



# BANNING

## PRESSURE TRANSMITTERS

### PTM303



**BANNING**

## DESCRIPTION

The pressure-sensitive core of the PTM303 economic pre-pressure transmitter uses a diffused silicon core. The internal application-specific integrated circuit converts the sensor millivolt signal into a standard current signal. It can be directly connected to a computer interface card, control instrument, smart instrument or PLC. Small size, light weight, all stainless steel sealed structure, can work in corrosive environment.

## CHARACTERISTICS

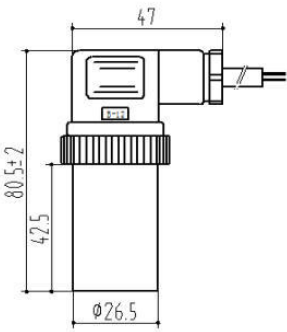
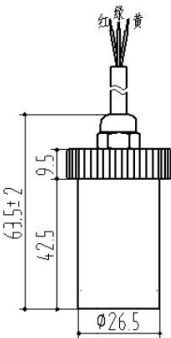
- 316L stainless steel isolation diaphragm structure
- High precision, all stainless steel structure
- Small size and light weight
- Strong anti-interference and long-term stability
- Diversified structure, easy to install and use
- Wide measuring range, can measure absolute pressure gauge pressure and sealing reference pressure
- Vibration and impact resistance
- Zero, full range adjustable

Parameter	PTM303
Scale range	-100kPa... 0 ~ 10kPa... 100MPa
Pressure type	Gauge, Absolute, Sealed
Power supply	4 ~ 20mA、0 ~ 5V、1 ~ 5V、0 ~ 10V、1 ~ 10V (12 ~ 30VDC) 0.5 ~ 4.5V R/M(5VDC)
Accuracy	2%FS (Measuring range -5 to 5kPa) ; 0.5%FS(the remaining)
Hysteresis and repeatability	0.1%FS
Temperature drift	1.5%FS(-20°C ~ 85°C)
Response time	≤ 1ms (Rise to 90% FS)
Pressure overload	150%FS (≤ 60MPa) , 120%FS (60 ~ 100 MPa)
Service life	≥ 10× 10 <sup>6</sup> Pressure cycle
Environment temperature	-20°C ~ 80°C
Medium temperature	-30°C ~ 105°C
Storage temperature range	-40°C ~ 125°C
EMC interference	IEC 61000-6-3
EMC immunity	IEC 61000-6-2
Insulation resistance	≥ 100MΩ/500VDC(200MΩ/250VDC)
Vibration resistance	Sine curve:20g,25Hz ~ 2kHz IEC 60068-2-6; Random:7.5g,5Hz ~ 1kHz IEC 60068-2-64;
Impact	Shock: 200g/1ms; IEC60068-2-27; Free fall: 1m; IEC60068-2-32
Protection grade	IP65
Medium compatible	Various media compatible with 316L stainless steel
Net weight	150 ~ 180g
Explosion-proof grade	Intrinsically safe explosion-proof ExiaII CT6 (only for 4 ~ 20mA)
Six-party size	HEX27

## APPLICATION

- Convenient and simple installation, with high vibration and shock resistance, widely used in process control, aviation, aerospace, automotive, medical equipment, HVAC and other fields.

EXTERNAL STRUCTURE

Connector code	J5: Big Hirschmann	J15: Hirschmann direct lead
Dimensions unit: mm		
Wiring (2-wire current)	Pin 1: Power + Pin 2: current output	Red wire: power + Green wire: current output
Wiring (3-wire current)	Pin 1: Power + Pin 2: Common Ground Pin 3: Voltage output	Red wire: power + Green wire: Common Ground Yellow wire: voltage output

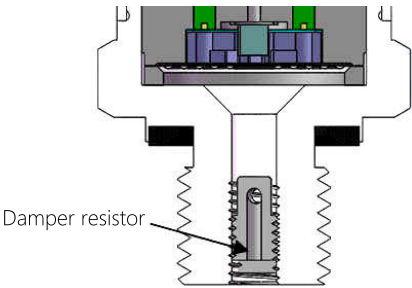
SELECTION OF DAMPER

APPLICATION:

- Cavitation, liquid hammer and pressure spikes can occur in air or liquid systems with varying flow rates. Examples include quick closing of valves or starting and stopping of pumps.
- These problems can occur at the inlet and outlet, even at fairly low operating pressures.

