

PC7 Piezoresistive Silicon Pressure Sensor

Features

- High reliability imported pressure chip
- High non-linearity and good stability
- Small size, package size $\phi 10 \times 8$ mm
- Wide range, 1MPa to 40MPa
- All 316L material
- O-ring seal

Applications.

- Pressure controller products
- Process control system
- Instrument industry
- Hydraulic systems and valves
- Biomedical instruments
- Shipping and navigation

Notes:

- 1 Do not touch the diaphragm with hard objects, which may cause damage to the diaphragm.
- 2 Please read the Instruction Manual of the product carefully before installation and check the relevant information of the product.
- 3 Strictly follow the wiring method for wiring, otherwise it may cause product damage or other potential faults.
- 4 Misuse of the product may cause danger or personal injury.



Product overview

PC7 silicon piezoresistive pressure sensor is a small diameter, high performance, high reliability, wide range pressure sensor. It uses imported pressure chips, optional constant current and constant pressure excitation and standard millivolt signal output.

PC7 packages diffused silicon pressure sensitive die in a $\phi 10 \times 8$ mm 316L stainless steel housing, which is led out by kovar pin. External pressure is transmitted to pressure sensitive die through stainless steel diaphragm and internally sealed silicon oil. Pressure sensitive die does not directly contact with measured medium, forming all solid structure of pressure measurement. So the product can be applied to a variety of occasions, including harsh corrosive medium environment.

Notes:

- 1 Do not misuse documentation.
- 2 The information presented in this product sheet is for reference only. Do not use this document as a product installation guide.
- 3 Complete installation, operation, and maintenance information is provided in the instructions of the product.
- 4 Misuse of the product may cause danger or personal injury.

The company can also undertake special customization according to the needs of users, such as pressure sensor with pressure port and external hanging compensation pipe

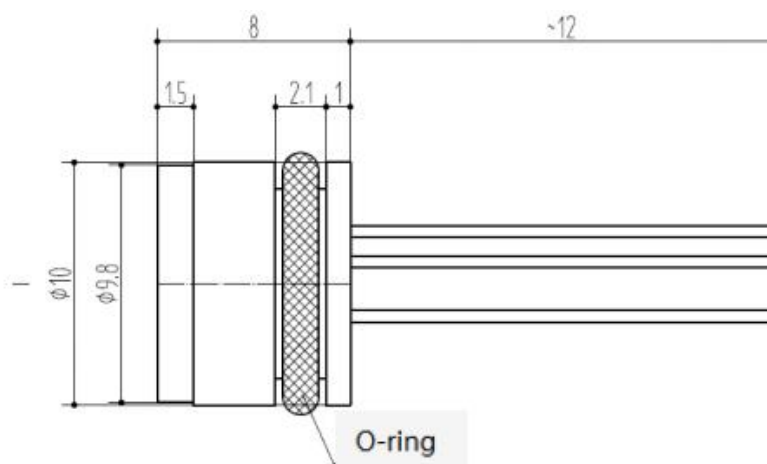
Performance parameters

Pressure range	1MPa~40MPa
Pressure reference	Absolute pressure, Sealed gauge pressure
Excitation	1.5mA recommended for constant current 5V recommended for constant voltage
Operating temp.	-40℃~125℃
Storage temp.	-40℃~125℃
Zero output	±30mV
Span output	≥60mV
Zero temp. coefficient	10%FS
Span temp. coefficient	10%FS
Impedance	(2~6)kΩ
Insulation resistance	≥200MΩ/250VDC
Long-term drift	≤0.2%FS/year
Non-linearity	≤0.25%FS (BFSL)
Repeatability	≤0.05%FS
Lead out mode	Pin

Structural performance parameters

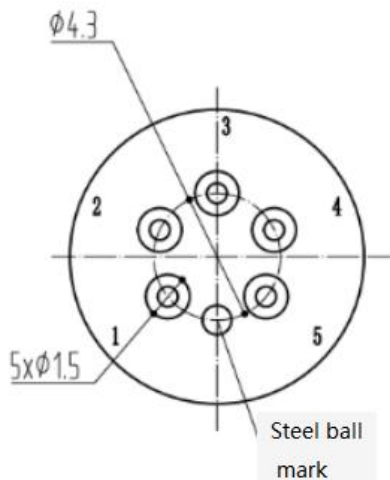
Diaphragm material	316L
Housing material	316L
Oil filling	Silicon oil
Sealing ring	NBR or fluorine rubber

Structure & dimension (in mm)



Electrical connection (in mm)

5 pin (5p)



