

PCM303 Universal Pressure Transmitter

Features

- SS316L diaphragm structure
- High accuracy, all stainless steel structure
- Small size and light weight
- Strong anti-interference, good long-term stability
- Diversified formal structures, easy installation and use
- Wide pressure range, can measure the absolute pressure, gauge pressure and sealed gauge pressure
- Anti-vibration, shock resistance
- Zero, full span adjustable

Applications and industries

- Process control
- Aerospace
- Automobile and medical equipment
- Pipeline system

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

PCM303 economic pressure transmitter adopts diffused silicon pressure sensor as pressure sensing element. Through internal ASIC, the millivolt signal of sensor is transmitted into standard current signal. PCM303 can be directly connected with computer interface card, control instruments, intelligent meters or PLC etc. conveniently. Long-distance transmission can use current output. PCM303 features with small size, light weight, all stainless steel sealing structure and ability to work in corrosive environments. The product is easy to install and has extremely high vibration and shock resistance. PCM303 is widely used in process control, aviation, aerospace, automobile, medical equipment, HVAC and other fields.

Notes:

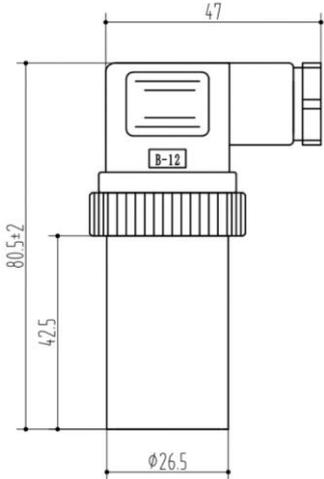
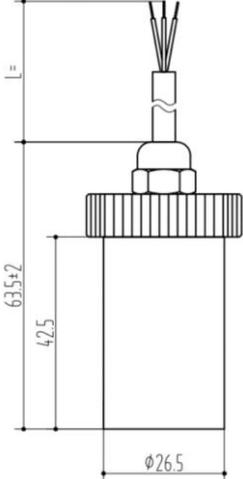
- 1 Do not misuse documentation.
- 2 The information presented in this product sheet is for reference only. Do not use this document as a product installation guide.
- 3 Complete installation, operation, and maintenance information is provided in the instructions of the product.
- 4 Misuse of the product may cause danger or personal injury.

Performance parameters

| | |
|--------------------|---|
| Pressure range | -100kPa...0~35kPa...100MPa |
| Pressure reference | Gauge pressure, Absolute pressure, Sealed gauge pressure |
| Accuracy | 0.5%FS |
| Hysteresis | 0.1%FS |
| Repeatability | 0.1%FS |
| Temperature drift | 35kPa: $\pm 2\%FS(0^{\circ}C \sim 60^{\circ}C)$ Other ranges: $\pm 1.5\%FS(-20^{\circ}C \sim 85^{\circ}C)$ |

| Performance parameters (cont.) | |
|--------------------------------|--|
| Response time | ≤1ms (Up to 90%FS) |
| Overpressure | Refer to Table for Pressure Range Selection |
| Service life | ≥10×10 ⁶ pressure cycles |
| Ambient temperature | -20°C~85°C |
| Medium temp. | -30°C~105°C |
| Storage temp. | -40°C~125°C |
| EMC | Immunity: IEC 61000-6-2, Radiation: IEC 61000-6-3 |
| Insulation resistance | ≥100MΩ/500VDC(200MΩ/250VDC) |
| Vibration resistance | Sine curve: 20g, 25Hz~2kHz; IEC 60068-2-6 Random: 7.5grms, 5Hz~1kHz; IEC 60068-2-64 |
| Shock resistance | Shock: 200g/1ms; IEC 60068-2-27 Free falling body: 1m; IEC 60068-2-32 |
| Protection grade | IP65 |
| Medium compatibility | All kinds of media compatible with SS316L |
| Hexagon | HEX27 |
| Ex-proof grade | Intrinsically safe explosion-proof Exia II CT6 (only for 4~20mA) |
| Net weight | 150~180g |

| Output and power supply | | | | | | |
|-------------------------|----------|----------|----------|----------|----------|--------------|
| Code | B1 | B3 | B2 | B7 | B12 | B6 |
| Output | 4~20mA | 0~5V | 1~5V | 0~10V | 1~10V | 0.5~4.5V R/M |
| Power supply | 12~30VDC | 12~30VDC | 12~30VDC | 12~30VDC | 12~30VDC | 5VDC |

