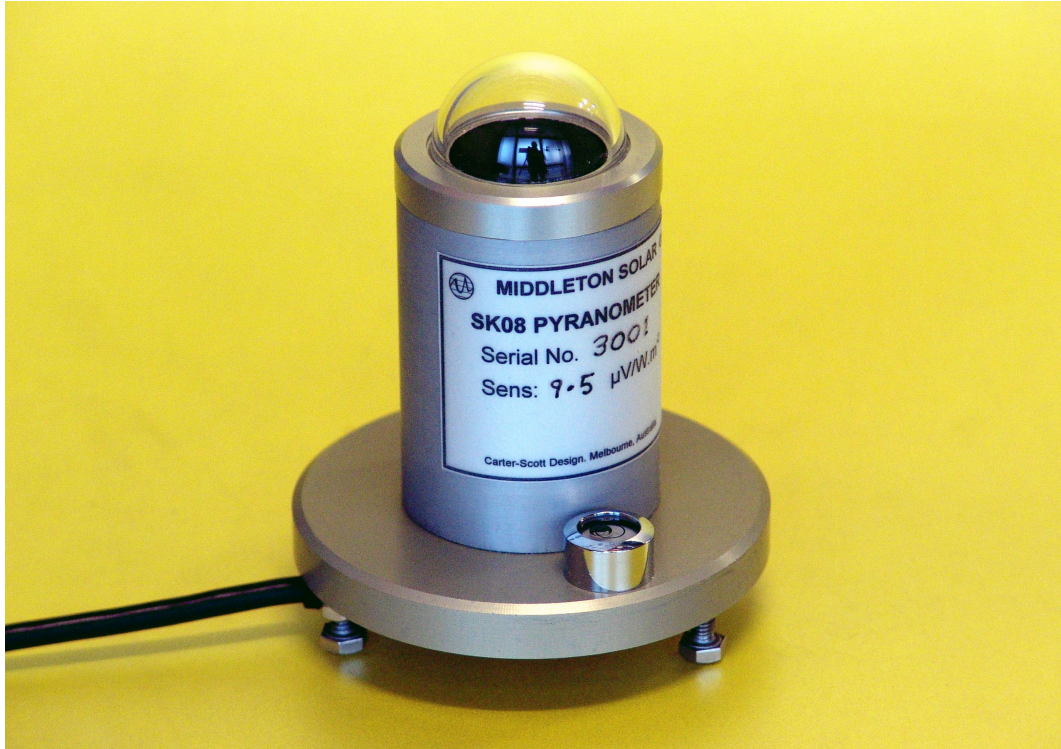


SK08 & SK08-E PYRANOMETER

ISO Spectrally Flat Pyranometer of Class B for Solar GHI measurement



The Middleton SK08 is a solar pyranometer for the accurate measurement of Global Horizontal Irradiance (GHI) on a plane surface. It exceeds the ISO specifications for a Class B pyranometer. The SK08 features a passive thermoelectric sensor, optimised for thermal stability. The SK08-E version has an inbuilt signal amplifier.

