

ENR Net Radiometer



ENR Net Radiometer measures the net radiation across a surface, from near ultraviolet (UV) to far infrared. ENR Net Radiometer is designed and constructed to used in any weather conditions for routine measurement of net radiation, which is the balance between incoming and outgoing radiation.

The surface of the upper receiver measures the direct solar radiation plus the diffuse one and the radiation at longer wavelength emitted from the sky, while the lower receiving area measures the solar radiation reflected from the ground and the radiation of terrestrial long wavelength.

The ENR Net Radiometer is a single-component net radiometer widely used in agriculture and hydrology. The thermopile detector whose warm joints are in thermal contact with the receiver while the upper cool joints are in thermal contact with the lower receiver. The temperature difference between the two receivers is proportional to the net radiation. The temperature difference between hot and cold junction is converted into a voltage signal. The form of the two receivers are made from a portion of spherical coated Teflon™.

The ENR is easy to use. Its voltage signal output is proportional to the net radiation. And, It can be directly connected to voltmeter or data logger with an mV input.

Cleaning on the ENR can be done with normal maps for the cleaning of lens paper and water, if not enough, just use pure ethyl alcohol. After cleaning with alcohol it is necessary to clean the domes again with water only. Annual cleaning on the ENR is recommended.

PRODUCT SPECIFICATION

Spectral range	200 to 100,000 nm
Sensitivity	10 $\mu\text{V}/\text{W}/\text{m}^2$
Response time	< 75 s
Impedance	2 – 4 Ohms
Field of view	180 °
Measuring range	-2000 to + 2000 W/m^2
Standard cable length	5 m fixed cable
Weight	< 360g
Mounting rod	605 mm long x 16 mm
Operating temperature range	-40 °C to +80 °C