



BANNING

PRESSURE TRANSMITTERS

PTM390



BANNING

DESCRIPTION

The PTM390 pressure transmitter is specially designed for small and medium-sized equipment applications, such as booster pumps, air compressors, and air conditioning systems. It is also suitable for various other industrial applications. It has a variety of structural forms, a variety of output forms, and provides a variety of pressure connections to meet most application requirements. Compact structure, especially suitable for installation in small spaces.

CHARACTERISTICS

- Compact structure
- Digital circuit compensation
- Strong anti-interference and good long-term stability
- Small diameter, small size, easy installation and use
- Absolute pressure, gauge pressure and sealing pressure can be measured
- Various electrical connections
- Wetted diaphragm 316L
- Suitable for mass production

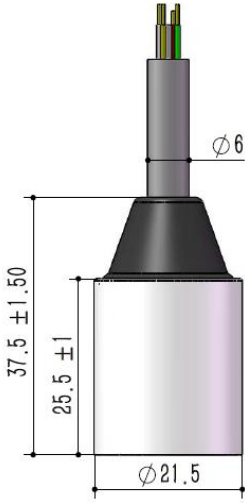
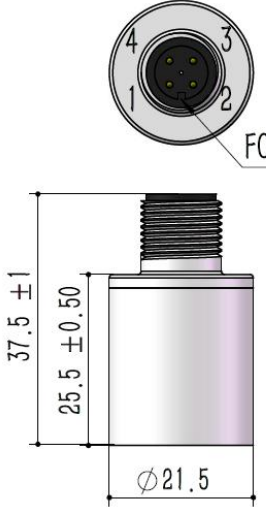
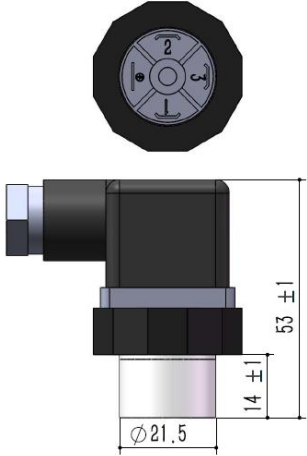
PERFORMANCE

Parameter	PTM390
Measuring range	-100kPa... 0 ~ 35kPa... 10MPa
Pressure type	Gauge pressure, Absolute pressure, sealed pressure
Power output	4 ~ 20mA、 0 ~ 5V、 0 ~ 10V (12 ~ 30VDC); 0.5 ~ 4.5V R/M(5VDC)
Accuracy	± 0.5%FS(typ.); ± 1%FS(max.)
Hysteresis and repeatability	≤ ± 0.1%FS
Temperature drift	≤ ± 1.5%FS(-20°C ~ 85°C)
Response time	< 4ms
Service life	≥ 10 × 10 ⁶ Pressure cycling
Ambient temperature	-20°C ~ 80°C
Medium temperature	-30°C ~ 105°C
Storage temperature	-40°C ~ 120°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: 7.5grms, 5Hz ~ 1kHz; IEC 60068-2-64
Shock proof	Shock: 200g/1ms; IEC 60068-2-27; free fall: 1m; IEC 60068-2-32
Protection class	IP65
material	Wetted parts: ASTM S31603 (AISI316L); Housing: ASTM S30400 (AISI304); Electrical connection: PA66
net weight	50g ~ 90g
Hexagon size	HEX22

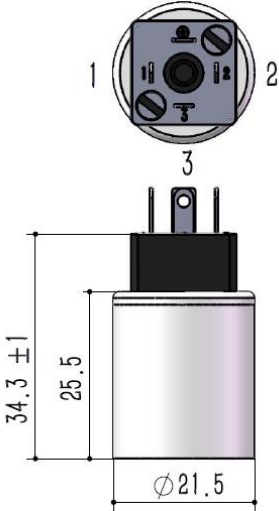
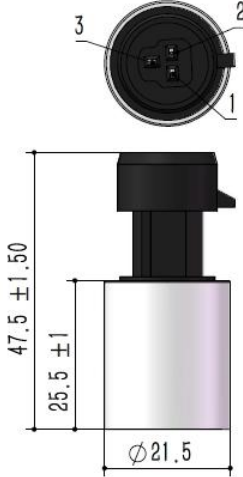
APPLICATION

