ULTRA VIOLET RADIOMETER

MODEL **UV202**

USER HANDBOOK

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IRRADIAN
Light Measurement Systems & Calibration

ULTRA VIOLET RADIOMETER

MODEL **UV202**

USER HANDBOOK

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Handbook Update Log

Issue	Date	Pages changed
A	22/10/01	New Issue
B	04/11/04	Range Update
C	13/06/08	WEEE update
D	23/09/09	Contact details update
E	18/05/12	Specification update

1. INTRODUCTION

The portable UV radiometer model UV202 is a versatile direct reading instrument designed specifically for measuring UV irradiance. The radiometer comprises of a micro-processor controlled display unit with sensor select switch each with five programmable calibration factors and a detector head with a UVA* and UVB3* sensors.

This instrument is especially useful for monitoring the ultra-violet emissions from high and low pressure mercury vapour lamps, metal halide lamps and ultra violet fluorescent lamps where each sensor can be calibrated to suit the light source.

* Refer to Figures 1 & 2 for spectral response.

2. SPECIFICATION

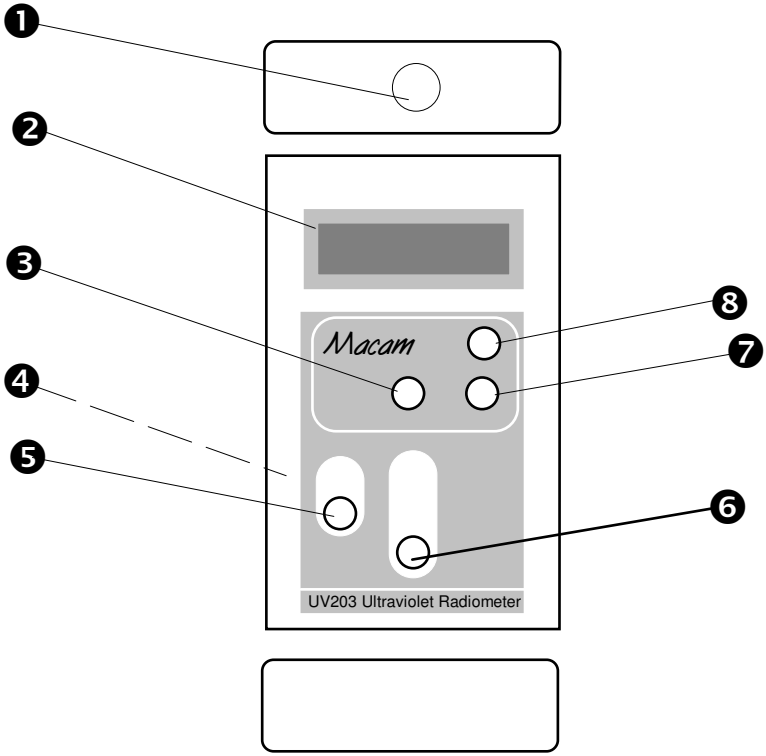
DISPLAY UNIT

Ranges:	UVA*: 0 to 199.99 mW/cm² Resolution 0,01 mW/cm²
	UVB3*: 0 to 19.999 mW/cm² Resolution 0,001 mW/cm²
Overload Indicator	Display shows - 0 L - .
Overload:	If the irradiance exceeds the above ranges or the zero offset limit of ~7.5 or 0.75 then the overload message will appear on the display.
Accuracy:	Measurement accuracy ±1 digit with a linearity error of <1% from 1 to 199.99 mW/cm² UVA (19.999 mW/cm² UVB3). Absolute calibration accuracy ±7.5% traceable to NPL standards at peak response or calibration wavelength.

Front Panel Controls:

⏻	Power on / off button
ZERO	Sets zero value, zero offsets are subtracted from subsequent measurements.
HOLD/RUN	Display is held at present reading until HOLD button is pressed again.
DETECTOR	Select between the UVA and UVB3 detectors.
LAMP	Select between 1 of 5 lamp types each with its own calibration factor.
Connectors:	6 pin mini DIN detector connector. 2.1mm pwr calibration enable connector.
Display:	4½ digit lcd display. Character height 12.7mm.
Power supply:	Internal 9 volt battery
Temperature range:	0 to 40°C. 80% RH.
Dimensions:	150 x 80 x 45mm. High impact polystyrene.
Weight:	320g

2. SPECIFICATION (continued):



❶ Detector connector
❷ 4½ digit LCD display
❸ Background ZERO button
❹ Battery compartment
❺ Detector select button
❻ Lamp type calibration select button
❼ Display HOLD button
❽ Power switch button

