



# SKR 1800 2 Channel Sensor

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).

This sensor is a 2 channel radiometer, essentially two sensors in one. It has a removable cosine correcting head offering a choice of light collecting geometries. With the head in place it is suitable for measuring incident or downwelling light. When the head is removed it receives light from a narrow 25° cone, suitable for measuring reflected light from a defined area.

Usually a pair of sensors are used to measure incident and reflected light simultaneously, to eliminate variations in natural solar radiation during measurement.

Skye have a choice of wavelengths between 400 and 1050 nm, with bandwidths from 10 nm to several hundred nm (broadband). Popular choices include Red & Far-Red, Red & Near infra Red or channels matching satellite bands; or custom wavelengths to suit individual research projects.

Sensors are suitable for use in natural solar radiation or other lamp or light sources.

As with all Skye sensors, the 2 Channel sensor has been quoted in many scientific references, please ask for a list of publications. They are compatible with Skye SpectroSense meters and DataHog loggers as well as instruments from other manufacturers.



Removable cosine correcting head

Head on cosine corrected for incident light

Head off narrow angled for reflected light

Choose wavelengths between 400-1050nm

Ideal for NDVI, PRI and satellite ground truthing

## SKR 1800 SPECIFICATIONS

Construction - Removable cosine corrected head. Material Dupont 'Delrin'

Cable - Screened, 3 Core military specification.

Sensor - Cosine corrected head

Detector - Silicone Photodiode

Filters - Metal interference and/or glass depending on wavelengths & bandwidths chosen, to military specification.

Sensitivity - current (1) - Dependant on Wavebands

Sensitivity - voltage - Dependant on Wavebands

Working range (2) - Dependant on Wavebands

Linearity error - <0.2

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

Cosine error (4) - 3%

Azimuth error (5) - <1%

Temperature coefficient - +0.1%/°C

Longterm stability (6) - +2%

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

Temperature range - -25 to +75°C

Humidity range - 5-75% RH

Weight - 180g (with 3m cable)

Dimensions -



Mounting - M6 x 7mm tapped hole in base. Sensor supplied with M6 x 16mm screw + 4x 1.5mm washers to suit panel thicknesses of 3-10mm

## 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 NPL 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.

(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 capacitance cable.

## ORDERING INFORMATION

### Sensors

SKR 1800D/SS2 - 2 Channel sensor with diffuser for incident light (Please specify centre wavelength and bandwidth), 2m cable and SpectroSense2 connector

SKR 1800ND/SS2 - 2 Channel sensor with narrow angle for reflected light (Please specify centre wavelength and bandwidth), 2m cable and SpectroSense2 connector

### Accessories

SKM 222 - Levelling unit

### Meters and Dataloggers

SKL 904 - SpectroSense2, 4 channel meter

SKL 908 - SpectroSense2+, 8 channel meter and logger

SKL 925 - SpectroSense2+ with GPS Module

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