SPECIFICATIONS

	SL-510-SS	SL-610-SS
Sensitivity	0.12 mV per W m^{-2} (variable from sensor to sensor, typical value listed)	
Calibration Factor (Reciprocal of Sensitivity)	8.5 W m^{-2} per mV (variable from sensor to sensor, typical value listed)	
Calibration Uncertainty	± 5 % (see Calibration Traceability below)	
Measurement Range	-200 to 200 W m^{-2} (net longwave irradiance)	
Output from Thermopile	-23.5 to 23.5 mV	
Output from Thermistor	0 to 2500 mV (typical, other voltages can be used)	
Temperature Sensor	30 kΩ thermistor, ± 1 C tolerance at 25 C	
Input Voltage Requirement for Thermistor	2500 mV excitation (typical, other voltages can be used)	
Measurement Repeatability	Less than 1 %	
Long-term Drift	Less than 2 % change in sensitivity per year	
Non-linearity	Less than 1 %	
Response Time	Less than 0.5 s	
Field of View	180°	150°
Spectral Range	5 to 30 µm	
Temperature Response	Less than 5 % from -15 to 45 C	
Window Heating Offset	Less than 10 W m^{-2}	
Zero Offset B	Less than 5 W m^{-2}	
Tilt Error	Less than 0.5 %	
Uncertainty in Daily Total	± 5 %	
Heater	780 Ω, 15.4 mA current draw and 185 mW power requirement at 12 V DC	
Dimensions	27.5 mm height, 23.5 mm diameter	
Mass	90 g	100 g
Cable	5 m of six conductor, shielded, twisted-pair wire; TPR jacket (high water resistance, high UV stability, flexibility in cold conditions); pigtail lead wires; stainless steel (316), M8 connector located 25 cm from sensor head	
Warranty	4 years against defects in materials and workmanship	

Calibration Traceability

Apogee SL-510 and SL-610 pyrgeometers are calibrated against the mean of two Apogee model SL-510 or SL-610 transfer standard pyrgeometers inside a custom blackbody cone held at multiple fixed temperatures over a range of radiometer (detector and sensor body) temperatures. The temperature of the blackbody cone is measured with replicate precision thermistors thermally bonded to the cone surface. The transfer standard pyrgeometers are calibrated against the mean of least two reference upward-looking pyrgeometers under all sky conditions in Logan, Utah. Each of the two reference pyrgeometers are recalibrated on an alternating year schedule (one instrument per year) at the National Renewable Energy Laboratory (NREL) in Golden, Colorado. NREL reference standards are calibrated to the World Infrared Standard Group (WISG) in Davos, Switzerland.