



BANNING **INTELLIGENT CORE** **PTM10**



BANNING

DESCRIPTION

Based on the mature structure and front-end technology of the silicon piezoresistive pressure core, the PTM10 intelligent core has a built-in customized dedicated digital integrated circuit for temperature compensation and correction, and provides various forms of industry standard analog and digital signal output. The analog signal has 0.5 ~ 4.5V proportional output, and the digital signal output supports I2C interface protocol.

CHARACTERISTICS

- Constant current excitation, constant voltage excitation optional
- Highly reliable imported pressure chip
- Wide temperature compensation
- Output can be normalized
- Moisture-proof protection of compensation board
- Φ 19mm, 316L material
- High performance, all solid state, high reliability

PERFORMANCE

Parameter	PTM10
Measuring range	0 ~ 35kPa... 4MPa
Pressure type	Gauge, Absolute, Sealed
Response time	\leq 12ms
Power supply/output	5V power supply, 0.5V ~ 4.5V proportional output [Note (1)] 3.3V power supply, I ² C output [Note (2)]
Electrical connections	Gold-plated Kovar pin or silicone flexible wire
Compensation temperature	0 ~ 60°C (<100kPa) ; -20 ~ 85°C (Other ranges)
Operating temperature	-40 ~ 105°C
Storage temperature	-40 ~ 125°C
Insulation resistance	\geq 200M Ω /250VDC
Pressure medium	All liquids and gases compatible with 316L
Mechanical vibration	20g (20-5000Hz)
Shock	100g (10ms)
Service life	10 ⁶ (cycles)
Weight	19 ~ 25g
Parameter	PTM10
Diaphragm material	Stainless steel 316L
Shell material	Stainless steel 316L
Infusion	Silicone oil
Sealing ring	NBR or Fluororubber

Parameter	Minimum	Typical	Maximum	Unit
Project				
Precision	-	± 0.5	± 1.0	%FS[Note (3)]
Hysteresis	-	± 0.05	± 0.1	%FS
Repeatability	-	± 0.05	± 0.1	%FS
Zero temperature drift	-	± 1.0	± 1.5	%FS[Note (3)]
Sensitivity drift	-	± 1.0	± 1.5	%FS[Note (3)]
Thermal hysteresis	-	± 0.05	± 0.2	%FS
Long-term stability	-	± 0.25	-	%FS/year

Note: (1) 5V power supply, supply voltage range $5 \pm 0.1V$
(2) 3.3V power supply, power supply voltage range 3.1V ~ 3.6V
(3) In the compensation temperature range, the compensation temperature refers to 25°C

Electrical connections unit (mm)

(1) 5V power supply, 0.5 ~ 4.5V proportional output

Silicone wire leads		Electrical connections	
		Wire color	Definition
		Red	Power supply (VDD)
		Blue	Common ground (GND)
		Yellow	Voltage output (Vout)

(2) 3.3V power supply, I²C output

Silicone wire leads		Electrical connections	
		Wire color	Definition
		Red	Power supply (VDD)
		Blue	Common ground (GND)
		White	Data line (SDL)

RANGE SELECTION

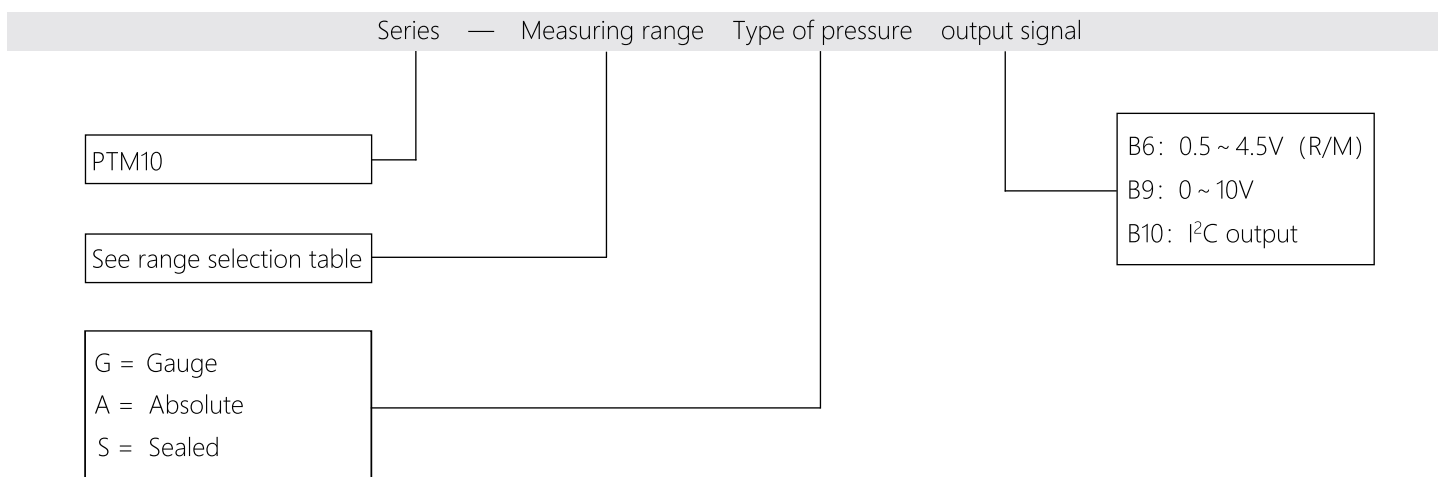
Range code	Type of pressure	Measuring range	Overload pressure	Burst pressure
35K	G	0 ~ 35kPa	300%FS	400%FS
100K	G、A	0 ~ 100kPa	200%FS	300%FS
250K	G	0 ~ 250kPa	200%FS	300%FS
600K	G	0 ~ 600kPa	200%FS	300%FS
1M	G	0 ~ 1MPa	200%FS	300%FS
1.6M	G、S	0 ~ 1.6MPa	200%FS	300%FS
2.5M	G、S	0 ~ 2.5MPa	200%FS	300%FS
4M	S	0 ~ 4MPa	200%FS	300%FS

Note: G gauge pressure (ventilated gauge pressure, with the current atmospheric pressure as zero)

A Absolute pressure (vacuum is zero)

S sealed gauge pressure

NOMENCLATURE



FOR EXAMPLE: PTM10-1MGB6

The model is PTM10, the range is 0 ~ 1.0MPa, pressure type is gauge pressure, power supply is 5V, and output signal is 0.5 ~ 4.5V (R/W).

NOTE:

- Please confirm the measuring range when ordering, including the pressure measurement range and overload range; please confirm the power supply and output of the product.
- This product is not in stock, please place an order in advance for urgent use.
- If there are special requirements for the product range, compensation temperature range, and output signal, our company can provide customization.

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:

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