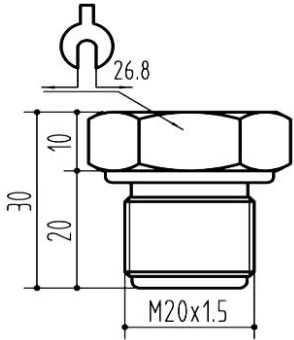
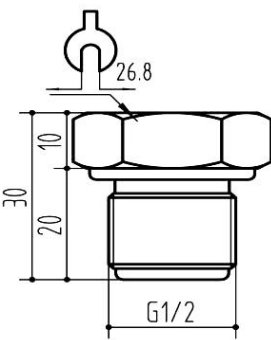
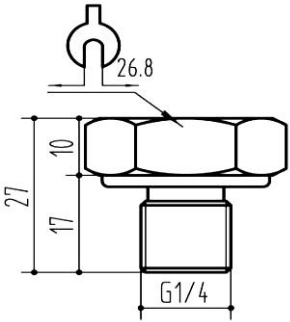
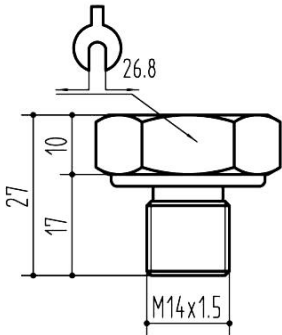
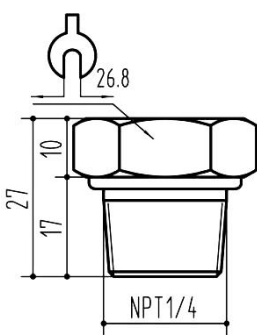
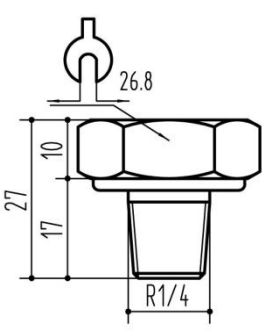
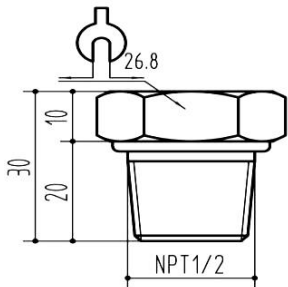
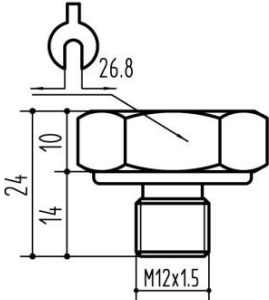
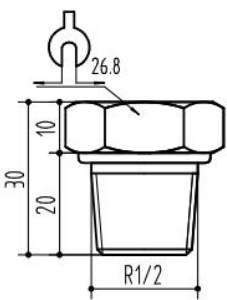
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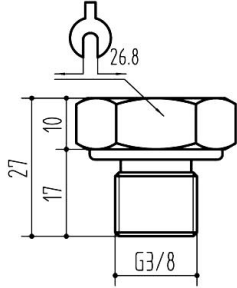
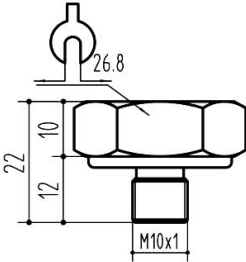
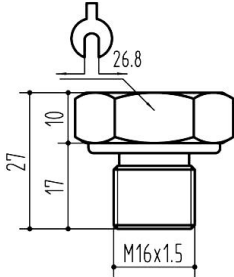
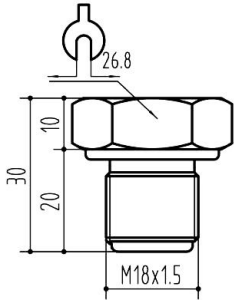
- In liquids containing particles, clogging of the nozzle may occur. Mounting the transmitter vertically minimizes the risk of clogging, as the flow of fluid is limited to the initial start-up, while the volume behind the nozzle is fixed and the nozzle's aperture is relatively large (1.2mm).
- The effect of medium viscosity on response time is small. Even if the viscosity reaches 100 CST, the response time will not exceed 4ms.