- Air compressors; hydraulic and pneumatic equipment; servo valves and drives; air conditioning systems; piping systems

EXTERNAL STRUCTURE

Connector code	J3: Direct lead	J4: aerial plug	J5: Big Hirschmann
<p>Dimensions unit: mm</p>			
<p>Wiring (2 wire current)</p>	<p>Red line: power supply + Green line: current output</p>	<p>Pin 1: Power + Pin 2: Current output Pin 3: not use</p>	<p>Pin 1: Power + Pin 2: Current output Pin 3: not use Ground: not use</p>
<p>Wiring (3-wire voltage)</p>	<p>Red line: power supply + Green line: common ground Yellow line: voltage output</p>	<p>Pin 1: Power + Pin 2: Voltage output Pin 3: Common ground</p>	<p>Pin 1: Power + Pin 2: Common ground Pin 3: Voltage output Ground: not use</p>

EXTERNAL STRUCTURE

Connector code	J6: Little Hirschmann	J7: Parker connector
Dimensions unit: mm		
Wiring (2 wire current)	Pin 1: Power + Pin 2: Current output Pin 3: not use Ground: not use	Pin 1: Power + Pin 2: Current output Pin 3: not use
Wiring (3-wire voltage)	Pin 1: Power + Pin 2: Common ground Pin 3: Voltage output Ground: not use	Pin 1: Power + Pin 2: Common ground Pin 3: Voltage output

SELECTION OF DAMPER

APPLICATION

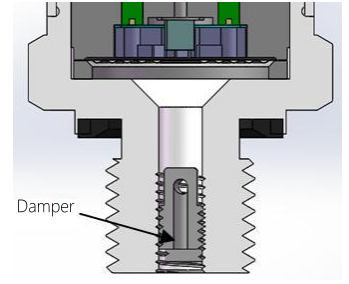
Cavitation, liquid hammer and pressure peaks may occur in air or liquid systems with varying flow rates. For example, the rapid closing of the valve or the start and stop of the pump.

Even at relatively low operating pressures, these problems may occur at the inlet and outlet.

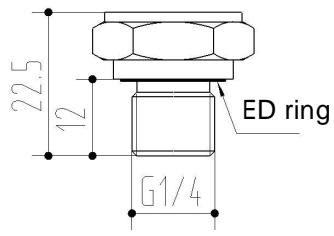
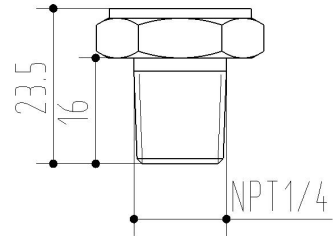
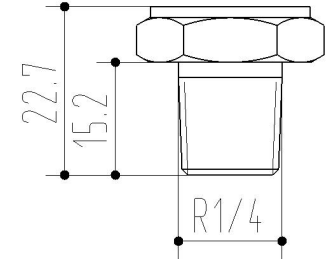
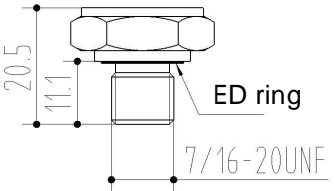
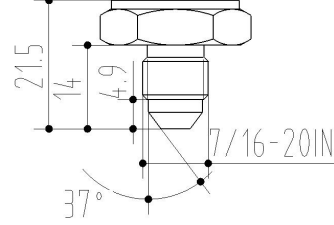
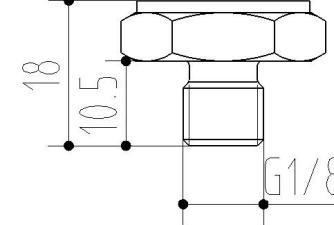
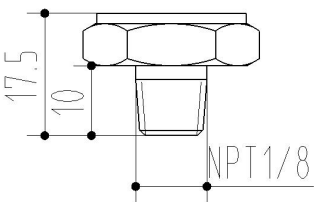
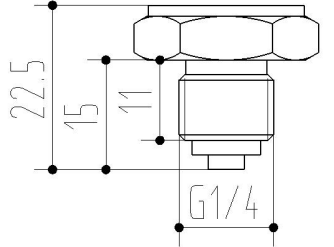
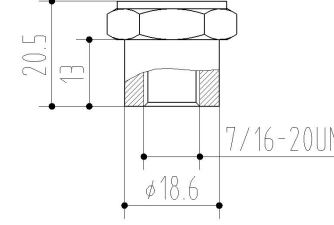
MEDIUM CONDITIONS

