

OPERATION AND MEASUREMENT

Apogee SL-510 and SL-610 pyrgeometers output two signals: a voltage from the thermopile radiation detector (proportional to the radiation balance between target and detector) and a voltage from the thermistor (proportional to the magnitude of the excitation voltage and resistance of thermistor). The voltage output from the thermopile is an electrically-isolated bipolar (polarity is dependent on temperature difference between sensor and target) signal, typically between -20 and 20 millivolts, and requires a high resolution differential measurement. The voltage output from the thermistor can be measured with a single-ended measurement. In order to maximize measurement resolution and signal-to-noise ratio, the input range of the measurement device should closely match the output range of the pyrgeometer. **DO NOT connect the thermopile (white and black wires) to a power source. The detector is self-powered and applying voltage will damage it.** Input voltage is required to measure resistance of the thermistor and to power the heater. Only the red and yellow wires should be connected to a power source.

VERY IMPORTANT: Apogee changed all wiring colors of our bare-lead sensors in March 2018 in conjunction with the release of inline cable connectors on some sensors. To ensure proper connection to your data device, please note your serial number or if your sensor has a stainless-steel connector 30 cm from the sensor head then use the appropriate wiring configuration below.

Wiring for SL-510 Serial Number 1074 and above (or with cable connector) and SL-610 Serial Number 1034 and above (or with cable connector)



Wiring for SL-510 with Serial Numbers range 0-1073 and SL-610 with Serial number range 0-1033 Sensor Calibration

