# PCM91B Monocrystalline Silicon Single Pressure Sensor Component

## Feature

- Adopting advanced monocrystalline silicon single pressure sensor
- Wide range coverage of 0~6kPa... 40MPa
- Two-wire system, 4~20mA output with HART protocol
- Intelligent LCD gauge head with backlight
- Supports both remote and local zero/span adjustment
- Complete variety, high precision, and good stability

## Applications

- Process control fields for industries such as petroleum, chemical, metallurgy, power generation, food & beverage, paper-making, pharmaceuticals, machinery manufacturing, scientific research, and aerospace.

**Note：**

1 Do not touch the diaphragm with hard objects, as it may cause damage to the isolation diaphragm.

2 Before installation, please carefully read the product manual and verify the relevant information of the product.

3 Strictly follow the wiring method; otherwise, it may cause product damage and other potential faults.

4 Incorrect use can lead to danger and personal injury.



## Product overview

The PCM91B monocrystalline silicon single pressure sensor component uses the German-imported MEMS monocrystalline silicon pressure sensor die. The sensor signal is converted to a standard signal through special signal processing. It features stable and reliable performance, has passed long-term aging and stability testing and can be used in harsh outdoor environments. It also ensures the on-site pressure display, with zero and span transferable.

The connection interface of PCM91B can be compatible with other brands' transmitters or can be customized to meet users' requirements. The products of this series are widely applied to industrial process control, petroleum, chemical, metallurgy, and other industries.

**Note：**

1 Do not misuse documentation.

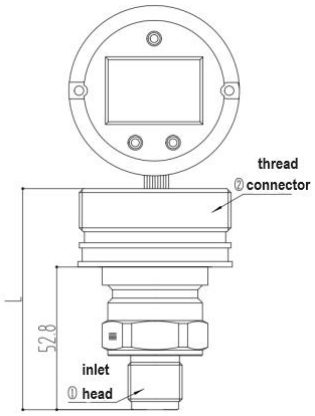
2 The information presented in this product sheet is for reference only. Do not use this document as a product installation guide.

3 Complete installation, operation, and maintenance information is provided in the instructions of the product.

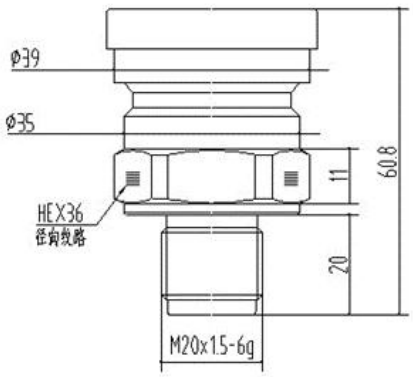
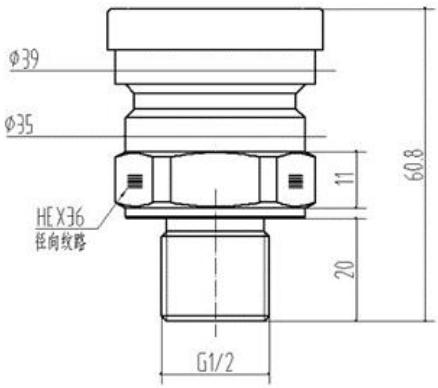
4 Misuse of the product may cause danger or personal injury.

| Performance parameter | |
|---|---|
| Pressure range | 0~6kPa... 40MPa |
| Pressure reference | Gauge pressure, absolute pressure |
| Power supply | 12V~32VDC, recommend 24VDC |
| Output signal | 4~20mA + HART⑦ protocol |
| Accuracy | ±0.075%F.S. (Standard ranges) |
| Temp. drift | ±6kPa: ±0.3%F.S.; other ranges: ±0.25%F.S. (-20~70ºC) |
| Ambient temp. | -30ºC~70ºC(Working temp. range of LCD gauge head) |
| Medium temp. | -40ºC~125ºC |
| Storage temp. | -30ºC~70ºC |
| Overload pressure | (Refer to range selection on page 4.) |
| Long-term stability | ±0.2%F.S./year |
| Diaphragm material | Isolated diaphragm 316L, Ha C (≤10MPa) |
| Media compatibility | Various medium compatible with SS316L and fluororubber |

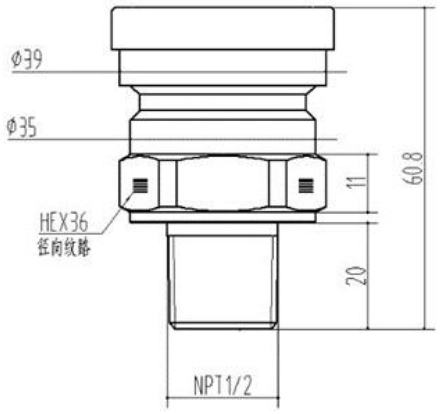
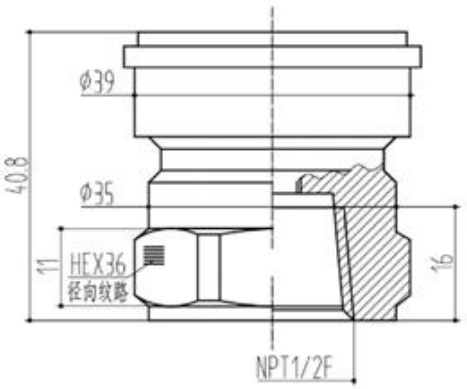
## Structure & dimensions（in mm）

| Product model | Outline drawing | Note |
|---|---|---|
| **PCM91B** |  | Note 1: ① Pressure port specification: M20×1.5, G1/2, NPT1/2, NPT1/2 female<br>Note 2: ② Thread connector specifications: 55-16 British threads, M56×1.5, M45×1.5, M27×2<br>Note 3: M45×1.5, M27×2 thread L= 93.8mm; 55-16 British threads, M56×1.5 thread L=89.8mm |

