Operation Manual

DPM03

Multifunction Signal Display Monitor

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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 cannot be used for any explosion-proof area.

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

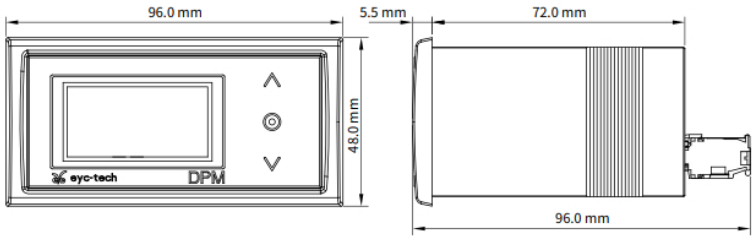
eyc-tech will not bear any responsibility for the results produced by the operators !

Warning!

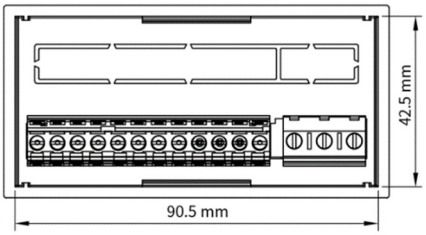
- Installation and wiring must be performed by qualified personnel in accordance with all applicable safety standards.
- This product must be operated under the operating conditions specified in manual to prevent equipment damages.
- Please using the product under the ordinary pressure, or it will influence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

2 Dimension

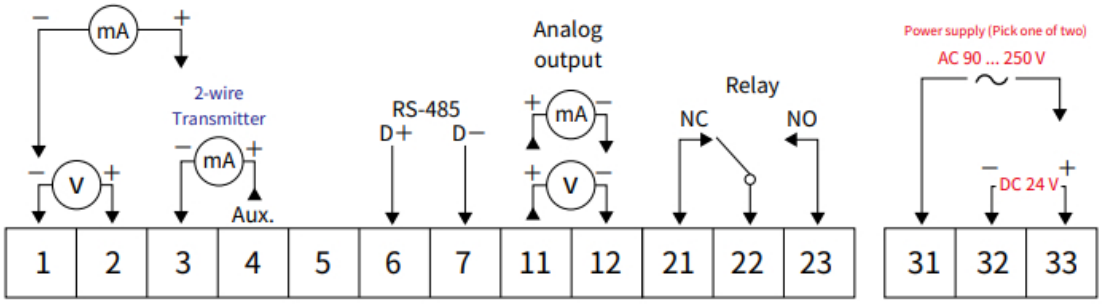
■ Dimension



■ Installation Dimension



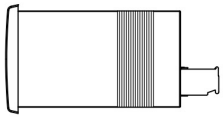
3 Connection



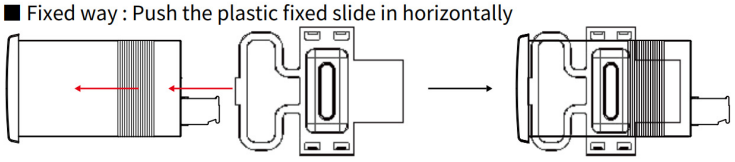
*Please make sure the product and the device which connect with RS-485 are on common ground, avoid damaged product.

4 Installation

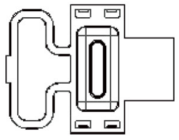
■ Side



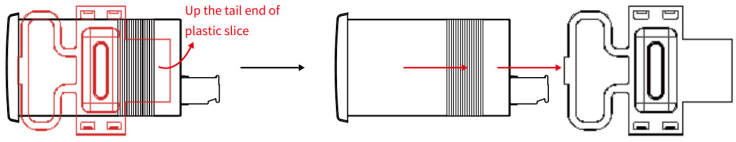
■ Fixed way : Push the plastic fixed slide in horizontally



