Sensor Co.,LTD

# PRODUCT OVERVIEW

# PRESSURE MEASUREMENT

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# P20 Series Industry Pressure Transducer & Transmitter


P20H


P20M


P20S

## Characteristics

- ☆ Accuracy: ≤±0.5%F.S.
- ☆ High stability and reliability
- ☆ Using industrial silicon sensor
- ☆ Digital calibration system
- ☆ Multifarious electronic connector
- ☆ Temperature compensate
- ☆ Zero point drift small ling
- ☆ CE /RoHs compliant
- ☆ Zero point and span adjustable via internal potentiometer

## Applications

- ☆ Hydraulic pressure controller
- ☆ Industrial automation control
- ☆ Water conservancy
- ☆ Pressure meter
- ☆ Laboratory equipment
- ☆ Real-time management well
- ☆ Automatic detection system
- ☆ Process control
- ☆ And so on

## Profiles

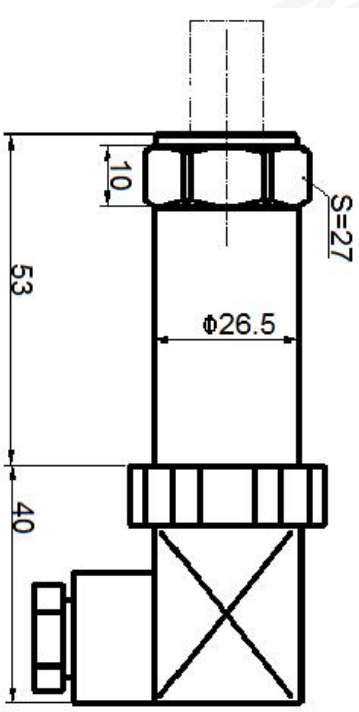
Pressure transmitter P20 is designed for use in almost all industrial applications, and offers a reliable pressure measurement. The flexible pressure transmitter programme covers current , voltage, digital and double output signal, absolute and gauge (relative) versions, measuring ranges from -1~0 to 0-600 bar and a wide range of pressure and electrical connections. The fully welded measuring system (without seals) made of high-grade stainless steel allows this device to be used in almost all media, even in harsh conditions. The structure ensures optimum protection against process medium leakage. It uses high quality imported piezoresistive pressure sensor that is resistant to extreme overloading and is capable of handling millions of pressure cycles. Through strict component making, semi-finished product and all-finished product testing and aging, the transmitter is stable and reliable, having excellent flexibility, sensitivity and diversity. Excellent vibration stability, robust construction, and a high degree of EMC/EMI protection equip the pressure transmitter to meet the most stringent industrial requirements.

