

# PC12 II Flush Diaphragm Pressure Sensor with thread

## Features

- Imported highly reliable pressure die
- Glue filling moisture-proof protection
- All stainless steel housing material
- High accuracy, high reliability
- Strong anti-interference, good long-term stability
- 12 months warranty period

## Applications

- Glue
- Environmental protection, chemical, coating
- Polyurethane equipment
- Industry standards supporting

### 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.



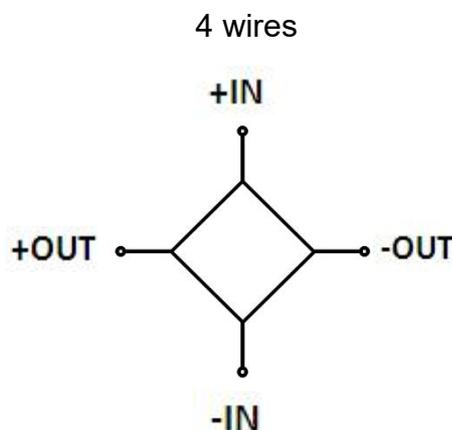
## Product overview

The PC12 II OEM products adopt a one-time oil filling technology. The diaphragm directly contacts the measuring medium, and the pressure is transmitted to the pressure chip through silicon oil to generate an electrical signal. The compensation circuit will modify the pressure signal to a linear pressure signal.

It adopts integrated structural design, with strong voltage resistance and touch resistance. The applied pressure is transmitted to the sensitive chip through the stainless steel diaphragm and the medium oil sealed internally. The sensitive chip does not directly contact the measured medium, forming an all-solid structure for pressure measurement, so the product can be used in various occasions, including harsh corrosive medium environment.

The company can customize products for customers, to make products of special structure and size. We have mature batch production lines, which can ensure production tasks be finished perfectly.

## Equivalent circuit



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	10MPa~60MPa
Pressure reference	Absolute pressure, Sealed gauge pressure
Excitation	1.5mA recommended for constant current 10V recommended for constant voltage
Input impedance	Constant current: 2kΩ~5kΩ Constant voltage: 5kΩ~18kΩ
Electrical connection	Silicon soft wire
Compensation temp.	-10℃~70℃
Operating temp.	-40℃~125℃
Storage temp.	-40℃~125℃
Insulation resistance	≥200MΩ/250VDC
Response time	≤1ms (up to 90%FS)
Measured medium	All the liquids and gases compatible with 316L.
Mechanical vibration	20g (20~5000Hz)
Durability	10 <sup>6</sup> pressure cycles

### Structural performance parameters

Diaphragm material	316L
Housing material	316L
Oil filling	Silicon oil

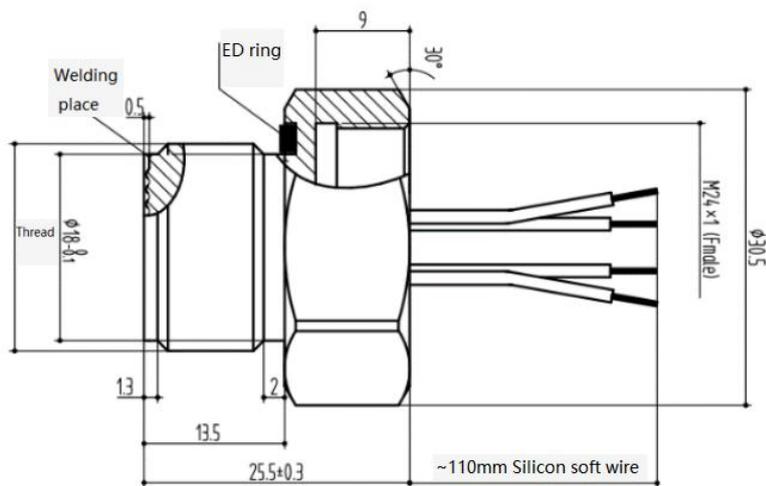
### Basic parameters

Item	Min	Nominal	Max	Unit	Notes
Nonlinearity	-0.3	±0.25	0.3	%FS	Notes(1)
Hysteresis	-0.05	±0.03	0.05	%FS	
Repeatability	-0.05	±0.03	0.05	%FS	
Zero output	-2	±1	2	mV	
Span output	60	90	150	mV	1.5mA supply
Zero temp. coefficient	-1.5	±1.2	1.5	%FS	Notes(2)
Span temp. coefficient	-1.5	±1.2	1.5	%FS	Notes(2)
Thermal hysteresis	-0.075	±0.05	0.075	%FS	Notes(3)
Long term stability	-0.3	±0.2	0.3	%FS/year	

Notes:

- (1) Calculate according to BFSL least square method.
- (2) In the compensation temperature range, refer to 0 °C ~ 60°C and -10 °C ~ 70 °C, and refer to 30 °C .
- (3)After passing high and low temperature, return to the reference temperature.

