SKR 110
Red/Far-Red 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). The Red / Far-Red (RFR) sensor is one of a range of Skye's light sensors for plant growth and research. It is second in popularity only to the PAR Quantum sensor in this field.

The sensor is a 2 channel radiometer, essentially two sensors in one. The specially designed light collecting head (fully Cosine Corrected) randomly splits light between two separately filtered photodiodes, giving a light intensity output for each of the red and far-red channels, ideal for measuring the RFR Ratio. Wavelengths other than 660 nm and 730 nm may be chosen if required. Skye's calibration facility scope is between 280 and 1100 nm with bandwidths from 5 nm to several hundred nm (broadband).

Sensors are suitable for use in natural solar radiation or any lamp or light source. Each is fully waterproof and guaranteed submersible to 4m depth. As with all Skye sensors, the Red / Far-Red sensor has been quoted in many scientific references, please ask for a list of publications. They are compatible with Skye Display Meters, SpectroSense meters and DataHog loggers as well as instruments from other manufacturers.

SKR 110 SPECIFICATIONS

Construction - Material Dupont 'Delrin' fully sealed to IP68

Cable - 2 core Screened DEF std 61-12/4/5

Sensor - Cosine corrected head

Detector - GaAsP

Filters - Optical glass

Sensitivity channel 1 (1) - 660 channel approx. 30 mmol/ mamp

Sensitivity channel 2 (1) - 730 channel approx. 30 mol/ amp

Working range (2) - <2,000 mol/m2/sec

Linearity error - <0.2%

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

Cosine error (4) - 3%

Azimutherror (5) - <1%

Temperature coefficient - +0.1%/°C

Longterm stability (6) - +2%

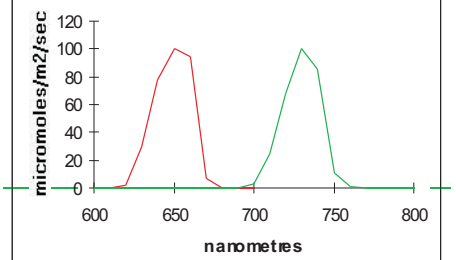
Response time (7) (voltage output) - 10ns

Temperature range - -35 to +75°C

Humidity range - 0-100% RH

Dimensions -

Weight - 160g (with 3m cable)



2 Channel Sensor

Red/Far-Red ratio

Monitors light quality for plant growth

For phytochrome studies

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 INFOMATION

Sensor

SKR 110 - Red/Far-Red Sensor with 3m cable (wire-ended)

SKR 110/1 - Red/Far-Red Sensor with 3m cable and DataHog plug

SKR 110/SS2 - Red/Far-Red Sensor with 2m cable and SpectroSense2 plug

Accessories

SKM 221 - Levelling unit

SKM 226 - Long arm pole/wall mount

Meters and Dataloggers

SKR 100 - Hand-held Display Meter

SDL 5000series - DataHog2 dataloggers

SKL 904 - SpectroSense2, 4 channel light meter

SKL 908 - SpectroSense2+, 8 channel light meter & rlogger

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