Sterilization Module Solution

specification

CMA-FBC-AR4A

Product Brief

Description

- CMA-FBC-AR4A is disinfection Module with UV LED mounted on the Metal PCB. It can be easily connected electrically by putting in the connector.
- CMA-FBC-AR4A is designed for air sterilization.

Features and Benefits

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

Key Applications

- Disinfection

Table 1. Product

Model	Input Voltage[Vin]	Φe [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 (T_a=25℃ RH=30%)

Parameter`	Symbol	Value			Unit
		Min.	Typ.	Max.	
Peak wavelength[1]	λp	270	275	280	nm
Forward Current	I_F		200		mA
Power Consumption	P		2.4		W
Radiant Flux[2]	Φe[3]		40		mW

Notes :

(1) Peak Wavelength Measurement tolerance : ±3nm
(2) Radiant Flux Measurement tolerance : ±10%
(3) Φe is the Total Radiant Flux as measured with an integrated sphere.
(4) All measurements were made under the standardized environment of Seoul viosys

Table 3. Absolute Maximum Ratings

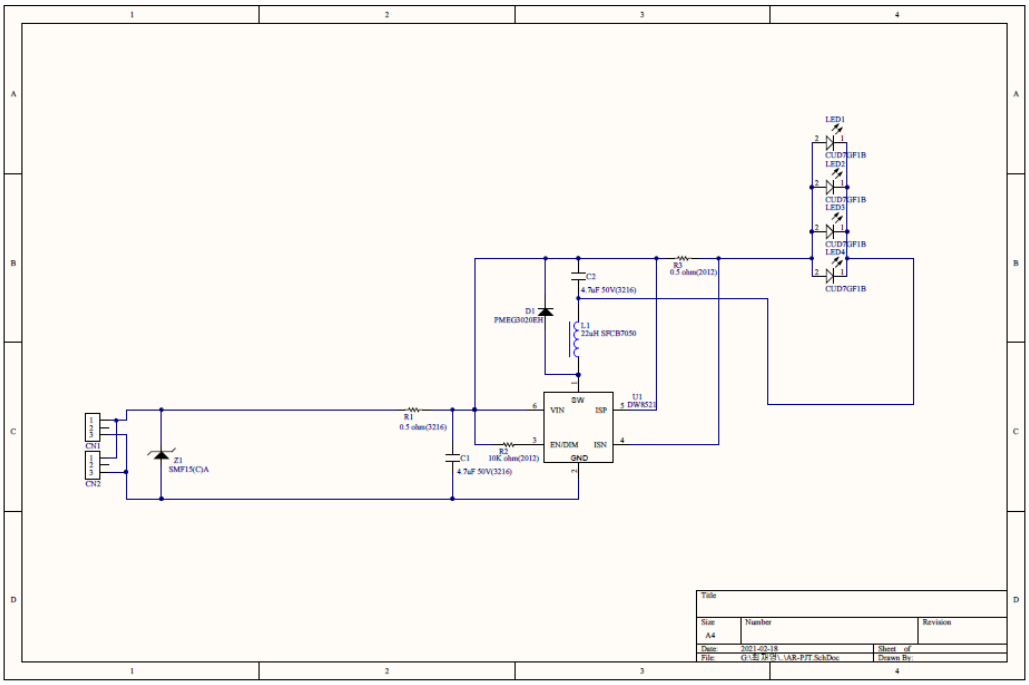
Parameter	Symbol	Unit	Value
Maximum Input Voltage	V_F	Vdc	13
Operating Temperature	T_{opr}	ºC	-20 ~ +40
Storage Temperature	T_{stg}	ºC	-20 ~ +60

