

PCM10 Intelligent Pressure Sensor

Features

- Intelligent, a variety of output forms option
- Highly reliable imported pressure die
- Wide temperature digital compensation
- ASIC calibration
- I²C interface protocol is supported
- low-power
- All 316L stainless steel integrated design
- O ring seal
- High performance, all solid state customized products

Applications

- Hydraulic control system
- Diving depth detection
- Seal detection system
- Industrial process control
- Medical equipment
- Fluid pressure measurement

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.



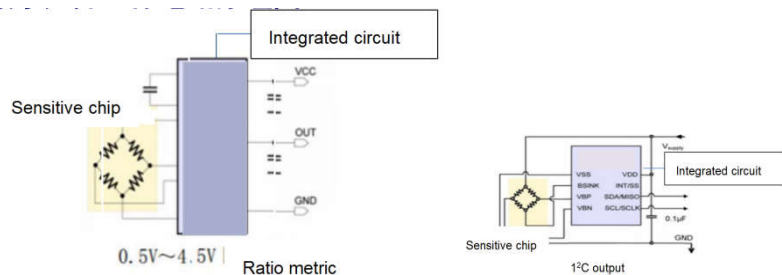
Product overview

PCM10 intelligent sensor is a new product designed and developed for low pressure and high performance applications.

Based on the mature structure and front-end process of the silicon piezoresistive pressure sensor. PCM10 intelligent sensor is equipped with a customized dedicated digital integrated circuit for temperature compensation and calibration, and provides various forms of industrial standard analog and digital signal output. Analog signal has 0.5 ~ 4.5V proportional output, and digital signal output supports I2C interface protocol.

PCM10 intelligent sensor adopts integrated structure and circuit design, making the product small in size, low in power consumption, easy to install and use, and high in stability. Digital signal output makes it more widely used.

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	0~35kPa...6MPa
Pressure reference	Gauge pressure Absolute pressure Sealed gauge pressure
Supply&Output signal	0.5 to 4.5V ratiometric (5V excitation) [Note(1)]
	I ² C (3.3V excitation) [Note(2)]
Response time	≤50ms
Compensation temp.	0-60℃ (<100kPa)
	-20-85℃ (other ranges)
Operating temp.	-40-105℃
Storage temp.	-40-125℃
Insulation resistance	>200Mohm/250VDC
Measured medium	All the liquids and gases compatible with 316L
Mechanical vibration	20g (20-5000HZ)
Shock	100g/10ms
Durability	10 ⁶ pressure cycles
Weight	19~25g

Structural performance parameters

Diaphragm material	316L
Housing material	316L
Oil filling	Silicon oil
Sealing O-ring	NBR O-ring Fluorine rubber O-ring

Basic parameters

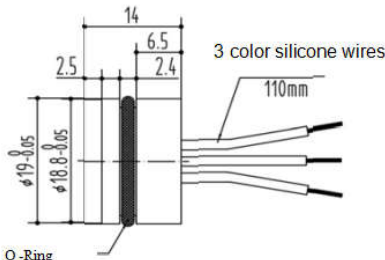
Item	Min	Nominal	Max	Unit
Accuracy	---	±0.5	±1.0	%FS[note (3)]
Hysteresis	---	±0.05	±0.1	%FS
Repeatability	---	±0.05	±0.1	%FS
Zero temperature drift	---	±1.0	±1.5	%FS[note (3)]
Sensitivity temp. coefficient	---	±1.0	±1.5	%FS[note (3)]
Thermal hysteresis	---	±0.05	±0.2	%FS
Long term stability	---	±0.25	---	%FS/Year

Note:

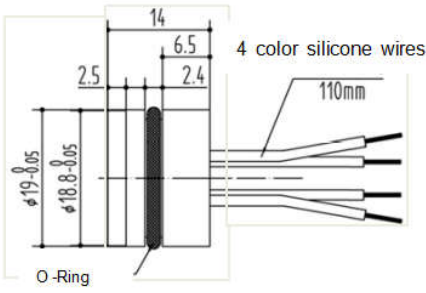
- (1) 5V power supply, power supply voltage range of 5±0.1V
- (2) 3.3V power supply, supply voltage range 3.1V ~ 3.6V, offer customized low-energy version
- (3) Within the compensation temperature range, the compensation temperature reference 25℃

