

# Measure Instantaneous or Integrated Photosynthetic Photon Flux



A quantum refers to the amount of energy carried by a photon. Quantum meters approximate the quantity of photons between 400 and 700 nanometers. Photosynthesis is largely driven by the number of photons between these wavelengths so this radiation is called the Photosynthetic Photon Flux (PPF) and is measured in  $\mu\text{mol m}^{-2} \text{s}^{-1}$  (micromoles of photons per meters squared per second).

These meters feature our innovative blue lens for improved spectral response along with our cosine-corrected head, self-cleaning characteristics, and long-term stability. Each meter is calibrated for use in sun or electric lights.

Each meter can store up to 99 manually recorded measurements. In automatic mode, measurements are made every 30 seconds and averages are stored every 30 minutes. Daily totals are also calculated and the past 99 days are recorded. The AC-100 communication cable must be purchased to download data to a PC.

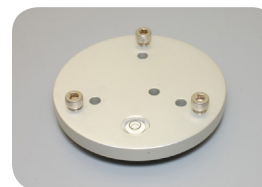
Viewable on meter display & downloadable to a PC:

- (SMPL) 99 Sample Measurements
- (LOG) 99 Log Measurements

Downloadable only:

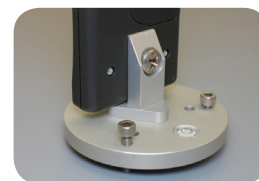
- (LOG) 99 Daily Total Measurements

## Related Products



### AL-100

A plate used to keep meters with separate sensor level. (MQ-200)



### AL-210

Leveling plate and mounting base for meters with integral sensor.



### AC-100

Communication cable is required for data download to a computer.

# Specifications

## Cosine Response

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

## Absolute Accuracy

- $\pm 5\%$

## Uniformity

- $\pm 3\%$

## Repeatability

- $\pm 1\%$

## Spectral Range

- 409 to 659 nanometers

## Response Time

- Less than 1 millisecond

## Long Term Drift

- Less than 3% per year

## Field of View

- 180°

## Measurement Range

- 0 to 2999  $\mu\text{mol m}^{-2} \text{s}^{-1}$

## Memory

- 99 manually stored data points
- Automatically store 99 consecutive 30 minute averages
- 99 daily averages

## Input Power

- Standard 3 V coin cell battery

## Mass

- MQ-100: 150 g
- MQ-200: 180 g
- MQ-301: 380 g
- MQ-303, MQ-306: 300 g

## Operating Environment

- 0 to 50 C
- Less than 90% non-condensing relative humidity up to 30 C
- Less than 70% relative humidity from 30 to 50 C

## Cable (MQ-200 & 300 Series)

- 2 meters of twisted-pair wire
- Foil shield
- Santoprene jacket
- Longer cable lengths are available in multiples of 5 meters

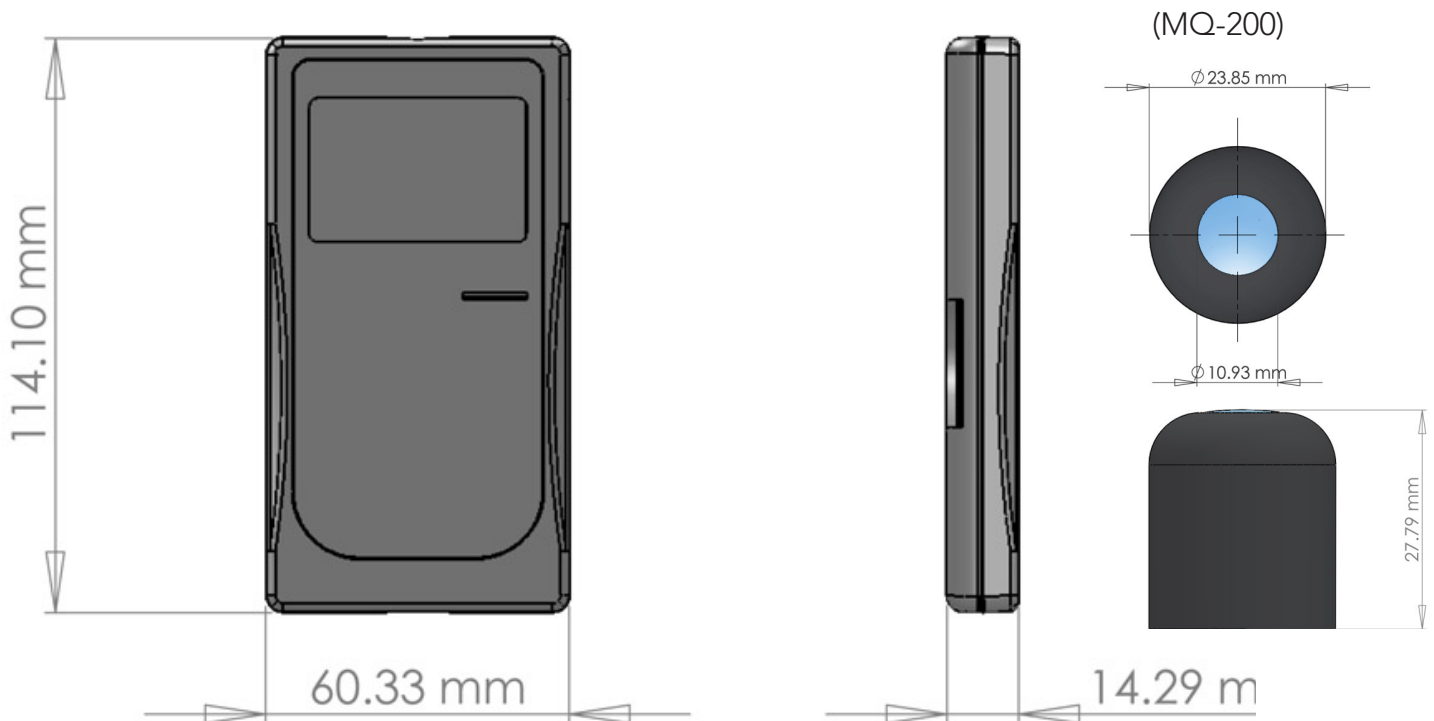
## Display

- 4.5 cm width by 2.8 cm height

## Warranty

- 1 year against defects in materials and workmanship

# Measurements



Scan to call us



[www.apogeeinstruments.com](http://www.apogeeinstruments.com)



Scan for more information on  
MQ sensors