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# Dissolved Oxygen Sensor

## Model CS512

The CS512 is a rugged, low-maintenance sensor that is manufactured by OxyGuard. This sensor consists of a self-polarizing galvanic cell that generates a millivolt signal proportional to the amount of oxygen present in the measured medium (typically water). Oxygen diffuses through its membrane onto a cathode that produces a chemical reaction. An electrical current is produced by this reaction that is converted from microamps to millivolts by a resistor.



### Benefits/Features

The CS512 provides the following advantages over the CS510 and CS511, our previous dissolved oxygen sensors:

- No gas buildup in the probe preventing blown membranes
- Completely sealed case (i.e., no vent hole)
- Plastic-to-plastic seal (i.e., no o-ring)

*Caution: Do not open the sensor unless the membrane is damaged. The membrane is tough so a damaged membrane occurs rarely.*

### PT4 Agitator

The PT4 agitator is for applications where the water velocity is less than  $0.39 \text{ in s}^{-1}$  ( $1 \text{ cm s}^{-1}$ ). The PT4 consists of a 12 Vdc solenoid and toggle mechanism that sweeps a brush across the probe membrane. A timer controls the sweeping frequency to keep the probe clean and provide water movement for accurate readings.

### Ships with:

- Five spare membranes
- 50 ml electrolyte
- One cathode cleaning pad

### Ordering Information

CS512	Dissolved Oxygen Sensor with a cable length of 23 ft (7 m)
CS512-L	Dissolved oxygen sensor with user-specified lead length; enter lead length, in feet, after the L.
18026	DO Electrolyte, 1 liter
18027	Teflon Membrane, 10 pack
PT4-L	Agitator with repeat cycle timer and bracket. Specify cable lead length, in feet, after the L.

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## **Specifications**

Range: 0 to 50 mg l<sup>-1</sup> dissolved oxygen or 0 to 100% volume gaseous oxygen

Output: 2.5 to 5 mV per mg l<sup>-1</sup>

Output impedance: ~1 kohm

Minimum water velocity: dependent on DO and temperature; typically 0.39 in s<sup>-1</sup> (1 cm s<sup>-1</sup>) across membrane

Minimum submersion depth: 2.5 in (6.35 cm)

Operating temperature range: 0° to 40°C

Pressure: 0 to 29 psi

Repeatability: better than ±0.2 mg l<sup>-1</sup>

Dimensions: 2.28 in (5.8 cm) diameter; 2.32 in (5.9 cm) probe height

Weight: 15.9 oz. (450 g)

Power requirements for the PT4 Agitator: 12 Vdc, 0.9 A

Datalogger compatibility: compatible with all contemporary loggers; call for compatibility with retired loggers