## Specifications

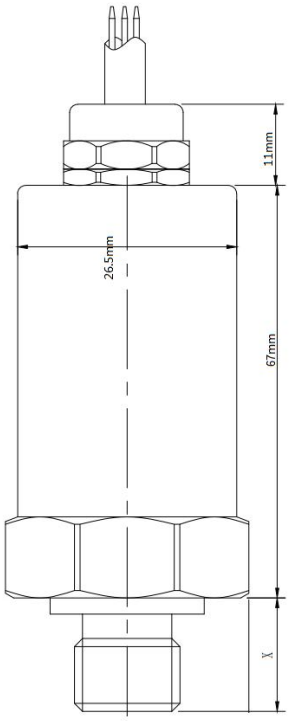
| Model / Parameter | P20 | | | | |
|---|---|---|---|---|---|
| Pressure Range | -1 Bar-1 Bar; 0-0.1Bar.....600 Bar / 0-2 Psi...9000 Psi Optional | | | | |
| Pressure Type: | Gauge pressure; Absolute pressure; Sealed gauge pressure; Negative pressure optional. | | | | |
| Safe Overload | 200% F.S.(standard) | | | | |
| Burst Pressure | 300% F.S. (standard) | | | | |
| Accuracy (Linearity Hysteresis Repeatability) | ≤±0.5%F.S; ≤±0.25%F.S<br>≤±0.1%F.S (Customized)<br>Including non-lin., rep. and hys. Optional | | | | |
| Total Error Band | 0...50 °C max. ±0.5 %FS; -10...70 °C max. ±1.0 %FS | | | | |
| Long-term Stability | Standard: 0.1%F.S±0.05% | | | | |
| Working/Storage Temp. | -30℃~85℃ | | | | |
| Tempe Compensation | -10℃~60℃(standard); -20℃~60℃; -20℃~80℃(customized) | | | | |
| Medium compatible | Compatible with 316 Stainless Steel or 1Cr18Ni9Ti stainless steel | | | | |
| Electrical Wire | 2 Wires | 3 or 4 Wires | 3 Wires | 4 Wires | 4 Wires |
| Output | 4~20mA | 4-20 mA or Double 4-20mA | 0~5V ,1~5V, 0-10V | RS485 | 4~20mA +Temp (Ω) |
| Power Supply | 12~36 Vdc | 12~36 Vdc | 8~36Vdc/15-36Vdc | 10~30 Vdc | 12~36 Vdc |
| Load Resistance | (U-10)/0.02 (Ω) | Current type: (U-10)/0.02 (Ω); Voltage type: ＞100K Ω | | | |
| Insulate resistance | >100M Ω @100V dc | | | | |
| Zero Temp. Drift | 0.03%FS/℃（≤100kPa）, 0.02%FS/℃（>100kPa） | | | | |
| Body material | 316 stainless steel (standard); 1Cr18Ni9Ti stainless steel optional | | | | |
| Material of diaphragm | 316L Stainless steel | | | | |
| Filling oil | Silicon oil (standard); Fluorocarbon oil (Oxygen Services) | | | | |
| Electrical connection | -DIN43650 Hirschmann Connector, 4-pin and IP65.<br>-Plug: M12 (4-pin) Type IP67;<br>-Directly Outlet Cable Type IP68 optional. | | | | |
| Limiting Frequency | 1 kHz | | | | |
| Mechanical vibration | ±20g | | | | |
| Pressure connect port | G1/4''male, G1/2''male, 1/8''NPT male, 1/4''NPT male, 1/2''NPT male and female optional. (by customized) | | | | |
| Water Proof | IP65 | | | | |
| Response time | ≤1ms | | | | |
| Endurance | ＞100 million cycles, 0…100 %FS at 25℃ | | | | |
| Options | Pressure Connection, Electrical Connection Others on request. | | | | |

## Dimension and Drawing

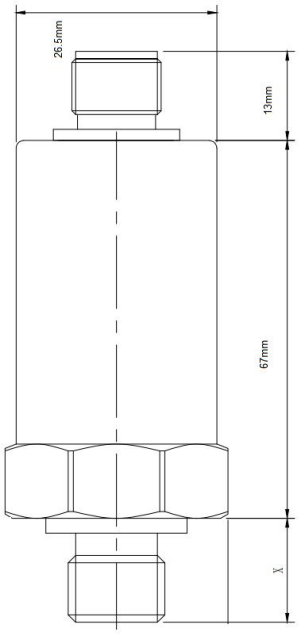
UNIT:mm




P20H



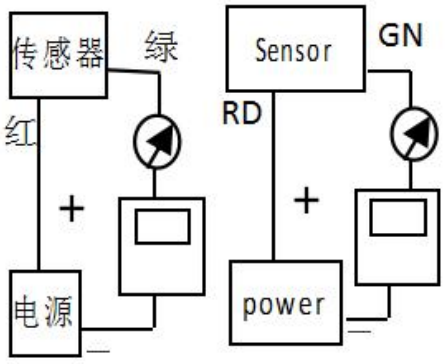

P20S



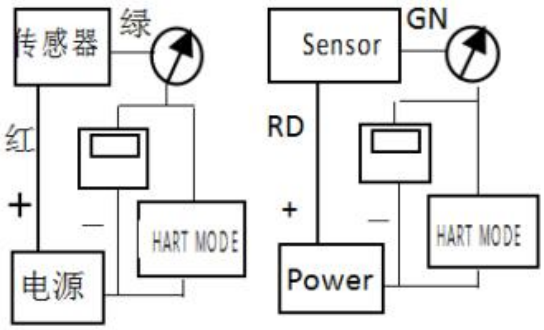

P20M

The dimensions above are just for reference purposes only. The actual dimension of the sensors may differ in different orders.

