

PCM3051-W-DP Intelligent Differential Pressure Transmitter

Features

- Advanced monocrystalline silicon differential pressure sensor adopted
- Wide pressure range covering $\pm 3\text{MPa}$
- Double-wire mode, 4~20mA analog output, HART® protocol digital communication option
- Intelligent LCD gauge outfit with backlight
- With both the remote transmission and the local zero and pressure range adjustment
- Complete varieties, high accuracy, good stability,
- Isolation ex-proof housing structure, strong resistance to the frequency conversion interference
- High static pressure, high overload protection
- Patented double overload protection diaphragm design
- Lightning protection circuit design

Applications and industries

- Process control fields for the industries such as petroleum, chemical industry, metallurgy, electricity, food, papermaking, medicine, machine manufacturing, scientific experiment and military aviation etc.

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

PCM3051-W-DP intelligent differential pressure transmitter is a well-developed high performance pressure transmitter based on the international leading technology, adopting the world advanced monocrystalline silicon pressure sensor technology and the patented packaging process. This product adopts the patented double overload protection diaphragm design, with the internal circuit surge protection design, and can accurately measure the gauge pressure, flow, 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.
- 4 Misuse of the product may cause danger or personal injury.

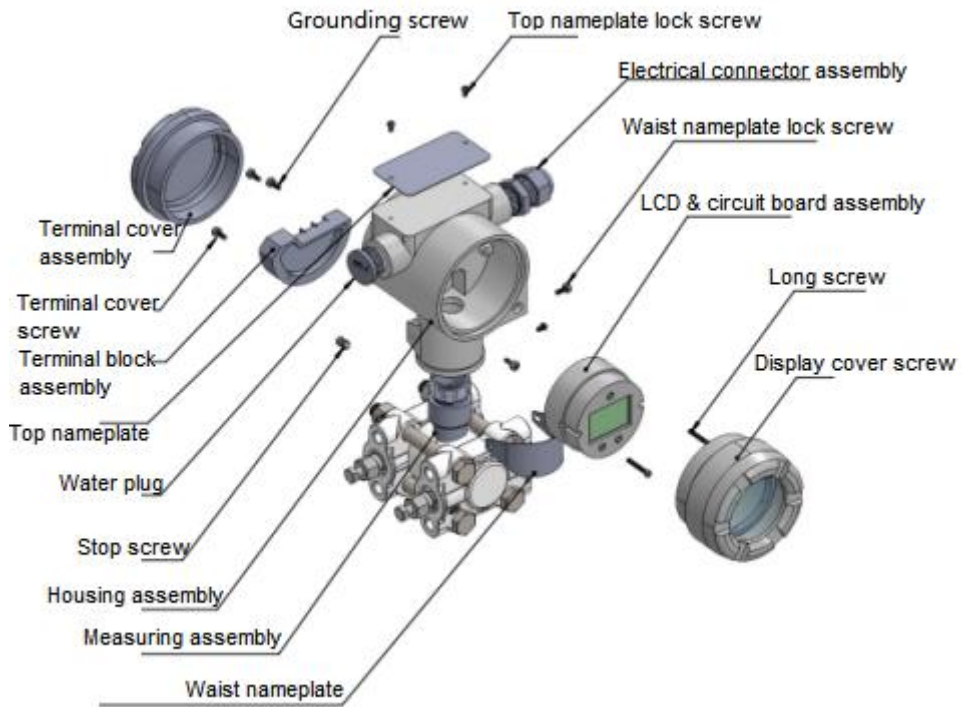
Performance parameters

Pressure range	±1kPa; ±6kPa; ±40kPa; ±100kPa; ±250kPa; ±1MPa; ±3MPa
Pressure reference	Differential pressure
Supply voltage	12VDC~32VDC, 24VDC recommended
Output	4~20mA+HART® protocol
ESD (Electronic Static Discharge)	National standard 4 (IEC61000-4-2; GB/T 17626.2), voltage 15KV, contact discharge
EFT (Electrical Fast Transient)	National standard 3 (IEC61000-4-4; GB/T 17626.4), voltage 2KV, pulse length 75ns, frequency 100kHz
Surge	National standard 3 (IEC61000-4-5; GB/T 17626.5), voltage 2KV
Accuracy	±1kPa: ±0.2%FS; ±6kPa: ±0.1%FS; Other standard pressure ranges: ±0.075%FS (25±5℃)
Temp. coefficient	±0.5%FS(±1kPa); ±0.3%FS(±6kPa); ±0.25%FS(Other ranges); @-20℃~70℃
Ambient temperature	-30℃~80℃; with LCD gauge outfit -30℃~70℃
Medium temp.	-40℃~125℃
Protection grade	IP67
Ex-proof grade	Exd IIC T6 Gb
Static pressure range	±1kPa; ±6kPa; ±40kPa Static pressure resistance 16MPa; ±100kPa; -100~250kPa Static pressure resistance 16MPa; -0.1~1MPa; -0.1~3MPa Static pressure resistance 16MPa;
Overpressure limitation	16MPa
Long-term stability	±0.1%FS/year

