

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.

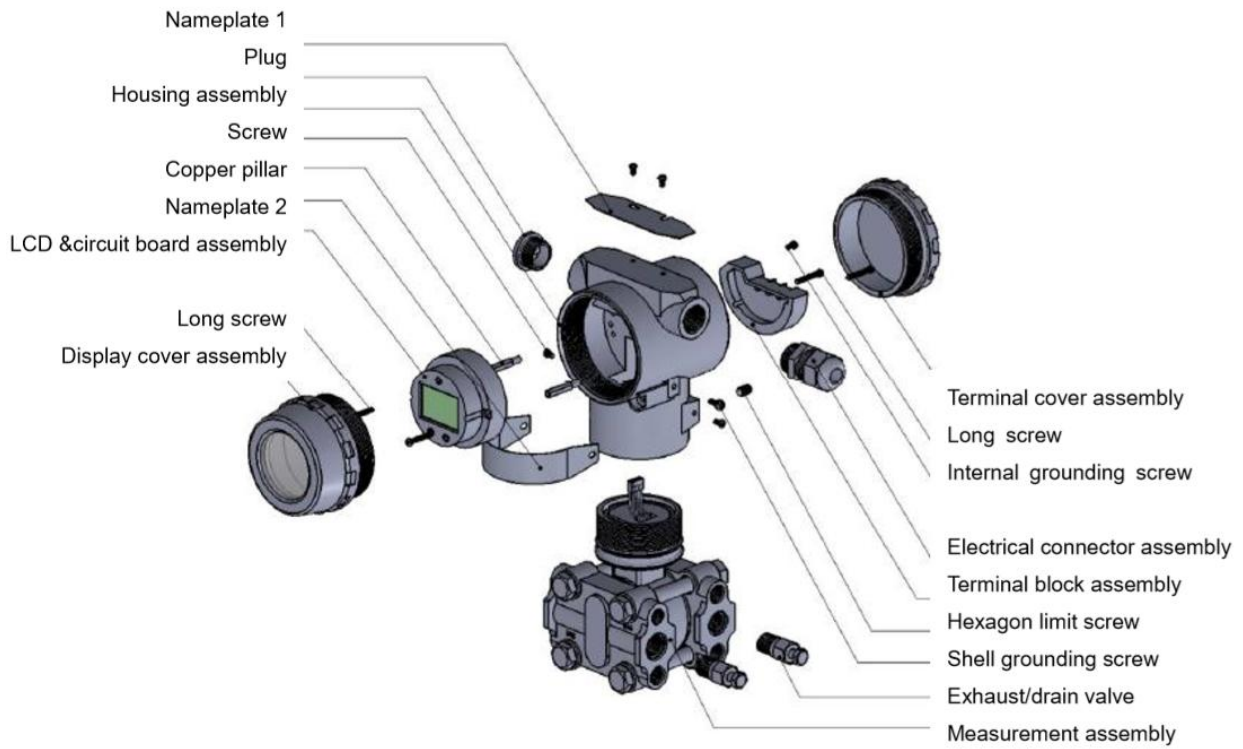
Performance parameters

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

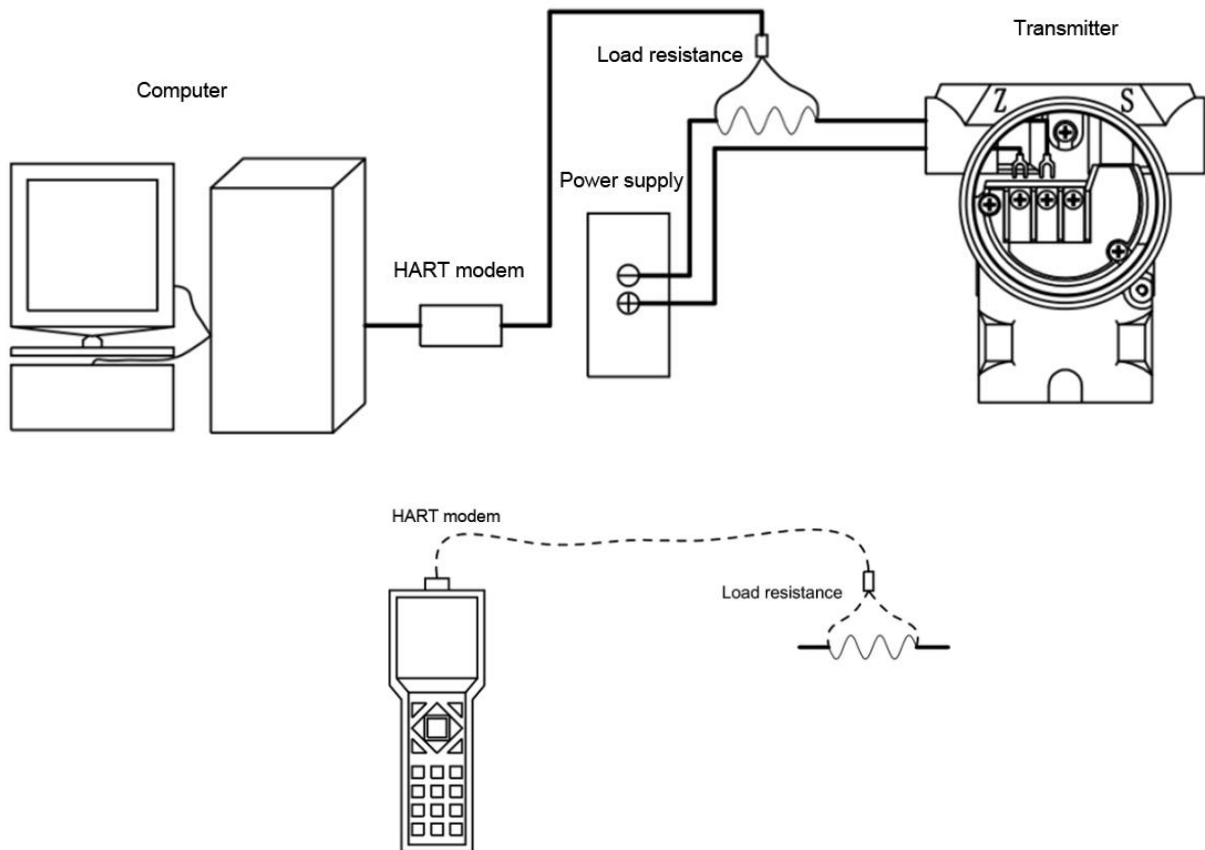
Structural performance

