

Specification

Prepared	Checked	Approved	Accepted	Confirmed	Approved

CE	RoHS	3030 SMD	3 LEDS	Injection Lens	DC 12V	IP 65	5 Years
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Model: ☉ M933QB

3pcs 3030 SMD LEDs, 120*23*11.5, white shell, equipped with optical device, PVC injected series, 12Vdc, constant current, LED module

Figure



Features

- ☉ 3030 SMD LED with low attenuation and long lifetime;
- ☉ Standard cascading qty up to 20pcs;
- ☉ Beam angle: 17*28°;
- ☉ Can be cut between every unit;
- ☉ CE, RoHS compliant.

Applications

- ☉ Suitable for 5~10cm depth 0.7~1.2m width light box.

Warranty

- ☉ 5 years or 22,000 hours, whichever comes first.

Optical and Electrical Parameters:

P/N	LED Color	CCT WL (nm)	CRI	SDCM	Beam Angle (°)	Luminous Flux (lm)	Luminous Efficacy (lm/w)	Working voltage (V DC)	Working current (mA)	Power (w/piece)
M933QB	White	6500	≥70	--	17*28°	327	113.5	12	240	2.88

Others:

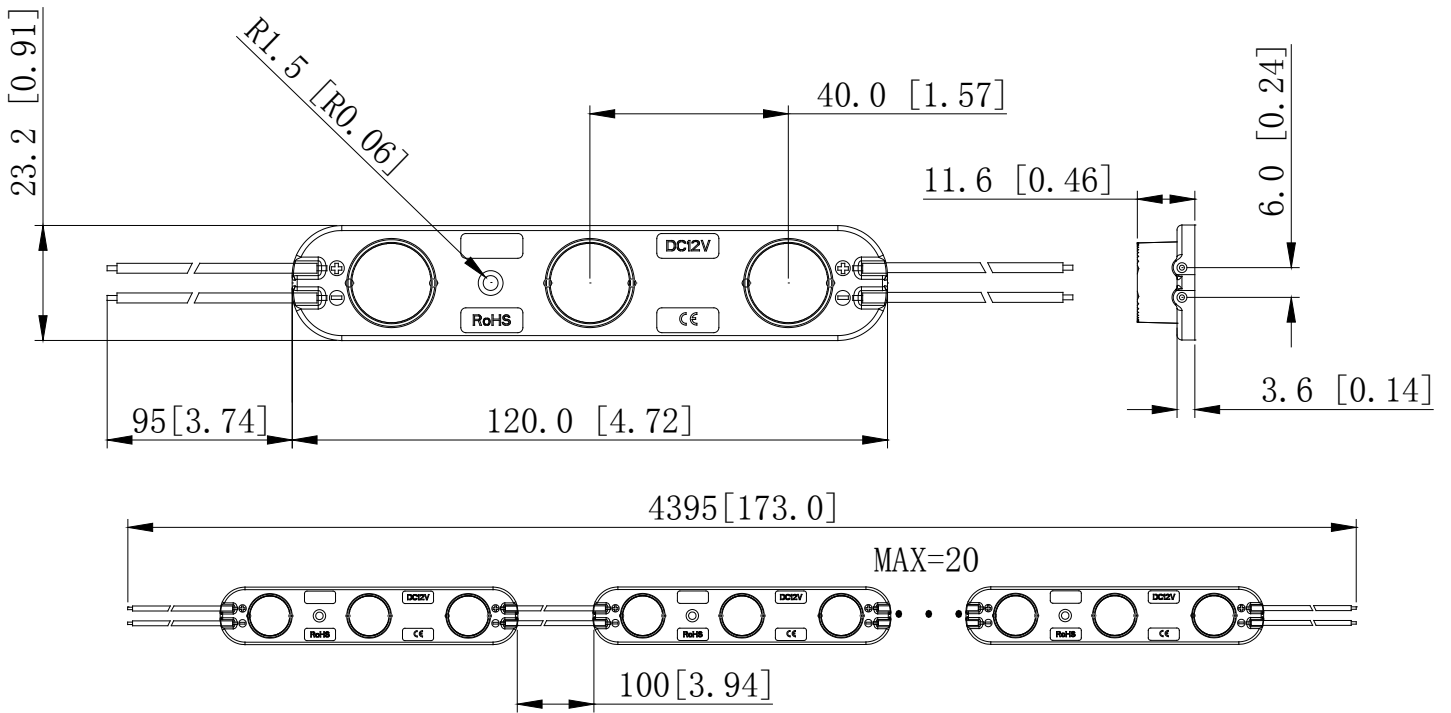
P/N	IP Grade	Operating Temp		Storage Temp		Standard cascading qty (pcs)	Single-ended max. cascading qty (pcs)	Double-ended max. cascading qty (pcs)	Weight	
		(°C)	(°F)	(°C)	(°F)				(g/piece)	(lb/piece)
M933QB	IP65	-25~ +60	-13~ +140	-25~ +70	-13~ +158	20	20	40	25	0.055

