

# PCM3051-DP Intelligent Differential Pressure Transmitter

## Features

- Adopting advanced monocrystalline silicon differential pressure sensors
- Wide range coverage  $\pm 3\text{MPa}$
- Two-wire, 4~20mA analog output, Hart® Protocol digital communication
- Intelligent LCD meter head with backlight
- It has both remote transmission and local zero and range adjustment
- Complete variety, high precision, and good stability
- Explosion-proof shell structure with strong resistance to frequency conversion interference
- High static pressure and high overload protection
- Patented dual overload protection diaphragm design
- Lightning protection circuit design

## Application

- Process control fields in industries, such as petroleum, chemical, metallurgy, electricity, food, papermaking, pharmaceuticals, machinery manufacturing, scientific experiments, and aviation & military applications

### Notes:

- 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.



## Product Overview

The PCM3051-DP intelligent differential pressure transmitter 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.

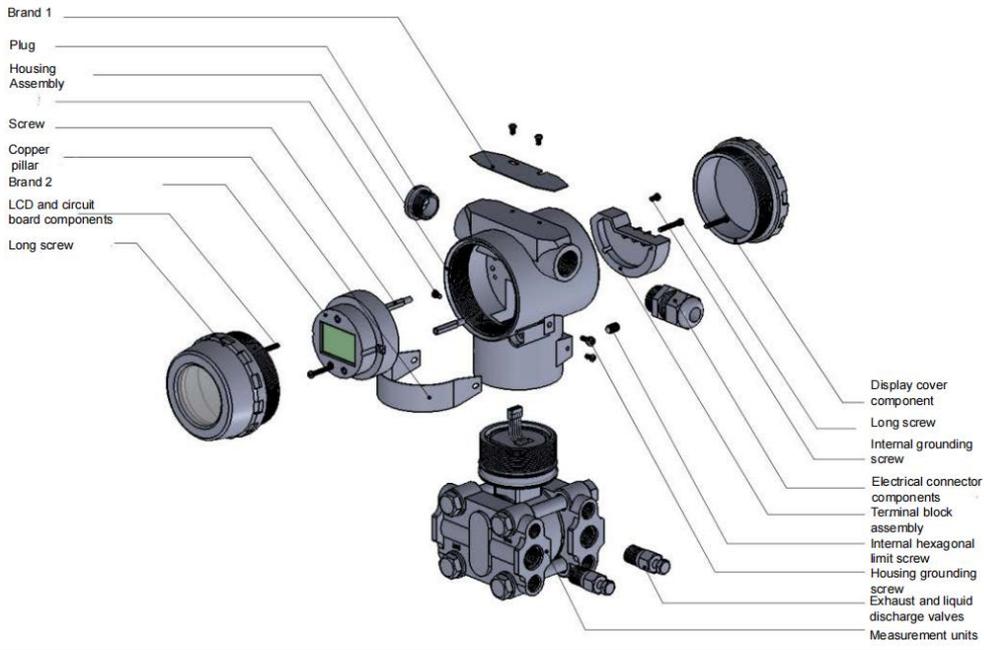
### Notes:

- 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.

