Linear Lighting – RM0512EC-A-L

480 Chips/m-24V-5mm Flexible COB Strip

Technical Application Guide

MASONLED | RISHANG

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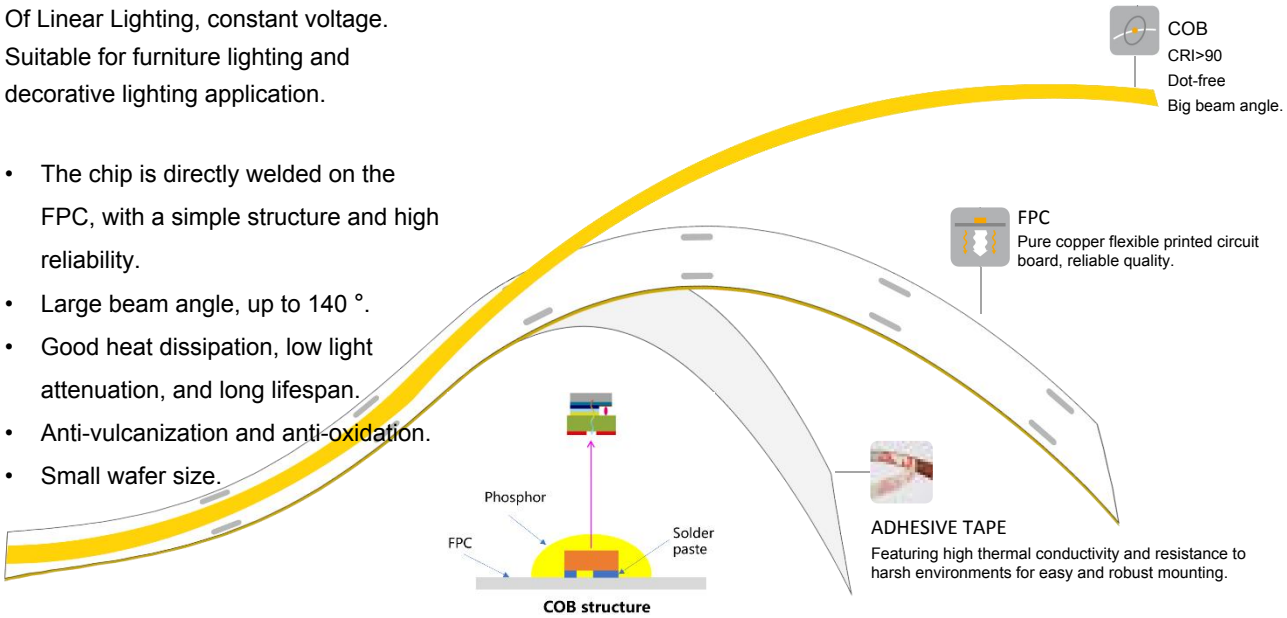
RM0512EC-A-L

480 Chips/m-24V-5mm Flexible COB Strip

480 Chips/m-24V-5mm Flexible Strips Of Linear Lighting, constant voltage. Suitable for furniture lighting and decorative lighting application.

- The chip is directly welded on the FPC, with a simple structure and high reliability.
- Large beam angle, up to 140 °.
- Good heat dissipation, low light attenuation, and long lifespan.
- Anti-vulcanization and anti-oxidation.
- Small wafer size.



Reliability

Category	Item	Reference Standards	Test Conditions	Result
IP grade test	Waterproof test	GB/T 4208IEC 60529	25±2℃ @≤65%RH	IP20 IP54 IP65
	Dustproof test	GB/T 4208IEC 60529	25±2℃ @≤65%RH	
Safety test	Flame retardant test	GB7000.1IEC 6059801	25±2℃ @≤65%RH	Pass
Environmental test	Hi-Low temperature cycle test	GB/T 2423.22IEC 60068-2-14	-40℃@30mins ➜25℃@5mins ➜85℃@30mins ➜25℃@5mins ➜-40℃@30mins; 168 hours	Pass
	Thermal shock	GB/T 2423.22IEC 60068-2-14	-40℃➜70℃ 100 circles	Pass
	Hi-temperature storage test	GB/T 2423.3IEC 60068-2-78	Ta=80℃	Pass
	Low-temperature storage test	GB/T 2423.1IEC 60068-2-1	Ta=-40℃	Pass
	Hi-temperature & Hi-Humidity Life	GB/T 2423.2IEC 60068-2-2	Ta=70℃ @ RH=90%	Pass
	UV test	GB/T 16422.3ISO 4892-3	50±3℃,10±5%RH,Exposed at radiation 5 hours, spaying water 1 hour in 20±3℃,4 circles	Pass

