SL-510

DESCRIPTION

The SL-510 is an upward-looking thermopile pyrgeometer. The sensor incorporates a filter, blackbody thermopile detector, and thermistor with a rugged, self-cleaning sensor housing design. Typical applications include longwave radiation measurement in agricultural, ecological, and hydrological weather networks and renewable energy applications. Sensor includes IP67 marine-grade stainless-steel cable connector 30 cm from head to simplify sensor removal and replacement for maintenance and recalibration..

Features:

Output Options

- 0 to 114 mV
- 0 to 2.5 V
- 0 to 5 V

Accurate, Stable Measurements

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

Unique Design

Designed to optimize performance and price. The patented domeshaped aluminum head is completely waterproof and minimizes errors by shedding water and dirt. All electronics are fully-potted.

On-board Heater

A 0.2 W heater keeps water off the sensor and minimizes errors caused by dew, frost, rain, or snow blocking the radiation path.

Typical PPFD Measurement Applications

- Longwave radiation measurement in agricultural, ecological, and hydrological
- Weather networks and renewable energy applications.

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	SL-510-SS	SL-610-SS
Sensitivity	0.12 mV per W m^{-2} (variable from sensor to sensor, typical value listed)	
Calibration Factor	8.5 W m^{-2} per mV (variable from sensor to sensor, typical values listed)	
Calibration Uncertainty	± 5 %	
Measurement Range	-200 to 200 W m^{-2} (net longwave irradiance)	
Measurement Repeatability	Less than 1 %	
Long-term Drif	Less than 2 % change in sensitivity per year	
Non-linearity	Less than 1 %	
Response Time	Less than 0.5 s	
Field of View	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 %	
Temperature Sensor	30 kΩ thermistor, ± 1 C tolerance at 25 C	
Output from Thermistor	0 to 2500 mV (typical, other voltages can be used)	
Input Voltage Requirement for Thermistor	2500 mV excitation (typical, other voltages can be used)	
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 four conductor, shielded, twisted-pair wire; additional cable available; TPR jacket (high water resistance, high UV stability, flexibility in cold conditions); pigtail lead wires	
Warranty	4 years against defects in materials and workmanship	

This Instrument is manufactured by our principle company

Apogee Instruments - USA

Contact info

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