Notes:

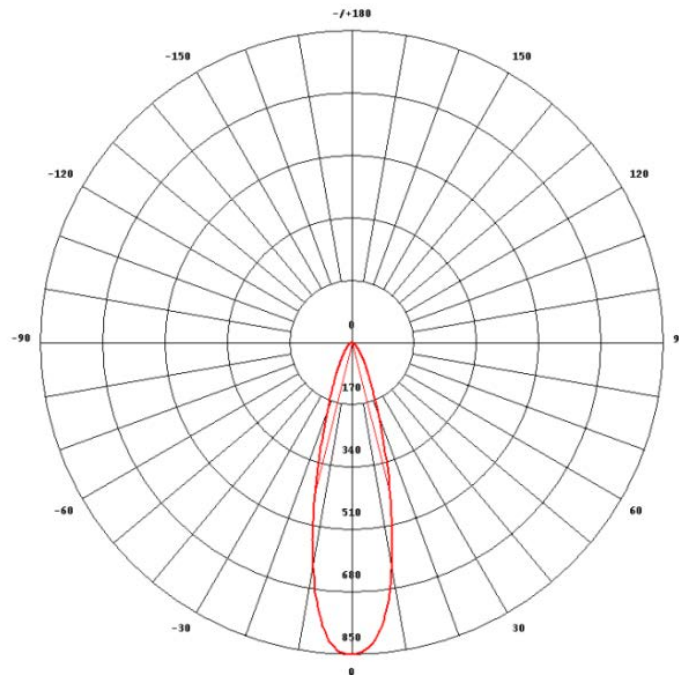
- ① Testing environment temperature: 25±2°C [77±3.6°F];
- ② The actual data of each single product may differ from above typical data which are subject to change without prior notice;
- ③ The above "--" means the parameters are not required temporarily.

Profile Drawings:

Unit: mm [inch]

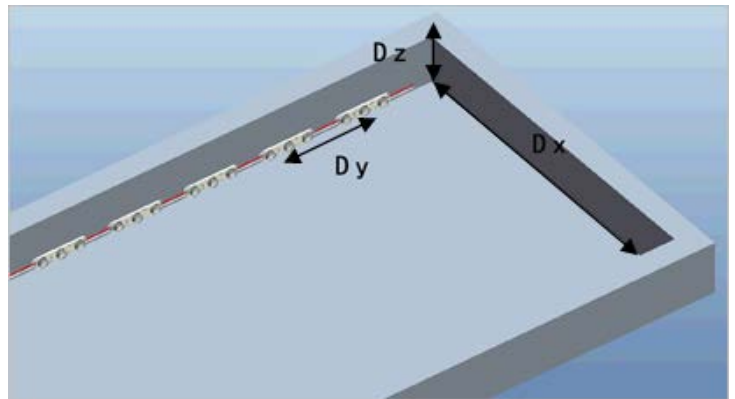


Light Distribution Curve:



Layout Data:

Light box depth (mm)	Space between every unit (mm)	Installing density (PCS/m ²)	Surface average illuminance (lux)
Dz=50	Dx=700 Dy=140	20	2863
Dz=60	Dx=700 Dy=150	19	2743
Dz=70	Dx=700 Dy=170	17	2383
Dz=80	Dx=700 Dy=180	16	2272
Dz=90	Dx=700 Dy=190	15	2072
Dz=100	Dx=700 Dy=210	14	1914



