

# PCM401 Flameproof Pressure Transmitter

## Features

- Diffused piezoresistive silicon pressure sensor
- Solid and well-sealed aluminum alloy junction box, convenient for outdoor installation and use
- For gas, liquid and steam pressure measurement
- Provide low, medium and high pressure ranges
- LCD option
- Isolation explosion-proof

## Applications

- Industrial site control
- Coal mine
- Oilfield
- Heavy Industry
- Chemicals
- Gas network
- Water supply network

### 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

PCM401 flameproof pressure transmitter adopts high-performance piezoresistive silicon oil-filled pressure sensor as pressure sensitive core. Through internal ASIC, the millivolt signal of sensor is transmitted into standard long-distance transmission current signal. PCM401 can be directly connected with computer interface card, control instruments, intelligent meters or PLC conveniently. The series of products are widely used in industrial process control, petroleum, chemical, metallurgical and other industries.

The product complies with the regulations of GB3836.1-2010 "Explosive Environment Part 1: General Requirements for Equipments" and GB3836.2-2010 "Explosive Environment Part 2: Equipments Protected by Flameproof Enclosure 'd'". Explosion-proof mark Exd II B T6 applies to factories with flammable gas of II A, II B grade, T1-T6 group or environment with explosive mixture of steam and air.

Flameproof pressure transmitters operate normally at the following altitude, ambient air temperature and ambient relative humidity: altitude not exceeding 2000m; ambient air temperature  $-10^{\circ}\text{C}\sim+60^{\circ}\text{C}$ ; relative humidity of 90% ( $+25^{\circ}\text{C}$ ).

### 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.

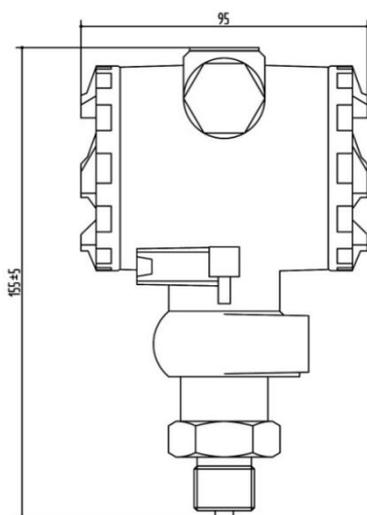
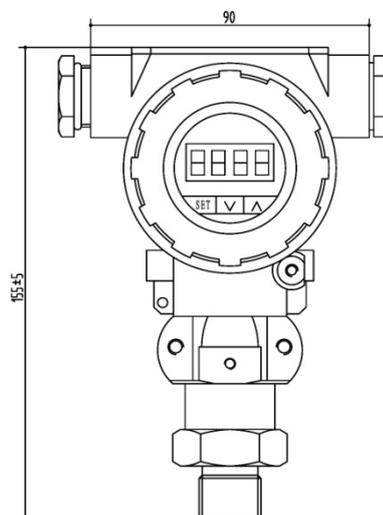
### Performance parameters

Pressure range	-0.1MPa...0~0.01MPa...100MPa
Pressure reference	Gauge pressure   Absolute pressure   Sealed gauge pressure
Operating temp.	-20℃~85℃
Medium temp.	-20℃~85℃
Storage temp.	-40℃~125℃
Zero temp. coefficient	±1.5%FS (@-20℃~85℃)
Span temp. coefficient	±1.5%FS (@-20℃~85℃)
Overload pressure	150%FS~300%FS
Mechanical vibration	20g (20~5000HZ)
Shock	100g/11ms
Accuracy	0.5%FS
Insulation strength	100MΩ/250VDC
Response time	≤1ms (Up to 90%FS)
Long term stability	±0.2%FS/Year
Protection level	IP65
Ex-proof level	Exd II BT6
Material	Low copper aluminum alloy for housing; 316L for isolation diaphragm
Medium compatibility	All medium compatible with stainless steel 316L