■ Plastic fixed slice

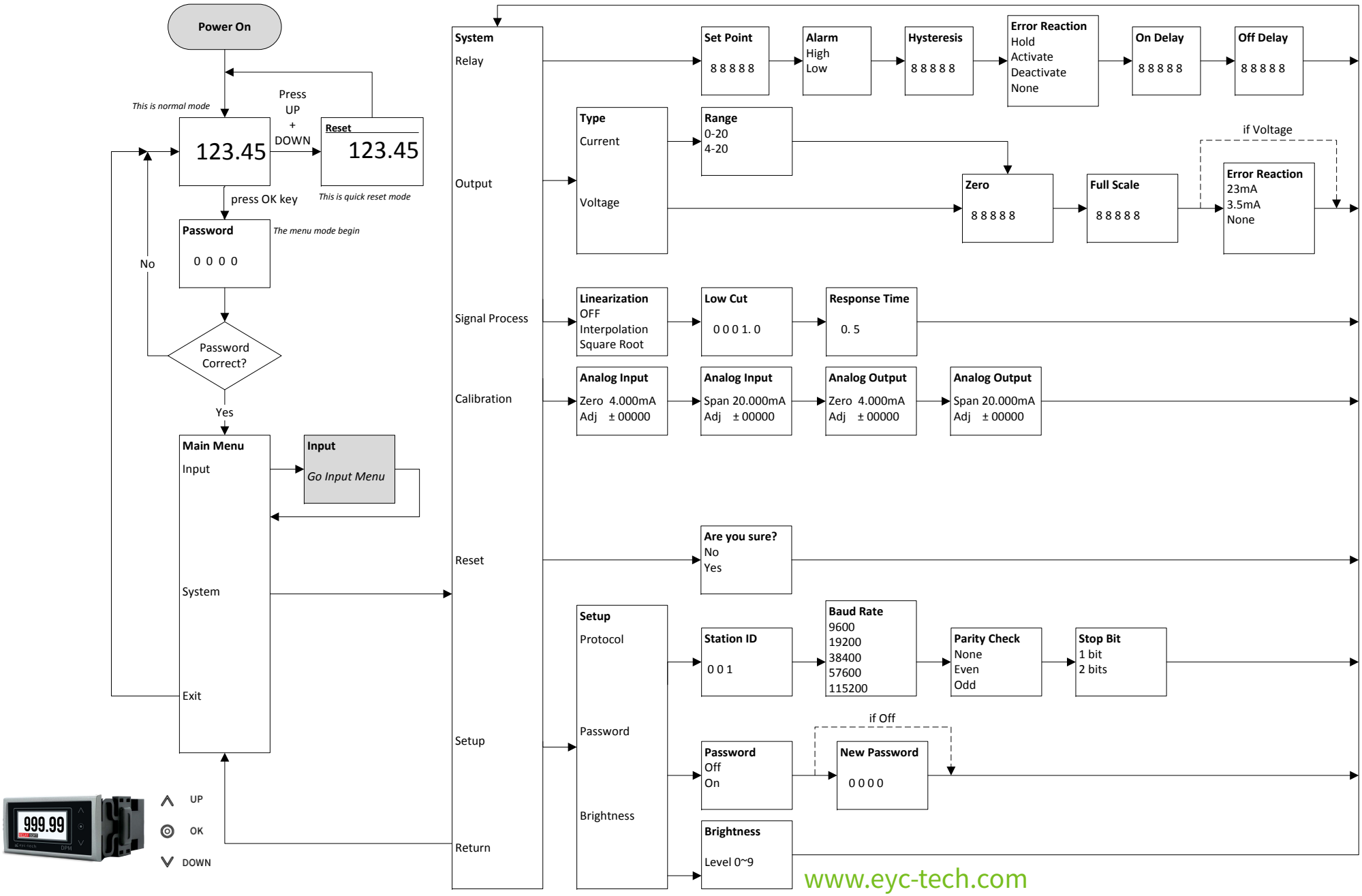


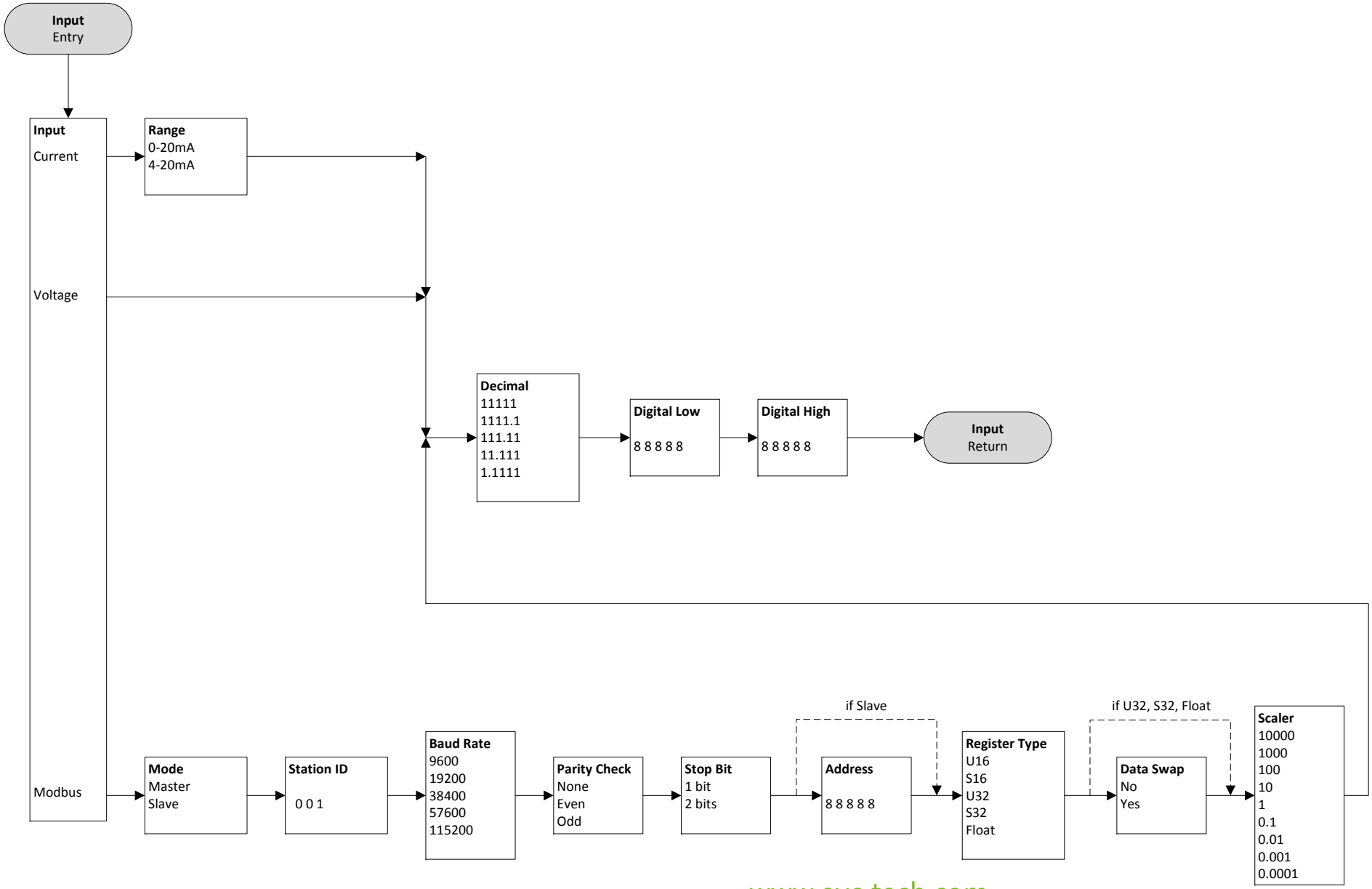
■ Remove way : Up the tail end of plastic slice, then pull it out



5 Menu Operation

eyc-tech DPM03 Menu Flowchart




Input
Entry
Input
Current
Voltage
Modbus
Range
0-20mA
4-20mA
Decimal
11111
1111.1
111.11
11.111
1.1111
Digital Low
8 8 8 8 8
Digital High
8 8 8 8 8
Input
Return
Mode
Master
Slave
Station ID
0 0 1
Baud Rate
9600
19200
38400
57600
115200
Parity Check
None
Even
Odd
Stop Bit
1 bit
2 bits
if Slave
Address
8 8 8 8 8
Register Type