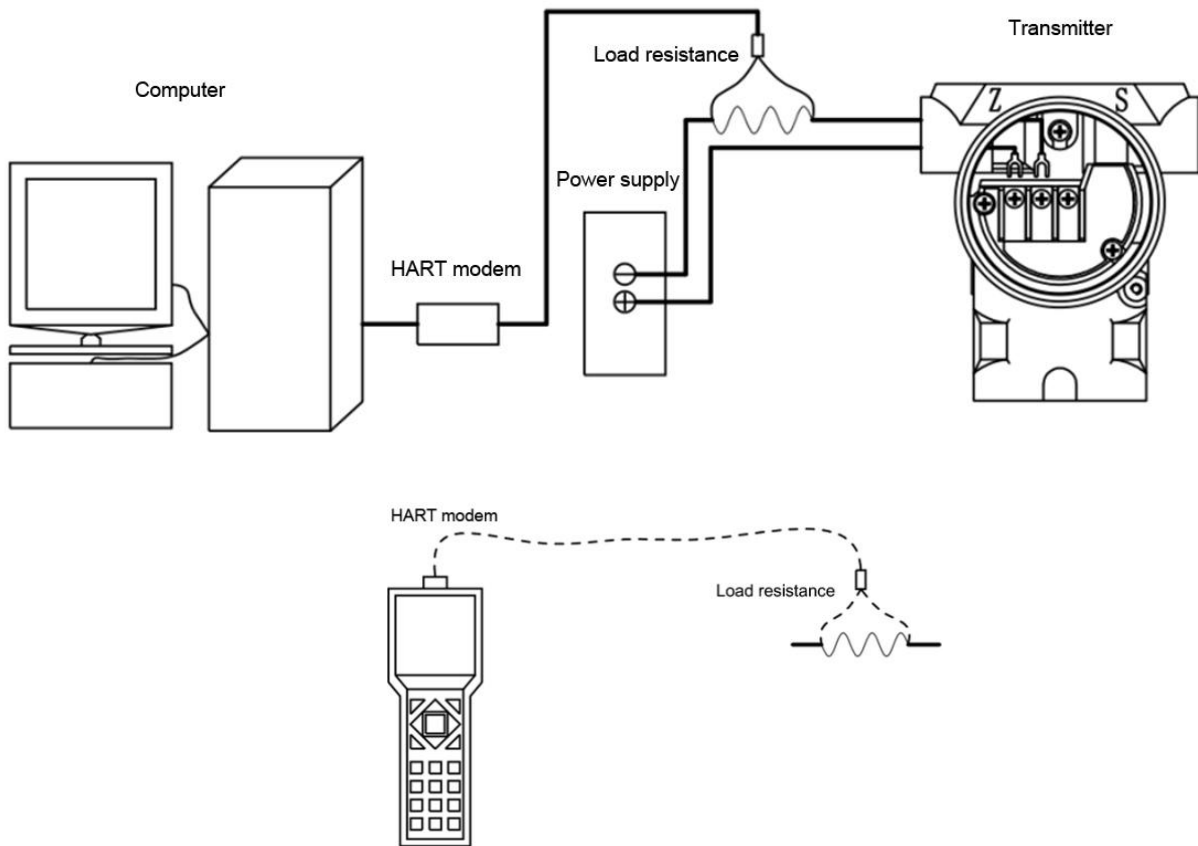
Structural performance

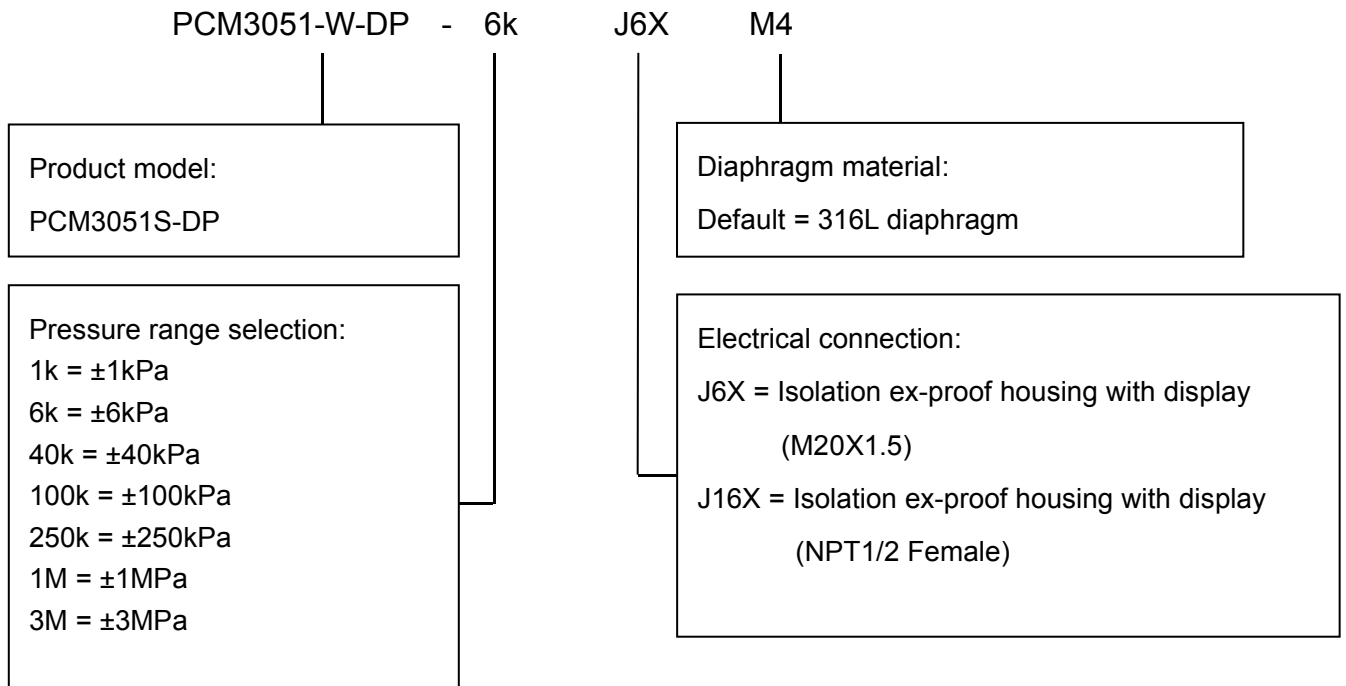
Diaphragm material	SS316L
Exhaust/Drain valve	SS316
O-ring	Silicone rubber (contact with the measurement medium)
Filling liquid	Silicon oil
Flange and clamp block	SS316L
Housing material	Die-casting aluminum alloy with epoxy resin coating
Electrical connection	M20×1.5 (Female), NPT1/2 (Female)
Process connection	M20×1.5 (Male) with welded pipe, 304 tri-valve set M20×1.5 (Male) with welded pipe
	M20×1.5 with welded pipe, NPT1/4(F), NPT1/2, NPT1/2(F), G1/2 with welded pipe, G1/4 Tri-valve set M20×1.5 with welded pipe (304/316 optional), Tri-valve set NPT1/4F(304/316 optional)
Weight	3.5kg (Optional accessory excluded)

