PCM10 Inteligent Pressure Sensor

Features

- Intelligent, a variety of output forms optional
- Highly reliable imported pressure chip
- 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

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.

Caution

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.

Notes:

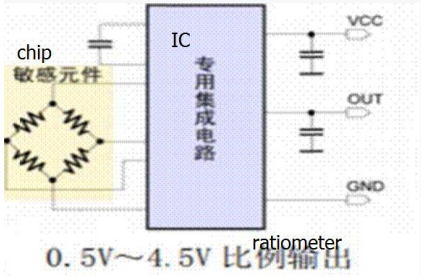
1 Do not touch the diaphragm with hard objects, which may cause damage to the diaphragm.

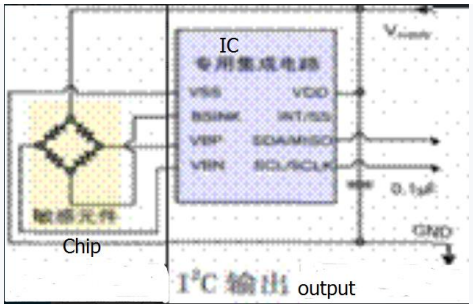
2 Please read the Instruction Manual of the product carefully before installation and check the relevant information of the product.

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.

Circuit schematic diagram





Pressure range	
Pressure range	0～35kPa…4MPa (bar and psi unit available)
Pressure reference	Gauge pressure | Absolute pressure | Sealed gauge pressure
Overpressure	300%F.S.(≤70Kpa) | 200%F.S.(＜4Mpa)
Output signal	
Output	0.5 to 4.5V ratiometric (5V excitation)
	I²C (3.3V excitation)
Specification	
Accuracy	±0.5%F.S. (Typical)
Excitation	5VDC | 3.3VDC
Compensated temp.	-20-85℃(Typical) | 0-60℃(≤100kPa)
Operating temp.	-40-105℃
Storage temp.	-40-125℃
Insulation resistance	＞200Mohm/250VDC
Measured medium	All 316L compatible liquids and gases
Vibration	20g (20-5000HZ)
Shock	100g（10ms）
Oil filling	Silicon oil (Typical) | Olive oil available for sanitary application
O-ring	NBR, Viton
Housing and diaphragm	Stainless steel 316L
Oil filling	Silicon oil (Typical)
Weight	19~25g(approx)
Life	10^6(cycles)
Sealing ring	NBR or Fluorine rubber

Basic parameter

Item	Minimum	Typical	Maximum	Unit
Accuracy	-	±0.5	-	%FS[note(3)]

Hhysteresis	-	±0.05	±0. 1	%FS
Repeatability	-	±0.05	±0. 1	%FS
Zero temperature drift	-	±1.0	±1.5	%FS[note(3)]
Span temperature drift	-	±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

(3) Within the compensation temperature range, the compensation temperature reference 25℃

PCM10 pressure range

Pressure range code	Pressure reference	Pressure range	Overload pressure	Burse 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

Note:

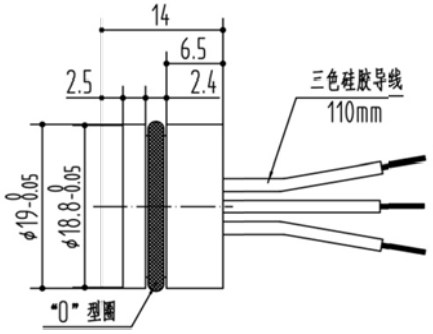
G: gauge pressure (ventilation gauge pressure, taking current atmospheric pressure as zero)

A: Absolute pressure (vacuum is zero)

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

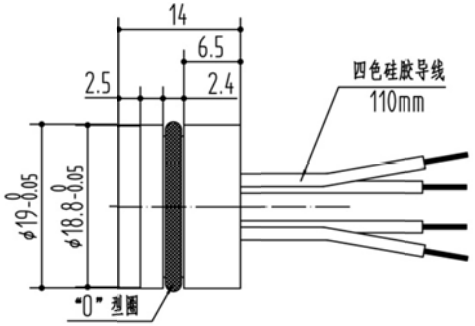
Drawing size and wire connection

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

Wire connection		Wire connection

Wire colour	connection
red	Excitation (VDD)
blue	Ground (GND)
yellow	Output （Vout）

(2) 3.3V power supply , I²C output

Wire connection		Wire connection

Wire colour	connection
red	Excitation (VDD)
blue	Ground (GND)
yellow	SCL
white	SDL

How to order

PCM10 XX———-XX———XX

Pressure range

Output

Please write directly

B6：0.5～4.5V R/M (5V excitation)

B9：I²C (3.3V excitation)

Pressure reference

A: absolute pressure

G: gauge pressure

S: sealed gauge pressure

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