

### MEASURES PHOTOSYNTHETIC PHOTON FLUX.

#### DESCRIPTION

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.

Quantum sensors are designed for use with dataloggers. Line quantum sensors are often used to quantify the variable light in greenhouses and below plant canopies because they provide a spatial average.

An innovative blue lens improves the accuracy of these sensors. The pigments in the lens filter incoming light for an improved spectral response.



#### ORDERING INFORMATION

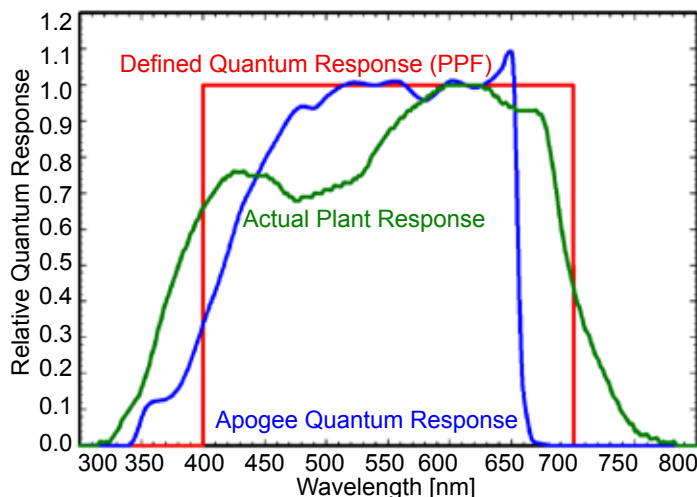
All products can be ordered at [www.apogeeinstruments.com](http://www.apogeeinstruments.com)

For technical information contact [techsupport@apogee-inst.com](mailto:techsupport@apogee-inst.com)

#### RECOMMENDED ACCESSORIES



**AL-100** A leveling plate used to keep the sensor heads 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 below.

# SPECIFICATIONS

## COSINE RESPONSE

- 45° zenith angle:  $\pm 1\%$
- 75° zenith angle:  $\pm 5\%$

## ABSOLUTE ACCURACY

- $\pm 5\%$

## REPEATABILITY

- $\pm 1\%$

## DIMENSIONS

- SQ-100 series: 2.4 cm diameter by 2.75 cm height
- SQ-313, 316, 323, 326: 50 cm
- SQ-311, 321: 70 cm

## LONG-TERM DRIFT

- Less than 3% per year

## OPERATING ENVIRONMENT

- -40 to 55° C
- 0 to 100% relative humidity
- Designed for continuous outdoor use
- Can be submerged in water

## MASS

- SQ-100 series: 70 g (with 5 meters lead wire)
- SQ-313, 316, 323, 326: 275g
- SQ-311, 321: 375g

## MATERIALS

- Anodized aluminum with cast acrylic lens

## CABLE

- 5 meters of twisted-pair wire
- Shielded w/ Santoprene casing
- Ending in pigtail leads
- Additional cable is available in multiples of 5 meters

## WARRANTY

- 1 year against defects in materials and workmanship

# MEASUREMENTS

