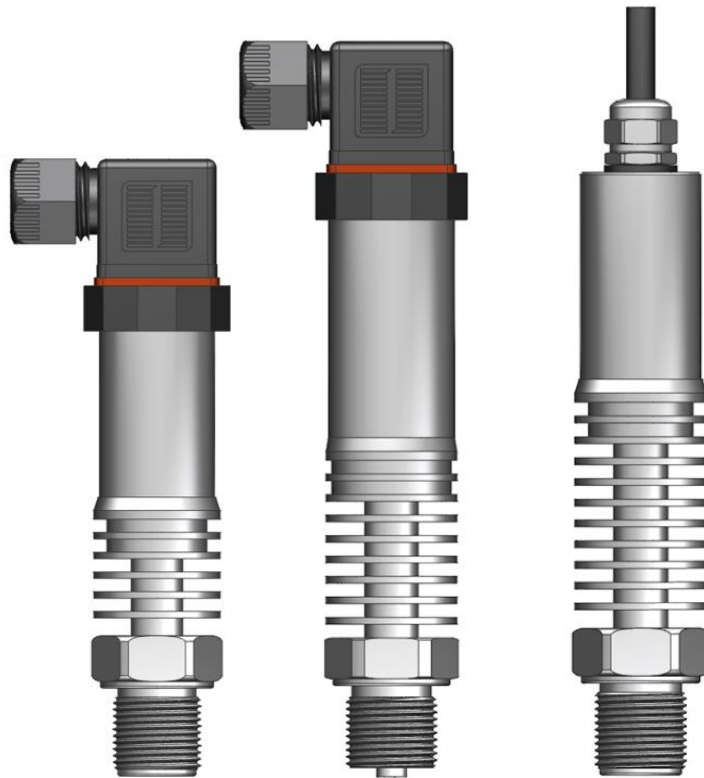


HPM189 High Temperature Pressure Transmitter



Nanjing Hangjia Electronic Technology Co., Ltd.

Overview

HPM189 High Temperature Pressure Transmitter adopts high temperature resistance pressure sensing core as sensitive element and transforms the pressure of measured medium to pressure sensor by heat radiation structure of transmitter. The signal circuit with low temperature drift in the stainless-steel shell transforms the signal of transmitter to standard current signal output. It can be directly connected with computers, control instruments, display instruments, etc.

This product used integrative stainless-steel structure with many features such as excellent functions, easy installation, impact resistance and vibration resistance. The high temperature resistance core and heat radiation structure guarantee it can be used for high temperature medium for a long time.

Features

- ◆ Applicable medium -40~200℃, up to 350℃ can be customized
- ◆ Wide range, can measure gauge pressure, absolute pressure and sealed gauge pressure
- ◆ Universal for oil, water and gas
- ◆ Multiple pressure interfaces are available
- ◆ Multiple output signals are available
- ◆ Wide temperature range compensation, small temperature drift
- ◆ Good long-term stability

Applications

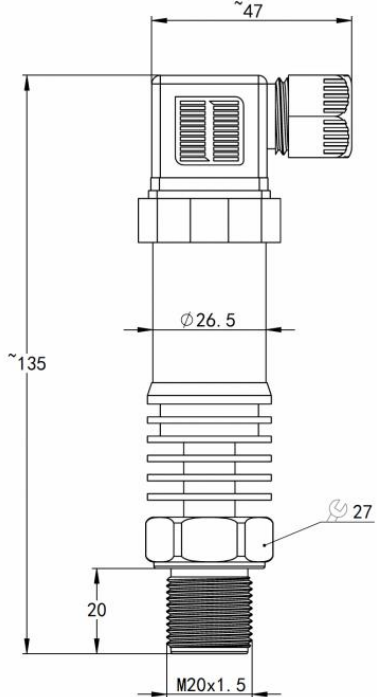
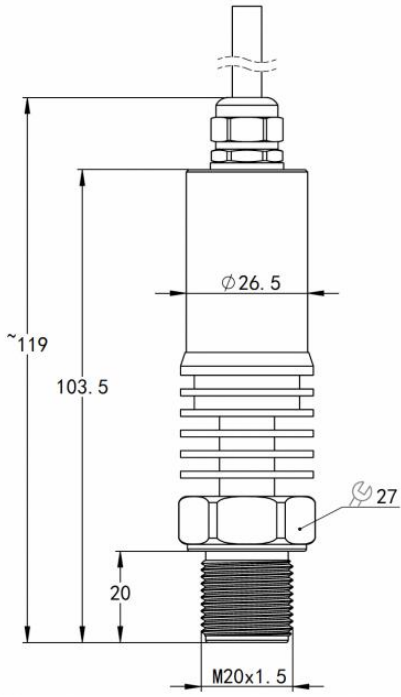
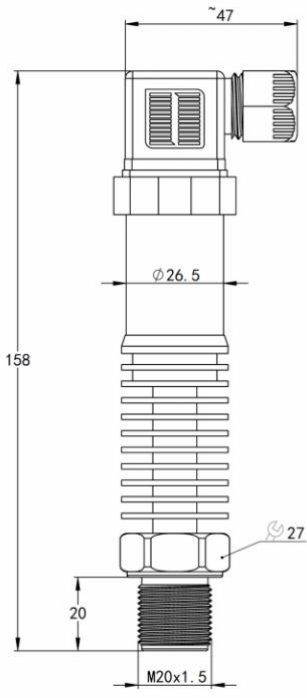
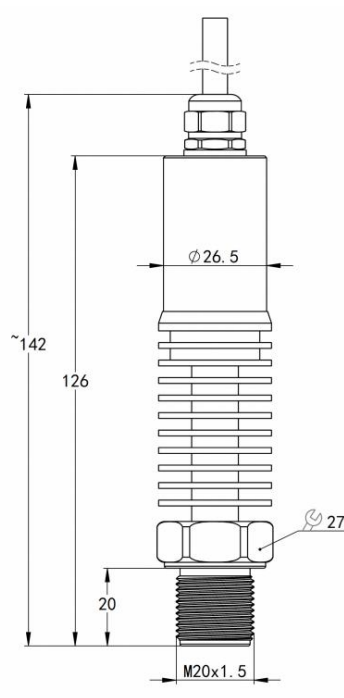
- ◆ Pressure measurement of high temperature media
- ◆ Various types of automated machinery and equipment
- ◆ Industrial automation site

