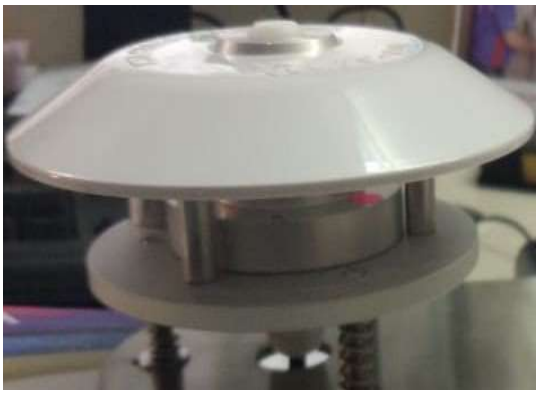
# Pyranometer WPM-01

WHIRLYBIRD



## Key Features

- Measures Global Radiation
- Detects Solar Radiation at wavelength of 300 to 1100 Nanometers
- Pyranometer data along with other sensors used to calculate PR and related data
- Silicon Photodiode to calculate Solar Spectrum
- Smart housing for convection Cooling of sensor.
- Wide temperature range operating from -20°C to 70°C

## Introduction

WPM 01 Solar Pyranometer, measures solar irradiance. The sensor's transducer, which converts incident radiation to electrical current, is a silicon photodiode. From the sensor's output voltage, the console calculates and displays solar irradiance. It also integrates the irradiance values and displays total incident energy over a set period of time.

## Specifications

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|---|---|
| **General** | |
| **Operating Temperature** | -40 to +65°C |
| **Storage Temperature** | -45 to +70°C |
| **Transducer** | Silicon Photodiode |
| **Spectral Response (10% points)** | 400 to 1100 nanometers |
| **Cosine Response**<br>**1. Percent of Reading**<br>**2. Percent of Full Scale** | <br>1. ±3% (0° to ±70° incident angle); ±10% (±70° to ±85° incident angle)<br>2. ±2% (0° to ±90°) |
| **I/O Specifications**<br>**1. Green Wire**<br>**2. Red & Black wires**<br>**3. Yellow wire** | <br>1. Output (0 to +3VDC); 1.67 mV per W/m2<br>2. Ground<br>3. +3 VDC ±10%; 1mA (typical) |
| **Temperature Coefficient** | +0.067% per °F (+ 0.12% per °C) |
| **Reference temperature** | 77°F (25°C) |
| **Correction per degree above reference temp** | -0.067% of reading per °F (-0.12% per °C) |
| **Correction per degree below reference temp** | +0.067% of reading per °F (+0.12% per °C) |
| **Sensor Output** | |
| **Resolution and Units** | 1 W/m2 |
| **Range** | 0 to 1800 W/m2 |
| **Accuracy** | ±5% of full scale (Reference: Eppley PSP at 1000 W/m2 ) plus 45 W/ m2 per 100' (30 m) of additional cable |
| **Drift** | up to ±2% per year |
| **Update Interval** | 50 seconds to 1 minute |