In liquids containing particles, nozzle clogging may occur. Mounting the transmitter vertically can minimize the risk of clogging because the flow of fluid is limited to the initial start-up, while the volume at the rear of the nozzle is fixed and the aperture of the nozzle is relatively large (1.2 mm).

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



THREAD INTERFACE

Thread code	C3: G1/4	C5: NPT1/4-18	C6: R1/4-19
Dimensions Unit: mm			
Recommended torque	15 ~ 25Nm	15 ~ 25Nm	15 ~ 25Nm
Thread code	C11: 7/16-20UNF	C12: 7/16-20UNF 37°	C14: G1/8
Dimensions Unit: mm			
Recommended torque	15 ~ 25Nm	15 ~ 25Nm	15 ~ 25Nm
Thread code	C18: NPT1/8	C34: G1/4 A(EN 837)	C36: 7/16-20UNF Inside
Dimensions Unit: mm			
Recommended torque	15 ~ 25Nm	15 ~ 25Nm	15 ~ 25Nm


Note: The recommended torque depends on various factors, such as gasket material, supporting materials, thread lubrication and pressure.

RANGE SELECTION TABLE

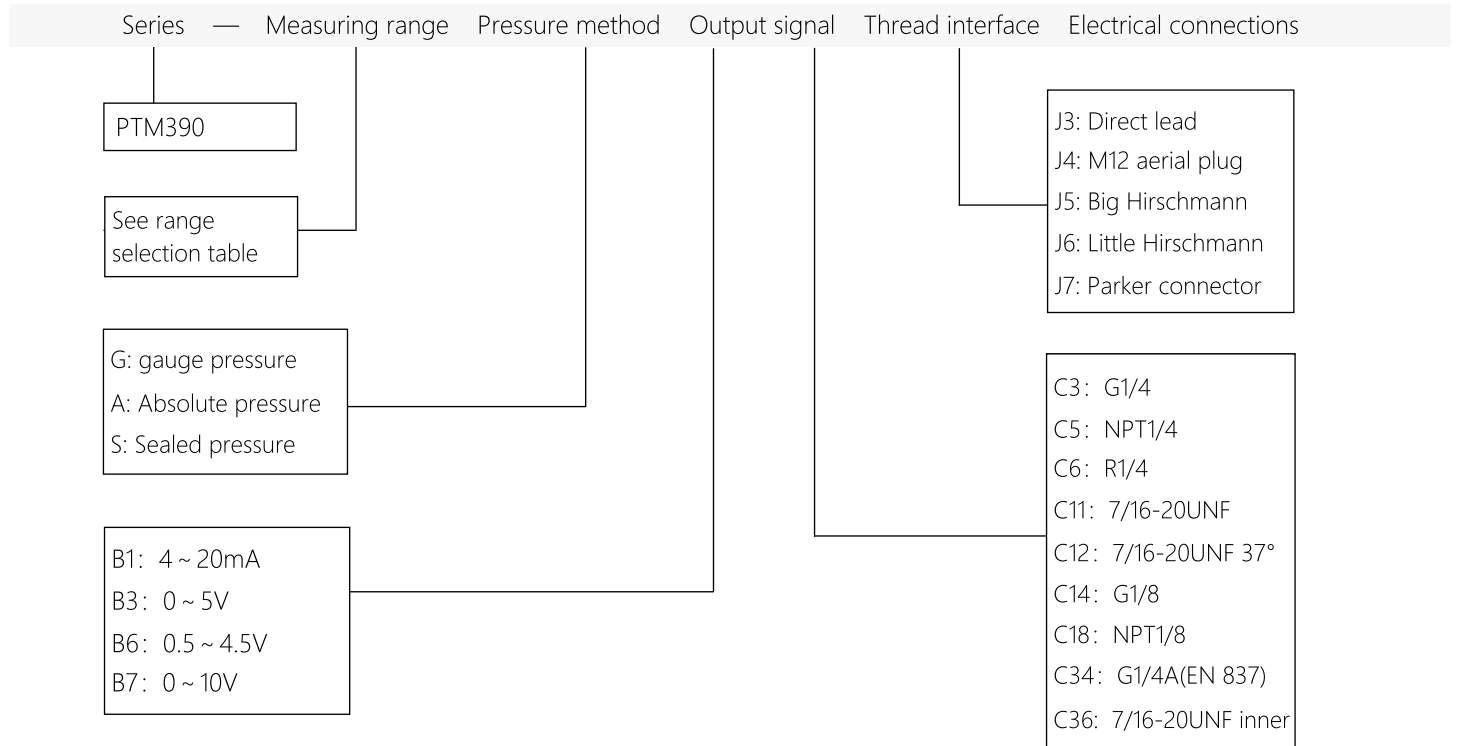
Range code	Pressure type	Measuring range	Overload pressure	Burst pressure	Remarks
35K	G	0 ~ 35kPa	300%FS	600%FS	
70K	G	0 ~ 70kPa	300%FS	600%FS	
100K	G、A	0 ~ 100kPa	200%FS	300%FS	
160K	G	0 ~ 160kPa	200%FS	500%FS	
250K	G、A	0 ~ 250kPa	200%FS	500%FS	
400K	G	0 ~ 400kPa	200%FS	500%FS	
600K	G	0 ~ 600kPa	200%FS	500%FS	
1M	G	0 ~ 1MPa	200%FS	500%FS	
1.6M	S	0 ~ 1.6MPa	200%FS	500%FS	
2.5M	S	0 ~ 2.5MPa	200%FS	500%FS	
4M	S	0 ~ 4MPa	200%FS	400%FS	
6M	S	0 ~ 6MPa	200%FS	400%FS	
10M	S	0 ~ 10MPa	200%FS	300%FS	
N1K	-	-100 ~ 0kPa	200%FS	400%FS	

