



# **BANNING**

## **PRESSURE TRANSMITTERS**

### **PTM320**



**BANNING**

## DESCRIPTION

PTM320 compressor-specific pressure transmitter is a compact integrated all stainless steel structure, built-in digital processing circuit to convert the sensor millivolt signal into a standard voltage, current signal output, various structure forms, and various output forms. The compact pressure transmitter is small in size, light in weight, easy to install and use, and stable in performance.

## CHARACTERISTICS

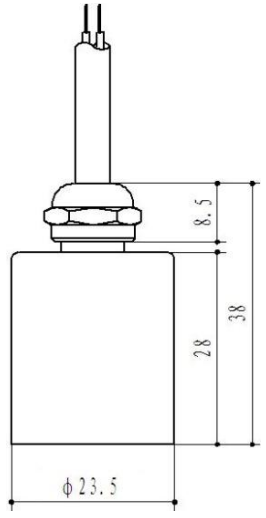
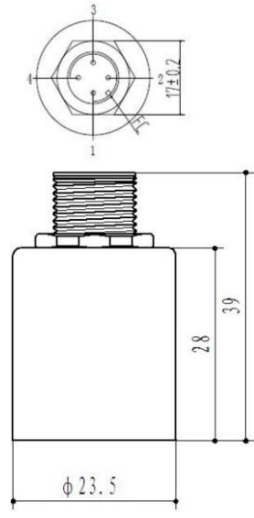
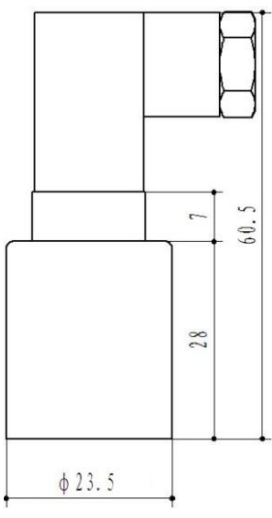
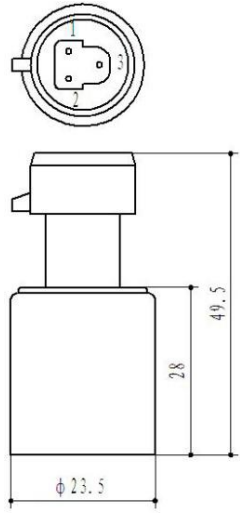
- Compact structure, small and beautiful
- Digital circuit processing
- High precision, high stability
- Small size and light weight
- Strong anti-interference, good long-term stability
- Diversified forms and structures, easy to install and use
- Wide measuring range, can measure absolute pressure, gauge pressure and sealing pressure
- Multiple process and electrical connection options
- Suitable for mass production, economical and reliable

## PERFORMANCE

Parameter	PTM320
Measuring range	-100kPa... 0 ~ 35kPa... 100MPa
Pressure type	Gauge pressure, absolute pressure, sealed pressure
Accuracy	0.5%FS
Lag	0.1%FS
Repeatability	0.1%FS
Temperature drift	35kPa: $\pm 2\%FS(0^{\circ}C \sim 60^{\circ}C)$ ; other: $\pm 1.5\%FS(-20^{\circ}C \sim 85^{\circ}C)$
Response time	$\leq 1ms$ (up to 90%FS)
Overload pressure	Reference range selection table
Service life	$\geq 10 \times 10^6$ Pressure cycling
Ambient temperature	$-20^{\circ}C \sim 85^{\circ}C$
Medium temperature	$-30^{\circ}C \sim 105^{\circ}C$
Storage temperature	$-40^{\circ}C \sim 125^{\circ}C$
EMC	Immunity: IEC 61000-6-2, Radiation: IEC 61000-6-3
Insulation resistance	$\geq 100M\Omega/500VDC(200M\Omega/250VDC)$
Vibration performance	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
Media compatible	Various media compatible with 316L stainless steel
Six parties	HEX24
Explosion-proof grade	Intrinsically safe explosion-proof ExiaII CT6 (only for 4 ~ 20mA)
net weight	120 ~ 150g

Output and power supply					
Code	B1	B3	B7	B6	B6N
Output	4 ~ 20mA	0 ~ 5V	0 ~ 10V	0.5 ~ 4.5V R/M	0.5 ~ 4.5V Non-proportional
powered by	12 ~ 36VDC	12 ~ 36VDC	12 ~ 36VDC	5VDC	5VDC

