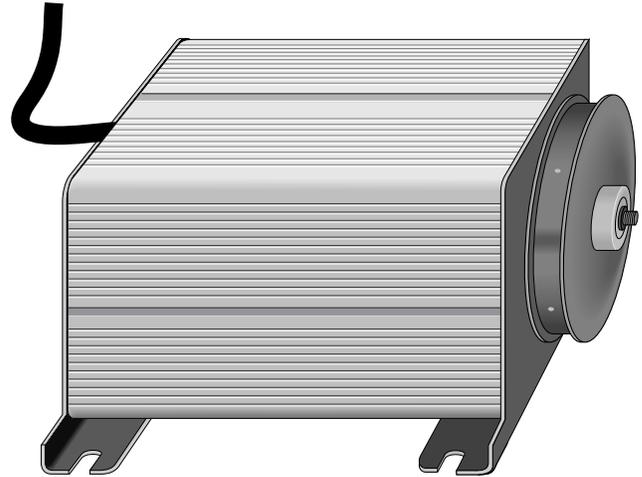


# CS410

## Shaft Encoder

The CS410 is a shaft encoder designed for water level measurements by Campbell Scientific. A pulley attached to a float and counter-weight rotates as water level rises or falls, and the encoder sends two pulse strings to the datalogger. The datalogger records the pulse strings, and water level is calculated by adding and subtracting the clockwise or counter clockwise movement to a running total. The encoder resolution is 100 counts per shaft revolution, so a 1-foot circumference pulley has a resolution of 0.01 feet. Compatible dataloggers include our CR200-series, CR800, CR850, CR510, CR10X, CR1000, and CR3000.

A complete measurement system requires a float, pulley, float tape or beaded float line, end hooks, appropriate-sized counter weight, and datalogger. See Ordering Information for products that are available from Campbell Scientific.



## Ordering Information

### Shaft Encoder

**CS410-L** Shaft Encoder and interface cable. Enter cable length (in feet) after the -L. Recommended cable length is 10 feet; maximum length is 100 feet. Must choose a cable termination option (see below).

### Cable Termination Options (choose one)

- PT** Cable terminates in stripped and tinned leads for direct connection to a datalogger's terminals.
- PW** Cable terminates in connector for attachment to a prewired enclosure.

### Supporting Equipment

- 12221** Polyethylene float, 6-inch diameter, 1-ft circumference.
- 10801** Float tape, punched on 2.4-inch center. The tape is sold by the foot.
- 12222** End hooks for punched tape (2 required)
- 10803** 4-oz. Counter Weight that allows up to 25 ft (7.5 m) of float tape to remain taut and engaged on the pulley.
- 12225** 8-oz. Counter Weight that can counterbalance up to 50 ft (15 m) of float tape.
- 10799** Plastic pulley, 1-ft circumference (0.01-ft resolution)

## Specifications

<b>Temperature:</b>	-25° to +50°C (not responsive if water surface freezes)
<b>Dimensions</b>	
<b>Length:</b>	7 inches (18 cm)
<b>Width:</b>	4.875 inches (12.4 cm)
<b>Depth:</b>	4 inches (10 cm)
<b>Weight:</b>	1.8 lbs (0.82 kg)
<b>Shaft Outer Diameter:</b>	5/16 inches (0.8 cm)
<b>Thread Count:</b>	24 per inch
<b>Resolution:</b>	100 counts per revolution
<b>Maximum Cable Length:</b>	100 ft (30 m)
<b>Starting Torque:</b>	Less than 0.125 inch-ounces
<b>Power Supply:</b>	4 V to 5.6 V
<b>Current Drain:</b>	0.5 mA
<b>Minimum Time Between Input Transitions:</b>	0.75 ms
<b>Output Pulse Width:</b>	0.25 ms at 25°C
<b>Signal Magnitude (Volts):</b>	0 (low), supply voltage (high)

