

Titanium Pressure Transducer



Advantages

High Resistance to Corrosion: All metal parts, including the diaphragm, are made from titanium.

High Resistance to Noise: The piezometers electronics are highly resistant to electrical noise and mechanical vibration, such as that generated by pumps.

Compatible with Industrial Loggers: The titanium pressure transducer incorporates a 4-20mA transmitter to provide compatibility with standard industrial data acquisition systems.

Suitable for Dynamic Monitoring: The titanium pressure transducer can be read continuously.

Applications

Designed for compatibility with industrial data loggers, the titanium pressure transducer is used to monitor pore-water pressure and water levels.

Typical applications include:

- Monitoring pore-water pressures in corrosive environments such as salt water and landfills.
- Monitoring rapid changes in pore-water pressure such as those produced by earthquakes.
- Monitoring water levels in pumping tests.

Operation

The pressure transducer is typically suspended in a well. Signal cable from the transducer is terminated at a readout station, where it can be connected to a data logger or readout device.

Water pressure acts on diaphragm of the transducer. Semiconductor strain gauges bonded to the inside of the diaphragm sense the pressure and output a signal that is proportional to the pressure on the diaphragm.

The signal is transmitted to the data logger or readout device via a 4-20mA loop circuit.

PRESSURE TRANSDUCER

20 psi56410020

50 psi56410050

100 psi56410100

250 psi56410250

Sensor Type: Diaphragm pressure transducer incorporating Micron Technology semi-conductor strain gauges with a 4-20mA output. The built-in temperature device is a 3K ohm thermistor.

Range: 20, 50, 100, 250 psi.

Resolution: 0.02% FS with a Campbell CR10X and a 120 ohm resistor.

Linearity: $\pm 0.5\%$ FS BFSL.

Compensated Temp Range: 30 to 130°F.

Over-Range: 2 x rated range.

Long Term Stability: $\pm 2\%$ FS/year or better.

Supply Voltage: 12-24 V nominal supply, 8 V min at the transducer.

Materials: Wetted metal parts are made from titanium. The filter is polyethylene.

Dimensions: 0.625" diameter x 5.75" long.

SIGNAL CABLE

Polyurethane Jacket 50613524

Shielded cable with four 22-gauge tinned-copper conductors and polyurethane jacket. Two wires are used for the 4-20mA loop circuit. The other two wires are used for the thermistor.

READOUTS

DataMate MP. See separate datasheet.

DATA LOGGERS

Industrial data loggers and readouts capable of supplying 12-24 volts to the transducer.

For easiest connection to Campbell Scientific CR10X or CR1000 loggers, order a Current Shunt Terminal Input Module, part number 56701940.