

HPM181 High Precision Pressure Transmitter



Nanjing Hangjia Electronic Technology Co., Ltd.

Overview

HPM181 High Precision Pressure Transmitter adopts silicon piezoresistive pressure sensor with high stability and reliability as signal measuring element. The signal conditioning circuit is located in the stainless steel housing and converts the sensor signal into standard current or voltage signal output. The whole product is stable and reliable through strict testing and aging screening of components, semi-finished products and finished products.

The product has a modular design and a variety of electrical and pressure interface combinations. A wide variety of options can meet most of pressure measurement requirements in the industry.

Features

- .High precision, up to 0.05%FS
- .Excellent long-term stability
- .Multiple pressure interface
- .Intrinsic safety or Explosive-proof is optional

Technical Parameters

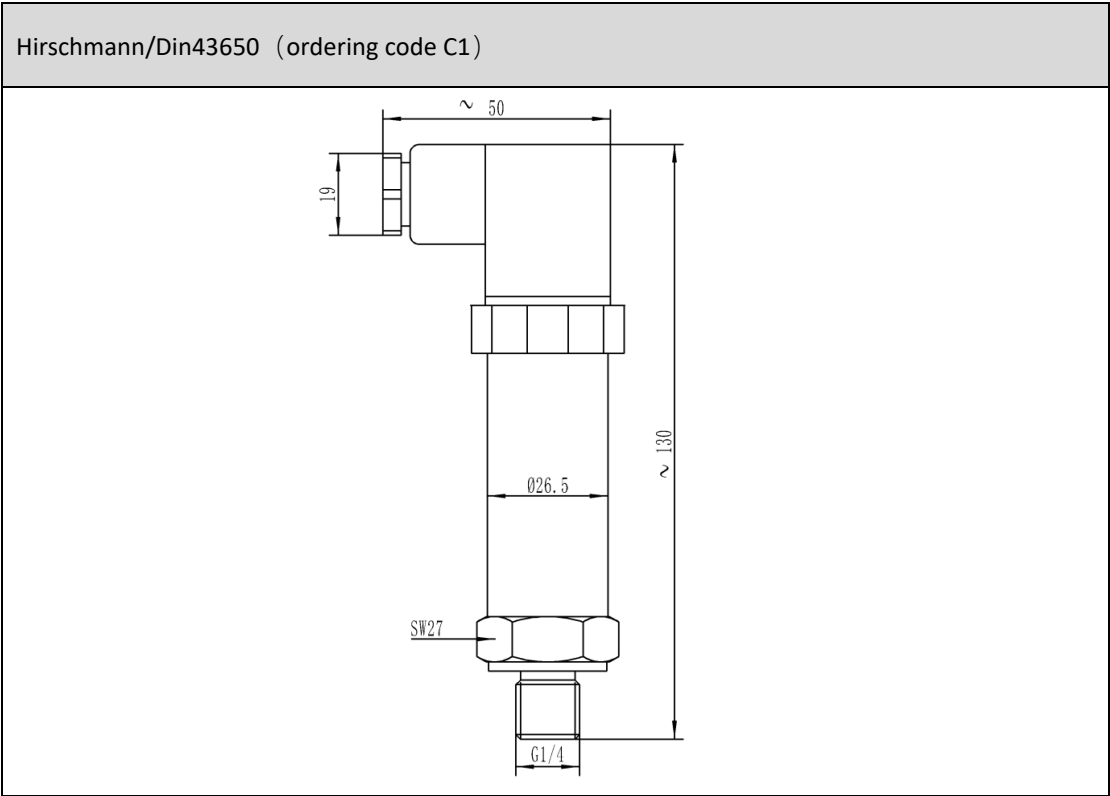
Measuring Pressure Range	
Gauge pressure	-100kPa...0 ~ 10kPa...60MPa
Absolute pressure	0 ~ 20kPa...10MPa
Overload	1.5x of full range
Measuring Medium	
Medium type	All kinds of liquids and gases compatible with the contact materials
Output Signal/Power Supply	
Standard	Two-wire: 4~20mA / Vs=12~30V
Standard	Three-wire: 0 ~ 5V / Vs=8~28V
Standard	Four-wire: Modbus-RTU/RS485 / Vs=10~28V
Performance	
Accuracy	Standard: $\pm 0.075\%FS$ @25°C Optional: $\pm 0.05\%FS$ @25°C
Long-term stability	$\pm 0.2\%FS/Year$ (0.075% accuracy) $\pm 0.1\%FS/Year$ (0.05% accuracy)
Temperature drift characteristic	
Compensation temperature range	-10 ~ 80°C If pressure range $\leq 20Kpa$, please consult us.
Zero-point temperature drift coefficient	$\pm 0.05\%FS/10^\circ C$ (reference 25°C)
Full-scale temperature drift coefficient	$\pm 0.05\%FS/10^\circ C$ (reference 25°C)
Environment Condition	

