



Product model: HP10LC Digital Pressure Sensor

Manufacturer: Nanjing Hangjia Electronic Technology Co., LTD

Product category: Pressure sensor

Application: IOT, Industrial Process Control

Overview

HP10LC digital pressure sensor is an oil-filled OEM pressure core isolated by 316 stainless steel corrugated diaphragm. Sensitive components selected from the international advanced high stability, high precision silicon pressure chip, the application of the latest production technology and high-precision production and inspection equipment, so that the product has excellent stability, through a dedicated integrated circuit for $-10\sim 70\text{ }^{\circ}\text{C}$ wide temperature zone temperature compensation and non-linear correction, direct output of the standard I2C digital signal.

Products after long-term aging and stability screening, reliable and stable performance, very low power consumption, can be easily docked to a variety of devices or wireless modules, easy to assemble, strong application, can be widely used in a variety of fluid pressure detection, but also widely used in IoT industry, all kinds of pressure detection.

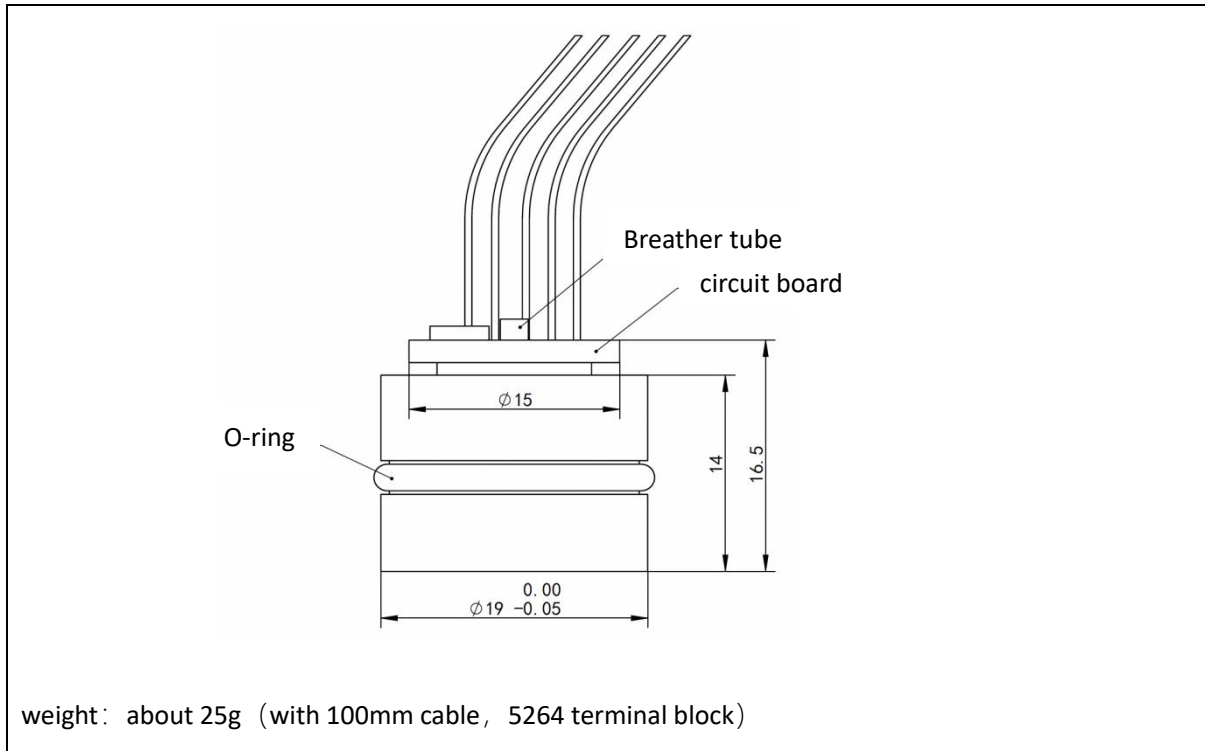
Features

- ◆ I2C digital signal output
- ◆ Low power hibernation control pin
- ◆ It can be powered by external lithium battery
- ◆ Wide pressure measuring range
- ◆ Universal form factor, easy to install
- ◆ Support customer customized development

