

修订				
版本	标记	处数	内容	日期
V0			N/A	

## Model NO.&amp; Specifications :

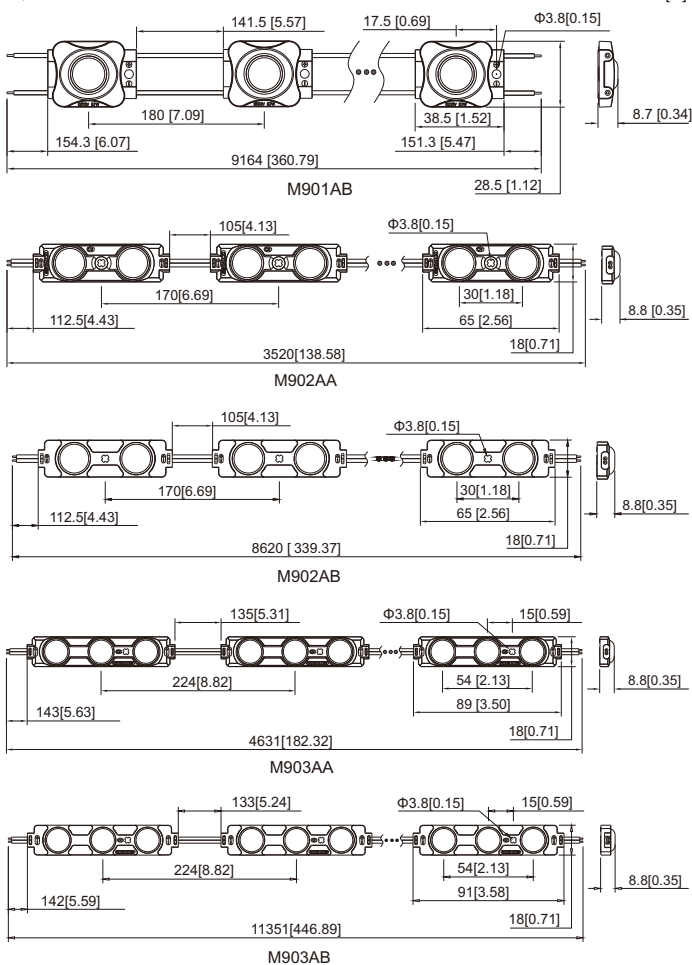
Model NO.	M901AB	M902AA	M902AB	M903AA	M903AB
Rated Power (W/Piece)	0.7	0.48	0.48	0.72	0.72
Rated Voltage (V DC)	12				
IP Code	IP65				
Operating Temperature (°C[°F])	-25~+60[-13~+140]				
Stock Temperature (°C[°F])	-25~+70[-13~+158]				

## Profile:

## 1. Standard Cascaded Qty

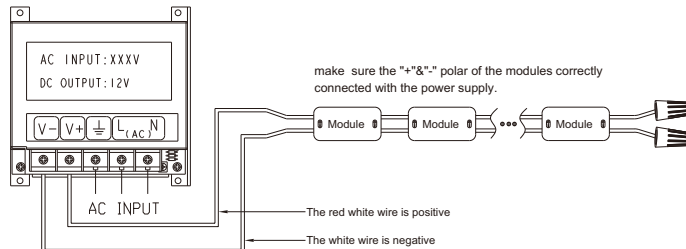
Model NO.	M901AB	M902AA	M902AB	M903AA	M903AB
Standard Cascaded Qty (pcs)	50	20	50	20	50

## 2. Standard Cascaded dimensions



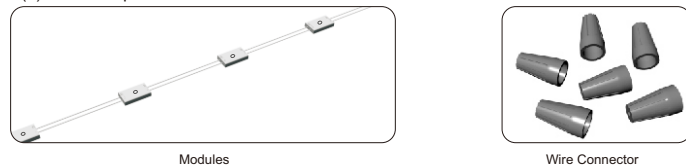
## Spare Parts &amp; Tools:

## 1. Installation &amp; Connection Instruction :



## 2. Parts &amp; Tools :

## (1) Product Spare Parts:



## (2) Self-provided Tools &amp; Material



## Installation Example:

## 1. Layout of Channel Letter

## Case For Reference

## Model NO. : M901AB

Letter specification				Modules			Surface Illumination Scope (lux)
Width of main strokes (mm)	Net Thickness (mm)	Dimensions (mm)	Square (㎡)	Max. Space between Modules(mm)	Total Qty (pcs)	Installation Density (pcs/㎡)	
A60	H61	L473*W290	0.14	80	17	121	4300-5000
A80	H79	L710*W430	0.3	100	23	77	2500-3200
A100	H103	L855*W525	0.45	120	25	56	1800-2400
A120	H123	L1040*W653	0.68	140	24	35	1200-1500
A150	H152	L1194*W710	0.85	170	25	29	1100-1300
A180	H182	L1490*W900	1.34	180	30	22	800-1000

