



Product model: HPM1300L Low Power consumption pressure transmitter

Category: IOT Pressure Transmitter

Manufacturer: Nanjing Hangjia Electronic Technology Co., LTD

Application: IoT, process control

Overview

HPM1300L low power consumption pressure sensor used ultra-small structure design, while utilizing high-performance silicon piezoresistive sensor and special electronic conditioning circuit, through a strict process flow assemble and produced. This product has a full stainless-steel appearance, a variety of electrical outlet and a variety of output signals, wide temperature area compensation, the overall accuracy of high characteristics. In addition, this product uses laser welding process connection, as well as internal potting treatment, moisture-proof and earthquake-proof, overall higher protection level. In addition, the pressure sensor inside the product is used isolated diaphragm type structure, which can be compatible with the gas, liquid and steaming pressure measurement and control of various media.

The product can be directly powered by external lithium batteries, with low power consumption. It can be easily connected to various devices or wireless modules, easy assembly, strong application, can be widely used in IoT industry pressure detection.

Features

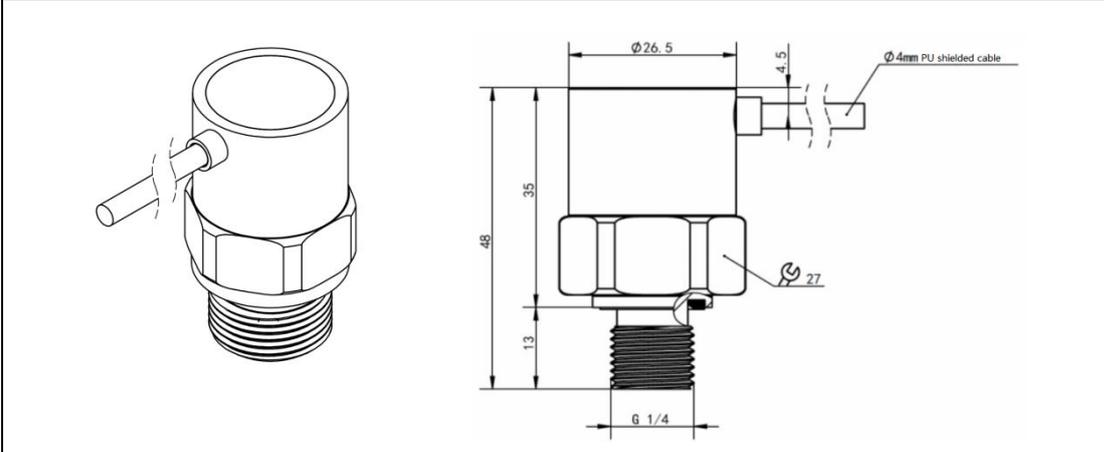
- ◆ Pressure measurement for IoT application
- ◆ Can be powered by external lithium battery
- ◆ Low power consumption
- ◆ Supports I2C, RS485 or voltage signal output
- ◆ Small size, easy to install
- ◆ All stainless-steel construction
- ◆ High protection level
- ◆ Support customer customization