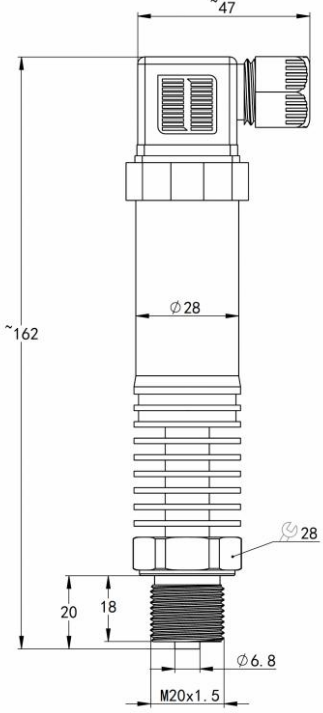
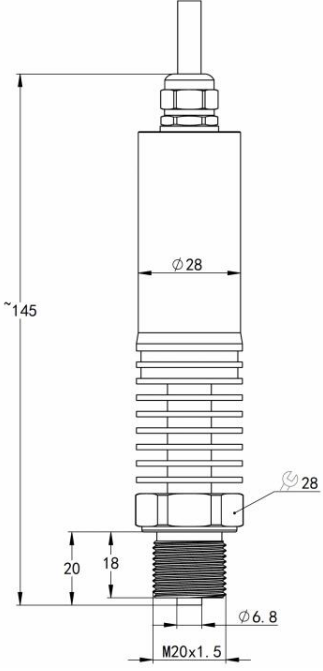
Technical Parameters

Pressure Range	
Gauge Pressure	-100kPa...0~2kPa...100MPa
Absolute Pressure	0~10kPa...10MPa
Overload	1.5x of full pressure range
Measuring Medium	
Medium Type	various liquid, gas or steam compatible with 304 or 316L stainless steel
Output Signal/Power supply	
Two-wire	4~20mA / Vs=8~30V
Two-wire	4~20mADC+HART /Vs=12~32V

Three-wire	0~5V /Vs=8.5~30V or Vs=3.1~8V (At the same time, it must be higher than the maximum output voltage 0.4V)
Three-wire	0~10V /Vs=12~30V
Performance	
Accuracy	±0.5%FS @25℃ (Default) ±0.2%FS @25℃ (Customized)
Long-term Stability	±0.25%FS/year (0.5% accuracy) ±0.2%FS/year (0.2% accuracy)
Resolution Ratio	only affected by the output noise level, usually≤0.01%
Response Time	About 10~100ms
Uptime	≤200ms
Temperature drift characteristic	
Compensation Temperature Scope	0~70℃ (0.5% accuracy) -10~80℃ (0.2% accuracy) Note: Range ≤20kPa please consult
Temperature Coefficient of Zero	±1.0%FS Reference 25℃, in compensation temperature range(10kPa range, temperature drift ± 2.0%FS, 0~60℃)
Temperature Coefficient of Full Scale	±1.0%FS Reference 25℃, in compensation temperature range(10kPa range, temperature drift ± 2.0%FS, 0~60℃)
Environmental Conditions	
Temperature Scope	Ambition Temp.: -40~85℃ Medium Temp.: -40~140℃ (5 cooling fins) -40~200℃ (10 cooling fins) -40~350℃ (8 cooling fins, microporous structure) Storage Temp.: -40~85℃
Protection Grade	IP65,DIN43650/Hirschmann (ordering code C1) IP66, M12×1 connector (ordering code C5) IP67, Cable outlet (ordering code C2)
Insulation	
Insulation Resistance	>20MΩ @500VDC
Dielectric Strength	<2mA @ 500VAC (Apply 500VAC 50Hz test voltage, No breakdown or arcing for 1 minute)

