KEANLEY

KE-25

Micro Pore Water Pressure Sensor or Transducer/User Manual

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Introduction

To necessarily measure the pressure in situ due to the requirements for the measured flow field and placement position, and to reproduce the variation pattern of the pulsating flow field without interfering with the flow field state, there are always strict requirements for the miniaturization of the external dimensions of the sensor. The KE-25 micro pore water pressure sensor and transducer are designed for the above working conditions. This series of products, with ceramic filters and stainless steel structures, adopt micro machined silicon membranes core components and high-precision integrated electronic components, using advanced international miniaturization production and packaging technologies. The sensor chip and circuit board are exquisitely and ingeniously packaged, with small volume, compact structure, light weight, which are sturdy and durable, and have excellent measurement accuracy, reliability, stability, and dynamic and static characteristics. This series of products is particularly suitable for various model tests and on-site applications such as geotechnical simulation, centrifuge simulation, landslide and debris flow experiments, slope experiments, dam monitoring, blasting experiments, etc. They have been widely used in many model tests and on-site application fields such as civil engineering, geomechanics, earthquake monitoring, etc.

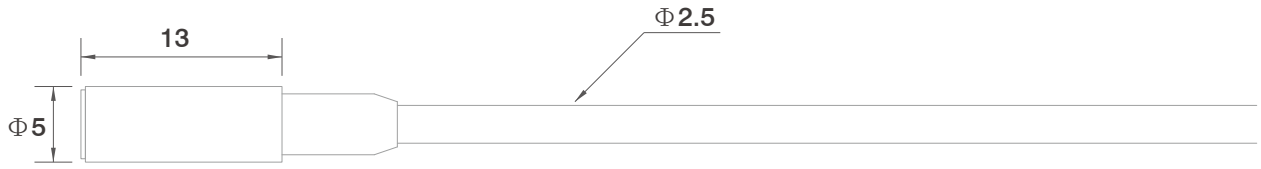
KE-25 connection

Features

- Wide measuring range: any measuring range from -100KPa to 100MPa;
- High precision: up to 0.1% FS;
- Small volume: the minimum diameter is 2.54mm and the length is 3.77mm;
- Temperature range: from low temperature -40 ℃ to high temperature 120 ℃ (special up to +175 ℃);
- High frequency response: dynamic sensor with high frequency response and fast response, natural frequency of 20KHz~2MHz;
- Strong adaptability: good long-term stability, resistant to various harsh environments;
- Customizable: measuring range size, appearance and dimension, performance parameters, accuracy grade, output type, cable length and other parameters can all be customized.

Dimensions (customizable)

Unit: mm



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Performance parameter

Measuring range	Any measuring range between -100Kpa and 100MPa can be customized
Overload capacity	1.2, 1.5, 2, 3, and 5 times full range (the strength of overload capacity is determined by the size of the measuring range)
Pressure type	Gauge pressure or absolute pressure
Measuring media	Gas or liquid compatible with 316 stainless steel
Comprehensive accuracy	±0.1%FS, ±0.2%FS, ±0.3%FS
Long-term stability	Typical: ± 0.1% FS/year, Maximum: ± 0.2% FS/year
Natural frequency	20KHZ～2MHZ, The frequency response is related to the measuring range size
Working temperature	Generally: -40 ℃～85 ℃, Special: -40 ℃～125 ℃
Zero temperature drift	Typical: ±0.02%FS/℃, Maximum: ±0.05%FS/℃
Sensitivity temperature drift	Typical: ±0.02%FS/℃, Maximum: ±0.05%FS/℃
Power supply range	12～32VDC（generally 24VDC）, ±15VDC Dual power supply, customizable power supply voltage
Signal output	mV, 4～20mA Dual power supply, zero power supply, customizable power supply voltage of～5VDC, 1-5VDC, -5-5VDC, RS485, can be specially customized
Insulation resistance	≥1000MΩ (at 100VDC)
Housing protection	The sensor and cable are waterproof as a whole, with a protection grade of IP68
Resolution	Infinitesimal (theoretically),1/100000（generally）
Interface and housing	Stainless steel 1Cr18Ni9Ti

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Model selection

KE-25	KE-25 micro pore water pressure sensor or transducer

Code	Pressure type
g	Gauge pressure
a	Absolute pressure

Measuring range	Any measuring range from -100KPa to 100MPa can be chosen

Code	Cable length
L1	Standard 3m
L2	Customized length

Code	Comprehensive accuracy (linearity + repeatability + hysteresis)
1	±0.3%FS
2	±0.2%FS
3	±0.1%FS

Code	Signal output
A1	4～20mA
V1	mV output
V2	0～5V
RS	RS485
V0	Special customization

Code	Probe shape
F1	M8*1 external thread
F2	M5*1 external thread
F3	Φ 5 input type
F4	Φ 8 input type
F0	Customized housing

Code	Cable type
W1	Φ Cable with leather sheath
W2	Φ Cable without leather sheath
W0	Customized cable

KE-25 - g- 0～50Kpa - L1 - 2 V2 F3 W1

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