Operation-Manual

eyc-tech TGP03/THP03

Multifunction CO_2/PM2.5 Indoor Air Quality Monitor

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Contents

Multifunction CO_2/PM2.5 Indoor Air Quality Monitor

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
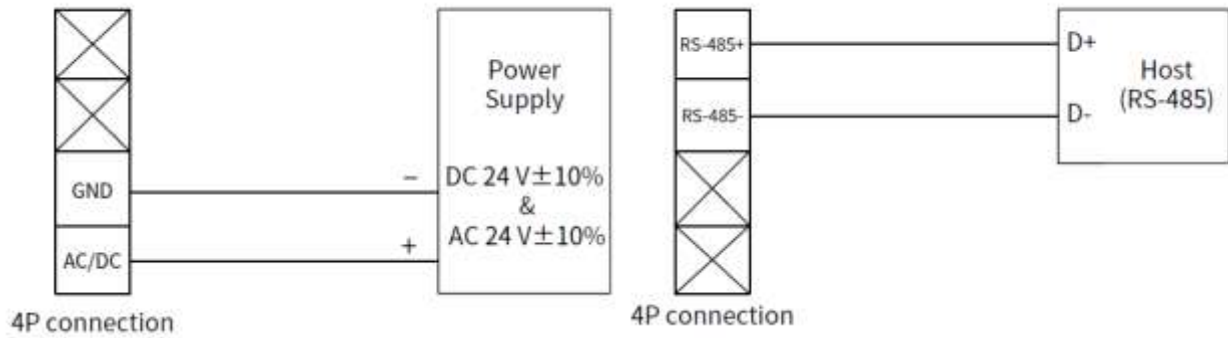
III. Dimension
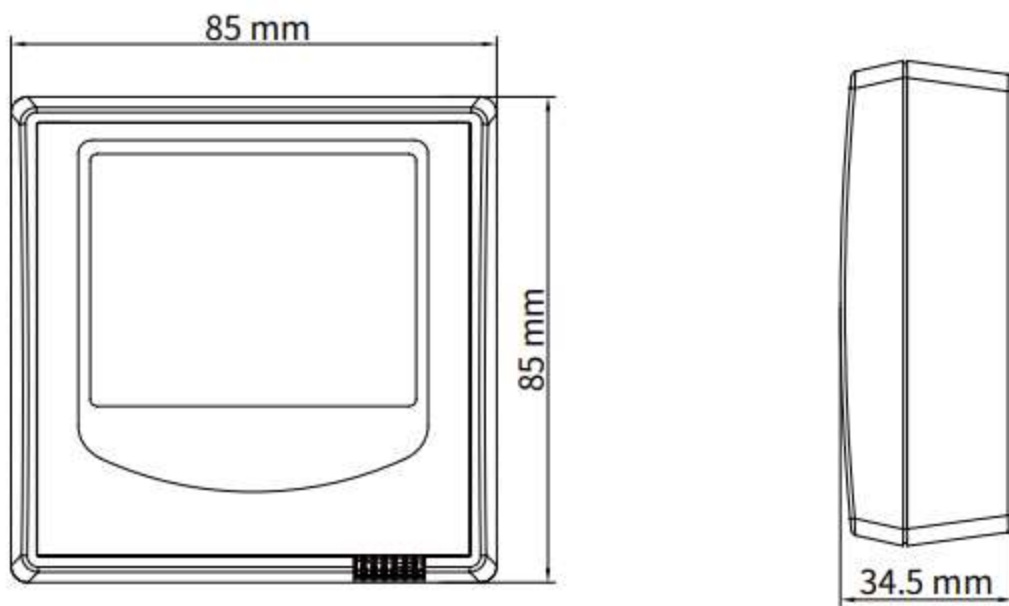
IV. RS-485 and Modbus

TGP03 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

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V. Configuration

Download the software from eyc-tech official website, decompress it and execute it. Planning software operating system requirements: Windows XP SP2 or above.