| Electrical connection & wiring mode | | |
|-------------------------------------|---|---|
| Connector code | J5: DIN43650 | J15: DIN43650 with cable |
| Dimension In mm |  |  |
| Protection grade | IP65 | IP65 |
| Wring method (2 wire current) | Pin 1: Power supply+ (Red wire) Pin 2: Current output (Green wire) | Red wire: Power supply+ Green wire: Current output |
| Wring method (3 wire voltage) | Pin 1: Power supply+ (Red wire) Pin 2: Common-ground (Green wire) Pin 3: Voltage output (Yellow wire) | Red wire: Power supply+ Green wire: Common-ground Yellow wire: Voltage output |

Application of damper

Applications

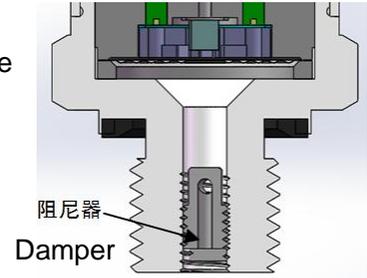
Cavitation, liquid hammer and pressure peak may occur in air or fluid systems with varying flow rates, such as the rapid closing of the valve or the start and stop of the pump.

Even at relatively low operating pressures, these problems may occur at the entrance and exit.

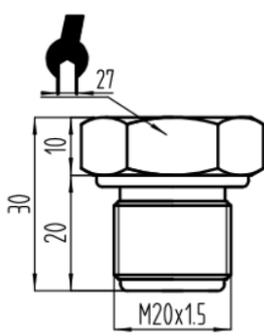
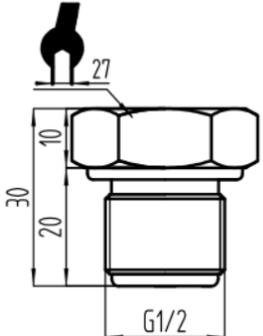
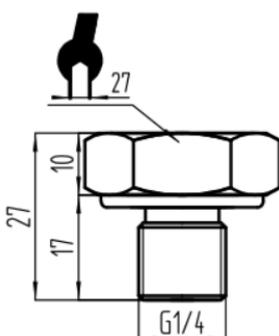
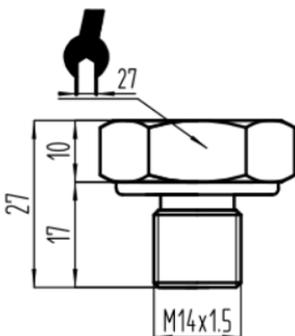
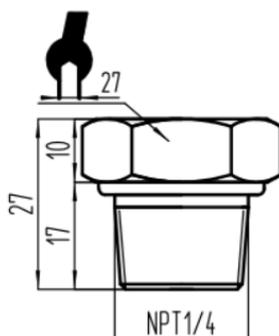
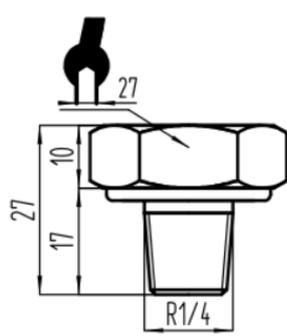
Media condition

In the liquid containing particles, nozzle clogging may occur. The vertical mounting of pressure transmitter minimizes the risk of clogging because the flow of fluid happens in initial start only, the volume of the rear of the nozzle is fixed and the nozzle has a relatively large aperture (1.2 mm).

