

Disinfection Module Solution

### Specification

XMD-FBC-LLOA



## Product Brief

### Description

- This module is designed for disinfection.

### Features and Benefits

- Lead free product
- Push-in connectors
- Can be used in daisy chain configuration
- UL Compliant: E518993
- CE Tested to Standards:
  - EN55105 : 2013
  - EN61547 : 2009
  - EN62031 : 2008 + A1: 2013 + A2: 2015
  - EN62741 : 2008

### Key Applications

- Horticulture
- Reptile lighting
- Surface disinfection
- Fluorescent spectroscopy
- Chemical and biological analysis

Table 1. Product

Model	Input Current [I <sub>r</sub> ]	Φ <sub>e</sub> [mW]	W <sub>p</sub> [nm]			Remark
			MIN	TYP	MAX	
XMD-FBC-LLOA	0.9A	500	270	275	280	Constant Current

Part List

Table of Contents

Index	
• Product Brief	
• Table of Contents	
• Performance Characteristics	
• Drawing	
• Wire Guide	
• Packing	
• Marking Information	
• Label Information	
• Precaution for Use	

### Performance Characteristics

**Table 2. Electro Optical Characteristics at 0.9A(Constant Current)**

(T<sub>a</sub>=25°C RH=30%)

Parameter	Symbol	Value			Unit
		Min.	Typ.	Max.	
Peak wavelength <sup>[1]</sup>	$\lambda_p$	270	275	280	nm
Forward Voltage <sup>[5]</sup>	V <sub>F</sub>	20	24	27	V
Power Consumption	P <sub>d</sub> <sup>[2]</sup>	18	21.6	24.3	W
Radiant Flux <sup>[3]</sup>	$\Phi_e$ <sup>[4]</sup>	400	500	-	mW

**Notes :**

[1] Peak Wavelength Measurement tolerance :  $\pm 3\text{nm}$

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

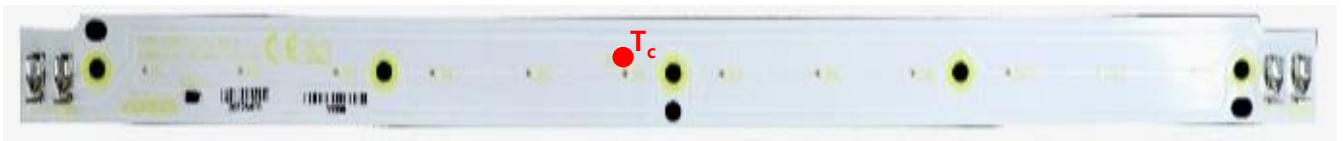
[3] Radiant Flux Measurement tolerance :  $\pm 10\%$

[4]  $\Phi_e$  is the Total Radiant Flux as measured with an integrated sphere.

[5] Forward Voltage Measurement tolerance :  $\pm 3\%$

※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.

