

LI-192 Underwater Quantum Sensor

The LI-192 Underwater Quantum Sensor measures PAR from all angles in one hemisphere. The LI-192 works in air or underwater at depths up to 560 meters. The measurements are cosine corrected and typically expressed as Photosynthetic Photon Flux Density (PPFD). For simultaneous measurements of downwelling and upwelling PAR, two sensors can be mounted on the 2009S Lowering Frame.

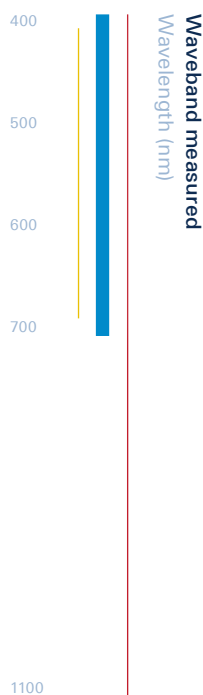


Why choose the LI-192?

- Designed for immersion
- Rugged, corrosion-resistant sensors for use in fresh and saltwater environments
- Ideal for oceanography, limnology, turbidity, and vertical profiling
- Suitable for submerged and out-of-water measurements

How does it work?

The LI-192 uses a silicon photodiode and a glass optical filter to create nearly uniform sensitivity to light between 400 and 700 nm, which closely corresponds to light used by most terrestrial and aquatic plants and algae. A precision optical filter blocks light with wavelengths beyond 700 nm, which is critical for measurements in a water column, where the ratio of infrared to visible light may be high.



LI-192 Specifications

- Absolute Calibration: $\pm 5\%$ in air traceable to NIST
- Sensitivity: Typically $4 \mu\text{A}$ per $1,000 \mu\text{mol s}^{-1} \text{m}^{-2}$ in water
- Linearity: Maximum deviation of 1% up to $10,000 \mu\text{mol s}^{-1} \text{m}^{-2}$
- Response Time: 10 μs
- Temperature Dependence: $\pm 0.15\%$ per $^{\circ}\text{C}$ maximum
- Cosine Correction: Optimized for underwater and atmospheric use
- Azimuth: $< \pm 1\%$ error over 360° at 45° elevation
- Operating Temperature Range: -40°C to 65°C
- Detector: High stability silicon photovoltaic detector (blue enhanced)
- Sensor Housing: Corrosion resistant metal with acrylic diffuser for both saltwater and freshwater applications. Waterproof to withstand approximately 5500 kPa (800 psi), 560 meters.
- Size: 3.18 cm diameter \times 4.62 cm height (1.25" \times 1.81")
- Weight: 227 g (0.5 lbs.)
- Mounting: Three 6-32 holes are tapped into the base for use with the 2009S Lowering Frame or other mounting devices
- Cable: Requires 2222UWB Underwater Cable (available in 3, 10, 30, 50, 100 meter lengths)

Specifications subject to change without notice.