Structure and electrical connection

(1) 5V power supply, 0.5~4.5V ratiometric

3 Wires Connection		Wire colour	Connection
		Red	excitation(VDD)
		Blue	ground(GND)
		Yellow	output(Vout)

(2) 3.3V power supply, I²C output

4 Wires Connection		<table border="0"> <tr> <td>Wire colour</td> <td>Connection</td> </tr> <tr> <td>Red</td> <td>excitation(VDD)</td> </tr> <tr> <td>Blue</td> <td>ground(GND)</td> </tr> <tr> <td>Yellow</td> <td>SCL</td> </tr> <tr> <td>White</td> <td>SDL</td> </tr> </table>	Wire colour	Connection	Red	excitation(VDD)	Blue	ground(GND)	Yellow	SCL	White	SDL
Wire colour	Connection											
Red	excitation(VDD)											
Blue	ground(GND)											
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White	SDL											

Pressure range selection

Code	Pressure reference	Pressure range	Overload pressure	Burst pressure
35k	G	0~35kPa	300%FS	400%FS
100k	G、A	0~100kPa	200%FS	300%FS
250k	G	0~250kPa	200%FS	300%FS
600k	G	0~600kPa	200%FS	300%FS
1M	G	0~1.0MPa	200%FS	300%FS
1.6M	G、S	0~1.6MPa	200%FS	300%FS
2.5M	G、S	0~2.5MPa	200%FS	300%FS
4M	S	0~4MPa	200%FS	300%FS
6M	S	0~6MPa	200%FS	300%FS

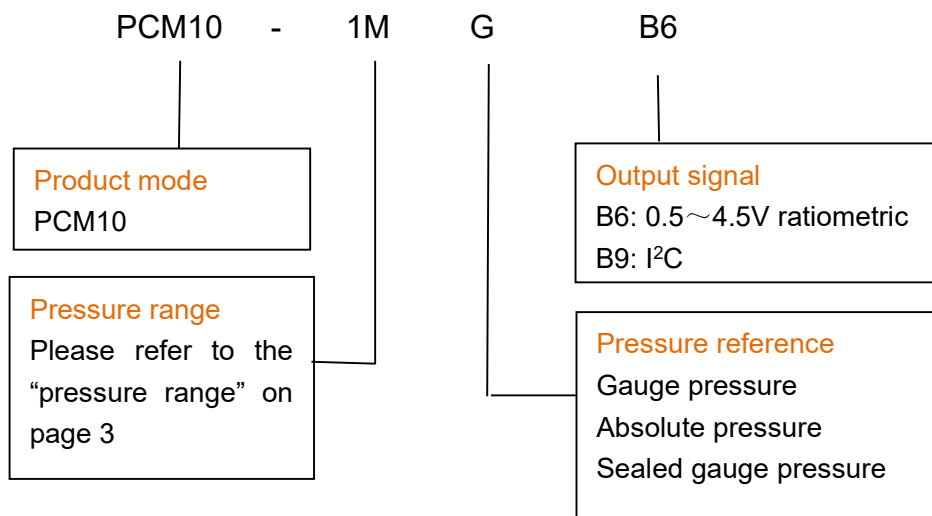
Note:

G: gauge pressure (ventilation gauge pressure, taking current atmospheric pressure as zero)

A: Absolute pressure (vacuum is zero)

S: sealed gauge pressure (calibrated atmospheric pressure is zero)

How to order



Example: PCM10-1MGB6

The model is PCM10, 1M: 0~1.0MPa, G: gauge pressure, B6: 0.5~4.5V (ratiometric)



Ordering tips:

1. Please confirm the product supply power, output signal and the pressure range including the measurement range and the overload range if ordered
2. The product doesn't set inventory, urgent use please order in advance
3. Customization is available for special requirements on the pressure range, compensation temperature range and output signal

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.

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