

## Pressure, Liquid Level Transmitter

# Instruction Manual

**Version: V3.4.19**

### 1. Product Overview

The product of explosion-proof pressure and liquid level transmitter adopts the pressure sensor of 316L stainless steel isolation diaphragm as the signal measurement element, and through the automatic test of computer, the zero point and sensitivity temperature compensation of a wide temperature pattern are carried out by the laser resistance adjustment process. The amplifier circuit is located in the stainless steel housing, which converts the sensor signal to the standard output signal, gives full play to the technical advantages of the sensor, and makes the AN series explosion-proof pressure transmitter have excellent performance. It has strong anti-interference, overload and impact resistance, small temperature drift, high stability, and high measurement accuracy, and is the ideal pressure measurement in the field of industrial automation Appearance.

### 2. Working Principle

The pressure sensor is connected to a Wheatstone bridge on the diffused silicon

wafer, and the pressure of the measured medium (gas or liquid) changes the resistance value of the bridge wall (piezoresistive effect), resulting in a differential voltage signal, which is converted into a standard analog signal or a digital signal by a special amplifier.

### 3. Technical Parameters

#### Measuring Medium:

liquid or gas (compatible with contact material)

#### Overall Material:

siaphragm-- 316L stainless steel (in contact with the medium)

threaded interface-- 304 stainless steel (in contact with the medium)

explosion-proof Shell-- aluminum

seal-- Butadiene rubber(in contact with media)

display housing-- ABS engineering plastic (digital tube display)

#### Pressure Range:

-100KPa~0~100MPa(see selection table for details)

#### Pressure Mode:

gauge pressure, absolute pressure, negative pressure

#### Output Signal:

4~20mA(delivered by default)

0~10V

0~5V

1~10V

1~5V

RS485(standard Modbus-RTU protocol)

#### Power Supply Voltage:

12~36VDC(unconventional custom)

#### Accuracy level:

0.25%(range  $\geq 10$ KPa custom)

1%FS(range  $\leq 10$ KPa default)

#### Working Conditions:

medium temperature -10~70°C

ambient temperature -20~85°C

ambient humidity 0%~95RH(no condensation, no condensation)

temperature compensation -10~70°C

**Seismic Performance:** 10g(20... 2000Hz)

**Overload Capacity:** 200% range

**Response Frequency:**

analog signal output ≤ 500HZ

digital signal output ≤ 5HZ

**Stability:** ±0.1%FS/year

**Temperature Drift:**

±0.01%FS/°C (within the temperature compensation range)

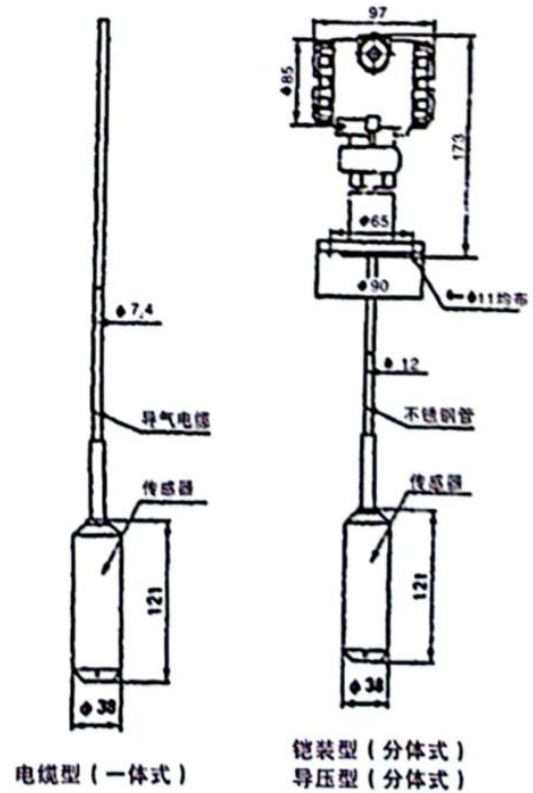
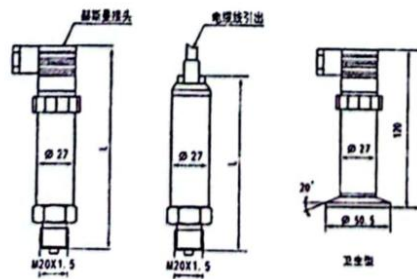
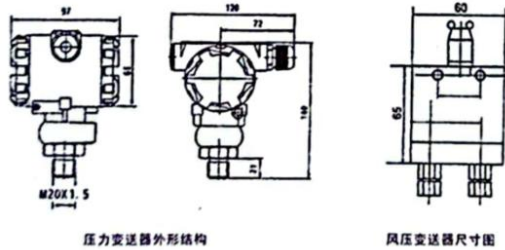
**Protection level:**

