

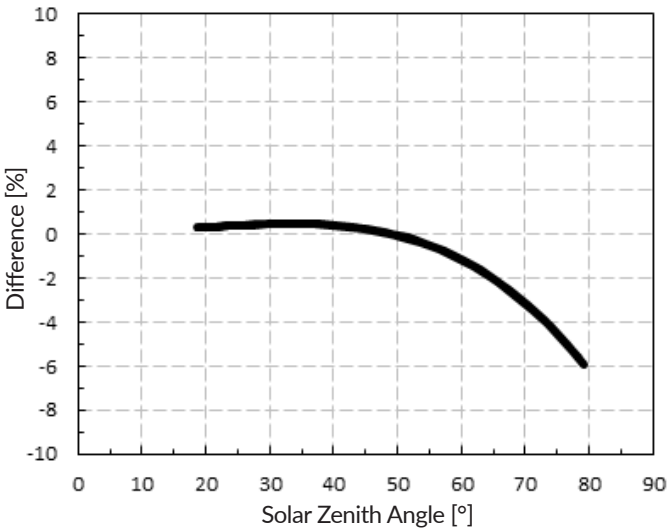
apogee[®]
INSTRUMENTS

UV-A SENSORS

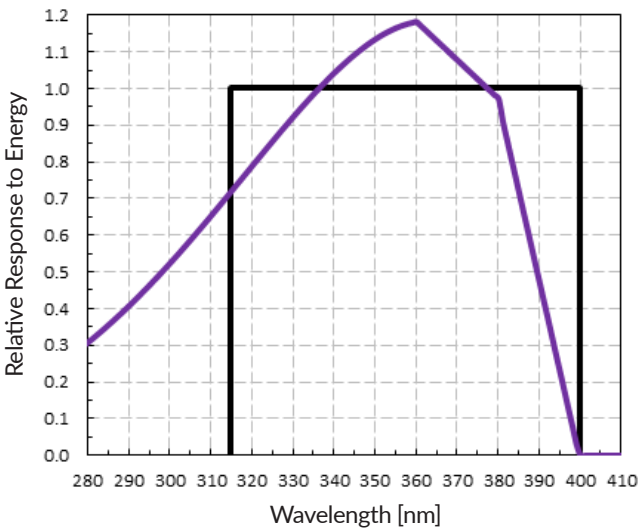
SU-200-SS Series



Response Graphs



Mean cosine response of four Apogee UV-A sensors. Cosine response was calculated as the relative difference of UV-A sensors from the mean of replicate reference UV-A sensors deployed outdoors. These data are the average of the AM and PM response.



Spectral response estimate of Apogee SU-200 UV-A sensors. Spectral response was modeled from sensitivity of the photodetector and transmittance of the diffuser.