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)

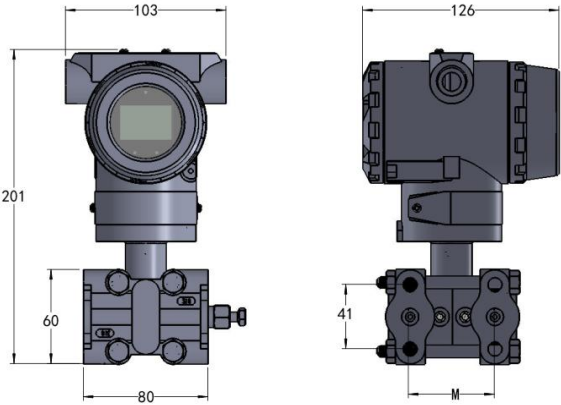
Component diagram



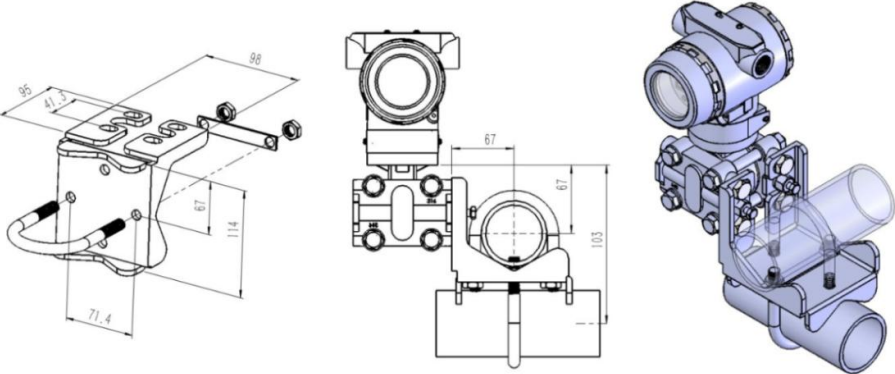
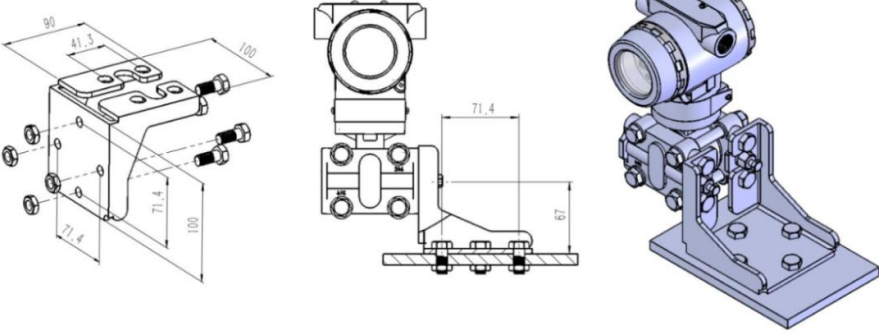
HART communication connection diagram



