PC112K Flush Diaphragm Pressure Sensor with Clamp

Features

- Flush diaphragm structure with the clamp
- Highly reliable imported pressure die
- Food-grade oil filling isolation technology
- The compensating board with glue for moisture-proof protection
- All stainless steel housing
- High accuracy, high reliability
- Strong anti-interference and good long-term stability
- 18 months warranty period

Applications

- Medical and food industry
- Environmentally friendly chemical coatings
- 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 PC112K pressure sensor adopts food-grade oil filling technology. The perceived pressure is transmitted to the pressure chip 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	-100kPa~0~10kPa…10MPa
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	Gold-plated KOVAR pins or silicon soft wires
Compensated temp.	Constant current: 0℃~60℃(≤70kPa); -10℃~70℃(Other ranges)
Operating temp.	-40℃~120℃
Storage temp.	-40℃~120℃
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)
Shock	100g(10ms)
Durability	10×10^6 (cycles)

Structural performance parameters	
Diaphragm material	316L
Housing material	316L
Filling liquid	M20

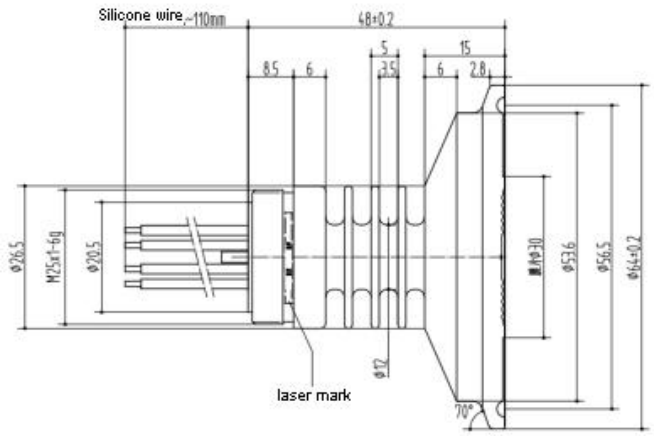
Basic parameters						
Item	**Condition**	**Min**	**Typical**	**Max**	**Unit**	**Note**
Nonlinearity		-0.3	±0.25	0.3	%FS	Note(1)
Hysteresis		-0.05	±0.03	0.05	%FS	
Repeatability		-0.05	±0.03	0.05	%FS	
Output signal under zero pressure		-2	±1	2	mV	
Output signal under full-scale span pressure	10kPa Other ranges	30 60	90	150	mV	1.5mA excitation
Temp.effect on offset	10kPa Other ranges	-2 -1.5	±1.5 ±0.75	2 1.5	%FS	Note(2)
Sensitivity temp. drift		-1.5	±0.75	1.5	%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.

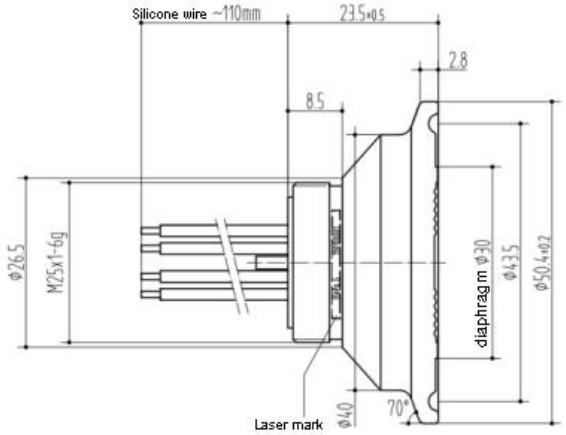
(2) In the compensation temperature range, refer to 30℃ for 0℃~60℃ and -10℃~70℃.

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

Structure & dimension

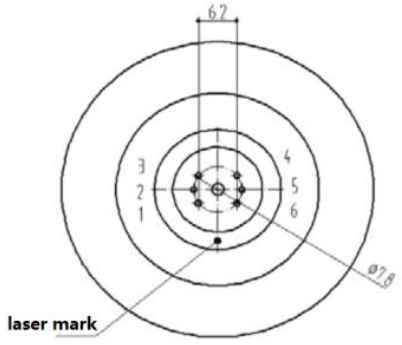


Wire color	Definition
Red	Excitation+(IN+)
Blue	Excitation-(IN-)
Yellow	Output+(OUT+)
White	Output-(OUT-)



How to choose cooling fins：

Medium temp.: -40℃~150℃
(without cooling fins)
Medium temp.: -40℃~150℃
(3 pieces cooling fins)



