



## Pressure transmitters Manual -[SI200/SIH200](#)

### I. Overview

Silicon series pressure transmitters are widely used in pressure measurement applications where various mechanical equipments need to be embedded. This product adopts ultra-small structure and the whole machine is small in size.

Silicon series pressure transmitters are available in a variety of interface styles and simple lead styles. HIRSC-HMAWN connectors are used as electrical output connectors. User installation and commissioning is very convenient, especially for petroleum, chemical, metallurgy, electric power, light industry, building materials and other industries. Remote detection of gas, liquid and vapor pressures and use of measurement and control equipment.

### II, The main features

Silicon series pressure transmitters, using high-precision, high-stability, diffused silicon pressure sensor components from famous American companies, using special aluminum alloy surface treatment technology and unique sensor stress isolation technology, precision temperature compensation and high stability amplification processing The pressure signal of the measured medium is converted into a standard electrical signal of 4-20mADC. High-quality sensors, superb packaging technology and a complete assembly process ensure the quality and performance of the product.

### III. Technical parameters

#### Main Specifications

1. Range: 0~0.01MPa to 0~60MPa
2. Output signal: 4~20mADC (two-wire system)
3. Accuracy: 0.25%
4. Working voltage: 13~45VDC (two-wire system); standard 24VDC 5%, Ripple is less than 1%.
5. Load resistance: <math><600\Omega</math>
6. Ambient temperature: (-10-80 ° C); relative humidity:  $\leq 95\%$ .

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7. Medium temperature: (-10~50) °C
8. Storage temperature: -40~125 °C
9. Zero adjustment: output range taxi 20%.
10. Range adjustment: 20% of the output range soil
11. Anti-overpressure: 2 times the full scale.

## Structural characteristics

1. Shell material: stainless steel (1Cr18Ni9Ti)
2. Lead mode: HIRSCHMAWN connector two-core or three-core shielded cable
3. Weight: about 0.3kg
4. Process interface: M20x1.5 (or customized according to user requirements)

## IV. Silicon series pressure transmitter working principle, appearance, process connection size

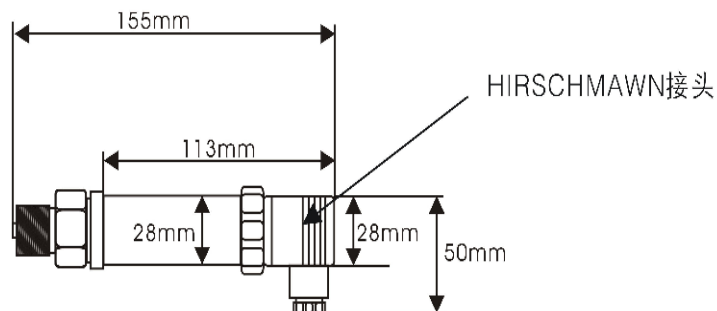
### 1. Principle of operation

The process pressure acts on the working face of the sensor element and creates a pressure differential with the pressure at the reference end of the sensor (atmospheric pressure, absolute pressure or sealing pressure). Under this pressure difference, the electrical parameters (resistance or capacitance value) of the sensor change and become the corresponding current signal. Then, the correction and compensation circuit or smart chip performs nonlinear correction and temperature compensation, and finally outputs 4~20mA or other standard output signals linearly corresponding to the process pressure.

### 2. Dimensional drawing

The outer casing is made of stainless steel (1Cr18Ni9Ti) and the electrical connector is HIRSCHMAWN connector.

The dimensions are as follows:



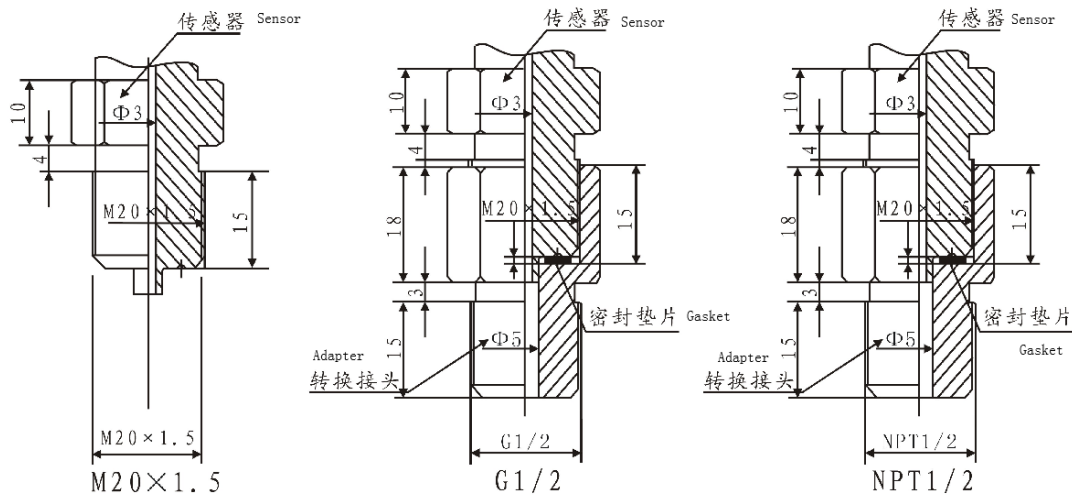
### 3. Process connection thread size

The default is M20x1.5 external thread, and the interface installation method can also be customized according to user requirements.

The commonly used interface sizes are as follows:

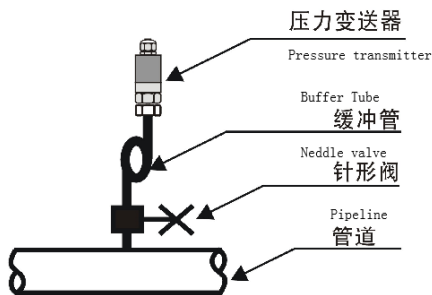
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## V. Installation method

During installation, check whether the field interface is consistent with the product interface according to the product connection method. Torque cannot be applied directly to the transmitter housing and can only be applied to the six sides of the interface. This product is a precision transducer instrument. It is forbidden to disassemble, collide, drop, and beat hard. The transmitter works when it is powered up, but the output is stable after 30 minutes of warm-up. Common installation methods are buffer tube and needle valve installation. The schematic is as follows:

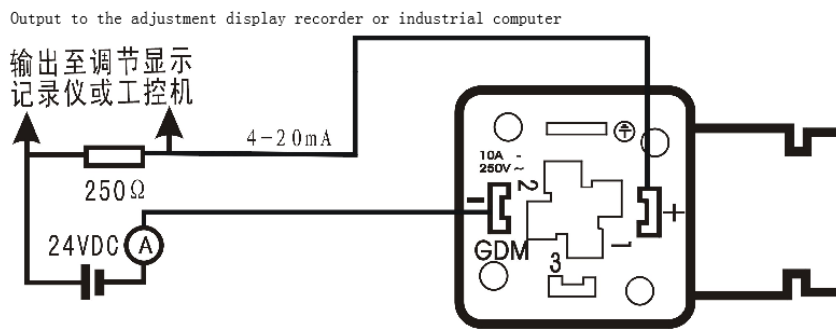


## VI, Wiring, debugging instructions

1. The electrical connection of the silicon series transmitter is shown in the following figure: The transmitter wiring can be wired according to the lead color or digital mark on the HIRSCHMAWN connector. The schematic diagram is as follows:

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4-20mADC (two-wire) wiring

## A. 4 ~ 20mADC(两线制)接线

### 2, Adjustment method:

Loosen the lock nut of the wiring hole, remove the HIRSCHMAWN connector and socket, and then unscrew the stainless steel case of the transmitter clockwise. You can see that there are two potentiometers on the internal circuit board, and the zero mark is marked with "Z". 4 mA) potentiometer, labeled "S" for the full point (20 mA) potentiometer.

- ① Enter the initial pressure (zero position) and adjust the zero potentiometer so that the output is 4 mA.
- ② Input the upper limit of the range, adjust the full potentiometer to make the output 20mA.
- ③ Repeat 1 and 2 steps 2~3 times.

Note: When the user does not have a pressure source, the range can be specified when ordering, and the factory will set the factory according to the requirements; if there is no transmitter indicating the range, the factory will set the standard according to the standard range.

## VII, Maintenance and quality assurance

- 1 Under normal conditions, the instrument does not require special maintenance.
- 2, due to product quality problems caused by the failure, the implementation of free maintenance within 12 months of the factory.

## VIII, Random attachments

1. A manual of the transmitter product manual.
- 2, one factory inspection certificate.

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