Technical Parameters

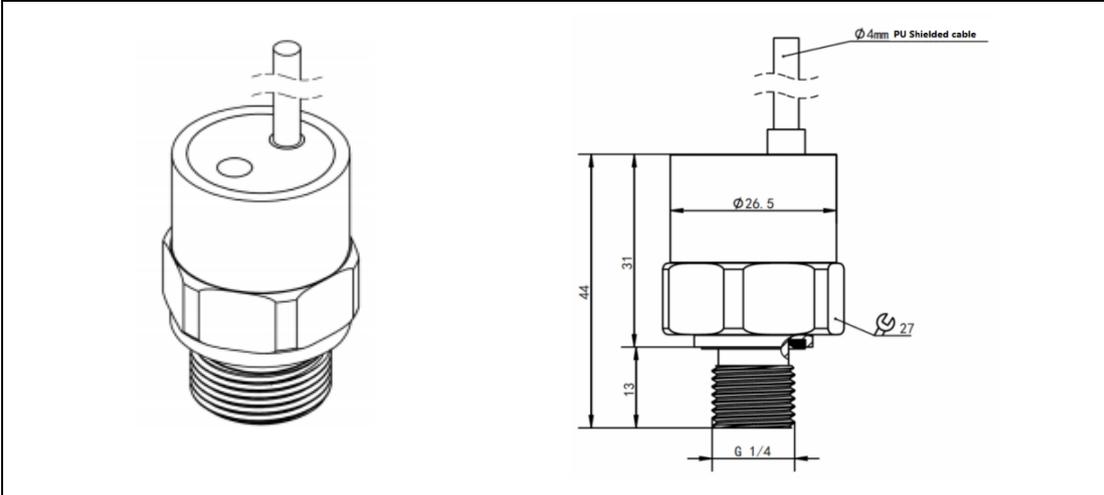
Measuring Medium	Various liquids and gases compatible with contact materials
Measuring Range	-100kpa... 0 ~ 10kPa... 100MPa (Gauge pressure) 0 ~ 20kPa... 10MPa (Absolute pressure).
Overload	1.5 times of full range scale
Output Signal/Power Supply	I ² C /V _s =3.0~5.5 VDC (full scale) RS485 /V _s =3.0~5.5 VDC (Range ≤ 5MPa) 0.25~1.25、0.5~2.5V /V _s =3.1~8.0 VDC (Range ≤ 5MPa)
Power consumption (I²C output)	Normal working mode <3mA Sleep mode <100nA Wake-up time 4ms
Power consumption (RS485 output)	0.2~0.3mA when communicate once per second. Collection time: ~80ms
Power consumption (voltage output)	<2.5mA
Accuracy	±0.5% FS (typical) @25°C ±0.25% FS (optional) @25°C
Long term accuracy	±0.25% FS/year
Compensation temperature range	0~60°C(10kPa); -10~70°C(other ranges)
Temperature Coefficient of Zero	± 2.0%FS(10kPa); ± 1.5%FS(Reference 30°C, in compensation temperature range, other pressure ranges)
Temperature Coefficient of Full Scale	± 2.0%FS(10kPa); ± 1.5%FS(Reference 30°C, in compensation temperature range, other pressure ranges)
Working Temperature	-40~85°C
Medium Temperature	-40~125°C
Storage Temperature	-40~85°C
Protection Grade	IP67- cable outlet by side, cable outlet on top; [Sealed gauge and absolute pressure types only] IP65-Hirschmann/DIN43650. IP66-M12x1;
Electrical Protection	Short circuit protection always Reverse polarity protection Electromagnetic compatibility complies with EN 61326
Vibration	10g(20~2000Hz)
Shock resistance	100g(11ms)
Insulation resistance	>20MΩ @500VDC
Dielectric strength	<2mA @500VAC 1min

Structural drawings (Unit: mm)

