

## Specifications

<b>Model 095</b>	<p>Spectral Response: Nanometers: 285 - 2800      Microns: 0.28 - 2.8            Calibration: Integrating hemisphere approx. 1 cal cm<sup>-2</sup>min<sup>-1</sup>, at 25°C            Sensitivity:** 11 mV/kwatt meter-2, approx.            Impedance: 350 ohms, approx.            Temperature Depend.: ±1.5% constancy from -20°C to +40°C            Linearity: ±1% from 0 to 1400 watts meter-2            Response Time: 5 second (1/e signal)            Cosine Response: ±2% from normalization 0°-70° zenith angle; ±5% 70°-80° zenith angle            Dimensions: 5.75 in (14.6 cm) diam. x 21 in (53.4 cm) h, including mount            Weight: 4 lbs (1.8 kg), including mount            Mounting: Leveling plate and mounting base included.            Cable: Requires PN 1552 fitting or similar device.</p>
<b>Model 394</b>	<p>Spectral Response: PN 1138-xx (xx = length in feet)            Calibration: Nanometers: 285 - 2800 (clear)*      Microns: 0.28 - 2.8 (clear)            Sensitivity:**            Impedance: Integrating hemisphere approx. 1 cal cm<sup>-2</sup>min<sup>-1</sup>, at 25°C            Temperature Depend.: 9 mV/kwatt meter-2, approx.            Linearity: 650 ohms, approx.            Response Time: ±1% constancy from -20°C to +40°C            Cosine Response: ±5% from 0 to 2800 watts meter-2            Dimensions: 1 second (1/e signal)            Weight: ±1% from normalization 0°-70° zenith angle; ±3% 70°-80° zenith angle            Mounting: 5.75 in (14.6 cm) diam. x 23 in (58.4 cm) h, including mount            Cable: 9 lbs (4 kg), including mount            Spectral Response: Leveling plate and mounting base included.            Calibration: Requires PN 1552 fitting or similar device.            Sensitivity:** PN 1138-xx (xx = length in feet)</p>
<b>Model 096</b>	<p>Temperature Depend.: Nanometers: 400 - 1100      Microns: 0.4 - 1.1            Linearity: Against Eppley B&amp;W under natural daylight            Response Time: 8 mV/kwatt meter-2 with 100 ohm load, approx.            Cosine Response: 100 ohms load (dependent upon sensor sensitivity)            Dimensions: ±.15%/degree C, max.            Weight: ±1% from 0 to 3000 watts meter-2            Mounting: 10 microseconds (10% - 90%)            Cable: Corrected up to 82° incident angle.            Spectral Response: Azimuth error less than 1% over 360° at 45° elevation            Calibration: 3 in (7.6 cm) diam. x 19 in (48.2 cm) h, including mount            Sensitivity:** 1.2 lbs (.54 kg), including mount            Impedance: Leveling plate and mounting base included.            Response Time: Requires PN 1552 fitting or similar device.            Dimensions: PN 1832-xx (xx = length in feet)</p>
<b>Model 097</b>	<p>Weight: Nanometers: 250 - 60000      Microns: 0.25 - 60            Mounting: Against transfer standard, compared to a tungsten-halide light source            Cable: 75 mV/kwatt meter-2, approx.            4 ohms            10.5 seconds            2.8 in (7.1 cm) w x 2.5 in (6.35 cm) h x 37 in (94 cm)            3 lbs (1.3 kg), including mount            Mounting plate for support arm included            PN 2437-xx (xx = length in feet)</p>

\* Contact factory for other ranges.

\*\* Sensitivity varies among sensors of the same type. Acalibration certificate is supplied with each sensor.

## Solar Radiation Sensors

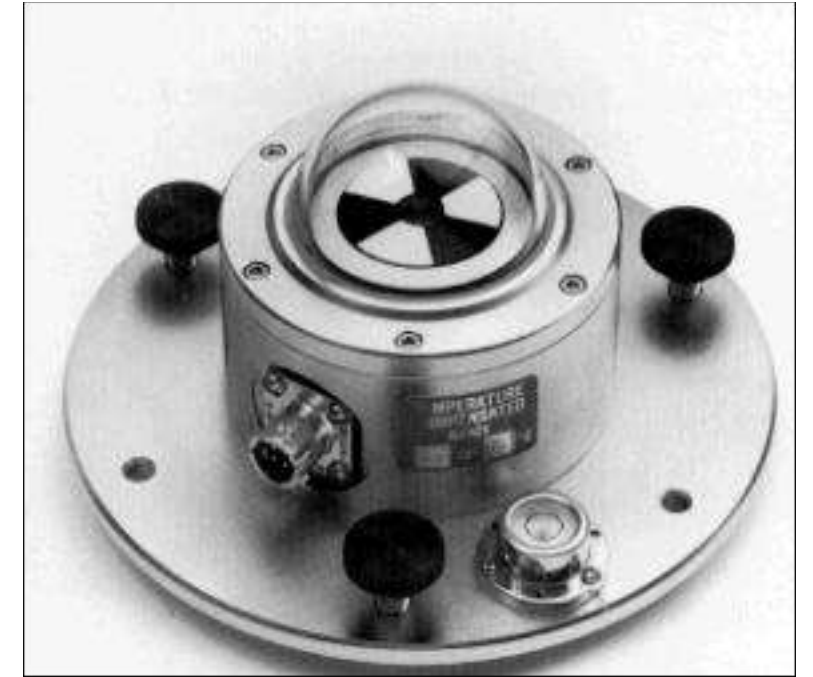
Solar energy is a significant element in large-scale atmospheric motion, and as a result, it has an important place in meteorology. It is directly related to atmospheric stability, and is used in determining stability classes for pollution studies. Met One Instruments supplies solar sensors to meet virtually any monitoring requirement.