# THREAD INTERFACE

Thread code	C1: M20× 1.5-6g	C2: G1/2	C3: G1/4
Dimensions unit: mm			
Torque	15 ~ 25Nm	15 ~ 25Nm	15 ~ 25Nm
Thread code	C4: M14× 1.5	C5: NPT1/4、Z1/4	C6: R1/4、PT1/4、ZG1/4
Dimensions unit: mm			
Torque	15 ~ 25Nm	15 ~ 25Nm	15 ~ 25Nm
Thread code	C7: NPT1/2、Z1/2	C8: M12× 1.5	C10: R1/2、PT1/2、ZG1/2
Dimensions unit: mm			
Torque	15 ~ 25Nm	15 ~ 25Nm	15 ~ 25Nm

Thread code	C15: G3/8	C20: M10× 1	C22: M16× 1.5
Dimensions unit: mm			
Torque	15 ~ 25Nm	15 ~ 25Nm	15 ~ 25Nm
Thread code	C23: M18 × 1.5		
Dimensions unit: mm			
Torque	15 ~ 25Nm		

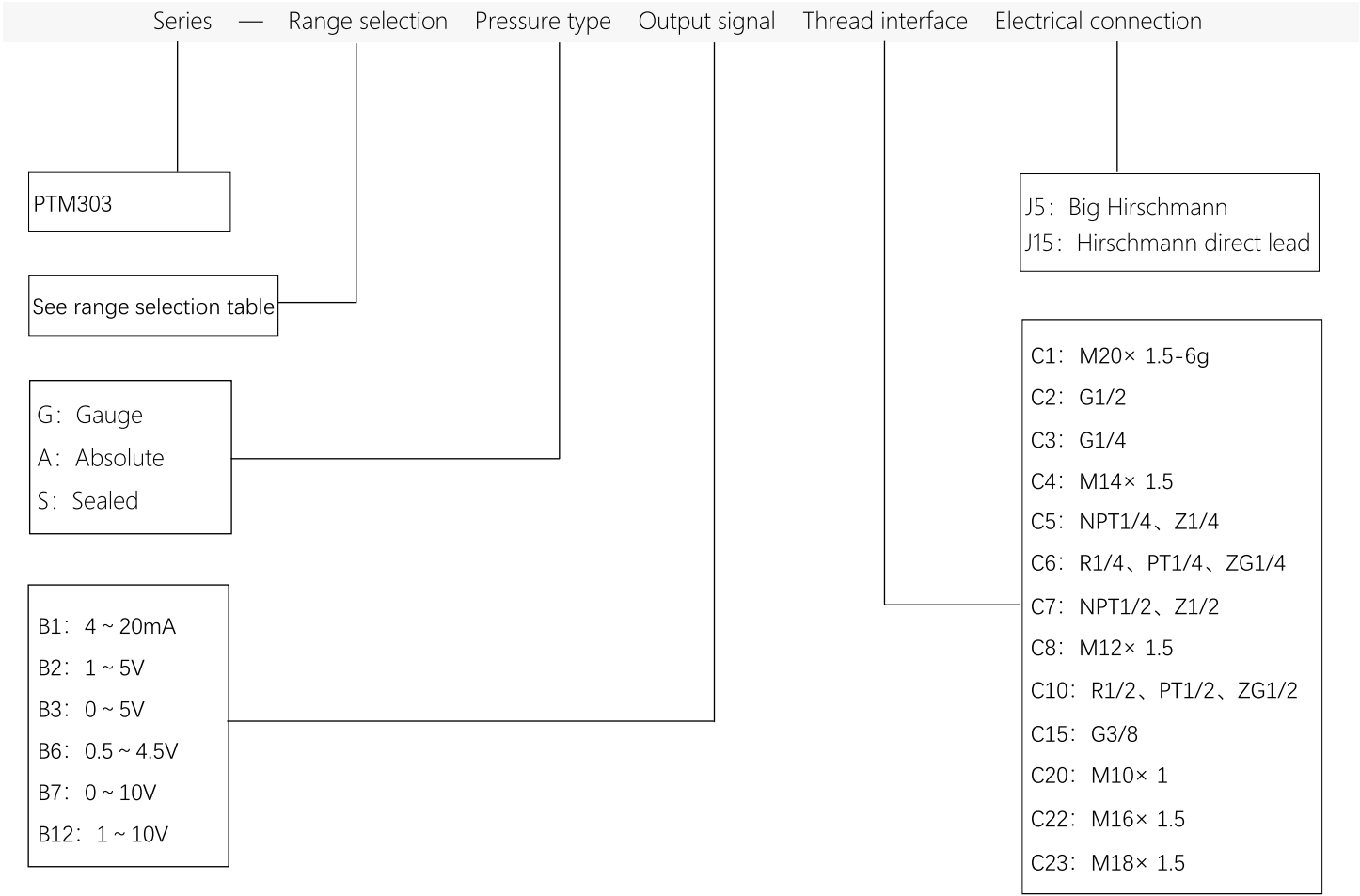
**NOTE:** Torque depends on various factors, such as gasket material, matching materials, thread lubrication, and pressure.