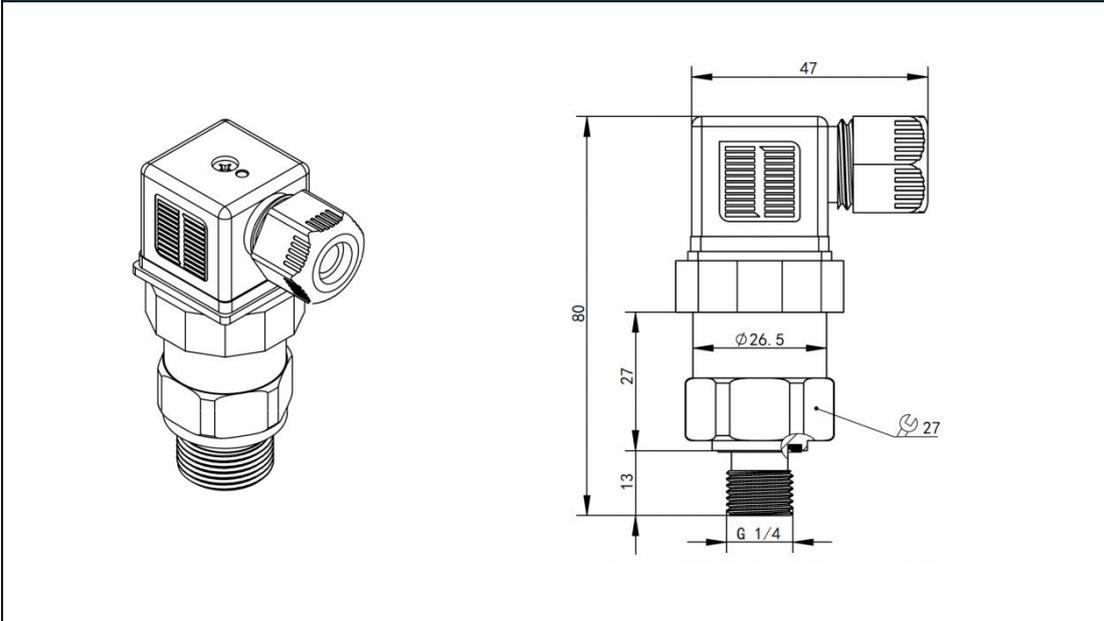
Cable outlet by side

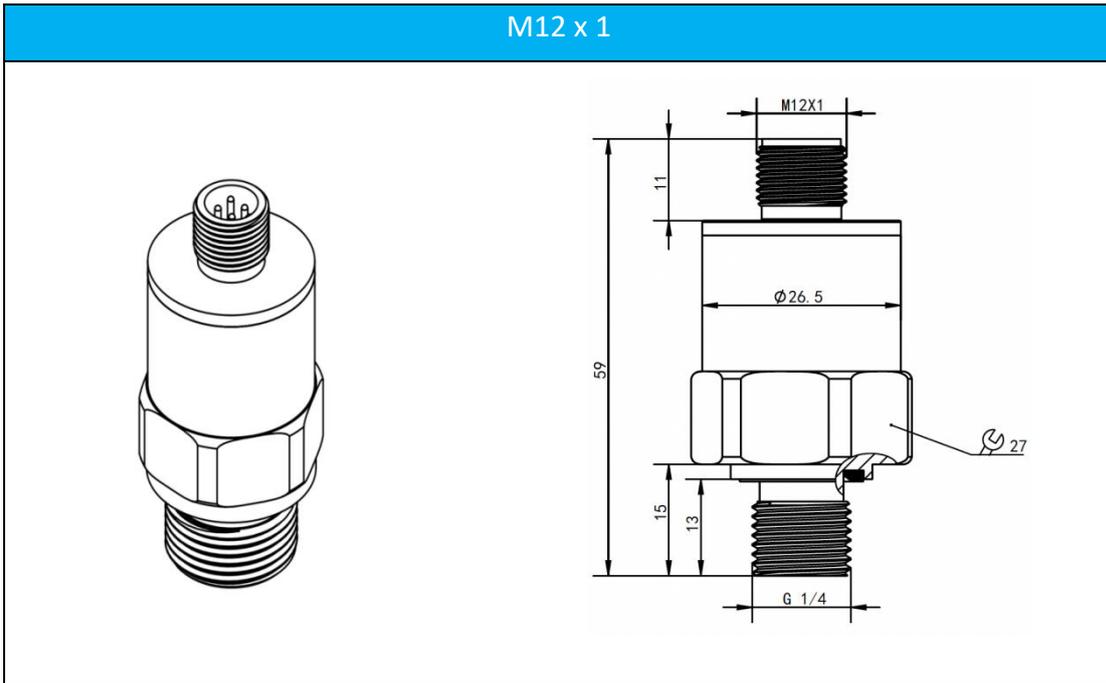


Cable outlet on top



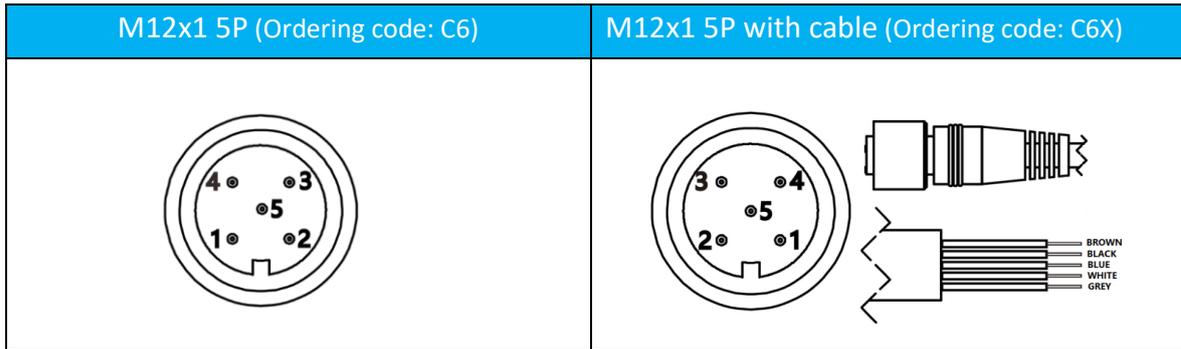
Hirschmann /DIN43650





Electrical Connection

Cable outlet by side (Ordering code: C2C) Cable outlet on top (Ordering code: C2D)	Hirschmann /DIN43650 (Ordering code: C1)
M12x1 4P (Ordering code: C5)	M12x1 4P with cable (Ordering code: C5X)



3- wire 0.25-1.25, 0.5-2.5V Voltage output			
Signal definition	Power+(+V)	Power – (GND)	Signal+(+OUT)
Hirschmann/DIN43650	1	2	3
Cable outlet	Red	Black	Blue
M12x1-4P	1	2	3
M12x1-4P, with cable	Brown	Black	Blue

4- wire Modbus-RTU/RS485				
Signal definition	Power+(+V)	Power – (-V)	RS485A	RS485B
Hirschmann/DIN43650	1	2	3	4
Cable outlet	Red	Black	Yellow	Green
M12x1-4P	1	2	3	4
M12x1-4P, with cable	Brown	Black	Blue	White

I2C (W/O PD Hibernate control pin*)				
*Hibernate Control Pin, built-in 68k pull-up resistor, high level hibernates, low level wakes up				
Signal definition	Power+(+V)	Power – (-V)	SCL	SDA
Hirschmann/ DIN43650	1	2	3	4
Cable outlet	Red	Black	Yellow	Green
M12x1-4P	1	2	3	4
M12x1-4P, with cable	Brown	Black	Blue	White

I2C (With PD sleep control pin*)					