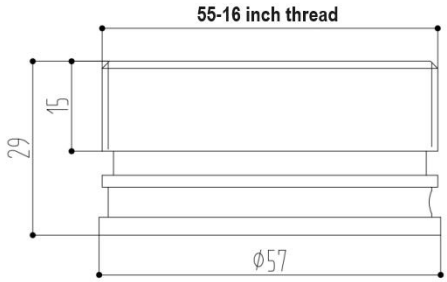
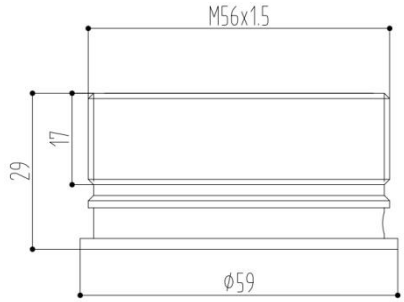
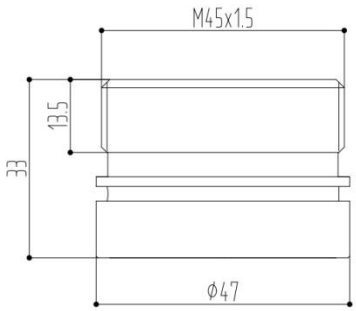
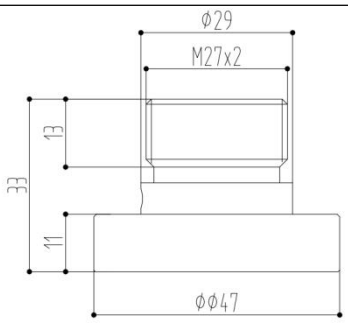
## Pressure connection

| Code | C1: M20×1.5-6g | C2: G1/2 |
|---|---|---|
| Dimension<br>Unit: mm |  |  |
| Recommended torque | 15~25Nm | 15~25Nm |

## Pressure connection (cont.)

| Code | C7: NPT1/2 | C7F: NPT1/2 (Female) |
|---|---|---|
| Dimension<br>Unit: mm |  |  |
| Recommended torque | 15~25Nm | 15~25Nm |

## Thread connector

| Code | H11: 55-16 American thread | H10: M56×1.5 |
|---|---|---|
| Dimension<br>Unit: mm |  |  |
| **Code** | **H9: M45×1.5** | **C7F: NPT1/2 (Female)** |
| Dimension<br>Unit: mm |  |  |

## Pressure range selection

| Range code | Pressure range | Overload pressure |
|---|---|---|
| 6kG | ±6kPa | 300kPa |
| 40kG | ±40kPa | 1MPa |
| 100kG | ±100kPa | 2MPa |
| 250kG | -100~250kPa | 4MPa |
| 100kA | 0~100kPa A | 2MPa |
| 250kA | 0~250kPa A | 2MPa |
| 1MG | -0.1~1MPa | 6MPa |
| 3MG | -0.1~3MPa | 12MPa |
| 10MA | 0~10MPa | 20MPa |
| 20MA | 0~20MPa | 40MPa |
| 40MA | 0~40MPa | 60MPa |

## Ordering information

PCM91B - 100kG - C1 - H11 - M1 - Z

**Product model**
PCM91B

**Pressure range**
6kG = 6kPa gauge pressure
40kG = 40kPa gauge pressure
100kG = 100kPa gauge pressure
250kG = 250kPa gauge pressure
100kA = 100kPa absolute pressure
250kA = 250kPa absolute pressure
1MG = 1MPa gauge pressure
3MG = 3MPa gauge pressure
10MS = 10MPa sealed pressure
20MS = 20MPa sealed pressure
40MS = 40MPa sealed pressure
Others

**Pressure port**
C1 = M20×1.5
C2 = G1/2
C7 = NPT1/2
C7F = NPT1/2 female
Others

**Thread connector**
H2=M27×2
H9=M45×1.5
H10=M56×1.5
H11=55-16 American threads
Others

**Diaphragm material**
Without identification = 316L
M1= Hastelloy C (≤10MPa)
Others

**Gauge head model**
D = Standard gauge head
Z= Zhongrui gauge head
Others

**Example of ordering information:** PCM91B-100kG - C1 - H11 - Z

Product model: PCM91B, 100kG: 100kPa gauge pressure, C1: pressure port is M20×1.5, H11: thread connector is 55-16 American threads, Z: Zhongrui gauge head.

## Ordering tips

Accessories need to be purchased separately.

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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