## PRESSURE RANGE TABLE

Range code	Pressure type	Measuring range	Overload pressure	Burst pressure	Remark
1K	G	0 ~1kPa	200%FS	600%FS	NOTE 2
2K	G	0 ~2kPa	200%FS	600%FS	NOTE 2
5K	G	0 ~5kPa	200%FS	600%FS	NOTE 2
7K	G	0 ~7kPa	200%FS	600%FS	
10K	G	0 ~10kPa	200%FS	600%FS	
20K	G	0 ~20kPa	200%FS	600%FS	
35K	G	0 ~35kPa	200%FS	600%FS	
70K	G	0 ~70kPa	200%FS	600%FS	
100K	G	0 ~100kPa	150%FS	300%FS	
160K	G	0 ~160kPa	150%FS	300%FS	
250K	G	0 ~250kPa	150%FS	300%FS	
400K	G	0 ~400kPa	150%FS	300%FS	
600K	G	0 ~600kPa	150%FS	300%FS	
1M	G	0 ~1MPa	150%FS	300%FS	
1.6M	G	0 ~1.6MPa	150%FS	300%FS	
2.5M	G	0 ~2.5MPa	150%FS	300%FS	
35K	A	0 ~35kPa	150%FS	500%FS	
100K	A	0 ~100kPa	150%FS	300%FS	
160K	A	0 ~160kPa	150%FS	300%FS	
250K	A	0 ~250kPa	150%FS	300%FS	
400K	A	0 ~400kPa	150%FS	300%FS	
600K	A	0 ~600kPa	150%FS	300%FS	
1M	A	0 ~1MPa	150%FS	300%FS	
1.6M	A	0 ~1.6MPa	150%FS	300%FS	
2.5M	A	0 ~2.5MPa	150%FS	300%FS	
4M	A	0 ~4MPa	150%FS	300%FS	
1M	S	0 ~1MPa	150%FS	300%FS	
1.6M	S	0 ~1.6MPa	150%FS	300%FS	
2.5M	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	500%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	
N1K	/	-100~0kPa	150%FS	300%FS	
N2K	/	0~-100kPa	150%FS	300%FS	
N3K	/	-100~100kPa	150%FS	300%FS	
N5M	/	-100~250kPa	150%FS	300%FS	
N7M	/	-0.1~0.6MPa	150%FS	300%FS	
N8M	/	-0.1~ 1MPa	150%FS	300%FS	
N9M	/	-0.1~1.6MPa	150%FS	300%FS	
N10M	/	-0.1~2.5MPa	150%FS	300%FS	

- NOTE:** 1: G gauge pressure, A absolute pressure, S seal pressure.
- 2: Use a non-oil-filled pressure sensor. The measurement medium must be pure gas.

## NOMENCLATURE



**FOR EXAMPLE:** PTM303-35kGB1C3J5

The series is PTM303, range is 0 ~ 35kPa, pressure type is gage pressure, output signal is 4-20mA, thread interface is G1 / 4, and electrical connector is Big Hirschmann.

When selecting, please pay attention to the compatibility of the tested medium and the product's contact part.

# DISCLAIMER

## ⚠ Warning

### LIFE OR PROPERTY RISK

- Please ensure that this product has been designed as part of whole system and already considered related risks, make sure the product has the correct ratings and is designed based on the entire system. It must not be used when applications related to serious life or property damage risks.

**Failure to follow this instruction can result in death or serious injury.**

## ⚠ Warning

### PERSONAL INJURY

- DO NOT USE these products as safety or emergency stop devices or in any other application where failure of the product could result in personal injury.

**Failure to follow this instruction can result in death or serious injury.**

## ⚠ Warning

### MISUSE OF DOCUMENTATION

- The information presented in this product sheet is for reference only. Do not use this document as a product installation guide.
- Complete installation, operation, and maintenance information is provided in the instructions supplied with each product.

**Failure to follow this instruction can result in death or serious injury.**

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**BANNING**