

User Manual R1.2
Santacary Technology Co. Ltd.
XAR-UB UVB Light Meter



INTRODUCTION

Congratulations on your purchase of this Santacary XAR-UB UVB Light Meter. XAR-UB is a precise meter that measures ultraviolet UVB radiation.

UVB wavelength is 275-320nm, also known as medium wave erythema effect ultraviolet, which is mainly used in medical treatment, aging test, spectral analysis, etc.. UVB light has erythema effect on human body, can promote mineral metabolism in vivo and the formation of vitamin D. Reptile pets, such as tortoises, green iguanas, chameleons also need to take UVB.

Natural UVB light people encounter comes from the sun. Of the solar ultraviolet energy that reaches the equator, about 5 percent is UVB.

FEATURES

- ✧ Gallium Nitride Based Material Photovoltaic Mode
- ✧ High-precision detection, rapid response and operation
- ✧ Good Visible Blindness
- ✧ Display the maximum UVB radiation intensity for all-time
- ✧ Trend chart display showing the past readings for UVB intensity
- ✧ With temperature and humidity measurement
- ✧ Only two buttons and easy to operate
- ✧ Four AA Alkaline Batteries

APPLICATION

- ✧ Monitoring UVB Phototherapy Lamp Intensity & Aging
- ✧ Testing General UV Health Lamp
- ✧ Testing Plant Growth UV Lights
- ✧ Testing Eyewear UVB Blocking Capabilities
- ✧ Measuring Outdoor UVB Including Shady Area UVB
- ✧ Testing Window Film / Tin Transmission
- ✧ Testing Acrylic Shield Transmission

✧ Testing UVB for Aging and Spectral Analysis

DEVICE

1. UVB sensor
2. LCD display
3. Power button
4. Function button
5. Battery compartment back cover





OPERATION

Note:

- LCD backlight will turn off automatically after 2 minutes of inactivity.
- When LCD backlight is off, press any button to turn on the backlight.


1. Power Button

1.1 Turn On/Turn Off Meter

- 1) When the meter is turned off, press  to turn on the unit.
- 2) When the meter is turned on, press  for 2 seconds to turn off the unit.

When the unit is first turned on, it performs 1 second countdown for meter warm up, then enters normal display with current UVB, temperature, and humidity readings displayed. The meter starts taking measurements when power on and updates readings every 2 seconds. The UVB radiation intensity unit is $\mu\text{W}/\text{cm}^2$.

1.2 Reset UV Maximum Record

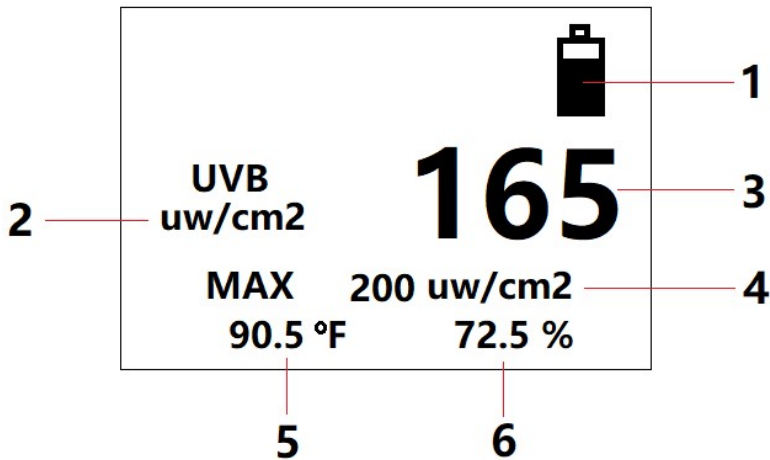
Press  shortly to reset the maximum record of UVB radiation intensity.

2. Function Button **FUNC**

Press **FUNC** shortly to switch Normal Display, Trend Chart Display and Log Display.