2. SPECIFICATION **(continued):**

DETECTOR ASSEMBLY

Detector assembly:	Black anodised aluminium alloy sensor housings with 1.5 metre interconnecting cable.
Response:	UVA sensor: ref. Figure 1 UVB sensor: ref. Figure 2.
Linearity error:	<1% from 0.01mW/cm² - 200 mW/cm² (UVA) <1% from 0.001 mW/cm² - 20 mW/cm² (UVB)

Temperature coefficient: 0 to +0.1 %/℃

Temperature range:	Operation: -10 to +60℃ Storage: -20 to +70℃
Dimensions:	56mm ϕ x 30mm high

UVA Sensor Spectral Response

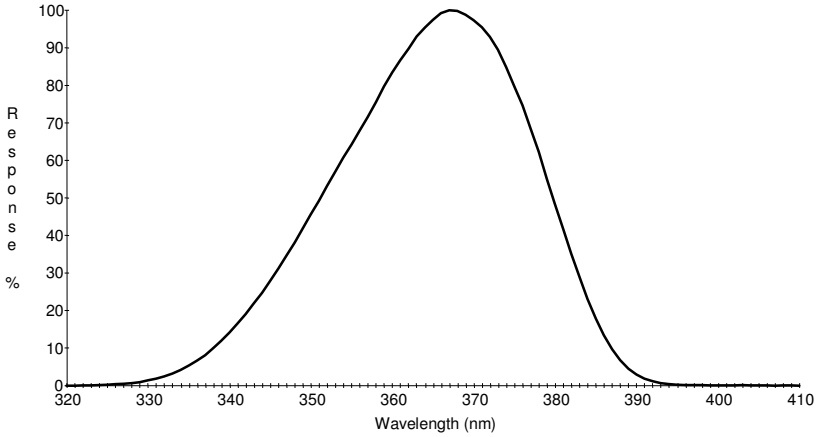


Figure 1

2. SPECIFICATION **(continued):**

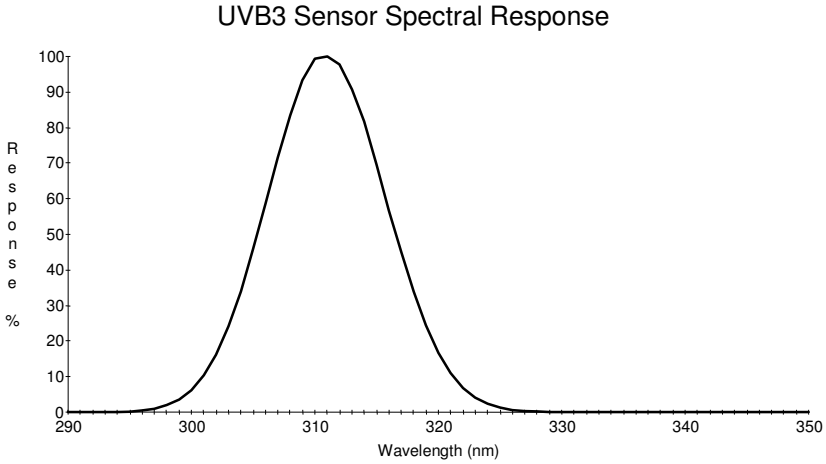


Figure 2

UVA & UVB3 Sensors

Filter	Peak	FWHM
UVA Cos	367 ±2nm	29 ±2nm
UVB3 Cos	311 ±2nm	12 ±2nm

3. OPERATION

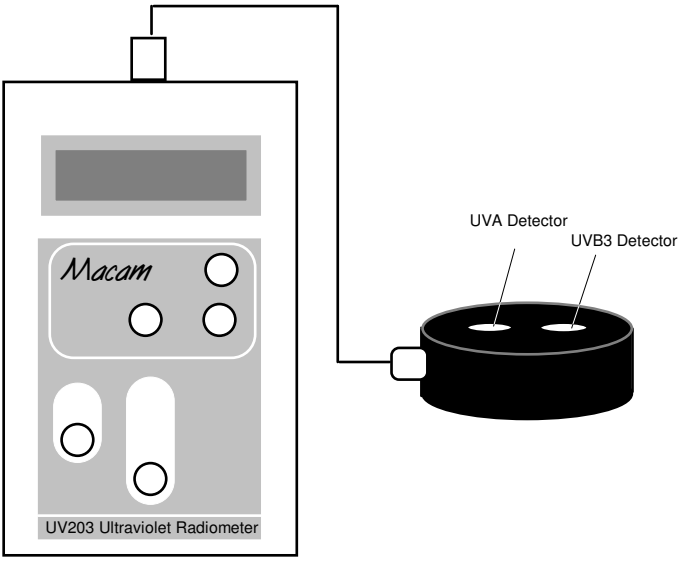


Figure 3

1) With the unit OFF, plug the detector mini DIN connector into the socket on the top of the display unit.