Part list

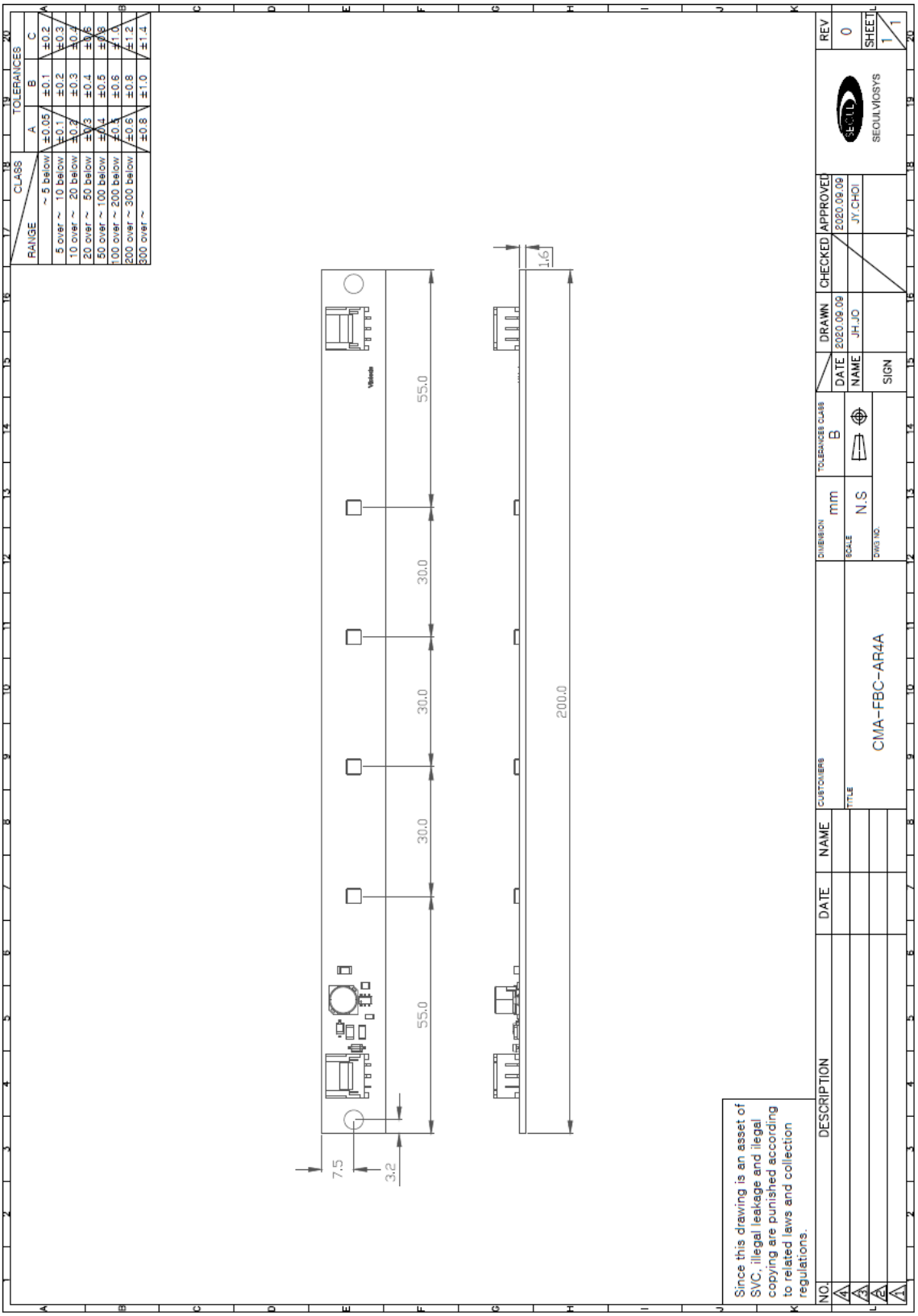
Table 4. Part List

Item	Specification	QTY
LED	CUD7GF1B	4
RES(3216)	0.5 ohm(3216)	1
RES(2012)	0.5 ohm(2012)	1
RES(2012)	10K ohm(2012)	1
INDUCTOR	22uH SFCB7050	1
CAP(3216)	4.7uF 50V (3216)	2
CONNECTOR	20037WR-03	2
DIODE	PMEG3020EH	1
Driber IC	DW8521(SOT23-6)	1
TVS(SOD-123FL)	SMF15A	1
PCB	MPCB_Metal PCB 199mmX15mmX1.6T	1
Wire_1	UV LED PCB Hosuing : SMH200-03 AWG#26 UL 10638 400mm RED/BLACK Control PCB Housing : Non Hosing	1
Wire_2	UV LED PCB Hosuing : SMH200-03 AWG#26 UL 10638 150mm RED/BLACK Control PCB Housing : SMH200-03	1