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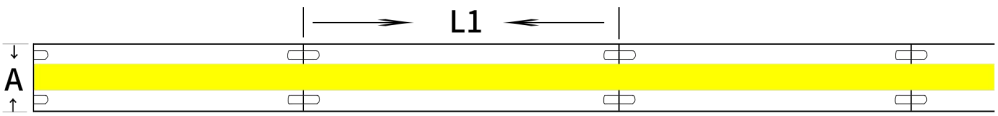
480 Chips/m-24V- 5mm

2700K 3000K 4000K 6500K

3-year warranty

P/N	Dimensions (L x W x H)		Cutting unit (L2)		Number of Chips	
RM0512EC-A-L	10000*5*1.7mm	393.7*0.20*0.07inch	50mm	1.97inch	480 /m	146/ft



Unit: mm[inch]
A: 5 [0.20]
L1: 50 [1.97]

Protection Level

Protection Level:	IP 20	IP 54	IP 54	IP 65	IP 65	IP 67	IP 68
	Non-protective	Silicone Spray	Gel Coating	Silicone Spray	Silicone Tube	Silicone Filling	Silicone Extrusion
■ Available	■	■	□	□	■	□	□

Basic Parameters :

P/N	LED Color	CCT (K) WL (nm)	CRI	SDCM	Beam Angle(°)	Luminous Flux (Lm/m)	Luminous Efficacy (Lm/W)	Working voltage (V DC)	Working current (mA)		Power (W/m)	
									1m[39.37in]	5m[196.85in]	1m[39.37in]	5m[196.85in]
RM0512EC-A-L	White	2700	≥90	≤5	140	486	81	24	250	1020	6	24.5
RM0512EC-A-L	White	3000	≥90	≤5	140	529	88	24	250	1020	6	24.5
RM0512EC-A-L	White	4000	≥90	≤5	140	561	93	24	250	1020	6	24.5
RM0512EC-A-L	White	6500	≥90	≤5	140	591	98	24	250	1020	6	24.5

P/N	Qty (m/reel)	Qty (m/carton)	Total Qty (m)	Total weight		Outer carton					
						length		width		height	
				(Kg)	(lb)	(mm)	(inch)	(mm)	(inch)	(mm)	(inch)
RM0512EC-A-L	10	80	800	13.5	29.76	460	18.11	370	14.57	256	10.08

P/N	IP Grade	Operating Temperature		Storage Temperature		Standard length		Max. cascading length		Chip Qty (pcs)	Weight	
		(℃)	(℉)	(℃)	(℉)	(m)	(inch)	(m)	(inch)		(g/m)	(lb/m)
RM0512EC-A-L	IP20	-25~+60	-13~+140	-25~+70	-13~+158	10	393.7	5	196.8	480	13	0.029