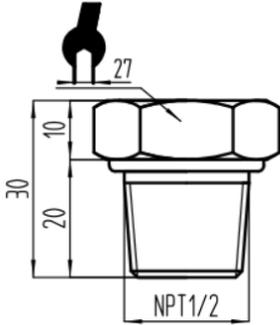
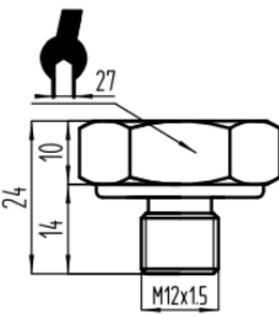
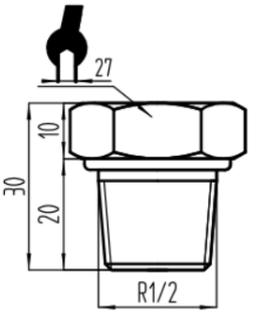
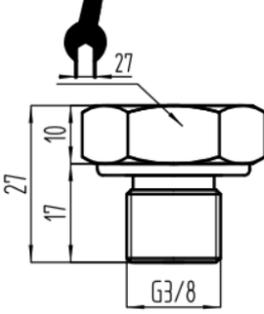
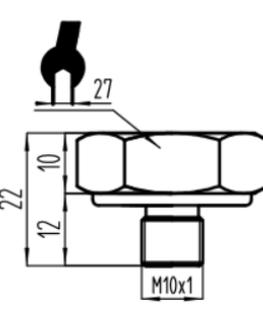
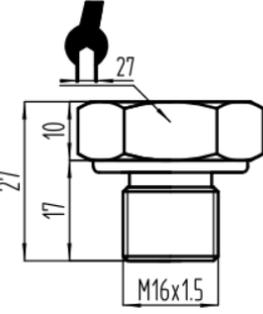
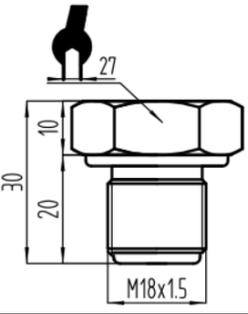
The effect of medium viscosity on response time is small. Even if the viscosity reaches 100 CST, the response time will not exceed 4ms.



Pressure connection

| Thread code | C1: M20x1.5-6g | C2: G1/2 | C3: G1/4 |
|--------------------|---|--|---|
| Dimension In mm |  |  |  |
| Recommended torque | 15~25Nm | 15~25Nm | 15~25Nm |
| Thread code | C4: M14x1.5 | C5: NPT1/4, Z1/4 | C6: R1/4, PT1/4, ZG1/4 |
| Dimension In mm |  |  |  |
| Recommended torque | 15~25Nm | 15~25Nm | 15~25Nm |

Pressure connection (cont.)

| Thread code | C7: NPT1/2, Z1/2 | C8: M12x1.5 | C10: R1/2, PT1/2, ZG1/2 |
|--------------------|---|---|--|
| Dimension In mm |  |  |  |
| Recommended torque | 15~25Nm | 15~25Nm | 15~25Nm |
| Thread code | C15: G3/8 | C20: M10x1 | C22: M16x1.5 |
| Dimension In mm |  |  |  |
| Recommended torque | 15~25Nm | 15~25Nm | 15~25Nm |
| Thread code | C23: M18x1.5 | | |
| Dimension In mm |  | | |
| Recommended torque | 15~25Nm | | |

Note: The torque depends on all kinds of factors, such as gasket material, kitting material, thread lubrication and pressure.

Pressure range selection

| Pressure range code | Pressure reference | Pressure range | Overpressure | Burst pressure | NOTES |
|---------------------|--------------------|----------------|--------------|----------------|-------|
| 35k | G, A | 0~35kPa | 150%FS | 500%FS | |
| 70k | G | 0~70kPa | 150%FS | 500%FS | |
| 100k | G, A | 0~100kPa | 150%FS | 300%FS | |
| 250k | G, A | 0~250kPa | 150%FS | 300%FS | |
| 400k | G, A | 0~400kPa | 150%FS | 300%FS | |
| 600k | G, A | 0~600kPa | 150%FS | 300%FS | |
| 1M | G, A, S | 0~1MPa | 150%FS | 300%FS | |
| 1.6M | G, S | 0~1.6MPa | 150%FS | 300%FS | |
| 2.5M | G, S | 0~2.5MPa | 150%FS | 300%FS | |
| 4M | S | 0~4MPa | 150%FS | 300%FS | |
| 6M | S | 0~6MPa | 150%FS | 300%FS | |
| 10M | S | 0~10MPa | 150%FS | 300%FS | |
| 16M | S | 0~16MPa | 150%FS | 300%FS | |
| 25M | S | 0~25MPa | 150%FS | 300%FS | |
| 40M | S | 0~40MPa | 150%FS | 300%FS | |
| 60M | S | 0~60MPa | 150%FS | 200%FS | |
| 100M | S | 0~100MPa | 120%FS | 150%FS | |
| (-100~0)k | Omission | -100~0kPa | 150%FS | 300%FS | |
| (0~-100)k | Omission | 0~-100kPa | 150%FS | 300%FS | |
| NP100k | Omission | -100~100kPa | 150%FS | 300%FS | |

Note 1: G stands for gauge pressure, A, absolute pressure, S, sealed gauge pressure.
 Note 2: Select the non-oil filling pressure sensor, and the measurement medium must be clean gas.