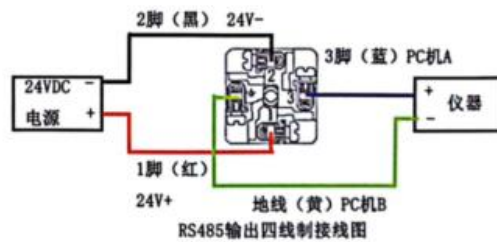
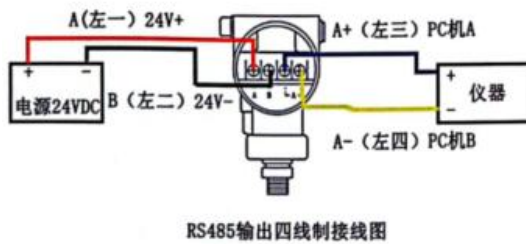
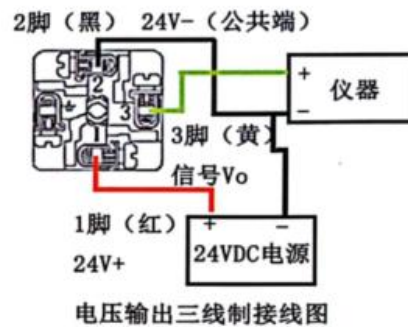
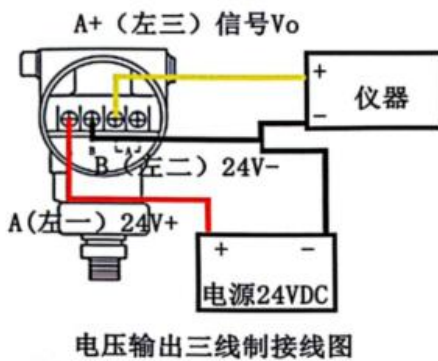
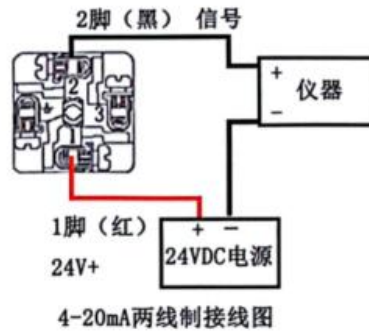
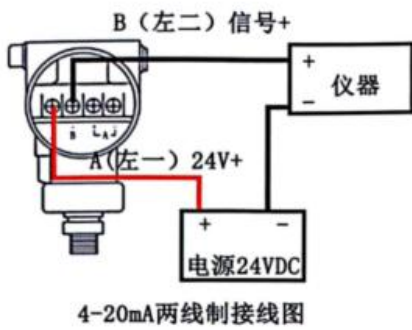
IP65(no display)

IP54(display)

**Maximum Power:** ≤ 0.02Us(W)

#### 4. product Size





## 5. Usage Precautions

- ① Must be installed in the case of no pressure and no power supply.
- ② It is forbidden to measure materials that are incompatible with the contact material of the transmitter.
- ③ No modifications or changes can be made on the device.
- ④ This product is a weak current equipment, wiring to ensure that the transmitter has been disconnected from the pressure source and power, so as to avoid the media ejection accidents.
- ⑤ This product is not explosion-proof, do not use in the explosion-proof area.
- ⑥ Less than 0.03MPa vertical installation (except for gas), so as not to affect the measurement accuracy.
- ⑦ When measuring steam or gas high temperature medium, be careful not to let the medium temperature exceed the working temperature limit of the transmitter, if necessary, need to install a cooling device.
- ⑧ The installation process should use a hex wrench from the bottom of the equipment at the hexagonal nut to tighten the transmitter, to avoid directly spinning the upper part of the

equipment and causing the connection line to disconnect.

⑨ Ensure that the power supply voltage meets the transmitter power supply requirements, and ensure that the highest pressure source is within the range of the transmitter.

⑩ The sensor compartment is a precision device, the user should not disassemble it, but not touch the diaphragm, so as not to cause product damage.