

# 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 psi .....56410020

50 psi .....56410050

100 psi .....56410100

250 psi .....56410250

**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.