



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

Skye's calibration facility scope is between 400 and 1050 nm with bandwidths from 5 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 any lamp or light source.

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 280-1100nm
 Ideal for NDVI, PRI and satellite ground truthing

SKR 1800 SPECIFICATIONS

Construction - Removable cosine corrected head. Material Dupont 'Delrin'	Azimuth error (5) - <1%	Dimensions -
Cable - Screened. 3 Core military specification.	Temperature coefficient - +0.1%/°C	
Sensor - Cosine corrected head	Longterm stability (6) - +2%	
Detector - Silicone Photo Diode	Response time (7) (voltage output) - 10ns	
Filters - Metal interference and/or glass depending on wavelengths & bandwidths chosen, to military specification.	Temperature range -25 to +75°C	
Sensitivity - current (1) - Dependant on Wavebands	Humidity range - 5-75% RH	
Sensitivity - voltage - Dependant on Wavebands	Weight - 400g (with 3m cable)	
Working range (2) - Dependant on Wavebands	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	
Linearity error - <0.2		
Absolute calibration error (3) - typ. <3% 5% max		
Cosine error (4) - 3%		

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 capacitance cable

ORDERING INFORMATION

- Sensor
- SKR 1800 - 2 Channel sensor (Please specify centre wavelength and bandwidth)
 - SKR 1800/SS2 - 2 Channel sensor (Please specify centre wavelength and bandwidth) with a SpectroSense2 connector and 2m cable
 - SKR 1800/1 - 2 Channel sensor (Please specify centre wavelength and bandwidth) with a DataHog2 connector and 3m cable

Accessories

SKM 222 - Levelling unit

Meters and Dataloggers

- SKR 100 - Display Meter
- SKL 904 - SpectroSense2
- SKL 908 - SpectroSense2+ with GPS Module
- SDL 5000 series DataHog2 dataloggers

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