SKP 215
PAR Quantum 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). 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 most popular is the PAR Quantum sensor which is used to measure photon irradiance, or quantity of PAR light. It is calibrated in units of umol m2 s1 (number or quanta of photons). 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.

As with all Skye sensors, the PAR Quantum sensor has been quoted in many scientific references, please ask for a list of publications. They are compatible with Skye Display Meters, SpectroSense2 meters and DataHog2 loggers. A choice of outputs are also available to suit most dataloggers and controllers.

SKP 215 SPECIFICATIONS

Construction

Material Dupont 'Delrin' fully sealed to IP68

Cable

2 core screened DEF std 61-12/4.5

Sensor

Cosine corrected head

Detector

Blue enhanced silicon photocell. Low fatigue characteristics

Filters

Optical Glass

Sensitivity - current (1)

2uA/100umol m^{-2} s^{-2}

Sensitivity - voltage

1mV/100umol m^{-2} s^{-2}

Working range (2)

0-5x10^4 umol m^{-2} s^{-2}

Linearity error

<0.2%

Absolute calibration error (3)

typ. <3% 5% max.

Cosine error (4)

3%

Azimuth error (5)

<1%

Temperature coefficient

+0.1%/°C

Longterm stability (6)

+2%

Response time (7)

10ns

Internal resistance (voltage output)

c.350 ohms

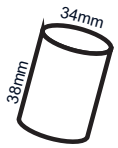
Temperature range

-35 to +75°C

Humidity range

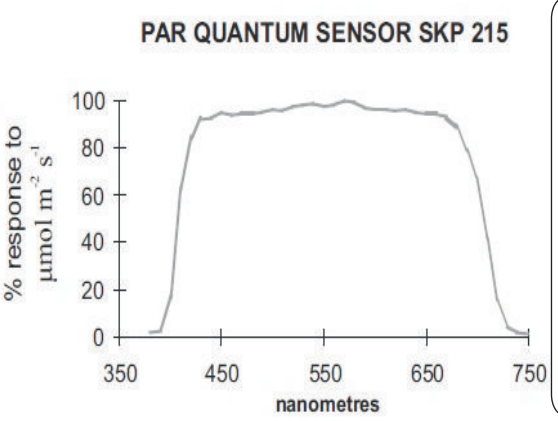
0-100% RH

Dimensions



Weight - 400g

130g.(with 3m cable)



Measures Photosynthetically Active Radiation

Counts quanta of photons in umol m^{-2} s^{-2}

Ideal or square PAR spectrum response

For plant and crop research

Commercial horticulture applications

Suitable for natural and artificial light sources

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

SKP 215 - PAR 'Quantum' sensor

Suffix

/SS2 - SpectroSense2 meter (2m cable)
/1 - DataHog2 datalogger (3m cable)

Accessories

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

Meter & Dataloggers

SKP 200 - Display meter

SKL 904 - 4 channel SpectroSense2 display meter
SKL 908 - 8 channel SpectroSense2 logging display meter

SDL 5000 - series DataHog2 datalogger

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