Pin connection

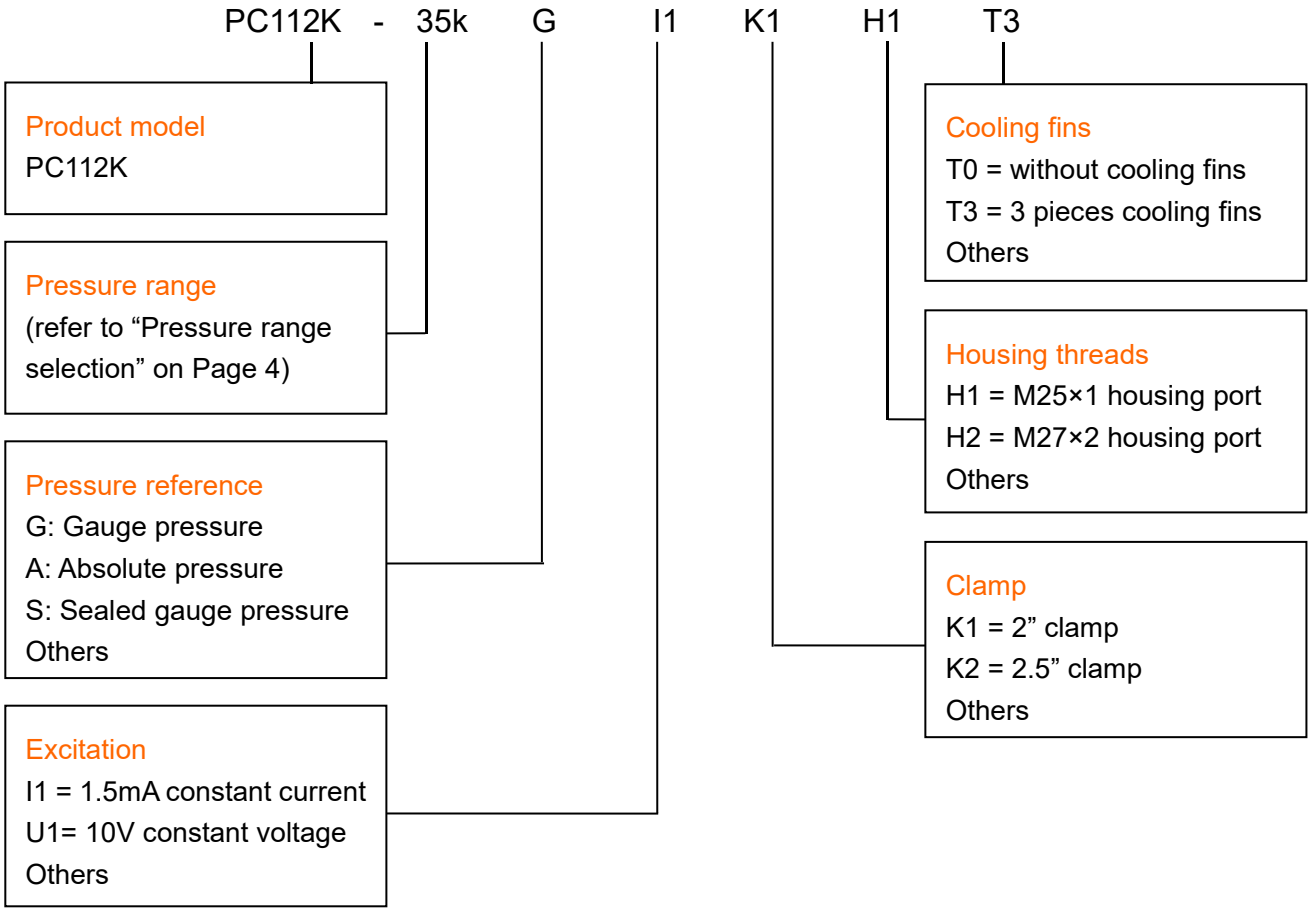
Excitation+(IN+)	Pin3
Excitation-(IN-)	Pin5
Output+(OUT+)	Pin2
Output-(OUT-)	Pin4

Pressure range selection

Code	Pressure reference	Pressure range	Overload pressure	Burst pressure
20k	G	0~20kPa	300%FS	600%FS
35k	G	0~35kPa	300%FS	600%FS
70k	G	0~70kPa	300%FS	600%FS
100k	G, A	0~100kPa	200%FS	500%FS
160k	G, A	0~160kPa	200%FS	500%FS
250k	G, A	0~250kPa	200%FS	500%FS
400k	G	0~400kPa	200%FS	500%FS
600k	G	0~600kPa	200%FS	500%FS
1M	G	0~1MPa	200%FS	500%FS
1.6M	G, S	0~1.6MPa	200%FS	500%FS
2.5M	G, S	0~2.5MPa	200%FS	500%FS
4M	S	0~4MPa	200%FS	400%FS
6M	S	0~6MPa	200%FS	400%FS
10M	S	0~10MPa	200%FS	400%FS

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

How to order



Example: PC112K-35kGI1K1H1T3

Product model:112K, 35k: pressure range 0~35kPa, G: Gauge pressure, I1: 1.5mA constant current excitation, K1: 2” clamp, H1:hosing port M25×1, T3: 3 cooling fins.

Ordering tips:

1 It can be selected for over range or down range, with amplitude controlled within ± 30% FS.

2 The pressure methods include gauge pressure, absolute pressure, and sealed pressure.

(1) Gauge pressure refers to a measurement based on the current atmospheric pressure, generally greater than the current atmospheric pressure. Negative pressure is a special case of gauge pressure, referring to the conditions at the workplace that are lower than the current atmospheric pressure.

(2) Absolute pressure is referenced against a vacuum.

(3) Sealed gauge pressure refers to using the absolute pressure as the gauge pressure, and the benchmark is the air pressure at the production site. There is no gauge pressure above 6MPa, only sealed pressure.

3 Confirm the maximum overload of the system. The maximum overload of the system should be less than the overload protection limit of the sensor; otherwise, it may affect the product's durability or even damage the product.

4 The commonly used compensation method for the product is 1.5mA constant current compensation, and it is recommended to choose it first.

5 The materials and processes used to manufacture negative pressure sensors are different from those used to manufacture positive pressure sensors. Negative pressure sensors cannot be replaced by gauge pressure sensors.

6 If there are special requirements for performance parameters and functions of our products, please negotiate with our company.

Contact us

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