HPM130 Compact Pressure Transmitter

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Overview

HPM130 compact pressure transmitter adopts miniaturized structural design, small size, and uses high-performance silicon piezoresistive sensors, combined with high-precision electronic conditioning circuits, and is assembled and produced through strict process flow. This product has a solid stainless-steel shell, a variety of output signals to choose from, wide temperature range compensation, strong anti-interference, and good long-term stability. In addition, the pressure sensor inside the product adopts an isolated diaphragm structure, which can complete the pressure measurement and control of various media such as gas, liquid, and steam.

This product adopts a modular design and has a variety of electrical interfaces and pressure interface combinations. The diverse selection can meet most pressure measurement needs in the industrial field.

Features

- Compact structure, suitable for installation in small space
- Wide measuring range, can measure gauge pressure, absolute pressure and sealed gauge pressure
- Universal for oil, water and gas
- Various pressure interfaces are available
- Various output signals are available
- Good long-term stability

Applications

- Various occasions with narrow installation space
- Various types of automated machinery and equipment
- Industrial automation site

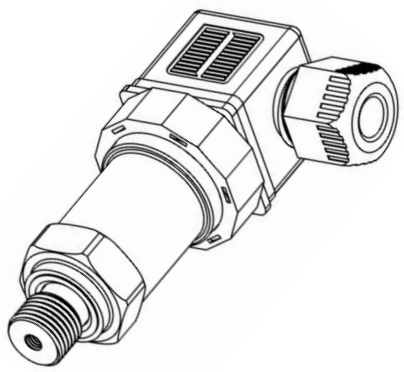
Technical Parameters

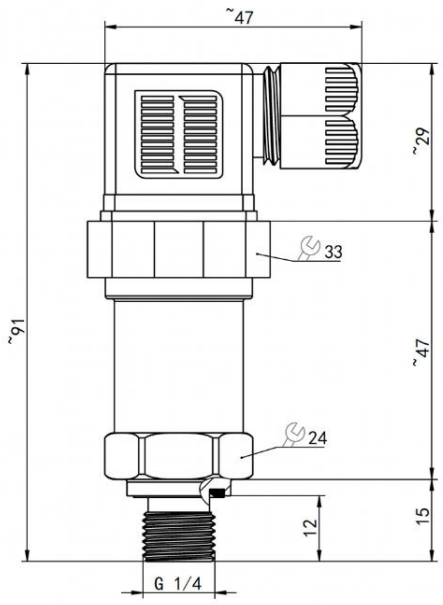
Measuring Medium	Various liquids and gases compatible with contact materials
Measuring Range	-100kPa…0~2kPa…60MPa (Gauge pressure) 0~10kPa…10MPa (Absolute pressure)
Overload	1.5 times pressure range of full scale
Pressure Type	Gauge pressure, absolute pressure, or sealed gauge pressure
Accuracy	±0.5%FS (Typical) ±0.2%FS (Improved) ±0.1%FS (Excellent)
Long-term Stability	±0.25%FS/year (0.5G accuracy) ±0.2%FS/year (0.5G accuracy) ±0.1%FS/year (0.1G accuracy)
Resolution	Infinite, limited only by output noise level, typically ≤0.01%
Response time	About 1ms
Boot time	≤200ms
Output Signal	2-wire 4~20mA/ Vs=8~30V 3-wire 0~5V /Vs=8.5~30V or Vs=3.1~8V（Needs to be higher

	than the maximum output voltage of 0.4V at the same time） 3-wire 0~10V / Vs=12~30V 4-wire RS485 / Vs=6~30V
Compensation Temperature Range	0~70℃(0.5G accuracy) -10~80℃(0.2G accuracy) -20~85℃(0.1G accuracy)
Temperature Coefficient of Zero	±1.0%FS reference 25℃, within temperature compensation range (10kPa range temperature drift ±2.0%FS, 0~60℃)
Temperature Coefficient of Full Scale	±1.0%FS reference 25℃, within temperature compensation range (10kPa range temperature drift ±2.0%FS, 0~60℃)
Ambient temperature	-40~100℃
Medium Temperature	-40~125℃
Storage Temperature	-40~85℃
Protection Grade	IP65, DIN43650 connection (Ordering code C1) IP66, M12x1 connection (Ordering code C5) IP67, Cable outlet connection (Ordering code C2)
Anti-Vibration	10g (20~2000Hz)
Anti-Shock	100g (11ms)
Insulation resistance	>20MΩ @500VDC
Dielectric strength	<2mA @ 500VAC (apply 500VAC 50Hz test voltage for 1min without breakdown and arcing)

