

# PCM3051S-DP Intelligent Differential Pressure Transmitter

## Features

- Advanced monocrystalline silicon differential pressure sensor adopted
- Wide pressure range covering 0-0.2kPa~3MPa
- 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

PCM3051S-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.

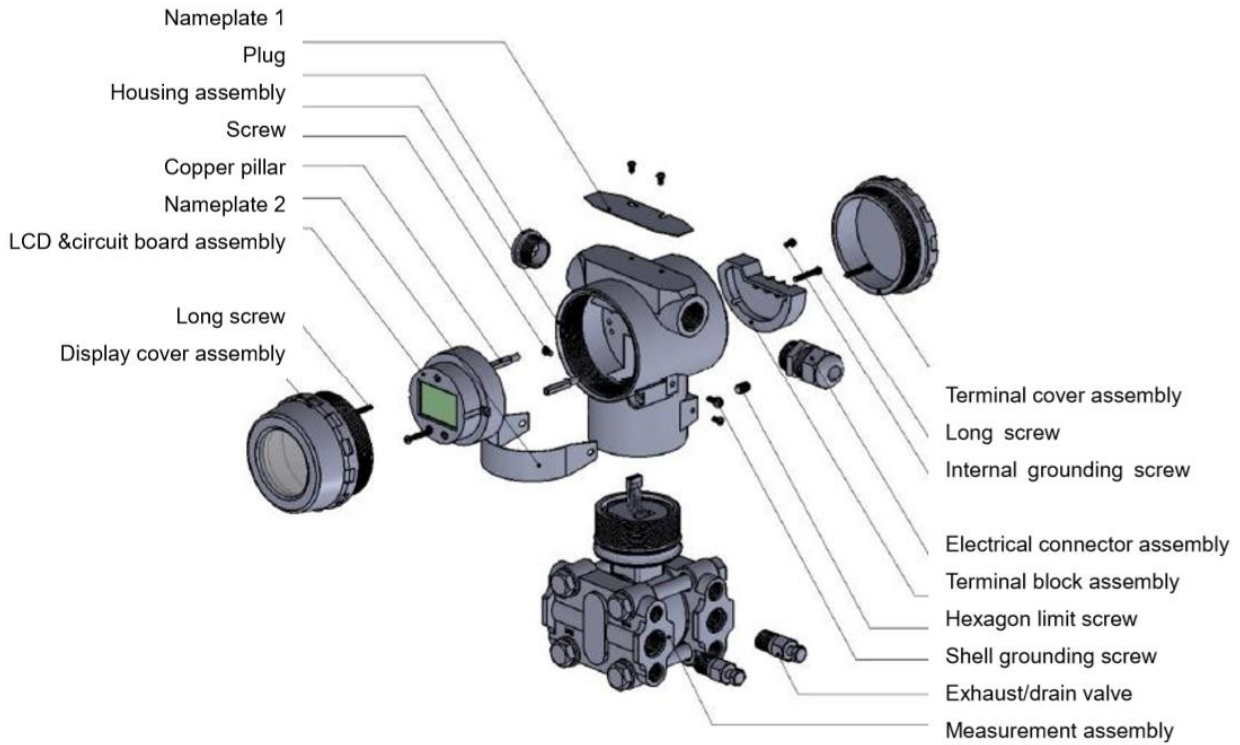
### Performance parameters

Pressure range	-100kPa...0~0.2kPa...3MPa
Pressure reference	Gauge pressure, Differential pressure
Supply & output	4~20mA, 4~20mA+HART® protocol (10.5V~36V, usually 24V)
Accuracy	±0.075%FS; ±0.1%FS (typ.)
Zero temp. coefficient	±0.25%FS/55°C
Full span temperature effect	±0.5%FS/55°C
Ambient temperature	-30°C~80°C; with LCD gauge outfit -30°C~70°C
Medium temp.	-40°C~104°C
Storage temp.	-40°C~85°C
Insulation resistance	≥100MΩ/500VDC (200MΩ/250VDC)
Protection grade	IP65
Ex-proof grade	Exd II BT6 Gb
Static pressure range	16MPa, 25MPa, 40MPa
Overpressure limitation	16MPa
Long-term stability	±0.2%FS/year

