# Pressure Transmitter

## Features

- German imported diffusion silicon sensor, fast response, accurate and stable measurement.
- With diaphragm isolation technology, integrated core and wide voltage supply.
- Shell is 304 stainless steel, sturdy and durable, diaphragm is 316L stainless steel, strong corrosion resistance.
- The product adopts 8-point standard calibration and 4-point detection calibration, covering the full range of measurement.
- Customized parameters and product labels are available upon request.

## Parameters

- Measuring medium: water, gas, oil, liquid (compatible with SS316L)
- Pressure type: Gauge pressure (default), Absolute pressure, Negative
- pressure, Vacuum pressure, Sealing pressure
- Measuring range: -1bar-0-1000bar(-100Kpa-0-100Mpa)
- Output: 4-20mA, 0-5V, 1-5V, 0.4V-4.5V, 0-10V, RS485
- Power supply: 12V/24VDC, 12V-24VDC, 5VDC, customized
- Thread size: M14*1.5, M16*1.5, M20*1.5, G1/2, G1/4, G1/8, G3/8,
- NPT1/2, NPT1/4, customized
- Accuracy: 0.2%F.S, 0.5% F.S. (default)
- Overload capacity: 150% F.S.
- Response time: ≤10ms
- Protection grade: IP65
- Long-term stability: ±0.2%F.S./1year
- Medium temperature: -10℃-85℃
- Operating temperature: -10℃-65℃
- Temperature drift: 0.05%F.S./℃(-10℃-65℃)

## Product Material

- Husman connector: ABS engineering plastic
- Sealing gasket: ABS engineering plastic
- Shell: 304 stainless steel (Customizable SS316)
- Diaphragm: 316L stainless steel
- Process connection: 304 stainless steel

## Mechanical Stability

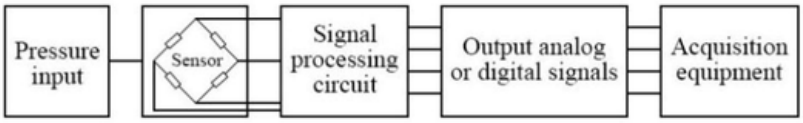
- Anti vibration performance: 10g (20... 2000Hz)
- Impact resistance: 500g/ms

## Electrical Protection

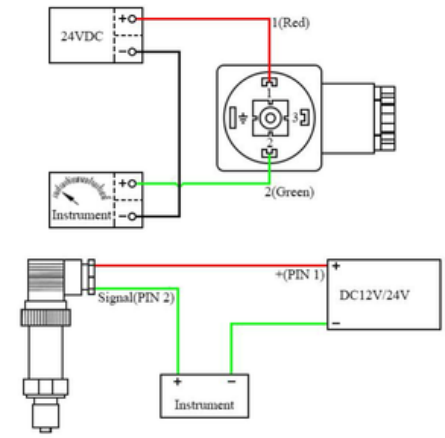
- Short circuit protection: permanent
- Reverse protection: No damage, but not working
- Insulation resistance: ≥ 100M Ω 500VDC
- Insulation strength: 500V AC

## Working Principle

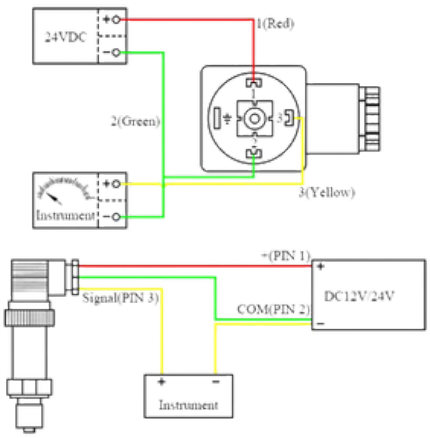
- The pressure sensor is a Wheatstone bridge diffused on a single crystal silicon wafer. The measured medium (gas or liquid) applies pressure to change the resistance of the bridge wall (piezoresistive effect), generating a differential voltage signal. This signal is converted into a standard analog or digital signal corresponding to the range through a dedicated amplifier.



