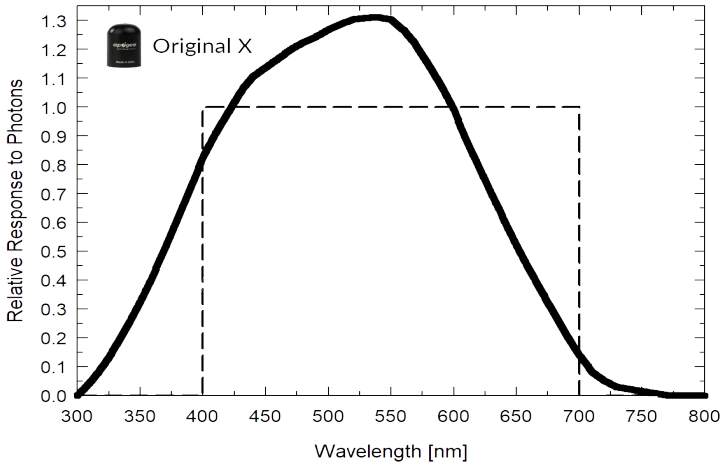
APOGEE PAR BAR

MQ-350 AND SQ-350-SS

Apogee Line Quantums

Apogee line quantum sensors measure a spatial average of photosynthetically active radiation. The SQ-350-SS is a sensor bar with 10 orginal X quantum detectors under a long strip diffuser. The MQ-350 has this sensor bar attached through a cable to a handheld meter that displays and stores measurements. The sensor housing design features an integrated bubble level and is fully potted, making the sensor water- and weatherproof.