U16
S16
U32
S32
Float
if U32, S32, Float
Data Swap
No
Yes
Scaler
10000
1000
100
10
1
0.1
0.01
0.001
0.0001

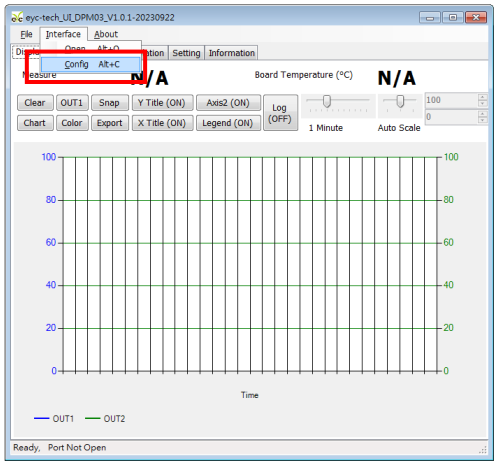
6 Configuration Software

6.1 Application Program Introduction

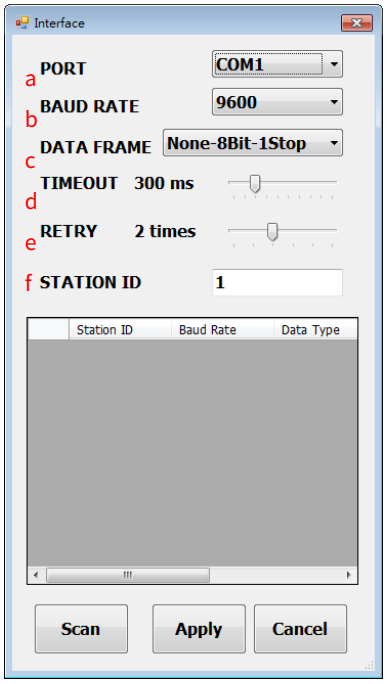
User may download the configuration software on eyc-tech web site. Please decompress the application prior to execute it. Operating System requirements: above Windows 7 SP1. Other application program requirements: above Microsoft Office 2003. Hardware requirements: USB to RS-485 converter.