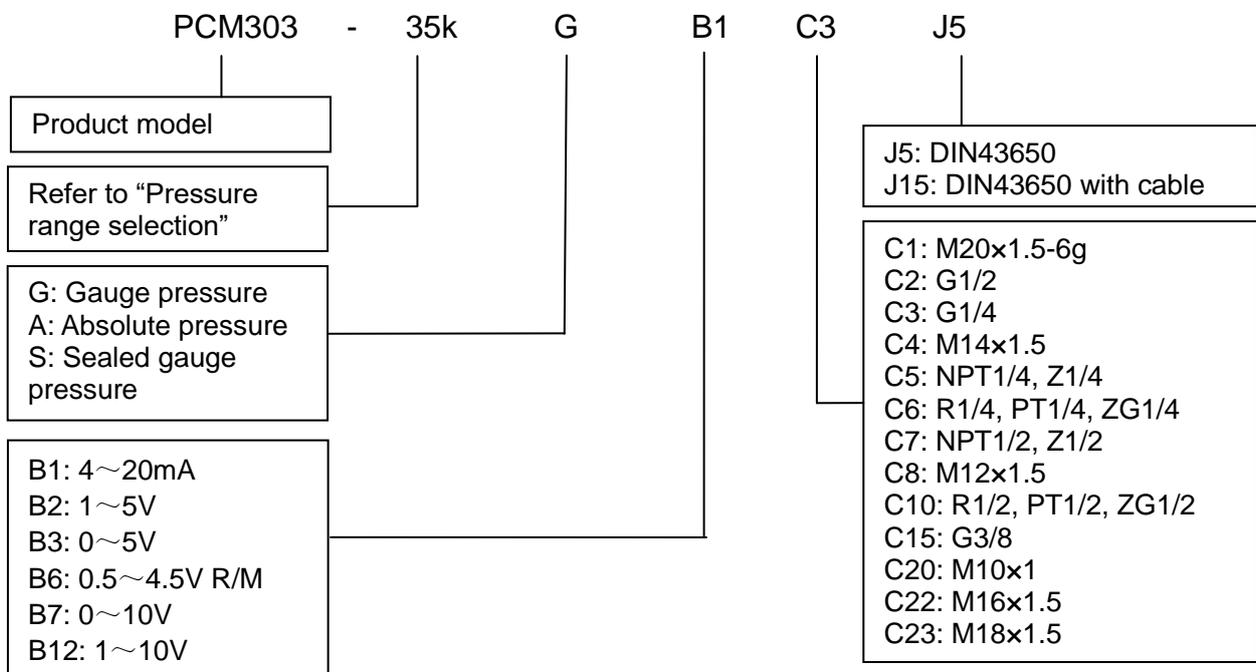
Accessory

| Name | Appearance | Description | Material No. |
|---------------------|---|--------------------------------------|--------------|
| M4 damper |  | Refer to "Application of damper" | 100030100027 |
| LCD12 display gauge |  | 1. LCD display 2. Green backlight | 100040100008 |

Accessory (cont.)

| | | | |
|--------------------------------------|--|---|---------------------|
| <p>BS-6 digital display gauge</p> |  | <p>1. Nixie tube display 2. Red backlight</p> | <p>100040101000</p> |
| <p>Hirschmann plug made in China</p> |  | <p>Made in China</p> | <p>100040301005</p> |
| <p>Imported Hirschmann plug</p> |  | <p>Imported</p> | <p>100040301013</p> |

How to order



Example: PCM303-35kGB1C3J5

Refer to product model PCM303, pressure range 0~35kPa, pressure reference gauge pressure, output signal 4~20mA, pressure connection G1/4, electrical connector DIN43650.



Ordering tips

1. Please ensure the compatibility between the measured medium and the contacting part of the product when placing an order.
2. For the pressure range between 1~35kPa, the product can be customized.
3. For the pressure range between 25~100MPa, with the superstrong pressure impact for the application on site, the product can be customized.

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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