

Light irradiance

max. depth 560 m.



Sea & Sun
Technology

The LI-192 Underwater Quantum Sensor measures photosynthetically active radiation (PAR) from all angles in one hemisphere. The LI-192 works underwater at depths up to 560 meters. The measurements are cosine corrected and typically expressed as Photosynthetic Photon Flux Density (PPFD).

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 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.



ADVANTAGE

+ robust sensor for use in fresh and salt-water up to a water depth of 560 m

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Pressure resistance	560 dbar
Absolute calibration	5 % in air
Sensitivity	typ. 4 μ A per 1,000 μ mol/s m ² in water
Linearity	max. deviation of 1% up to 10,000 μ mol/s m ²
Response time	10 μ s
Temperature dependence	\pm 0.15% per $^{\circ}$ C maximum
Azimuth	$< \pm$ 1 % error over 360 $^{\circ}$ at 45 $^{\circ}$ elevation
Operating temperature	-40 $^{\circ}$ C...65 $^{\circ}$ C
Principle	Quantum sensor
Used for	CTD75M, CTD90, CTD90M, CTD115M



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