PC111K Flush Diaphragm Pressure Sensor with Clamp

Features

- Clamp-mounted flush diaphragm structure
- Highly reliable imported pressure die
- Food-grade oil filling isolation technology
- The compensated board with glue for moisture-proof protection
- All stainless steel housing
- High accuracy and high reliability
- Excellent anti-interference performance and long-term stability
- 18 months guarantee

Applications

- Medical & food industry applicable
- Eco-friendly chemical coating
- Polyurethane equipment application
- 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 PC111K pressure sensor adopts food-grade oil filling technology. The perceived pressure is transmitted to the pressure die through the oil to generate an electrical signal, and the compensation circuit corrects the pressure signal to a linear electrical signal. The clamp-face diaphragm is exposed and directly senses the pressure, which can prevent problems such as scaling, unsanitary and viscous pressure blockage, and is widely used in hygiene industries such as food, pharmaceutical, and brewing, as well as in situations where measured media may become fouled.

Our company can undertake customized products with special structures and sizes, and has a mature batch production line that can complete production tasks in a timely and high-quality manner.

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	0～100kPa…4MPa
Pressure reference	Gauge pressure, Absolute pressure, Sealed gauge pressure
Excitation	1.5mA recommended for constant current; 10V recommended for constant voltage
Input impedance	Constant current: 2kΩ~5kΩ
Electrical connection	Silicon soft wires
Compensated temp. range	-10ºC ~ 70ºC
Operating temp.	-40ºC ~ 120ºC
Storage temp.	-40ºC ~ 120ºC
Insulation resistance	≥200MΩ/250VDC
Response time	≤1ms(Up to 90%F.S.)
Measured medium	All the liquids and gases which are compatible with SS316L.
Mechanical vibration	20g(20~5000HZ)
Shock	100g(10ms)
Service life	10×10^6 (cycles)

Structural performance parameters	
Diaphragm material	316L
Housing material	316L
Oil filling material	M20

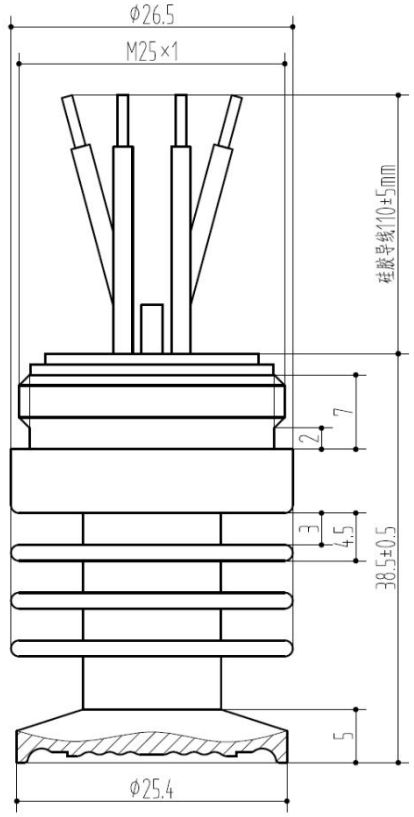
Basic parameters						
Item	**Condition**	**Min**	**Typical**	**Max**	**Unit**	**Note**
Non-linearity		-0.3	±0.25	0.3	%F.S.	Note(1)
Hysteresis		-0.05	±0.03	0.05	%F.S.	
Repeatability		-0.05	±0.03	0.05	%F.S.	
Zero output		-2	±1	2	mV	
Full scale output		60	90	150	mV	1.5mA excitation
Zero temp. drift		-2	±1.5	2	%F.S.	Note(2)
Sensitivity temp. drift		-2	±1.5	2	%F.S.	Note(2)
Thermal hysteresis		-0.075	±0.05	0.075	%F.S.	Note(3)
Long-term stability		-0.3	±0.2	0.3	%F.S./Year	

Note: (1) Calculate according to BFSL least square method.

(2) Within the compensated temperature range -10ºC ~ 70ºC(other ranges), the middle point temperature is 30ºC for reference.

(3) After measuring pressure under the high and low temperatures, return to the middle point temperature.