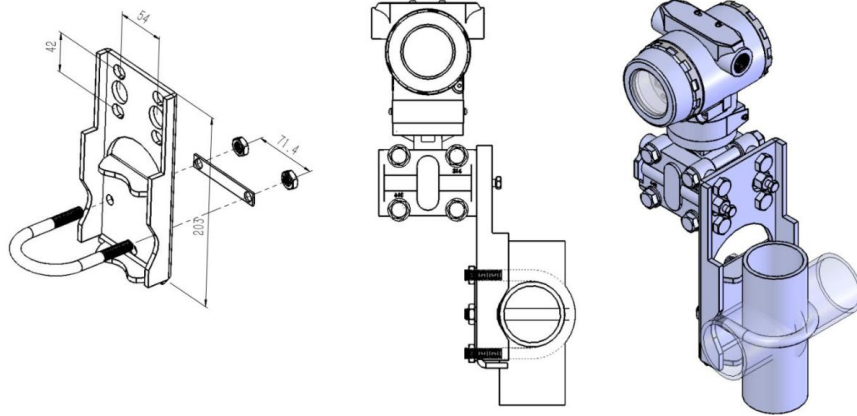
Outline dimension

Product model	Dimension drawing	In mm						
PCM3051S-DP								
		<table border="1"> <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
Measurement range (code)	3E, 4E, 5E	6E	7E, 8E					
M	54	54.5	55					

Accessory

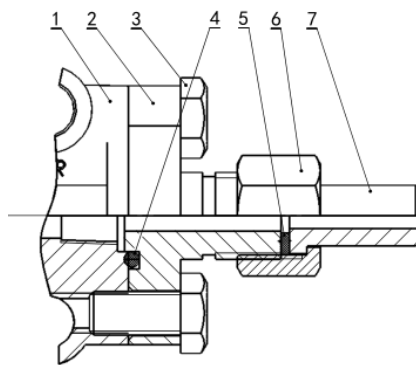
Mounting bracket	In mm
Pipe installation bending bracket: B1 (100040700006)	
Plane installation bending bracket: B2 (100040700007)	

Pipe installation
flat bracket: B3
(100040700008)



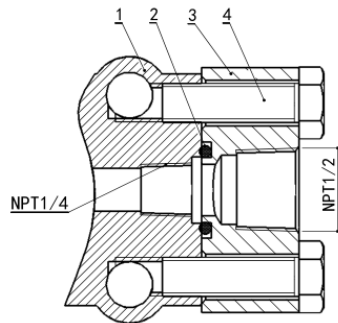
Pressure connection

C1:
M20×1.5 with
welded pipe



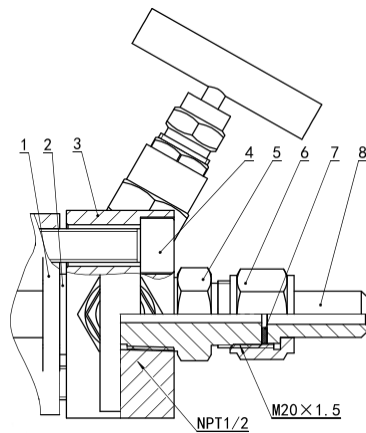
No.	Name	Material No.	Qty.
1	3051 clamp block	-	-
2	T shape connector	100040700002	2
3	M10×20 bolt	100040700000	4
4	O-ring	-	-
5	PTFE gasket	-	-
6	M20 nut	-	-
7	Φ14×4 welded pipe	-	-

C7F:
NPT1/2(F)



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
-	-	-	-

SFZC1:
Tri-valve set-M20
with welded pipe



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

Product model:
PCM3051S-DP

Pressure range selection:
 3E=0~200Pa...6kPa
 4E=0~1kPa...40kPa
 5E=0~1.5kPa...100kPa
 6E=0~2.5kPa...250kPa
 7E=0~10kPa...1MPa
 8E=0~30kPa...3MPa

Pressure range adjustment:
 0~The maximum pressure range
 Fill in the bracket with the pressure range and unit symbol

Electrical connection:
 J8 = 3051 housing (M20×1.5 female)
 J8X= 3051 housing with display (M20×1.5 female)
 J12 = 3051 isolation ex-proof housing (M20×1.5 female)
 J12X = 3051 isolation ex-proof housing with display (M20×1.5 female)
 J22 = 3051 isolation ex-proof housing (NPT1/2 female)
 J22X = 3051 isolation ex-proof housing with display (NPT1/2 female)

Output:
 B1H=4~20mA+HART® protocol

How to order for accessories

C1

Pressure connection:
 C1=M20×1.5 (Male) with welded pipe
 C2=G1/2 (Male) with welded pipe
 C3=G1/4 (Male)
 C5F=NPT1/4 (Female)
 C7=NPT1/2 (Male)
 C7F=NPT1/2 (Female)
 SFZC1=304 tri-valve set M20×1.5 (Male) with welded pipe
 SFZC5F=304 tri-valve set NPT1/4 (Female)

B3

Mounting bracket:
 B1=Pipe installation bending bracket
 B2=Plane installation bending bracket
 B3=Pipe installation flat bracket



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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