

Measure photosynthetic photon flux



Description

This is the amplified version of our quantum sensor and comes in 2.5 and 5 volt versions, which allow for applications with less precise measuring capability. Quantum sensors are designed for use with dataloggers.

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Photosynthesis is driven by the number of photons between 400 and 700 nanometers (nm). This is called the

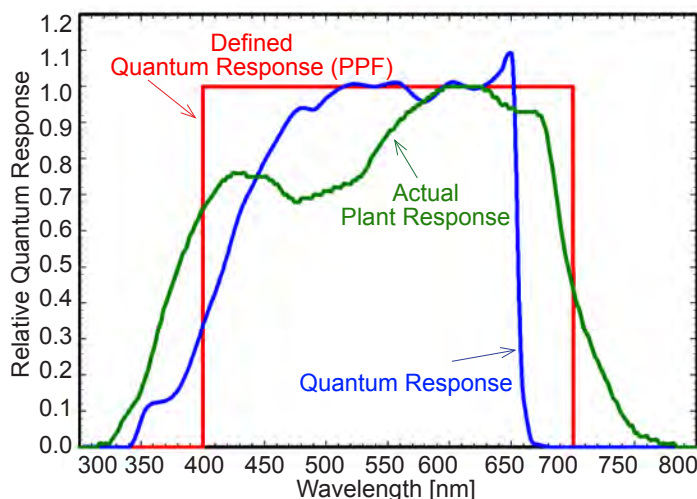
Photosynthetic Photon Flux (PPF) and is measured in $\mu\text{mol m}^{-2} \text{s}^{-1}$ (micromols of photons per square meter per second). PPF sensors are commonly called quantum sensors because a quantum refers to the amount of energy carried by a photon.

Related Product



AL-100

A metal plate used to keep the sensor head level.



Quantum response is from 400 to 700 nm and gives equal emphasis to all photons. A blue lens filters the light and improves the spectral response. The spectral response of the Apogee sensor and a typical plant response are shown here.

Specifications

Sunlight Calibration (JSQ-212 & 215)

- Absolute Accuracy: $\pm 5\%$
- Uniformity: $\pm 3\%$
- Repeatability: $\pm 1\%$

Electric Lamps Calibration (11% Difference) (JSQ-222 & 225)

- Absolute Accuracy: $\pm 5\%$
- Uniformity: $\pm 3\%$
- Repeatability: $\pm 1\%$

Current Draw

- 285 μA

Mass

- 70 g (with 5 m lead wire)

Long-Term Drift

- Less than 3% per year

Materials

- Anodized aluminum with acrylic lens

2.5 V Option

- Output: 0 to 2.5 V (2.0 V = full sunlight $2000 \mu\text{mol m}^{-2} \text{s}^{-1}$)
- Input Power: 2.5 to 5.5 VDC
- Sensitivity: Custom calibrated to exactly $1.0 \mu\text{mol m}^{-2} \text{s}^{-1}$

5.0 V Option

- Output 0 to 5 V (4.0 V = full sunlight $2000 \mu\text{mol m}^{-2} \text{s}^{-1}$)
- Input Power: 5 to 5.5 VDC
- Sensitivity: Custom calibrated to exactly $0.5 \mu\text{mol m}^{-2} \text{s}^{-1}$

Dimensions

- 2.4 cm diameter by 2.75 cm height

Operating Environment

- -25 to 55 C
- 0 to 100% relative humidity
- Designed for continuous outdoor use
- Can be submerged in water with or without mounting screws

Cable

- 5 meters of twisted-pair wire
- Foil shield
- Santoprene jacket
- Ending in pigtail leads
- Additional cable is available in multiples of 5 meters

Warranty

- 1 year against defects in materials and workmanship

Measurements