1. Hardware connection：Connect the TGP03 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
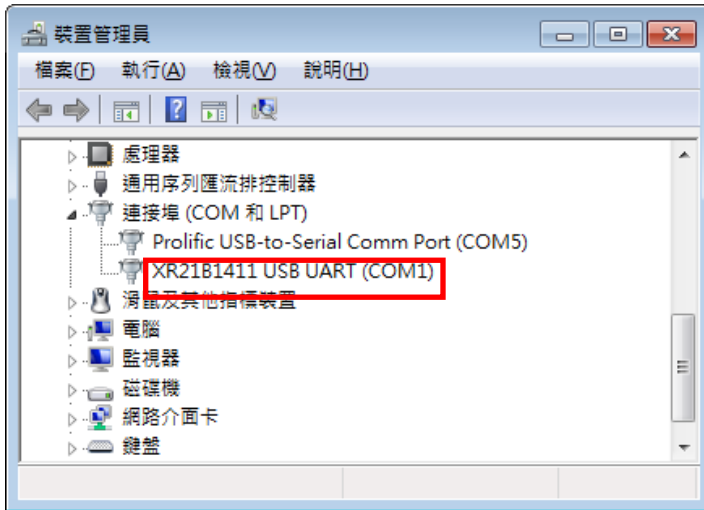
3. Open the UI, go to function ＂Interface＂, click item ＂Config＂ and then setting COM port, BAUD rate, data format and Station ID, pressed ＂Apply＂ for connection

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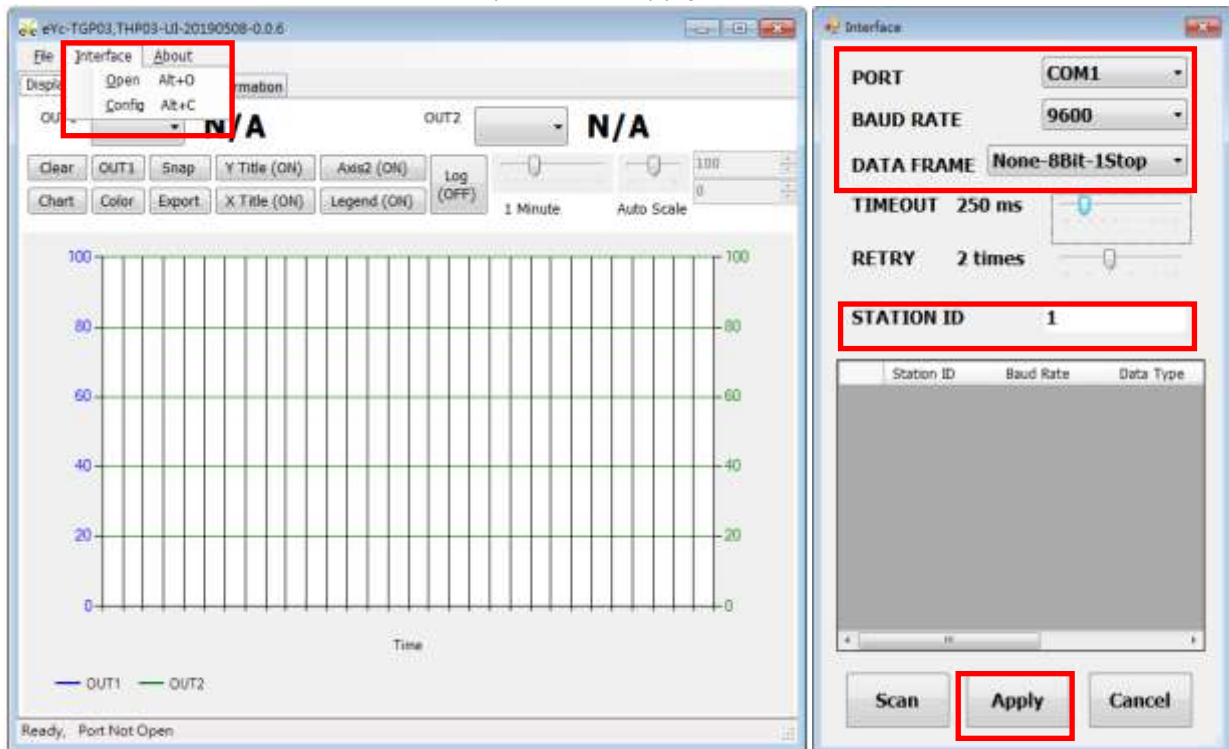
4. Scan RS-485 connection