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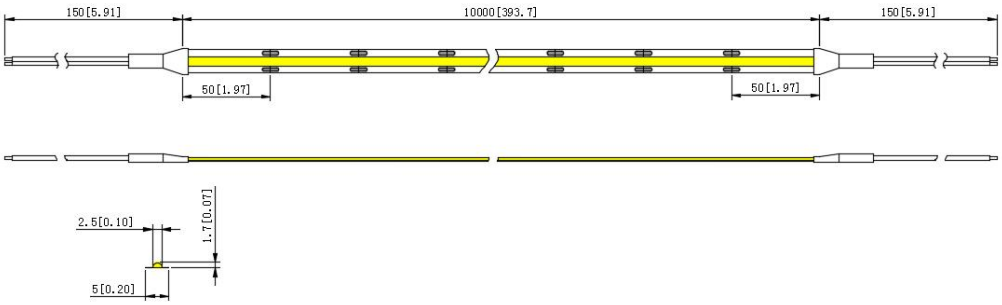
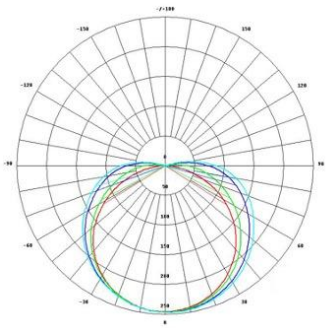
Profile Drawings

Unit: mm [inch]



Light Distribution



Optional Parts:

Category	Part Name	Figure	Specifications/Description	Article Number	Color	IP Grade	Notes
Snap-fit joints	Snap-fit joints		Snap-fit joints /23.5*4*2mm/QJ-KZ-10 (equipped with screws)	207-076	/	/	/
Terminal Connector	Connector		5mm width, single color, bare board COB strips/ cable-board connector /13.5*11.5*5.7mm	1CN-07-209	/	/	/
	Connector		5mm width, single color, bard board COB strips/board-board connector/13.5*6.8*5.7mm	1CN-07-210	/	/	/
	Connector		Connector /cable-cable /25*6.7*6.65mm/1P/QJ-XC-JXD-D1	1CN-07-065	/	/	/
	Connector		Connector / cable-cable /25*10.6*6.65mm/2P/QJ-XC-JXD-H2	1CN-07-066	/	/	/
	Connector		Connector / cable-cable /25*12.8*6.65mm/1P/QJ-XC-JXD-T1/	1CN-07-067	/	/	/
	Connector		Connector / cable-cable /28.6*16.6*6.65mm/2P/QJ-XC-JXD-T2/	1CN-07-068	/	/	/
	Connector		Connector / cable-cable /22*9.5*6mm/2P/QJ-XC-JXD-D2/	1CN-07-069	/	/	/

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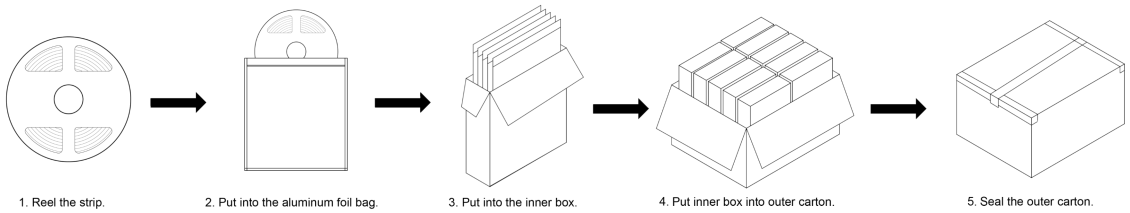
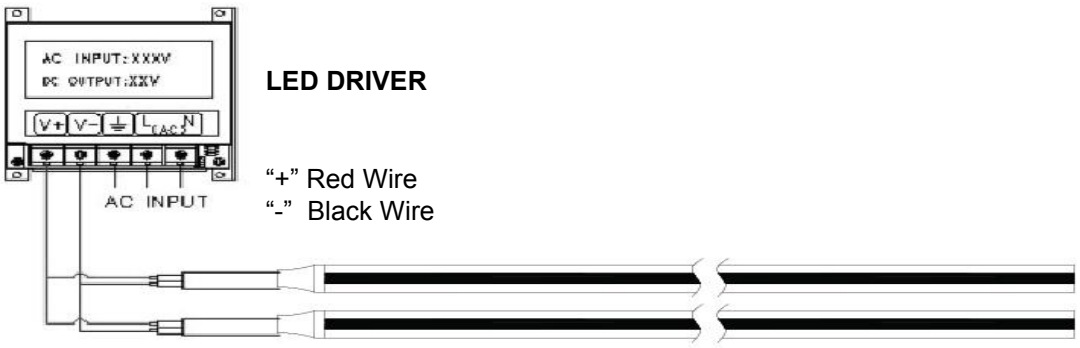
Packaging Diagram



1. Reel the strip. 2. Put into the aluminum foil bag. 3. Put into the inner box. 4. Put inner box into outer carton. 5. Seal the outer carton.