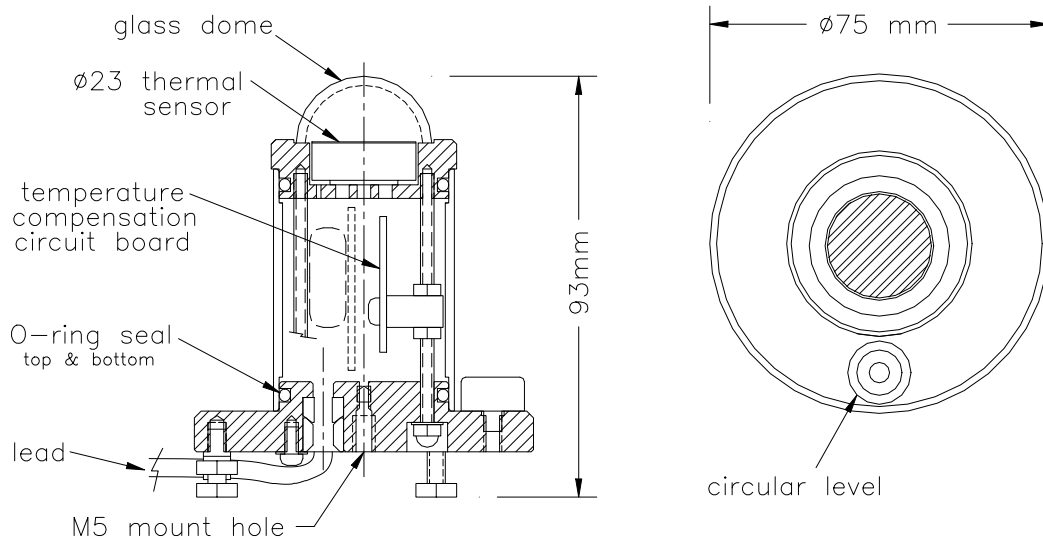
| Performance Specification | ISO 9060:2018 Spectrally Flat Class B | SK08 & SK08-E |
|--|---------------------------------------|---------------------------|
| Response time (95%) | < 20s | 7s |
| Zero offsets | | |
| a) thermal radiation (200 W.m ⁻²) | ± 15 W.m ⁻² | < + 2.5 W.m ⁻² |
| b) temperature gradient (5K/hr) | ± 4 W.m ⁻² | < ± 4 W.m ⁻² |
| Non-stability (change/year) | ± 1.5% | < - 0.5% |
| Non-linearity (100 - 1000 W.m ⁻²) | ± 1% | < ± 1% |
| Directional response (1000 W.m ⁻² at 80°) | ± 20 W.m ⁻² | < ± 20 W.m ⁻² |
| Spectral error (0.28 to 4μm) | ± 1 W.m ⁻² | < ± 1 W.m ⁻² |
| Spectral selectivity (0.3 to 3μm) | ± 3% | < ± 3% |
| Temperature response (-10 to +40°C) | ± 2% | < ± 2% |
| Tilt response (0-90°, at 1000 W.m ⁻²) | ± 2% | < ± 1% |

QUICK RESPONSE and STABLE OUTPUT SIGNAL

Aluminium construction, hard anodized for corrosion resistance.

Excellent directional response, and minimal thermal errors.

Middleton Solar SK08 & SK08-E Pyranometer Detailed Specification



| |
|--|
| Meets the ISO 9060:2018 specifications for a Spectrally Flat Pyranometer of Class B, and the equivalent WMO specifications for a Good Quality Pyranometer. |
| Temperature-compensated thermoelectric sensor. |
| The SK08 has a passive microvolt output, and the SK08-E version has an in-built signal amplifier to give a millivolt output for easy measurement. |
| Fully sealed to IP66, with no need for regular desiccant inspection. |
| Glass dome windshield to protect the sensor. |
| Black carbon nanotube (CNT) sensor surface |
| User's Instructions and Calibration Certificate included. |

General Specification

| | |
|------------------------------------|---|
| sensitivity (typical) | 9 - 10 $\mu\text{V}/\text{W}\cdot\text{m}^{-2}$ (SK08); 1.0mV/W.m ⁻² (SK08-E) |
| viewing angle | 2π steradians |
| maximum irradiance | 2,000 W/m ² |
| spectral range | 0.3 - 3 μm (nominal); 305 – 2800 nm (50% points) |
| resolution | $\pm 2 \text{ W}\cdot\text{m}^{-2}$ |
| operating temperature | -35 to +60°C |
| impedance | 33 Ω (SK08); 65 Ω (SK08-E) |
| level accuracy | 0.2° |
| power requirement (SK08-E only) | 5 -15 VDC; < 6mA |
| desiccant | orange silica gel (non-toxic) |
| mounting method | central M5 hole; adjustable feet |
| output lead | 6m |
| shipping size & weight; net weight | 150 x 150 x 150mm, 0.5Kg; 0.3Kg |
| fullscale output | < 20mV (SK08); < 2V (SK08-E) |
| daily uncertainty (95% confidence) | 5% |
| applications | economical good quality measurements for weather stations, networks, climate control, field testing |