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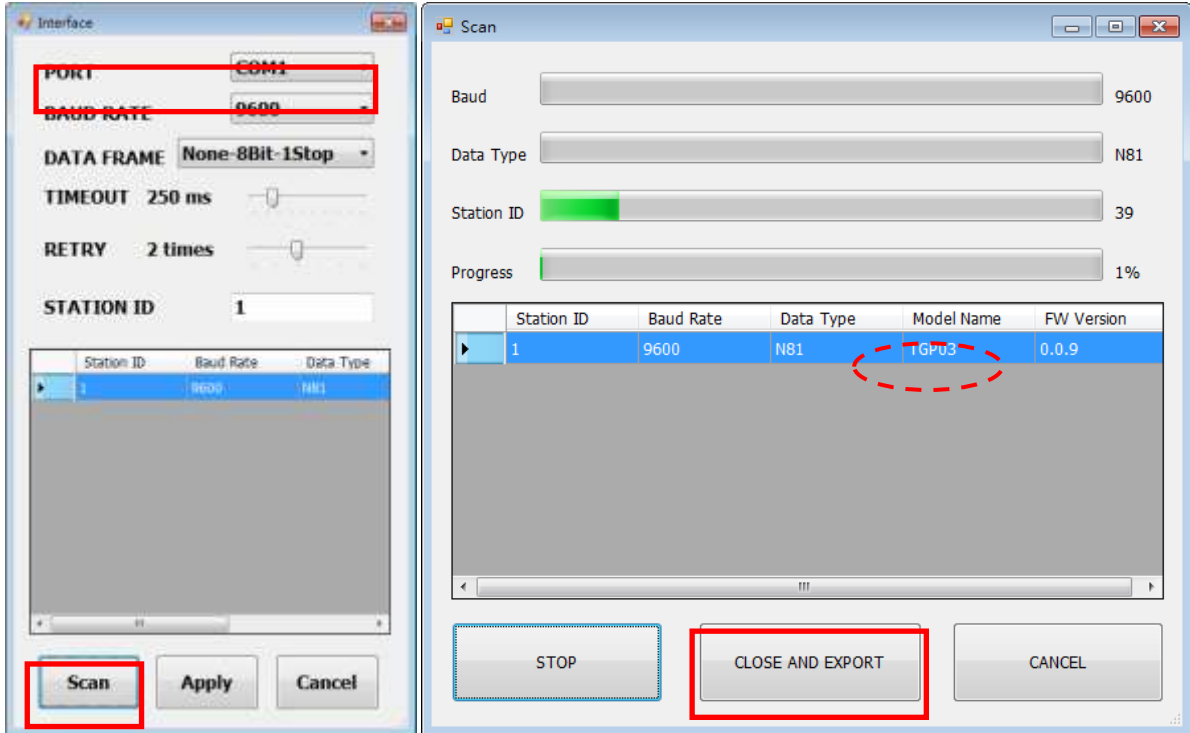
Pick up the device that you want to connect to and then press "Apply" to go.

5. Display Panel

In the Monitor tab. There is a large display of available measurements
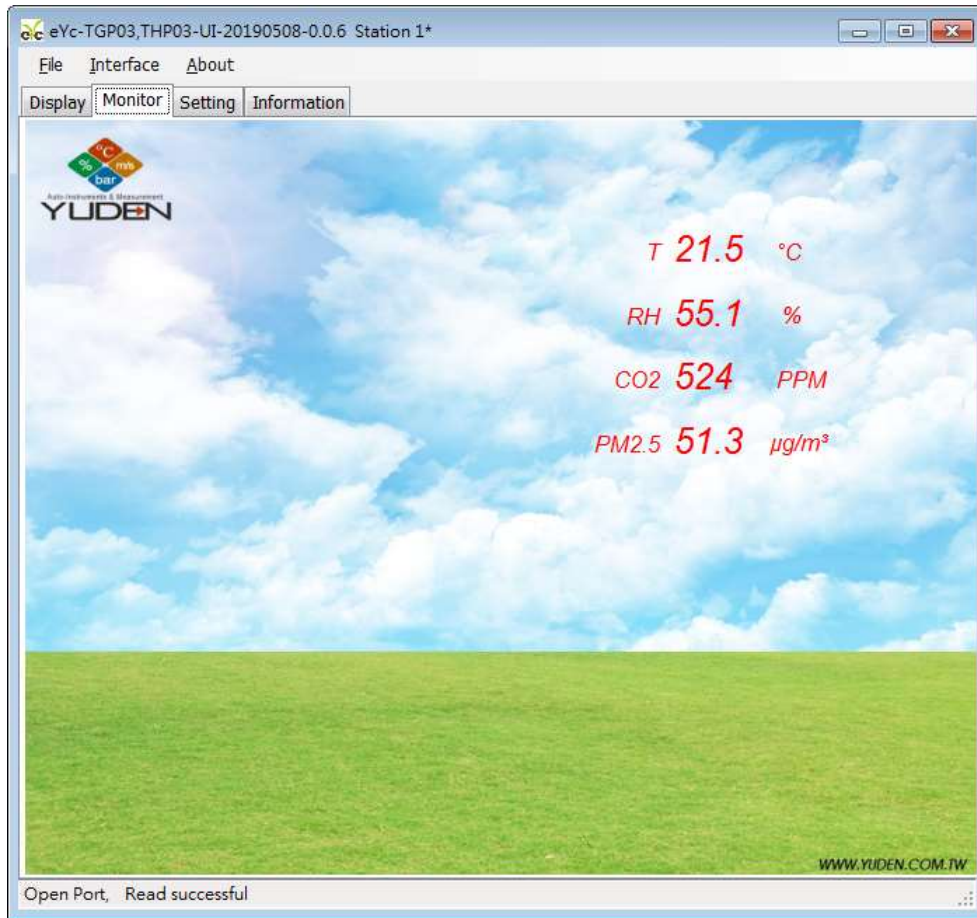
6. Setting on RS-485, Data Transmission Test and environment parameters

