

Disinfection Module Solution

### Specification

CMA-FBC-AR4A



## Product Brief

### Description

- This module is designed for disinfection.

### Features and Benefits

- UVC LED
- Low thermal resistance
- Simple BOM
- Miniaturization
- Lead Free Product

### Key Applications

- Disinfection

Table 1. Product

Model	Input Voltage[Vin]	$\Phi_e$ [mW]	Wp [nm]			Remark
			MIN	TYP	MAX	
CMA-FBC-AR4A	12V	40	270	275	280	Constant Voltage

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## Performance Characteristics

**Table 2. Electro Optical Characteristics at 12V (Constant Voltage)**

 (T<sub>c</sub>=25°C RH=30%)

Parameter`	Symbol	Value			Unit
		Min.	Typ.	Max.	
Peak wavelength <sup>[1]</sup>	λ <sub>p</sub>	270	275	280	nm
Forward Current	I <sub>F</sub>	170	200	230	mA
Power Consumption	P	2.04	2.4	2.76	W
Radiant Flux <sup>[2]</sup>	Φ <sub>e</sub> <sup>[3]</sup>	28	40		mW

### Notes :

[1] P<sub>d</sub> can be changed by surrounding temperature and current.

[2] Peak Wavelength Measurement tolerance : ±3nm

[3] Radiant Flux Measurement tolerance : ± 10%

[4] Φ<sub>e</sub> is the Total Radiant Flux as measured with an integrated sphere.

[5] Forward Voltage Measurement tolerance : ±3%

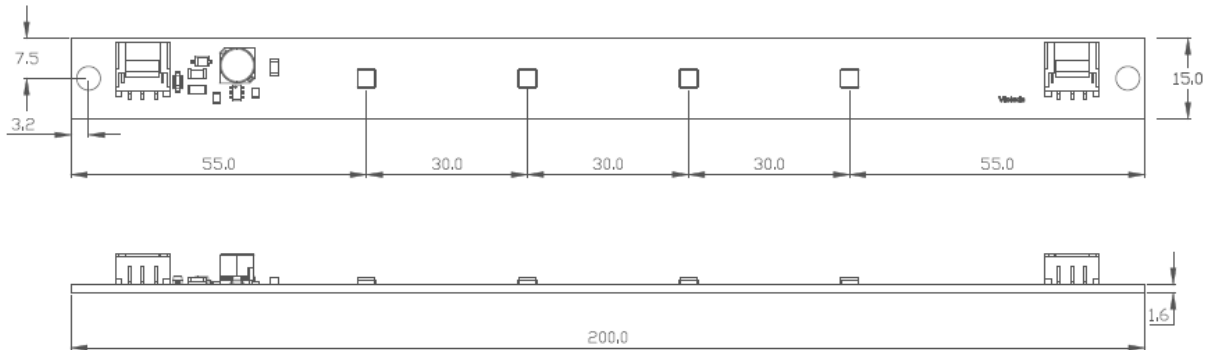
※Operating temperature was tested at the assigned T<sub>c</sub> point on the PCB.

※It is recommended to drive under conditions of T<sub>c</sub>= 60 °C or less.


**Table 3. Absolute Maximum Ratings**

Parameter	Symbol	Unit	Value
Operating Temperature	T <sub>opr</sub>	°C	-20 ~ +40
Storage Temperature	T <sub>stg</sub>	°C	-20 ~ +60

