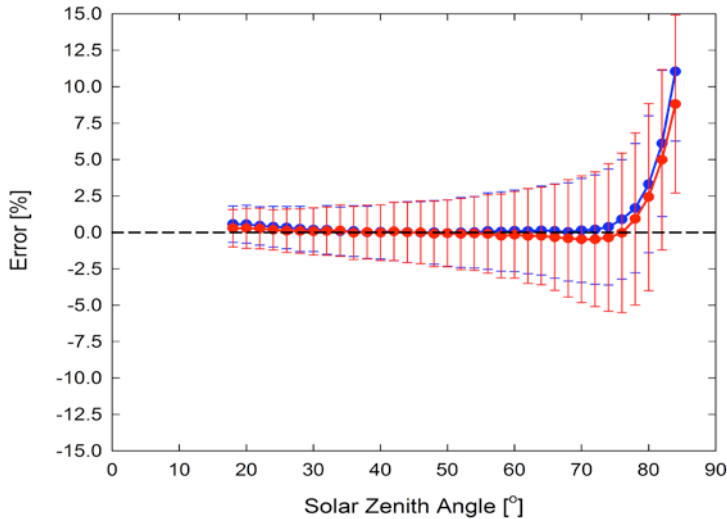
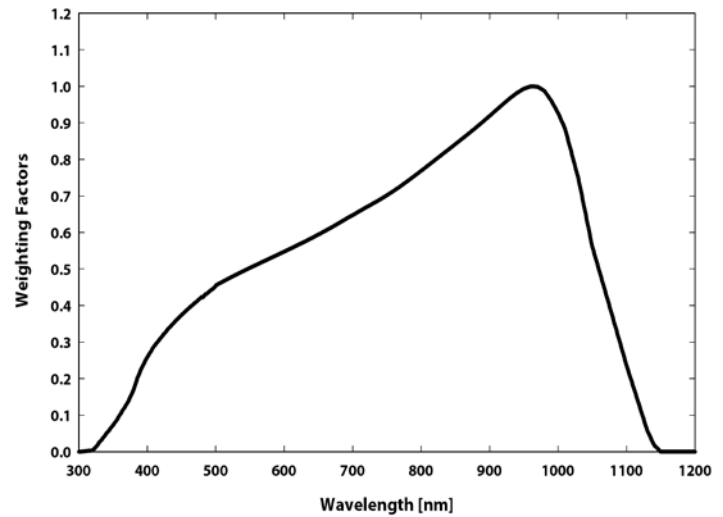




Response Graphs



Mean **cosine response** of eleven Apogee silicon-cell pyranometers (error bars represent two standard deviations above and below mean). The blue symbols are AM measurements; the red symbols are PM measurements.



Spectral response estimate of Apogee silicon-cell pyranometers.

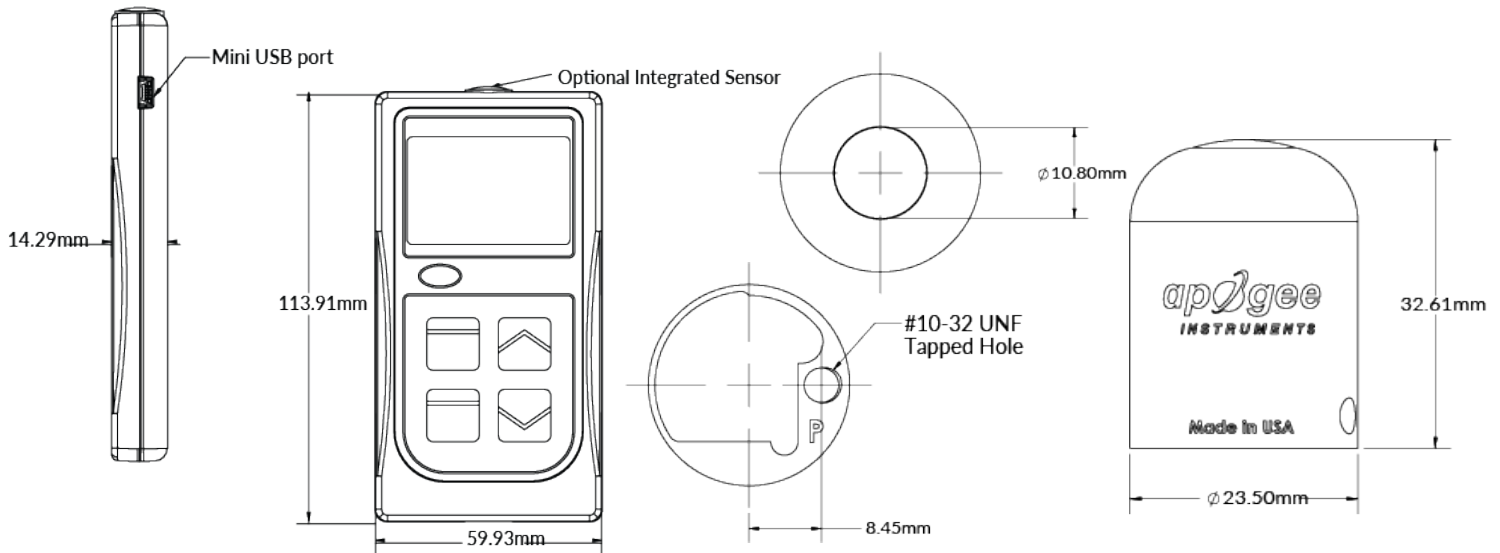
Product Specifications

Calibration Uncertainty	± 5 %	
Measurement Repeatability	Less than 1 %	
Long-term Drift	Less than 2 % per year	
Non-linearity	Less than 1 % up to 2000 W m ⁻²	
Response Time	Less than 1 ms	
Field of View	180°	
Spectral Range	360 to 1120 nm	
Directional (Cosine) Response	± 5 % at 75° zenith angle	
Temperature Response	-0.04 ± 0.04 % per C	
Operating Environment	0 to 50 C; less than 90 % non-condensing relative humidity up to 30 C; less than 70 % non-condensing relative humidity from 30 to 50 C; separate sensors can be submerged in water up to depths of 30 m	
Sensor Dimensions	Integrated with Meter	24 mm diameter, 33 mm height
Meter Dimensions	126 cm length, 70 mm width, 24 mm height	
Mass	150 g	180 g
Cable	2 m of shielded, twisted-pair wire; additional cable available; TPR jacket (high water resistance, high UV stability, flexibility in cold conditions)	
Warranty	4 years against defects in materials and workmanship	

Calibration Traceability

Apogee SP sensors are calibrated through side-by-side comparison to the mean of (4) Apogee SP-110 transfer standard sensors under high intensity discharge metal halide lamps. The transfer standard sensors are calibrated through side-by-side comparison to the mean of at least (2) ISO-classified reference pyranometers under sunlight in Logan, UT. Each of (4) ISO-classified reference sensors are recalibrated on an alternating year schedule at the National Renewable Energy Laboratory (NREL) in Golden, Colorado. NREL reference standards are calibrated to the World Radiometric Reference (WRR) in Davos, Switzerland.

Dimensions



Features

TYPICAL APPLICATIONS

- Solar panel arrays
- Agricultural, ecological, and hydrological weather networks

STABLE MEASUREMENTS

Long-term non-stability determined from multiple replicate pyranometers in accelerated aging tests and field conditions is less than 2 % per year.

UNIQUE DESIGN

A patented dome-shaped sensor head keeps the sensor clean and minimizes errors by shedding water. Sensors are housed in a rugged anodized aluminum body and electronics are fully-potted.



MP-100