2) Place the detector under the light source, taking the necessary precautions to protect your-self from the ultra-violet radiation.

3) Switch radiometer power on and select UVA or UVB3 as required.

4) Select the LAMP calibration to match the lamp being measured.

5) Cover the detector with the blanking plate and activate the ZERO button. Note if the sensors are not covered when the ZERO button is pressed and the signal exceeds ~ 7.5 or 0.75 then the overload message will appear on the display, - OL-.

6) Remove the blanking plate, the meter will now display the ultra-violet irradiance in units of mW/cm².

7) To stop measurements and hold the display at the last reading press HOLD button.

8) To change from UVA to UVB or visa versa press DETECTOR button.

3. OPERATION **(continued):**

BATTERY REPLACEMENT

1) Switch off radiometer before replacing the battery.

2) Carefully slide the battery compartment down and then lift open.

3) Remove and unclasp the old battery.

4) Only replace with a 9 volt, PP3 size battery.

4. CARE AND MAINTENANCE

1) The UV202 display unit can be cleaned using a moist cloth with detergent. Do not use solvent or alcohol to clean surfaces.

2) The diffusers on the detector head should be kept clean at all times with a small amount of alcohol.

3) The radiometer is a precision instrument, protect from shocks.

4) Avoid hanging the detector assembly by its cable.

5. ENVIRONMENTAL CARE, RECYCLING AND DISPOSAL

The purpose of the European Commission WEEE directive (Waste Electrical and Electronic Equipment; 2002/96/EC) is to ensure that electrical and electronic products are recycled using the best treatments, recovery and recycling techniques that are currently available. This is so that high health standards and a lasting environmental protection can be achieved and maintained.

This product has been designed and manufactured using high quality materials and components, many of which can be recycled and reused.

Please remember to observe the local regulations that govern both the disposal of the packaging materials accompanying this product and any used batteries.

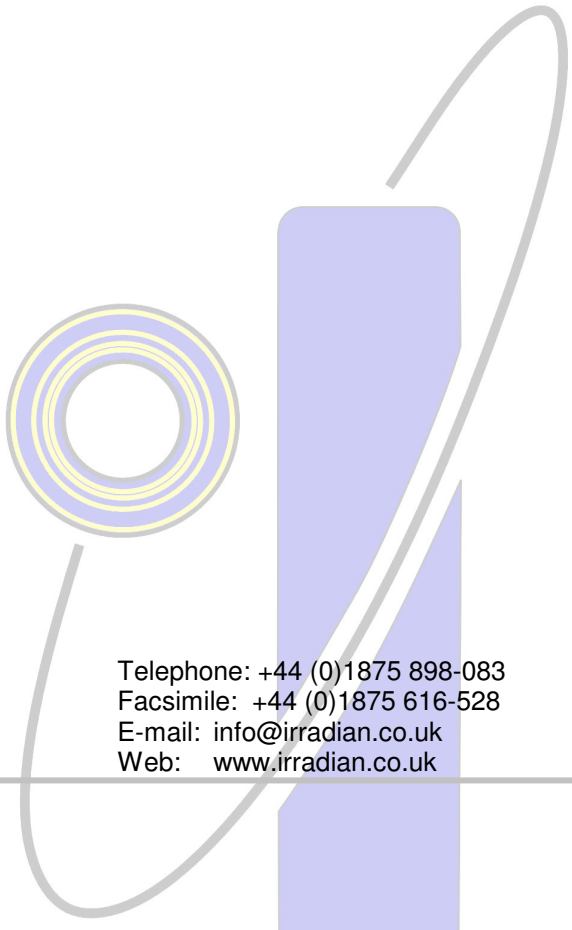
DO NOT DISPOSE OF THIS PRODUCT IN YOUR GENERAL WASTE BIN.

Please inform yourself about your local WEEE collection system which is available for electrical and electronic products that are marked with the symbol shown here.

When disposing of this meter, please use one of the following options:

1. Use your local designated WEEE collection facilities to dispose of the complete product (including cables, detectors, filters & accessories).

2. Return the complete product back to Irradian, marking it clearly as intended for WEEE disposal.



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