

LIGHT

PAR Energy Sensor

- Measures Photosynthetically Active Radiation
- PAR Energy in watts m^{-2}
- Square spectral response For agro-meteorology studies
- Ideal for monitoring lamp efficiencies
- Suitable for natural and artificial light sources
- Calibrated to National Standards

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).

There are three PAR sensors in the range, PAR Quantum, PAR Special and PAR Energy models. All measure the Photosynthetically Active Radiation between 400-700 nm, the part of the solar spectrum used by plants for photosynthesis and sugar production.



The PAR Energy sensor is calibrated in watts m^{-2} for the measurement of the energy of PAR light, rather than the quantity of PAR light (or photon irradiance) as measured by the PAR Quantum and PAR Special sensors. It is often used in conjunction with a Pyranometer sensor for monitoring the ratio of PAR light in total solar radiation.


The Light Meter for Growers consists of a PAR Energy sensor and Display Meter which is ideal for monitoring the efficiency and distribution of supplementary lighting. Please ask for a separate datasheet.

PAR 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. Indoor versions are also available, please ask for details of sensors for environmental control.

They are compatible with Skye Display Meters, SpectroSense meters and DataHog loggers. A choice of outputs are also available to suit most dataloggers and controllers.



SKE 510 SPECIFICATIONS

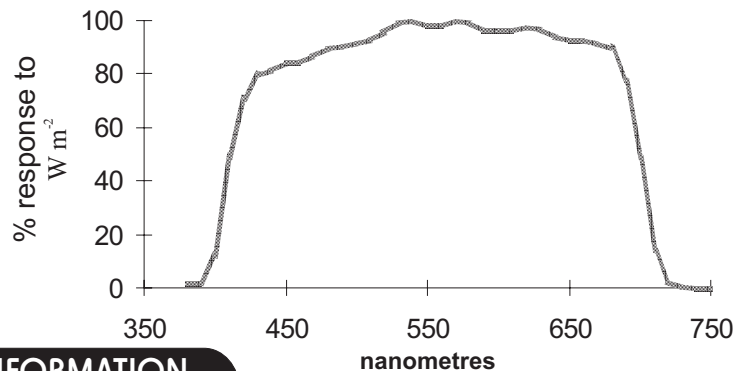
Dimensions	Weight	Construction	Cable	Sensor	Detector	Filters	Sensitivity -current (1)	Sensitivity -voltage	Working range (2)
	130g. (with 3m cable)	Material Dupont 'Delrin' Fully sealed to IP68	2 core screened DEF std 61-12/4.5	Cosine corrected head	Blue enhanced planar diffused silicon	Optical glass	3.5µA/ 100 W m ⁻²	1mV/ 100 W m ⁻²	0-5000 W m ⁻²
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.300 ohms	-35 to +70°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

PAR ENERGY SENSOR SKE 510



ORDERING INFORMATION

Sensor

SKE 510 Energy sensor

Accessories

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

Meters and dataloggers

SKE 500 Display meter
SKL 904 4 channel SpectroSense2 display meter
SKL 908 8 channel SpectroSense2 logging display meter
SDL 5000 series DataHog datalogger

Skye Instruments Ltd