There are 4 groups in setting tab. The description of each item as below.

※ Environment Parameters：

(1) Air Pressure

※ Modbus Protocol：

(2) station ID

(3) Baud Rate

(4) Date Frame

(5) Modbus Echo Test Enable/Disable

(6) Modbus Echo Test Result Reset

※ CO2 Auto Calibration

(7) CO2 Auto Calibration：Function is enabled if the bar color green, otherwise function is disabled. In the general environment, the CO2 concentration usually measured as 400ppm. The environments as From Room/ Office with the condition as midnight period & nobody status, the CO2 concentration usually measured as 400ppm. Thus GS use the average statistics values for 7 days to implement Self-Correcting feature. This feature is not adaptive to use in special environment as Factory/ Plant Greenroom where the CO2 concentration may keep on high value & keep for long period.

※ Response Rate

(8) The average count of samples. Fast response if lower value, slow and smooth reading if higher value

※ Others

(9) Write Setting

(10) Read Setting

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7. Data display and logging

(1) The measurement of OUT1 and OUT2 will be display here. The available quantity depends on device model.

(2) Clear plot chart

(3) Toggle the selection channel of color function, refer to item (8)

(4) Snap the current plot chart

(5) Display title of vertical axis (ON or OFF toggle in turn once click)

(6) Enable secondary axis (right axis)

(7) Change chart line style in turn

(8) Select the color of plot channel

(9) Export the records in plot buffer

(10) Enable horizontal axis

(11) Enable the legend of plot channel

(12) Enable the log function, the data in cvs format with comma delimiter

(13) The scale of horizontal scale

(14) Select the scale method of vertical axis

(15) Select the range of vertical axis

(16) The vertical axis, label of OUT1

(17) The vertical axis, label of OUT2
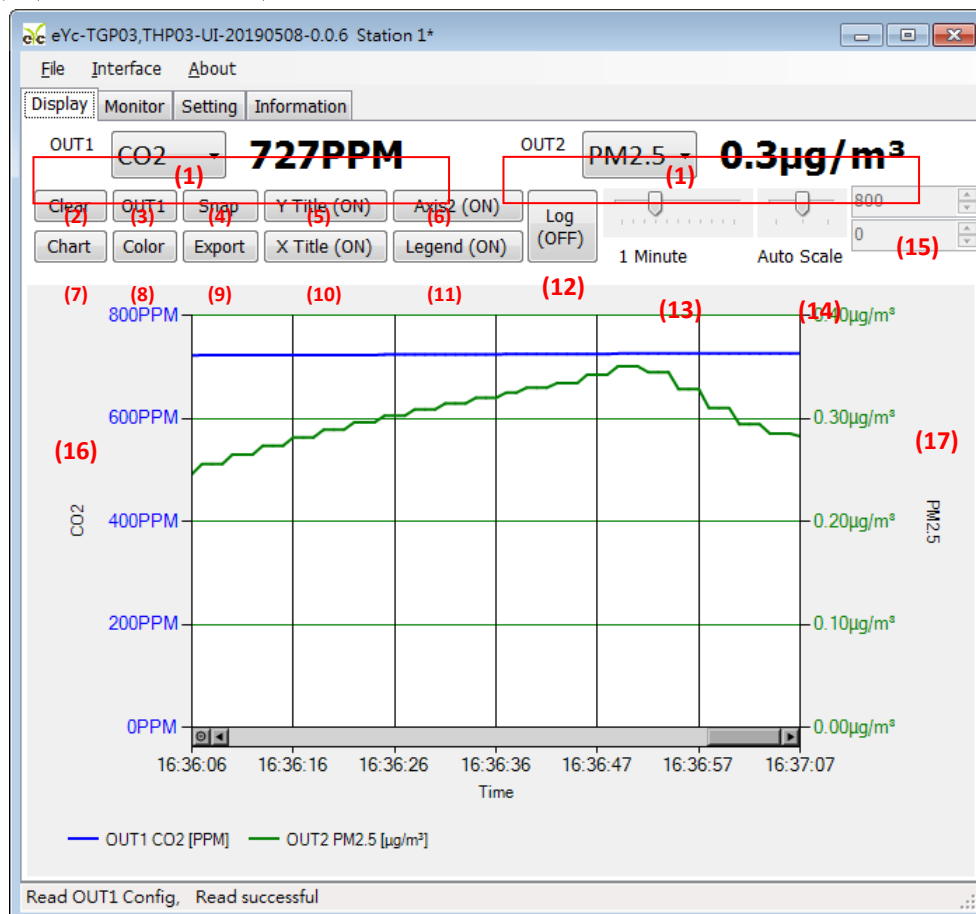
8. Device Information

