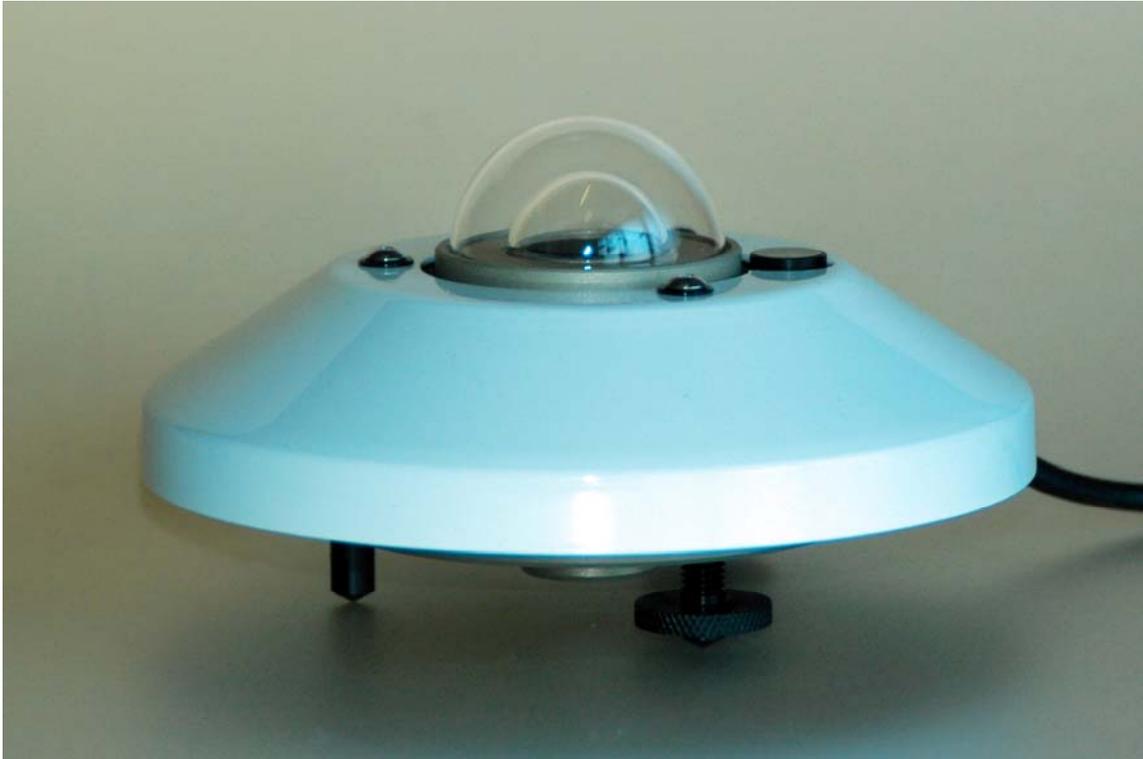


## EQ08 & EQ08-E PYRANOMETER

**First Class Pyranometer for Solar Global Radiation**



The Middleton Solar EQ08 is a precision pyranometer for the measurement of global solar irradiance on a plane surface. It exceeds the international accepted specifications for a good quality pyranometer. The EQ08 incorporates a state-of-the-art precision thermoelectric sensor. The EQ08-E version has an inbuilt signal amplifier.

Performance Specification	ISO 9060 First Class	EQ08/E (typical)
Response time (to 95%)	< 30s	<10s
Zero off-set: a) 200 W.m <sup>-2</sup>	+ 15 W.m <sup>-2</sup> (ventilated)	< + 3 W.m <sup>-2</sup> (ventilated) < + 4 W.m <sup>-2</sup> (unventilated)
b) 5K.h <sup>-1</sup>	± 4 W.m <sup>-2</sup>	< ± 2 W.m <sup>-2</sup>
Non-stability (per year)	± 1.5%	< -0.5%
Non-linearity ( 100-1000W.m <sup>-2</sup> )	± 1%	< ± 0.5%
Directional response (w.r.t. 1000 W.m <sup>-2</sup> )	± 20 W.m <sup>-2</sup>	< ±15 W.m <sup>-2</sup>
Spectral selectivity (0.35 to 1.5µm)	± 5%	< ±3%
Temperature response (for 50K interval)	4%	< 2%
Tilt response (0-90°)	± 2%	< ± 0.25%