Temperature range	Environment condition: -40 ~ 85°C Working temperature: -40 ~ 85°C Storage temperature: -40 ~ 85°C
Protection	IP65, Hirschmann (Ordering code C1) IP66, cable outlet (Ordering code C2) IP66, M12×1 (Ordering code C5)
Insulation	
Insulation resistance	>20MΩ @500VDC
Insulation strength	<2mA @ 500VAC (A test voltage of 500VAC at 50Hz was applied for 1 minute without any breakdown or arcing)

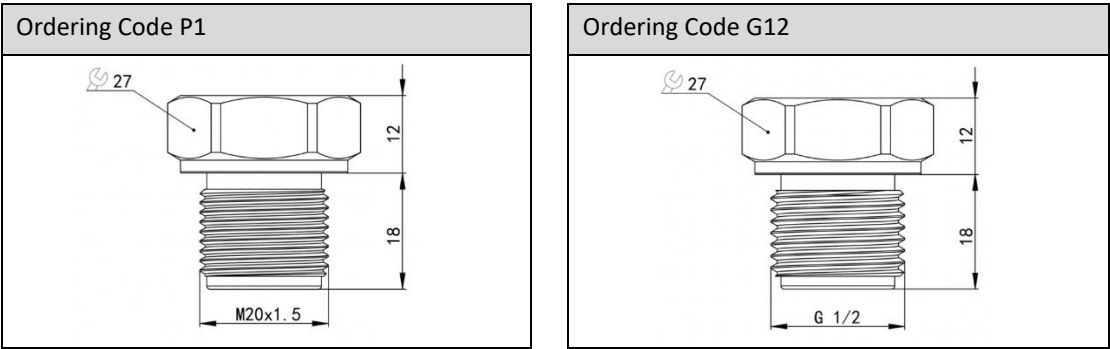
Structure Material

Ordering Code	Part	Material
S4	Process connection	SS304, default
S6		SS316L
X		Customization
M1	Sensor	316L
NB	O-ring/Sealing ring	NBR (Applicable temperature range -40 ~ 120°C)
FK		FKM (Applicable temperature range -20 ~ 200°C)
ED		EPDM (Applicable temperature range -55 ~ 150°C)
HJ		Fully welded, no O-ring

