IRTRONIX
Global Partner in UV LED Solutions

2.3W UVC LED MODULE SPECIFICATIONS

Model No. : MD1005-1

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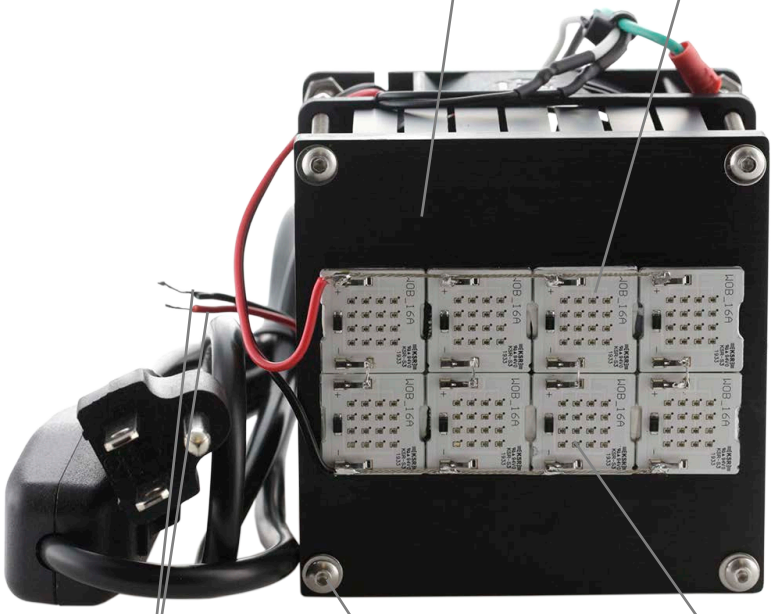
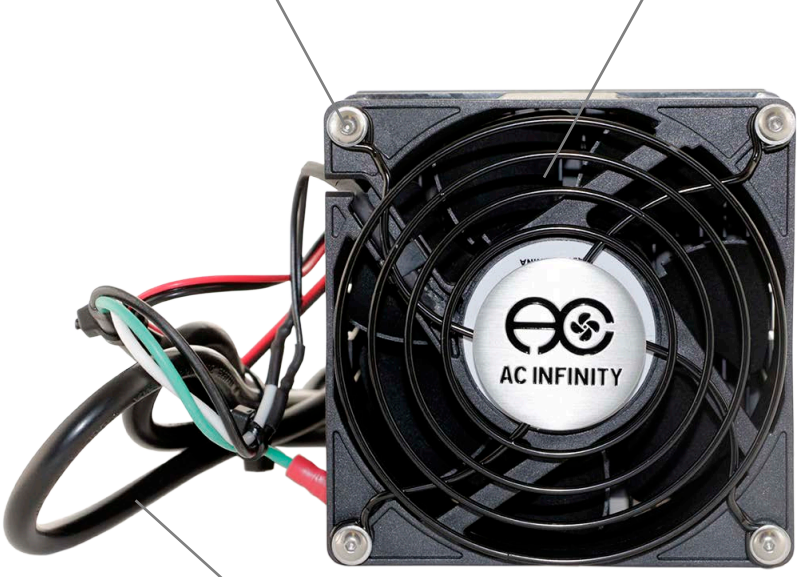
HIGH POWER UVC LED MODULE

Model No. : MD1005-1



[**Front View**]



[**Backside View**]

Package:
Seoul Viosys / SETi

Optical power: Total 2.3W
290mW each COB
275nm UV-C

*Scale: NTS

HIGH POWER UVC LED MODULE

Model No. : **MD1005-1**

Optical Power : 2.3W (290mW each COB) 275nm UV-C LED

1. Description

The MD1005-1 is a complete system developed for the purpose disinfecting application. The module has 8 of SETi 20mm x 20mm UVC packages, 4 parallel x 2 in series, mounted on a fan cooled heatsink. The total current is 3.2A and the voltage is ~ 46V_{DC}. A DC benchtop laboratory power supply with adjustable current limit up to 3.2A, and adjustable voltage up to 48V_{DC} can be used to provide power to the module.

