



ACS Material Equipment Series

MetriTec™ UV Light Meter

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Revision: 123024

I. Product Overview

ACS Material's **MetriTec™ UV Light Meter** are precision instruments designed to accurately measure the intensity of ultraviolet (UV) radiation. These devices are essential for monitoring and controlling UV exposure in a wide range of applications. Commonly used in medical research, industrial manufacturing, UV curing processes, sterilization, germicidal lamp monitoring, and environmental assessments, UV light meters play a critical role in ensuring operational safety, process efficiency, and compliance with UV exposure standards.

II. Product Features of the MetriTec™ UV Light Meter Series

MetriTec™ UV Light Meter M125 + Probes is a smart host that can support 9 different types of probes (see probe options below). Its main function is data display. The UVC-X0 probe is one of the probes which is equipped with a UV radiometer host. The response wavelength of the probe is 230nm-280nm. It is a digital probe that professionally detects the intensity and energy of 254nm high-power UVC germicidal lamps.

Hospitals, disease control centers, pharmaceutical plants, food plants, schools, kindergartens, movie theaters, buses, offices, homes, and other places where people need to use UVC sterilization will use the probe to test the intensity of UVC.



MetriTec™ UV Light Meter M126 intensity meter is ideal for testing the intensity and energy of UVA band in UV LED light source, mainly contains 365nm, 375nm, 385nm, 395nm, 405nm band, mostly used in curing and exposure industry. The meter has a wide spectral response range, suitable for measuring various wavelengths from 365nm to 405nm. The width of the probe is only 7.2mm, which is applicable for measuring the narrow space where the ordinary probe is not easily placed.



MetriTec™ UV Light Meter M128 is a professional instrument for measuring the intensity of UVC germicidal lamps. The UV radiometer is delivered with a 1-meter test hook. It has a Bluetooth data transmission function. After connecting with the mobile phone APP, it can monitor the intensity of the germicidal lamp in real time from a certain distance to avoid UV burns during the test.



MetriTec™ UV Light Meter M127 is a professional instrument for measuring the radiation intensity of UVC germicidal lamps. It utilizes an integrated design and is easy to operate. It can monitor the intensity of germicidal lamp radiation in real time while keeping users away from UV radiation damage. It has a 1-meter test hook.



MetriTec™ UV Light Meter Probe M129 features a split design with a separate detector and controller, enabling real-time monitoring of UV irradiance and energy. It includes an RS485 interface and supports the standard MODBUS protocol, allowing connection to a PC, PLC, or HMI for real-time data acquisition and monitoring. The probe operates on a wide 5–24V DC power supply for convenient industrial use and comes with PC software for communication and protocol debugging. See below for probe options.



III. Product Application

UV light meters are critical tools across a broad spectrum of industries, including UV curing, medical sterilization, phototherapy, environmental monitoring, UV lamp testing, and scientific research. These instruments ensure optimal UV intensity for curing applications, verify the effectiveness of UVC disinfection, regulate UV exposure in medical treatments, and monitor environmental UV levels.

By delivering precise and reliable measurements, UV meters support improved process efficiency, operational safety, and regulatory compliance, making them indispensable in quality control and system maintenance for UV-based technologies.

IV. Probe Selection for Model M125

Item	Probe	Spectral Response Range	Power Measuring Range	Measuring Accuracy	Test Aperture	Sampling Speed	Probe Size	Application
1	UVC-X0 (Default)	230-280nm	0 - 200000 $\mu\text{W}/\text{cm}^2$	$\text{H}<50\mu\text{W}/\text{cm}^2$ $\pm 5\mu\text{W}/\text{cm}^2$ $\text{H}\geq 50\mu\text{W}/\text{cm}^2$ $\pm 10\% \text{H}$	$\Phi 10\text{mm}$	6 times/s	Diameter 39mm * thickness 15mm	254nm UV sterilization mercury lamp
2	UVC-X2	210nm-250nm	0 - 200000 $\mu\text{W}/\text{cm}^2$	$\text{H}<50\mu\text{W}/\text{cm}^2$ $\pm 5\mu\text{W}/\text{cm}^2$	$\Phi 10\text{mm}$	6 times/s	Diameter 39mm * thickness 15mm	222nm far UVC lamps

