

Installation instructions



Embedded Micro Differential Pressure Transmitter/Controller

Summary

Safety guidance

This installation manual contains important information on how to use the transmitter correctly. The transmitter installation personnel should carefully read this installation instruction before operating the transmitter. If you encounter any further understanding or special questions that are not detailed in this operating manual, please contact our company for necessary information. Please pay attention to the warning signs on the instructions!

Operators must strictly follow the safety instructions in the installation manual for operation. In addition, it is necessary to comply with occupational safety regulations, accident prevention guidelines, as well as national installation standards and engineering specifications. Please keep this instruction properly and store it in a convenient location near this transmitter for easy access. The copyright of this installation manual is protected. The installation instructions for this version are written based on the functions that the corresponding product can achieve during printing, providing as detailed and complete a description of the product's features and operating steps as possible. If you find any mistakes, please feel free to criticize and correct them. We do not assume responsibility for any possible erroneous descriptions or consequences that may arise.

- Reserved the right to modify technical parameters -
Icon Description

- ⚠ Danger! - Dangerous situations that may result in death or serious injury.
 - ⚠ Warning! - Potential hazardous situations that may result in death or serious injury.
 - ⚠ Be careful! - Potential hazardous situations that may result in minor injuries.
 - ! Reminder! - Potential hazardous situations that may lead to personal injury.
 - 💡 Tip! - Provide prompts and information to ensure the device operates without any malfunctions.
- User personnel

⚠ Warning! This installation instruction is applicable to technicians.
Limitation of Liability

For transmitter damage caused by failure to follow the installation instructions, improper use, self modification, or destruction, our company does not assume compensation responsibility and does not provide warranty services.

Open the box

- 🔧 a) After opening the box, check whether the documents and attachments are complete according to the packing list. The packing documents include: a product information download card. One product qualification certificate. One warranty card. The packing accessories include: Three M3.5 * 50 self tapping screws, three M3.5 * 13 screws, and four M3 * 10 screws Three protruding ears FEP pressure tube with a diameter of 7 * 5mm and a length of 2m Air guide rod * 2
- 🔧 b) When receiving the product, please check if the packaging is intact and verify the transmitter type Does the number and specifications match the product you have purchased. c) Observe whether the transmitter has been damaged or not due to transportation, in order to ensure accuracy Handle it well.
- d) Please keep the "warranty card" properly and do not lose it, otherwise it cannot be returned to the factory Free repair!

ID

Embedded transmitter/controller

Star Meter

model: Power supply:

Range: Accuracy:

Output: Protection level: authentication

Product Code

Precautions for use

- ⚠ Warning! The transmitter must be installed by professional technicians who have read and understood this operating manual.
- ⚠ danger Choose non explosion proof products and strictly prohibit their use in explosion-proof areas, otherwise it may cause serious personal injury and significant material damage.

- ⚠ Warning! It is prohibited to measure media that are incompatible with the material in contact with the transmitter.
- 🔧 When receiving the product, please check if the packaging is intact and verify if the transmitter model and specifications match the product you have purchased. No modifications or changes can be made on the device. Handle with care and do not throw it away at will. Please do not use brute force when installing this transmitter.
- 🔧 This product belongs to weak current equipment and must be wired separately from strong current cables. It should comply with the relevant national wiring standards (GB/T50312-2016) for wiring. Ensure that the power supply voltage meets the transmitter's power supply requirements. Ensure that the maximum static pressure at the single end is within the tolerance range of the transmitter;
- 🔧 During the pressure measurement process, pressure should be slowly applied and released to avoid sudden increase to high pressure or decrease to low pressure;

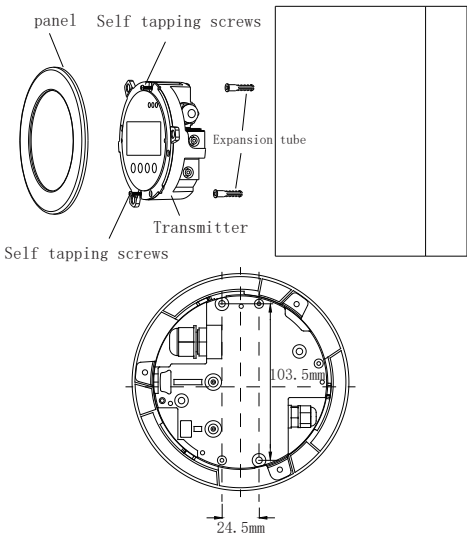
Installation precautions

- 🔧 Try to install it in places with small temperature gradient changes.
- 🔧 The transmitter can be directly connected to a hose and can be directly connected to the high (H+) and low (L-) pressure ends of the measured site without the need for a bracket; The high-pressure end is used for pressure measurement, while the low-pressure end is exposed to the atmosphere and can be used as a pressure transmitter; On the contrary, the low-pressure end takes pressure and the high-pressure end is exposed to the atmosphere, which can be used as a negative pressure transmitter or vacuum transmitter.
- ⚠ Warning! Equipment installation must be carried out without pressure or power supply.
- 🔧 If the transmitter is installed in harsh environments and may encounter dangerous damage such as lightning strikes or overvoltage, we recommend that users provide lightning protection and overvoltage protection between the distribution box or power supply and the transmitter.