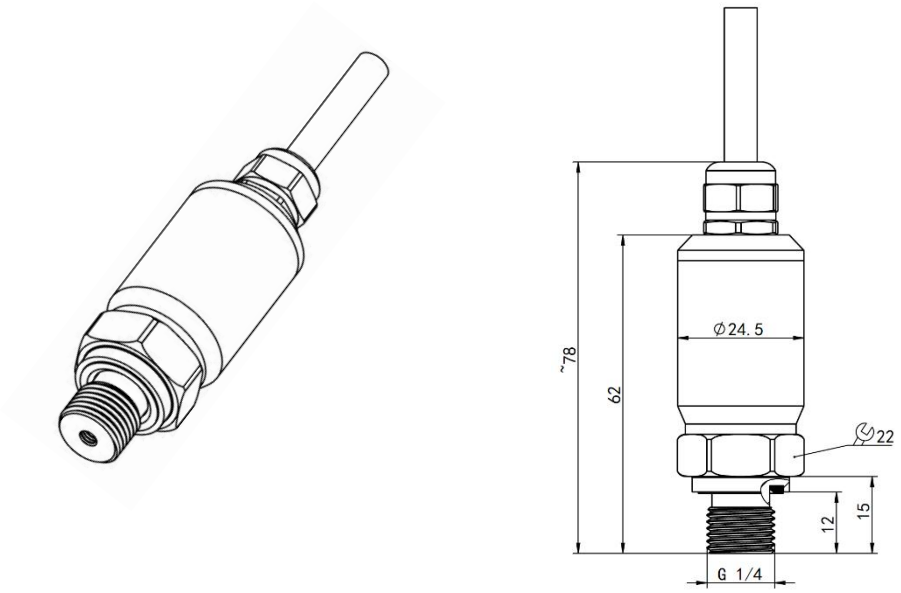
Structure Drawings

DIN43650 (Ordering code C1)

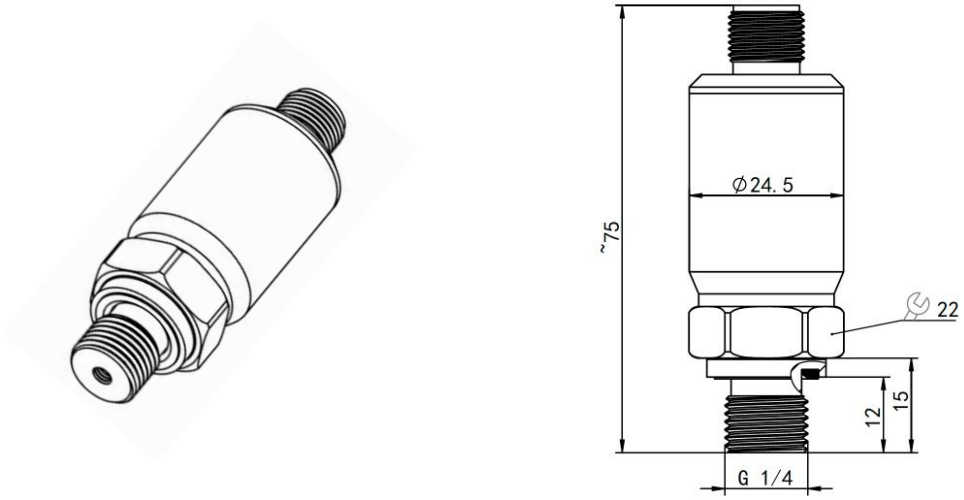




Cable outlet (Ordering code C2)



M12x1 (Ordering code C5)