*Hibernate Control Pin, built-in 68k pull-up resistor, high level hibernates, low level wakes up					
Signal	Power+(+V)	Power – (-V)	SCL	SDA	PD(Sleep)
Cable outlet	Red	Black	Yellow	Green	Blue
M12x1-5P	1	2	3	4	5
M12x1-5P, with cable	Brown	Black	Blue	White	Grey

Ordering Guide

Model No.	Type							
HPM1300L	Low-power consumption pressure transmitter							
	Code	Output Signal						
	C	I2C						
	R	RS485						
	V	Voltage						
		Pressure Range	Measuring Range					
		(0 - X)Mpa	Fill out X directly					
			Code	Connection Thread				
			P3	G1/4 male				
			P8	NPT 1/4 male				
			M8	M8X1 male				
			Code	Electronic output				
			C1	Hirschmann				
			C2C	cable outlet by side				
			C2D	cable outlet on top				
			C5	M12x1-4P				
			C5X	M12x1-4P with cable				
			C6	M12x1-5P				
			C6X	M12x1-5P with cable				
			Code	Housing Material				
			S4	S5304				
			S6	S5316L				
				Code	Pressure Sensor			
				M1	silicon piezoresistive			
				Code	Additional Functions			
				G	Gauge pressure(Default)			
				A	Absolute gauge			
				QF	Factory report			
					Other requirement			
e.g.: HPM1300L	C	0-16Mpa	P3	C2C	S4	M1	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