### Performance parameters

Code	B1	B2	B3	B7	B7
Output	4~20mA	1~5V	0~5V	0.5~4.5V	0~10V
Supply	12~30VDC	12~30VDC	12~30VDC	12~30VDC	12~30VDC

### Structure

Type	J12: Flameproof housing	J13: Flameproof housing with display
Dimension In mm		

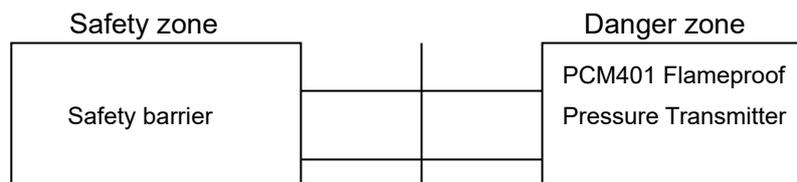
## Wiring method

Wiring method (Current output)	<p style="font-size: small;">2 non-polar wires</p>	
Wiring method (Voltage output)		

## Pressure connection

Type	C1: M20×1.5	C2: G1/2	C7: NPT1/2
Dimension In mm			
Torque	15~25Nm	15~25Nm	15~25Nm

## Flameproof parameters



Safety barrier parameters should meet:  $C_0 \leq 35V$ ,  $I_0 \leq 35mA$

Transmitter internal parameters:  $C_1 = 0.01\mu F$ ,  $L_1 = 0$

The distribution parameters of the connecting cable between safety barrier and the transmitter should meet:  $C_p \leq C_0 - C_i$ ,  $L_p \leq L_0 - L_i$

## Flameproof parameters (cont.)

Note:

U<sub>o</sub>: Maximum open circuit voltage of safety barrier

I<sub>o</sub>: Maximum short circuit current of safety barrier

C<sub>o</sub>: Maximum allowable capacitance outside the safety barrier

L<sub>o</sub>: Maximum allowable inductance outside the safety barrier

C<sub>p</sub>: Maximum allowable distributed capacitance of connecting cable

L<sub>p</sub>: Maximum allowable distributed inductance of connecting cable

C<sub>i</sub>: Maximum capacitance inside the transmitter

L<sub>i</sub>: Maximum inductance inside the transmitter

### Pressure range selection

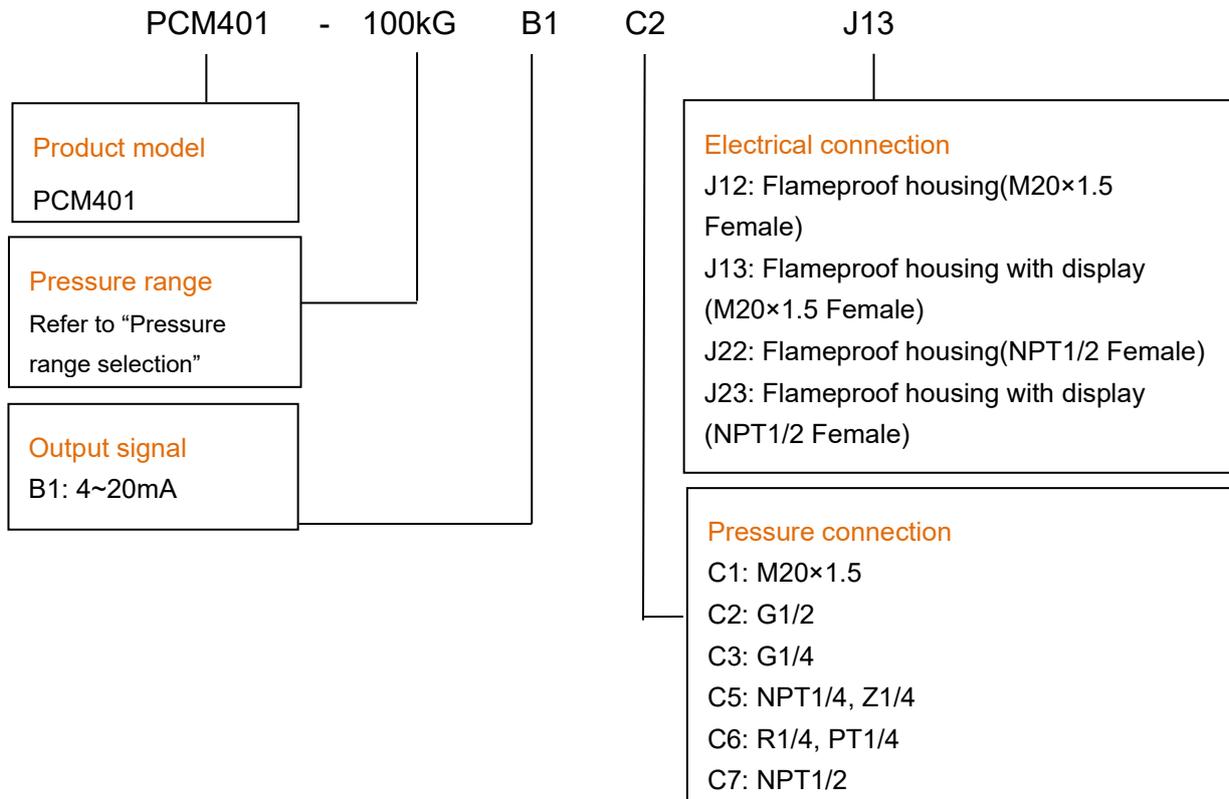
Pressure range code	Pressure reference	Pressure range	Overload pressure	Burst pressure	Remark
10kG	G	0~10kPa	300%FS	600%FS	
20kG	G	0~20kPa	300%FS	600%FS	
35kG	G	0~35kPa	300%FS	600%FS	
70kG	G	0~70kPa	300%FS	600%FS	
100kG	G	0~100kPa	200%FS	500%FS	
160kG	G	0~160kPa	200%FS	500%FS	
250kG	G	0~250kPa	200%FS	500%FS	
400kG	G	0~400kPa	200%FS	500%FS	
600kG	G	0~600kPa	200%FS	500%FS	
1MG	G	0~1MPa	200%FS	500%FS	
100kA	A	0~100kPa	200%FS	500%FS	
160kA	A	0~160kPa	200%FS	500%FS	
250kA	A	0~250kPa	200%FS	500%FS	
400kA	A	0~400kPa	200%FS	500%FS	
600kA	A	0~600kPa	200%FS	500%FS	
1MA	A	0~1MPa	200%FS	500%FS	
1.6MS	S	0~1.6MPa	200%FS	500%FS	
2.5MS	S	0~2.5MPa	200%FS	500%FS	
6MS	S	0~6MPa	200%FS	400%FS	
10MS	S	0~10MPa	200%FS	400%FS	
16MS	S	0~16MPa	200%FS	400%FS	
25MS	S	0~25MPa	150%FS	400%FS	
40MS	S	0~40MPa	150%FS	300%FS	
60MS	S	0~60MPa	150%FS	300%FS	
100MS	S	0~100MPa	150%FS	300%FS	

Note: G : gauge pressure, A: absolute pressure, S: sealed gauge pressure.

## Accessory

Name	Appearance	Description	Material No.
Bracket for 2088 housing		Applicable to pipe diameter: $\phi 50 \leq D \leq \phi 62$	100040300006

## How to order



Example: PCM401-100kGB1C2J13

The product model is PCM401, 100kG: pressure range 0~100kPa, B1: output signal 4~20mA, C2: pressure connection G1/2, J13: flameproof housing with display (M20×1.5 Female)

### Ordering tips:

1. Display has LED and LCD types. Please specify in the order.
2. For special requirements on the product appearance and performance parameters, customization is available.



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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