

Diffused Silicon Pressure Sensor

Description

XDB102-4 series diffused silicon pressure sensor core is an isolated oil - filled pressure sensor core with high performance, low cost and small volume. It uses MEMS Silicon chip. Manufacturing of each sensor is a process with strict aging, screening and testing to ensure the excellent quality and high reliability.

This product has high anti-overload capacity and wide temperature range, it is widely used in automobiles, loading machinery, pumps, air conditioning and other occasions where

Features

- ◆ CE conformity
- ◆ Measuring Range: -100kPa...0kPa~100kPa...70MPa
- ◆ Small Size: $\phi 12.6\text{mm}$, lower package cost
- ◆ Provide OEM, flexible customization
- ◆ Isolated structure, for a variety of fluid medium pressure measurement.

Typical applications

- ◆ Pressure measurement of automobile engine oil
- ◆ Engineering machinery, water pumps, equipment
- ◆ Industrial process control
- ◆ Urban water supply system



Specifications

Structure condition			
Diaphragm material	SS 316L	Housing material	SS 316L
Pin wire	Kovar/100mm silicone rubber wire	Back pressure tube	SS 316L (gauge and negative pressure only)
Seal ring	Nitrile rubber		
Electrical condition			
Power supply	≤2.0 mA DC	Impedance input	2.5kΩ ~ 5 kΩ
Impedance output	2.5kΩ ~ 5 kΩ	Response	(10%~90%): <1ms
Insulation resistance	100MΩ,100V DC	Over pressure	2 times FS
Environment condition			
Media applicability	Fluid that is not corrosive to stainless steel and nitrile rubber	Shock	No change at 10gRMS, (20 ~ 2000)Hz
Impact	100g, 11ms	Position	Deviate 90° from any direction, zero change ≤ ±0.05%FS
Basic condition			
Environment temperature	(25±1)℃	Humidity	(50%±10%)RH
Atmospheric pressure	(86~106) kPa	Power supply	(1.5±0.0015) mA DC

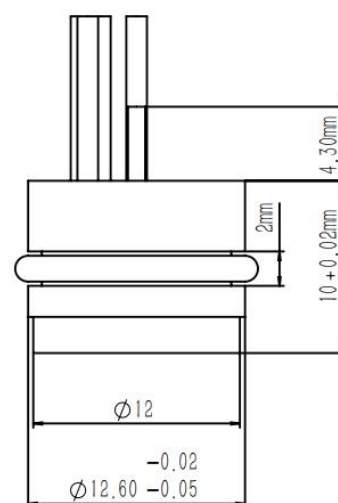
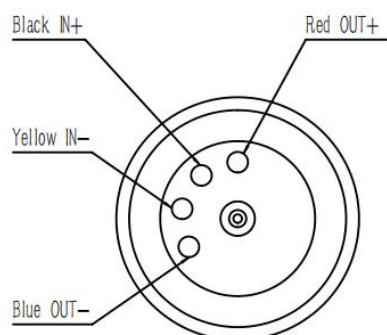
Parameter (@1.5 mA DC)

Item	Min.	Typ.	Max.	Units
Linearity		± 0.2	± 0.25	% FS, B F S L
Repeatability		± 0.05	± 0.075	% FS
Hysteresis		± 0.05	± 0.075	% FS
Zero output			± 2.0	mV DC
FS output	45	100		mV DC
Compensated temp. range	0~70			°C
Working temp. range	-40~125			°C
Storage temp. range	-55~150			°C
Zero temp. error		± 0.75	± 1.0	% FS @ 25 °C
Full temp. error		± 0.75	± 1.0	% FS @ 25 °C
Long term stability error		± 0.2		% FS / year

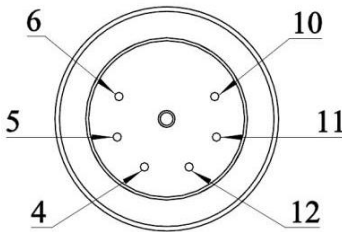
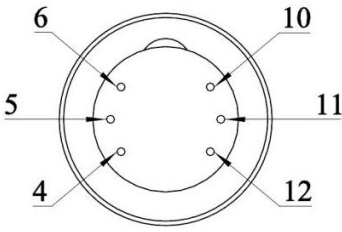
Note: 1. The above performance indicators are tested under the benchmark conditions.

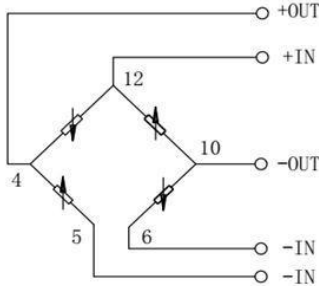
2. The temperature range for temperature drift test is the compensation temperature range.

Dimension (unit: mm)



Electrical connection

Pin	Electrical connection	Wire color	Range≤7MPa	Range > 7MPa
4	+OUT	Red		
10	-OUT	Blue		
11	-IN	Yellow		
12	+IN	Black		



Ordering information

XDB102-4	φ 12.6 mm direct assembly type						
	Assemble and weld ring type						
	Range code	Measurement range	Pressure type	Range code	Measurement range	Pressure type	
	03	0~100kPa	G / A	13	0~3.5MPa	G / A	
	07	0~200kPa	G / A	14	0~7MPa	A / S	
	08	0~350kPa	G / A	15	0~15MPa	A / S	
	09	0~700kPa	G / A	17	0~20MPa	A / S	
	10	0~1MPa	G / A	18	0~35MPa	A / S	
	12	0~2MPa	G / A	19	0~70MPa	A / S	
		Code	Pressure type				
		G	Gauge pressure				
		A	Absolute pressure				
		S	Sealed gauge pressure				
			Code	Electrical connection			
			1	Gold-plated kovar pin			
			2	100mm Silicone rubber leads			
				Code	Special measurement		
Y	Gauge pressure type can be used to measure negative pressure Note ^①						
XDB102-4 -03-G-1-Y the whole spec Note ^②							