

HPM289 High Temperature Pressure Transmitter



Nanjing Hangjia Electronic Technology Co.,Ltd.

Overview

The HPM289 high-temperature pressure transmitter uses a highly stable and reliable piezoresistive pressure sensor as its signal measurement element, and has undergone automatic testing and laser trimming for wide-range performance compensation. The housing is made of aluminum alloy, providing a high level of protection. The product has undergone rigorous selection processes including long-term aging and stability testing, ensuring stable and reliable performance.

This product can be equipped with a local digital display and is suitable for harsh working environments requiring on-site pressure display. It is widely applicable to pressure measurement in industrial processes such as machinery, metallurgy, petrochemicals, and power generation. The high-temperature resistant core and heat dissipation structure ensure long-term use in pressure measurement of high-temperature media.

Application

Industrial automation equipment, power generation, machinery manufacturing, petrochemical, metallurgical manufacturing, steam and heat exchange and other fields.

Features

- Applicable medium: $-40\sim 200^{\circ}\text{C}$
- Housing is made of aluminum alloy, with an IP66 protection rating.
- Local display, simultaneously outputs standard remote signal.
- Reverse polarity protection and instantaneous overcurrent and overvoltage protection. Multiple process connections.

Technical Parameters

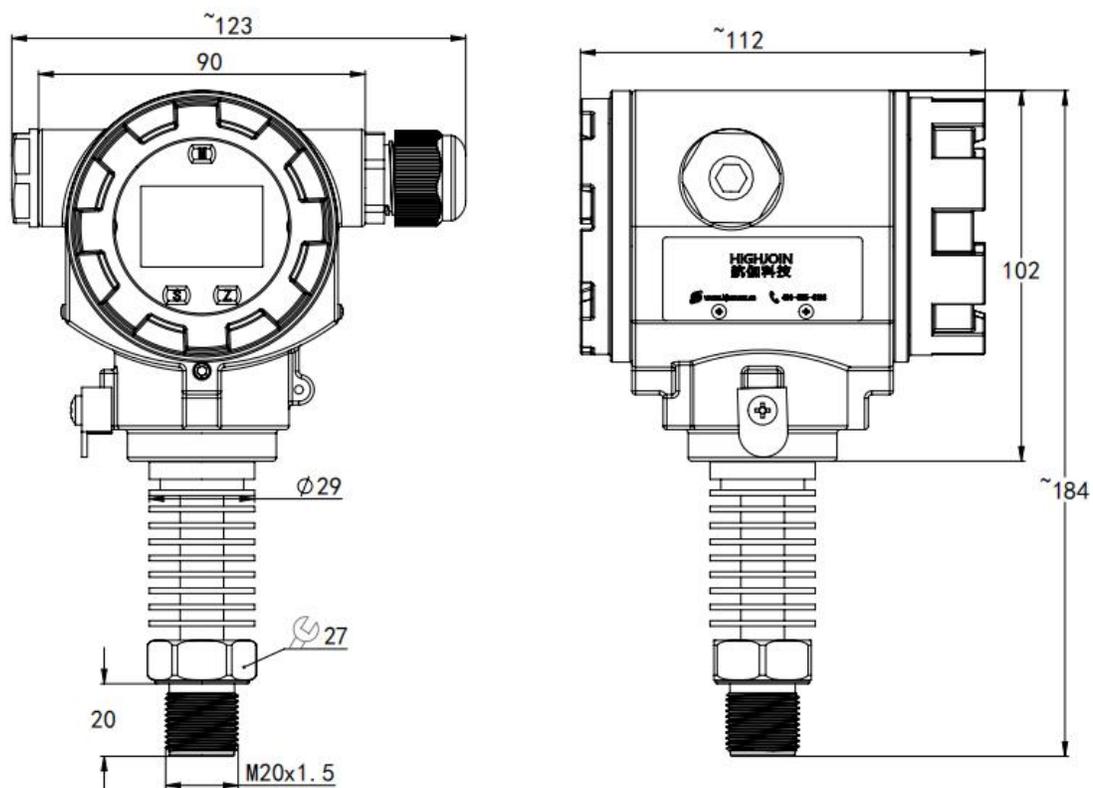
Pressure Range	
Gauge pressure range	-100kPa...0 ~ 10kPa...60MPa
Absolute pressure range	0 ~ 20kPa...60MPa
Overload	1.5X of full range
Measuring Medium	
Type	A variety of liquids and gases compatible with the materials in contact
Output Signal/Power Supply	
Standard	2-wire: 4~20mA / Vs=8~30V
Standard	2-wire: 4~20mA+HART / Vs=12~32V
Standard	3-wire: 0 ~ 10V / Vs=12~30V
Standard	4-wire: Modbus-RTU/RS485 / Vs=12~30V
Performance	
Accuracy*	±0.5%FS @25℃ ±0.2%FS @25℃
Long-term stability	±0.25%FS/year (0.5% accuracy) ±0.2%FS/year (0.2% accuracy)
Static pressure influence	≤0.5%F.S./MPa
Temperature Drift Characteristic	
Compensation temperature range	0 ~ 70℃ (0.5% accuracy) -10 ~ 80℃ (0.2% accuracy) Note: For pressure range ≤20kPa, please consult us.
Temperature drift of zero point	±1.0%FS, reference 25℃, within compensation temperature range ; ±2.0%FS for 10kPa range, 0 to 60℃
Temperature drift of full point	±1.0%FS, reference 25℃, within compensation temperature range ; ±2.0%FS for 10kPa range, 0 to 60℃
Environment Condition	
Temperature Range	Medium temperature: -40 ~ 140℃ (5pcs cooling fins) -40 ~ 200℃ (10pcs cooling fins) Ambient temperature: -20 ~ 80℃ Storage temperature: -20 ~ 80℃
Protection Grade	IP66, M20×1.5 female, cable gland (ordering code C7)
Process Connection	
Pressure Port	G1/4" Male, G1/2" Male, M20×1.5 Male or others
Electrical Protection	
Short-circuit protection	Support