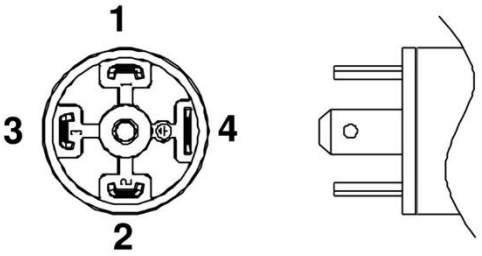
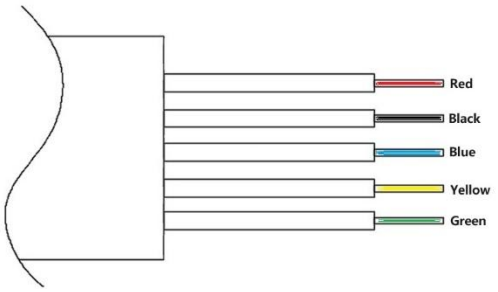
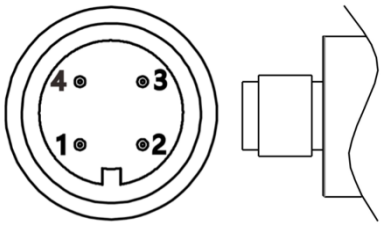
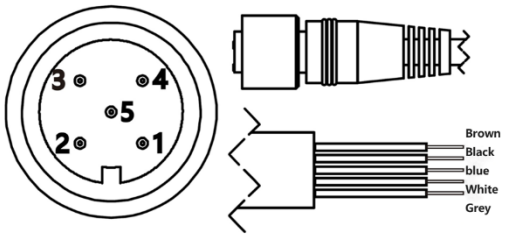


Structural Materials

Ordering Code	Part	Note
S4	**Pressure interface**	Stainless steel 304 (By default)
S6		Stainless steel 316L
X		Customized
M1	**Sensor**	Stainless steel 316L
M2		Titanium diaphragm TA1 and titanium shell TC4
M3		Tantalum Diaphragm Ta
M4		Hastelloy C-276

NB	**Sealing ring**	NBR nitrile sealing ring (applicable temperature range -40~120℃)
FK		FKM fluor rubber sealing 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

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 current output		
Signal definition	**Power+(+V)**	**Power- (0V/+OUT)**
Cable outlet	Red	Black
Hirschmann DIN43650	1	2
M12×1-4P	1	2
M12×1-4P, with cable	Brown	Black

3-wire voltage output			
Signal definition	**Power+(+V)**	**Power- (GND)**	**Signal+(+OUT)**
Cable outlet	Red	Black	Blue
Hirschmann DIN43650	1	2	3
M12×1-4P	1	2	3
M12×1-4P, with cable	Brown	Black	Blue

4-wire Modbus-RTU/RS485 output				
Signal definition	**Power+(+V)**	**Power- (-V)**	**RS485A**	**RS485B**
Cable outlet	Red	Black	Yellow	Green
Hirschmann DIN43650	1	2	3	4
M12×1-4P	1	2	3	4
M12×1-4P, with cable	Brown	Black	Blue	White

Ordering Guide

Item NO.	Type							
HPM130	Compact Pressure Transmitter							
	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					
		B5	(1 ~ 5)V					
		B6	(0.5 ~ 4.5)V					
		B7	RS485					
		B15	(1 ~ 10)V					
			Code	Pressure Interface				
			P1	M20×1.5 male				
			G12	G1/2 male				
			G14	G1/4 male				
			P8	NPT1/4 male				
				Code	Electrical Connection			
				C1	DIN43650			
				C2	Cable Output			
				C5	M12x1			
				C5X	M12x1 with cable			
					Code	Sensor		
					M1	316L		
					M2	TA1 diaphragm and TC4 shell		
					M3	Ta diaphragm		
					M4	C-276 diaphragm		
						Code	Pressure Interface Material	
						S4	304	
						S6	316L	
						X	Customized	
							Code	Others
							G	Gauge pressure
							S	Sealed gauge pressure
							A	Absolute pressure
							J1	0.1G accuracy
							J2	0.2G accuracy
							J5	0.5G accuracy
							QF	Factory report
							R1	CE certificate
								Other requests
HPM130	(0~500)kPa	B1	P1	C1	M1	S4	G	

Certification Information

Factory certification	
Certification organization	CQM
Quality management system	ISO 9001:2015
Certification scope	Research, development and manufacture of pressure transmitter and temperature transmitter
Certificate No.	00223Q21711R1S