## Model NO. : M902AA/M902AB

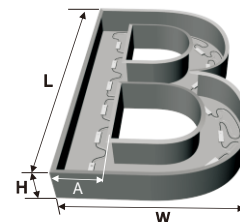
Letter specification				Modules			Surface Illumination Scope (lux)
Width of main strokes (mm)	Net Thickness (mm)	Dimensions (mm)	Square (㎡)	Max. Space between Modules(mm)	Total Qty (pcs)	Installation Density (pcs/㎡)	
A60	H61	L473*W290	0.14	80	17	121	3000-3600
A90	H79	L710*W430	0.3	100	21	70	1700-2300
A110	H103	L855*W525	0.45	110	22	49	1200-1600
A140	H123	L1040*W653	0.68	120	26	38	1000-1200
A150	H152	L1194*W710	0.85	150	27	32	950-1100
A180	H182	L1490*W900	1.34	170	31	23	650-750

## Model NO. : M903AA/M903AB

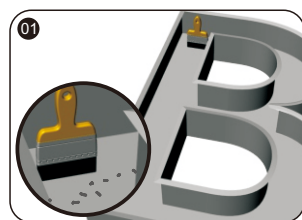
Letter specification				Modules			Surface Illumination Scope (lux)
Width of main strokes (mm)	Net Thickness (mm)	Dimensions (mm)	Square (㎡)	Max. Space between Modules(mm)	Total Qty (pcs)	Installation Density (pcs/㎡)	
A60	H61	L473*W290	0.14	100	14	100	4000-5000
A80	H79	L710*W430	0.3	120	18	60	2700-3300
A100	H103	L855*W525	0.45	140	18	40	1800-2200
A120	H123	L1040*W653	0.68	160	21	31	1200-1500
A150	H152	L1194*W710	0.85	190	23	27	1100-1300
A180	H182	L1490*W900	1.34	220	24	18	700-850

## Remarks :

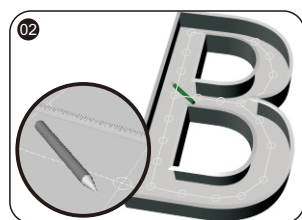
- Above data was tested by CCT 6000K Modules.
- Above data was tested by 3mm thickness PMMA material , the light transmittance is 54.4%.
- Above illumination data is the minimum value which tested under the uniformity situation according the thickness.
- All the above data just for reference.



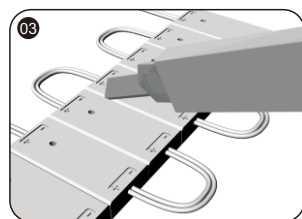
## Installation Steps



- Clean the installation surface.

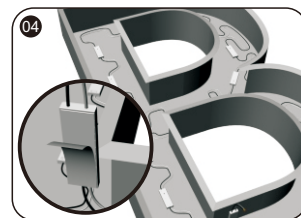


- Marks the module installation position and confirm the installation quantity.

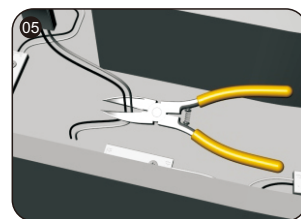


- Use the utility knife to cut the backing double side adhesive tape of whole tier modules as one by one.

Note: Do not cut on the modules or wires.

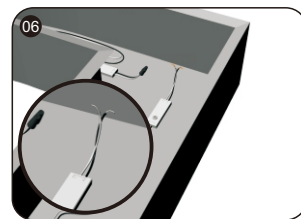


- Peel off backing to expose adhesive tape of modules and stick modules on the installation surface for preliminary mounting.

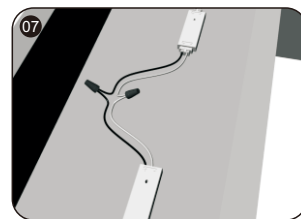


- Cut needed quantity modules, and peel off the cutted wires skin for 10mm.

Note: When cut the wires between modules please on the middle.