### Model 095 Pyranometer

The Model 095 Pyranometer incorporates a multi-junction differential thermopile and a precision ground optical glass hemisphere which is transparent to wavelengths 0.285 to 2.80 microns. It is used for high precision, broad bandwidth measurements of incident solar radiation.

### Features

- Differential thermopile detector
- High accuracy, broad bandwidth
- Temperature compensated
- Rapid response time
- Built-in leveling devices



The Model 095 Pyranometer

The detector element is of wirebound-plated construction with black and white segments. When exposed to solar radiation, the differing absorptivity of the black and white surfaces develops a temperature differential. The thermopile then produces a voltage proportional to the solar radiation. Built-in thermistor circuitry is incorporated to eliminate the effects of ambient temperature.

The single hemispherical optical glass dome has a waterproof seal, but can easily be removed for repairs. The case is cast aluminum, painted white, and is fitted with a desiccator, circular level, and leveling screws. A mounting base with a vertical 3/4" IPS pipe simplifies field installation of the sensor. This rugged instrument is capable of withstanding mechanical vibrations of up to 20 G's.



**Enviro**  
Technology Services Ltd

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### Model 394 Pyranometer

The precision spectral pyranometer is used to measure the total sun and sky radiation, or a defined wavelength band. It utilizes a circular, multi-junction thermopile protected by a glass hemispheres. The selection of the outer hemisphere determines the spectral range of the sensor.

#### Features

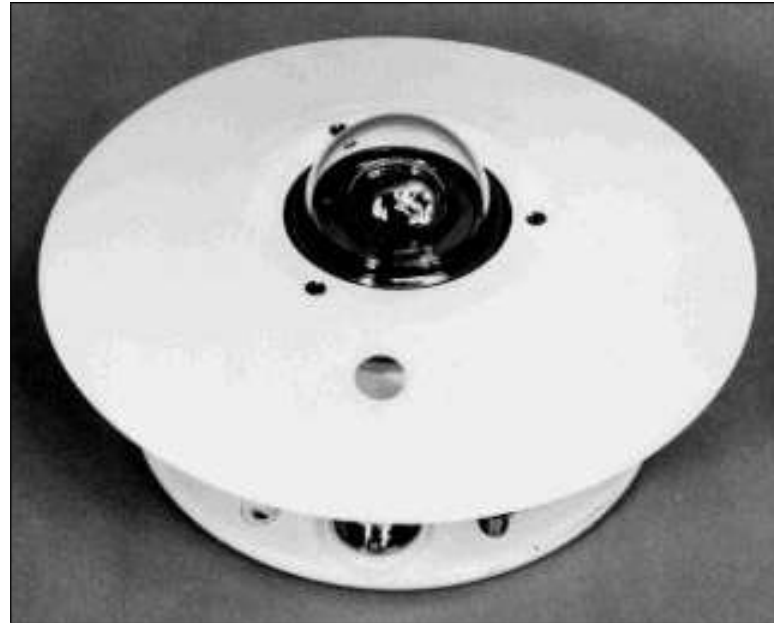
- Extremely high accuracy
- Circular multi-junction

thermopile detector

- Full or partial band sensitivity
- Temperature compensated
- Rapid response time
- Built-in leveling devices

The detector element is a circular wirebound multi-junction thermopile. The junctions are copper-constantan plated. Built-in thermistor circuitry is incorporated to eliminate the effects of ambient temperature.

The hemispherical optical glass domes have a waterproof seal, but can easily be removed for repairs. The case is cast bronze, enameled white, and includes a guard disk. The sensor is fitted with a desiccator, circular level, and leveling screws. A mounting base with a vertical 3/4" IPS pipe simplifies field installation of the sensor.