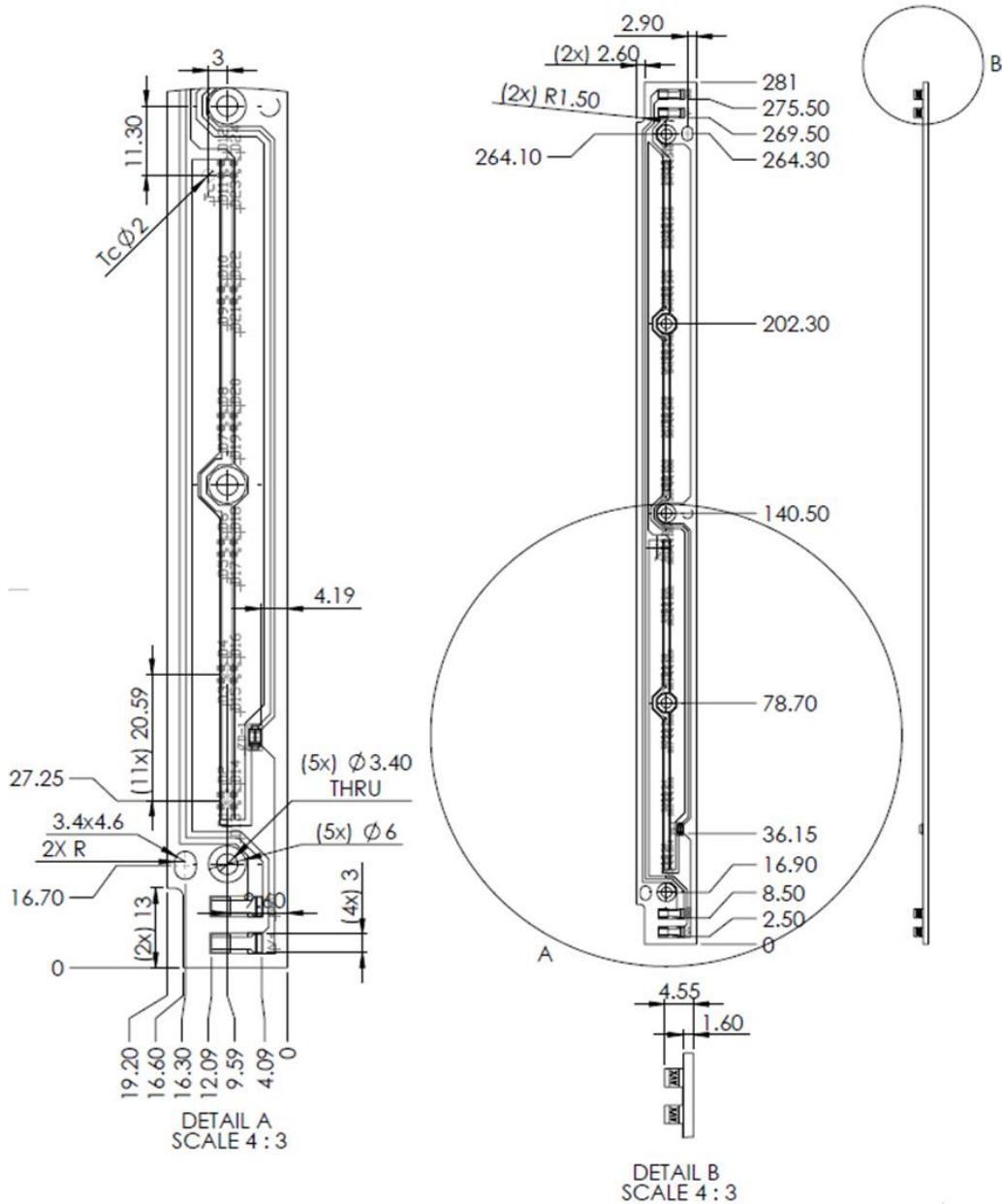


**Table 3. Absolute Maximum Ratings**

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

## Drawing

[Unit: mm]



- (1) All dimensions are in mm
- (2) For reference only
- (3) Not to scale

For 4 LED clusters – clusters on centerline  
 For 2 LED clusters – All LEDs on centerline  
 For 1 LED clusters – LED at cluster center  
 Recommended fasteners: M3 pan head

### Notes :

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

## Wire Guide

[Unit: mm]

### Single Board



**For terminating end:  
V- to GND**

### Multiple Boards



**For all junctions:  
V- to V+  
GND to GND**

**For terminating end:  
V- to GND**

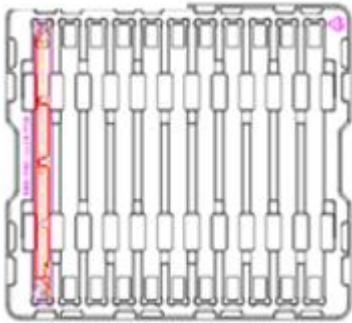
#### Notes :

- Tool to open the contact to Insert/withdraw wire.
- Contact opening tool [P/N : 06-9296-7001-01-000]
- Wire Size : 18AWG to 26AWG [solid/stranded copper conductor.]
- Wire Trim Length :  $4.5 \pm 0.5$ mm [AVX Connector]

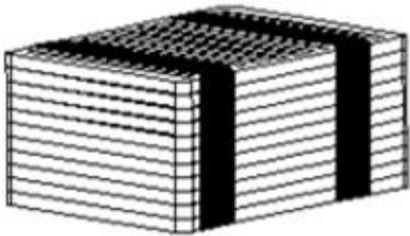
**※ WARNING: DO NOT WIRE MORE THAN 9 BOARDS IN SERIES**

### Packing

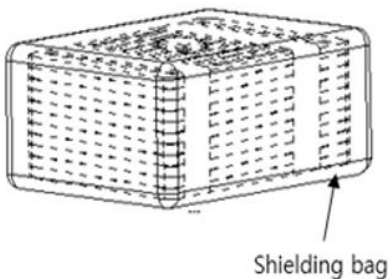
#### Tray



- |         |                                 |
|---------|---------------------------------|
| Note 1. | 1 Tray = 11 pcs of products     |
| Note 2. | Stacking 24 Trays               |
| Note 3. | (The top tray is an empty Tray) |

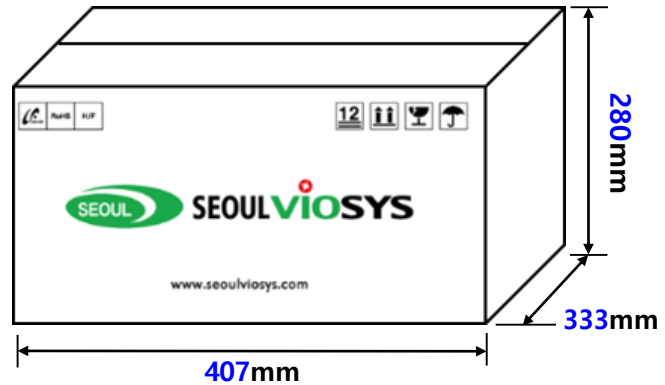


- |         |  |
|---------|--|
| Note 1. | 11 tray X 11 pcs = 121 pcs (1Tray=dummy) |
| Note 2. | 1 tray pack 11 pcs                       |
| Note 3. | Total Quantity : 121 pcs                 |