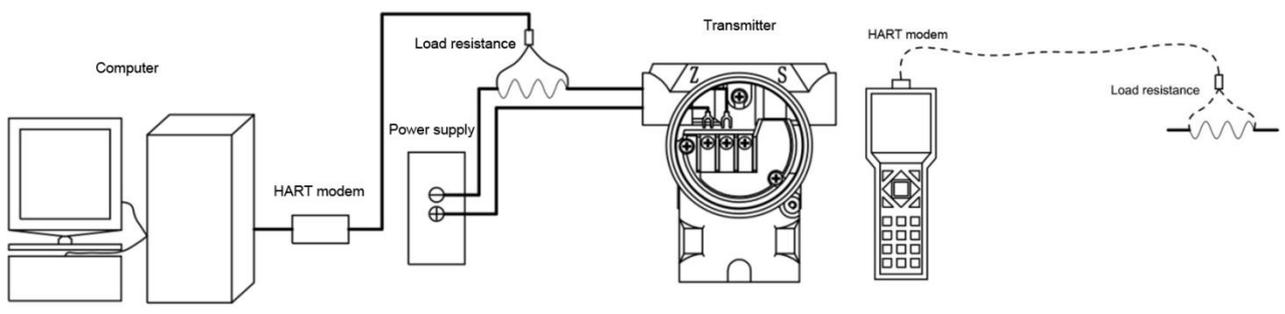
Performance parameters	
Pressure range	±1kPa; ±6kPa; ±40kPa; ±100kPa; ±250kPa; ±1MPa; ±3MPa
Pressure reference	Differential pressure
Power supply	12VDC~32VDC, recommend 24VDC
Output signal	4~20mA + Hart® protocol
Accuracy	±1kPa: ±0.2%FS; ±6kPa: ±0.1%FS; other ranges: ±0.075%FS (Standard range, 25±5°C)
Temperature drift	±0.5%FS (±1kPa); ±0.3%FS (±6kPa); ±0.25%FS (other ranges) (Standard range, -20°C~70°C)
Ambient temp.	-30°C~80°C; With LCD meter head -30°C~70°C
Medium temp.	-40°C~125°C
Protection	IP67
Explosion proof level	Exd IIC T6 Gb
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
Over pressure limit	16MPa
Long-term stability	±0.1%FS/year (Standard range)

Structural performance parameters	
Diaphragm material	316L, Hastelloy C
Relief valve	304
O-ring	Silicone rubber (Contact with the measured medium)
Sealing liquid	Silicone oil
Splint	304
Housing material	Shell die cast aluminum alloy, painted with epoxy resin coating
Electrical connector	M20×1.5, NPT1/2
Process connection	M20×1.5 with welded pipe, NPT1/4(F), NPT1/2, NPT1/2(F), G1/2 with welded pipe, G1/4, three-valve manifold M20×1.5 with welded pipe (304/316), three-valve manifold NPT1/4F (304/316 optional).
Weight	3.5kg (except accessories)

