PCM3051S-LT, RD intelligent flange pressure and differential pressure transmitter

Features

- Advanced monocrystalline silicon differential pressure sensor adopted
- 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.

PCM3051S-LT, RD intelligent flange pressure and 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, absolute pressure, flow, vacuum degree, liquid level and density.

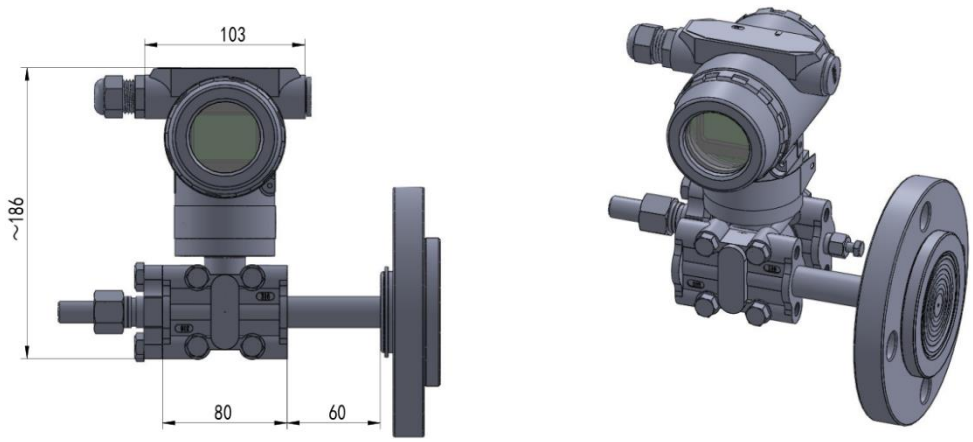
Performance parameters

Pressure range	0～10kPa…3MPa
Pressure reference	Gauge pressure, Differential pressure
Supply & output	4～20mA, 4～20mA+HART® protocol (10.5V～36V, usually 24V)
Accuracy	±0.1%FS
temperature drift	±（0.1+0.1×Range ratio）%FS（@-10～70℃）
Ambient temperature	-40℃～80℃; with LCD gauge outfit -20℃～70℃
Medium temp.	-40℃～120℃
Storage temp.	-40℃～85℃
Insulation resistance	≥100MΩ/500VDC (200MΩ/250VDC)
Protection grade	IP65
Static pressure range	Zero range 0.15 range ratio% FS / 4MPa
	Full range impact 0.25% FS / 4MPa
Long-term stability	±0.2%FS/2year