6.2 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 (DPM03 default 9600)

   c. Data Frame (device default None Parity Check, 8 data bits, 1

   d. Response Timeout (default 300ms)

   e. Retry, trial cycles if communication error (default 2 times)

   f. Station ID (default 1)

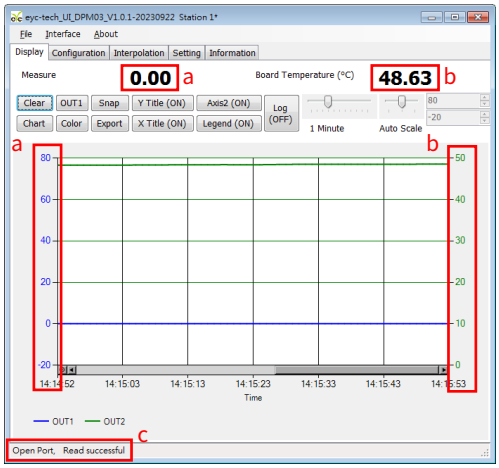
5. Click "Apply"

6. Connect successfully

   a. Show value and trend chart of the measurement

   b. Show value and tread chart of device MCU temperature

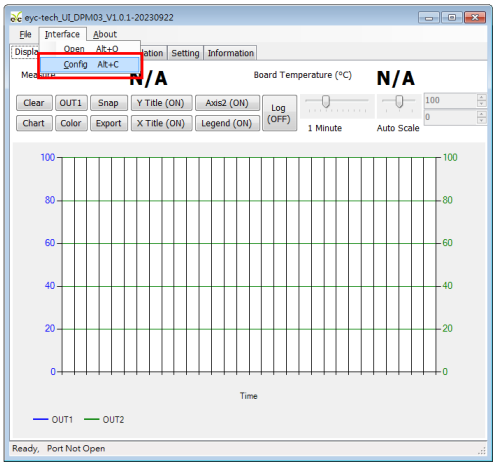
   c. Show "Open Port, Read successful"



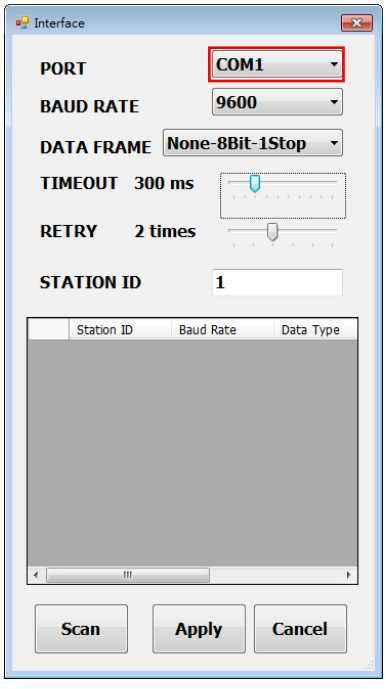
6.3 Scan RS-485 connection

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

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



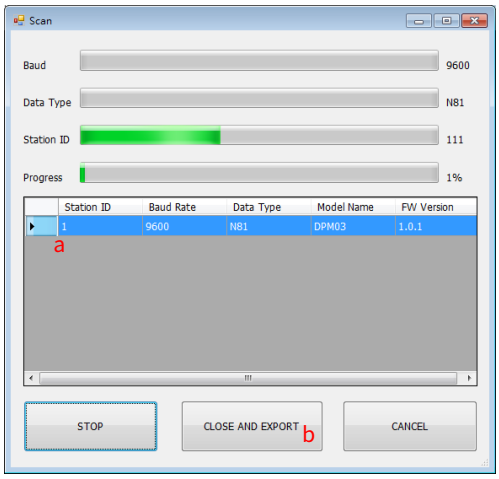
4. Select the corresponding values of com port as fallowing