2.1 Normal Display

1. Battery gauge
2. Radiation intensity unit
3. UVB radiation intensity
4. Maximum UVB radiation intensity
5. Temperature
6. Relative humidity



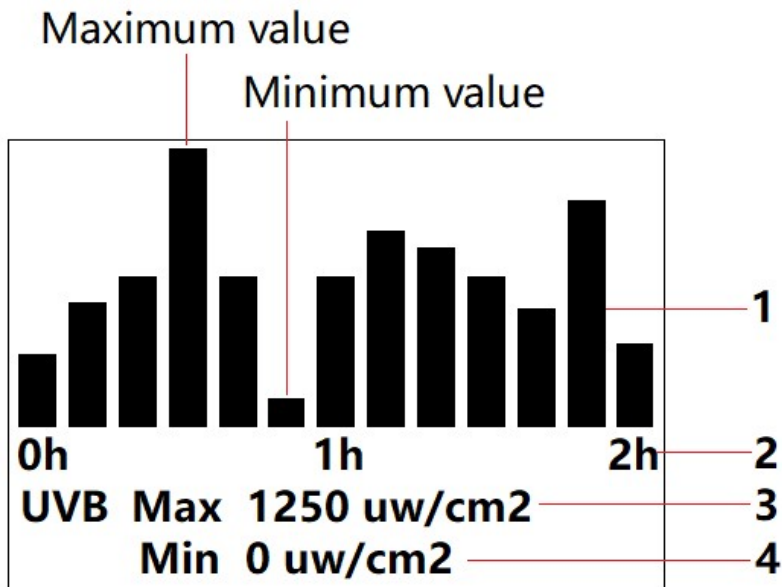
2.2 Trend Chart Display

XAR-UB has a data log function that provides up to 2 hours history of UVB intensity.

The trend chart displays the past readings for UVB intensity. The time per division (indicates the chart's time per unit division) is 10 min / div. Trend chart contains a maximum of 13 recorded data at one time. The time span is 2 hours. After the chart is full the data is FIFO (first-in, first-out). Below is the example of Trend Chart Display.

1. Vertical bar of UVB intensity (The higher the bar, the greater the value)
2. Time scale (farther to the right, longer time in the past)

3. Maximum value on the chart of UVB intensity
4. Minimum value on the chart of UVB intensity



At the bottom of the chart, there are two numerical indicators: Max and Min. The Max and Min values will reflect the maximum and minimum values on the chart of UVB intensity.



2.3 Log Display

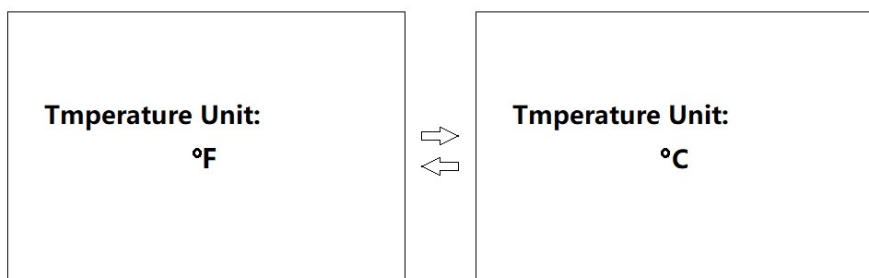
This display lists the 13 recorded data in the trend chart with time samples.

