



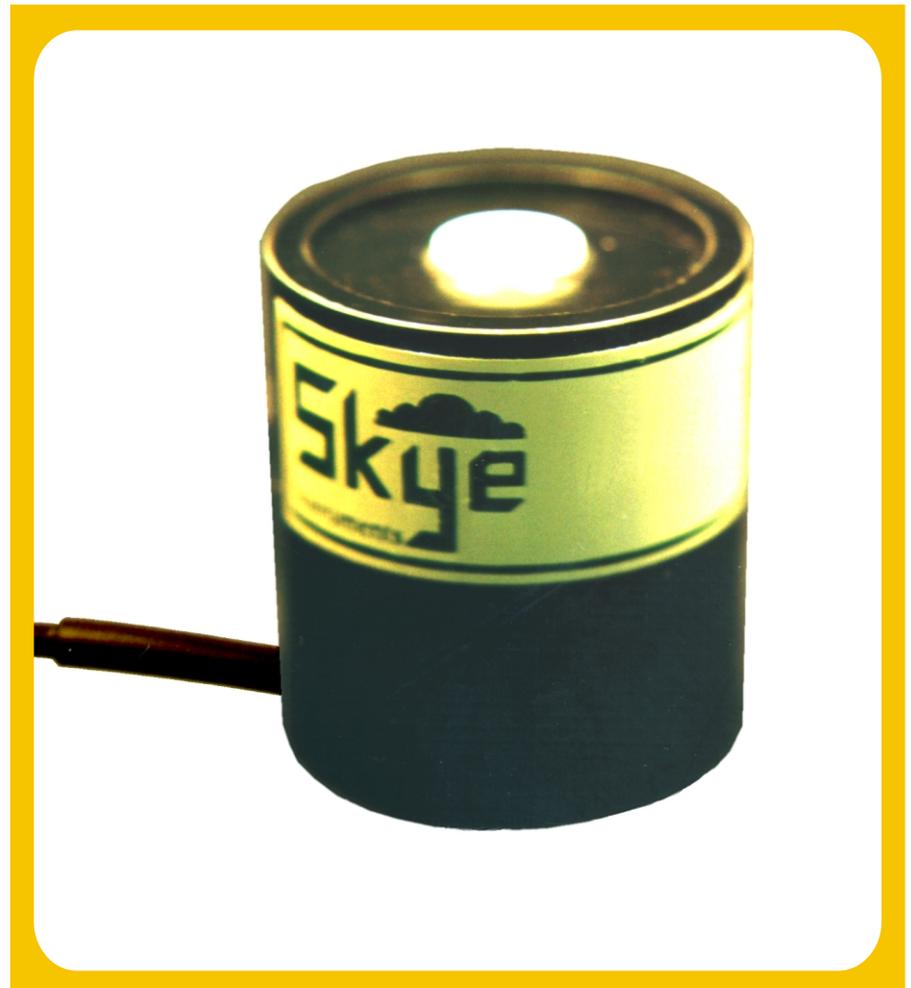
# LIGHT

## PAR 'Special' Sensor

- Choice of sites for indoor plants and planting sites in gardens
- Design of lighting arrays in greenhouses and other environmental facilities
- Predicting over a long period of time, photosynthetic activity, particularly under fluctuating light environments such as plant canopies
- Comparison of photosynthetic efficiencies of light sources, differing in spectral emission
- Assessment of drift in incident radiation
- Use in conjunction with the Quantum sensor

The design of the PAR 'Special' sensor is exclusive to Skye and compliments the standard PAR Quantum sensor.

Both sensors measure Photosynthetically Active Radiation between 400 and 700nm, the light energy used by plants for photosynthesis. The PAR Quantum sensor has the 'square' ideal response curve, whereas the PAR 'Special' is closely matched to a real plant's light response curve.



Just like any green plant, the 'PAR Special' sensor is more sensitive to blue and red light wavelengths than it is to green wavelengths. This makes the sensor ideal for plant research projects involving light measurements.

Applications include: assessment of natural growing conditions, efficiency of artificial lighting, shading requirements, keeping historical environmental records.

As with all Skye light sensors, the PAR 'Special' is available with a hand-held display meter SpectroSense logging meter or DataHog datalogger. A range of outputs are also available for compatibility with other loggers or control systems.

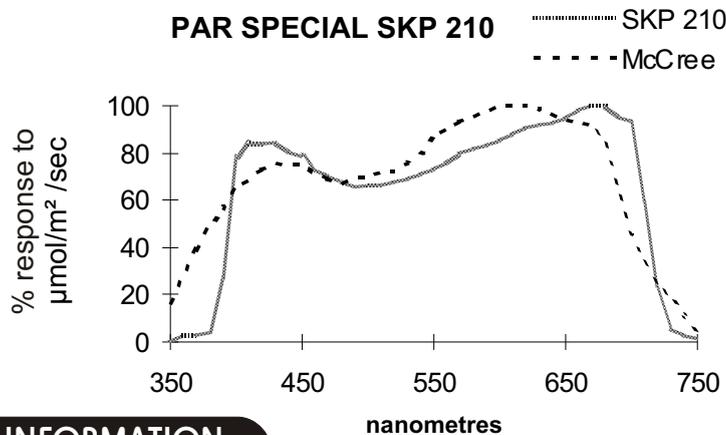
# SKP 210 SPECIFICATIONS

Dimensions	Weight	Construction	Cable	Sensor	Detector	Filters	Sensitivity -current (1)	Sensitivity -voltage	Working range (2)
	140g. (with 3m cable)	Material Dupont 'Delrin' fully sealed to IP68	2 core screened DEF std 61-12/4.5	Cosine corrected head	Silicon photocell low fatigue characteristics	Optical glass	2µA/100 µmol/m <sup>2</sup> /sec	1mV/100 µmol/m <sup>2</sup> /sec	0 -10 <sup>4</sup> µmol/m <sup>2</sup> /sec
Linearity error	Absolute calibration error (3)	Cosine error (4)	Azimuth error (5)	Temperature coefficient	Longterm stability (6)	Response time (7) - voltage output	Internal resistance - voltage output	Temperature range	Humidity range
<0.2%	typ. <3% 5% max.	3%	<1%	±0.1%/°C	±2%	10ns	c.500 ohms	-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
- (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



\*Reference.

KJ McCree. The action spectrum, absorbance and quantum yield of photosynthesis in crop plants. Agricultural Meteorology. 1971/72. Vol 9, pp 191-216.

## ORDERING INFORMATION

### Sensor

SKP 210 PAR 'Special' sensor

### Accessories

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

### Meters and dataloggers

SKP 200 Display meter  
 SKL 900 Spectr Sense  
 SDL 5000 series DataHog datalogger

DataHogs also available for 'plug-in sensors'. Please inquire.

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