Install

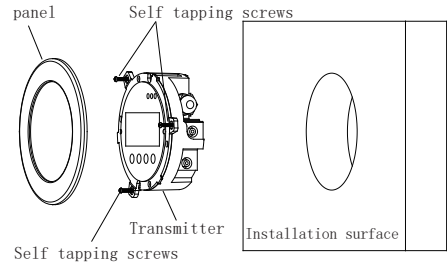
Wall installation

- After opening the panel of the transmitter, there are 2 installation holes, and self tapping screws and plastic expansion tubes need to be prepared by oneself.
- First, drill two expansion pipe holes on the wall (please refer to the installation hole size diagram for hole positions).
- Insert the expansion tube and fix it to the wall with self tapping screws.
- Lock the panel.



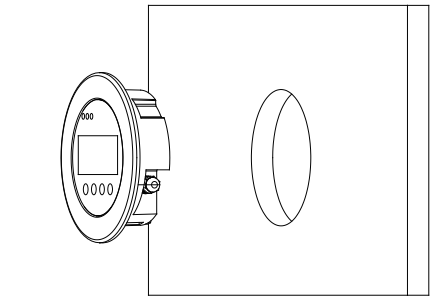
Embedded Installation 1

- After opening the panel of the transmitter, there are 3 installation holes, and screws need to be prepared by oneself.
- First, drill a hole with a diameter of 116mm and a depth of $\geq 60\text{mm}$ on the installation surface.
- After embedding the transmitter, fix it on the mounting surface with screws according to the mounting holes.
- Lock the panel.

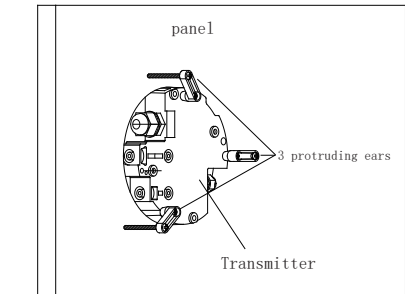


Embedded Installation 2

- Drill a 116mm diameter hole on the panel to be installed and insert the transmitter from the front of the panel



- Install lugs on the back of the transmitter (included with the product), and then secure the sensor from the back with screws (included with the product).



Wiring diagram

	colour	RS485	4-20mA~-100°C	
Four core signal cable	red	Power supply+	Power supply+	
	yellow	485A	V	
	blue	Power supply-	Power supply-	
	white	485B	ma	
Six core control cable	red	Normally open contact N/O		
	black	Public end COM		
	white	Normally closed contact NC		
	Brown	Normally open contact N/O		
	green	Public end COM		
	yellow	Normally closed contact NC		

EMC Declaration

Applicable Directive: Electromagnetic Compatibility Equipment Directive 2014/35/EU.

The CE mark indicates that the product meets the requirements of applicable EU standards.

Users must ensure that the entire device meets all usage standards.

First start-up

-  **Warning!**
- a) Before activation, users must check whether the transmitter is installed correctly and whether there is any obvious damage.
-  **Warning!**
- b) The transmitter must be activated and operated by professional technicians who have read and understood this operating manual.
- Warning!**
-  **c)** This transmitter is only suitable for working conditions that meet technical requirements!

Common fault analysis and troubleshooting

Fault phenomenon	Cause analysis	Exclusion method
• The transmitter has no output signal	• Not powered • Wiring error	• Provide correct power supply and wiring as required
• Output irregular jumps under constant pressure	• Strong EMC interference	• Use shielded cables and ground the shielding layer • Reliable connection between transmitter and earth • Remove the interference source
• When the transmitter is not connected to pressure, the corresponding output value is incorrect	• The transmitter is not working in its required environment	• Comply with the allowed humidity and temperature of the environment
• Pressure changes, but output remains constant	• Incorrect power supply voltage • Excessive external load • Mechanical overload caused by overvoltage	• Does it comply with the power supply range • Adjust external load

Dismantling and after-sales service

 **Warning!**

When disassembling the transmitter, ensure that the pressure source and power supply are disconnected to prevent accidents caused by medium ejection.

During the warranty period, if the product is found to be a quality issue by our technical personnel, our company will bear all repair costs;

 **Warning!**

Please be sure to clean up any residual media before returning, especially substances that are harmful to human health, such as corrosive, toxic, carcinogenic, or radioactive substances;

Please keep the warranty card and certificate of conformity, and return them together with the product during repair;

If the transmitter malfunctions, please contact our after-sales service. After confirming the problem, please send the transmitter back to our company. When repairing, please provide the following information:

On site environment description;

Fault phenomenon;

Delivery address and contact information.

Adjustment

During the lifespan of the transmitter, zero and full-scale drift may occur. If the above phenomena occur after long-term use, it is recommended to send the transmitter back to our company for calibration to ensure high accuracy.

Maintenance and Cleaning

 maintain

This pressure transmitter does not require customer maintenance.

Maintenance can only be carried out by the manufacturer.

 clean

 Wrong cleaning agent

- Using the wrong cleaning agent can damage the product label.
- Prohibit the use of irritating cleaning agents.
- Prohibit the use of harmful or sharp sanitary ware.
- Do not use abrasive cloths or sponges.

The correct cleaning agent

- Clear water
- Traditional detergent

 Cleaning products

Before cleaning, the pressure transmitter needs to be depressurized and powered off.

Wipe the surface of the transmitter with a soft damp cloth.

Transportation and Storage

The transmitter should be packed in a sturdy cardboard box (wooden boxes are required for large instruments), and it is not allowed to move freely inside the box. It should be handled with care during transportation and rough loading and unloading are not allowed. The storage location should meet the following conditions:

- a) Rainproof and moisture-proof.
- b) Not subject to mechanical vibration or impact.
- c) The temperature range is -30 to 70 °C.
- d) The relative humidity should not exceed 90% (without condensation).
- e) The environment does not contain corrosive gases.