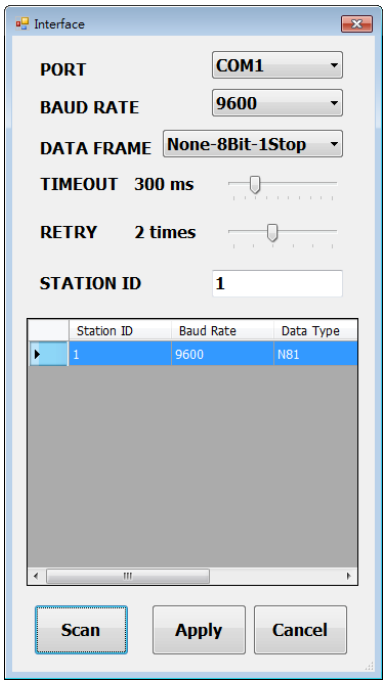
5. Click "Scan" to execute connection facilities
6. Scan connection facilities and set up

a. Select Station ID

b. Click "CLOSE AND EXPORT"



7. Click "Apply"

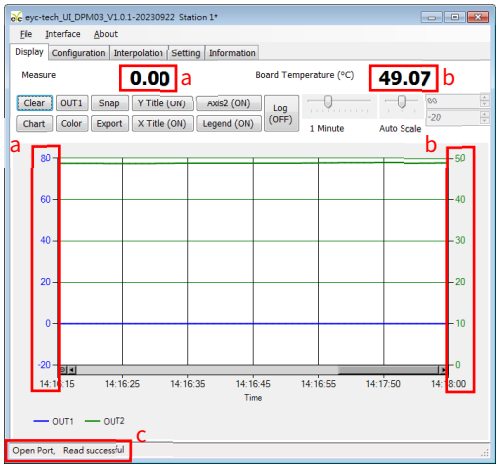


8. Connect successfully

   a. Show value and trend chart of the measurement

   b. Show value and tread chart of device MCU temperature

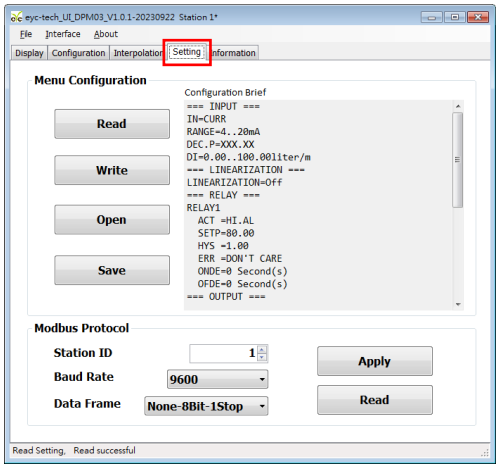
   c. Show "Open Port, Read successful"



6.4 Setting RS-485 ModBus Protocol

1. Setting RS-485 connection as step 6.1

2. Click "Setting" tab

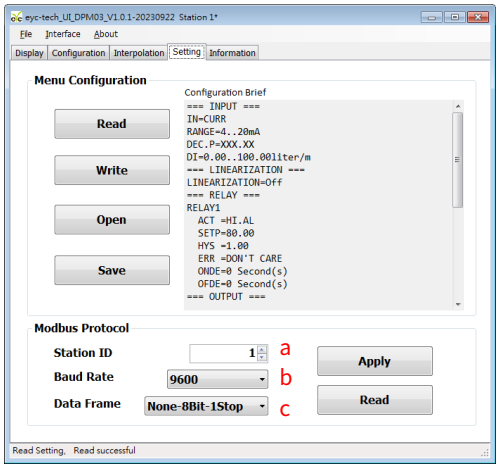


3. Select Modbus Protocol parameter

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 6.2 or 6.3 again

6.5 Measurement Programming

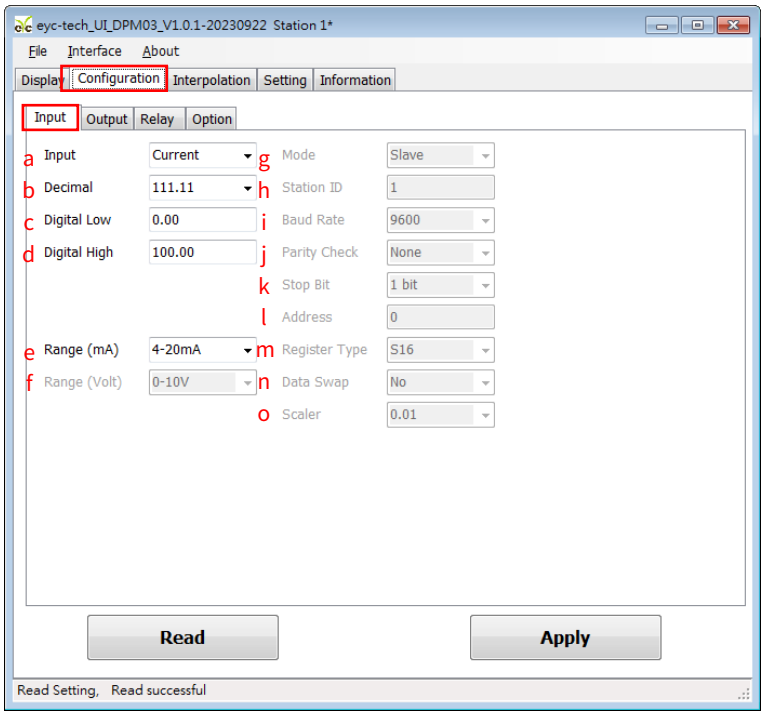
Click the "Configuration" tab, the configuration divide by 4 sub groups as following.