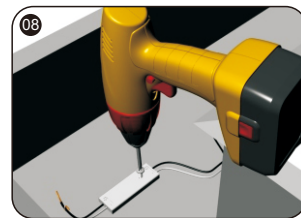


- When ending module have exposed wires, please firstly peel off the wire skin for 10mm, then separately connect the positive and negative wires with the wire connector, and well do the water-proof and antiseptic treatment.

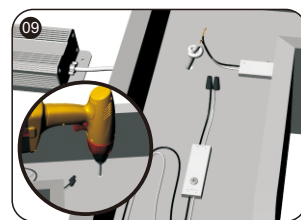


- When the modules been cascaded , please separately peel off the positive (red white wire) and negative (white wire) wires between modules for 10mm, then connect the wires by wire connectors ,and do the water-proof and antiseptic treatment.

Note: Single side power input must ensure the cascaded quantity less than or equal to the standard cascaded quantity.



- Adjust the modules to the best positions, and then press the adhesive tape tightly and fix the modules by screws.



- Drill a hole in an appropriate position with an electrical drill, run the cable of power supply through the hole, well fix and protect the cable.

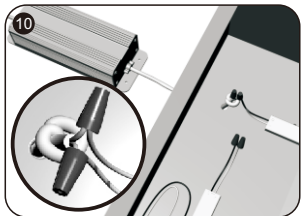
Notes: Drill a hole with a proper force to avoid the panel of the light box is broken due to the big force.

- 备注 :
- 尺寸 : 385\*210mm ;
  - 材质 : 80g书纸 ;
  - 公差 : ±1mm ;
  - 灰度双面印刷 ;
  - 虚线不印刷 , 来料必须从虚线处折好 ;

## 说明书反面

RISHANG 日上光电						深圳市日上光电股份有限公司		RISHANG OPTOELECTRONICS CO., LTD.		材质	
零件名称	5050包塑模组说明书 (英文 日上LOGO)	设计	肖云强	日期	2012.12.22	表面处理					
零件编码	308-02-105	审核		日期		重量					
图纸编号	RD-M901AB-BZ009	标准化		日期		比例				N/A	
页数	共 2 张 第 2 张	批准		日期		单位					

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V0			N/A		



- Correctly connect the positive and negative wires between the module and power supply and well do the water-proof and antiseptic treatment.

## 2、Layout of Light box

### Case for Reference

Model NO. : M901AB

Light Box Thickness(mm)	Space between modules (mm)	Installation Density (pcs/m²)	Illumination Scope (lux)
dz =60	dx =60    dy =60	278	4900-5300
dz =80	dx =80    dy =80	156	3500-3900
dz =100	dx =100   dy =100	100	2300-2500
dz =120	dx =120   dy =120	69	1680-1720
dz =150	dx =150   dy =150	44	1100-1140
dz =180	dx =180   dy =180	31	750-820

Model NO. : M902AA/M902AB

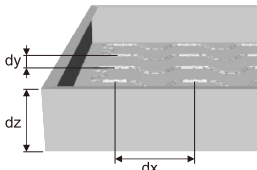
Light Box Thickness(mm)	Space between modules (mm)	Installation Density (pcs/m²)	Illumination Scope (lux)
dz =60	dx =70    dy =50	286	4900-5200
dz =80	dx =90    dy =70	159	2600-2900
dz =100	dx =110   dy =90	101	1500-1700
dz =120	dx =130   dy =110	70	1100-1300
dz =150	dx =150   dy =130	51	880-920
dz =180	dx =170   dy =150	39	640-680

Model NO. : M903AA/M903AB

Light Box Thickness(mm)	Space between modules (mm)	Installation Density (pcs/m²)	Illumination Scope (lux)
dz=60	dx=90    dy=50	222	5000-6200
dz=80	dx=100   dy=70	143	3700-3900
dz=100	dx=110   dy=90	101	2400-2700
dz=120	dx=130   dy=110	70	1700-1900
dz=150	dx=160   dy=140	45	1200-1260
dz=180	dx=180   dy=160	35	940-970

Remarks :

- 1、Above data was tested by CCT 6000K Modules.
- 2、Above data was tested by 3mm thickness PMMA material , the light transmittance is 54.4%.
- 3、Above illumination data is the minimum value which tested under the uniformity situation according the thickness.
- 4、All the above data just for reference.



### Installation Steps

Note : Please reference the installation steps of channel letter.