Component diagram



HART communication connection diagram

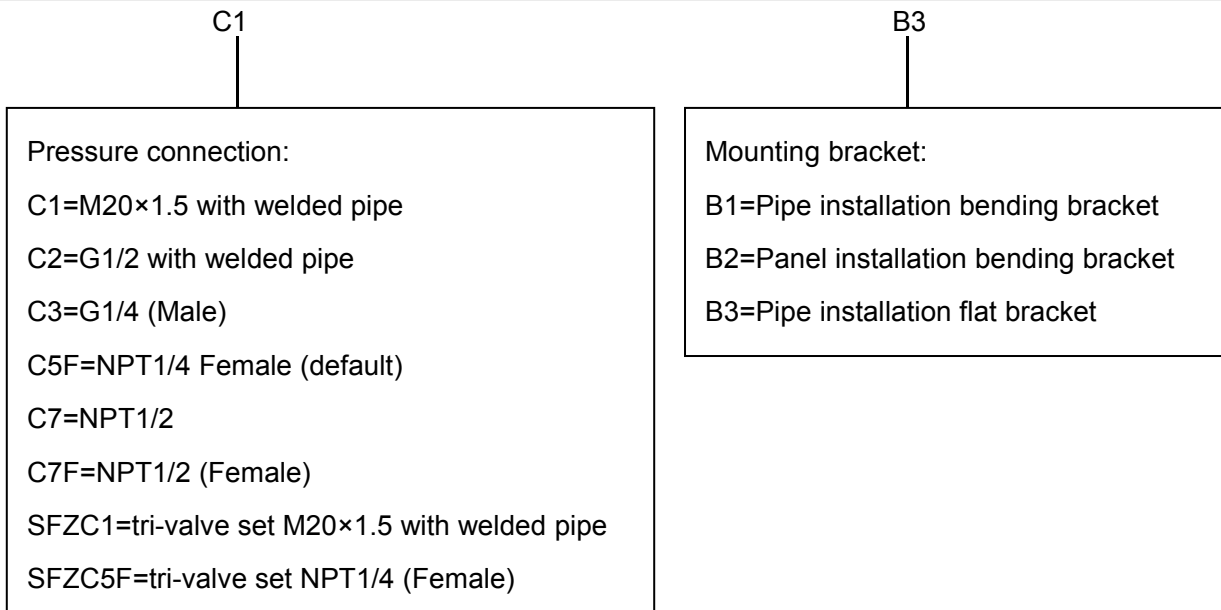


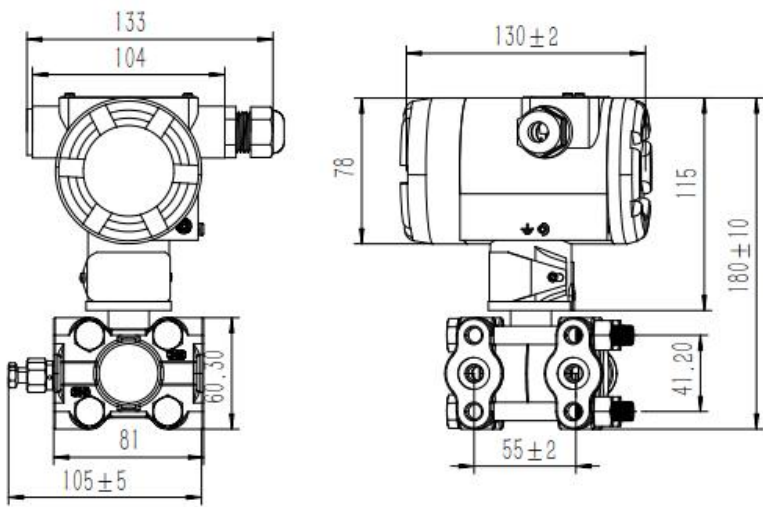


Example: PCM3051-W-DP-6kJ6XM4

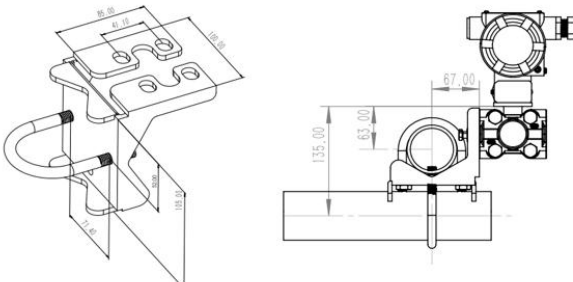

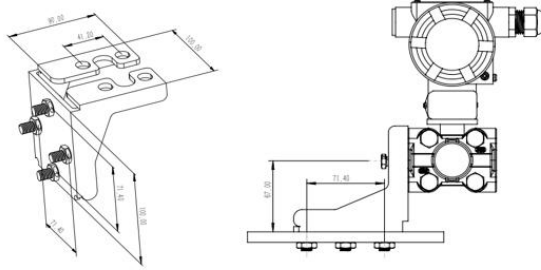
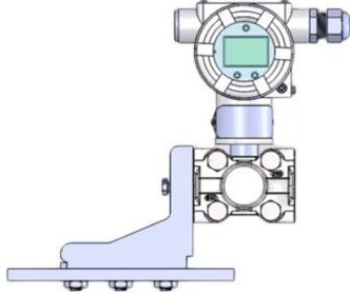
Refer to product model: PCM3051-W-DP, pressure range selection: ±6kPa, output: 4~20mA+HART® protocol, electrical connection: Isolation ex-proof housing with display (M20X1.5 Female), gauge outfit: Zhongrui gauge outfit