1. **Input function, this function could be found in "Input" tab**

a. Input type, current, voltage, frequency, pulse or modbus
b. Number of input rate decimal places, up to 4
c. Low point of input span
d. High point of input span
e. Analog input range (valid when the input selects current)
f. Analog input range (valid when the input selects voltage)

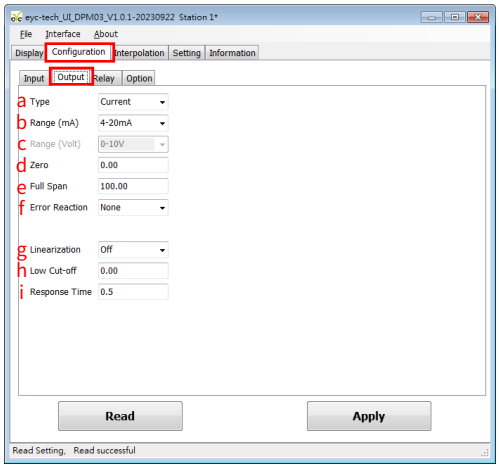
---------- The following input is valid when RS-485 is selected ----------

g. Modbus protocol type, master or slaver
h. station ID
i. Baud rate (valid when the input selects the master node)
j. Parity check
k. Stop bit
l. Register address
m. Register data type
n. Data format, data word high and low exchange
o. Numerical magnification



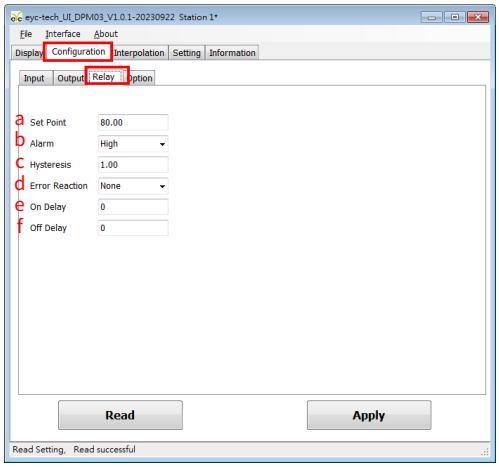
2. **Output function, this function could be found in "Output" tab**

a. output type
b. analog output range (valid when the output selects current)
c. analog output range (valid when the output selects voltage)
d. low point of output span
e. high point of output span
f. error reaction
g. linear correction
h. output cut-off
i. response time



3. **Relay function, this function could be found in "Relay" tab**

a. set point
b. action mode, High if upscale active, Low if downscale active
c. hysteresis
d. alarm, NONE if disable, HOLD if memory and hold the first alarm until reboot, Action if active when alarm assert, Deaction if inactive when alarm assert
e. relay on delay time (seconds)
f. relay off delay time (seconds)



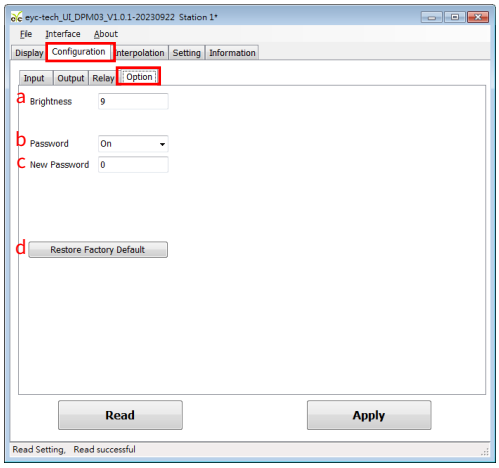
4. **The other items could be found in "Option" tab**