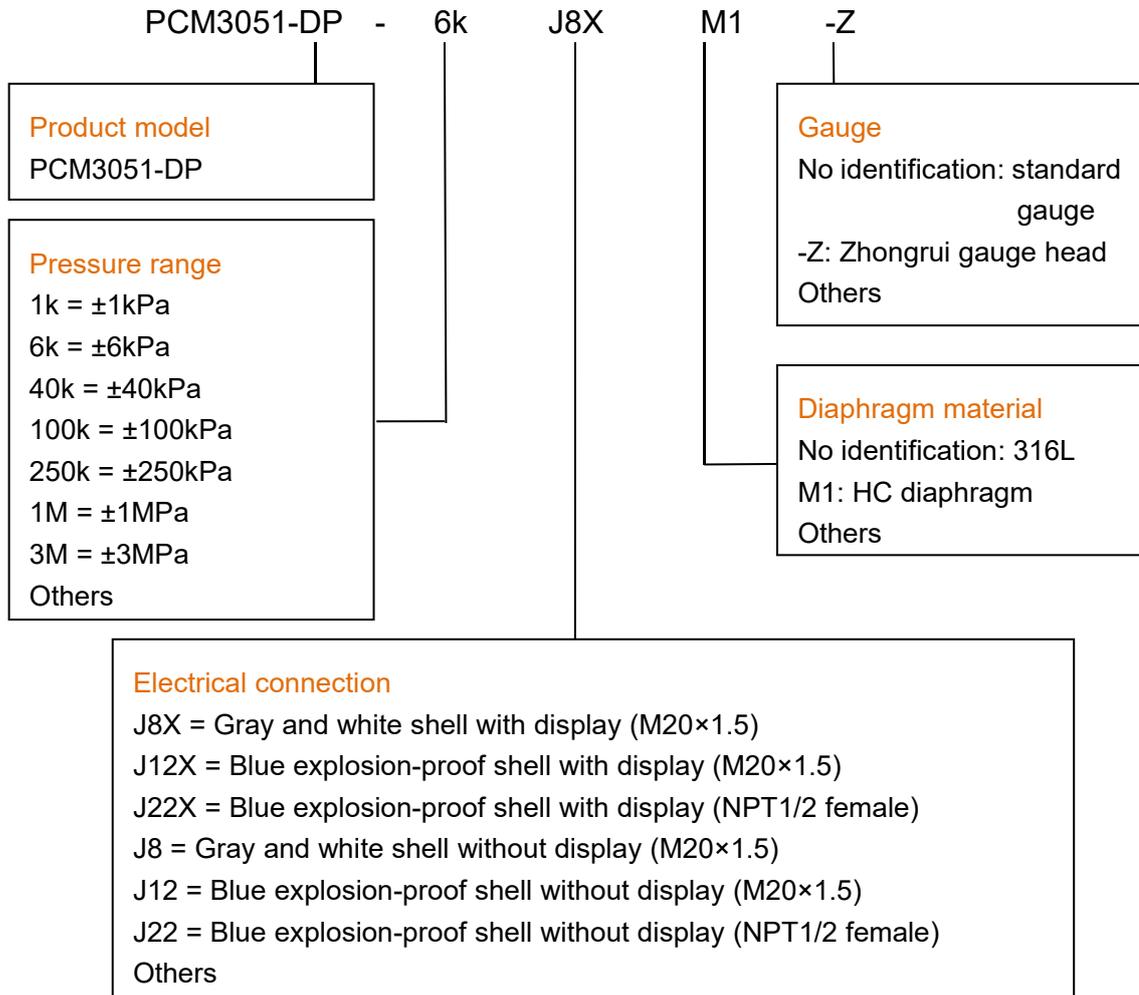
## Component diagram



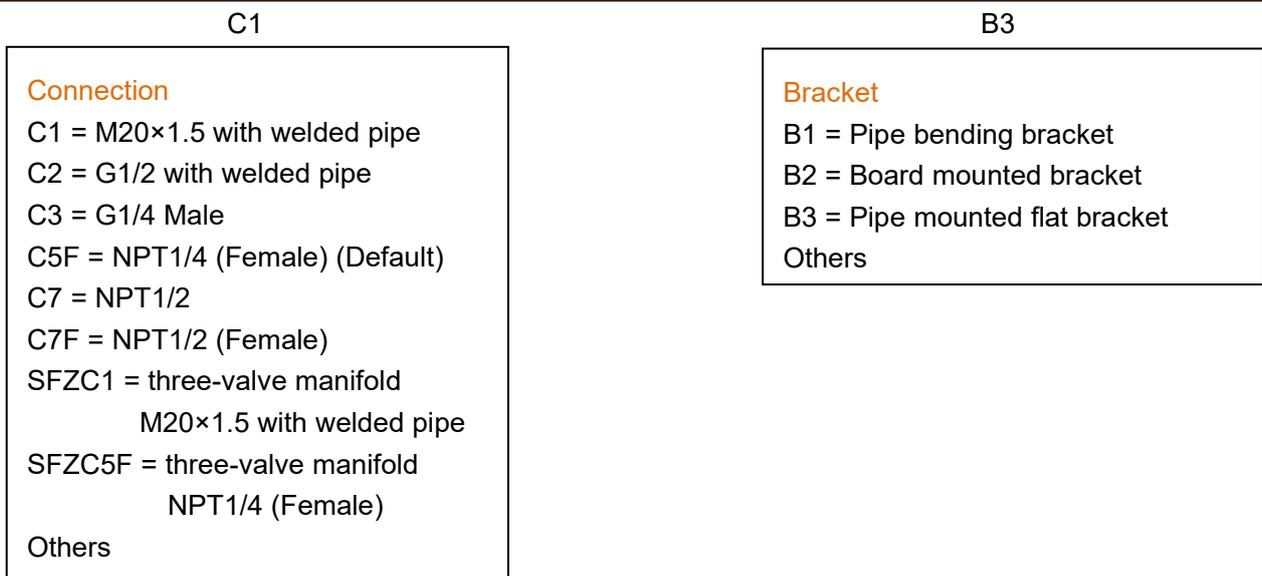
## Hart communication connector diagram



## How to order



## How to order for accessories

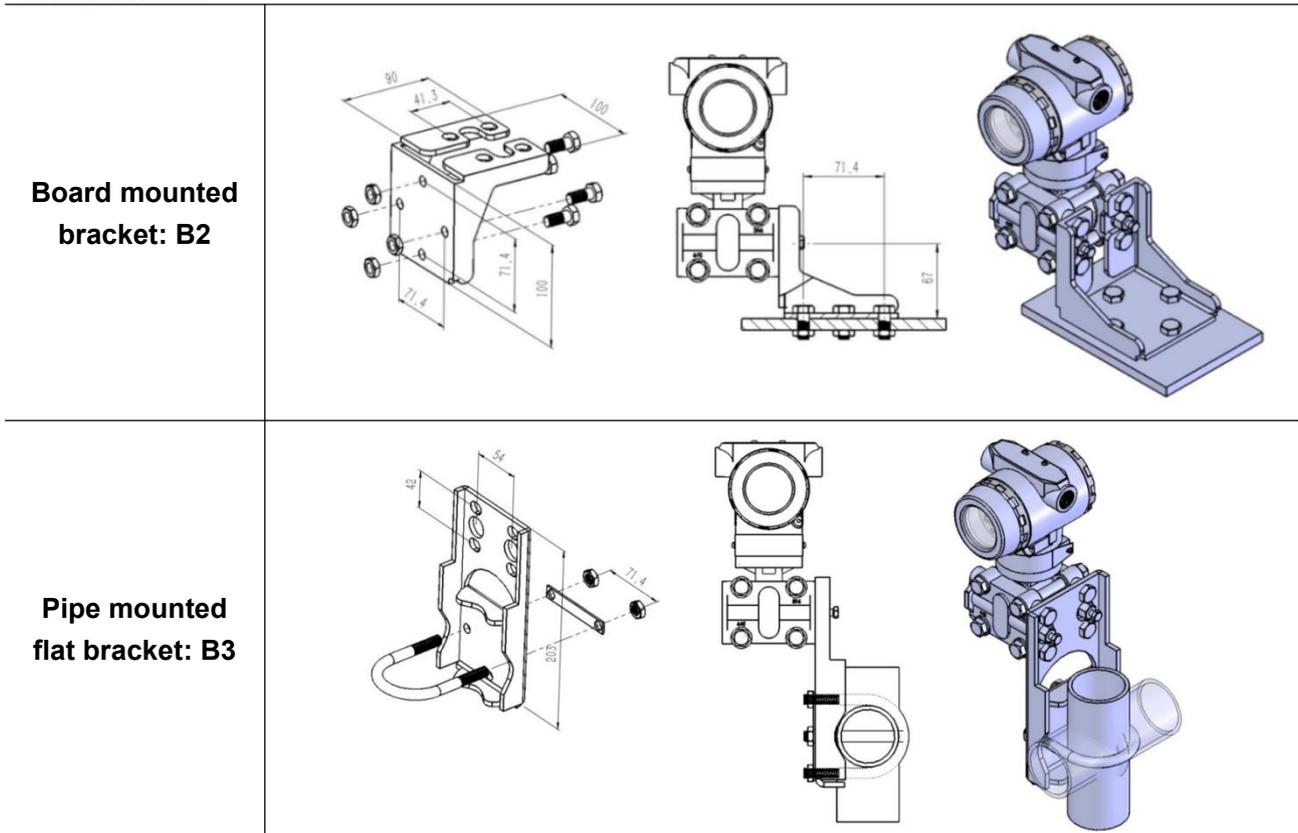


**Example:** PCM3051-DP-6kJ8XM1 -Z

Product model: PCM3051-DP; range selection:  $\pm 6\text{kPa}$ ; output signal: 4~20mA+Hart; electrical connection: 3051 housing with display (M20x1.5 female); diaphragm material: HC diaphragm; gauge: Zhongrui gauge head.

