

BS12 Piezoresistive OEM Pressure Sensor

Feature

- Pressure range (-0.1~0...60) MPa;
- Gauge, absolute and sealed gauge;
- Constant current power supply;
- Isolated construction to measure various media
- $\Phi 19\text{mm}$ OEM pressure element
- 316L stainless steel material
- Perfect long term stability
- Different male thread connection optional



Application

- Industrial process control
- level measurement
- Gas, liquid pressure measurement
- Pressure meter
- Pressure calibrator
- Liquid pressure system and switch
- Refrigeration equipment and air conditioner
- Aviation and navigation inspection

Introduction

General BS12 Piezoresistive Pressure Sensor

The outline, installation dimension and sealing method of BS12 is strongly interchangeable, it is widely used for measuring pressure which is compatible with stainless steel and Viton;

Assembled BS12N Piezoresistive Pressure Sensor

Put general BS12 pressure sensor into the housing with standard or special thread; use face type seal or waterline seal; with flexible construction and strict inspecting and screening; the assembled BS12N sensor has similar application with general type sensor, it can be used for mounting and production of different pressure instruments;

Welded BS12N-H Piezoresistive Pressure Sensor

Put general BS12 pressure sensor into the housing with standard or special thread; and weld sensor with housing together, no O-ring for sealing. The whole product has flexible construction, it has wider application fields than general pressure sensor, can be used for mounting and production of different pressure instruments;

Flush Diaphragm BS12P Piezoresistive Pressure Sensor

Flush diaphragm pressure sensor is a full-welded pressure sensor, it has pressure port G1/2 male or M20x1.5 male, sealing by Viton O-ring at the end of thread. The isolated diaphragm is welded in front of thread port, the whole measure range is 0 ~ 100kPa...35MPa. It can be used for food, medicine, sanitation fields in which the media is easily dirty.

Gauge BS12 Pressure Sensor with Vacuum Measurement

We can use general type, assembled type as well as flush diaphragm type gauge pressure sensor to measure pressure below air pressure, the min. pressure can be around -100kPa.

Electric Performance	
Power supply	1.5mA(typ.)
Electric connection	Kovar pin or 100mm silicon rubber flexible wires
Common mode voltage output	50% of input (typ.)
Input impedance	2kΩ~6kΩ
Output impedance	2kΩ~6kΩ
Insulation resistor	250MΩ, 250VDC
Overpressure	<6MPa, 2 times FS; (6~60)MPa, 1.5times FS; Differential pressure or Low pressure range 1.3times FS

Construction	
Diaphragm	stainless steel 316L
Housing	stainless steel 316L
Pin	Kovar
O-ring	Viton
Net weight	~30g (general type) ~50g (flush diaphragm) ~150g (assembled type)

Environment Condition	
Position	Deviate 90° from any orientation, zero change ≤0.05%FS
Impact	100g, 11ms
Media compatibility	The gas or liquid which is compatible with construction material and Viton

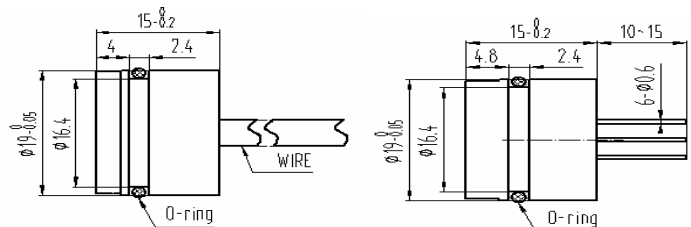
Basic Condition	
Media temperature	(25±1) °C
Environment temperature	(25±1) °C
Shock	0.1g (1m/s/s) Max
Humidity	(50%±10%) RH
Local air pressure	(86~106) kPa
Power supply	(1.5±0.0015) mADC

Basic Specification				
Item	Min.	Typ.	Max.	Units
Linearity		±0.15	±0.25	%FS,BFSL
Repeatability		±0.1		%FS
Hysteresis		±0.05	±0.1	%FS
Zero output		±2		mVDC
FS output	60			mVDC
Zero thermal error		±0.02		%FS/°C
≤70Kpa Zero thermal error		±0.03		%FS/°C
FS thermal error		±0.03		%FS/°C
≤70Kpa FS thermal error		±0.05		%FS/°C
Compensated temp. range		-10~70		°C
≤70Kpa Compensated temp. range		0~70		°C
Storage temp. range		-20~65		°C
Stability		±0.2	±0.3	%FS/year

*testing at basic condition, G: Gauge; A: Absolute; S: Sealed gauge

Outline Construction (General BS12)

(Unit:mm)



Electric Connection

Pin	Connection
Red	IN+
Yellow	OUT+
Black,green	IN-
White	OUT-

Order Guide

BS12	OEM Pressure sensor							
	Code	Type						
	U	Universal BS12 Piezoresistive Pressure Sensor						
	A	Assembled BS12N Piezoresistive Pressure Sensor						
	W	Welded BS12N-H Piezoresistive Pressure Sensor						
	F	Flush Diaphragm BS12P Piezoresistive Pressure Sensor						
	G	Gauge BS12 Pressure Sensor with Vacuum Measurement						
	D	Differential pressure sensor						
		19	Diameter: 19mm					
			Code	Pressure range				
			0.035	35kPa				
			0.07	70kPa				
			0.1	100kPa				
			0.2	200kPa				
			0.35	350kPa				
			0.7	700kPa				
			1.4	1.4MPa				
			2.1	2.1Mpa				
			3.5	3.5MPa				
			007	7MPa				
			017	17MPa				
			035	35MPa				
			070	70MPa				
			Code	Pressure reference				
			A	Absolute pressure				
			G	Gauge pressure				
			S	Sealed gauge pressure				
			-	Differential pressure				
			Code	Excitation				
			C	1.5mA				
			V	others (please specify)				
			Code	Temperature compensated type				
			N	no compensation				
			R	compensated by resistors				
			Code	Electric connection				
			1	kovar				
			2	silicon rubber flexible wires				
BS12	U	19	0.35	G	C	N	1	

Order Note

1. It is recommended that the sensor should be installed as Suspended Mode to avoid face tight press and avoid affecting sensor

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stability.

2. Please pay attention to protect the diaphragm to prevent any damage or bad performance.
3. If the working temperature of Viton rubber exceeds the temperature of the rubber specification or be applied in critical environment, please contact us.
4. The material of measuring medium should be compatible with the stainless steel.If it is corrosive,pls specify its material in detail.
- 5.Please note in the order if you need zero pressure as negative pressure.
6. All specifications are subject to change.Contact Gaohua for specifications and engineering drawings that are critical to your application.Drawings contained in this document are for reference only.