Technical Parameters

Measuring range (Gauge pressure)	-100kPa...0~10kPa...100MPa
Measuring range (Absolute pressure)	0~20kPa...10MPa
Overload	1.5 times of full scale
Medium type	Various liquids compatible with contact materials
Output Signal	I2C
Power Supply	3.0~5.5 VDC
Power Consumption (Normal mode)	<3mA
Power Consumption (Hibernation mode)	<100nA
Wake up time	4ms
Accuracy	±0.5%FS (typical); ±0.25%FS (optional)
Long-term Stability	±0.25%FS/year
ADC resolution	24bit
Conversion rate	10~2400Hz
Temperature range	Ambient temperature:-40~85℃ Medium temperature:-40~125℃ Storage temperature:-40~85℃
Compensation temperature range	-10~70℃ (Other range) ; 0~60℃(10kPa)
Temperature Coefficient of Zero	±1.5%FS (reference 30℃, in compensation range, other range) ; ±2.0%FS (10kPa)
Temperature Coefficient of Full Scale	±1.5%FS (reference 30℃, in compensation range, other range) ; ±2.0%FS (10kPa)
Vibration	20g(20~5000Hz)
Impact resistance	100g(10ms)
Insulation resistance	>100MΩ , 500VDC
Insulating strength	500VAC 50Hz test voltage, no breakdown or arcing for 1 minute.

Structural Drawings (unit: mm)



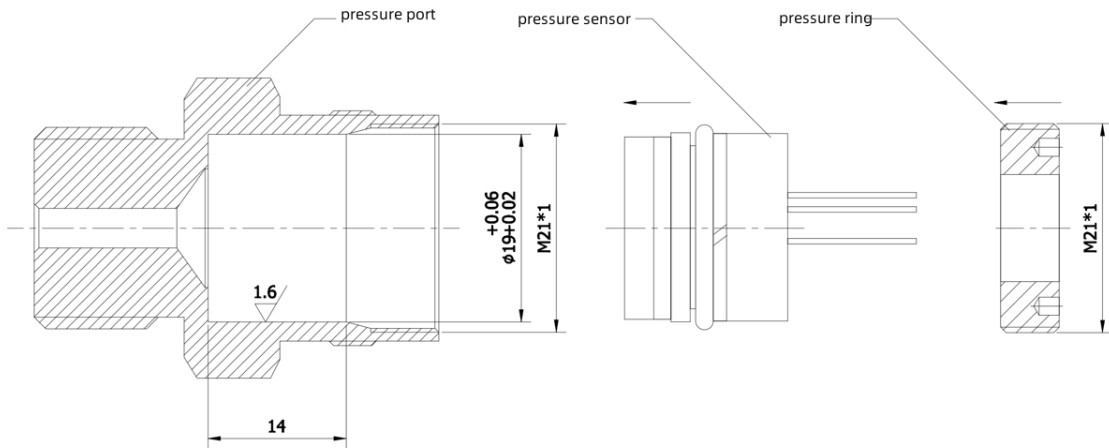
Structural Material

Ordering code	Part	Material
S6	Diaphragm	316L
S6	Case	Silicon piezoresistive sensor, 316L material
FK	Seal ring	Fluoro rubber FKM (Applicable temperature range -20~200°C)
NB		Nitrile rubber NBR (Applicable temperature range -40~120°C)

Electrical Connection

Wire color	Symbol	Color Definition
Red	VCC	Power Supply+
Black	GND	Power Supply-
Blue	PD	Hibernate pin, built-in 68k pull-up resistor, high level sleep, low level wake-up
Yellow	SCL	I2C interface clock pin
Green	SDA	I2C interface data pin

Installation Notes



1. During installation, a small amount of vacuum grease needs to be evenly applied on the surface of the "O" ring.
2. Apply force evenly along the axial direction of the cavity to push the core body into the cavity. Note that the "O" ring cannot be damaged in any way.
3. The diaphragm of the core is a pressure-sensitive part. Please do not touch it with fingers or hard objects during use.
4. The sensor sealing method is recommended to be a suspended sealing structure to avoid end face compression sealing.

Ordering Guide

Model No.	Type					
HP10L	Lower power consumption digital sensor					
e.g.: HP10L	C	Code	Output Signal			
			I2C			
		Pressure Range	Measuring Range			
		(0 ~ X)kPa	Fill out X directly			
		Code	Seal Ring			
			FK	FKM		
		NB	NBR			
		Code	Electrical Connection			
			NX	No cable Leads		
			ZY	Silicone cable leads		
			5264	5264 terminal block		
		X	Customized			
Code	Hibernate Enable					
	PD	with PD PIN				
NPD	without PD PIN					
Code	Additional Functions					
	G	Gauge pressure				
	S	Sealed gauge				
	A	Absolute gauge				
L	cable length					
e.g.: HP10L	C	(0 ~ 100)kPa	NB	5264	PD	G L=100mm

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