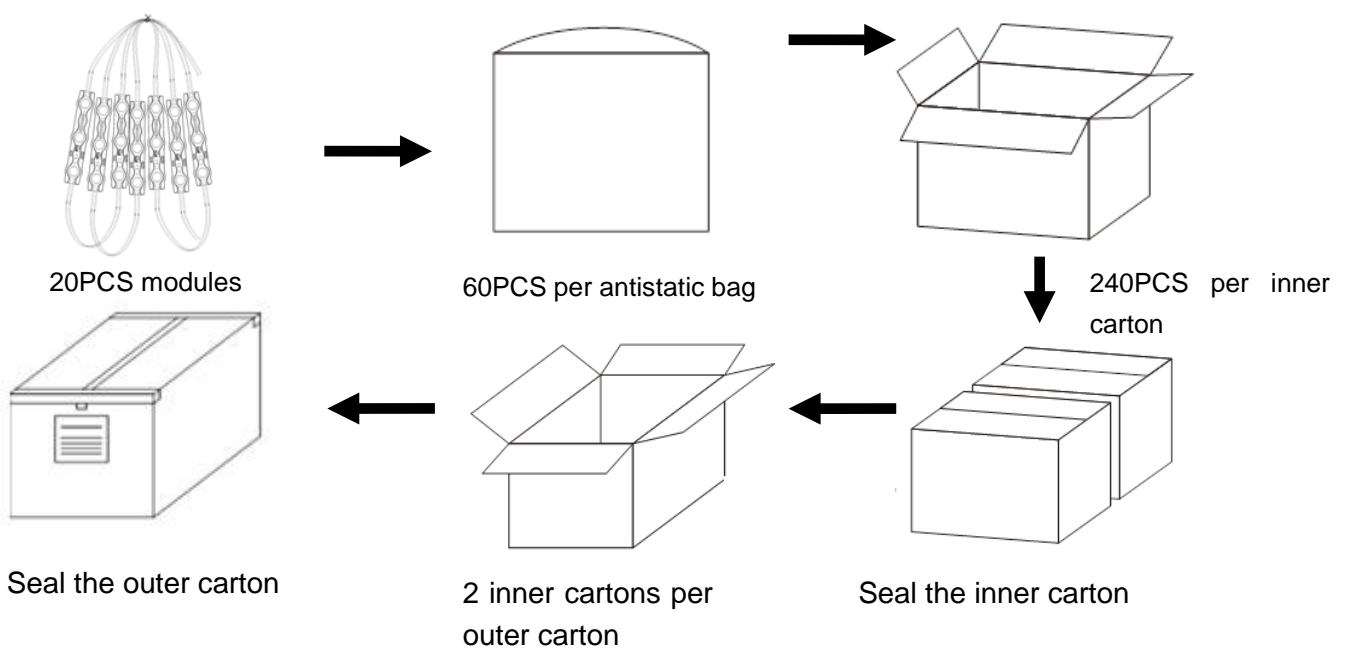
Notes:

- (1) The above data is tested from the modules with color temperature of 6500K;
- (2) The above light box uses acrylic white board with 3mm depth and 54.4% light transmittance;
- (3) The above illuminance is the minimum value tested on the even surface;
- (4) The above data is only for reference.

Packaging Information:

P/N	Qty (PCS/bag)	Qty (bag/carton)	Total Qty (PCS)	Total weight (Kg) (lb)		Outer carton					
						length (mm) (inch)		Width (mm) (inch)		Height (mm) (inch)	
M933QB	60	8	480	14.3	31.52	528	20.78	376	14.8	272	10.7