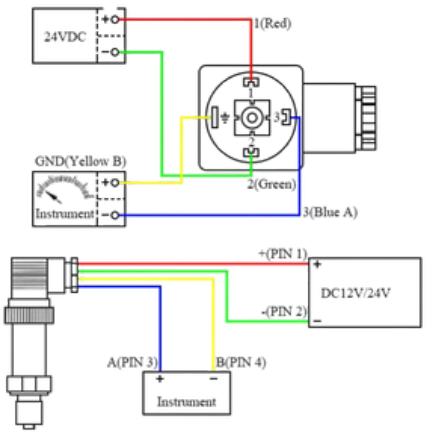

## Wiring Diagram




Current output: Red:DC24V+ Green:current output




Voltage output: Red:DC24V+ Green:COM Yellow:voltage output



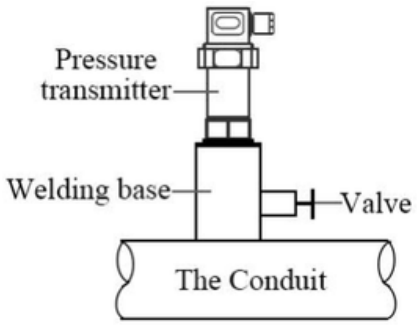

RS485 Output: Red:24V+ Green:24V- Blue:A Yellow:B

**Precautions For Use**

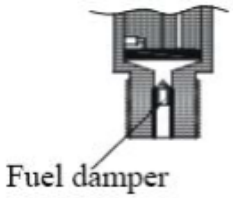
1. This product uses a diffused silicon oil filled core. Improper use may cause explosion accidents. To ensure safety, measuring oxygen is strictly prohibited.
2. It is prohibited to measure media that are incompatible with the medium in contact with the transmitter.
3. No modifications or changes are allowed on the device.
4. When measuring steam or other high-temperature media, be careful not to let the medium temperature exceed the upper limit of the transmitter's operating temperature. If necessary, a cooling device should be installed.
5. This product belongs to weak current equipment and must be wired separately from strong current cables.
6. Ensure that the power supply voltage meets the power supply requirements of the transmitter, and ensure that the high pressure of the pressure source is within the range of the transmitter.
7. During the pressure measurement process, the pressure should be slowly increased and released to avoid sudden high pressure or product damage.

**Installation Precautions**

1. Equipment installation must be carried out without pressure orpower supply.
2. Try to install it in places with small temperature gradient changes.
3. In hydraulic systems, attention should be paid to installing the pressure interface of the equipment upwards (to facilitate gas discharge).
4. Vertical installation within a range of less than 0.03Mpa (except for gas specific applications) to avoid affecting measurement accuracy, and other installations can be made at any angle on the measurement point.
5. It is recommended to install a pressure cut-off valve before the pressure measurement point for easy maintenance and disassembly of the equipment. During the initial installation of pressure measurement, it can reduce pressure shock. After waiting for the pressure in the pipeline to stabilize, slowly open the shut-off valve and start measuring.




6. The sensor is equipped with a pulse buffer inside, which may block the pressure hole if there are particles in the liquid. If there is blockage, you can choose a diaphragm type pressure transmitter or use a hex wrench to remove and clean the pulse buffer. (Do not touch the internal pressure-sensitive film with hard objects during disassembly)




7. If the equipment is installed in a harsh environment 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 equipment.

**Common Fault Analysis And Troubleshooting**

| Fault | Analysis | Exclusion method |
|---|---|---|
| No output signal | *No power supply<br>*Wiring error | *Provide correct power supply and wiring |
| Output under constant pressure, with non-standard jump | *Strong interference | *Use shielded cables and ground the shielding layer<br>*Reliable connection between pressure transmitter and earth<br>*Remove the interference source |
| Pressure changes, but output remains constant | *Incorrect power supply voltage<br>*Excessive external load<br>*Mechanical overload caused by overvoltage | *Does it comply with the power supply range<br>*Adjust external load |
| Incorrect output value | *Not in their working environment | *Please comply with the allowed humidity and temperature in the environment |

**NOTICE**

- Please check the product label to see if it is the same as your ordering parameters.
- Please read this instruction manual carefully before use. If you have any questions, please contact us for assistance.
- Make sure to follow under no pressure and no power when using.
- The transmitter adopts diffusion silicon oil-filled core, please do not use in high temperature or explosion-proof area to avoid accidents.
- It is prohibited to measure media that are not compatible with the contact material of the transmitter, and it is strictly prohibited to measure oxygen.
- When measuring pressure, please pressurize or relieve the pressure slowly to avoid instantaneous shock to the sensor by adding to the maximum pressure or to the maximum pressure, which may cause damage to the sensor.
- When disassembling the product, make sure that the pressure source and power supply have been disconnected to avoid accidents caused by the spraying of media.

**Description**

- By using imported diffused silicon cores, high-performance circuit boards, sensitivity and temperature compensation technology, the physical pressure parameters sensed by pressure sensors such as gases and liquids are converted into standard electrical signals, which are supplied to secondary instruments such as indicator alarms, recorders, and regulators for measurement, indication, and process adjustment.
- Absolute pressure, negative pressure, and gauge pressure can be measured according to different models. Suitable for pressure measurement in liquid or gas and process industries.

**Sample Standard Model Code**

| 1 | 2 | 3 | 4 | 5 | 6 |
|---|---|---|---|---|---|
| P300 | 1 | C (0-10bar) | 1 | 1 | 2 |

| Code Description | Code Option | Description |
|---|---|---|
| 1.Base Model Numbers | P300 | Pressure Transmitter |
| 2.Display | 1 | No display |
| | 2 | LED display |
| | 3 | LCD display |
| 3.Measuring Range | 1 | -1bar-0-1000bar |
| | 2 | -0.1Mpa-0-100Mpa |
| | 3 | -14psi-0-14500psi |
| | C | Customize |
| 4.Signal Output | 1 | 4-20 mA |
| | 2 | 0-5 Volt |
| | 3 | 0-10 Volt |
| | 4 | RS485 |
| 5.Power supply | 1 | 24 Vdc |
| 6.Connector | 1 | G 1/2" |
| | 2 | G 1/4" |
| | 3 | NPT 1/2" |
| | 4 | NPT 1/4" |

# Thank you

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## PARKARN INSTUMENT Co.,Ltd