HPM280L Low Power Consumption Pressure Transmitter

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Product Overview

HPM280L low power consumption pressure sensor uses a high-quality and highly stable pressure core as the sensing element, and through the signal conditioning circuit to convert the pressure into a standard RS485 signal output, to achieve the measurement of fluid pressure. The product is powered by a built-in lithium battery, which has very low power consumption and a long service life. In addition, the product with on-site display, can also be realized through the RS485 network or connected to the wireless module to achieve wireless transmission.

The product after long-term aging and stability screening, reliable and stable performance, can be applied to the harsh environment of the open-air places, on the IoT industry pressure measurement and various types of industrial process control and other occasions have a wide range of applications.

Features

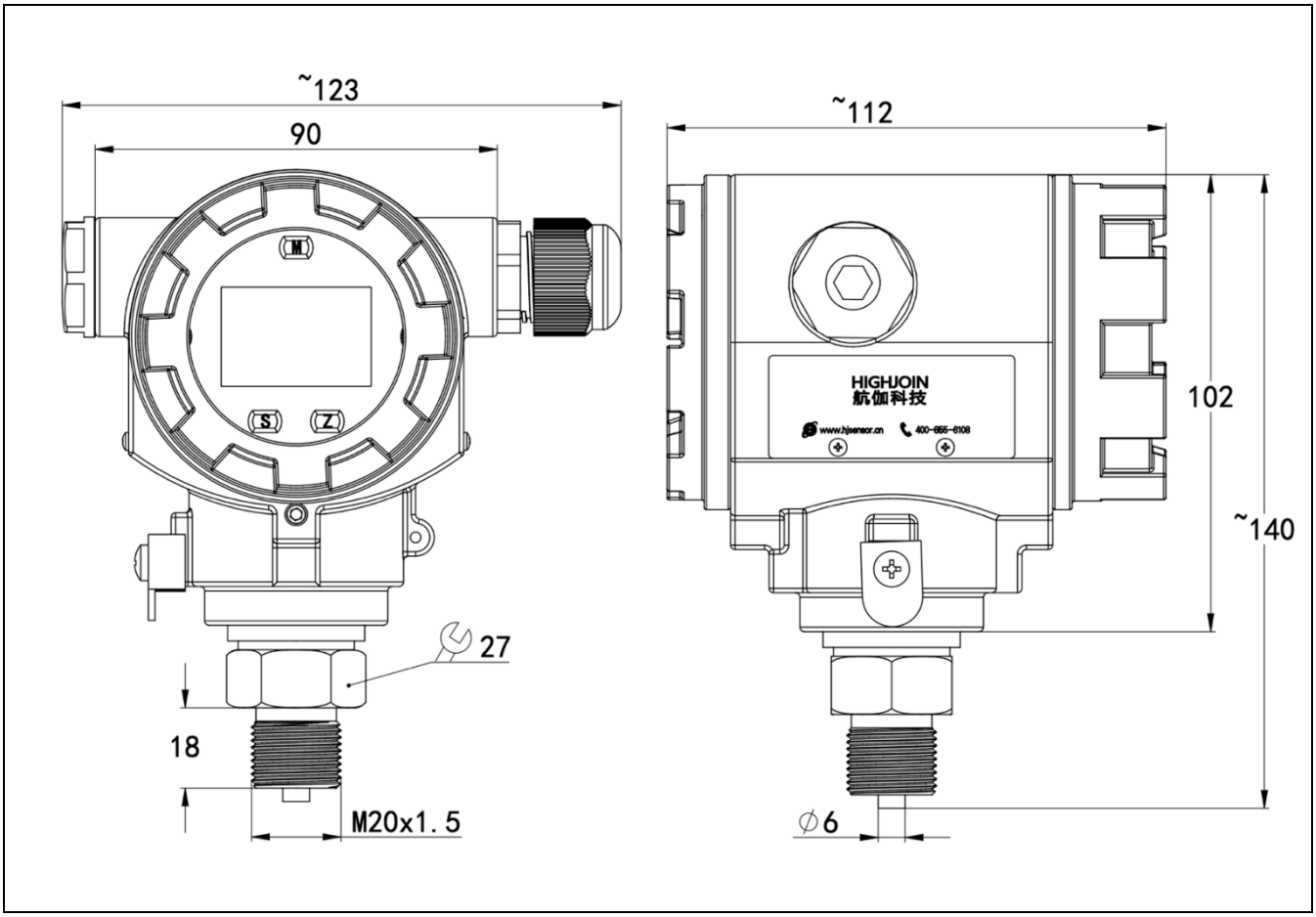
- Low power consumption
- Built-in lithium battery power supply
- On-site display
- Support RS485 communication, can be adapted to wireless module
- High protection level