Reverse Voltage Protection	No damage. The circuit does not work
Insulation	
Insulation Resistance	>20MΩ @500VDC
Dielectric strength	<2mA @ 500VAC 1min

Structure Material

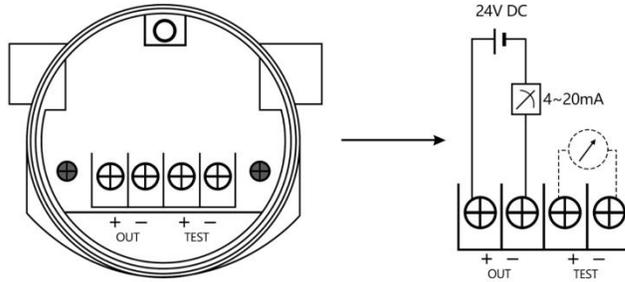
Ordering Code	Part	Material
A12	Housing Shell	Cast aluminum alloy ADC12 (default)
Y104		Cast aluminum alloy YL104 (lower copper-zinc)
X		Customized
S4	Process Connection	SS304 (default)
S6		SS316L
X		Customized
M1	Sensor	316L (default)
		Titanium diaphragm TA1 and titanium housing TC4
		Tantalum film
		Hastelloy C-276
FK	Seal-ring	FKM (-20 ~ 200°C) (default)
NB		NBR(-40 ~ 120°C)
ED		EPDM (-55 ~ 150°C)
HB		HNBR (-40 ~ 150°C)

Structure Drawings



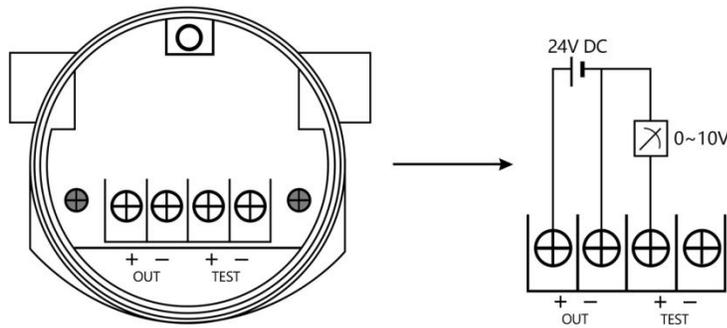
Electrical Connection

2-wire, 4 ~ 20mADC or 4 ~ 20mADC +HART



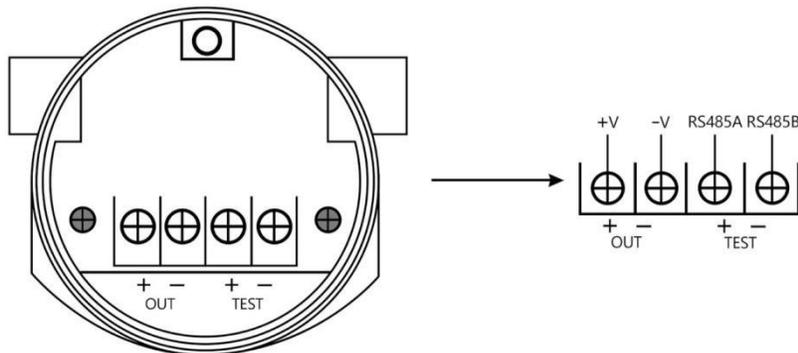
Signal Definition	Power+(+V)	Power-(0V/+OUT)
Terminal Connector	OUT+	OUT-