Structure Drawings

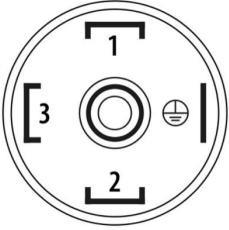
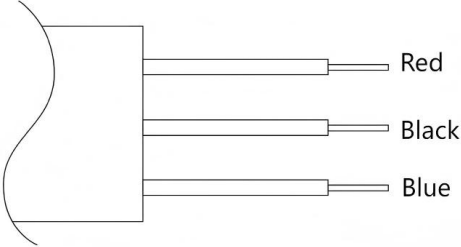
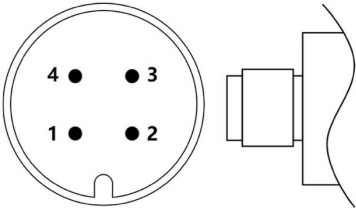
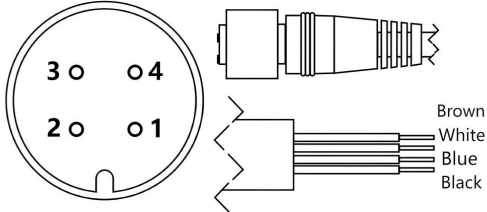
<p>DIN43650,5 cooling fins (Ordering code C1, T5)</p> 	<p>Cable outlet,5 cooling fins (Ordering code C2, T5)</p> 
<p>DIN43650,10 cooling fins (Ordering code C1, T10)</p> 	<p>Cable outlet,10 cooling fins (Ordering code C2, T10)</p> 

DIN43650,8 cooling fins (ordering code C1, T8H)	Cable outlet,8 cooling fins (Ordering code C2, T8H)
 <p>* Customized structure, temperature 350℃, pressure 100MPa</p>	 <p>* Customized structure, temperature 350℃, pressure 100MPa</p>

Structure Materials

Ordering Code	Structure	Material
S4	Pressure interface	Stainless steel 304 (Default)
S6		Stainless steel 316L
X		Customized
M1	Sensor	316L
M2		Titanium TA1 diaphragm and titanium TC4 shell
M3		Tantalum Ta diaphragm
M4		Hastelloy C-276
NB	O-ring	NBR Nitrile sealing ring (Applicable temperature range -40~120℃)
FK		FKM Fluoro rubber seal ring (Applicable temperature range -20~200℃)
ED		EPDM sealing ring (Applicable temperature range -55~150℃)
HB		HNBR Hydrogenated nitrile sealing ring (Applicable temperature range -40~150℃)