## Drawing

**Fig 1. Product Dimension**
**unit: [mm]**


### Notes :

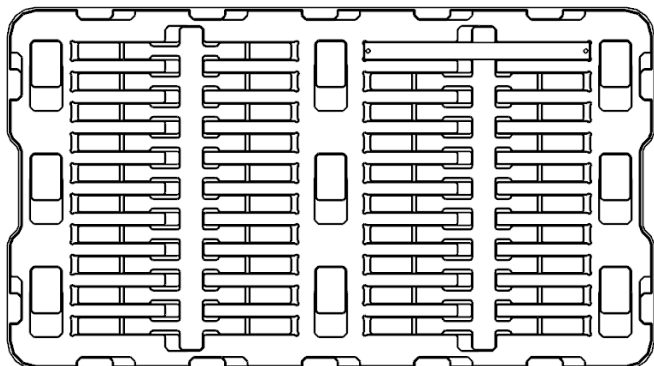
- Module Dimensions of the indicated maximum value, and to allow a tolerance :  $\pm 0.5$  [mm]

**Fig 2. Wire Guide For supply connection**

Division	Parts	Information	Vendor
UV Module	Housing	20037WR-H03	YEONHO
Recommended connector	Housing	SMH200-03	YEONHO

## Packing

1) 1 Tray = 20pcs of products

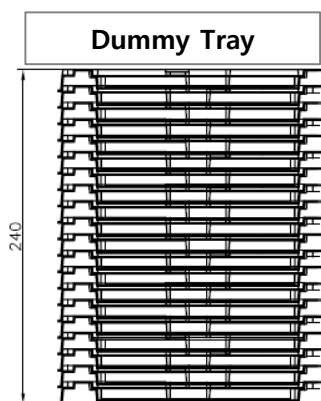


2) Stacking 21 Trays (The top tray is an empty Tray)

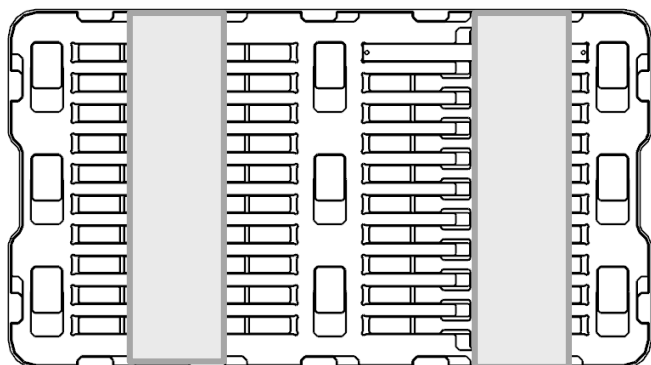
→ 21 tray X 20EA = 400EA (1Tray=dummy)

→ 1 tray pack 20pcs

→ Total Quantity : 400 pcs



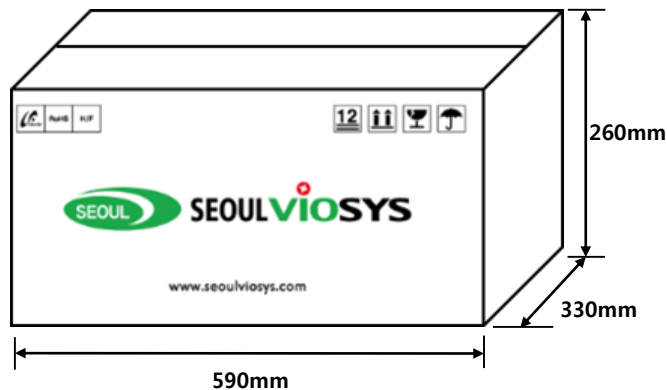
3) Tapping 21 Tray to fix.



Tray tapping

Tray tapping

Pack the tray in a box



\* 1BOX : 20 pcs per tray x 21 Trays = 400 pcs

• TOTAL : 400 pcs per 1BOX

(Outer guards are packaged in bulk)

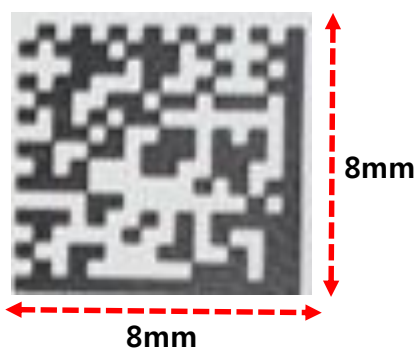
\* If it is not a full box, apply the buffer material to fix the product