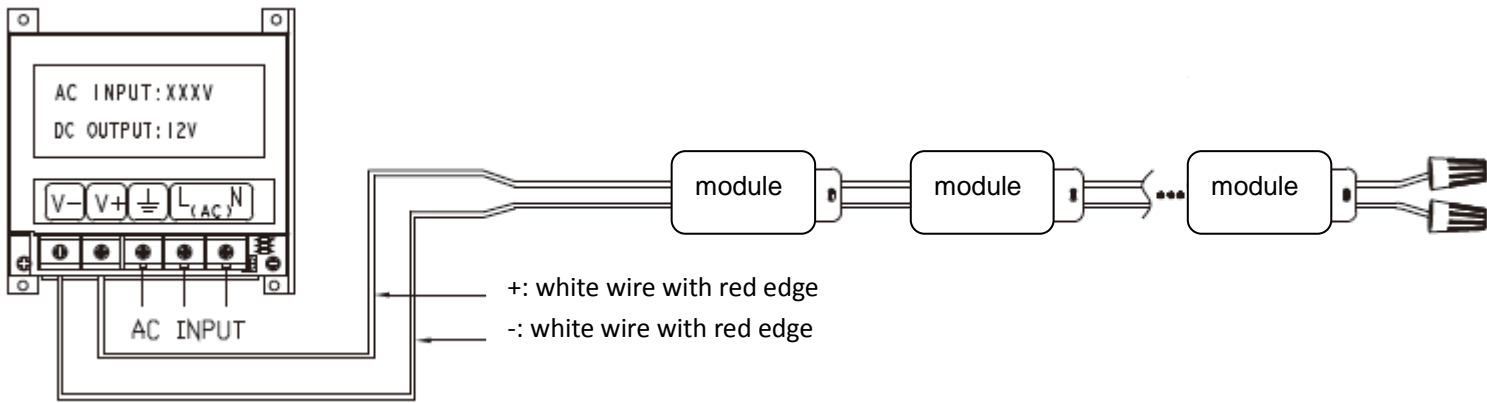
Packaging Diagram:



Notes:

the actual packed quantity and weight might differ from the above data in other packaging ways, Thus please refer to the actual product for detailed information

Connection Instruction:



(Notes: Please connect the '+' and '-' of wires to those of power supply output correctly)

Parts & Tools:

Product Spare Parts

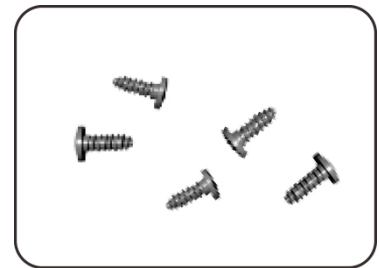


Module

Self-provided Tools

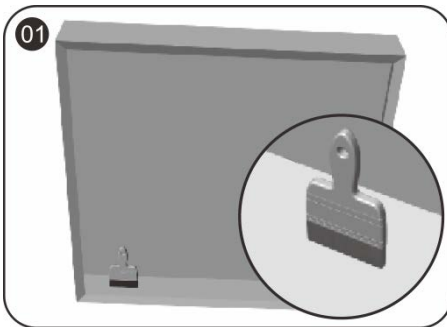


Cutting nipper, Electrical Drill & Drilling bit

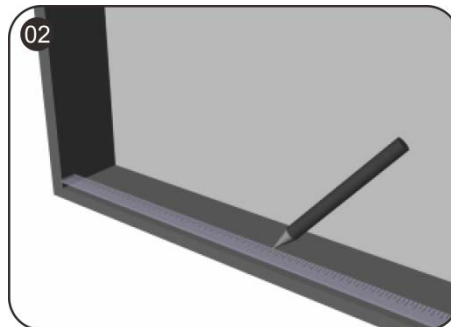


Screw

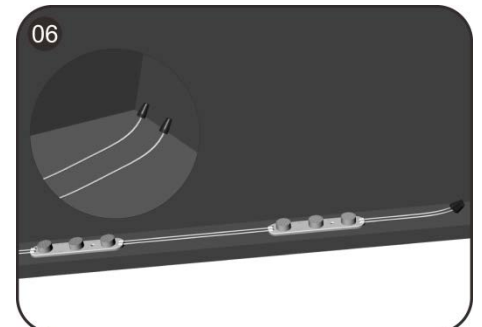
Installation Steps:



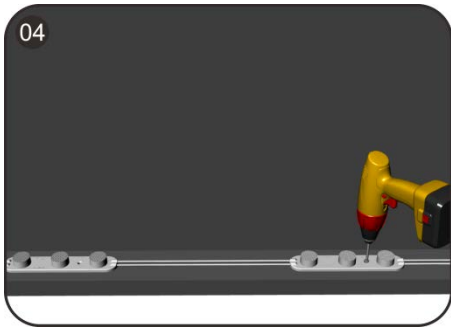
01 Clean the mounting surface



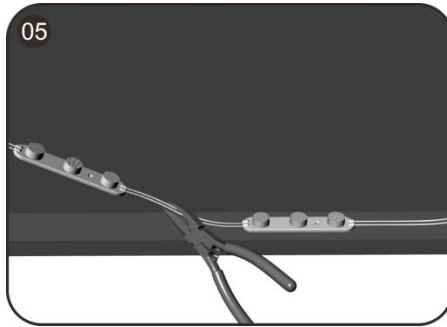
02 Determine the installing position for modules and the needed qty. Make sure to install it close to the bottom of the light box.



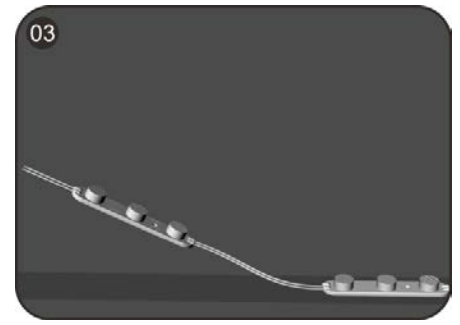
06 Peel off the release paper of double-sided adhesive tapes, then, stick modules on the installing surface for preliminary mounting.



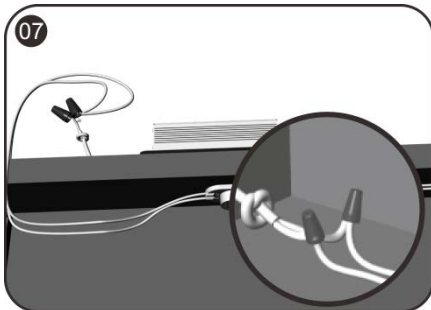
⦿ Adjust the modules to the best position, press the double-sided tape tightly and then fix by screws



⦿ Cut off the modules to the desired qty, and peel off the insulation skin of wires about 10mm
△Note: Please cut from the middle of wires between modules.



⦿ When the wires exposed in the last module, please peel off the insulation skin of wires about 10mm each, then, screw in terminals respectively, and dispose with waterproof, insulation protection



⦿ Please ensure that the “+” & “-” of the wires of modules are connected with those of power supply correctly, and dispose with waterproof, insulation, anti-circuit and anti-corrosion protection.

Troubleshooting:

Malfunctions	Possible Causes	Solutions
All LEDs don't work	1. The power supply did not connect to power grid.	Power on
	2. No electricity due to short-circuit of external power supply	Remove the malfunction caused by short-circuit, power on again
	3. The wires of module connect to power supply output reversely.	Check the connecting and ensure the wires are connected correctly.
Part of LEDs don't work	1. Part of power supplies do not have output.	Check the power supply system.
	2. Part of module wires have malfunction.	
	3. Particular module connected reversely.	Correct connection
Brightness of LEDs is weak or uneven	1. Overloaded power supply	Replace it with higher power supply
	2. The power loss of power circuit is huge or the power loss of each circuit existing big difference	Ensure working voltage of modules is within $\pm 5\%$ V of rated voltage. (1. Shorten the length of wires between the first module and power supply or replaced with wires with bigger diameter; 2. Ensure the cascading qty of string is less than or equal to the allowed maximum

		cascading qty, and each module cascading qty is well-balanced.)
	3. Exceed in qty of modules in series.	Lessen the cascading qty for module and ensure the qty for each electrical circuit is within the maximum cascading qty.
LEDs are blinking	1. Poor contacted in the joints.	Find out and tackle malfunction immediately.
	2. Failures in power supply.	Replace power supply.

Declaration:

- ⊙ If the external flexible cable of light box is damaged, please replace it by its manufacturer or its service agent or qualified person to avoid a hazard.
- ⊙ The specific installation and cautions please refer to the user manual.
- ⊙ The given data in this specification is based on our standard product. There may be existed slight difference compared with actual products.
- ⊙ All Illustrations in this specification are for reference only.
- ⊙ This product is subject to change or modify without prior notice.
- ⊙ RISHANG OPTOELECTRONICS CO., LTD reserves the right of final explanation for this specification.

<End>

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