Structure & dimension



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

`

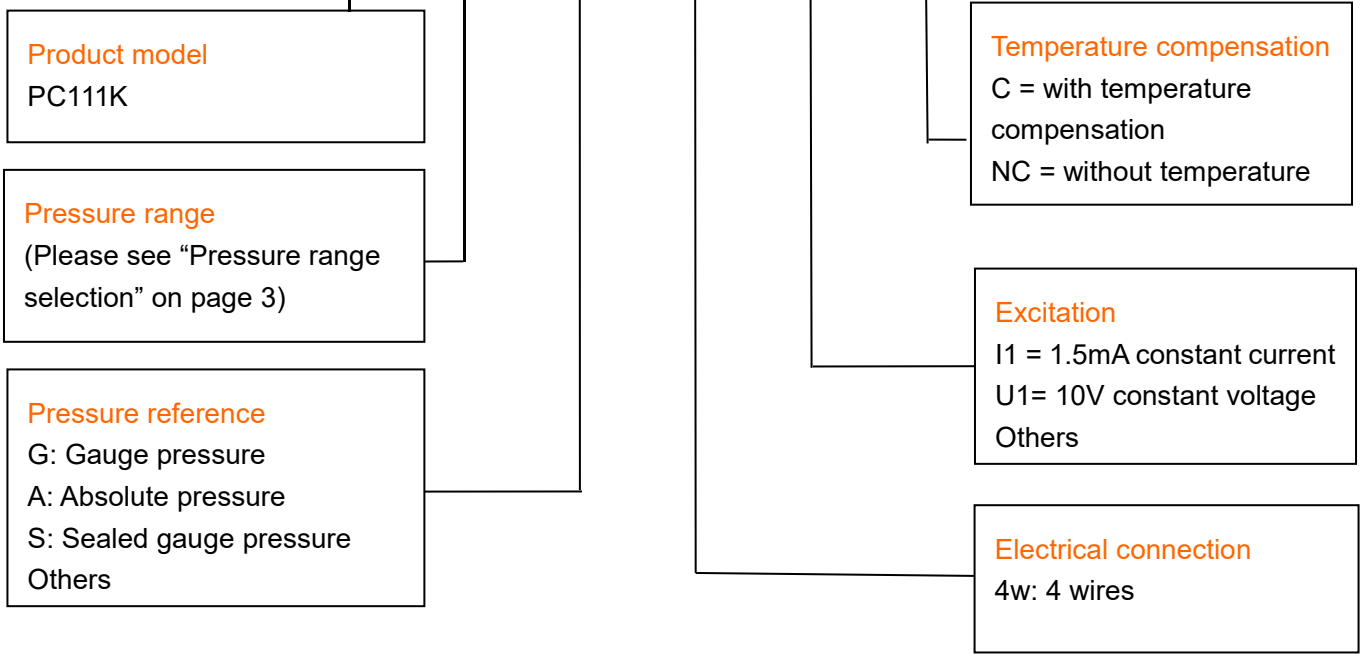
Pressure range selection

Code	Pressure reference	Pressure range	Overload pressure	Burst pressure
100k	G、A	0～100kPa	200%F.S.	500%F.S.
160k	G、A	0～160kPa	200%F.S.	500%F.S.
250k	G、A	0～250kPa	200%F.S.	500%F.S.
400k	G	0～400kPa	200%F.S.	500%F.S.
600k	G	0～600kPa	200%F.S.	500%F.S.
1M	G、A、S	0～1MPa	200%F.S.	500%F.S.
1.6M	G、A、S	0～1.6MPa	200%F.S.	500%F.S.
2.5M	G、A、S	0～2.5MPa	200%F.S.	500%F.S.
4M	G、A、S	0～4MPa	200%F.S.	400%F.S.

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

Order Information

PC111K - 100k - G - 4w - I1 - C



Example of ordering information: PC111K - 100k - G - 4w - I1 - C

Product model: PC111K, 100k: pressure range 0~100kPa, G: Gauge pressure, 4w: 4 wires, I1: 1.5mA constant.

Ordering tips:

1 Over-range or under-range use is allowed, recommended within ±30% F.S..

2 Pressure reference: 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 that is greater than the current atmospheric pressure.

(2) Absolute pressure is based on a vacuum.

(3) As for sealed gauge pressure, PC111K uses the absolute pressure die for the gauge pressure product based on the atmospheric pressure of the production site. For pressure ranges above 6MPa, 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’s service life or even damage the product.

4 1.5mA constant current compensation is standard. Suggest selecting this option with priority.

5 Negative pressure sensors differ completely in materials and processes from positive pressure sensors, so it cannot be replaced by standard gauge 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

Nanjing Wotian Technology Co.,Ltd.

Website: www.wtsensor.com

Add: 5 Wenying Road, Binjiang Development Zone, Nanjing, 211161, China

E-mail：dr@wtsensor.com