### Label Information

#### 1) Label attachment location



#### 2) Label Size




#### 3) Label and QR CODE information

EX) 201229, C2B08V58, 00001

NO	Item	Information	Digits	Value		Remark
①	SMD DATE	YYMMDD		SMT date		
②	Module Bin code	LED RANK		C2	Wavelength	
				B08	Radiant Flux	
				V58	VF	
③	LOT NO	00000				

### Label Information

<b>Model No.</b>	<b>CMA-FBC-AR4A (1)</b> 
<b>Type</b>	-
<b>Quantity</b>	<b>XXX</b> 
<b>Lot No.</b>	<b>YYMMDD-SVC-XXXX(2)</b> 
	<b>SEOUL VIOSYS CO.,LTD.</b>

### Reference

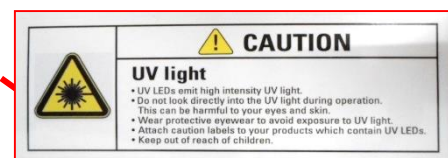
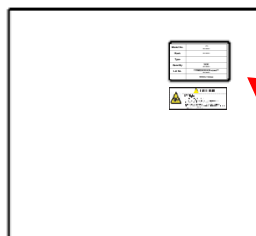
(1) It represent module part number.

(2) YYMMDD : Packing Date  
 YY : last 2digits of year(ex – 2018 → 18)  
 MM : Month(2digits)  
 DD : Date(2digits)  
 -  
 SVC : Supplier  
 -  
 XXXX : Packing box number

### Note

\* Affixed to the label space of the box

### \* Labeling



## Precaution for Use

### 1) Storage

- To avoid moisture penetration, we recommend storing UV-Module in a dry box with a desiccant. The recommended temperature and Relative humidity are between 5°C and 30°C and below 50% respectively.
- UV-Module must be stored properly to maintain the device. If the UV-Module is stored for 3 months or more after being shipped from SVC, a sealed container with a nitrogen atmosphere should be used for storage.
- Replace the remained UV-Module into the moisture-proof bag and reseal the bag after work to avoid those UV-Module being exposed to moisture. Prolonged exposure to moisture can adversely affect the proper functioning of the UV-Module.

### 2) Handling Precautions

- VOCs (Volatile organic compounds) emitted from materials used in the construction of fixtures can penetrate products and discolor them when exposed to heat and photonic energy. The result can be a significant loss of light output from the fixture. Knowledge of the properties of the materials selected to be used in the construction of fixtures can help prevent these issues.
- In case of attaching UV-Module, do not use adhesives that outgas organic vapor.
- Please do not use(or storage) together with the materials containing Sulfur.
- Do not use inflammable material nearby the products.
- Do not touch the products with wet hand
- Do not fix or remodel the products.
- Do not drop the machine, or give strong impact on the products.
- 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 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.
  - It is not recommend to cover the UV-Module with other materials (epoxy, urethane, etc)

### 3) 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 equipment during operation.

### 4) Cleaning

- After assembly the product, empty the water and then wipe the UV-Module with a dry towel.



## Precaution for Use

### 5) Others

- Be sure to turn On / Off after module is connected.  
When connecting the module in the power on state, LED can be damaged by the influence of the inrush voltage / current.
- The driving circuit must be designed to allow forward voltage or current only when it is ON or OFF . If the reverse voltage is applied to UV-Module, migration can be generated resulting in LED damage.
- Do not handle this product with acid or sulfur material in sealed space
- Please handle using equipment that prevents static electricity.
- Do not touch unless ESD protection is used.
- Ionizer, grounding and keeping appropriate humidity are necessary for work environment.
- The appearance and specifications of the product may be modified for improvement without notice

