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# Submersible Pressure Transducers

## Models CS401 and CS406

These submersible pressure transducers, manufactured by Pressure Systems, measure surface water, ground water, or hostile fluid levels. They are piezoresistive sensors that incorporate an isolated stainless steel diaphragm into a stainless steel package. The sensor assembly is housed in welded 316 SS or titanium case that includes a diaphragm shield for protection against debris.

Each transducer is shipped with a calibration sheet. The sheet specifies I/O conditions, as well as actual data reflecting the unit's static accuracy and thermal characteristics. Each vented transducer is also shipped with a desiccant tube to extract water vapor from air entering the vent tube.

These units are designed for installation in a Class 1, Division 1, Groups A, B, C and D; Class II, Division 1, Groups E, F and G; and Class III Division 1 hazardous location when connected to an approved electrical barrier.



### Features

- High static accuracy and repeatability
- Small, rugged package
- Welded 316 stainless steel construction
- Computer tested, calibrated and serialized
- Unique cable seal system
- Fully temperature compensated
- Compatible with Campbell Scientific's CR510, CR10(X), CR1000, CR23X, CR7, CR5000 and CR9000(X) dataloggers
- Directly connect to our dataloggers

### Ordering Information

When ordering a transducer, specify the desired psi range, choose either a polyurethane-jacketed or Tefzel-jacketed cable, and specify the lead length, in feet, after the L.

CS401\_L Six-wire pressure transducer with an accuracy of  $\pm 0.25\%$  FSO.

CS406\_L Six-wire pressure transducer with an accuracy of  $\pm 0.1\%$  FSO.

14421 Optional titanium housing

13462 Optional  $\frac{1}{4}$ " NPT Pressure Cap

7421 Optional Split Mesh Grip



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## Manufacturer's Specifications (Pressure Systems)

### Performance

User Specified Pressure Ranges:	0-5 through 0-100 psi (0-10 through 0-230 ft H <sub>2</sub> O)
Static Accuracy:*	±0.25% FSO BFSL (CS401) ±0.1% FSO BFSL (CS406)
Total Error Band:**	±0.3% FS TEB
Proof Pressure:	1.5 x rated pressure
Burst Pressure:	2.0 x rated pressure
Resolution:	Infinitesimal

\* Static accuracy includes the combined errors due to nonlinearity, hysteresis and nonrepeatability on a Best Fit Straight Line (BFSL) basis, at 25°C, per ISA S51.1.

\*\*Total Error Band (TEB) includes the combined errors due to nonlinearity, hysteresis, nonrepeatability, and thermal effects over the compensated temperature range, per ISA S51.1.

### Environmental

Compensated temperature range:	0° to 30°C
Operating temperature range:	-20° to 60°C

### Physical

Weight:	26 oz., 750 g (with 25 ft cable)
Cable:	Polyurethane-jacketed or Tefzel-jacketed, shielded cable with polyethylene vent tube and Kevlar tension members. Pull strength is 200 lbs. Conductors are 22 awg. Approximate weight is 0.05 lb, per foot (79 g/m). Polyurethane-jacketed cables contain water-block tape to prevent moisture intrusion through small cuts in the cable from reaching the transducer.
Dimensions:	
Transducer:	4.5" (11.4 cm) length, 1.0" (2.5 cm) diameter
Cable:	0.28" (0.71 cm) diameter
Output:	54 to 80 mV full scale at 0.5 mA excitation, nominal



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