

# PC10R Glass Micro Fused Pressure Sensor

## Features

- With constant current and constant voltage excitation options
- Imported highly reliable chip
- Wide temperature compensation
- Normalized output available
- Compensation board filled with glue for protection against moisture
- $\Phi 19\text{mm}$  standard OEM
- All 316L material
- High performance, all solid, high reliability
- 18 months warranty period
- Good shock resistance

## Applications

- Process control systems
- Pressure calibration instruments
- Refrigeration equipment and HVAC control
- Hydraulic systems and valves
- Level measurement
- Biomedical instruments
- Ships and navigation
- Aircraft and avionics systems
- Weaponry



## Product overview

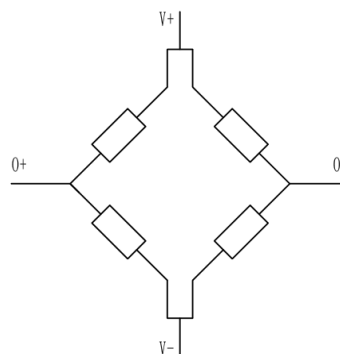
PC10R glass micro fused pressure sensor is the core component for the manufacture of pressure sensors and pressure transmitters. As high-performance and shock resistant pressure sensitive component, PC10R can be easily amplified and assembled into the pressure transmitters with standard signal output.

The production process of PC10R is that chip glued to 17-4PH stainless steel diaphragm with glass glue. External pressure is transmitted to the chip through stainless steel diaphragm. The chip does not directly contact with measuring medium, forming all solid structure of pressure measurement. So the product can be applied to a variety of occasions, especially harsh corrosive medium environment with large shock.

PC10R uses O-ring for pressure seal, which is easy to install.

The company can also undertake special customization based on the needs of users, such as pressure sensors of all welded structure, wide temperature compensation, high reliability, anti-shock and anti-vibration sensors, especially for national defense weapons and equipment.

## Equivalent circuit



**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.

**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.

**Electrical performance parameters**

Pressure range	0~1MPa...100MPa
Pressure reference	Gauge pressure
Excitation	1.5mA
Input impedance	1kΩ~3kΩ
Electrical connection	silicon soft wire
Compensation temp.	-10℃~70℃
Operating temp.	-40℃~120℃
Storage temp.	-40℃~125℃
Insulation resistance	≥200MΩ/250VDC
Response time	≤1ms (up to 90%FS)
Measuring medium	All the liquids and gases compatible with 17-4PH.
Mechanical vibration	20g (20~5000Hz)
Shock	100g (10ms)
Service life	10×10 <sup>6</sup> (cycles)

**Structural performance parameters**

Diaphragm material	17-4PH
Housing material	304
Filling oil	None
Sealing ring	Fluorine rubber

### Basic parameters

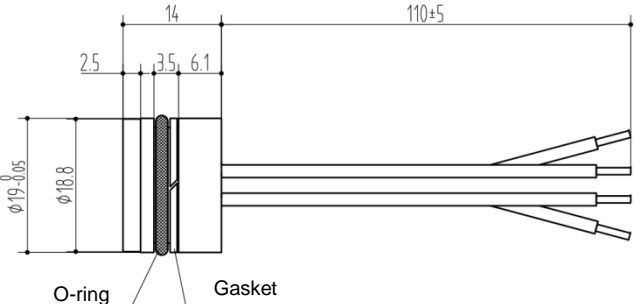
Item	Condition	Min	Nominal	Max	Unit	Note
Nonlinearity		-0.5	±0.3	0.5	%FS	Note(1)
Hysteresis		-0.05	±0.03	0.05	%FS	
Repeatability		-0.05	±0.03	0.05	%FS	
Zero output		-2	0	2	mV	
Full scale span output		30	80	120	mV	
Zero temp. coefficient		-1	±0.3	1	%FS	Note(2)
Span temp. coefficient		-2	±1	2	%FS	Note(2)
Thermal hysteresis		-0.075	±0.05	0.075	%FS	Note(3)
Long term stability		-0.3	±0.2	0.3	%FS/Year	

Note:

- (1) Calculate according to BFSL least square method.
- (2) In the compensation temperature range, refer to -10°C~70°C.
- (3) After passing high and low temperature, return to the reference temperature.

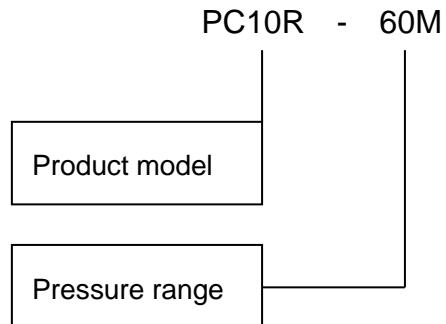
### Structure, dimensions & electrical definition

Unit (mm)

	<table border="0"> <tr> <td>Wire color</td> <td>Definition</td> </tr> <tr> <td>Red</td> <td>Excitation+(IN+)</td> </tr> <tr> <td>Blue</td> <td>Excitation-(IN-)</td> </tr> <tr> <td>Yellow</td> <td>Output+(OUT+)</td> </tr> <tr> <td>White</td> <td>Output-(OUT-)</td> </tr> </table>	Wire color	Definition	Red	Excitation+(IN+)	Blue	Excitation-(IN-)	Yellow	Output+(OUT+)	White	Output-(OUT-)
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### Pressure range selection

Code	Pressure range	Overpressure	Burst pressure
6M	0~6MPa	200%FS	300%FS
10M	0~10MPa	200%FS	300%FS
25M	0~25MPa	150%FS	200%FS
40M	0~40MPa	150%FS	200%FS
60M	0~60MPa	150%FS	200%FS
100M	0~100MPa	150%FS	200%FS



Example: PC10R-60M

PC10R pressure sensor, pressure range 60MPa, gauge pressure, 4 wire, 1.5mA excitation, current compensation.

### Ordering tips:

- 1 Pressure range can be selected higher or lower than actual conditions but should be within  $\pm 30\%$ FS.
- 2 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.
- 3 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.

### Contact us

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