### Structure & dimension



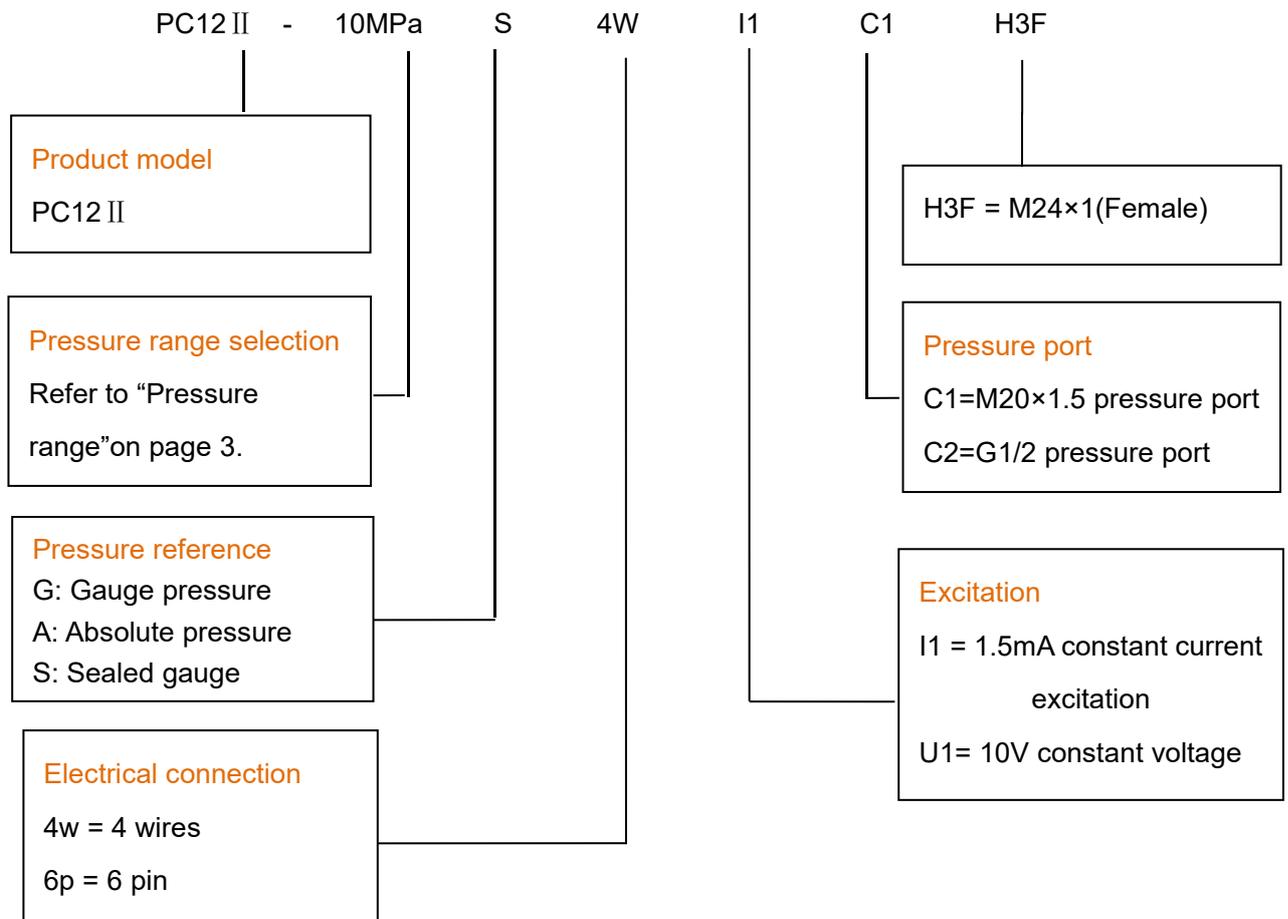
Wire color      Definition

Red	Excitation+(IN+)
Blue	Excitation-(IN-)
Yellow	Output+(OUT+)
White	Output-(OUT-)

### Pressure range selection

Code	Pressure reference	Pressure range	Overpressure	Burst pressure	O-ring
10M	S	0~10MPa	200%FS	400%FS	ED ring
16M	S	0~16MPa	200%FS	400%FS	ED ring
25M	S	0~25MPa	150%FS	400%FS	ED ring
40M	S	0~40MPa	150%FS	300%FS	ED ring
60M	S	0~60MPa	150%FS	300%FS	ED ring

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



**Example:**PC12 II -10MS4wI1C1H3F

Product model:PC12 II ,10M:pressure range 0~10MPa, S: Sealed gauge, 4w: electrical connection 4 wires, I1:1.5mA constant current excitation, C1:M20×1.5 pressure port, H3F:M24×1(Female), without cooling elements.

**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, it 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.

## **Contact us**

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