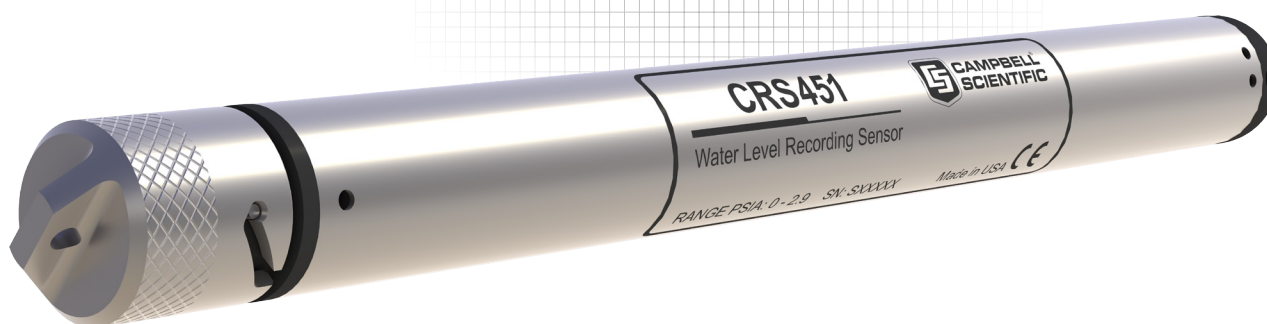


# Pressure Transducer Combined with a Recorder

## High Resolution and Accuracy



### Overview

The CRS451/CRS456 combines our CS451/CS456 submersible pressure transducer with a Campbell Scientific recorder. The CRS451/CRS456 supports standard time-based scanning and recording along with event-based recording based on water level change "Delta" or logarithmic time sequence for pump and slug tests. HydroSci software is included and elegantly supports test set up, data retrieval, and data display.

The CRS451/CRS456 is unvented; therefore it is monitoring sealed gage pressure. For maximum accuracy, the data should be corrected for barometric pressure.

The CRS451 has a 316L stainless-steel case that can be submerged in most canals, wells, ponds, lakes, and streams. The CRS456 has a rugged titanium case that allows it to be used in saltwater or other harsh environments.

### Benefits and Features

- › Campbell Scientific quality
- › No additional recorder
- › Free customer-friendly software for communication, configuration, data collection
- › Fast scan rate
- › Large data storage capacity
- › High accuracy
- › Long battery life
- › Multiple logging/scanning modes:
  - Standard
  - Delta
  - Logarithmic
- › No cable
- › Data retrieval through sealed USB connector



# Specifications

- › Power Requirements: Internal user replaceable lithium battery
- › Measurement Time: <1 s
- › Output: micro USB
- › Internal Data Collection Memory: 4 MB
- › Logging/Scanning Modes: Standard, Delta, Logarithmic
- › Battery life: 5+ years when logging interval is once per hour
- › Diameter: 2.22 cm (0.875 in.)
- › Length: 22.23 cm (8.75 in.)
- › Weight: 230 g (0.51 lb)
- › Operating Temperature Range\*: 0° to +60°C
- › Dry Storage Temperature Range\*: -30° to +80°C
- › Measurement Ranges:

Pressure (psi)	Pressure (kPa)	Depth of fresh water
0 to 7.25	0 to 50	0 to 5.1 m (16.7 ft)
0 to 14.5	0 to 100	0 to 10.2 m (33.4 ft)
0 to 29	0 to 200	0 to 20.4 m (67 ft)
0 to 72.5	0 to 500	0 to 50.9 m (167 ft)
0 to 145	0 to 1000	0 to 102 m (334.5 ft)

- › Resolution: 0.0035% FS
- › Overpressure: 2 x pressure range

### Accuracy

- › Water Level: 0.1% FS TEB\*\*
- › Temperature: ±0.2°C

### Power Consumption

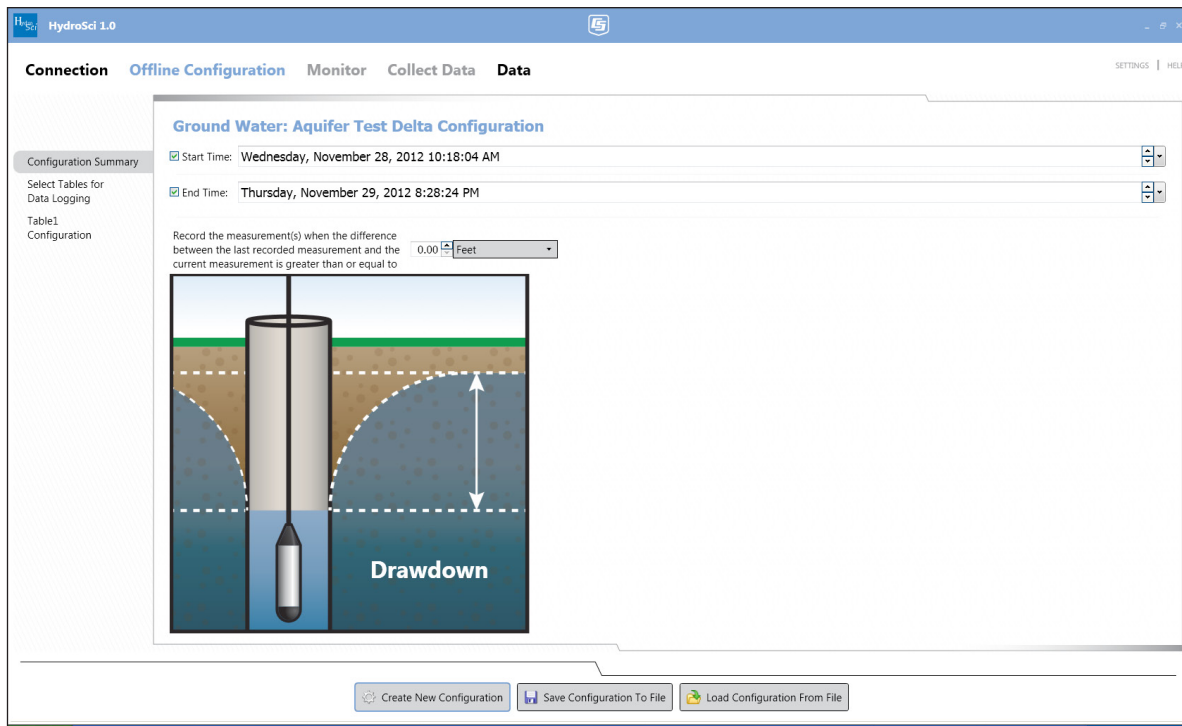
- › Quiescent: < 80 µA
- › Measurement/Communication Current: 4 mA for 1 s measurement

### Distance from pressure sensor interface (black line etched on housing) to:

- › End of Standard Nose Cone: 2.3 cm (0.9 in.)
- › End of NPT Nose Cone: 2.54 cm (1 in.)
- › End of Weighted Nose Cone: 9.9 cm (3.9 in.)

\*WARNING: Sensor could be damaged if encased in frozen liquid.

\*\*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.



HydroSci software simplifies the process of configuring the CRS451. Users can configure the CRS451 to monitor surface water, ground water, or a standard pump test (shown above).