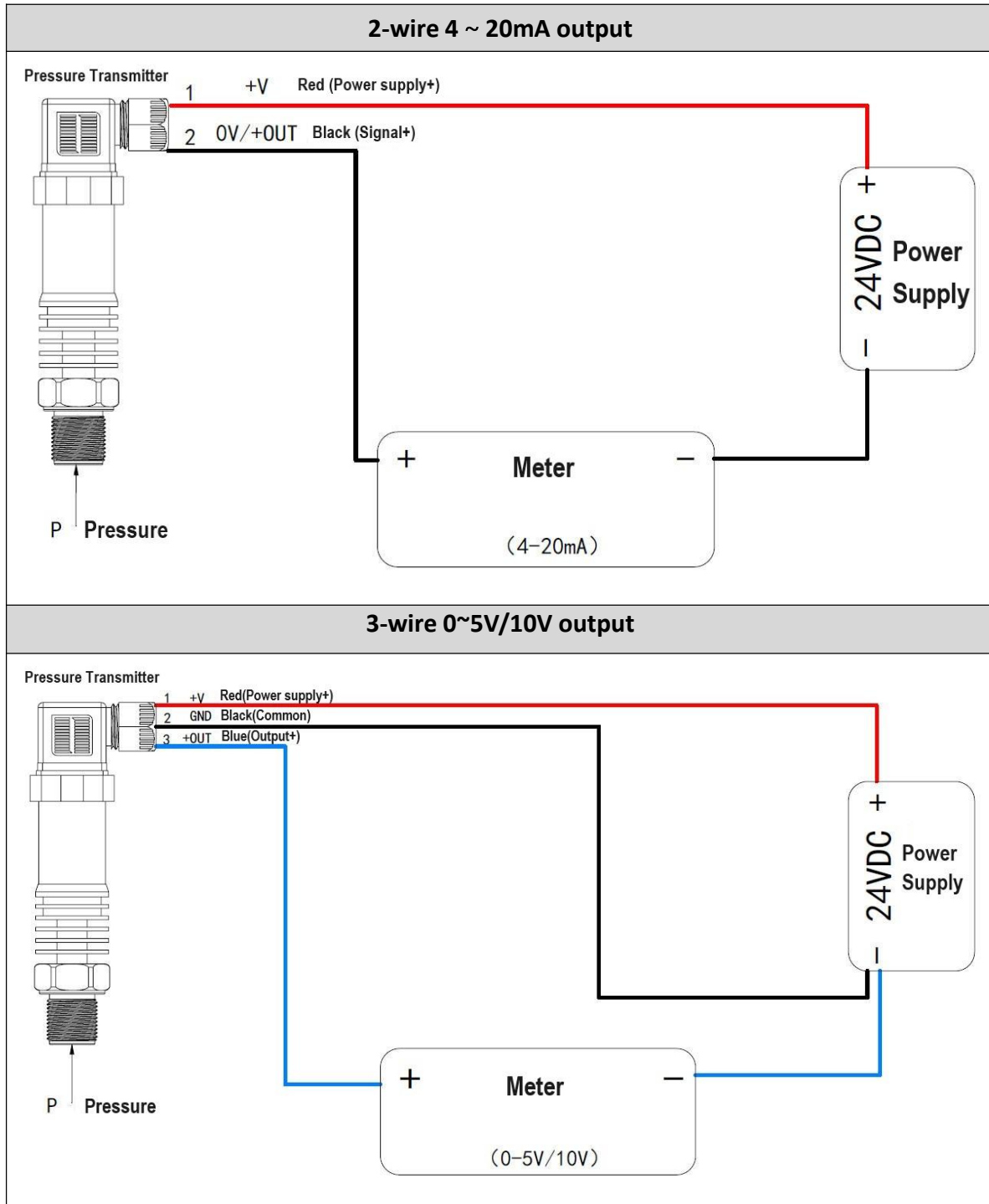
Electrical Connection

Hirschmann/DIN43650(Ordering code:C1)	Cable Outlet(Ordering code:C2)
	
M12*1(Ordering code:C5)	M12*1, with cable(Ordering code:C5X)
	

2-wire 4 ~ 20mA output		
Signal definition	Power supply + (+V)	Power supply - (0V/+OUT)
Hirschman/DIN43650	1	2
Cable outlet	Red	Black
M12×1	1	2
M12×1 with cable	Brown	Blue

3-wire 0~5V/10V output			
Signal definition	Power supply + (+V)	Power supply- (GND)	Signal + (+OUT)
Hirschman/DIN43650	1	2	3
Cable outlet	Red	Black	Blue
M12×1	1	3	2
M12×1 with cable	Brown	Blue	Black

Electrical Wiring Diagram



Ordering Guide

Item NO.	Type						
HPM189	High Temperature pressure transmitter						
Eg:HPM189	Pressure Range	Measuring Range					
	(X1 - X2)kPa	X1 is the lower limit of the range X2 is the upper limit of the range					
		Code	Output Signal				
		B1	(4 - 20)mA				
		B3	(0 - 10)V				
		B4	(0 - 5)V				
		B5	(1 - 5)V				
		B15	(1~10)V				
		Code	Process Connection				
		P1	M20×1.5 male				
		G12	G1/2 male				
		G14	G1/4 male				
		Code	Electrical Connection				
		C1	DIN43650				
		C2	Cable Outlet				
		C5	M12×1				
		CSX	M12×1 with cable				
		Code	Pressure Sensor				
		M1	316L				
		M2	Titanium diaphragm TA1 and titanium housing TC4				
		M3	Tantalum diaphragm Ta				
		M4	Hastelloy C-276				
		Code	Pressure Interface				
		S4	304				
		S6	316L				
		X	Customization				
		Code	Additional Functions				
		G	Gauge pressure				
		S	Sealed gauge pressure				
		A	Absolute pressure				
		J2	0.2% accuracy				
		J5	0.5% accuracy (default)				
		NB	NBR sealing ring (default)				
		FK	FKM sealing ring				
		T5	5 cooling fins- temperature resistance 140°C				
		T10	10 cooling fins, temperature resistance 200°C				
		T8H	8 cooling fins, microporous, resistant to 100MPa 350°C				
		QF	Factory inspection report				
		R1	CE certification				
Eg:HPM189	(0 - 200)kPa	B1	P1	C1	M1	S4	GT10