SEMICONDUCTOR PIEZOMETERS AND PRESSURE TRANSDUCERS

MODEL DP34KS SERIES

Model DP34KS Semiconductor Piezometer

APPLICATIONS

Model DP34KS Semiconductor Piezometer Applications:

- Monitoring groundwater levels
- Measuring pore water pressure
- Conducting pumping and slug tests
- Monitoring uplift pressures in dam foundations
- Measuring hydraulic pressures in tanks and pipelines

Model DP34KSV Vented Semiconductor Piezometer Applications:

- Evaluating wick drain efficiency
- Measuring water pressure behind tunnel linings
- Monitoring aquifer storage and recovery
- Tracking water flow in watershed and drainage basins
- Automating groundwater network systems

Model DP34KSV Vented Semiconductor Piezometer.

OPERATING PRINCIPLE

The DP34KS and DP34KH models are designed for measuring both dynamic and static fluid or pore water pressures. These transducers are ideal for cases where vibrating wire transducers are incompatible with existing data acquisition systems. They feature high-output molecularly bonded strain gauges, providing a full pressure output of 100 mV when supplied with 10V.

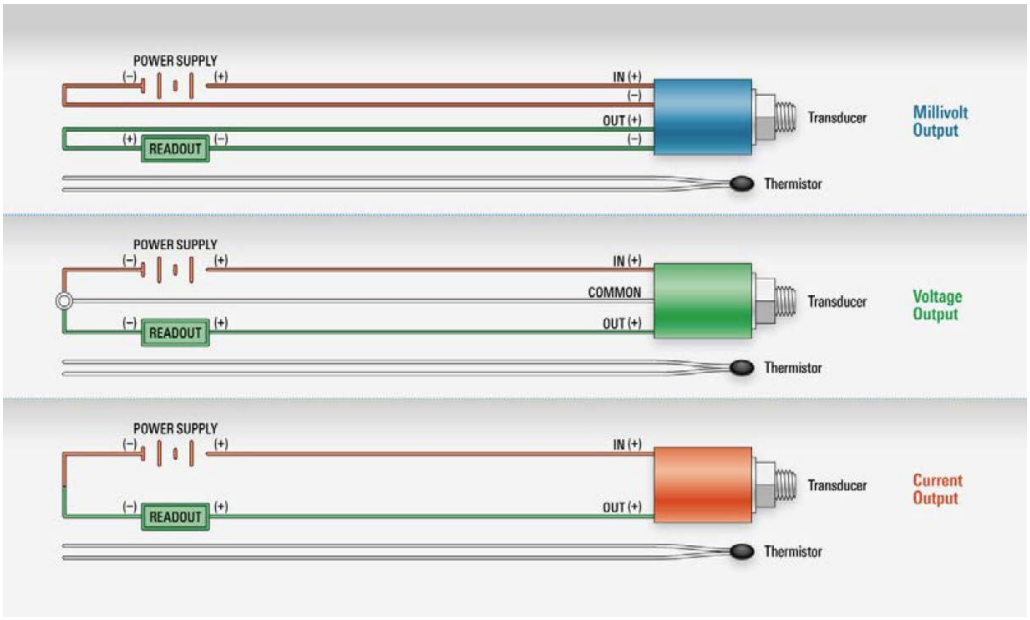
Made from durable 17-4 stainless steel, these transducers offer excellent corrosion resistance, ensuring long-lasting, reliable measurements in a variety of environments. The devices are available with a variety of cables, allowing customization for specific applications. For added protection, vented versions are available to negate the effects of barometric pressure changes.

ADVANTAGES AND LIMITATIONS

- Filters prevent particles from damaging the diaphragm while allowing fluids to pass through.
- Multiple filter options, including high-air-entry ceramic filters, are available to suit specific needs.
- Vented piezometers help stabilize water level measurements by compensating for atmospheric pressure changes.
- A thermistor within the housing enables simultaneous temperature measurements at the point of pressure reading.

MODEL DP34KH SERIES

Model DP34KH and Dial Gauge Pressure Transducer on a tee fitting.



Model DP34KS Semiconductor Piezometer wiring schematics.

TECHNICAL SPECIFICATIONS

Standard Ranges	100, 250, 400, 600 kPa; 1, 2.5, 6 MPa
Over Range	2 × rated pressure
Response Time	0.5 ms
Wetted Parts	(Transducer) 17–4 PH stainless steel
Output	10 mV/v, 4–20 mA, 0–5 V
Accuracy	<0.1% F.S. (dependent on readout)
Linearity	<0.5% F.S.
Shock	20 g, 11 ms (per MIL-STD.-810E Method 516.4 Proc 1)
Temperature Range	–20 °C to +80 °C
Dimensions (L × Ø)	194 × 32 mm

INPUT/OUTPUT SPECIFICATIONS

Model	Output type	Input	Output
DP34KH-1, DP34KS-1, DP34KSV-1	Millivolt	10 VDC regulated	100 mV (10 mV/V)
DP34KH-2, DP34KS-2, DP34KSV-2	Voltage	6.5–35 VDC	0–5 VDC
DP34KH-3, DP34KS-3, DP34KSV-3	Current	24 VDC (7–35 VDC)	4–20 mA (2 wire)

CABLE SPECIFICATIONS

DP34KS-1, DP34KH-2, DP34KS-2	**04-375V9:** 4 twisted pairs, Violet PVC Jacket, 9.53 mm Ø
DP34KSV-1,DP34KSV-2	**04-375VT1:** 4 twisted pairs, Black PVC Jacket, integral vent tube, 9.5 mm Ø, transitions to: **04-375V9:** 4 twisted pairs, Violet PVC Jacket, 9.5 mm Ø
DP34KH-3, DP34KS-3	**02-250V6:** 2 twisted pairs, Blue PVC Jacket, 6.35 mm Ø
DP34KSV-3	**02-335VT8:** 2 twisted pairs, Yellow Polyurethane Jacket, integral vent tube, 8.51 mm Ø, transitions to: **02-250V6:** 2 twisted pairs, Blue PVC Jacket, 6.35 mm Ø