Structural performance

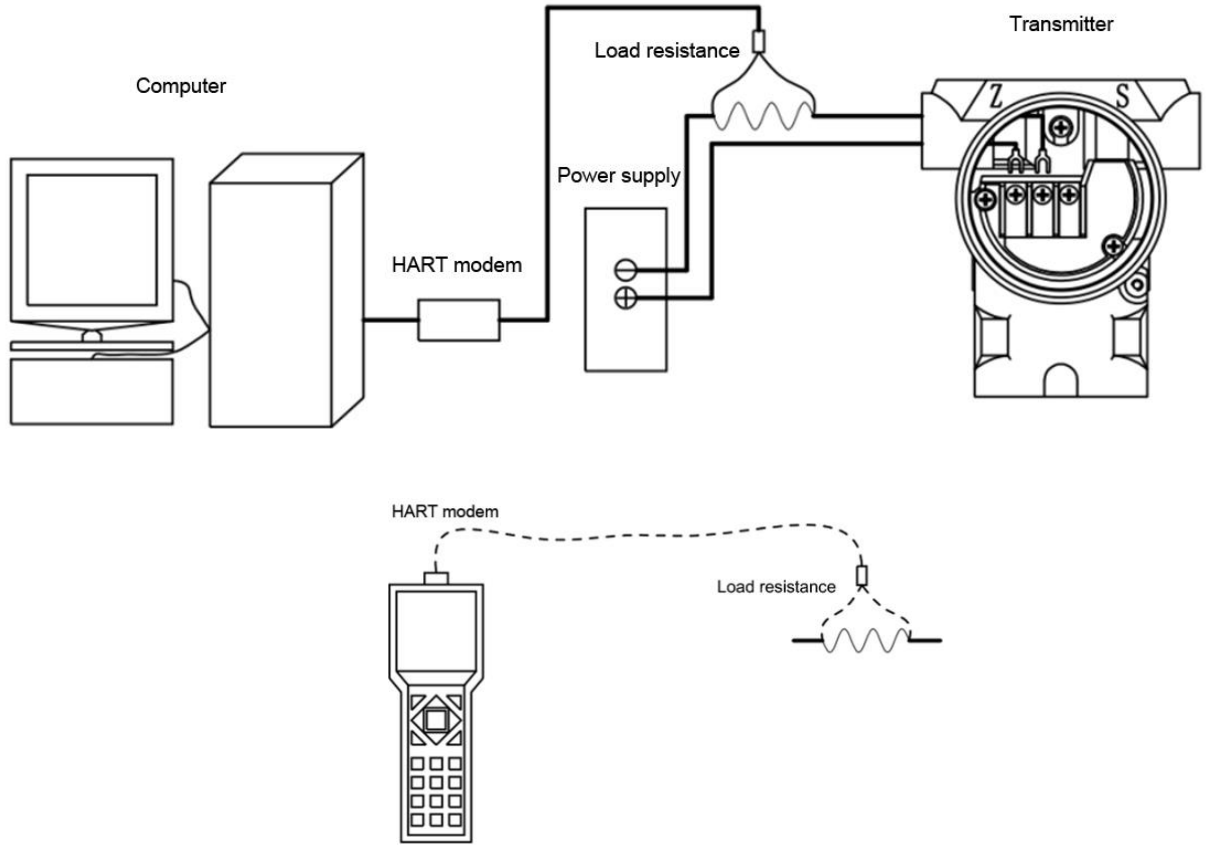
Diaphragm material	316L (316L sprayed with PTFE, Hastelloy C, tantalum
Exhaust/Drain valve	SS316（for LT）
O-ring	Chemigum (contact with the measurement medium)
Filling liquid	Silicon oil
Flange and clamp block	SS304（T-shaped film head material is 316L）
Soft capillary	SS304 For RD
Housing material	Die-casting aluminum epoxy resin coating
Electrical connection	M20×1.5 ,NPT1/2
Pressure connection	LT/RD high pressure side：DN25 PN4.0、DN50 PN4.0、DN80 PN1.6
	RD low pressure side: DN25 PN4.0、DN50 PN4.0、DN80 PN1.6
	LT low pressure side: M20×1.5 with welded pipe
Weight	3.5kg (not including the optional accessory)

