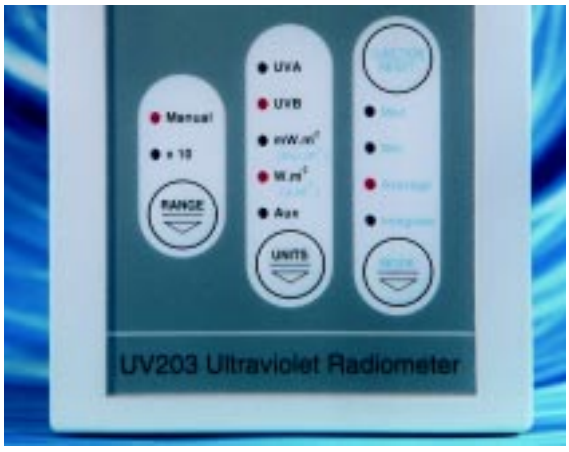
UV203 RADIOMETER

The Macam portable radiometer model UV203 is a versatile direct reading instrument designed specifically for measuring UV irradiance. Up to three ultra-violet spectral responses may be used with each radiometer for measurements across the UV spectrum. Detector options include standard laboratory detectors with interchangeable filter rings, low profile or sealed waterproof detectors. A range of input accessories is available including high accuracy cosine input diffusers and remote input systems.

APPLICATIONS

- Measurement of mercury discharge lamps, in photolithography, printing and UV curing.
- Monitoring UV sources in phototherapy.
- Photostabilty testing.
- Plant science.



UV203 keypad switches and indicators

FEATURES

- Compact and robust it is ideal for field, laboratory and factory use.
- Detachable detector head for remote sensing.
- Easy to operate with micro-processor control.
- Auto or manual ranging detector amplifier.
- Direct reading in mW/m^2 and W/m^2.
- Wide range of narrow band and broad band filters.
- High accuracy cosine corrected diffuser.
- Special functions including integration & average.

UV BROAD BAND FILTERS WITH COSINE CORRECTION

FILTER	λ PEAK	BANDWIDTH FWHM
UVA Cos	365 ±2nm	35 ±2nm
UVB2 Cos	311 ±2nm	19 ±2nm
UVAB Cos	352 ±5nm	79 ±4nm

Other spectral responses are available.

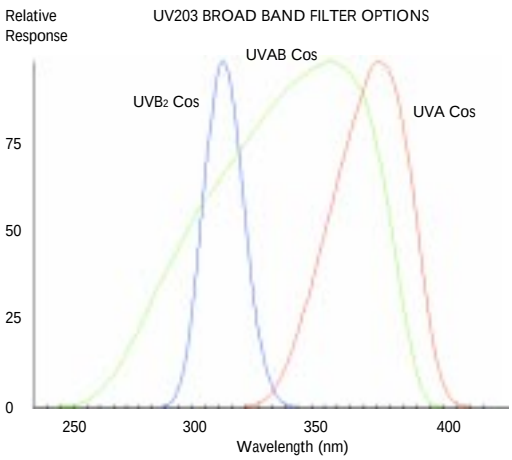
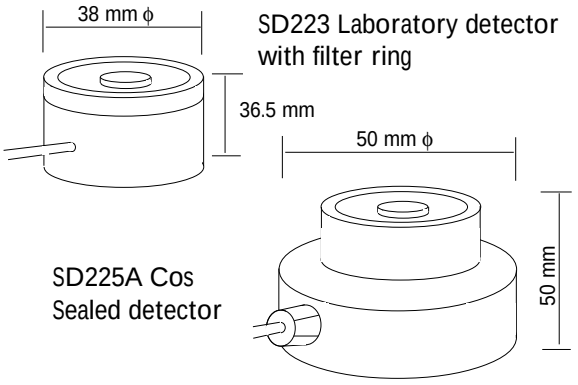


PHOTO-RESIST AND BLUE LIGHT BROAD BAND FILTERS WITH COSINE CORRECTION

These filter rings are designed to measure ultra violet and blue light bands used for the exposure of photoresist inks. Also available are filters to measure the ACGIH blue light hazard function and the hyper-biliruben phototherapy lamp.

FILTER	λ_{PEAK}	BANDWIDTH FWHM
UV-390 Cos	390 ±2nm	23 ±2nm
UV-420 Cos	420 ±2nm	82 ±5nm
UV-450 Cos	450 ±2nm	48 ±5nm

UV203 DETECTOR / FILTER ASSEMBLIES



NARROW BAND FILTERS WITHOUT COSINE CORRECTION

Interference filters are available for the UV203. These are supplied mounted in filter rings without a cosine corrected diffuser. The table below lists three popular filter rings, many other interference filters are available.

FILTER	λ_{PEAK}	BANDWIDTH FWHM
IF-254	254 ±2nm	12 ±2nm
IF-295	295 ±2nm	12 ±2nm
IF-365	365 ±2nm	12 ±2nm

COSINE CORRECTION

The Macam broad-band filter rings are supplied with a specially profiled light input diffuser. This adjusts the angular response of the detector/filter ring to closely match Lambert's Cosine Law to within ±3% up to 70° from normal incidence.
The narrow band interference filters are normally supplied without a cosine diffuser input.

SPECIAL INPUT ASSEMBLIES

- Low profile detectors
- Remote monitoring with quartz fibre light guides.
- Non cosine corrected broad band filter assembly.
- Cosine corrected interference filter assemblies

SPECIFICATION

The Macam model UV203 photometer comprises of a UV203X display unit with lithium battery, SD223 laboratory detector and integral amplifier, UVA Cos -113 filter ring, UVB2 Cos -113 filter ring, IF-254 filter ring, calibration certificate and CC-4 carrying case.

DISPLAY UNIT

Model:	UV203X
Design:	Portable µprocessor controlled meter with LCD display, auto or manual ranging, RS232 simple key pad operation, battery powered.
Ranges:	Ref detector table.
Units:	mW/m² and W/m²
Accuracy:	± 1 %, ± 1 digit on display
Keypad Operations:	*Power* On / Off *Hold* display on / off action *Zero* stores offset for subtraction from subsequent readings. *Manual* or autoranging, *Integrate Average, Minimum and Maximum*
Display	4˚ digit lcd display with 10mm high numerals.
Power Supply	PP3 Lithium battery. Operating life 30 to 50 hours.
Dimensions	80mm x 45mm x150mm.
Weight	Approx. 0.3 Kg.

Calibration
The UV203 can be calibrated with monochromatic light at λ_{peak} or at a mercury emission line. Spectroradiometric calibration with specified sources is also available. All calibration standards are traceable to NPL optical metrology standards. Absolute calibration accuracy is ±5%.

LABORATORY DETECTOR

Model:	SD223
Design:	GaAsP photodiode with integral detector amplifier and signal to frequency convertor. Aluminium housing with removable filter rings and 1m cable.
Unfiltered Spectral Range:	190 to 680nm
Linearity	Better than 1% through ranges
Dimension:	38mm ϕ x 28.5mm high

SD223 Detector / Filter Ring Standard Ranges *

Full Scale Range	UVA Cos	UVB2 Cos	UVAB Cos	IF-254
19.999 mW/m²				✓
199.99 mW/m²	✓		✓	✓
1.9999 W/m²	✓	✓	✓	✓
19.999 W/m²	✓	✓	✓	✓
199.99 W/m²	✓	✓	✓	✓
1999.9 W/m²	✓	✓	✓	
19999 W/m²		✓		
19999 x10 W/m²				

* Other ranges available

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