Response Graph

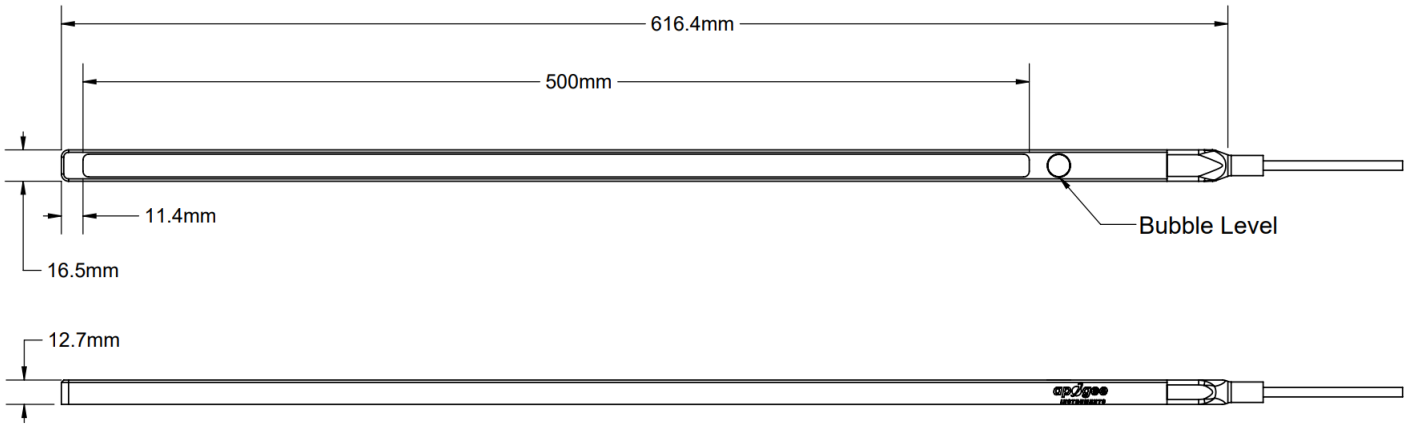


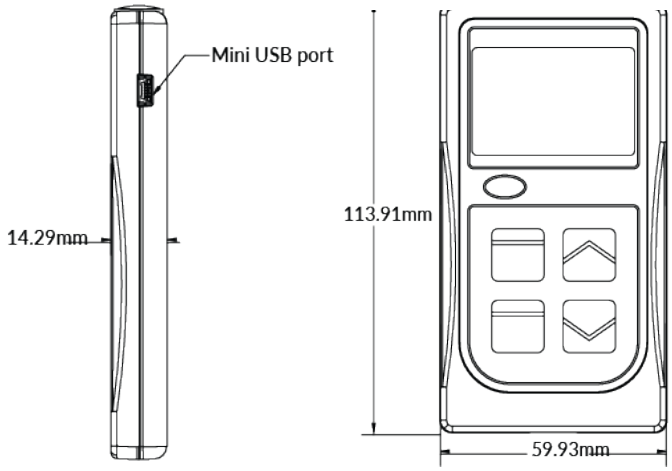
Mean **spectral response** of six SQ X series quantum sensors compared to defined PAR 400-700 nm (dotted line).

Product Specifications

	MQ-350	SQ-350-SS
Sensitivity	-	0.1 mV per µmol m^{-2} s^{-1}
Calibrated Output Range	-	0 to 250 mV
Calibration Uncertainty	± 5 %	
Measurement Repeatability	Less than 0.5 %	
Long-term Drift (Non-stability)	Less than 2 % per year	
Non-linearity	Less than 1 % (up to 2500 µmol m^{-2} s^{-1})	
Response Time	Less than 1 ms	
Field of View	180°	
Spectral Range	370 to 650 nm (wavelengths where response is greater than 50 % of maximum)	
Temperature Response	-0.04 % per C	
Operating Environment	-10 to 60 C; 0 to 100 % relative humidity; sensor can be submerged in water up to depths of 30 m	
Meter Dimensions	113.9 mm height, 59.9 mm width	-
Sensor Dimensions	616.4 mm length, 13.6 mm height, 16.5 mm width	
Mass	460 g	310 g
Cable	2 m of shielded, twisted-pair wire; additional cable available; TPR jacket (high water resistance, high UV stability, flexibility in cold conditions)	5 m of two conductor, shielded, twisted-pair wire; TPR jacket; pigtail lead wires; stainless steel, M8 connector located 25 cm from sensor head
Warranty	4 years against defects in materials and workmanship	

Dimensions





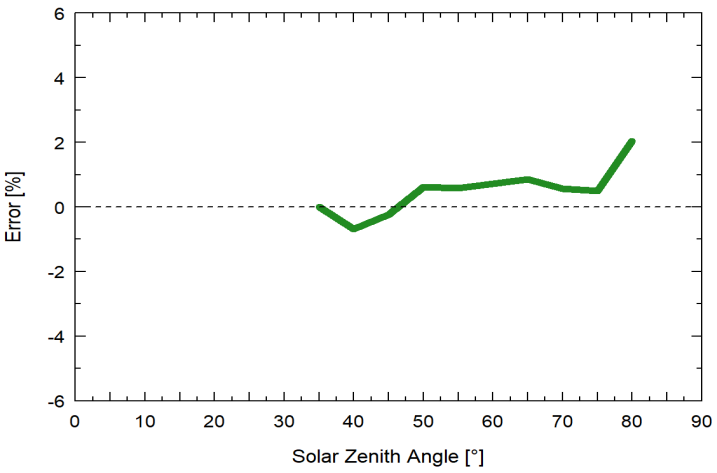
Features

TYPICAL APPLICATIONS
Incoming and reflected PPFD over and under plant canopies in greenhouses, in fields, and in growth chambers

UNIQUE DESIGN
Cost-effective, original quantum X sensors work well for sunlight and some broadband radiation sources. The sensor housing design features an integrated bubble level and is fully potted, making the sensor water- and weatherproof.

Informative Measurements
Utilizing 10 detectors provides a spatial PAR average, providing realistic insights into the available PAR in an area.

CALIBRATION TRACEABILITY
Apogee SQ X sensors are calibrated through side-by-side comparison to the mean of four transfer standard sensors under a reference lamp. The reference sensors are recalibrated with a quartz halogen lamp traceable to the National Institute of Standards and Technology (NIST).



Mean **cosine response** of twenty-three SQ X series quantum sensors.

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