

# PCM90D Monocrystalline Silicon Differential Pressure Sensor Component

## Feature

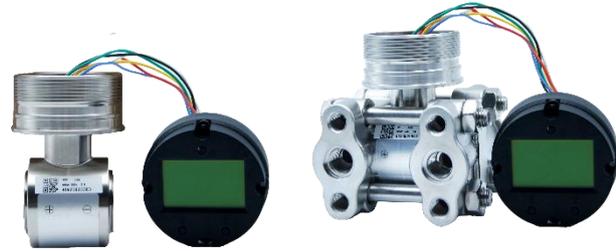
- Advanced monocrystalline silicon differential pressure sensor adopted
- Wide pressure range covering -0.1~3MPa
- 2-wire, 4~20mA, HART protocol
- Intelligent LCD gauge head with backlight
- With both the remote transmission and the local zero and pressure range adjustment
- Complete varieties, high accuracy, good stability
- High static pressure, high overload protection
- Patented dual overload protection diaphragm design

## Application

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

### 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.



## Product overview

The PCM90D Monocrystalline Silicon Differential Pressure Sensor Component is an internationally leading high-performance pressure transmitter carefully developed using the world's advanced monocrystalline silicon pressure sensor technology and patented packaging process. This product adopts a patented dual overload protection diaphragm and an internal circuit with surge protection, which can accurately measure the gauge pressure, absolute pressure, flow rate, vacuum degree, liquid level, and density.

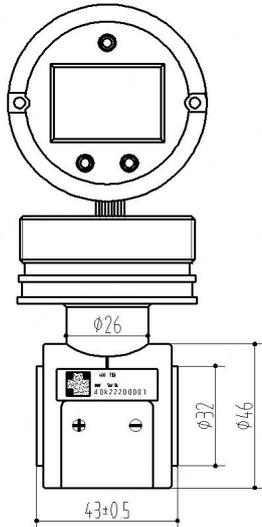
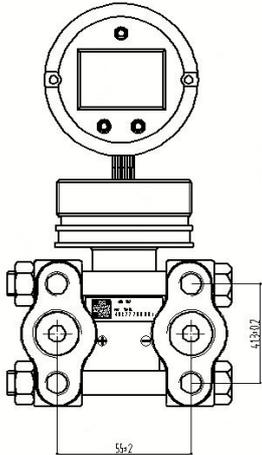
### Notes:

- 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.

Performance parameters	
Pressure rang	±1kPa; ±6kPa; ±40kPa; ±100kPa; ±250kPa; -100kPa~1MPa; -100kPa~3MPa
Power supply	12VDC~32VDC, 24VDC recommended
Output signal	4~20mA + HART protocol
Accuracy	±0.2%FS (±1kPa); ±0.1%FS (±6kPa); ±0.075%FS (Other pressure ranges)
Temperature drift	±0.5%FS (±1kPa); ±0.3%FS (±6kPa); ±0.25%FS (Other pressure ranges) @-20℃~70℃
Ambient temp.	-30℃~70℃; -30℃~80℃ (without LCD display)
Medium temp.	-40℃~125℃
Static pressure range	±1kPa; ±6kPa; ±40kPa Static pressure resistance 16MPa; ±100kPa; -100~250kPa Static pressure resistance 25MPa; -0.1~1MPa; -0.1~3MPa Static pressure resistance 40MPa
Unilateral overpressure	16MPa
Ambient humidity	5~95%RH
Long-term stability	0.1%FS/year (Standard pressure range)

Structural performance	
Diaphragm material	316L, Hastelloy C
Exhaust/Drain valve	304, 316L
O-ring	Silicone rubber
Filling liquid	Silicon oil
Clamp block	304, 316L

### Structure & dimensions

Product model	PCM90D	PCM90D With clamp block
Outline drawing		

PCM90D - 40k H11 M1 - Z K0

**Product model**  
PCM90D

**Pressure range**  
 1k = ±1kPa  
 6k = ±6kPa  
 40k = ±40kPa  
 100k = ±100kPa  
 250k = -100kPa~250kPa  
 1M = -100kPa~1MPa  
 3M = -100kPa~3MPa  
 Others

**Housing connection**  
 H2 = M27×2  
 H9 = M45×1.5  
 H10 = M56×1.5  
 H11 = 55-16 British thread  
 Others

**Accessories**  
 Default = Standard gauge outfit  
 Z = Zhongrui gauge outfit  
 K0 = Material of exhaust/drain valve and clamp block 304  
 K1 = Material of exhaust/drain valve and clamp block 316  
 Others

**Diaphragm material**  
 Default = 316L  
 M1 = Hastelloy C  
 Others

**Example:** PCM90D-40kH11M1-ZK0

Product model: PCM90D; pressure range: ±40kPa; housing connection: 55-16 British thread; diaphragm material: Hastelloy C; Gauge head: Zhongrui gauge; material of exhaust/drain valve and clamp block: 304.

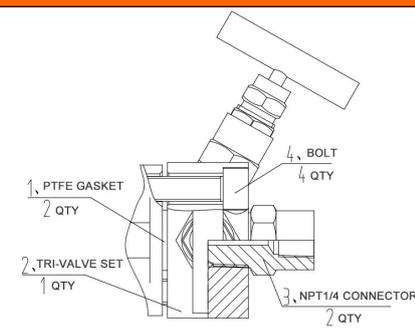
Process connection

Code	Specifications		Assembly drawing
	Name	Qty.	
<b>C1:</b> <b>M20×1.5 with welded pipe</b>	1 T shape connector	2	
	2 M10×20 bolt	4	
	3 O-ring	2	
	4 PTFE gasket	2	
	5 M20 nut	2	
	6 φ14×4 pressure welded pipe	2	

Process connection (cont.)

<b>C7F:</b> <b>NPT1/2(F)</b> <b>waist-shape flange</b>	1 O-ring	2	
	2 Waist-shape flange	2	
	3 M10×35 bolt	4	
	-	-	
	-	-	
<b>C2:</b> <b>G1/2 with welded pipe</b>	1 NPT1/4 to G1/2 connector	2	
	2 G1/2 nut	2	
	3 φ14×4 pressure welded pipe	2	
	4 PTFE gasket	2	
	-	-	
	-	-	
<b>C3: G1/4</b>	1 NPT1/4 to G1/4 connector	2	
	-	-	
	-	-	
	-	-	
	-	-	
<b>C7: NPT1/2</b>	1 NPT1/4 to NPT1/2 connector	2	
	-	-	
	-	-	
	-	-	
	-	-	
	-	-	
<b>SFZC1:</b> <b>Tri-valve set -M20</b> <b>with welded pipe</b> <b>(304/316 options)</b>	1 PTFE gasket	2	
	2 Tri-valve set	1	
	3 M20×1.5 connector	2	
	4 M20×1.5 nut	2	
	5 PTFE gasket	2	
	6 φ14×4 pressure welded pipe	2	
	7 M10×35 bolt	4	

**Process connection (cont.)**

<b>SFZC5F: Tri-valve set -NPT1/4 Female (304/316 options)</b>	1 PTFE gasket	2	
	2 Tri-valve set	1	
	3 NPT1/4 connector	2	
	4 M10×35 bolt	4	
	-	-	
	-	-	

**Example:** SFZC5F

Accessories model: Tri-valve set -NPT1/4 Female

**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.

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