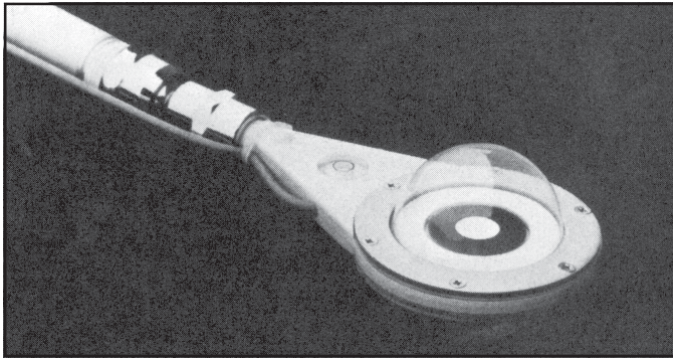


240-100 Net Radiometer



The **Model 240-100 Net Radiometer** contains a high output 60 junction thermopile with a nominal resistance of 4 ohms and linear calibration. The thermopile is mounted in a glass reinforced plastic frame with a built-in level. A ball joint is supplied on the stem to facilitate leveling. Thermopile surfaces (or sensor surfaces) and surrounding surfaces are flat black and the frame is black to reduce internal reflections.

Sensor surfaces are protected from excessive convective cooling by a hemispherical polyethylene windshield. Polyethylene is used for the windshield material because it is transparent to both long and shortwave energy. The windshield is heavy duty and is self supporting so no pressurization is required. A desiccant supply is contained in the support arm to keep air spaces inside the windshield dry. The instrument and its support arm also contain purge ports. A mounting bracket is supplied for mounting to horizontal or vertical pipes.

Specifications

Spectral response: 0.25 to 60 μm
 Nominal calibration factors: For positive values 9.3 Wm^2/mV^1
 For negative values 11.6 Wm^2/mV^1
 Nominal resistance: 4 ohms
 Time constant: Approx 30 sec
 Wind affect: Positive up to 5.9% reduction @ 7m/s
 Negative up to 1% reduction @ 7 m/s
 Power required: None
 Windshield: Polyethylene dome, 0.25mm thick
 Support arm: 0.02m D x 0.75m L
 Size: 57mm H x 72mm W x 177mm L
 Standard cable: Shielded 2-conductor, 7m long
 Weight/Shipping: 2 lbs/5 lbs

Ordering Information

240-100	Fritschen Type Net Radiometer, includes 25' cable
240-M488084	Spare Parts Kit, including 2 domes, 2 o-rings, and silica gel desiccant
330-0220S	Additional Cable, per foot

240-110 Net Radiometer



The **Model 240-110 NR-Lite Net Radiometer** is designed for routine measurement of net radiation which is the balance between incoming and outgoing radiation under outdoor conditions. The detector is based on a Teflon coated, weather resistant black conical absorber. In contrast to other sensor designs, NR-Lite requires no fragile plastic domes. This results in a virtually maintenance free design. The NR-Lite is suitable for:

- Agricultural Meteorology: Evapotranspiration calculations and crop damage prevention
- Building physics: Study of thermal stress and heat balance
- Road Safety: Highway condition monitoring

The NR-Lite is easy to use. It is based on a thermopile sensor. The voltage is proportional to the net radiation. It can be directly connected to voltmeter or data logger with a mV input. The NR-Lite is suitable for conditions outdoor use and fully complies with CE regulations.

Specifications

Spectral response: 0-100 microns
 Detector protection: Teflon coated (no domes)
 Sensitivity (upper detector): 10 mV/Wm^2 (nominal)
 Recommended output range
 For atmospheric application: -25 to +25 mV
 Sensor asymmetry: $\pm 20\%$
 Range: -2000 to +2000 Wm^2
 Response time (1/e): 20 sec (nominal)
 Temperature range: -30 $^{\circ}\text{C}$ to +70 $^{\circ}\text{C}$
 Directional error (0-60 degrees at 1000 Wm^2): < 30 Wm^2
 Support arm: 16 x 400 mm
 Sensor enclosure: 80 mm dia

Ordering Information

240-110	NR-Lite Net Radiometer, includes 3m cable
240-110OA5	Offset Amp 0-5V Output
220-0220S	Additional Cable, per foot