



4 Channel Sensor SKR 1850D & 1850ND SKR 1850D/A & 1850ND/A

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).

These radiometers are available with 4 individual channels, essentially multiple sensors in one housing. Sensors intended for measuring downwelling or incident radiation are fitted with cosine correcting head. Sensors supplied for upwelling or reflected light receive radiation from a narrow 25° cone, enabling measurements from a defined area. Other acceptance angles are available on request.

Usually a pair of sensors with identical wavebands are used to measure incident and reflected light simultaneously, to eliminate variations in natural solar radiation during measurement. Sensors can be installed on a hand-held pole for field mapping, on meteorological or CO₂ flux towers for long term monitoring, or are light enough to be used on aircraft for larger scale studies.

The SKR 1850 series sensors can be ordered with the user's choice of wavebands in the VIS and NIR ranges between 400-1050nm. Once the wavebands are fitted and calibrated, they are not changeable by the user. Popular choices include Red & Far-Red, Red & Near Infra Red or channels matching satellite bands for ground truthing. For SWIR wavebands please choose the SKR 1860 sensors.

These sensors are suitable for use in natural solar radiation or any lamp or light source. Please note that these sensors are no longer waterproof. The waterproof version is now the SKR 1860 light sensor. They are compatible with the Skye SpectroSense2 meters and DataHog2 loggers. There is also a choice of outputs and amplifications to suit most instruments from other manufacturers.

As with all Skye products, these sensors have been quoted in many scientific references. Please ask for a list of publications.



Choose wavelengths between 400-1050 nm
VIS and NIR wavebands
Cosine corrected for incident light
Narrow angle FOV for reflected light
Ideal for NDVI, PRI, WBI & satellite ground truthing

SKR 1850 SPECIFICATIONS

| | | | |
|-------------------|--|----------------------|---|
| Range | 4 channels individually chosen at time of ordering between 400-1050 nm. Bandwidths from 5nm to several 100 nm | Power supply | SKR 1850 not required SKR 1850A 5-15 VDC @ 3 mA. Internal power regulator For SKR 1850A with output 0-2V 5-15 VDC For SKR 1850A with higher output e.g. 0-3V, 0-5V etc. 9-15 VDC |
| Construction | Black Delrin acetyl and black anodised aluminium housing. Cosine correcting head acrylic and PVC. Regular maintenance required to keep light collecting surfaces clean and free from obstruction, e.g. dust, moisture, algae etc | Cosine Error | Typically 3% to 80 degrees when the cosine diffuser head is fitted. Sensor has a 25 degree total cone (12.5 degree off normal) Field of View when cosine diffuser head is not fitted. Other FOV available on request |
| Filters | Metal interference and/or glass depending on wavelengths & bandwidths chosen, to military spec. | Response Time | SKR 1850 - typically less than 100 nanoseconds. SKR 1850A - 2 milliseconds |
| Detector | Silicon photodiode | Absolute Calibration | Typically better than 5%. Note that this error is to some dependant on bandwidth - wide bandwidths will be less subject to error than Very low bandwidth channels. |
| Cable | Screened, 7-4C, military specification. 3m. Standard length. | Dimensions |  |
| Temperature Range | -35 to +75 °C | Weight | 400g (with 3m cable) |
| Humidity Range | 5-95% | 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 |
| Output | SKR 1850 - current output (nA) which varies with filters used. SKR 1850A - voltage output scaled according to filters used. 0-2V as standard, other ranges available. | Linearity | Better than 0.2% of scaled range. |

ORDERING INFORMATION

Sensors

SKR 1850D - 4 Channel sensor. Cosine corrected for incident light measurements (Please specify wavelength and bandwidth). 3m cable

SKR 1850ND - 4 Channel sensor. Narrow angle FOV for reflected light measurements. (Please specify wavelength and bandwidth). 3m cable

SKR 1850D/A - 4 Channel sensor with Integral Amplifier. Cosine corrected for incident light measurements (Please specify wavelength and bandwidth). 3m cable*

SKR 1850ND/A - 4 Channel sensor with Integral Amplifier. Narrow angle FOV for reflected light measurements. (Please specify wavelength and bandwidth). 3m cable*

*the Amplified version isn't required when used with a SpectroSense2 or DataHog2.

Add Prefix

/SS2 - SpectroSense2 connector and 2m cable

/I - DataHog2 connector and 3m cable

Accessories

SKM 222 - Levelling unit

Meters and Dataloggers

SKL 904 - SpectroSense2 (4 channel non-logging)

SKL 906 - SpectroSense2+ (4 channel logging)

SKL 908 - SpectroSense2+ (8 channel logging)

SKL 925 - SpectroSense2+ with GPS Module (8 channel logging)

SDL 5000 series DataHog2 dataloggers

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