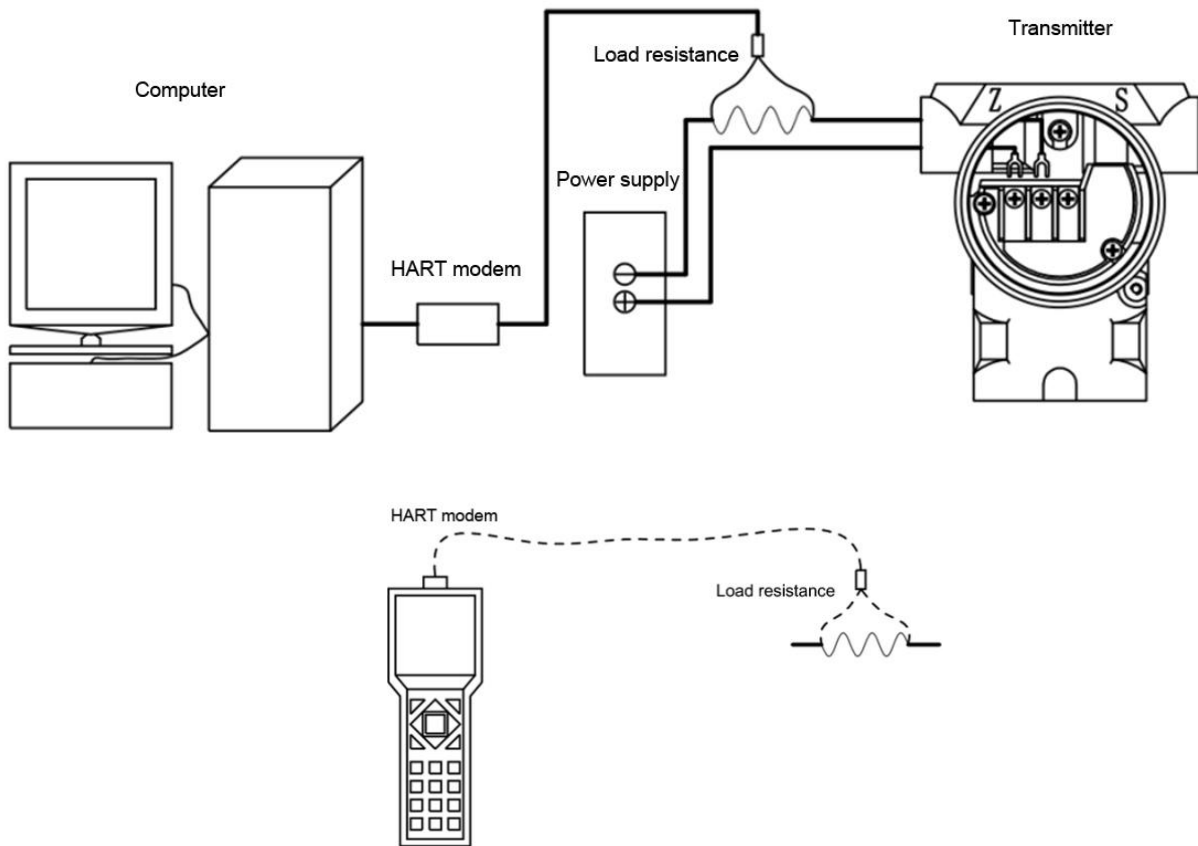
### Structural performance

Diaphragm material	316L (316L sprayed with PTFE, Hastelloy C, tantalum, only suitable for the flush series of products with flange)
Exhaust/Drain valve	SS316
O-ring	Chemigum (contact with the measurement medium)
Filling liquid	Silicon oil
Flange and clamp block	SS304
Housing material	Die-casting aluminum epoxy resin coating
Electrical connection	M20×1.5 (Female), NPT1/2 (Female)
Pressure connection	M20×1.5 (Male) with welded pipe, 304 tri-valve set M20×1.5 (Male) with welded pipe
	NPT1/4 (Female), 304 tri-valve set NPT1/4 (Female), NPT1/2 (Male), NPT1/2 (Female)
	G1/2 (Male) with welded pipe, G1/4 (Male)
Weight	3.5kg (not including the optional accessory)