   (1) Serial Number

   (2) Model Name

   (3) Firmware Version

   (4) Firmware Checksum

   (5) The activation of RS-485 function

   (6) Programming range of measurements and offset values

   (7) Calibration Date
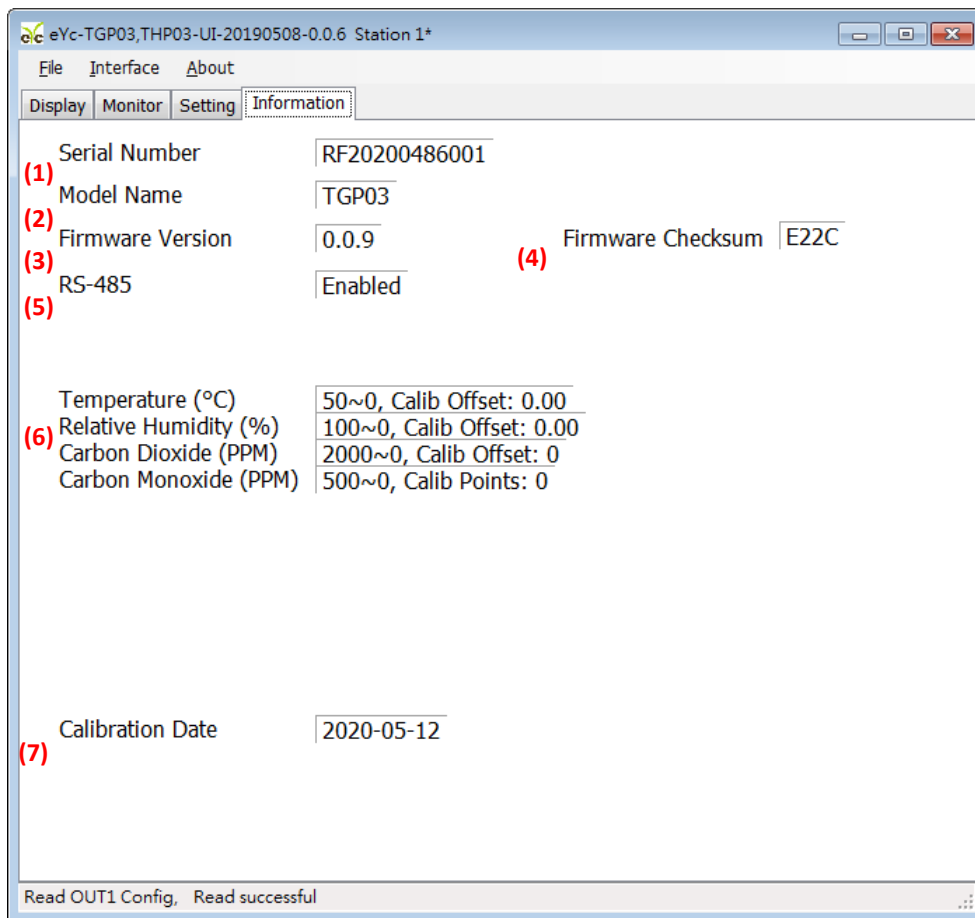
VI.Inspection and maintenance

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 ●Cleaning the filter of TGP03 ●Calibrate ●Replace the sensor

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