

LIGHT

Ultra-violet B Sensor

- Climatology, meteorology
- UV effects on ecosystems
- Marine biology, ecology, zoology
- Studies of plant and animal responses to rising UV levels
- To monitor exposure of test samples in natural and other UV sources

Skye offer sensors to measure light levels in the Ultraviolet A and Ultraviolet B wavebands. The wavelengths used in these sensors are according to DIN 5031 part 7. This leaflet describes the UVB sensor.

The dimensions and overall look of these sensors are similar to that of our other

sensors. The housing is black aluminium and sealed to IP68 standards, making them suitable for underwater use. Skye guarantees sensors to a depth of 4 metres.

The light collecting head utilises a UV stable polymer and is cosine corrected.


The sensors have been

designed with an integral amplifier to give a voltage output for use with most dataloggers, computers, PLCs, etc.

All sensors are calibrated against a reference light source which is directly traceable to NPL and each sensor is issued with a calibration certificate.



SPECIFICATIONS

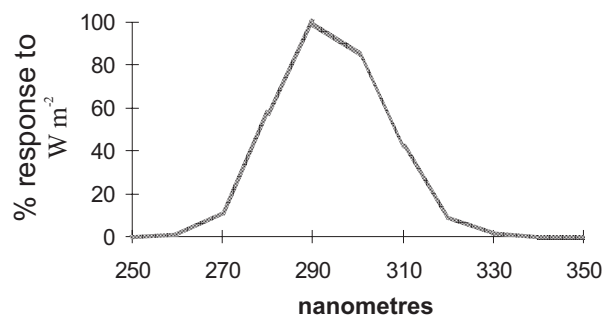
Dimensions	Weight	Construction	Cable	Sensor	Detector	Filters	Spectral response (1)
 34mm 69mm	200g. (with 3m cable)	Anodised black aluminium sealed to IP68 Submersible to 4m	Screened cable 7-1-4C military specification	Cosine corrected head. Specially formulated diffuser	SiC Photodetector	N/A	280 - 315nm
Working range (2)	Output signal	Sensitivity	Thermal drift of output (-20 to +50°C)	Zero offset range (each sensor is individually calibrated)	Thermal drift of zero offset (-20°C to +50°C)	Output impedance	Power supply
0-10 $W m^{-2}$	0-1V	150 mV per $W m^{-2}$	0.075mV/°C max	$\pm 1mV$	typically 0.03 mV/°C	500Ω	5-15V
Linearity (0-1V with 9V power supply)	Absolute calibration error (3)	Cosine error (4)	Azimuth error (5)	Temperature coefficient	Longterm stability (6)	Response time (7)	Operating range
Better than 1%	typ. <3% 5% max.	3%	<1%	$\pm 0.2\%/^{\circ}C$	$\pm 2\%$	Better than 10ms	-30 to +60°C 0-100% RH

NOTES ON SPECIFICATIONS

- (1) FWHM or 50% transmission
- (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

UV-B SKU 430



ORDERING INFORMATION

Sensor

- SKU 430 Sensor to measure UVB (280-315nm)
 SKU 430/SS2 Sensor as above with SpectroSense2 connector

Accessories (see separate datasheet)

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

Meters and dataloggers (see separate datasheet)

- SKL 904 SpectroSense2
 SKL 908 SpectroSense2+
 SDL 5030/UVB DataHog with built-in UVB sensor
 SDL 5000 series DataHog loggers

Skye Instruments Ltd