- Circuit Diagram

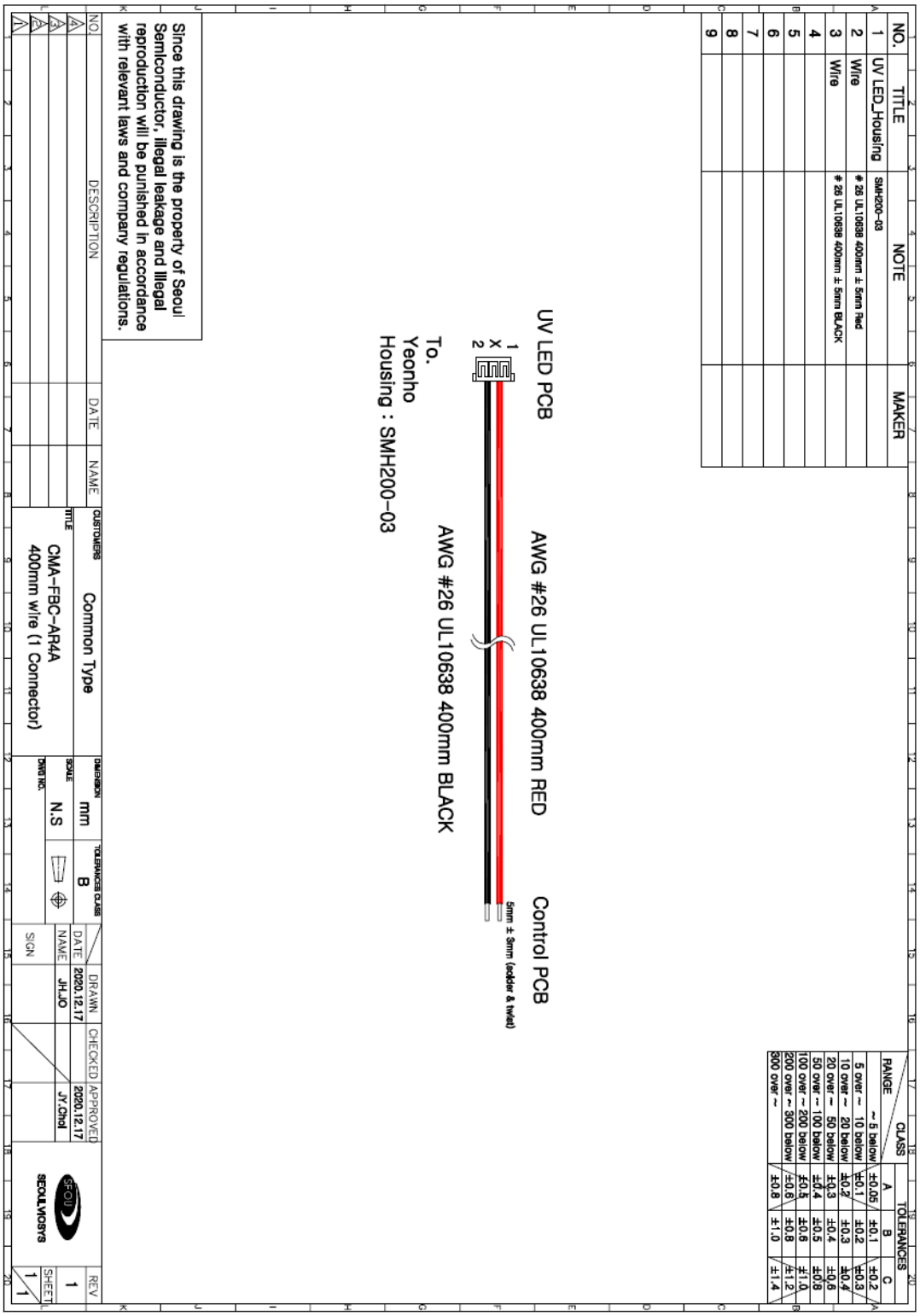


Drawing


55.0
30.0
30.0
30.0
55.0
7.5
3.2
1.6
200.0
CMA-FBC-AR4A
SEOULVIOSYS
Since this drawing is an asset of SVC, illegal