UVC LED sterilization module DT5B

PRELIMINARY SPECIFICATIONS

Elphoton
INNOVATE HUMAN LIFE

CONTENTS

1. Description

The Elphoton UVC LED water sterilization module.

◆Features

- International Leading Deep UV LED Light Source Module
- Lead-free, Mercury-free, Eco- friendly
- Water flow contact part is food grade material
- Long life more than >6000hrs

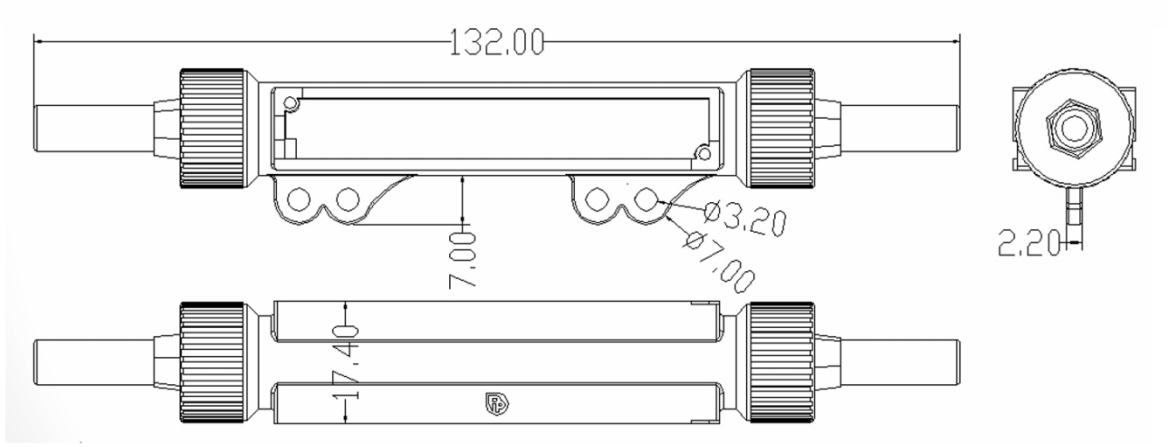
◆ Product information

- Main material: PC / Quartz/ABS
- Size: 17.4 X132mm (Including water inlet and outlet)
- Rated input Voltage: DC 12V
- Rated input Power: 3.5W
- Rated water flow rate: 2~2.5L/min
- Electric strength: AC 1000V (Human body)
- Size of interface : 2pin XHP-2.54 connector
- IP grade: IP65

◆Application

- Water sterilization

2. Outline Dimensions



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Note

*There is no limit to the direction of entrance and exit.

* Modules should be placed vertically in use.

3. Electro Optical Characteristics

Parameter	Conditions	Symbol	Min.	Typ.	Max	Unit
Peak Wavelength (UVC)	VF=12V	W_p	260	-	280	nm
Consumption		P	3.2	3.5	3.8	W
Forward voltage	-	V	11	12	13	V

Note

* Tolerances are followings as below.

- Peak Wavelength Tolerance : ± 3.5nm

4. Absolute Maximum Rating

Parameter	Symbol	Value	Unit
Operating Temperature	T_{opr}	5 ~ +65℃	℃
Storage Temperature	T_{stg}	-40 ~ +80℃	℃

5. Lifetime /Flow rate/Rated pressure

Parameter	Min	Avg	Max	Ubit
Life time	6,000	-	8000	hour
Flow rate	2	--	2.5	L/min
Rated pressure	0.3	0.5	-	Mpa

6. Precaution

1) Safety for eyes and skin

- The Products emit high intensity ultraviolet light which can make your eyes and skin harmful, so do not look directly into the UV light and wear protective
- Do not view directly in to the deep UV(UVC) light of UV Module driven at low current or the LED with optical instruments for measuring such as radiant flux, light distribution and spectrum, etc.
- Proceed with caution to avoid the risk of damage to the eyes when examining the UV modules with optical instruments.

6. Precaution

2) Handling Precautions

- Each type of microorganism disinfection requires a specific amount of UV irradiation. UV disinfection products produced and sold by the headquarters are designed according to national standards, so they can sterilize 99.99% of bacteria and viruses in water. If the water to be disinfected is cloudy, high hardness, or high calcium and magnesium content, the disinfection effect may be weakened. Therefore, it is recommended to install a filter device at the entrance of this product to reduce the effect of water quality on the disinfection effect.

- . The LED should be avoided direct contact with hazardous materials such as sulfur, chlorine, phthalate, acid, solvent, etc. These materials(S, Cl, VOCs, etc) may cause sulfurization of lead-frame or encapsulant silicone discoloration in LED.

- VOCs(Volatile Organic Compounds) can be generated from adhesives glue, cleaning flux, molding hardener or organic additive which used in luminaires fixtures and they(VOCs) may cause a significant Radiant Flux & Irradiance degradation of LED in Products when they exposed to heat or light. To prevent this phenomenon, materials used in Products must be carefully selected by users.

- The metal parts on the LED can rust when exposed to corrosive gases. Therefore, exposure to corrosive gases must be avoided during operation and storage.

- The metal parts also can be affected not only by the corrosive gases emitted inside of the end-products but by the gases penetrated from outside environment.

- Extreme environments such as sudden ambient temperature changes or high humidity that can cause condensation must be avoided.

- The UV Module is encapsulated with special material for the highest flux efficiency. So it needs to be handled carefully as below

  - Avoid touching quartz or glass parts especially with sharp tools such as Tweezers

  - Avoid leaving fingerprints cover parts.

  - UV Module will attract dust so use covered containers for storage.

  - Do not touch the products with wet hand

  - Avoid giving strong impact on the products.

6. Precaution

3) Others

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

- When connecting the module in the power on state, LED can be damaged by the influence of the inrush voltage / current.

- If the reverse voltage is applied to UV Module, migration can be generated resulting in LED damage.
- Please handle using equipment that prevents static electricity.
- Avoid touch unless ESD protection is used.

- The LEDs described in this document are intended to be operated by ordinary electronic equipment.
- Consult El photon, sales staff in advance for information on the applications in which exceptional quality and reliability are required, particularly when the failure or malfunction of the LEDs, may directly jeopardize life or health.
- It is recommended to consult with El photon, when the environment or the LED operation is non- standard 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 El photon.
- All defected LEDs must be reported to El photon and are not to be disassembled or analyzed.
- The Specifications can be modified and upgraded without prior notice.

7. Revision Sheet

Revision	Date	Page	Description	Remark
Rev.1.0	24.10.15	-	Preliminary edition	