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# Liquid Level Sensors

## Models CS440 and CS445

The CS440 and CS445 submersible pressure transducers are manufactured by ACData Solutions., to provide liquid level measurements in wells, lakes, streams, and tanks. Both transducers use an isolated silicon strain gauge sensor housed in a 316 Stainless Steel package. Their rugged, polyurethane cable jacket remains flexible under harsh conditions. The cable incorporates a vent tube to compensate for atmospheric pressure fluctuations. The vent tube terminates inside a desiccated chamber to prevent moisture from entering the system.

The CS440 outputs a 4-20 mA signal. A current shunt resistor, such as our CURS100, is required for our dataloggers to measure the CS440. Compatible dataloggers include our CR800, CR850, CR10X, CR1000, CR3000, CR5000, CR7, and CR9000X.

The CS445 provides an SDI-12 output that can be read directly by our dataloggers. Compatible dataloggers include our CR200-series, CR800, CR850, CR10X, CR1000, CR3000, and CR5000.

### Features

- High static accuracy and repeatability
- Rugged 316 stainless steel construction
- Reverse polarity protected
- Fully temperature compensated
- Integral transient protected
- 4-20 mA sensors suitable for long cable runs



### Ordering Information

When ordering a transducer, specify a 0-5, 15, 30, 50 or 100 psi range.

CS440-L Two-wire, 4-20 mA pressure transducer with user-specified lead length; enter the lead length, in feet, after the L. A current shunt resistor (typically a CURS100) is required to connect to the datalogger.

-PF Optional pipe adapter, 1/2" FNPT

CS445-L Three-wire, SDI-12 pressure transducer with user-specified lead length; enter the lead length, in feet, after the L. The CS445 connects directly to the datalogger.

-PF Optional pipe adapter, 1/2" FNPT

CURS100 Current Shunt Module that converts the CS440's 4-20 mA signal to a voltage signal.

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## Specifications

### Electrical

Excitation:	8 to 24 Vdc
Static Accuracy:	0.1% span (combined errors due to non-linearity, non-repeatability, and hysteresis on a Best Fit Straight Line basis, at 25°C)
Thermal Shift Zero:	±1.0% span, 0° to 50°C, 5 psig ±0.4% span, 0° to 50°C, other pressure ranges
Thermal Shift Span:	±0.75% span, 0° to 50°C, 5 psig ±0.4% span, 0° to 50°C, other pressure ranges
Operating Temperature:	0° to 60°C, nonfreezing

### Physical

Sensor Element and Body:	316 Stainless Steel
Top Cap and End Cone:	Delrin
Other Wetted Materials:	Viton, Nylon, Buna-N
Cable Construction:	Polyurethane jacketed, shielded 9-conductor, #24 awg cable with integral vent tube and polyethylene insulators.
Cable Resistance:	0.026 ohm ft <sup>-1</sup> typical; 0.3% °C <sup>-1</sup> TCR

### Dimensions

Transducer:	1.0" (2.5 cm) diameter, 13" (33.0 cm) length (includes flex seal/strain relief)
Cable:	0.29" (0.74 cm) diameter, nominal