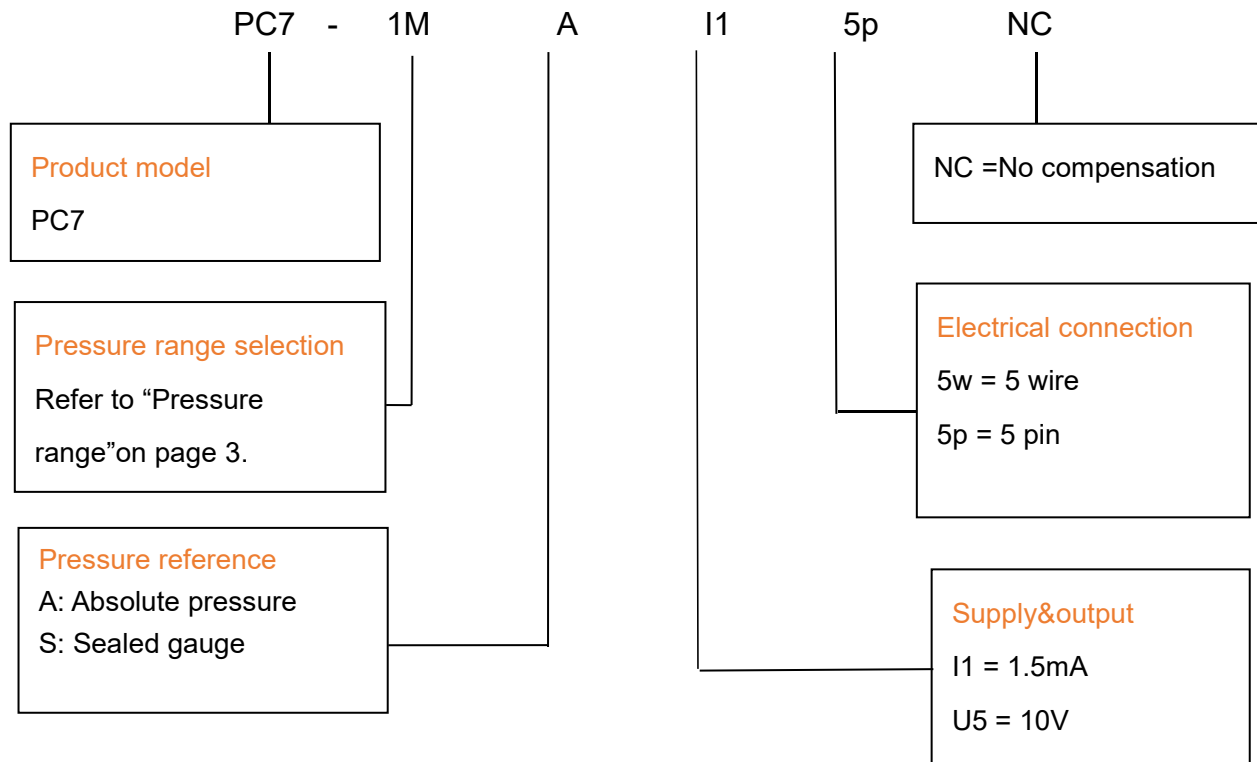
Pin	Definition
1,5	Excitation-(IN-)
2	Output+(OUT+)
3	Excitation+(IN+)
4	Output-(OUT-)

Pressure range selection

Code	Pressure reference	Pressure range	Overpressure	O-ring
1M	A、S	0~1MPa	200%FS	NBR
1.6M	A、S	0~1.6MPa	200%FS	NBR
2.5M	A、S	0~2.5MPa	200%FS	NBR
4M	A、S	0~4MPa	200%FS	NBR
6M	A、S	0~6MPa	150%FS	NBR
10M	A、S	0~10MPa	150%FS	NBR
16M	S	0~16MPa	150%FS	NBR
25M	S	0~25MPa	150%FS	NBR
40M	S	0~40MPa	150%FS	NBR

Note: G: Gauge pressure, A: Absolute pressure, S: Sealed gauge pressure

How to order



Example: PC7-1MAI15pI1NC

Product model: PC7. 1M: pressure range 0~1MPa. A: Absolute pressure. 5p: electrical connection 5 pin. I1: 1.5mA excitation. NC: No compensation. Default 0.5mm junk ring.

Ordering tips:

- 1 Pressure range can be selected higher or lower than actual conditions but should be within $\pm 30\%$ FS.
- 2 Pressure reference consists of gauge pressure, absolute pressure and sealed gauge pressure.
 - (1) Gauge pressure is based on the current atmospheric pressure. Generally, it refers to the measurement of pressure which is greater than the current atmospheric pressure. Negative pressure is a special case of gauge pressure. It refers that there is such working condition that the pressure of work site is lower than the current atmospheric pressure.
 - (2) Absolute pressure is based on vacuum.
 - (3) As for sealed gauge pressure, PC7 uses absolute pressure die for gauge pressure product based on the atmospheric pressure of production site. For pressure range above 4MPa, gauge pressure cannot be selected, but only sealed gauge pressure.
- 3 Confirm the maximum overload of the applied system, which should be less than the overload protection limit of the sensor, otherwise it will affect the product life or even damage the product.
- 4 The commonly used compensation of the product is 1.5mA constant current compensation. Suggest to select the option with priority.
- 5 The material and process for manufacturing negative pressure sensors are different from those of positive pressure sensors. So gauge pressure sensors cannot be used as substitute of negative pressure sensors.
- 6 For special requirements on performance parameters and functions of the product, please contact us.



Wotian reserves the right to make any change in this publication without notice. The information provided is believed to be accurate and reliable as of this product sheet.

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