

# PC33 Monocrystalline Silicon Pressure Sensor

## Features

- German imported MEMS monocrystalline silicon pressure die
- High accuracy and excellent overpressure resistance
- High performance, all-solid-state, high reliability
- 316L stainless steel fully-welded integrated structure
- Gauge pressure type applicable to the negative pressure measurement
- Weldable seal

## Applications

- Provide OEM for industrial transmitter manufacturers

### 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 PC33 Monocrystalline Silicon Pressure Sensor adopts the imported MEMS monocrystalline silicon pressure die, achieving international leading overpressure performance and ensuring excellent stability of the signal. It is assembled in a fully-welded sealing structure and filled with silicon oil under high vacuum. Different materials measuring diaphragms isolate the measured medium and the pressure die, enabling the sensor to perform long-term reliable measurement of differential pressure signals of various strong corrosive media.

This product allows measured pressure to be directly applied to the diaphragm of the pressure sensor, causing the diaphragm to have a microdisplacement proportional to the pressure, which can be detected by an integrated electronic circuit and converted to output a standard measurement signal of the corresponding pressure.

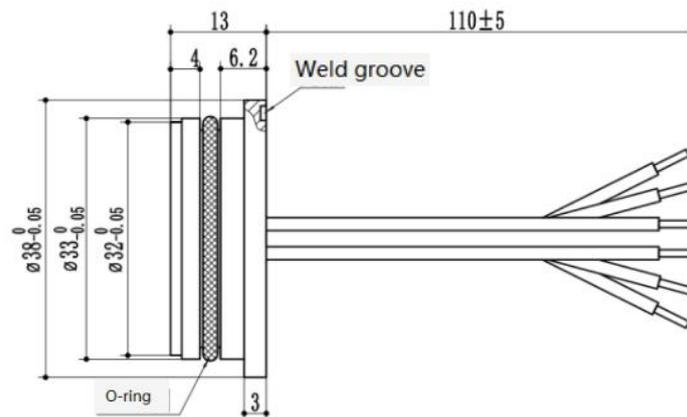
### Notes:

- 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.

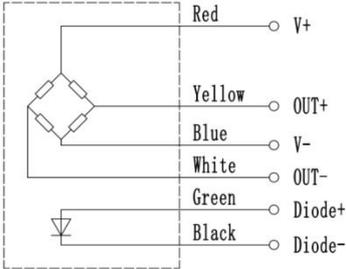
### Performance parameters

Excitation	5V Constant voltage
Operating temp.	-40~125℃
Storage temp.	-40~125℃
Output signal	60~140mV
Temp.effect on offset	±0.1%FS/℃
Temp. hysteresis	±0.05%FS(Range≥10kPa); ±0.1%FS(Range<10kPa)
Pressure hysteresis	±0.05%FS
Long-term drift	±0.05%FS / Year
Nonlinearity	±0.3%FS(Range≥10kPa); ±1.5%FS(Range<10kPa)
Diaphragm material	Stainless steel 316L, Hastelloy C

### Structure & dimension (in mm)



### Electrical connection

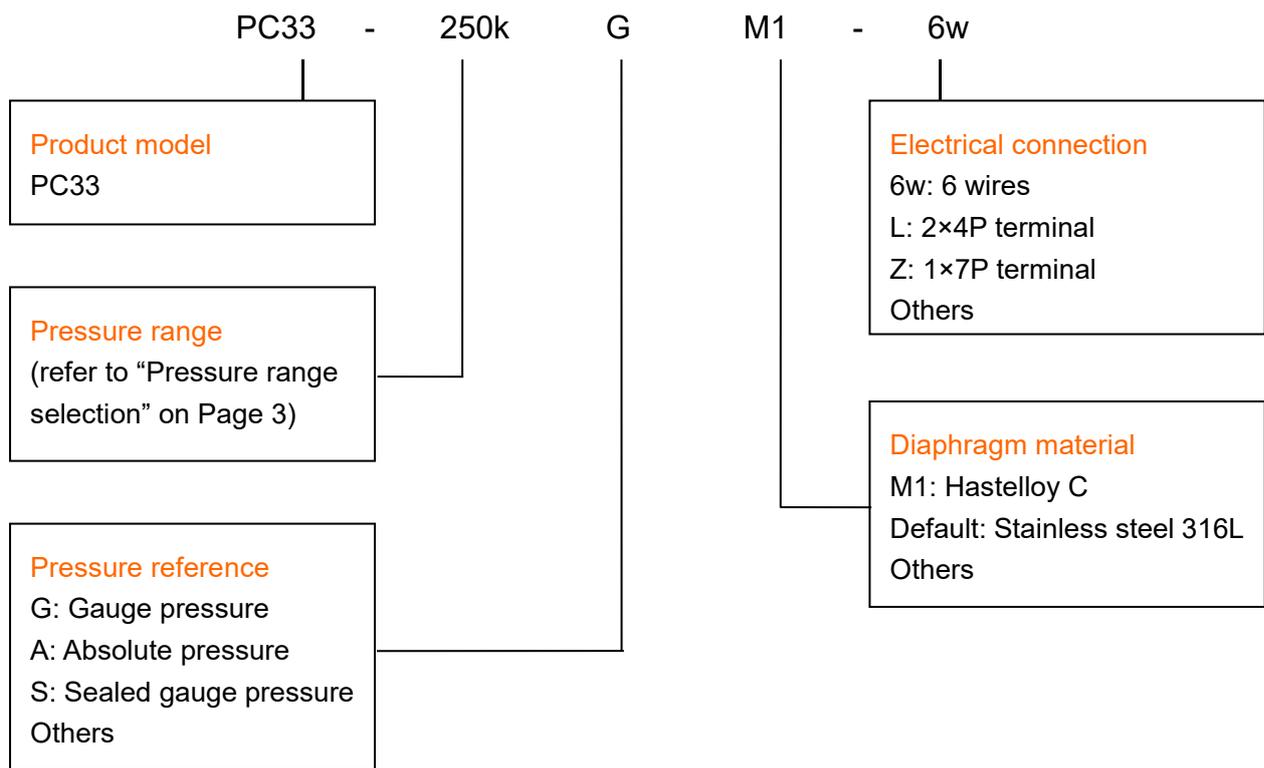
Electrical schematic diagram	Wire color	Definition
	Red	Excitation+(IN+)
	Blue	Excitation-(IN-)
	Yellow	Output+(OUT+)
	White	Output-(OUT-)
	Green	Temp.+(Diode+)
	Black	Temp.-(Diode-)

### Pressure range selection

Code	Pressure reference	Pressure range	Overload pressure	O-ring
6kG	G	-6~6kPa	200kPa	NBR
40kG	G	-40~40kPa	400kPa	NBR
100kG	G	-100~100kPa	1MPa	NBR
250kG	G	-100~250kPa	2MPa	NBR
1MG	G	-0.1~1MPa	6MPa	NBR
3MG	G	-0.1~3MPa	15MPa	NBR

Note: G: Gauge pressure

### How to order



**Example:** PC33-250kGM1-6w

Product model: PC33, pressure range: -100~250kPa, G:gauge pressure, M1: the diaphragm material is Hastelloy C, 6w: 6-wire lead out.



## Ordering tips:

- 1 Pressure range can be selected higher or lower than actual conditions, but should be within  $\pm 30\%$ FS.
- 2 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.
- 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 product commonly uses 5V constant voltage excitation, 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.

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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