

高精度薄膜式压力传感器

High Precision Thin Film Pressure Sensor

CY-007系列

本系列传感器，用于同17~4PH不锈钢兼容的流体或气体介质的压力测量，它采用离子束溅射薄膜工艺制作的应变计敏感元件或压阻敏感元件，有效的解决了粘贴式传感器的零漂、蠕变等问题，本产品性能稳定，可靠性高，精度高，功耗低，温度误差小，为机电一体化结构，采用单电源供电方式，有效的减少了弹上电缆网的供电线，输出直流0.2~4.8V（可根据需要实现精确限幅）。

性能指标：

测量范围(Mpa):35KPa~80MPa所用量程（绝压、密封表压、表压）

常温精度:0.2%，0.3%，0.5%(含非线性，迟滞误差,重复性误差)

环境温度及温度漂移误差：-40~+125℃ 0.2%（也可按要求工作到-55℃~+125℃），为降低成本也提供2%温度误差的产品

小型化：外形尺寸小于 $\phi 20 \times 50\text{mm}$ ，根据要求可提供更小尺寸的产品，接管口尺寸可根据用户要求订制。

宽电源输入范围：8V~40V（DC），单电源供电。

低功耗：整机典型功耗 $\geq 2\text{mA}$ ，最大2.5mA。

高响应速度：响应频率为3.2kHz。

低输出噪声：典型值1mV。

年稳定性:0.2%

过载能力:1.2倍满测量范围（薄膜敏感元件）、3倍满量程测量范围（压阻敏感元件）

加速度：15g 三向

运输：三级公路1500Km 40Km/h

低气压：5X10⁻⁵ Pa~101325Pa

湿热：见图1

The sensors adopts with element of strain gauge sensor made by Ion beam sputtering film production process or piezoresistive sensor, for pressure measurement of fluid or gas medium that compatible with stainless steel.

It solves problem of zero drift, creep, etc of stickup sensor effectively. This product have stable performance, high reliability, high accuracy, low power consumption, small temperature error, mechanical and electrical integration structure. using a single power supply, it effectively reduces cable in network power supply line, dc 0.2 to 4.8 v output (according to the need to implement precise clipping)

Performance Index:

Measurement range(Mpa):35KPa~80MPa (absolute pressure gauge,)

Accuracy in normal temperature: 0.2%, 0.3%,0.5%(With nonlinear, hysteresis error, repeatability error)

Environment temperature and the temperature drift error: -40~+125℃ 0.2% (can reach -55℃~+125℃), To reduce cost, we can provide 2% temperature error products Miniaturization outer dimension is less than $\phi 20 \times 50\text{mm}$, we can offer smaller one as requirement.

Wide power input range: 8V~40V（DC），single power supply.

Low power consumption: typical power consumption of the whole machine $\geq 2\text{mA}$ ，MAX.2.5mA。

High speed of response: response frequency is 3.2kHz

Low output noise: typical value 1mV。

Yealy stability: 0.2%

Overload capacity: 1.2 times of the full measurement rangemeasurement range (thin film sensor, 3 times of full scale measurement (Piezoresistive sensor element)

Accelerated speed: 15g three-dimension

Transportation: tertiary highways 1500Km 40Km/h

low air pressure: 5X10⁻⁵ Pa~101325Pa

humidity: see figure 1