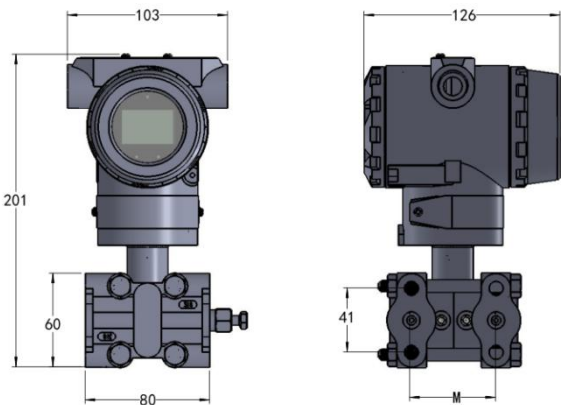
## Component diagram



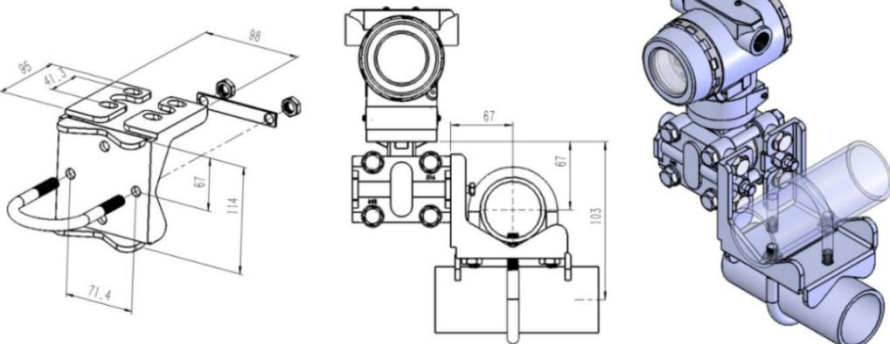
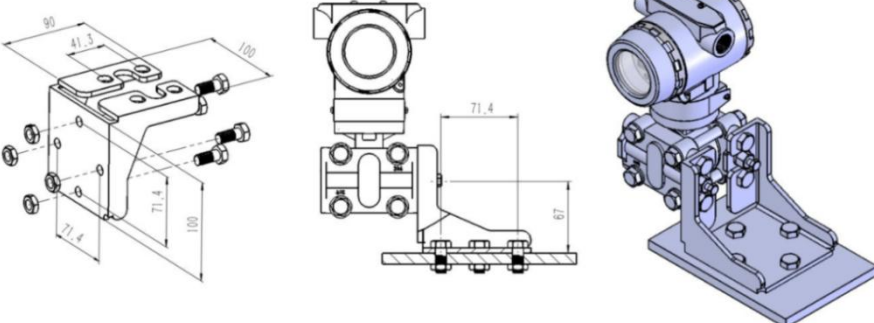
## HART communication connection diagram



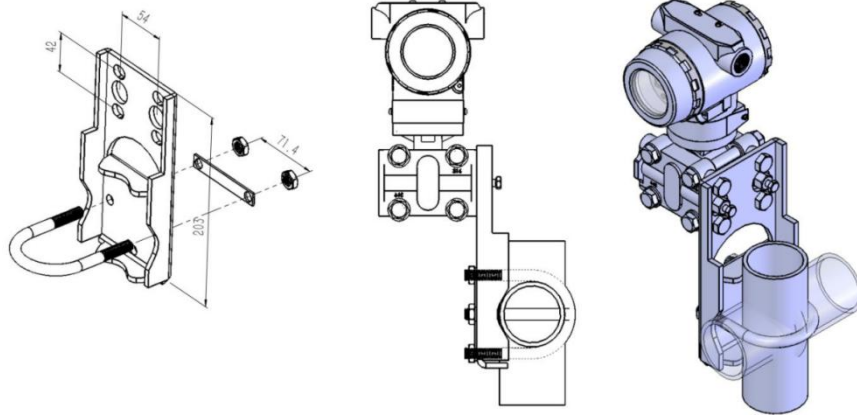
**Outline dimension**

Product model	Dimension drawing	In mm								
PCM3051S-DP	 <table border="1" data-bbox="475 763 1332 864"> <thead> <tr> <th>Measurement range (code)</th> <th>3E, 4E, 5E</th> <th>6E</th> <th>7E, 8E</th> </tr> </thead> <tbody> <tr> <td>M</td> <td>54</td> <td>54.5</td> <td>55</td> </tr> </tbody> </table>	Measurement range (code)	3E, 4E, 5E	6E	7E, 8E	M	54	54.5	55	
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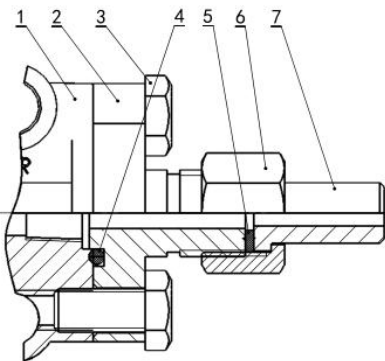
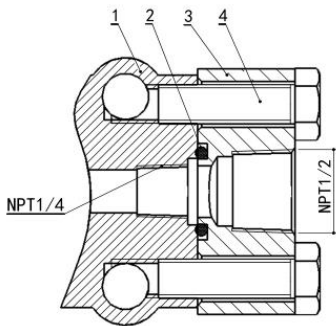
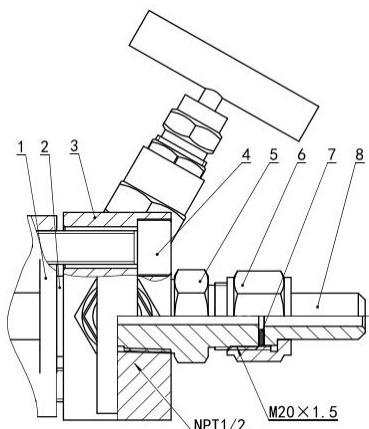
**Accessory**