leakage and illegal copying are punished according to related laws and collection regulations.

Drawing

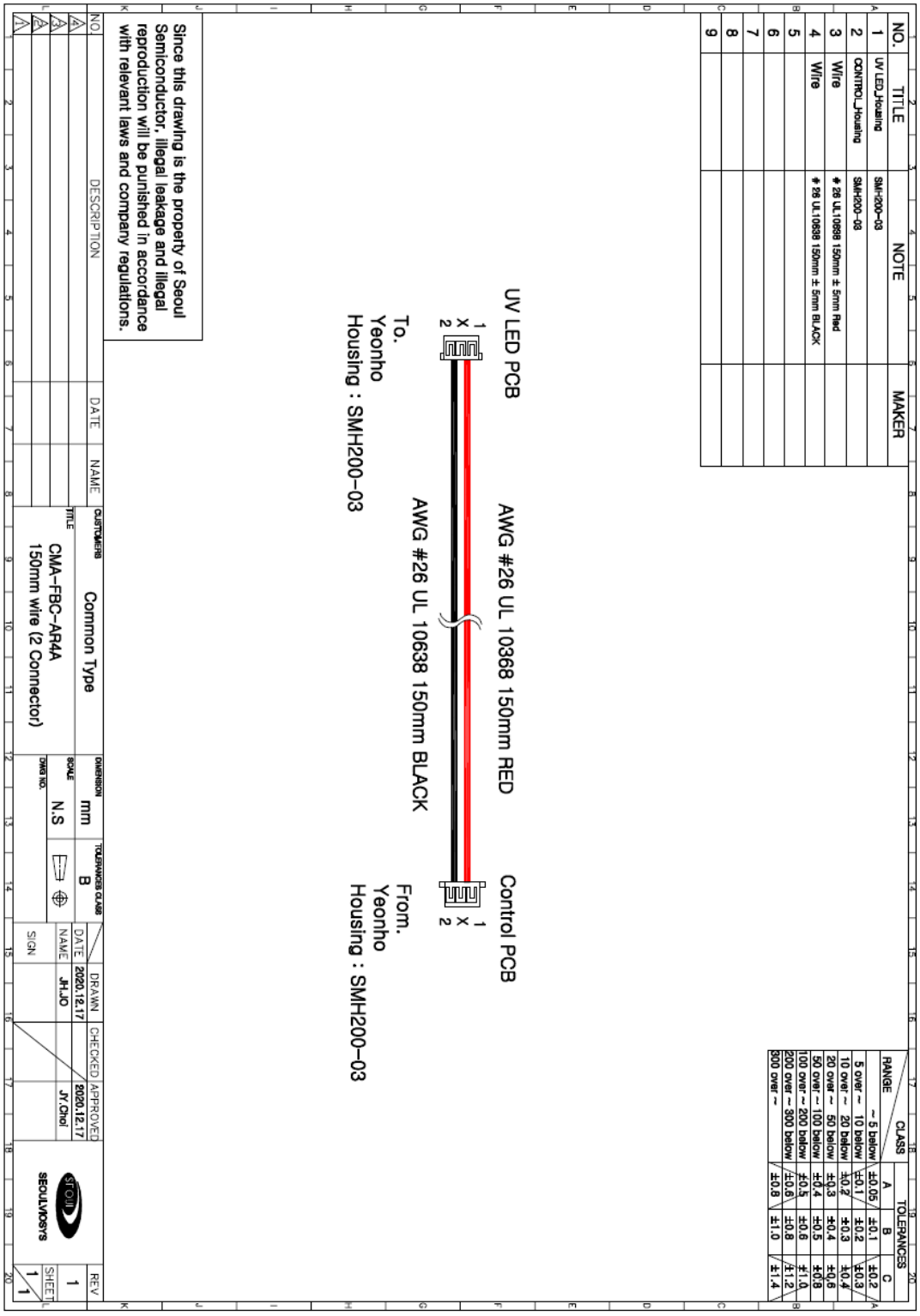
1 Connector _ Wire (400mm)