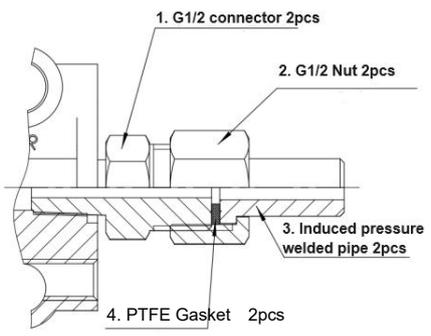
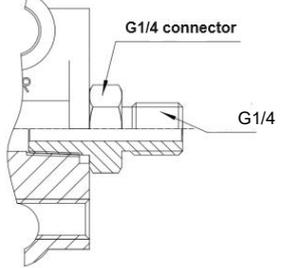
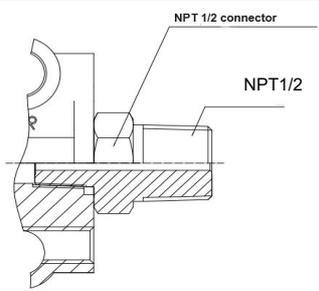
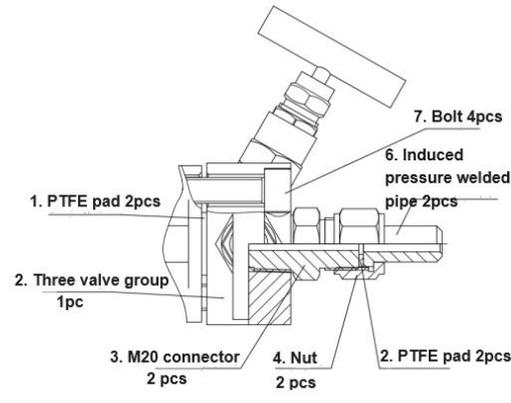
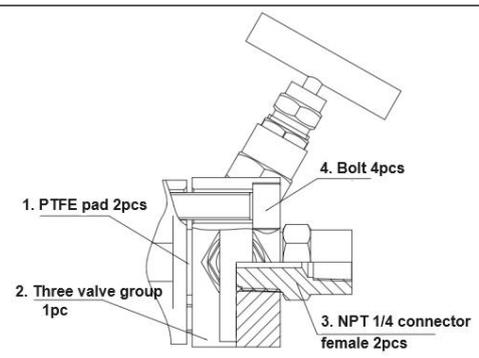
Dimensions		Unit: mm
Code	Dimension	
<p><b>PCM3051-DP</b> (without accessories)</p>	<p>Notes:            Display L=126 ± 5mm            No display L=108 ± 5mm</p>	

How to order for accessories		Unit: mm
Installation bracket		Unit: mm
<p><b>Pipe bending bracket: B1</b></p>		



**How to order process connection**

Accessory code	Specification		Assembly drawing
	Name	Amount	
<b>C1:</b> M20×1.5 External welded pipes	T-connector	2	
	M10×20 screw bolt	4	
	O-ring	2	
	PTFE Gasket	2	
	M20 nut	2	
	φ14×4 induced pressure welded pipe	2	
<b>C7F:</b> NPT1/2 (F) Waist flange	O-ring	2	
	Waist flange	2	
	M10×35 Screw bolt	4	
	-	-	
	-	-	

<b>C2:</b> G1/2 with welded pipes	NPT1/4 to G1/2 connector	2	 <p>1. G1/2 connector 2pcs 2. G1/2 Nut 2pcs 3. Induced pressure welded pipe 2pcs 4. PTFE Gasket 2pcs</p>
	G1/2 nut	2	
	φ14×4 induced pressure welded pipe	2	
	PTFE Gasket	2	
	-	-	
<b>C3:</b> G1/4	NPT1/4 to G1/4 connector	2	 <p>G1/4 connector G1/4</p>
	-	-	
	-	-	
	-	-	
<b>C7:</b> NPT1/2	NPT1/4 to NPT1/2 connector	2	 <p>NPT 1/2 connector NPT1/2</p>
	-	-	
	-	-	
	-	-	
<b>SFZC1:</b> Three valve - M20 with welded pipe (304/316 optional)	PTFE Gasket	2	 <p>1. PTFE pad 2pcs 2. Three valve group 1pc 3. M20 connector 2 pcs 4. Nut 2 pcs 5. PTFE pad 2pcs 6. Induced pressure welded pipe 2pcs 7. Bolt 4pcs</p>
	three-valve manifold	1	
	M20×1.5 connector	2	
	M20×1.5 nut	2	
	PTFE Gasket	2	
	φ14×4 induced pressure welded pipe	2	
	M10×35 bolt	4	
<b>SFZC5F:</b> Three valve group - NPT1/4 female (304/316 optional)	PTFE Gasket	2	 <p>1. PTFE pad 2pcs 2. Three valve group 1pc 3. NPT 1/4 connector female 2pcs 4. Bolt 4pcs</p>
	three-valve manifold	1	
	NPT1/4 connector	2	
	M10×35 bolt	4	
	-	-	



## 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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