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

ACCESSORIES

Name	Shape	Description	Item number
M4 damper		<ol style="list-style-type: none"> 1. See the selection of dampers 2. Thread code is C12, C34, C36 thread interface, can not be used 	100030100027

NOMENCLATURE



Examples: PTM390-70KGB1C3J3

Indicate model PTM390, range 0 ~ 70kPa gauge pressure, 4 ~ 20mA output, interface thread G1/4, electrical connector is direct lead.

Note

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

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.

Warranty/Remedy

Banning warrants goods of its manufacture as being free of defective materials and faulty workmanship during the applicable warranty period. Banning's standard product warranty applies unless agreed to otherwise by Banning in writing; please refer to your order acknowledgment or consult your local sales office for specific warranty details. If warranted goods are returned to Banning during the period of coverage, Banning will repair or replace, at its option, without charge those items that Banning, in its sole discretion, finds defective. **The foregoing is buyer's sole remedy and is in lieu of all other warranties, expressed or implied, including those of merchantability and fitness for a particular purpose. In no event shall Banning be liable for consequential special, or indirect damages.**

While Banning may provide application assistance personally, through our literature and the Banning web site, it is buyer's sole responsibility to determine the suitability of the product in the application.

Specifications may change without notice. The information we supply is believed to be accurate and reliable as of this writing. However, Banning assumes no responsibility for its use.

SALES & SERVICE

Banning serves its clients through a worldwide network of sales offices, agents and distributors. For application assistance specifications, prices or names with the nearest authorized dealer, please contact your sales specialist or contact us directly:

Banning (Nanjing) Sensing Technology Co., Ltd.

Nanjing, Daqiao rth road #48 Huadongmall, building C3-1, 12th floor

TEL: 400-7181-886

TEL: 025-5829 5589



WeChat



Invoice

Official Website: www.banningsensor.com

Service Hotline : 400-7181-886

Official mailbox: sales@banningsensor.com

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