### Malfunctions & Solutions:

Malfunction & Solution Table		
Malfunctions	Possible Causes	Solutions
None LED works	1.No electric supply.	Remove any short-circuiting Malfunctions and re-electrify.
	2.The power is auto protected because the output of the power supply short circuit.	
	3.The input wires of the modules are connected rev.	
Part of the LED don't work	1.No output form part of power supply.	Check the power supply and remove malfunctions.
	2.Part of modules connected wrongly to the power supply .	
	3.Some modules polarity are connected reversely.	Connect the wires correctly.
Brightness of the LED is dark or not even	1.The power supply is over loaded.	Use bigger or more supplies.
	2.The loss of the power supply's wire is too big.	Make sure the operating oltage of the modules is inside of ±5% standard voltage. (1.short the wire length between the modules and power supply or use big diameter wires. 2.ensure each circuit module cascaded quantity less than or equal to Max allowed cascade quantity and make sure each circuit have the similar cascade quantity, the difference is better no more than 3pcs )
	3.Too many modules cascaded.	Lessen the modules cascade quantity to meet each electric current loop maximum load.
LEDs are blinking	1.Poor connection.	Find out the poor connection positions and remove the malfunctions
	2.Failures in the power supply.	Replace the power supply

### Notes :

- 1、Installation Notes:  
Make sure the "+"& "-" polar of the modules correctly connected with the power supply, otherwise,the modules will be damaged.
- 2、Notes for other installation parts :  
(1) It is suggested to calculate the rated power according to the total output power of connected modules when using the standard module cascades,and meanwhile ensure the choosing power supply's output is 20% greater than the total load power.  
(2) Must use DC12V rated voltage power supply ;  
(3) Must use switching power supply which with the safety certificate .(protecting against short-circuit, overvoltage and over current)

### Warning:

- Do not disassemble or modify the module; don't touch the modules with sharp tools.
- Don't install the modules during power on.
- Prohibited to use any organic chemical solvents.
- Installation 、 repairmen 、 maintenance must be operated by the professional person.
- No operation by the un-professional person.
- When using neutral glass glue to fix this product, must operate in the open air and sealed after at least four hours of curing.
- During installation, isolated the connectors and the unplugged wires; and choose 18AWG width or thicker wire to use in case of over-current to cause over-heat or other unwanted consequences.
- If the power input wires of the modules need to be longer , should use 18AWG (CSA 0.785 mm2)or much bigger diameter wires to avoid the over current heat damage.
- Total module numbers in a cascade must be within standard cascade number, and the wire length between the power supply and the modules is no more than 2 meters or the line loss will be enlarged as to cause light difference between the module cascade.
- When cascade quantity is standrad , the wire length should no more than 2M . This product just for inside use of light box or sinage.
- These products are suitable for use in dry, damp and wet locations. Considering the products' feature, it is recommended to use in dry location only.

- These products are only suitable for connection to a circuit from a Class 2 power source.
- These products have not been evaluated for use when connected to a power source that does not comply with Class 2 voltage and energy limited supplies.
- For wet location products, these products are not required to be enclosed or protected from weather.

### Warranty:

Model NO.	Warranty
M902AA/M903AA	4years or 18000 hours, whichever come first
M901AB/M902AB/M903AB	5years or 22000 hours, whichever come first

Remarks:

Above warranty period just according to the inside use of water-proof light box or signage.

### Declaration:

- The double side adhesive tape just used for position, after adjust the modules to best installation position, and please fix it by screws.
- If the outside wires of the lamp damaged, please change it by manufacture, its service agent, or has the similar qualification person to avoid dangerous.
- The given data in this manual is based on our standard product. there may some vary of the actually delivery products. Please be subject to actual product data.
- All the product diagrams and pictures are schematic plots in this manual ,please subject to the received goods.
- Modifications or revisions of this product are without prior notice.



## LED Injection Modules User Manual

M901AB M902AA  
M902AB M903AA M903AB



Please carefully read this manual before use our products and keeping properly

V1.0

- 备注：
- 1.尺寸：385\*210mm；
  - 2.材质：80g书纸；
  - 3.公差：±1mm；
  - 4.灰度双面印刷；
  - 5.虚线不印刷，来料必须从虚线处折好；

## 说明书正面

	深圳市日上光电股份有限公司 RISHANG OPTOELECTRONICS CO., LTD.					
					材质	
零件名称	5050包塑模组说明书 (英文 日上LOGO)	设计	肖云强	日期	2012.12.22	表面处理
零件编码	308-02-105	审核		日期		重量
图纸编号	RD-M901AB-BZ009	标准化		日期		比例
页数	共 2 张 第 1 张	批准		日期		单位
						N/A