# EXTERNAL STRUCTURE

Code	J3: Direct lead	J4: M12 aerial plug	J6: Little Hirschmann	J7: Parker connector
Dimensions Unit: mm				
Protection class	IP65	IP65	IP65	IP65
Wiring (2 wire current)	Red Wiring: power + Green Wiring: current output	Pin 1: Power + Pin 2: Current output	Pin 1: Power + Pin 2: Current output	Pin 1: Power + Pin 2: Current output
Wiring (3-wire voltage)	Red Wiring: Power+ Green Wiring: ground Yellow Wiring: voltage output	Pin 1: Power + Pin 3: Common ground Pin 2: Voltage output	Pin 1: Power + Pin 2: Common ground Pin 3: Voltage output	Pin 1: Power + Pin 2: Common ground Pin 3: Voltage output

## SELECTION OF DAMPER

### APPLICATION

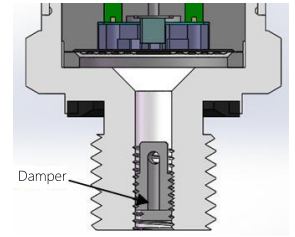
Cavitation, liquid hammer and pressure peaks can occur in air or liquid systems with varying flow rates. For example, the rapid closing of the valve or the start and stop of the pump.

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

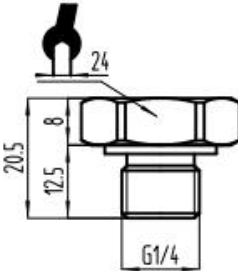
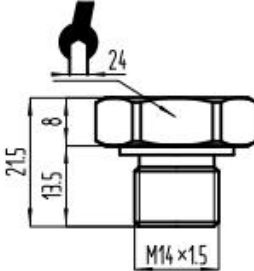
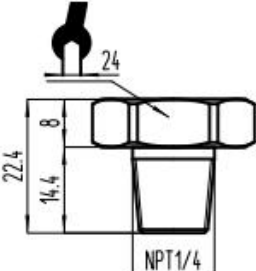
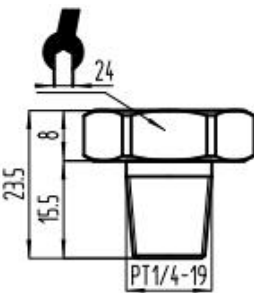
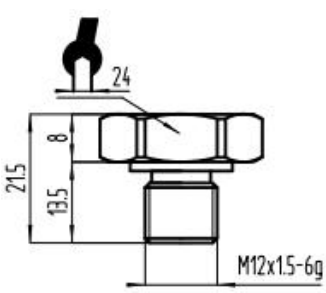
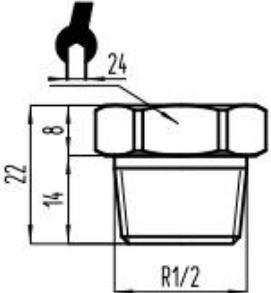
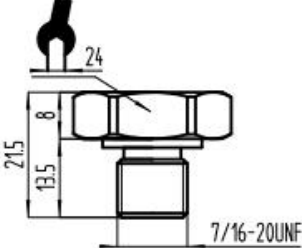
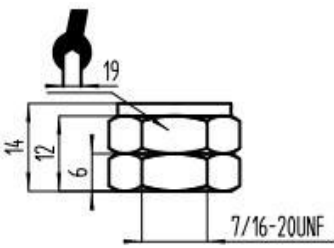
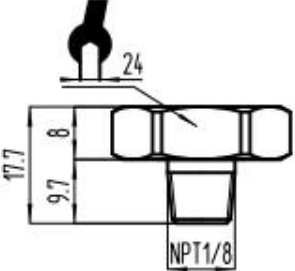
### MEDIUM CONDITIONS

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	C4: M14×1.5	C5: NPT1/4, Z1/4
Dimensions Unit: mm			
Recommended torque	15 ~ 25Nm	15 ~ 25Nm	15 ~ 25Nm
Thread code	C6: R1/4, PT1/4, ZG1/4	C8: M12×1.5-6g	C10: R1/2, PT1/2, ZG1/2
Dimensions Unit: mm			
Recommended torque	15 ~ 25Nm	15 ~ 25Nm	15 ~ 25Nm
Thread code	C11: 7/16-20UNF outer	C12: 7/16-20UNF inside	C18: NPT1/8, Z1/8
Dimensions Unit: mm			
Recommended torque	15 ~ 25Nm	15 ~ 25Nm	15 ~ 25Nm