※ The control Wire connector is packaged and shipped separately.

Drawing

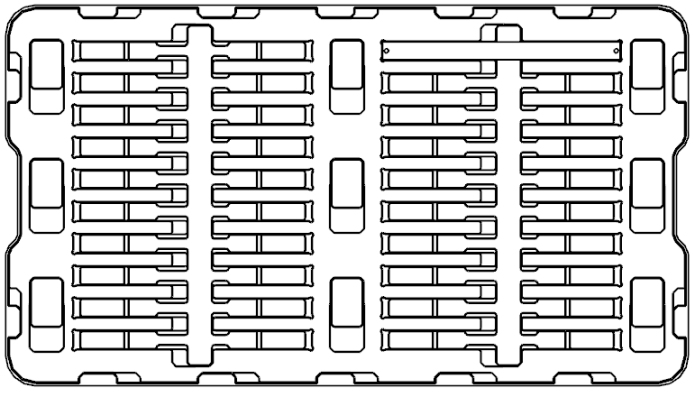
2 Connector _ Wire(150mm)



※ The control Wire connector is packaged and shipped separately.

Packing

1) 1 Tray = 20pcs of products

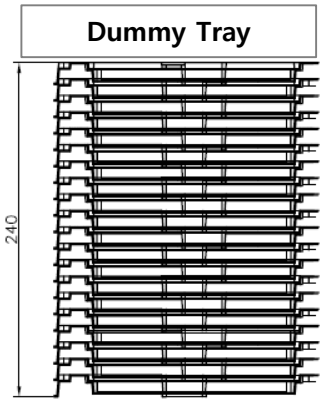


2) Stacking 21 Trays (The top tray is an empty Tray

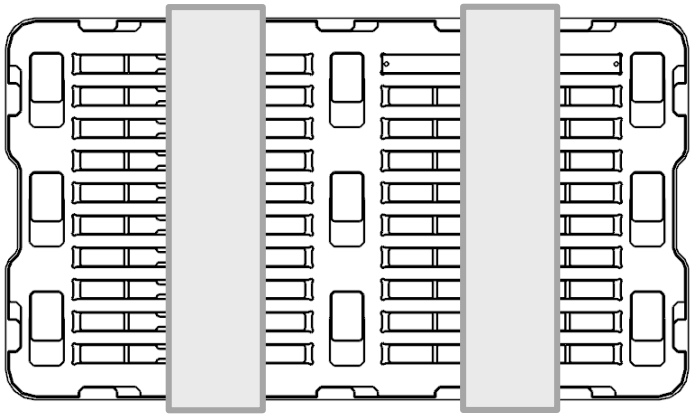
→ 21 tray X 20EA = 400EA (1Tray=dummy)

→ 1 tray pack 20pcs

→ Total Quantity : 400 pcs

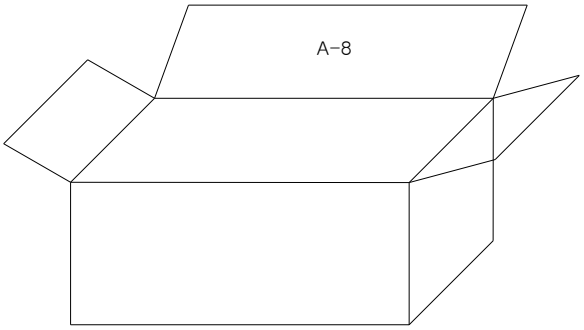


3) Tapping 21 Tray to fix.



