



# Pyranometer SKS 1110

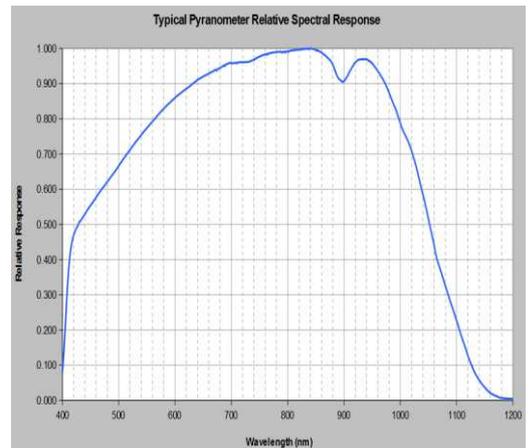
Skye Instruments have been specialising in light and radiation sensors since 1983. All are designed, manufactured and calibrated to the highest standards. Each is supplied with a Calibration Certificate traceable to the UK's National Physical Laboratory (NPL).

The SKS 1110 Pyranometer sensor is one of the widest selling unit in the Skye Instruments' range of sensors, with units sold all around the globe. It offers a compact sensor for solar energy measurements and compares favourably with thermopile sensors, offering considerable financial savings.

It gives a much greater output than thermopile instruments, which, with its better temperature stability, makes it easier to use. The sensors are calibrated against precision reference thermopile pyranometers in natural light conditions.

Although production checks are made using artificial sources, these sensors are calibrated for use in natural daylight conditions, and should not be used with artificial or filtered light sources (sensor type SKE 510 is offered for applications with artificial and mixed light sources, as well as ecological studies in conjunction with measurements of total solar radiation).

This limitation to outdoor use is due to the sensors response curve which differs from that of received solar energy. However, because it takes a constant sample of sky light it will always be accurate when used in such conditions outdoors.



## SKS 1110 SPECIFICATIONS

**Construction** - Material Dupont 'Delrin'

**Cable** - Screened, 7-2-3C

**Sensor** - Cosine corrector head

**Detector** - Silicon Photodiode

**Sensitivity -current (1)** - 0.05uA/wm<sup>2</sup>

**Sensitivity -voltage** - 10uv/wm<sup>2</sup>

**Working range (2)** - 0-5000w/m<sup>2</sup>

**Linearity error** - 0.2%

**Absolute calibration error (3)** - typ. <3% 5% max

**Cosine error (4)** - 3%

**Azimuth error (5)** - 1%

**Temperature coefficient** - +0.21%/°C

**Longterm stability (6)** - +2%

**Response time (7) (voltage output)** - 10ns

**Internal resistance (voltage output)** - c.200ohms

**Temperature range** - -35 to +75°C

**Humidity range** - 0-100% RH

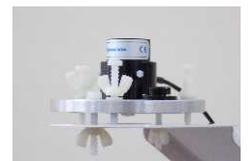
**Weight** - 130g (with 3m cable)

**Dimensions** -



## NOTES ON SPECIFICATIONS

- (1) Current output varies from sensor to sensor. Each individual unit will have a slightly different output. A calibration certificate is supplied with each sensor.
- (2) All Skye sensors will work at levels of irradiance well above that found in terrestrial sunlight conditions, room or growth chamber lighting.
- (3) Main source of this error is uncertainty of calibration of Reference Lamp. Skye calibration standards are directly traceable to N.P.L. standard references.
- (4) Cosine error to 80° is typically 5% max. Figures shown are for normal use sources, e.g., sun plus sky, diffuse sun, growth chambers, etc.
- (5) Measured at 45° elevation over 360°.
- (6) Maximum change in one year. Calibration check recommended at least every two years. Experience has shown that changes are typically much less than figures quoted.
- (7) Times are generally less than the figure quoted, which is in nanoseconds. They may be slightly increased if long leads are fitted, or those of a higher capacity cable.



## ORDERING INFORMATION

### Sensor

SKS 1110 - Silicon Cell Pyranometer Sensor with 3m cable (wire-ended)

### Accessories

SKM 221 - Levelling Unit  
SKM 226 - Long Arm Pole/Wall Mount

### Meters and Loggers

SKS 1100 - Handheld Display Meter

SpectroSense2 - 4 / 6 / 8 channel display meter/datalogger and optional GPS

SDL 5000 - DataHog2 multi-channel datalogger.

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