Technical Parameters

Measuring range (Gauge pressure)	-100kPa…0~10kPa…100MPa
Measuring range (Absolute pressure)	0~20kPa…60MPa
Overload	1.5 times of full scale
Medium type	Various liquids compatible with contact materials
Output signal	RS485
Power supply	Vs=3.1~8V_{DC} (lithium-ion battery inside ER14250,3.6V 1200mAh) Vs=5V_{DC} (External power supply supported) Vs=24V_{DC} (External power supply)
Standby current	<20uA
Date collection cycle	0~65535 seconds
Power Consumption	About 200uA with data collection cycle as 1s About 70uA with data collection cycle as 3s About 50uA with data collection cycle as 5s. … Note: Longer data collection cycle, lower consumption
Accuracy	±0.5%FS (typical); ±0.25%FS (optional)
Long-term stability	±0.25%FS/year
Temperature range	Medium temperature:-40~125℃ LCD display:-30~70℃

	Storage temperature:-30~70℃
Protection grade	IP65
Compensation temperature range	0~70℃ (0.5G accuracy) -10~80℃ (0.2G accuracy) Note: For measuring range ≤20kPa, please consult.
Zero-point temperature drift	±1.0%FS (reference 25ºC, within compensated temperature range); (±2.0%FS for 10kPa range,0~60℃)
Full scale point temperature drift	±1.0%FS (reference 25ºC, within compensated temperature range); (±2.0%FS for 10kPa range,0~60℃)
Reverse polarity protection	No damage. Product will not work.
Vibration	20g(20~5000Hz)
Shock	20g(11ms)
Insulation resistance	>100MΩ,500VDC
Insulation voltage	500VAC 50Hz voltage, no breakdown or arc within 1min

Structural Drawing (unit: mm)



Note:

1. The dimensions listed in the diagram may change with updates to the manufacturing process.
2. For other shapes, please consult a sales engineer.

Materials

Ordering code	Part	Material
M1	Pressure sensor	Silicon piezoresistive, 316L
FK	O-ring	Fluorine rubber FKM (applicable temperature range -20~200℃)
NB		Nitrile rubber NBR (applicable temperature range -40~120℃)
A12	Protection shell	Cast aluminum alloy ADC12(by default)
S4	Pressure interface	SS304(by default)

Electrical Connection

Output signal	4-wire Modbus-RTU/RS485			
Definition	Power supply+(+V)	Power supply-(-V)	RS485A	RS485B
Battery compartment/ terminal	Battery+	Battery-	485A	485B

Ordering Guide

Model No.	Type						
HPM280L	Low consumption pressure transmitter						
	Pressure range	Measuring range					
	(X1 ~ X2)MPa	X1 is the lower limit X2 is the upper limit					
		Code	Pressure connection				
		P1	M20×1.5 male				
		P4	G1/2 male				
			Code	Electrical connection			
			C7	M20x1.5 female thread with gland			
				Code	Housing material		
				A12	ADC12		
				Y104	YL104		
					Code	Sensor	
					M1	Silicon piezoresistive isolation diaphragm	
						Code	Additional functions
						G	Gauge pressure(default)
						A	Absolute pressure
						VL36	3.6V lithium battery (default)
						V5	5V power supply
						V24	24V power supply
						QF	Factory report
e.g.:HPM280L	(0 ~ 2.5)MPa	P1	C9	A12	M1	G VL36	

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