1. UVB intensity unit
2. Time samples in past (m--minute, h--hour)
3. UVB intensity

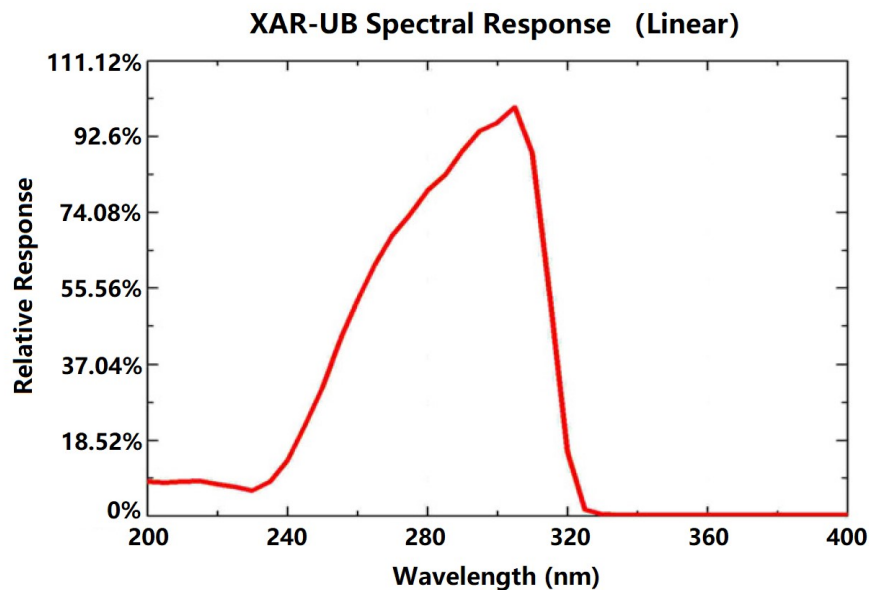
UVB uw/cm2				1
0m	242	70m	883	
10m	490	80m	785	
20m	620	90m	621	
30m	1250	100m	337	
40m	631	110m	943	
50m	0	2h	249	
1h	610			
				2
				3

2.4 Temperature Units Setup Menu

By pressing the Function button **FUNC** for 3 seconds, the meter enters into Temperature Units Setup Menu. In this Menu, press  shortly to switch two temperature units: °F and °C. Pressing the Function button **FUNC** shortly to select “Exit” item then press  shortly to switch back to the Normal Display.



SPECTRAL RESPONSE



The peak point (calibration point) of spectral response is at 305 nm.

SPECIFICATIONS

UVB Specification

UVB Measurement Range	0 to 40000 $\mu\text{W}/\text{cm}^2$
Spectral Detection Range	240 to 320 nm
Peak point of Spectrum	305 nm
Measurement accuracy	$\pm 4\%$ or ± 1 digits
Resolution	1.0 $\mu\text{W}/\text{cm}^2$
Temperature Range	-10 to 50°C (14 to 122°F)
Humidity Range	0 to 90%RH

Temperature Specification

Temperature Range	-10.0~60.0°C (14~140°F) display
Display Resolution	0.1°C (0.1°F)
Display Options	°C/°F switchable
Accuracy	±0.5°C (±0.9°F)
Response Time	5~30 seconds (device must equilibrate with environment)

RH Specification

Measurement Range	0.0~99.9%RH
Display Resolution	1%RH
Accuracy	±4.5%RH
Response Time	<8 seconds for 63% of step change

General

Operating	-10°C to 50°C (14°F to 122°F), 0~90% RH non-condensing
Storage	-10°C to 60°C (14°F to 140°F), <99% RH non-condensing
Power Supply	Four AA Alkaline Batteries
Dimensions	75x165x25 mm (2.95x6.49x0.98")
Weight	118 grams (4.16 oz.) without batteries

MATERIALS SUPPLIED

- ✧ Santacary XAR-UB UVB Light Meter
- ✧ Protector Bag
- ✧ English User Manual

CLEANING AND STORAGE

The front panel and case can be cleaned carefully with a soft wet cloth. Allow drying completely before using. Do not use aromatic

hydrocarbons or chlorinated solvents for cleaning.

WARRANTY

The XAR-UB is warranted to be free from defects in material and workmanship for a period of two year from the date of purchase. This warranty covers normal operation and does not cover misuse, abuse, alteration, neglect, improper maintenance.

CONTACT US

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