- |         |   |
|---------|---|
| Note 1. | Tapping 12 Tray to fix.                           |
| Note 2. | Packing with Silica gel and cover a shielding bag |
| Note 3. | Tray Label Size : 100mm x 70mm                    |
| Note 4. | Product Box Label Size : 100mm x 70mm             |

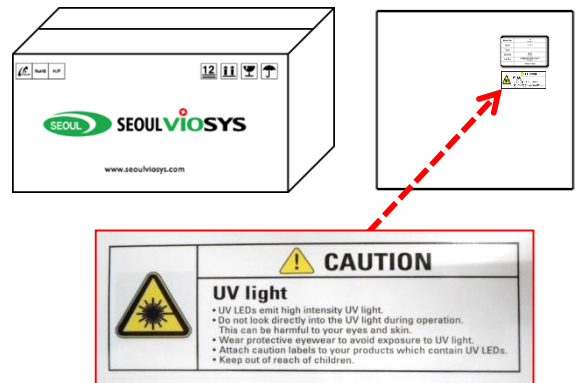
#### Pack the tray in a box



- |         |   |
|---------|---|
| Note 1. | 1BOX : 11 pcs per tray x 11 Trays x 2 Shielding bag = 242 pcs |
| Note 2. | TOTAL : 242 pcs per 1BOX (1dummy Tray)                        |

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

#### Labeling



- |         |   |
|---------|---|
| Note 1. | Trays should be packed with sealing bag.  |
| Note 2. | Sealing bag must be made with ESD protection characteristics.                   |
| Note 3. | Each sealing bag must have 1ea silica gel pouch to keep humidity under control. |

#### Pallet

Part	Index	Unit	Info	Remark
Pallet	Size	mm	1100(L) X 1100(W)	
	Box quantity	ea	32	8 Box X 4 Layer
	Weight	kg	5	Only Pallet

## Marking Information

### 1) Marking location



**2242627C1860**

----- 1D Barcode

----- Packing date(YYMMDD)+ [LED Rank (HXX) 3 digits\*  
or (27XXXXX) 7digit\*]



**00001**

----- 1D Barcode

----- Module Lot No – 5 digits (00001~99999)

### 2) Marking Size



### 3) Marking information

**Note\*** :Explain LED rank

1) Old rank LED **HXX** : H01~HXX.(3 digits).

2) New Rank LED **27C1860** (7digits)


+ Wp (nm) bin:= 27A or 27B or 27C or 27D. (3digit)

+ Radiant Flux (mW) bin = 18 (W018) or 13 (W013) or 08 (W008)

+ Vf of LED(V) bin= 54(V540) or .... Or 62 (V620)

Example:

**27C1860 = 27CW018V600.**

Model No.	XMD-FBC-LLOA <sup>(1)</sup> 
Type	
Quantity	XXX 
Lot No.	YYMDDXXXXX-xxxxxxx <sup>(2)</sup> 
	SEOUL VIOSYS CO.,LTD.

<b>Reference</b>	(1)	It represent module part number. Refer to the page1 for part number selection.	
	(2)	YYMDD	Packing Date
		YY	last 2digits of year(ex – 2018 → 18)
		M	Oct-A, Nov-B, Dec-C(1digits)
		DD	Date(2digits)
		X	Initial of Manufacturer(1digits)
		XXXX	Sealing Pack No(4digits)
		-	dash
		XXXXXXX	SVC Code(7digits)
<b>Note</b>	(1)	It is attached to the top right corner of the box.	

A white rectangular label with a black border. At the top, the text "TOTAL Quantity" is printed in a large, bold, black sans-serif font. Below the text is a standard 1D barcode consisting of vertical black bars of varying widths. Underneath the barcode, the text "XXX" is printed in a large, bold, black sans-serif font. At the bottom of the label, there is a green oval logo on the left containing the word "SEOUL" in white, and the text "SEOUL VIOSYS CO.,LTD." in black to its right.

<b>Note</b>	(1)	It is attached to the top right corner of the box.
-------------	-----	--



## 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

	 <b>CAUTION</b>
	<ul style="list-style-type: none"> <li>•UV LEDs emit high intensity UV light.</li> <li>•Do not look directly into the UV light during operation. This can be harmful to your eyes and skin.</li> <li>•Wear protective eyewear to avoid exposure to UV light.</li> <li>•Attach caution labels to your products which contain UV LEDs.</li> </ul> <p><b>Avoid direct eye and skin exposure to UV light. Keep out of reach of children.</b></p>