a. LED brightness, 0 darkest, 9 brightest

b. password validation, NO if disable, YES is enable

c. new password

d. reset factory default



6.6 Linearity Computation

Click the Interpolation tab to specify the linear interpolation points

a. Interpolation table

b. Interpolation curve

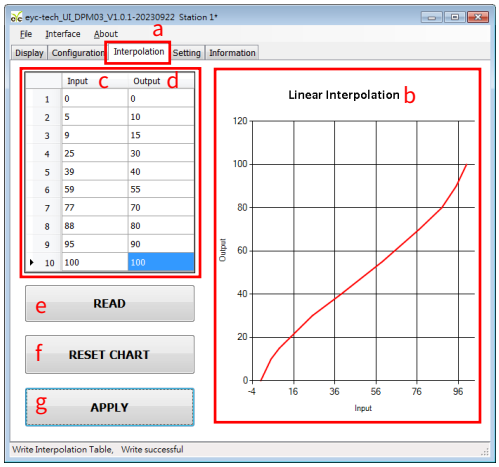
c. Interpolate input column, device measured value (raw value)

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



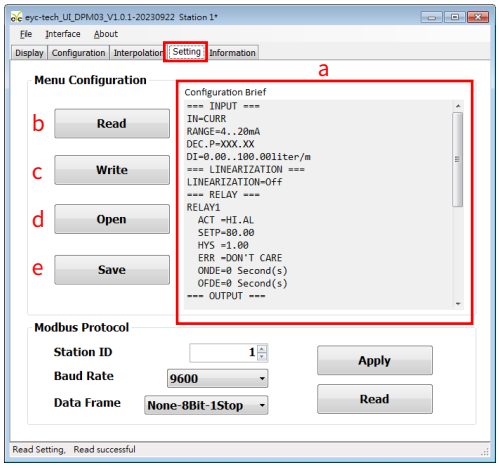
6.7 Export and Import Configuration

Click the Setting tab to export and import device configuration

a. summary text of device configuration
b. read device configuration
c. write device configuration
d. load device configuration
e. save device configuration

export procedure: device connection→ step b→ step e

import procedure: device connection→ step d→ step c



6.8 Device Information

Click the Information tab to get device information

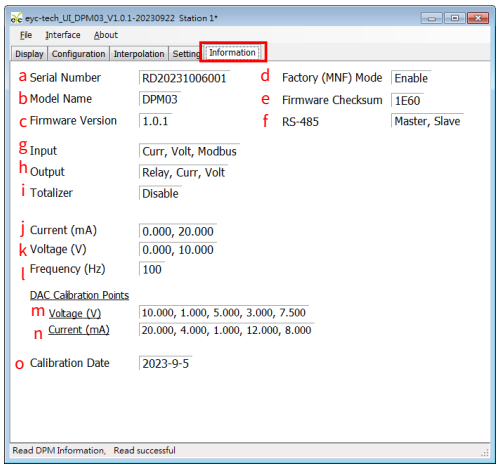
a. device serial number
b. device model name
c. firmware version
d. factory mode enabled state
e. firmware checksum
f. RS-485 enabled state
g. input function enabled state
h. output function enabled state
i. totalizer enabled state

Input calibration information

j. analog current input calibration points
k. analog voltage input calibration points
l. frequency input calibration points

Output calibration information

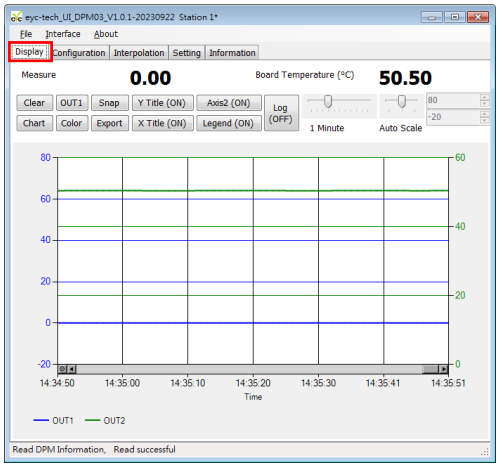
m. analog voltage output calibration points
n. analog current output calibration points
o. Calibration date



