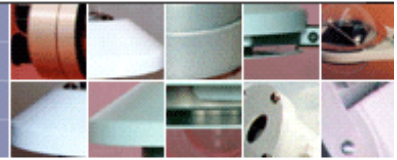


MIDDLETON SOLAR
16 WILSON AVENUE BRUNSWICK VICTORIA 3056 AUSTRALIA



EQ16 and EQ16-E PYRANO-ALBEDOMETER

EQ16 Dual Head Pyranometer for Solar Radiation Albedo

EQ16-E version with in-built Signal Amplifier



The Middleton EQ16 Pyrano-Albedometer is a dual head version of the Middleton EQ08 First Class Pyranometer. It is for the measurement of the ratio of upward to downward solar radiation flux density on a plane surface. The EQ16 has a direct microvolt output, and the EQ16-E version has an in-built signal amplifier.

Performance Specification	ISO9060 First Class	EQ16 & EQ16-E (typical)
Response time (to 95%)	< 30s	11s
Zero off-set: a) 200 W.m ⁻²	+ 15 W.m ⁻²	< + 6 W.m ⁻²
b) 5K.h ⁻¹	± 4 W.m ⁻²	< ± 2 W.m ⁻²
Non-stability (per year)	± 1.5%	+1.5%, -0.5%
Non-linearity (100-1000W.m ⁻²)	± 1%	± 0.5%
Directional response (w.r.t. 1000 W.m ⁻²)	± 20 W.m ⁻²	< ±15 W.m ⁻²
Spectral selectivity (0.35 to 1.5µm)	± 5%	< ±3%
Temperature response (for 50K interval)	4%	< 2%
Tilt response (0-90°)	± 2%	± 0.25%

MATCHED UPWARD AND DOWNWARD RESPONSE

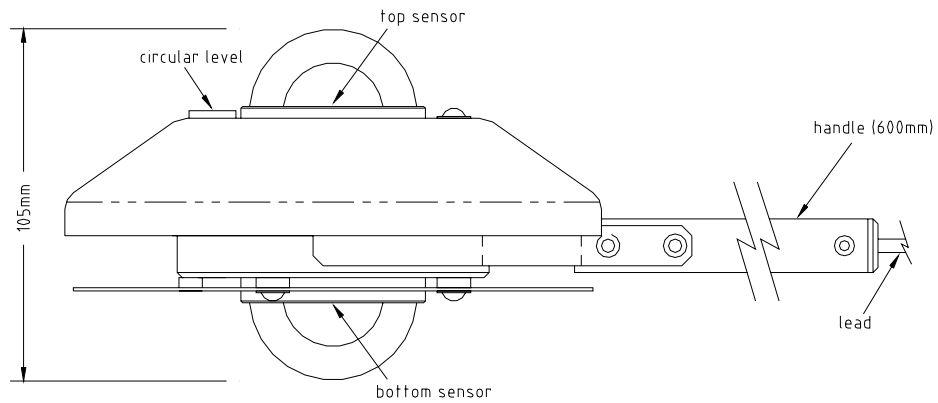
Marine grade aluminium, hard anodized for corrosion resistance.

Bubble level on top of instrument for easy viewing.

Fully sealed construction for low-maintenance.

Excellent directional response.

Middleton Solar EQ16 & EQ16-E Pyrano-albedometer Detailed Specification



Both sensors exceed the ISO9060 specifications for a First Class Pyranometer.
Temperature compensated thermopile sensors with flat spectral response.
The EQ16 has a passive microvolt output, and the EQ16-E version has an in-built signal amplifier to give a millivolt output for easy measurement.
Metal shade discs are thermally insulated from the body.
Fully sealed to IP66, with no need to regularly inspect internal desiccant.
Dual glass dome pairs protect the sensors from air temperature fluctuations.
Supplied with 600mm handle.
User's Guide and Calibration Certificate included.

General Specification

viewing angle	4π steradians
irradiance	0 - 4000W/m ²
spectral range	300 - 3000nm (nominal); 305 - 2850nm (50% points)
sensitivity (typical), two outputs	EQ16: 15 μ V/W.m ⁻² ; EQ16-E: 1.0 mV/W.m ⁻²
impedance	EQ16: 40 Ω ; EQ16-E: 100 Ω
operating temperature	-35 to +60°C
bubble level resolution	0.1°
desiccant	orange silica gel (non-toxic, self-indicating)
output lead	4m
shipping size & weight; net weight	930 x 255 x 140mm, 2.5Kg; 1.1Kg

EQ16-E Signal Amplifier

type	chopper stabilised (for zero amplifier drift)
voltage & current	+5.5V min., +14.5V max., -ve ground; 12mA max.
output characteristic (two outputs)	external load > 3K Ω ; max. output current: +2mA source, -5mA sink
overvoltage & polarity reversal protection	> 15V; > 0.2A

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