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

## RANGE SELECTION TABLE

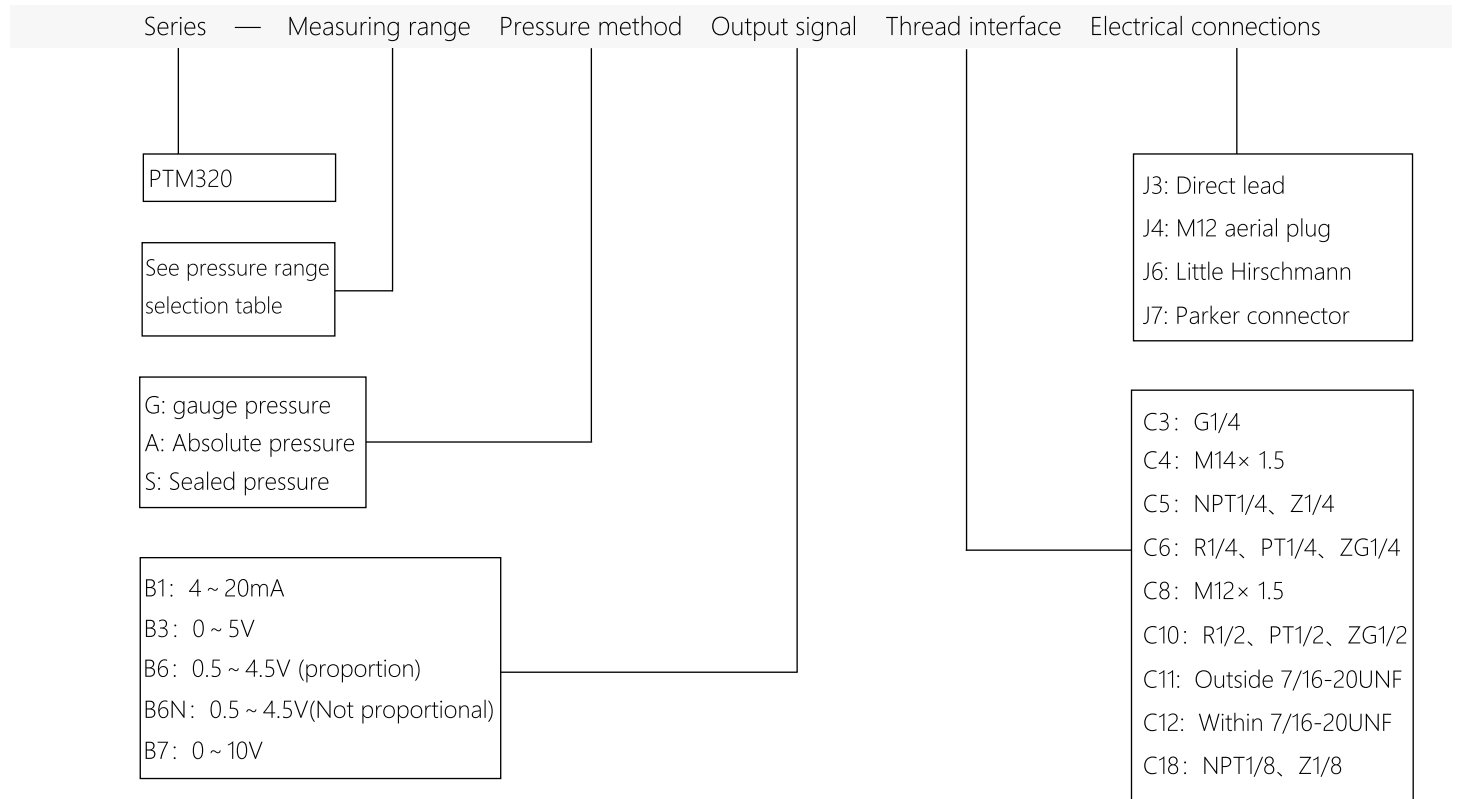
Range code	Pressure type	Measuring range	Overload pressure	Burst pressure	Remarks
35K	G、 A	0 ~ 35kPa	150%FS	500%FS	
70K	G	0 ~ 70kPa	150%FS	500%FS	
100K	G、 A	0 ~ 100kPa	150%FS	300%FS	
250K	G、 A	0 ~ 250kPa	150%FS	300%FS	
400K	G、 A	0 ~ 400kPa	150%FS	300%FS	
600K	G、 A	0 ~ 600kPa	150%FS	300%FS	
1M	G、 A、 S	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	

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

## ACCESSORIES

Name	Shape	Description	Item number
M4 damper		See the selection of dampers	100030100027
Little Hirschmann plug		Imported plug OMAL	100040301006
M12 aerial plug (head)		MB12FAAFF04ST	100040304001
Parker male		DuPont	100040305002

# NOMENCLATURE



**Examples:** PTM320-35KGB1C3J3

The model is PTM320, the range is 0 ~ 35kPa, the pressure mode is gauge pressure, the output signal is 4 ~ 20mA, the screw interface is G1/4, and the 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.
- The range is between 10 ~ 35kPa, which can be customized.
- The measuring range is between 25 ~ 100MPa, and it can be customized if the application site has super strong pressure impact.

# 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.**

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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.

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