				$H \geq 50 \mu\text{W}/\text{cm}^2$ $\pm 10\%H$				
3	UVCWP-X1	230-280nm	0 - 200000 $\mu\text{W}/\text{cm}^2$	$H < 50 \mu\text{W}/\text{cm}^2$ $\pm 5 \mu\text{W}/\text{cm}^2$ $H \geq 50 \mu\text{W}/\text{cm}^2$ $\pm 10\%H$	$\Phi 10\text{mm}$	6 times/s	Diameter 50mm * thickness 20mm	254nm UV sterilization mercury lamp, waterproof (Waterproof Depth: 1m)
4	UVCLED-X0	230-315nm	0 - 200000 $\mu\text{W}/\text{cm}^2$	$H < 50 \mu\text{W}/\text{cm}^2$ $\pm 5 \mu\text{W}/\text{cm}^2$ $H \geq 50 \mu\text{W}/\text{cm}^2$ $\pm 10\%H$	$\Phi 10\text{mm}$	6 times/s	Diameter 39mm * thickness 15mm	260nm-285nm UV LED germicidal lamp
5	UVB-X0	280-315nm	0 - 200000 $\mu\text{W}/\text{cm}^2$	$H < 50 \mu\text{W}/\text{cm}^2$ $\pm 5 \mu\text{W}/\text{cm}^2$ $H \geq 50 \mu\text{W}/\text{cm}^2$ $\pm 10\%H$	$\Phi 10\text{mm}$	6 times/s	Diameter 39mm * thickness 15mm	General UVB intensity and energy measurement
6	UVA-X0	315-400nm	0 - 200000 $\mu\text{W}/\text{cm}^2$	$H < 50 \mu\text{W}/\text{cm}^2$ $\pm 0.5 \mu\text{W}/\text{cm}^2$ $H \geq 50 \mu\text{W}/\text{cm}^2$ $\pm 10\%H$	$\Phi 10\text{mm}$	2048 times/second	39mm * 32mm * 15mm(L*W*H)	High pressure mercury lamp in UV curing industry
7	UVA-X1	315-400nm	0 - 200000 $\mu\text{W}/\text{cm}^2$	$H < 50 \mu\text{W}/\text{cm}^2$ $\pm 5 \mu\text{W}/\text{cm}^2$ $H \geq 50 \mu\text{W}/\text{cm}^2$ $\pm 10\%H$	$\Phi 10\text{mm}$	6 times/s	39mm * 32mm * 15mm(L*W*H)	General UVA intensity and energy measurement
8	UVA-X2	315nm-365nm	0 - 200000 $\mu\text{W}/\text{cm}^2$	$H < 50 \mu\text{W}/\text{cm}^2$ $\pm 5 \mu\text{W}/\text{cm}^2$ $H \geq 50 \mu\text{W}/\text{cm}^2$ $\pm 10\%H$	$\Phi 10\text{mm}$	6 times/s	Diameter 39mm * thickness 15mm	340nm UVA aging lamps
9	UVALED-X0	340-420nm	0 - 200000 $\mu\text{W}/\text{cm}^2$	$H < 50 \mu\text{W}/\text{cm}^2$ $\pm 5 \mu\text{W}/\text{cm}^2$ $H \geq 50 \mu\text{W}/\text{cm}^2$ $\pm 10\%H$	$\Phi 10\text{mm}$	2048 times/s	39mm * 32mm * 15mm(L*W*H)	Area light source of UV LED in UV curing industry
10	UVALED-X1	340-420nm	0 - 200000 $\mu\text{W}/\text{cm}^2$	$H < 50 \mu\text{W}/\text{cm}^2$ $\pm 5 \mu\text{W}/\text{cm}^2$ $H \geq 50 \mu\text{W}/\text{cm}^2$ $\pm 10\%H$	$\Phi 1\text{mm}$	2048 times/s	39mm * 32mm * 15mm(L*W*H)	Point light source of UV LED in UV curing industry
11	UVALED-X3	340-420nm	0 - 200000 $\mu\text{W}/\text{cm}^2$	$H < 50 \mu\text{W}/\text{cm}^2$ $\pm 5 \mu\text{W}/\text{cm}^2$ $H \geq 50 \mu\text{W}/\text{cm}^2$ $\pm 10\%H$	$\Phi 10\text{mm}$	6 times/s	39mm * 32mm * 15mm(L*W*H)	General UVA+UVV LED, low power

								measuring range
12	BL-X0	410nm-490nm	0 - 200000 $\mu\text{W}/\text{cm}^2$	$H < 50 \mu\text{W}/\text{cm}^2$ $\pm 0.5 \mu\text{W}/\text{cm}^2$ $H \geq 50 \mu\text{W}/\text{cm}^2$ $\pm 10\%H$	$\Phi 10\text{mm}$	2048 times/s	Diameter 39mm * thickness 15mm	450nm blue light

Suggestion of Probes for Classic Industrial Application

No.	Application	Suggested Probe
1	Detect UV Aging Box	UVA-X1, UVB-X0, UVA-X2
2	Detect Ambient Light and Sunlight	UVA-X1, UVB-X0
3	Detect Welding Arc	UVA-X1, UVB-X0, UVC-X0
4	Detect UV Light of Non-destructive Testing	UVA-X0
5	Detect UV Nail Lamp	UVALED-X3
6	Detect Plant Growth Lamp or Reptile Lamp	UVB-X0
7	Detecting the 222nm Far UVC Lamps	UVC-X2
8	Detecting the Medical Phototherapy Devices or LED Blue Therapy Light	BL-X0

V. Probe Selection for Model M129

Model	M129-UVALED	M129-UVA	M129-UVC
Power Measuring Range	0~20000mW/cm ²	0~2000mW/cm ²	0~200000 $\mu\text{W}/\text{cm}^2$
Resolution	1mW/cm ²	0.1mW/cm ²	0.1 $\mu\text{W}/\text{cm}^2$
Energy Measuring Range	0 ~ 4 × 10 ⁹ mJ/cm ²		0 ~ 4 × 10 ⁴ $\mu\text{J}/\text{cm}^2$
Sampling Rate	2048 times/s		6 times/sec
Measurement Accuracy	$\pm 10\%$		
Data Refresh Interval	200 ms		
Test Aperture Diameter	$\Phi 10\text{ mm}$		
Probe Cable Length	0.5 m, heat-resistant to 200°C		Integrated
Communication Interface	RS485		
Communication Protocol	MODBUS		
Power Supply	5V~24V DC		
Probe Dimensions	35 mm (L) × 15 mm (W) × 14.5 mm (H)		

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