MIDDLETON SOLAR

EQ08-S & EQ08-SE PYRANOMETER

Secondary Standard Pyranometer for Solar Global Radiation

The Middleton EQ08-S exceeds all international accepted specifications for a high quality pyranometer. The EQ08-S incorporates a unique thermoelectric sensor that has exceptionally low directional error without compromise to signal strength or response time. The EQ08-SE version has an in-built amplifier to give a millivolt output for easy signal measurement.

Performance Specification	**ISO 9060 Secondary Standard**	**EQ08-S, SE (typical)**
Response time (to 95%)	< 15s	< 9s
Zero off-set: a) 200 $W.m^{-2}$	+ 7 $W.m^{-2}$ (ventilated)	< + 3 $W.m^{-2}$ (ventilated) < + 5 $W.m^{-2}$ (unventilated)
b) 5K.h^{-1}	± 2 $W.m^{-2}$	< ± 1 $W.m^{-2}$
Non-stability (per year)	± 0.8%	< -0.5%
Non-linearity (100-1000$W.m^{-2}$)	± 0.5%	< ± 0.5%
Directional response (w.r.t. 1000 $W.m^{-2}$)	± 10 $W.m^{-2}$ (30-80°)	± 5 $W.m^{-2}$ (30-80°)
Spectral selectivity (0.35 to 1.5µm)	± 3%	< ± 2%
Temperature response (for 50K interval)	± 2%	< ± 0.5%
Tilt response (0-90°)	± 0.5%	< ± 0.2%

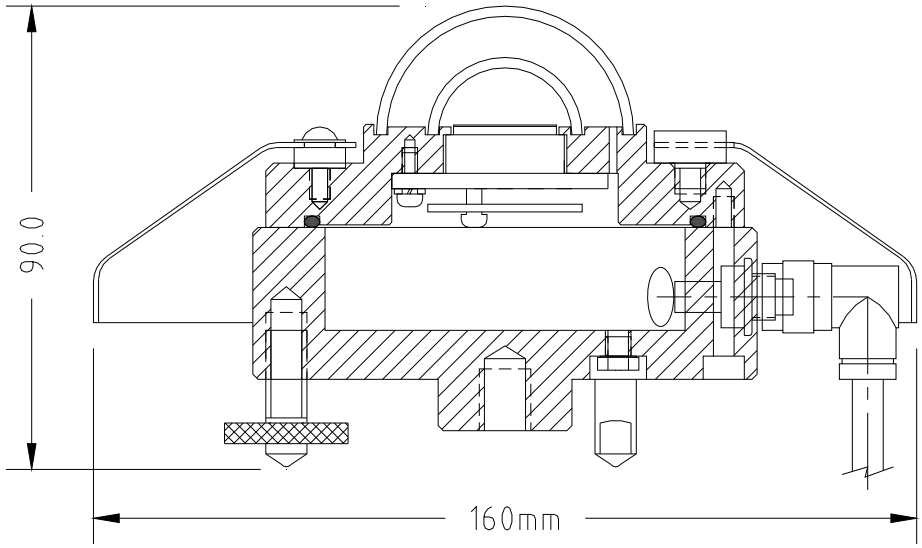
OUTSTANDING DIRECTIONAL RESPONSE, STABLE, DURABLE

Marine grade aluminium, anodized for corrosion resistance.

Recently upgraded temperature response, response time, and directional error.[1]

[1] upgrade from S/No. 5122

Middleton Solar EQ08-S & EQ08-SE Pyranometer Detailed Specification



Exceeds every ISO 9060 parameter for a Secondary Standard Pyranometer.
Temperature compensated thermopile sensor has flat spectral response.
The EQ08-S has a passive microvolt output, and the EQ08-SE 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 insulate instrument from mounting structure.
Fully sealed to IP67
Optional thermistor output for sensor temperature is available.
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	2π steradians
irradiance	0 - 4000W/m^2
spectral range	300 - 3000nm (nominal); 305 - 2850nm (50% points)
sensitivity (typical)	EQ08-S: 16-18 μV/W.m^{-2} ; EQ08-SE: 1.0mV/W.m^{-2}
initial calibration uncertainty (k=2)	< ± 1.5% (traceable to WRR)
impedance	EQ08-S: 20 Ω ; EQ08-SE: 65 Ω
power requirement (EQ08-SE only)	5 -15 VDC; < 6mA
operating temperature	-35 to +60°C
operating humidity	0-100% RH
bubble level resolution	0.1°
level adjustment	one fixed foot, two adjustable feet
desiccant	orange silica gel (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

- EQ08-SQ version, with fused silica "quartz" domes
- EQ08-ST version, with optimised temperature compensation
- temperature output (not EQ08-SE), YSI 44031 thermister (10KΩ @ 25°C)
- additional output lead length, up to 20m
- EV2-H Ventilator / Heater Unit

www.middletonsolar.com

made in Australia

912011DSC