

HC-10 miniature pressure sensor

product description

Due to the necessity of in-situ pressure measurement of the measured flow field, placement position, or dynamic frequency response, there are often severe requirements for the miniaturization of the sensor's external dimensions. HC-10 series miniature pressure sensors and transmitters are designed for the above working conditions. The series uses advanced micro-machined silicon diaphragm as the core component, high-precision integrated pressure resistance sensor, and utilizes international advanced miniaturization. The manufacturing and packaging process is performed in an elaborate and delicate miniature package. Its small size, compact structure, light weight, durability, and excellent dynamic and static characteristics.



Product Usage

Widely used in aerodynamics research, aircraft and engine testing, wind tunnel testing, fluid mechanics and hydraulic testing, civil engineering, rock and soil mechanics, seismic monitoring, shrinkage testing, hydraulic turbine and underwater weapons testing, biomedical applications, chemical explosion or nuclear shock wave and many other research areas.

Features

Wide range of measurement range from -100KPa to 100MPa

Small size, high frequency dynamic response,

- ◇ Dynamic pressure sensor, miniature pressure sensor with a minimum diameter of 2.54mm and a length of 3.77mm
- ◇ High precision, up to 0.1%FS
- ◇ Temperature range is wide, from low temperature -40° C to high temperature +120° C (Special to +175° C).
- ◇ Long-term stability, resistance to various harsh environments
- ◇ High natural frequency: 20KHz to 2MHz
- ◇ Customized according to customer requirements

Performance parameters

Measuring range: -100KPa to 100MPa

Overload capacity: 2 times full scale pressure

Pressure type: Absolute pressure, gauge pressure, differential pressure

Measuring medium: gas or liquid compatible with 316 stainless steel

Comprehensive accuracy: $\pm 0.1\%FS$, $\pm 0.2\%FS$, $\pm 0.3\%FS$

Natural frequency: 20KHz~2MHz

Long-term stability: Typical: $\pm 0.1\% FS / \text{year}$, maximum: $\pm 0.2\% FS / \text{year}$

Working temperature: Generally -20° C~85° C, Specially -40° C~175° C

Zero temperature drift: Typical: $\pm 0.02\% FS/^{\circ}C$, Maximum: $\pm 0.05\% FS/^{\circ}C$

Sensitivity temperature drift: typical: $\pm 0.02\% FS/^{\circ}C$, maximum: $\pm 0.05\% FS/^{\circ}C$

Power supply range: 9 ~ 36VDC (generally 24VDC)

Signal output: 0 to 100mV, 0 to 5VDC, 1 to 5VDC, 0 to 10VDC, 4 to 20mA

Insulation resistance: $\geq 1000M\Omega$ (at 100VDC)

Resolution: infinitely small (theory), 1/100000 (usually)

Interface and Housing: Stainless Steel 1Cr18Ni9Ti

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