i>SEt.P</i>	Set Point
<i>Act</i>	Active
<i>hYS</i>	Hysteresis
<i>Err</i>	Error
<i>hold</i>	Hold
<i>Act i</i>	Activate
<i>dERc</i>	Deactivate
<i>nonE</i>	None
<i>on.dE</i>	On Delay
<i>oF.dE</i>	Off Delay
<i>rESP</i>	Response Time
<i>Lo!!c</i>	Low Cut-off
<i>MrSt</i>	Master
<i>SlAv</i>	Slave
<i>id</i>	RS-485 unit ID
<i>rAtE</i>	RS-485 baud rate
<i>P.CHH</i>	RS-485 parity check
<i>S.biT</i>	RS-485 stop bit
<i>r.tYP</i>	RS-485 register type
<i>SlrAP</i>	RS-485 register swap
<i>MrLlE</i>	RS-485 register value multiplier
<i>Adj</i>	Adjust
<i>Adv</i>	Advanced
<i>E.PAS</i>	Enable Password
<i>n.PAS</i>	New Password

## 7. 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:

Periodically inspect this product for its sensing accuracy. Set the period between inspections based on operating temperature, dust content and dirt condition of the place of installation, and regular calibration is carried out to guarantee the accuracy.

### 2. Troubleshooting

If abnormality occurs during operation, please check and repair according to the following table and take necessary handling.

Problem	Check Items	Solutions
<ul style="list-style-type: none"> <li>●No Output</li> <li>●Unstable Output</li> </ul>	<ul style="list-style-type: none"> <li>●Incorrect Wiring</li> <li>●Loose or disconnected wiring</li> <li>●Power supply voltage and quality</li> </ul>	<ul style="list-style-type: none"> <li>●Correct wiring</li> <li>●Crew on terminal tightly or replace wires</li> <li>●Replace the device</li> </ul>
<ul style="list-style-type: none"> <li>●Unable to connect device thru. 485</li> <li>●precision</li> </ul>	<ul style="list-style-type: none"> <li>●Incorrect Wiring</li> <li>●Loose or disconnected wiring</li> <li>●Protocol mismatch</li> <li>●Wiring length and terminator</li> <li>●Range setting error</li> <li>●offset (Adj) value</li> <li>●Linear correction</li> </ul>	<ul style="list-style-type: none"> <li>●Correct wiring</li> <li>●Crew on terminal tightly or replace wires</li> <li>●Correct protocol setting or refer "5.3 Scan RS-485 connection"</li> <li>●shorter wiring length, replace terminator</li> <li>●Correct range setting</li> <li>●Correct or disable offset</li> <li>●Correct or disable linear correction</li> </ul>

# 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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