Ceramic Pressure Sensor

WPAH31

Profile

The WPAH31 ceramic pressure sensor is a ceramic piezoresistive pressure sensor manufactured using a refined ceramic substrate and a thick-film process. Its dimensions are Φ18mm * 6.35mm. Ceramics are recognized as highly elastic, corrosion-resistant, wear-resistant, and resistant to impact and vibration. The excellent thermal stability of ceramics and the high-temperature sintering process of the thick film allow the ceramic pressure sensor to operate over a temperature range of -40 to 12°C. The high elasticity and creep resistance of ceramics give the ceramic pressure sensor excellent long-term stability. Furthermore, the corrosion resistance of ceramics provides it with unique advantages in refrigeration, chemical, and environmental protection fields.

Features

- Ceramic sensitive film with high overload capacity
- Laser calibration for zero and full scale
- Excellent corrosion resistance, wear resistance
- Impact resistance, anti-vibration
- High precision, good stability
- Wide operating temperature range
- Small size, easy to package
- Environmental protection

Applications

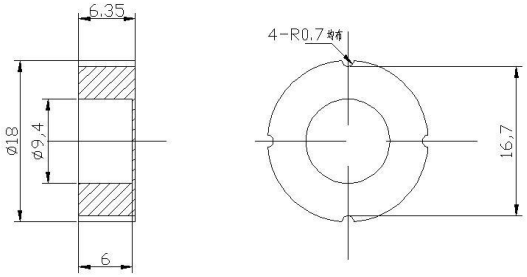
WPAH31 ceramic pressure sensors are widely used in: process control, environmental control, hydraulic and pneumatic equipment, servo valves and transmission, chemical and chemical industry and medical instruments and many other fields.

Now, high-performance and low-cost ceramic sensor is the direction of development of pressure sensors with the trend of replacing other type sensors in Europe and the United States. In China, more and more users choose ceramic sensors instead of strain and diffusion Silicon pressure sensor.

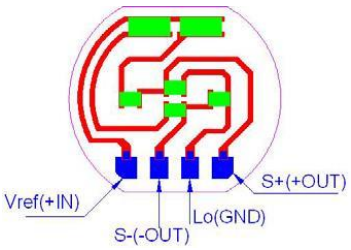
Parameters

Item	Parameter
Dimension	Φ18mm*6.35mm
Detection Range	2bar—400bar
Working Voltage	2-20V
Sensitivity	1.5—4mv/V (typical value 2.5±1.0mv/V)
Input, Output resistance	10KΩ±30%
Temperature Range	-40°C-125°C
Zero Output	0—±0.4 mv/V (Typical value 0±0.25mv/V)
Linearity, hysteresis, repeatability	typical value ±0.3 %FS
Temperature drift	±0.03%FS/°C / ±0.05%FS/°C
Safe Overload	Two times of rated detection range (When sensitivity is typical value)
Stability	Better than ±0.5%FS / year（Using properly）

Structure sizes



Electric connection



Cautions

1. During installing sensor, the sensor's surface with lead must be equipped with nylon gasket, to make force event, avoiding zero instability.

2. Before welding lead, please preheat the sensor with heating table, to increase the solderability of solder joint, that heating solder joints for a long time will reduce the adhesion of the pad. When welding, please use a tip iron soldering that is less than than 60W.

3. Don't touch the blue part on the sensor, scratching the blue part will destroy the internal circuit and cause performance instability.