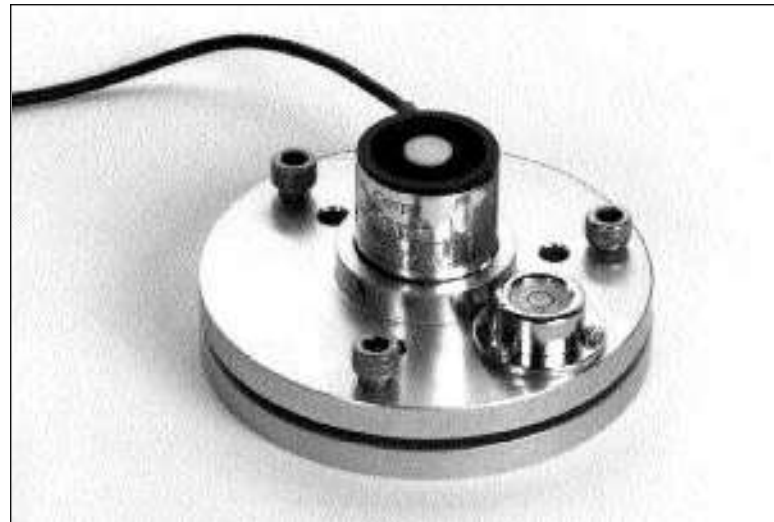
The Model 394 Pyranometer

### Model 096 Pyranometer

The Model 096 Pyranometer uses a silicon solar cell mounted in a cosine corrected miniature head. It provides an economical solution to the measurement of solar radiation for use in meteorological, agricultural and hydrological studies.

#### Features

- Silicon cell sensing element
- Extremely rapid response
- Fully cosine-corrected
- Error less than  $\pm 5\%$
- Built-in leveling devices

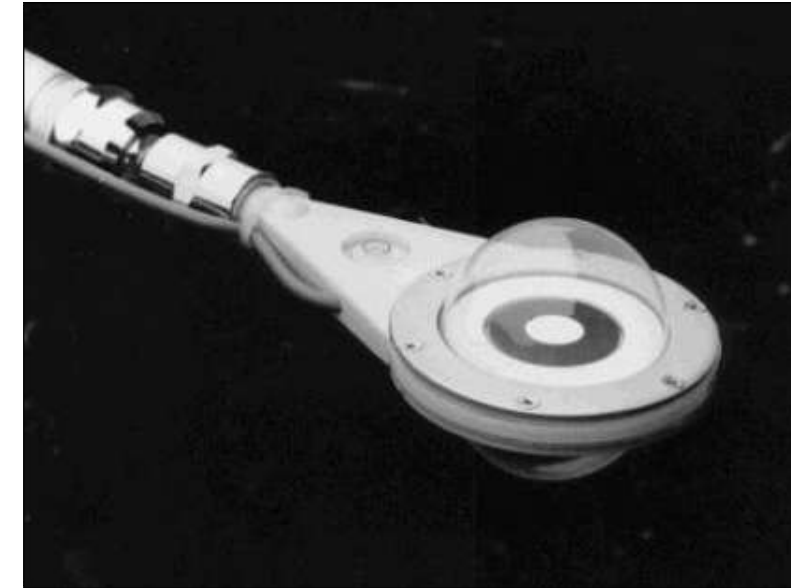


The Model 096 Pyranometer

The spectral response of the sensor is .4 to 1.1 microns (400 to 1100 nanometers). This does not cover the full range of the solar spectrum, but the error introduced is less than  $\pm 5\%$  under most conditions of natural daylight. The cable is directly attached to the sensor without connectors. The sensor is furnished with a mounting plate, which contains a circular level and adjusting screws. The supplied base includes a vertical 3/4" IPS pipe to facilitate mounting and field installation.

### Model 097 Net Radiometer

The Model 097 Net Radiometer is a high output device designed to measure the sum of all incoming radiation less the outgoing radiation. This is the energy retained by the surface for heating soil and air, plant growth, and water evaporation. Incoming radiation consists of direct beam and diffuse solar radiation and longwave sky radiation. Outgoing radiation is the reflected radiation and terrestrial longwave radiation.



The Model 097 Pyranometer

#### Features

- 62-junction thermopile detector
- High output/low resistance
- Leveling ball joint with built-in level
- Balanced long- and short-wave calibration coefficients
- Desiccant and purge points in support arm
- No power required
- Linear calibration
- Non-pressurized, easy replacement of windshields

The spectral response of the Model 097 is 250 to 60,000 microns (.25 to 60 nanometers). The sensor is extremely sensitive to levelness, and a built-in circular level is provided to facilitate proper installation. The mounting arm of the sensor contains the desiccant supply. Field maintenance is simplified by the design which incorporates heavy-duty polyethylene hemispherical windshields. The windshields are easily replaced and require no pressurization. The cable is directly attached to the sensor without connectors. The sensor is furnished with a supporting arm and mounting plate, enabling the sensor to install on any horizontal or vertical pipe having a diameter less than 1.5" (38 mm).