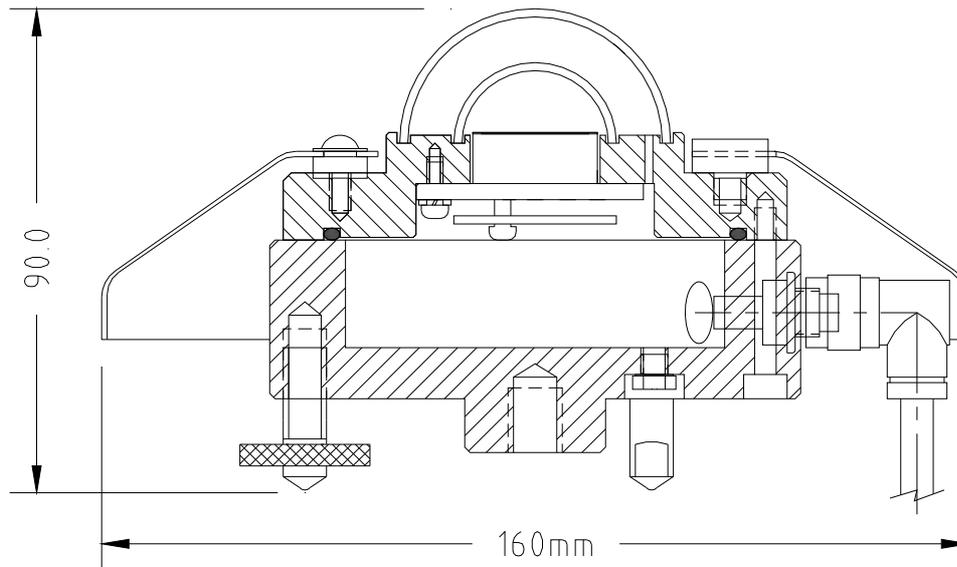
### EXCELLENT DIRECTIONAL RESPONSE, STABLE, DURABLE

Anodized marine grade aluminium, for outstanding corrosion resistance.

Recently upgraded temperature response, response time, and directional error.<sup>1</sup>

<sup>1</sup> upgrade from S/No. 8996

## Middleton Solar EQ08 & EQ08-E Pyranometer Detailed Specification



Exceeds every ISO 9060 specification for a First Class Pyranometer.
Temperature compensated thermopile sensor has flat spectral response.
The EQ08 has a passive microvolt output, and the EQ08-E version has an in-built signal amplifier to give a millivolt output for easy measurement.
Metal shade disc is thermally insulated from the body.
Stainless steel feet thermally isolate instrument from mounting structure.
Fully sealed, with no need to regularly inspect internal desiccant.
Dual glass domes protect the sensor from air temperature fluctuations.
Supplied with simple mounting kit.
User's Guide and Calibration Certificate included.

### General Specification

viewing angle	$2\pi$ steradians
irradiance	0 - 4000W/m <sup>2</sup>
spectral range	300 - 3000nm (nominal); 305 - 2850nm (50% points)
sensitivity (typical)	EQ08: 8-12 $\mu\text{V}/\text{W}\cdot\text{m}^{-2}$ ; EQ08-E: 1.0mV/W.m <sup>-2</sup>
signal resolution	< 0.5 W/m <sup>2</sup>
impedance	EQ08: 20 $\Omega$ ; EQ08-E: 65 $\Omega$
power requirement (EQ08-E only)	5 -15VDC; < 6mA
operating temperature	-35 to +60°C
bubble level resolution	0.1°
level adjustment	one fixed foot, two adjustable feet
desiccant	silica gel (orange, non-toxic)
IP rating	Sealed to IP67
mounting method	central M10 hole in base, plus pair M4 holes on 65mm P.C.D.
output lead	6m, with connector at instrument end
shipping size & weight; net weight	230 x 230 x 180mm, 2Kg; 0.8Kg

### Available Options

- temperature output (not EQ08-E), YSI 44031 thermister (10K $\Omega$  @ 25°C)
- additional output lead length, up to 20m
- EV2-H Ventilator / Heater Unit