User Manual R1.0
Santacary Technology Co. Ltd.
XAR-UCT UVC Light Meter

INTRODUCTION

Congratulations on your purchase of this Santacary XAR-UCT UVC Light Meter with 9 inch bendable gooseneck. XAR-UCT is a precise meter that measures ultraviolet UVC radiation. It has a 9 inch bendable gooseneck that can locate and detect the UVC light even in hard-to-reach areas.

UVC wavelength is 200-275nm, also known as short wave sterilization ultraviolet. Peak wavelength of the curve between it and bactericidal efficiency (265nm) is very close, so when 253.7nm radiation reaches a certain value, it can be used to treat intestinal bacteria, Aspergillus flavus and HBsAg (hepatitis B surface antigen) and other pathogens were killed in a short time. Ultraviolet germicidal lamp emits UVC short wave ultraviolet.

UVC light applications are used for odor control, sterilization, and elimination of VOCs and industrial exhausts containing solvents. Germicidal UV purifies the air from microorganisms that cause illness and contaminants. The use of UVC in odor control has many applications, including wastewater plants, farms, HVAC (Heating, Ventilation and Air Conditioning), and food processing plants.
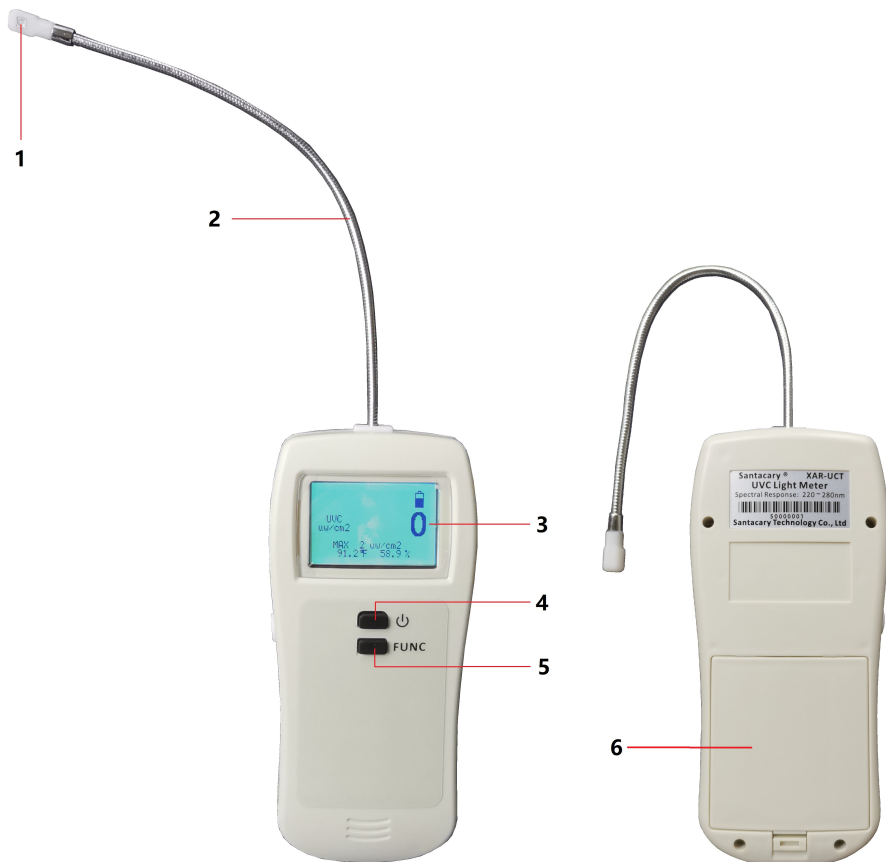
FEATURES

✧ Gallium Nitride Based Material Photovoltaic Mode
✧ High-precision detection, rapid response and operation
✧ Good Visible Light Blindness
✧ 9 inch bendable gooseneck that can locate and detect the UVC light even in hard-to-reach areas
✧ Display the maximum UVC radiation intensity for all-time
✧ Trend chart display showing the past readings for UVC intensity
✧ With temperature and humidity measurement
✧ Only two buttons and easy to operate
✧ Four AA Alkaline Batteries

APPLICATION:

✧ Monitoring UVC Germicidal Lamp Intensity & Aging
✧ Monitoring Water Treatment Disinfection Lamp Intensity & Aging
✧ Testing Eyewear UVC Blocking Capabilities
✧ Measuring Germicidal Lamp Fixture Leakage
✧ Testing UVC Intensity in Semiconductor Fabrication, Offset Printing, Environmental Monitoring and Industrial Process Control.
✧ Detect the UVC light in hard-to-reach areas

DEVICE

1. UVC sensor
2. Bendable gooseneck
3. LCD display
4. Power button
5. Function button
6. Battery compartment 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 UVC, temperature, and humidity readings displayed. The meter starts taking measurements when power on and updates readings every 2 seconds. The UVC radiation intensity unit is **µW /cm2**.
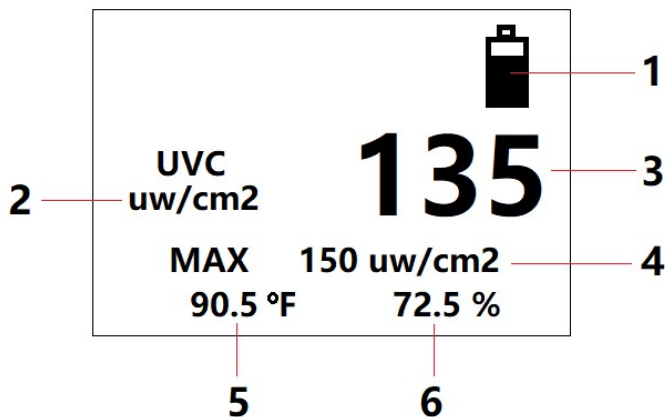
1.2 Reset UVC Maximum Record

Press ⏻ shortly to reset the maximum record of UVC radiation intensity.