2. Operating Procedures

Test set up:

1) Turn on the benchtop power supply and set the voltage to about 2V.
   Short the output power leads (+ and -) together, and adjust the current to 3.2A.
2) Plug in the unit AC fan to 100~240V_{AC} line voltage, and turn the fan on with a power cord switch.
3) Connect the Red (+) and Black (-) of the module to + and - leads of the benchtop power supply.
4) Slowly increase the power supply voltage until the current reach 3.2A.
5) The module is now ready to use with proper setting.

3. Features

Number of UVC LEDs	128
Package Size	8 module of 16 LEDs each
Beam Angle	135 degrees
Dimensions	92(W) x 92(H) x 84(D) (mm)

4. Electro-Optical Characteristics

LED	Part No.	Peak Wavelength (Band)	Forward Current	Forward Voltage	Optical Power	Power Consumption
290mW	MD1005-1	275nm	3.20A	46V	2.32W	147W

5. Irradiance Simulations

1) 1 Module (24 Point Source)

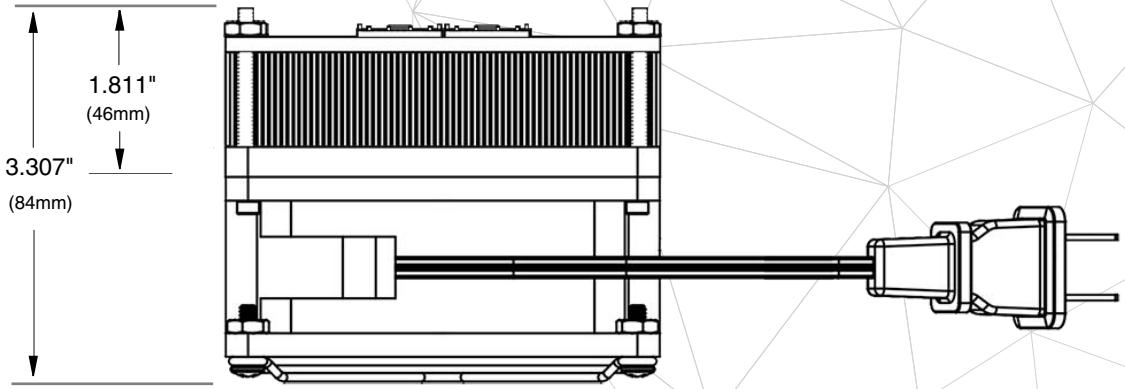
Working Distance (Cm)	Working Distance (Inches)	Approximate Diameter to 50% of Peak Irradiance (Cm)	Approximate Peak Irradiance (uW/Cm^2)	Approximate Average Irradiance (uW/Cm^2)	Approximate Time for 30 mJ/Cm^2 Dosage (Seconds)
7.6	3	15	7600	3750	16.0
15.2	6	24	2030	1000	60.0
30.5	12	55	513	286	209.8
45.7	18	80	229	170	352.9
61.0	24	100	129	108	555.6
76.2	30	140	82.5	74	810.8