Dimension drawing

Product number	Dimension drawing unit:mm
PCM3051S-LT	

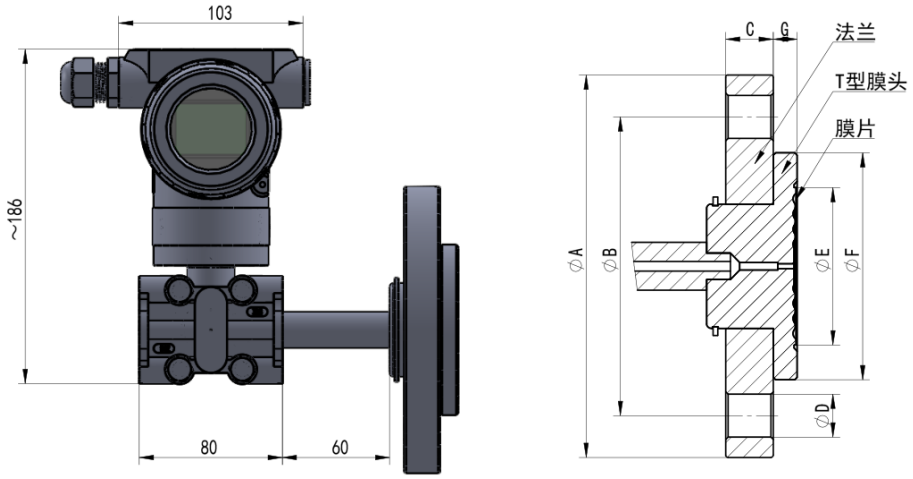
PCM3051S-RD	

HART communication connection diagram



Flange and diaphragm dimension

Flange and diaphragm dimension drawing



Code	Flange	T-shaped membrane head F	Diaphragm material	A	B	C	D	E	G
F1M4 *	304 DN25 PN4.0	316L 62	316L	125	85	16	14	49	9.6
F3M4 *	304 DN50 PN4.0	316L 95	316L	165	125	20	18	65.5	9
F4M4 *	304 DN80 PN1.6	316L 127	316L	200	160	20	18	89	8.8
F1M4P	304 DN25 PN4.0	316L 62	316L PTFE	125	85	16	14	65	9.6
F3M4P	304 DN50 PN4.0	316L 95	316L PTFE	165	125	20	18	95	9
F4M4P	304 DN80 PN1.6	316L 127	316L PTFE	200	160	20	18	127	8.8
F1M1	304 DN25 PN4.0	316L 65	Hastelloy C	125	85	16	14	65	9.6
F3M1	304 DN50 PN4.0	316L 95	Hastelloy C	165	125	20	18	95	9
F4M1	304 DN80 PN1.6	316L 127	Hastelloy C	200	160	20	18	127	8.8
F1M2	304 DN25 PN4.0	316L 65	Tantalum	125	85	16	14	65	9.6
F3M2	304 DN50 PN4.0	316L 95	Tantalum	165	125	20	18	95	9
F4M2	304 DN80 PN1.6	316L 127	Tantalum	200	160	20	18	127	8.8

Notes:

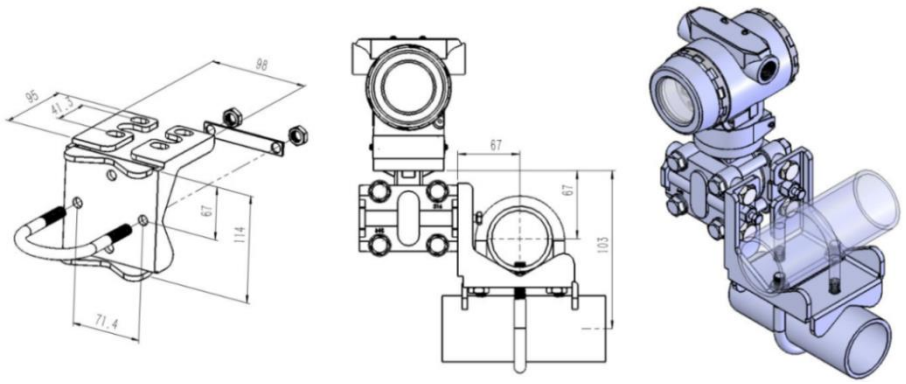
1. * Standard type

2. Flange DN25 / 50 PN4.0 is suitable for DN25 / 50 PN1.6 ～ PN4.0

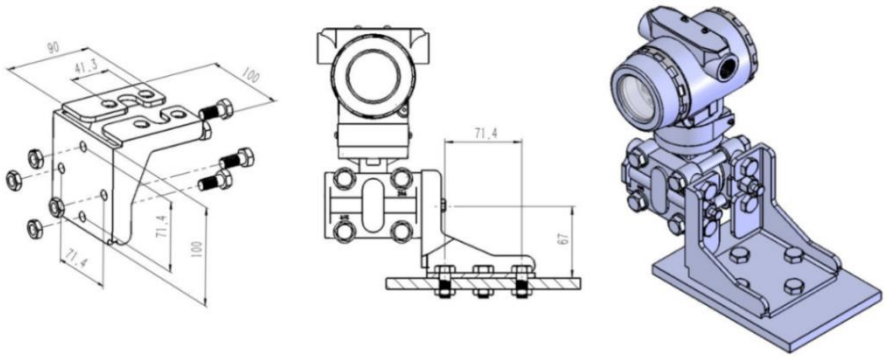
Accessory

Mounting bracket （for RD）

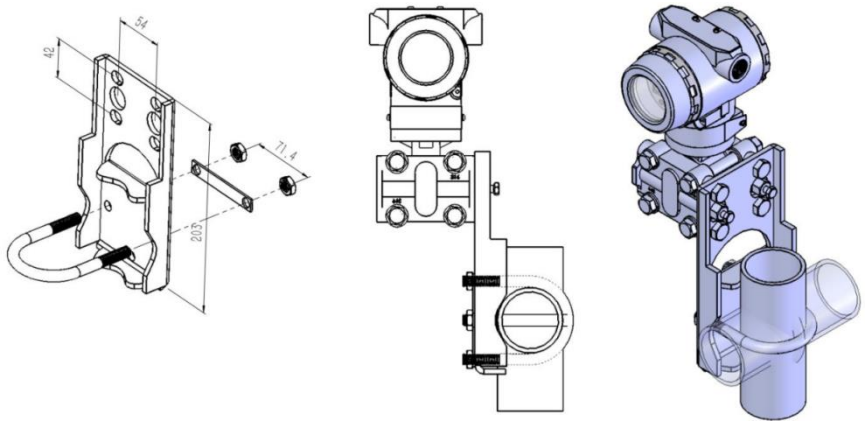
Pipe Mounting bending bracket: B1 (100040700006)



Plane Mounting bending bracket: B2 (100040700007)

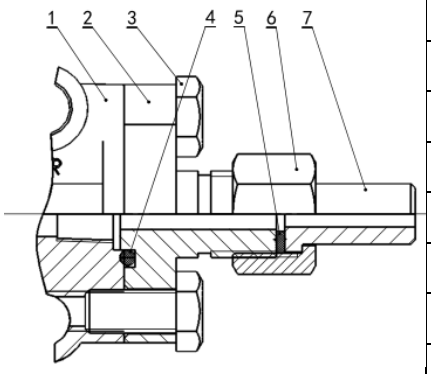


Pipe Mounting flat bracket: B3 (100040700008)



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	-	-

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

How to order

PC3051S-LT - 4E （） B1 J8X F3 M4

Product model:
PCM3051S-LT
PCM3051S-RD

Pressure range :
4E=0～10kPa…40kPa
5E=0～25kPa…100kPa
6E=0～50kPa…250kPa
7E=0～200kPa…1MPa
8E=0～500kPa…3MPa

Original range:
0～Maximum range
Fill in the range and unit symbols in parentheses

Output:
B1H=4～20mA@HART@protocol

Wet diaphragm material:
M4= 316L
M4P= 316L PTFE
M1= Hastelloy C
M2= Tantalum

Flange Size:
F1= DN25 PN4.0
F3= DN50 PN4.0
F4= DN80 PN1.6

Electrical connection:
J8 = 3051 Housing（M20×1.5）
J8X= 3051Housing with display （M20×1.5）
J12 = 3051 Flameproof housing （M20×1.5）
J12X = 3051 Flameproof housing with display（M20×1.5）
J22 = 3051 Flameproof housing （NPT1/2）
J22X = 3051Flameproof housing With display （NPT1/2）

How to order for accessories

LT	RD	
C1	L3	B1
Process interface (low voltage): C1= M20×1.5 with welded pipe Not selected in NPT1 / 4 by default	Capillary tube length： L3= 3 Capillary tube Ln= n Capillary tube，0＜n≤10	Mounting brackets: B1=Pipe Mounting bending bracket B2=Plane Mounting bending bracket B3=Pipe Mounting flat bracket

Example: PCM3051S-LT-4E (0～20kPa) B1H J8X3M4　C1

Product model: PCM3051S-LT, pressure range : 0 ～ 10kPa… 40kPa, original range: 0 ～ 20kPa

Output: 4～20mA@HART® protocol，electrical connection: 3051 housing with display (M20×1.5 female)

Flange Size：DN50 PN4.0，Wet diaphragm material：316L，Low-voltage process interface：M20×1.5 with welded pipe

Ordering tips:

The accessory should be purchased separately.

Contact us

Nanjing Wotian Technology Co.,Ltd.

website: www.wtsensor.com

Add: 5 Wenying Road, Binjiang Development Zone, Nanjing, 211161, China