

# Liquid Level Sensors

## Models CS420, CS425

The CS420 and CS425 submersible pressure transducers are manufactured by Druck for use in surface, ground water, or hostile fluid applications. Changes in water level correspond to pressure changes on a strain gage bonded to a pressure-sensitive diaphragm. When a precision excitation voltage is applied, the electrical resistance varies with changing liquid pressure. Our dataloggers supply the excitation voltage and measure resistance, then convert the measured value to the desired units (i.e., pressure, depth, or level). Compatible dataloggers include our CR10X, CR800, CR850, CR1000, and CR3000.



The CS420 and CS425 feature a titanium body, 0.69" outer diameter, isolated diaphragm, and a polyurethane cable. The cable is vented, which eliminates the need to compensate for changes in barometric pressure. This cable must terminate inside a desiccated enclosure or a Campbell Scientific DES2 desiccant case.

### Ordering Information

When ordering a transducer, specify 5, 10, 15, 20, 30, 50, 75, or 100 psig range and enter the lead length, in feet, after the L.

- CS420-L Orders a transducer with an accuracy of  $\pm 0.1\%$  Full Scale (F.S.)
- CS425-L Orders a transducer with an accuracy of  $\pm 0.25\%$  F.S.
- 7421 Optional split mesh grip

### Specifications

#### Physical

CS420 Accuracy:	$\pm 0.1\%$ Full Scale (FS), BSL (combined non-linearity, hysteresis, and repeatability)
CS425 Accuracy:	$\pm 0.25\%$ F.S., BSL (combined non-linearity, hysteresis, and repeatability)
Long term stability:	Typically $\pm 0.1$ mV yr <sup>-1</sup>
Over pressure:	8x for 2.5 psig range, 6x for 5 psig range, 4x for 10 psig range
Excitation voltage:	10 V at 5 mA maximum
Operating temperature range:	-20° to +60°C (-4° to +140°F)
Compensated operating temperature range:	-2° to +30°C (+28° to +86°F)
Temperature effects:	$\pm 0.6\%$ F.S. total error band for 2.5 psig range $\pm 0.3\%$ F.S. total error band for 5 psig range
Dimensions:	0.69" (1.75 cm) O.D., 3.8" (9.5 cm) length
Weight:	3 lbs (1.4 kg) with a 50 ft cable

#### Electrical

Output voltage:	25 mV for 1 psig range, 50 mV for 2.5 psig range, 100 mV for 10 psig or higher ranges
Common mode voltage:	Typically 3.5 to 9 V with respect to the negative supply at 10 V excitation
Zero setting:	$\pm 3$ mV maximum
Span setting:	$\pm 10$ mV maximum
Ingress protection:	NEMA 6 (IP68) to 2300 feet of water
Insulation:	>100 megaOhms at 500 Vdc