Mounting bracket		In mm
<p>Pipe installation bending bracket: <b>B1</b> (100040700006)</p>		
<p>Plane installation bending bracket: <b>B2</b> (100040700007)</p>		

Pipe installation  
flat bracket: B3  
(100040700008)

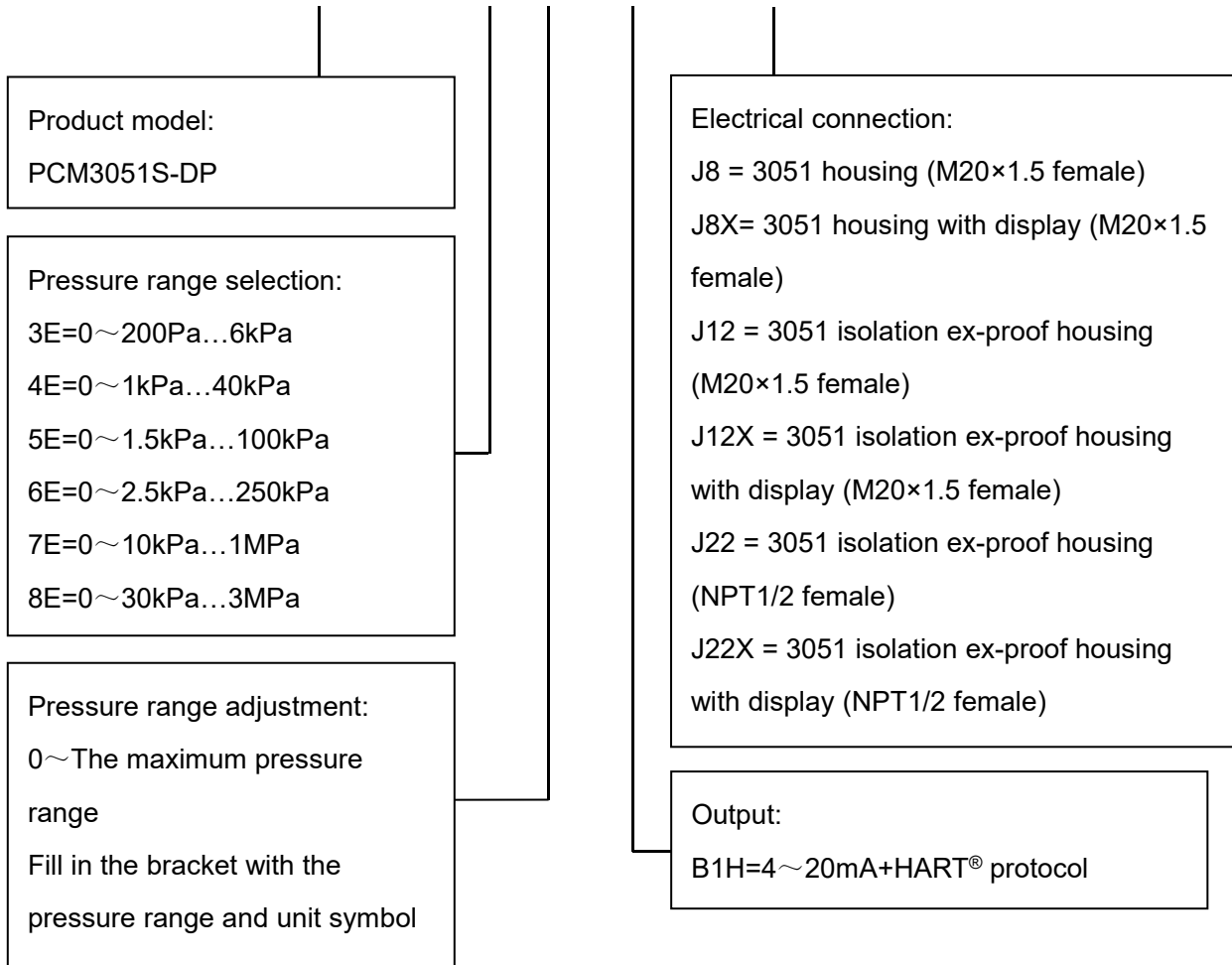


**Pressure connection**

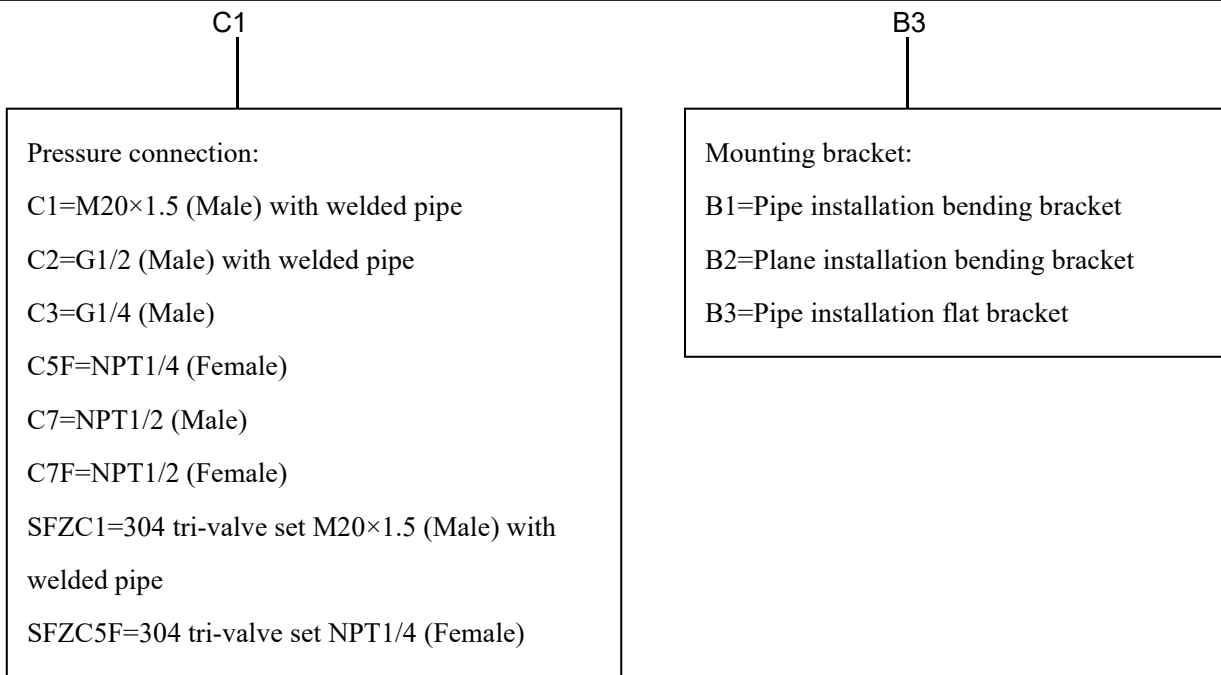
<p><b>C1:</b> M20×1.5 with welded pipe</p>		No.	Name	Material No.	Qty.
		1	3051 clamp block	-	-
		2	T shape connector	100040700002	2
		3	M10×20 bolt	100040700000	4
		4	O-ring	-	-
		5	PTFE gasket	-	-
		7	Φ14×4 welded pipe	-	-
<p><b>C7F:</b> NPT1/2(F)</p>		No.	Name	Material No.	Qty.
		1	3051 clamp block	-	2
		2	O-ring	-	2
		3	NPT1/2 pressure connection	100040700010	2
		4	M10×35 bolt	100040700009	4
<p><b>SFZC1:</b> Tri-valve set-M20 with welded pipe</p>		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		

Note: Please refer to the structural property for the other pressure connections, and the Material No. “-” means provided as the supporting material for free.

PC3051S-DP - 4E ( ) B1 J8X



How to order for accessories





Example: PCM3051S-DP-4E (0~20kPa) B1H J8X C1 B3

Refer to product model: PCM3051S-DP, pressure range selection: 0~1kPa...40kPa, pressure range adjustment: 0~20kPa, output: 4~20mA+HART® protocol, electrical connection: 3051 housing with display (M20×1.5 female), pressure connection: M20×1.5 (Male) with welded pipe, mounting bracket: Pipe installation flat bracket

## 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;

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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