2. Function Button **FUNC**

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

2.1 Normal Display
1. Battery gauge
2. Radiation intensity unit
3. UVC radiation intensity
4. Maximum UVC radiation intensity
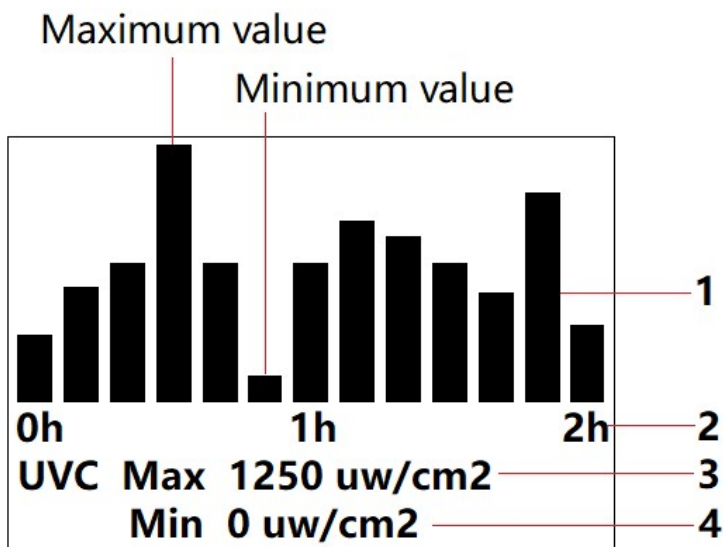5. Temperature
6. Relative humidity

2.2 Trend Chart Display

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

The trend chart displays the past readings for UVC 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 UVC 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 UVC intensity
4. Minimum value on the chart of UVC intensity

Maximum value

Minimum value

0h   1h   2h ——— 2
UVC Max 1250 uw/cm2 ——— 3
Min 0 uw/cm2 ——— 4

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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 UVC intensity.
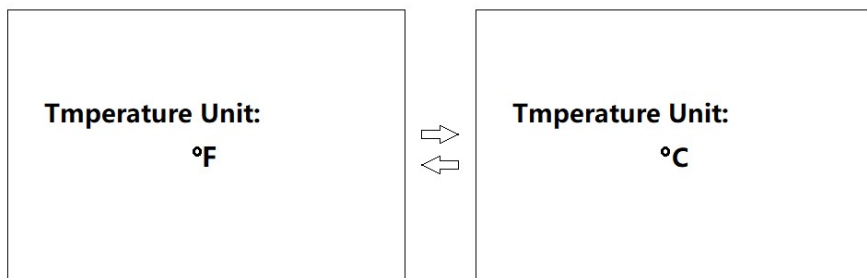
2.3 Log Display
This display lists the 13 recorded data in the trend chart with time stamples.

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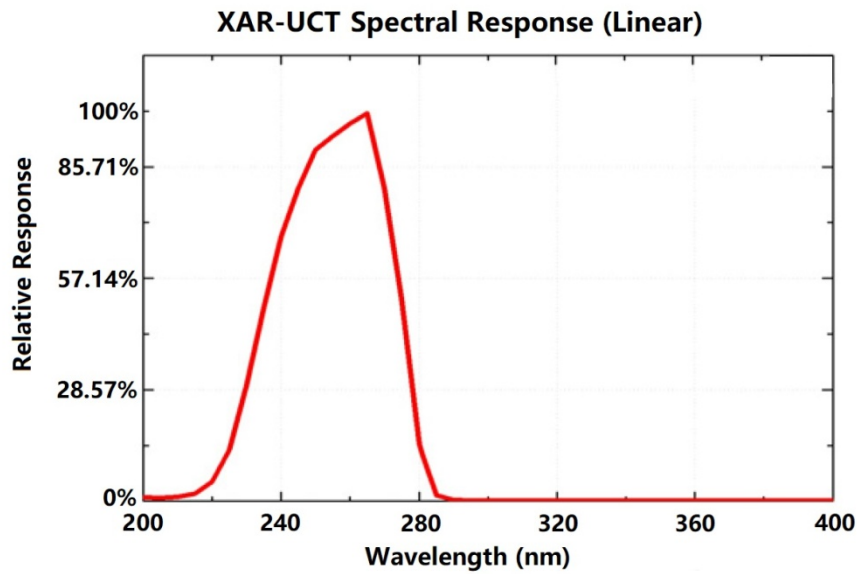   3.   UVC intensity

UVC	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.

Tmperature Unit:		Tmperature Unit:
°F	⇨ ⇦	°C

SPECTRAL RESPONSE

XAR-UCT Spectral Response (Linear)

The peak point (calibration point) of spectral response is at 265 nm.

SPECIFICATIONS
UVC Specification

UVC Measurement Range	0 to 3500 µW/cm2
Spectral Detection Range	220 to 280 nm
Peak point of Spectrum	265 nm
Measurement accuracy	±4% or ±1 digits
Resolution	1.0 µW/cm2
Temperature Range	-10 to 50°C (14 to 122°F)
Humidity Range	0 to 90%RH
Length of bendable gooseneck	9 inch

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-UCT UVC Light Meter
- ✧ Protector Bag
- ✧ English User Manual
- ✧ Four AA Alkaline Batteries

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-UCT 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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