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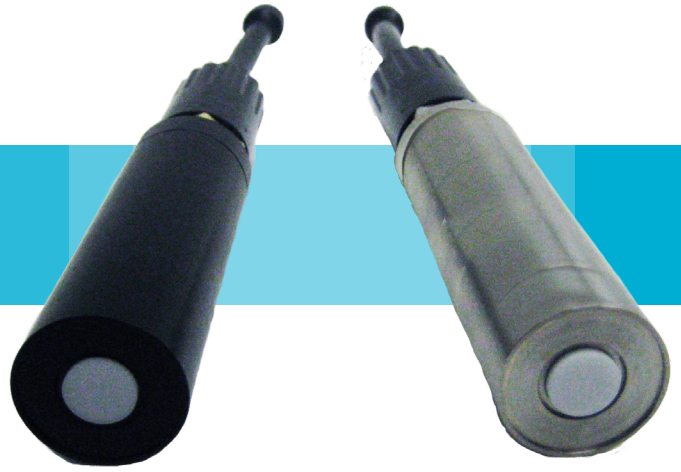
SEA-BIRD SCIENTIFIC

PAR Sensor

PHOTOSYNTHETICALLY ACTIVE RADIATION SENSOR

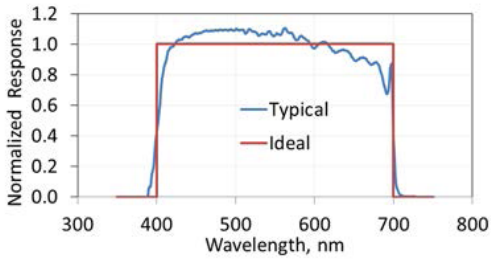


Overview

From limnologists and oceanographers to plant and crop physiologists, scientists trust Sea-Bird Scientific PAR sensors to provide superior data quality and rugged construction to withstand harsh field conditions.

Features

The ideal spectral response for a PAR sensor gives equal emphasis to all photons between 400 and 700 nm. Sea-Bird Scientific PAR sensors use a high quality filtered silicon photo diode to provide a near equal spectral response across the entire wavelength range of the measurement.



Options

- Integrated temperature and tilt sensors for serial option
- Optics: In Air | In Water
- Housing: 1000m Plastic | 7000m Titanium
- Data output: Serial ASCII | Linear Analog | Logarithmic Analog
- Easy integration with Sea-Bird Scientific CTD platforms

Tilt

- Tilt sensor reports two axis pitch and roll, to 0.1 degree resolution.
- Accuracy is approximately 1 degree

Applications

- Oceanographic and Freshwater Productivity Studies
- Vertical Profiling
- Laboratory Photosynthetic Physiology Studies
- Agronomic and Terrestrial Productivity Studies
- Meteorological Stations

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Field Specifications

The specifications below represent the expected performance of the instrument when deployed in the field. Under controlled circumstances in a lab, we would expect the instrument to outperform these specifications.

We have chosen to display field specifications to give our users a true measure of how Sea-Bird Scientific instruments perform in harsh environments and applications. It is critical to keep this in mind when comparing specifications with instruments from other manufacturers.

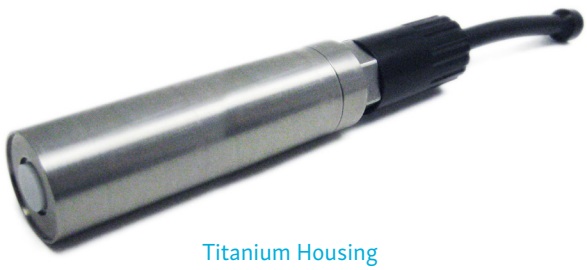
Optical	
Spectrum	400 – 700 nm
PAR Range	0 - 5000 µmol photons m^{-2} s^{-1}
Spatial	cosine response
Cosine Error	0° – 60° <3% 60° – 85° <10%
Phycoerythrin:	ex/em: 530/595 nm
Collector Area	86 mm^2
Detector	17 mm^2 silicon photodiode

Electrical	
Input Voltage	6 – 28 VDC
Current Draw	17 mA @ 12 VDC
Connector	Subconn MCBH4M or MCBH8M (serial)
Auxilary Sensors	Integrated temperature and tilt sensors for serial option

Telemetry	
Sample Rate	100 Hz maximum
Digital Output	RS-232 ASCII, up to 100 Hz
Analog Signal Output	0.125 - 4.0 V
Analog Signal Scaling	linear or logarithmic

Physical	
Weight (in air)	88g (plastic) or 182g (titanium)
Weight (in water)	RS-232 ASCII, up to 100 Hz
Depth Rating	1000 m (plastic) or 7000 m (titanium)
Length	139 mm (with connector) 89 mm (housing)
Diameter	25 mm

Plastic Housing



Titanium Housing