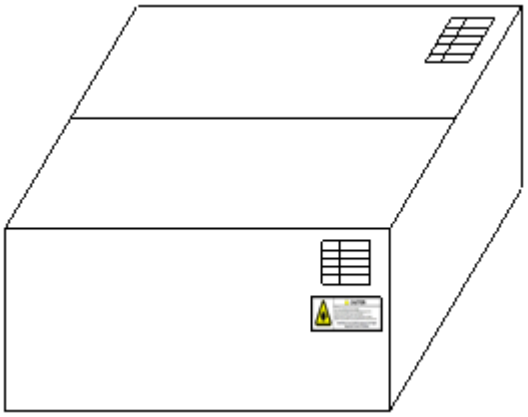
Tray tapping Tray tapping

4) 21 Tray tapping in A-8 Box



<Box Size[mm] : 590 X 330 X 260>

5) Labeling

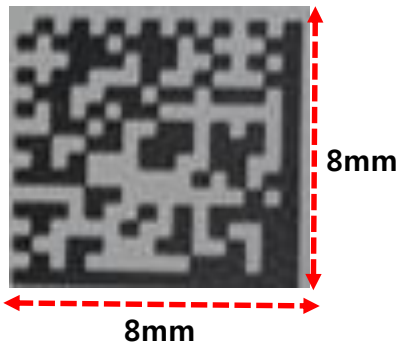


※ Wire is wrapped separately.

Label Information

1) Label attachment location

2) Label Size



3) Label and QR CODE information

EX) C2b08v58,201229,00001

NO	Item	Information	Digits	Value		Remark
①	Module Bin code	LED RANK		C2	Wavelength	
				B08	Radiant Flux	
				V58	VF	
②	SMD DATE	YYMMDD				
③	LOT NO	00000				00001~99999

Label Information

Model No.	(1)
Rank	
Type	
Quantity	**XXX**
Lot No.	**YYMDDXXXXX-xxxx**(2)
SEOUL	**SEOUL Viosys**

Reference

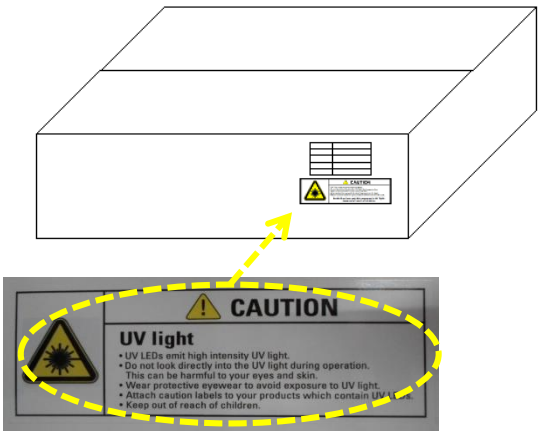
(1) It represent module part number.

(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 : SSC Code(7digits)

Note

(1) It is attached to the top right corner of the box.

*** Labeling**



Precaution for Use

1) Storage

- To avoid moisture penetration, we recommend storing CMA-FBC-AR4A in a dry box with a desiccant. The recommended temperature and Relative humidity are between 5℃ and 30℃ and below 50% respectively.
- CMA-FBC-AR4A must be stored properly to maintain the device. If the CMA-FBC-AR4A 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 CMA-FBC-AR4A into the moisture-proof bag and reseal the bag after work to avoid those CMA-FBC-AR4A being exposed to moisture. Prolonged exposure to moisture can adversely affect the proper functioning of the CMA-FBC-AR4A.

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 CMA-FBC-AR4A, 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 CMA-FBC-AR4A 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.
  - Lamp will attract dust so use covered containers for storage.
  - It is not recommend to cover the Lamp with other materials (epoxy, urethane, etc)

Precaution for Use

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 CMA-FBC-AR4A with a dry towel.

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 only when it is ON or OFF . If the reverse voltage is applied to CMA-FBC-AR4A, 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