



Kipp & Zonen CNR4 Net Radiometer

Product #: 0369900
USD Price: Contact Hach

The CNR4 net radiometer measures the energy balance between incoming short-wave and long-wave Far Infrared (FIR) radiation versus surface-reflected short-wave and outgoing long-wave radiation. The CNR4 net radiometer consists of a pyranometer pair, one facing upward, the other facing downward, and a pyrgeometer pair in a similar configuration. The upper long-wave detector of CNR4 has a meniscus dome. This ensures that water droplets roll off easily and improves the field of view to nearly 180°, compared with a 150° for a flat window. Two temperature sensors, a Pt-100 and Thermistor, are integrated for compatibility with every data logger. The temperature sensor is used to provide information to correct the infrared readings for the temperature of the instrument housing. The design is very light in weight and has an integrated sun shield that reduces thermal effects on both long-wave and short-wave measurements. The mounting rod can be unscrewed for transport. An optional CNF4 ventilation unit with heater is designed as an extension of the sunshield and can be fitted new to the CNR4 or retro-fitted later. This unit is compact and provides efficient air-flow over the domes and windows to minimize the formation of dew and reduce the frequency of cleaning. The integrated heater can be used to melt frost.

Light weight

The CNR4 has a compact design with sun shield to reduce thermal effects on all measurements

Optional ventilator

The add-on CNF4 can be included or retrofitted later to prevent data loss due to precipitation and reduces the frequency of cleaning.

180 degree field of view

The upper long-wave detector has a meniscus dome. This ensures that water droplets roll off easily and improves the field of view to nearly 180°, compared with a 150° for a flat window

Specifications

Non-linearity:	< 1%
Operating Temperature Range:	-40 - +176 °F (-40 - +80 °C)
Outputs:	Analog 4 x separate up/down and LW/SW
Response Time:	< 18 s
Sensitivity:	5 - 20 $\mu\text{V/W/m}^2$
Spectral Accuracy:	300 - 2800 nm (SW) 4.5 - 42 μm (LW)
Temperature Dependence of Sensitivity:	< 4% 14 - +104 °F (-10 - +40 °C)