3-wire, 0~10VDC



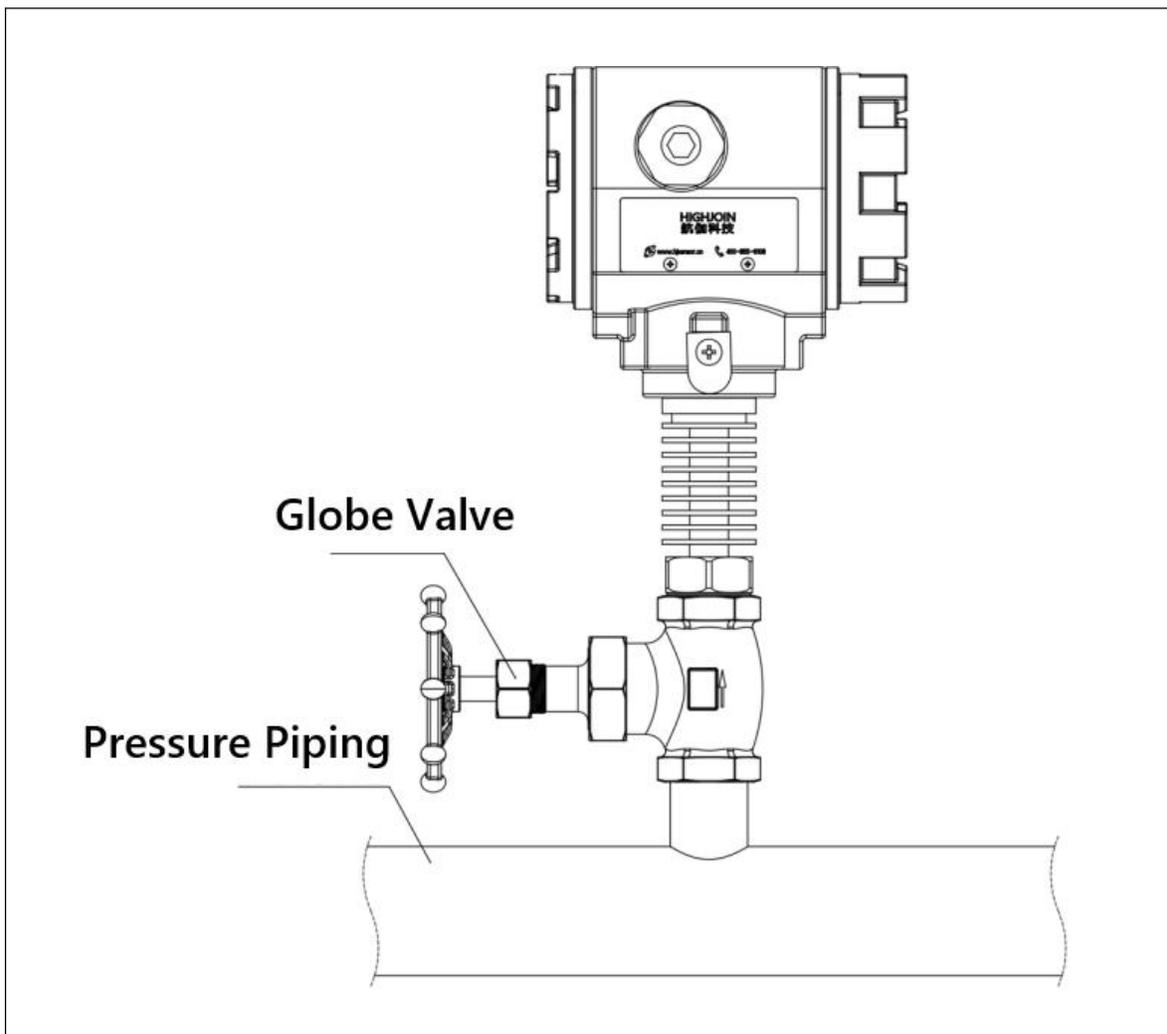
Signal Definition	Power+(+V)	Power-(GND)	Signal +(+OUT)
Terminal Connector	OUT+	OUT-	TEST+

4-wire, Modbus-RTU/RS485



Signal Definition	Power+(+V)	Power-(-V)	RS485A	RS485B
Terminal Connector	OUT+	OUT-	TEST+	TEST-

Installation Diagram Example



Ordering Guide

Model	Type								
HPM289	Pressure Transmitter								
		Code	Measuring Range						
		(X ₁ ~ X ₂)MPa	Fill in directly						
		Code	Output Signal						
		B1	(4 ~ 20)mA						
		B3	(0 ~ 10)V						
		B8	HART						
		Code	Process Connection						
		P1	M20×1.5, Male						
		G12	G1/2" Male						
		G14	G1/4" Male						
		Code	Electrical Connection						
		C7	M20×1.5 female, cable gland						
		Code	Housing Shell Material						
		A12	ADC12						
		Y104	YL104						
		Code	Process Connection						
		S4	304						
		S6	316L						
		X	Customized						
Code	Sensor								
M1	316L (default)								
M2	Titanium diaphragm TA1 and titanium housing TC4								
M3	Tantalum Ta								
M4	Hastelloy C-276								
Code	Additional Functions								
G	gauge pressure(default)								
S	Sealed Pressure								
A	Absolute Pressure								
LCD	LCD Display(default)								
LED	LED display								
J5	0.5 % accuracy								
J2	0.2 % accuracy								
T5	5pcs cooling pcs								
T10	10pcs cooling pcs								
example:HPM289	(0 ~ 1)MPa	B1	P1	C7	A12	S4	M1	G LCD J5 T10	