PAR Energy Sensor SKE 510

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 400-700nm, the part of the solar spectrum used by plants for photosynthesis and sugar production.

The PAR Energy sensor is calibrated in W 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 sealed to IP67. 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.

Measures Photosynthetically Active Radiation
PAR Energy in W 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

SKE 510 SPECIFICATIONS

Construction - Material Dupont 'Delrin' fully sealed to IP67

Cable - Screened 7-2-3C

Sensor - Cosine corrected head

Detector - Si Photodiode

Filters - Optical glass

Sensitivity -current (1) - 0.1µA / W m^{-2}

Sensitivity -voltage - 10µV / W m^{-2}

Working range (2) - 0-5000 W m^{-2}

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

Internal resistance (voltage output) - c.130Ω

Temperature range - -35 to +75°C

Humidity range - 0-100% RH

Weight - 130g (with 3m cable)

Dimensions -

ORDERING INFOMATION

Sensor

SKE 510 - Energy Sensor with 3m cable

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

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.

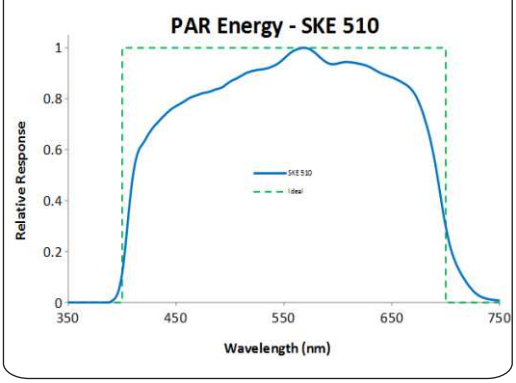
(4) Cosine error to 80º is typically 5% max. Figures shown are for normal use sources, e.g., sun plus sky, diffuse sun, growth chambers, etc.

(5) Measured at 45º elevation over 360º.

(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



Skye Instruments Ltd
21, Ddole Enterprise Park, Llandrindod Wells, Powys LD1 6DF, United Kingdom
TEL: +44 (0)1597 824811 EMAIL: skyemail@skyeinstruments.com WEB: www.skyeinstruments.com