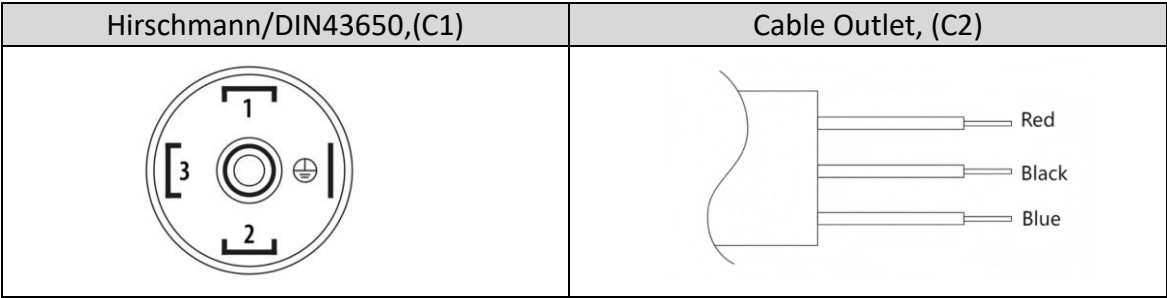
Structure Drawings

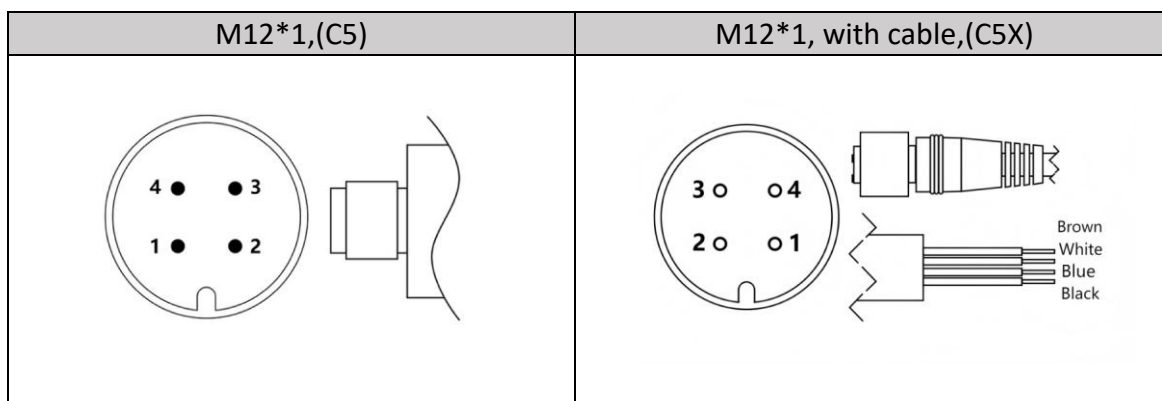


Process Connection



Electrical Connection





Two-wire, 4-20mA current output		
Definition	Power+ (+V)	Power- (0V/+OUT)
Hirschmann/DIN43650	1	2
Cable Outlet	Red	Black
M12×1-4P	1	3
M12×1-4P, with cable	Brown	Blue

Three-wire, voltage output			
Definition	Power+ (+V)	Power- (GND)	Signal+ (+OUT)
Hirschmann/DIN43650	1	2	3
Cable Outlet	Red	Black	Blue
M12×1-4P	1	3	2
M12×1-4P, with cable	Brown	Blue	White

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

Ordering Guide

Item	Type							
HPM181	High Accuracy Pressure Transmitter							
	Pressure Range	Measuring Range						
	(X ₁ ~X ₂)kPa	X ₁ is the lower limit X ₂ is the upper limit						
		Code	Output Signal					
		B1	(4~20)mA					
		B4	(0~5)V					
		B7	RS485					
			Code	Thread Spec				
			P1	M20×1.5 Male				
			G12	G1/2 Male				
			G14	G1/4 Male				
				Code	Electrical Connection			
				C1	DIN43650			
				C2	Cable Output			
				C5	M12×1			
				C5X	M12×1 with cable			
				Code	Sensor Material			
				M1	316L			
					Code	Process Connection Material		
					S4	304		
					S6	316L		
					X	Customization		

HPM181	(0~200)kPa	B1	P1	C1	M1	S4	Code	Additional Function
							G	Gauge Pressure (Default)
							A	Absolute Pressure
							S	Sealed Gauge Pressure
							J075	0.075 Grade
							J05	0.05 Grade
							NB	NBR O-Ring (Default)
							FK	FKM O-Ring
							ED	EPDM O-Ring
							HJ	Fully welded, no O-ring
							QF	CE certificate
								Other Requests
							G J075	