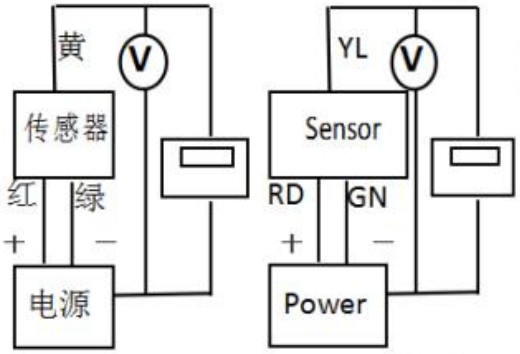
## Electrical Connections



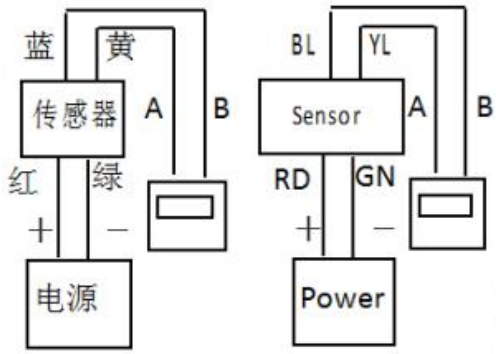

Current output, 2-wire




Hart protocol output




Voltage output, 3-wire




RS485 output

## Part Number Code Table For Pressure Range

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | 000 | -1-0 | | 016 | 0-1.5 | | 032 | 0-10 | | 048 | 0-125 |
| | 001 | -1-1 | | 017 | 0-1.6 | | 033 | 0-12 | | 049 | 0-150 |
| | 002 | -1-9 | | 018 | 0-1.7 | | 034 | 0-15 | | 050 | 0-200 |
| | 003 | -1-10 | | 019 | 0-1.8 | | 035 | 0-16 | | 051 | 0-250 |
| | 004 | -1-16 | | 020 | 0-1.9 | | 036 | 0-20 | | 052 | 0-300 |
| | 005 | -1-20 | | 021 | 0-2.0 | | 037 | 0-25 | | 053 | 0-350 |
| | 006 | -1-25 | | 022 | 0-2.1 | | 038 | 0-30 | | 054 | 0-400 |
| | 007 | -1-30 | | 023 | 0-2.2 | | 039 | 0-35 | | 055 | 0-450 |
| | 008 | -1-35 | | 024 | 0-2.3 | | 040 | 0-40 | | 056 | 0-500 |
| | 009 | -1-40 | | 025 | 0-2.5 | | 041 | 0-50 | | 057 | 0-600 |
| | 010 | -1-65 | | 026 | 0-3 | | 042 | 0-60 | | 058 | 0-700 |
| | 011 | 0-0.5 | | 027 | 0-4 | | 043 | 0-65 | | 059 | 0-800 |
| | 012 | 0-1.0 | | 028 | 0-5 | | 044 | 0-70 | | 060 | 0-1000 |
| | 013 | 0-1.1 | | 029 | 0-6 | | 045 | 0-80 | | 061 | 0-5000 |
| | 014 | 0-1.2 | | 030 | 0-7 | | 046 | 0-90 | | 062 | 0-9000 |
| | 015 | 0-1.3 | | 031 | 0-8 | | 047 | 0-100 | | X | Customized |

## Order Information

| P/N / Selection | P20 (Model) | H | E0 | S37 | 3 | 010 | B | 1 | 1 | N | G |
|---|---|---|---|---|---|---|---|---|---|---|---|

| | | |
|---|---|---|
| Electrical Connection | H= Hirschmann DIN43650<br>S= Directly Outlet Cable<br>M= M12 (4-pin) Type | |
| Output | E0=1-5V (3 wire)<br>E6=0-5V (3 wire)<br>X=By Customized | E5= 4-20mA(2 wire)<br>E7=0-10V(3 wire) |
| Power Supply | S37=12~36Vdc<br>S52=8~36Vdc<br>X= By Customized | S44=15~36Vdc<br>S17=10~30Vdc |
| Pressure connection | 3=1/4'' NPT male<br>7=G1/4" Female<br>9=G1/2'' male<br>26=1/4''-18 NPT female<br>X=By Customized | 6=G1/4'' male<br>8=M20x1.5 male<br>10=1/2'' NPT male<br>5=1/8'' NPT male |
| Pressure Measurement | See last pages pressure range code table and select your requested range code adhere here | |
| Pressure Unit | B=Bar P=Psi K=KPa M=MPa<br>H=mH2O | |
| Accuracy | 1=0.5%F.S | 2=0.25%F.S |
| Cable length | 0=Non-Cable | 1=Cable 1M X=By Customized |
| Other Spec | N=None(Standard) | |
| Pressure type | G=Gage S=Sealed A=Absolute | |



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