

# pH and ORP Sensors

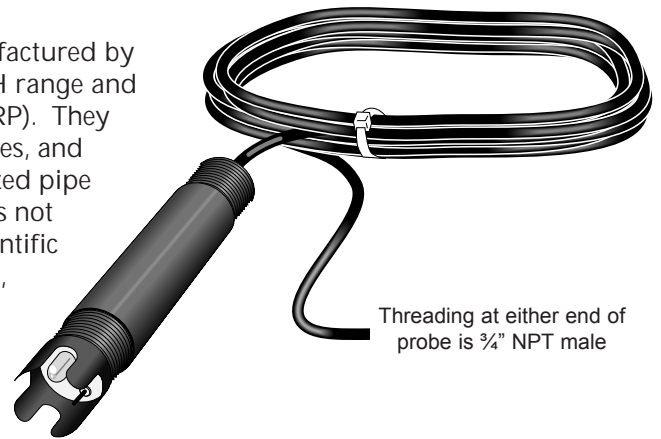
## Models CSIM11 and CSIM11-ORP

The CSIM11 and CSIM11-ORP are versatile sensors, manufactured by Wedgewood Analytical. The CSIM11 measures the full pH range and the CSIM11-ORP measures oxidation reduction potential (ORP). They are designed for submersion or insertion into tanks, pipelines, and open channels. If the sensor will be mounted in a pressurized pipe or tank, a variation of the CSIM11 or CSIM11-ORP that does not have a refillable chamber is necessary; contact Campbell Scientific for assistance. Compatible dataloggers include our CR800, CR850, CR1000, and CR3000; one differential analog input channel is required.

The construction of the two sensors is identical except the CSIM11-ORP includes a 0.2-inch, large surface area, platinum band measuring electrode. This allows the CSIM11-ORP to respond to the electron activity in the fluid.

The sensors feature a plunger-style\* pH glass electrode allowing them to be mounted at any angle. The porous Teflon® liquid junction\*\* is less susceptible to clogging as compared to conventional reference junctions. An integral titanium ground rod picks up stray current to help eliminate ground loop errors. An internal amplifier boosts the signal, decreasing signal interference.

The reference solutions and bulb configuration are optimized for natural water applications. Alternate reference solutions and bulb configurations are available. Contact CSI for pricing and availability. Manufacturer's warranty applies.



### Ordering Information

CSIM11-L pH sensor with bulb protectors and refillable chamber. Enter lead length, in feet, after the L. A 15-foot lead (CSIM11-L15) is recommended.

CSIM11ORP-L ORP sensor with bulb protectors and refillable chamber. Enter lead length, in feet, after the L. A 15-foot lead length (CSIM11-ORP-L15) is recommended.

M11REFILL 4 oz. bottle of KCl solution for refilling reference solution.

### Specifications

Temperature Range:	0° to +80°C	pH Sensor	
Pressure Range:	0 to 30 psig	pH Range:	0 to 14
Accuracy:	±0.1% over full range	Zero Potential:	7.0 pH ±0.2 pH
Impedance:	<1 Mohm @ 25°C	Sodium Error:	<0.05 pH in 0.1 Molar Na <sup>+</sup> ion @ 12.8 pH
Reference Cell:	Single Junction KCl/AgCl	Output:	±59 mV/pH unit
Body Material:	ABS	ORP Sensor	
Wetted Materials:	ABS, Teflon®, Viton®, Glass, Titanium	ORP Range:	-700 to +1100 mV
Response Time:	95% of reading in 10 seconds		
Drift:	<2 mV per week		
Internal Lithium Battery Lifetime:	5 yrs (life of probe)		

\*Patent No. 4,333,812

\*\*Patent No. 4,128,468