How to order for accessories

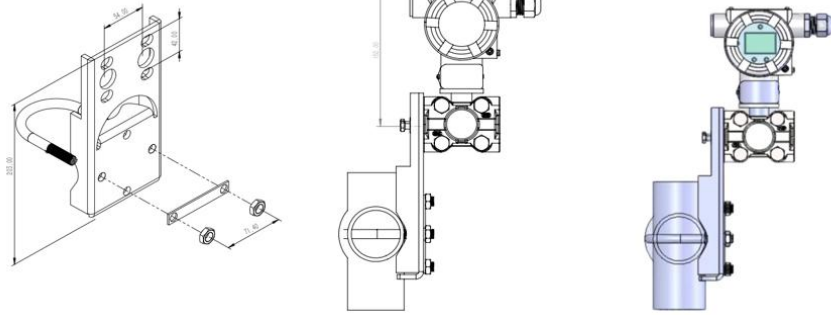


Product model	Dimension drawing	In mm
<p>PCM3051-W-DP (Without accessories)</p>		

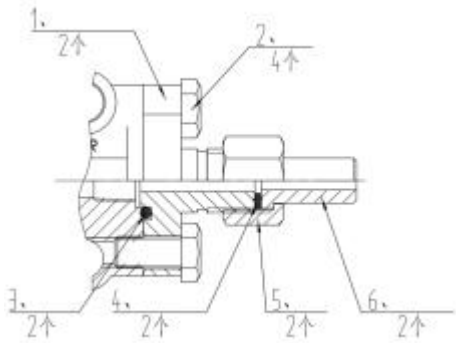
Accessory

Mounting bracket	In mm	
<p>Pipe installation bending bracket: B1</p>		
<p>Panel installation bending bracket: B2</p>		

Pipe installation
flat bracket: B3



Process connection

Code of accessories	Detail Table																																							
	Name	Qty	No.																																					
C1: M20×1.5 with welded pipe	T shape connector	2	1																																					
	M10×20 bolt	4	2																																					
	O-ring	2	3																																					
	PTFE gasket	2	4																																					
	M20 nut	2	5																																					
	Φ14×4 welded pipe	2	6																																					
C7F: NPT1/2(F)				<table border="1"> <thead> <tr> <th>No.</th> <th>Name</th> <th>Material No.</th> <th>Qty.</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>3051 clamp block</td> <td>-</td> <td>2</td> </tr> <tr> <td>2</td> <td>O-ring</td> <td>-</td> <td>2</td> </tr> <tr> <td>3</td> <td>NPT1/2 pressure connection</td> <td>100040700010</td> <td>2</td> </tr> <tr> <td>4</td> <td>M10×35 bolt</td> <td>100040700009</td> <td>4</td> </tr> <tr> <td>-</td> <td>-</td> <td>-</td> <td>-</td> </tr> </tbody> </table>	No.	Name	Material No.	Qty.	1	3051 clamp block	-	2	2	O-ring	-	2	3	NPT1/2 pressure connection	100040700010	2	4	M10×35 bolt	100040700009	4	-	-	-	-												
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SFZC1: Tri-valve set-M20 with welded pipe				<table border="1"> <thead> <tr> <th>No.</th> <th>Name</th> <th>Material No.</th> <th>Qty.</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>3051 clamp block</td> <td>-</td> <td>2</td> </tr> <tr> <td>2</td> <td>PTFE gasket</td> <td>-</td> <td>2</td> </tr> <tr> <td>3</td> <td>304SS tri-valve set</td> <td>100040700015</td> <td>1</td> </tr> <tr> <td>4</td> <td>M10×35 bolt</td> <td>-</td> <td>4</td> </tr> <tr> <td>5</td> <td>M20 connector</td> <td>-</td> <td>2</td> </tr> <tr> <td>6</td> <td>M20 nut</td> <td>-</td> <td>2</td> </tr> <tr> <td>7</td> <td>PTFE gasket</td> <td>-</td> <td>2</td> </tr> <tr> <td>8</td> <td>Φ14×4 welded pipe</td> <td>-</td> <td>2</td> </tr> </tbody> </table>	No.	Name	Material No.	Qty.	1	3051 clamp block	-	2	2	PTFE gasket	-	2	3	304SS tri-valve set	100040700015	1	4	M10×35 bolt	-	4	5	M20 connector	-	2	6	M20 nut	-	2	7	PTFE gasket	-	2	8	Φ14×4 welded pipe	-	2
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Note: Please refer to the structural property for the other pressure connections, and the Material No. “-” means provided as the supporting material for free.



Ordering tips

The accessory should be purchased separately.

Additional prices

1. There will be additional USD15 for the pressure range <10Kpa;
2. There will be additional USD30 for isolation ex-proof ExdIIBT6Gb ;
3. There will be additional USD40 for the tri-valve set;
4. There will be additional USD5 for the mounting bracket;
5. For the flanges: DN25 USD25/piece; DN50 USD40/piece; DN80 USD60/piece;
6. For the capillary tube on the remote transmission flange: USD7/meter;
7. For the tantalum diaphragm: USD30/piece;
8. For the PTFE spraying: USD30/piece;

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