

Net Radiometer

Model NR01

The NR01 net radiometer is manufactured by Hukseflux for applications requiring research-grade performance. The radiometer measures the energy balance between incoming short-wave and long-wave infrared radiation versus surface-reflected short-wave and outgoing long-wave infrared radiation. It consists of a pyranometer and pyrgeometer pair that faces upward and a complementary pair that faces downward. The pyranometers and pyrgeometers measure short-wave and far infrared radiation, respectively.

The NR01 includes an RTD to measure the radiometer's internal temperature and a heater that can be used to prevent condensation. A 4WPB100 module is required to interface the RTD with dataloggers other than the CR3000 or CR5000. Please note that the NR01 is not compatible with our CR200-series dataloggers.

Mounting

To avoid shading effects and to promote spatial averaging, the NR01 should be mounted at least 1.5 m above the ground. Campbell Scientific recommends mounting the NR01 to a CM300-series mounting pole at least 25' away from other mounting structures. The NR01 is attached to the CM300-series mounting pole via a CM204 or CM206 crossarm and the 121271 pipe reducer.

Ordering Information

NR01-L	Net radiometer with user-specified lead length. Enter lead length, in feet, after the -L
21271	1 inch to 3/4 inch Pipe Reducer Fitting used to attach the sensor to a crossarm
4WPB100	100 ohm 4-Wire PRT Bridge Module for interfacing the NR01's RTD with a datalogger

Specifications

Sensor:	Hukseflux's SR01 ISO-class, thermopile pyranometer, IR01 pyrgeometer, PT100 RTD
Spectral response:	305 to 2800 nm (pyranometer), 4500 to 50,000 nm (pyrgeometer)
Response time:	18 seconds
Sensitivity range:	10 to 40 $\mu\text{V W}^{-1} \text{m}^2$
Expected output range:	-0.1 to +50 mV
Expected accuracy for daily totals:	$\pm 10\%$
Heater:	90 Ohms, 1.6 W at 12 Vdc
Operating temperature:	-40° to 80°C
Weight:	2.9 lbs (1.3 kg) with 5 m cable; 2 lbs (0.9 kg) sensor only
Dimensions:	10.4" x 4.4" x 4.8" (26.3 cm x 11.3 cm x 12.1 cm)
CE Compliance:	CE compliant under the European Union's EMC Directive

