SKR 1840
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).

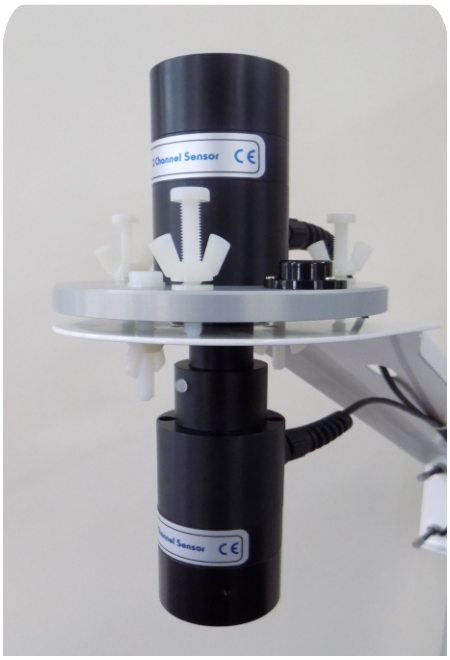
This sensor is a NEW 2 channel radiometer, specially designed for permanent installation on Flux Towers, masts, etc. The upward looking sensor which measures radiant light is cosine-corrected, and the downward looking sensor has a narrow 25° cone, suitable for measuring radiance from a defined area.

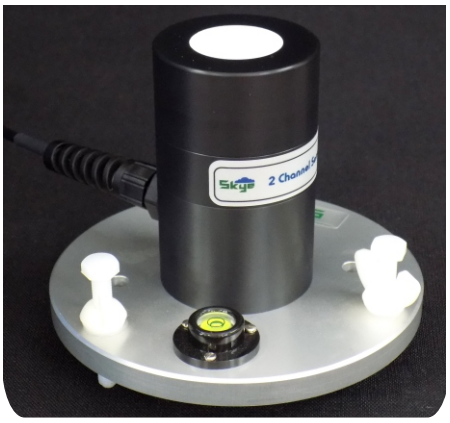
Usually a pair of sensors are used to measure incident and reflected light simultaneously, to eliminate variations in natural solar radiation during measurement.

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, NDVI & PRI for ground truthing, 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.





SKR 1840 SPECIFICATIONS

Construction: Housing Dupont UV resistant 'Delrin' 527UV Cosine-correcting diffuser, optical glass

Cable: Screened. 3 Core military specification

Sensor: Upward looking sensor - Cosine corrected head Downward looking sensor - 25 deg. acceptance cone

Detector: Wavelength dependent

Filters: Metal interference and/or glass depending on wavelengths & bandwidths chosen

Output (1): Microamp output as standard. Resistors are supplied to give a mV output

Working range (2): Dependant on Wavebands

Linearity error: <0.2%

Absolute calibration error (3): typically better than 5%

Cosine error (4): Typically <5% to 60°

Azimuth error (5): +/- <1%

Longterm stability (6): +/- 2%

Temperature range: -20°C to +75°C

Humidity range: Sensor intended for outside use. In higher humidities, maintenance will be required to keep the surfaces clean

Weight: 295g (with 3m cable and plug)

Dimensions: 49mm (diameter) x 86mm (height)

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 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.

(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 INFOMATION

Sensors

SKR 1840D - 2 Channel sensor with diffuser for incident light (Please specify centre wavelength and bandwidth), 3m cable

SKR 1840ND - 2 Channel sensor with narrow angle for reflected light (Please specify centre wavelength and bandwidth), 3m cable

Accessories

SKM 227S - Levelling Bracket with Off-Nadir Adjustment, short version (see separate datasheet)

SKM 227 - Levelling Bracket with Off-Nadir Adjustment (see separate datasheet)

Meters and Dataloggers

SDL 5000 Series - DataHog2 Datalogger

SDL 5000/SD - DataHog2 with SD Storage

Skye Instruments Ltd

21, Ddole Enterprise Park, Llandrindod Wells, Powys LD1 6DF, United Kingdom

TEL: +44 (0)1597 824811 EMAIL: skyemail@skyeinstruments.com WEB: www.skyeinstruments.com

Version 1.1