6.9 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 clear the plot chart

Chart toggle chart plotting line style

OUT1 select the OUTPUT channel you want to set

Color set the line color of the selected OUTPUT channel

Snap snap the currently chart plot

Export export data log since device is connected

Y Title (ON) axis Y main coordinate, ON or OFF

X Title (ON) axis X coordinate, ON or OFF

AxisY2 (ON) axis Y secondary coordinate, ON or OFF

Legend (ON) legend, ON or OFF

Log (OFF) measurement data logging, ON or OFF

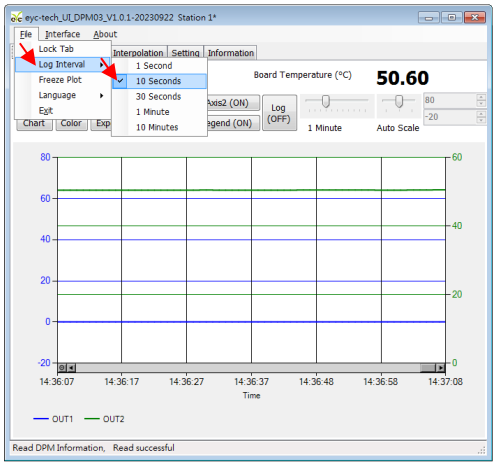
axis X time scale

axis Y amplitude scale

3. Set the logging time interval

a. File > Log Interval

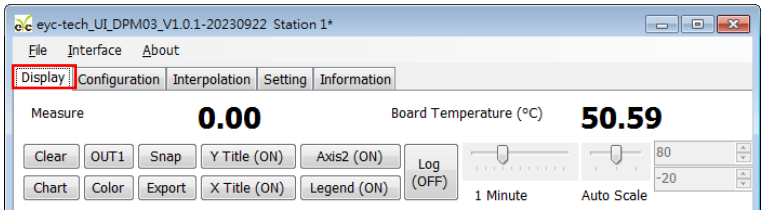
b. select the logging interval



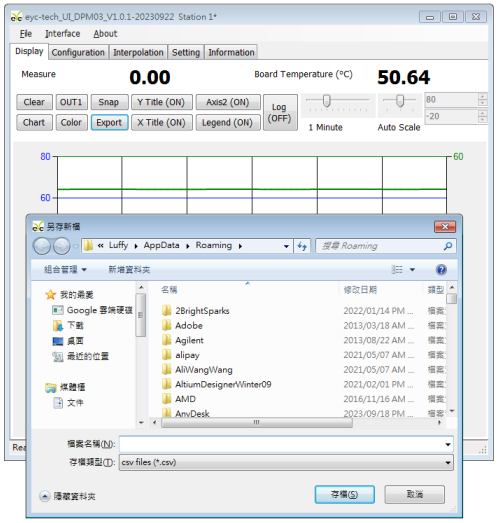
4. Store/log measurement data

I. Store measurement data: save the logging data since device is connected

A. Click Display > Export



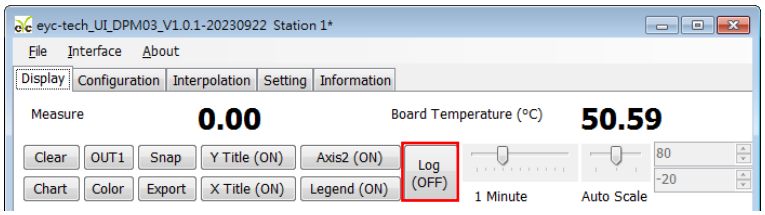
B. Specify the path and filename > Save



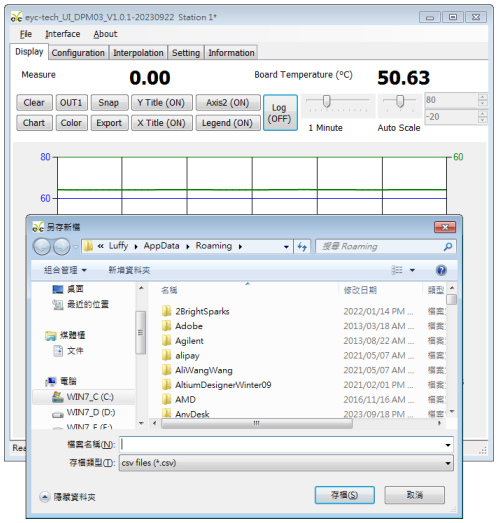
Note: If the specified path and file name are the same, the original file data will be over written

II. Log measurement data: start data logging

A. Click Display > Log(OFF)



B. 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

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
●No Output ●Unstable Output	●Incorrect Wiring ●Loose or disconnected wiring ●Power supply voltage and quality	●Correct wiring ●Crew on terminal tightly or replace wires ●Replace the device
●Unable to connect device thru. RS-485 ●precision	●Incorrect Wiring ●Loose or disconnected wiring ●Protocol mismatch ●Wiring length and terminator ●Range setting error ●offset (Adj) value ●Linear correction	●Correct wiring ●Crew on terminal tightly or replace wires ●Correct protocol setting or refer "6.3 Scan RS-485 connection" ●shorter wiring length, replace terminator ●Correct range setting ●Correct or disable offset ●Correct or disable linear correction

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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