Connection Instruction



LED DRIVER

"+" Red Wire
"-" Black Wire

Parts & Tools

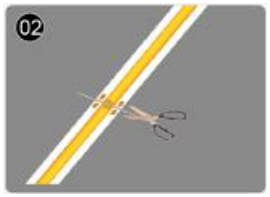
Led Strip

Electrical Drill & Drilling bit

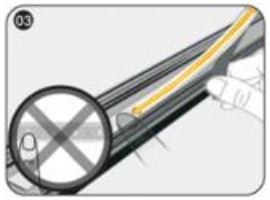
Scissor

Installation Steps

Make sure the mounting surface is clean before installation.



Calculate the needed length and cut off the extra length along the cutting mark if necessary. If wires are needed, please weld them at the next location with a printed mark.



While sticking strips, peel off the release paper of the tape step by step. Don't peel off all at a time to avoid getting your strip in a mess.

△Notes: No pressing the LED!

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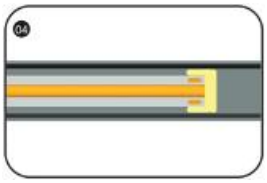
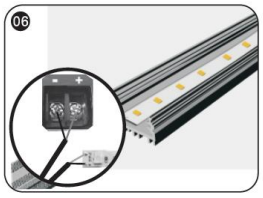
Installation Steps



Stick Mylar tape to isolate the cutting position from the bottom of profile inner slot to avoid short-circuit.

The installation at the corner is shown as the figure.

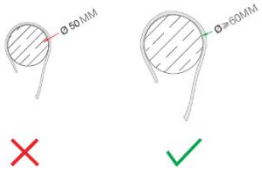
△Notes: No bending it into right angle; No twisting it to stick on the mounting surface.



Connect strip wires to the output terminal of the power supply, and dispose with waterproof, insulation, short-circuit, and anti-corrosion protection at wire joints and cut section of your strip (if any).

Installation Attention

Do not twist the strip.



Do not wind the strip with a diameter <5cm.

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Troubleshooting

Malfunctions	Possible Causes	Solutions
All LEDs Stopped Working	The power supply did not connect to power grid.	Power on.
	Broken-circuit or Short-circuit.	Troubleshoot the problems and power on again.
	The wires of strips connect to the power supply terminal reversely.	Check the connection and ensure the polarity of the wires is connected correctly.
Part of LEDs Stopped Working	Part of power supplies have output failure.	Check the power supply system.
	Part of wires of strips have breakdown.	
	Reverse connection of polarity.	Correct connection.
LEDs Too Weak or Uneven	Overloaded power supply.	Replace it with a powerful one.
	Excessive power loss of the circuit or the power loss of each circuit differs a lot.	Ensure working voltage of strips is within±5%V of rated voltage. 1. Shorten the length of wires between the first strip and power supply or replaced with wires with larger diameter. 2. Ensure the cascading qty of each circuit does not exceed the allowed range and is well distributed.
	Excessive cascading qty in series.	Adjust the cascading qty for strip to ensure the qty for each electrical circuit is within the maximum cascading qty.
LEDs Flickering	Exposed or loose joints of wires.	Find out and tackle malfunction immediately.
	Failures in power supply.	Replace it with a new one.

Declaration

- If the external flexible cable is damaged, please replace it from its manufacturer, service agent, or qualified person to avoid a hazard.
- For 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 exist slight difference compared with actual products.
- All Illustrations in this specification are for reference only.
- This product is subject to change or modification without prior notice.
- RISHANG OPTOELECTRONICS CO., LTD. Reserves the right of a final explanation for this specification.

Revision History

Version	Revised by	Revised item	Release date
V7.0	Wei Fan Song	first release	June.04.2023

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