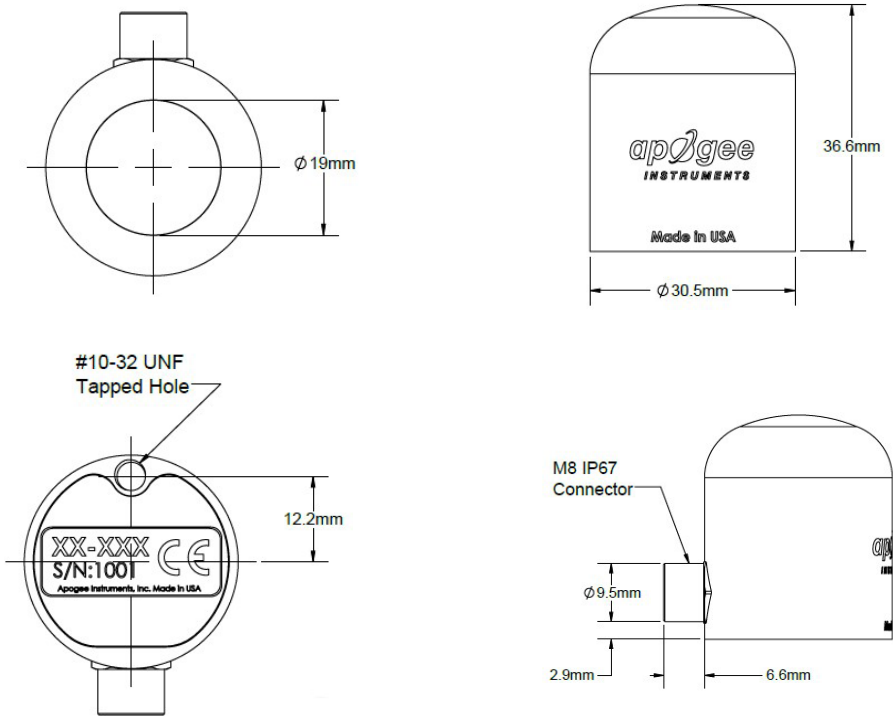
Product Specifications

	SU-200-SS	SU-202-SS	SU-205-SS	SU-220	SU-221-SS
Power Supply	Self-powered	5 to 24 V DC	5.5 to 24 V DC	5 V USB power source	5.5 to 24 DC
Output (sensitivity)	0.1 mV per W m ⁻² ; 0.03 mV per μmol m ⁻² s ⁻¹	25 mV per W m ⁻² ; 8.33 mV per μmol m ⁻² s ⁻¹	50 mV per W m ⁻² ; 16.67 mV per μmol m ⁻² s ⁻¹	Custom for each sensor and stored in the firmware	
Calibration Factor (reciprocal of sensitivity)	10 W m ⁻² per mV; 30 μmol m ⁻² s ⁻¹ per mV	0.04 W m ⁻² per mV; 0.12 μmol m ⁻² s ⁻¹ per m	0.02 W m ⁻² per mV; 0.06 μmol m ⁻² s ⁻¹ per mV	Custom for each sensor and stored in the firmware	
Calibration Uncertainty	± 5 %				
Output Range	0 to 10 mV	0 to 2.5 V	0 to 5 V	USB	SDI-12
Measurement Range	0 to 100 W m ⁻²				
Measurement Repeatability	Less than 0.5 %				
Long-term Drift	Less than 2 % per year				
Non-linearity	Less than 1 %				
Response Time	Less than 1 ms				Less than 0.6 s
Field of View	180°				
Spectral Range	305 to 390 nm (wavelengths where response is greater than 10 % of maximum)				
Directional (Cosine) Response	± 2 % at 45°; ± 5 % at 75° zenith angle				
Temperature Response	Less than 0.1 % per C				
Operating Environment	-30 to 85 C; 0 to 100 % relative humidity				
Dimensions	30.5 mm diameter, 37 mm height				
Mass (with 5 m of cable)	140 g				
Cable	5 m of shielded, twisted-pair wire; TPR jacket (high water resistance, high UV stability, flexibility in cold conditions); pigtail lead wires; stainless steel (316), M8 connector				
Warranty	4 years against defects in materials and workmanship				

Overview

UV-A radiation is important in material sciences and has numerous photo-biological functions that are both harmful and beneficial. Apogee’s new UV-A radiometers offer a low-cost option for continuously measuring UV-A radiation in outdoor environments, laboratory settings, and monitoring the filtering ability and stability of various materials.

Dimensions



Features

RUGGED, SELF-CLEANING HOUSING

Sensor features an anodized aluminum body with fully-potted electronics. The dome-shaped sensor head minimizes errors by shedding dust and water for a self-cleaning performance.

HIGH QUALITY CABLE

Pigtail-lead sensors feature on IP68, marine-grade stainless-steel cable connectors attached directly to the sensor head to simplify sensor removal for maintenance and recalibration.

CALIBRATION TRACEABILITY

Apogee UV-A series sensors are calibrated through side-by-side comparison to the mean of four transfer standard UV sensors under sunlight (clear sky conditions) in Logan, Utah. The transfer standard UV-A sensors are calibrated through side-by-side comparison to an Apogee model PS-300 spectroradiometer under sunlight (clear sky conditions) in Logan, Utah. The PS-300 is calibrated with a quartz halogen lamp traceable to the National Institute of Standards and Technology (NIST).

