



# LIGHT

## 660/730 Sensor (Red/Far Red)

- 2 Channel Sensor
- Red light at 660 nm
- Far-Red light at 730 nm
- Red / Far-Red Ratio
- Monitors light quality for plant growth
- For phytochrome studies

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.



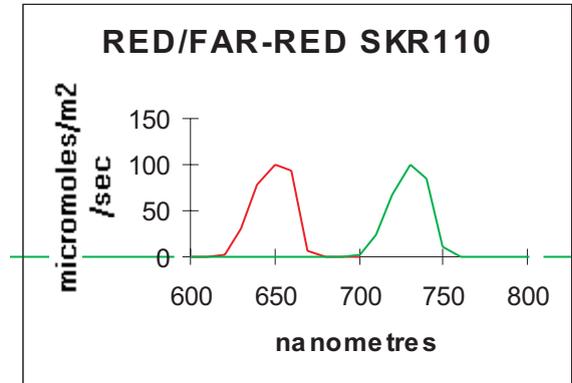
## SKR 110 SPECIFICATIONS

Dimensions	Weight	Construction	Cable	Sensor	Detector	Filters	Sensitivity 660 channel (1)	Sensitivity 730 channel (1)	Working range (2)
	160g. (with 3m cable)	Material Dupont 'Delrin' fully sealed to IP68	2 core screened DEF std 61-12/4.5	Cosine corrected head	GaAsP	Optical glass	660 channel approx. 30µmol/ µamp	730 channel approx. 30µmol/ µamp	<2,000 <sup>4</sup> µmol m <sup>-2</sup> s <sup>-1</sup>
Linearity error	Absolute calibration error (3)	Cosine error (4)	Azimuth error (5)	Temperature coefficient	Longterm stability (6)	Response time (7) - voltage output	Temperature range	Humidity range	
<0.2%	typ. <3% 5% max.	3%	<1%	±0.1%/°C	±2%	10ns	-35 to +75°C	0-100% RH	

## 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

## GRAPH



## ORDERING INFORMATION

### Sensor

SKR 110 660/730 (Red/Far red) Sensor

### Accessories

SKM 221 Levelling unit  
SKM 226 Long arm pole/wall mount

### Meters and dataloggers

SKR 100 Display meter  
SKL 904 SpectroSense2  
SKL 908 SpectroSense2+  
SDL 5000 series DataHog datalogger

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