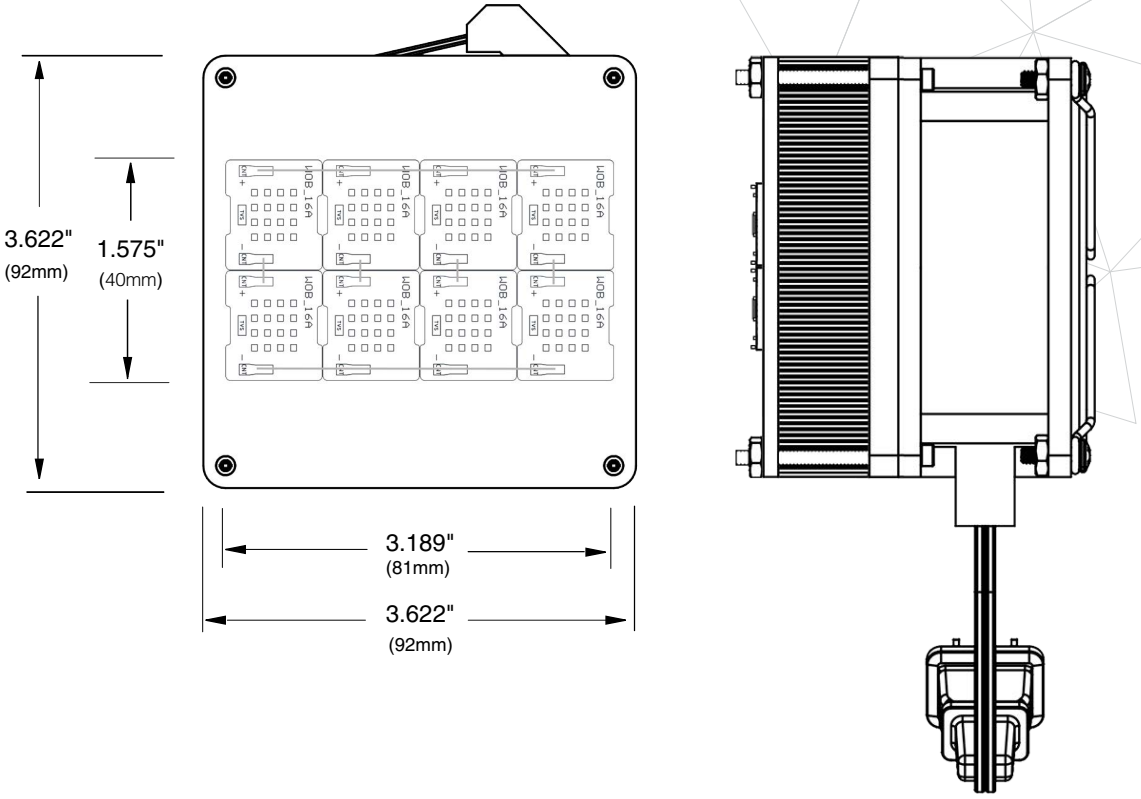
2) 3 Modules (72 Point Source)

Working Distance (Cm)	Working Distance (Inches)	Approximate Peak Irradiance (uW/Cm^2)	Approximate Average Irradiance (uW/Cm^2)	Approximate Time for 30 mJ/Cm^2 Dosage (Seconds)
7.6	3	8330	3330	9.0
15.2	6	3370	1360	22.1
30.5	12	1300	814	36.9
45.7	18	637	487	61.6
61.0	24	371	314	95.5
76.2	30	241	216	138.9

6. Mechanical Characteristics

* Outline Dimensions





7. Disclaimers

• IRTronix is not responsible for any damages or accidents caused if the operating or storage conditions exceed the absolute maximum ratings recommended in this document.

• The LEDs described in this document are intended to be operated by ordinary electronic equipment.

• The LEDs should not be used at any lighting products together with the other LEDs, which has a different part number. If required, please contact any salesperson.

• It is recommended to consult with IRTronix when the environment or the LED operation is nonstandard in order to avoid any possible malfunctions or damage to product or risk of life or health.

• Disassembly of the LED products for the purpose of reverse engineering is prohibited without prior written consent from IRTronix. All defective LEDs must be reported to IRTronix and are not to be disassembled or analyzed.

• The product information can be modified and upgraded without prior notice.

8. Caution

WARNING

- ULTRAVIOLET light may be harmful. Do not expose to your eyes and skin.
- Proceed with caution to avoid the risk of damage to the eyes when examining the LEDs with optical instruments.