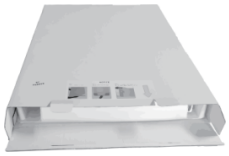
FXN 1617 | FLEXIBLE NEON

UNPACKING - White Box Packing

1

2

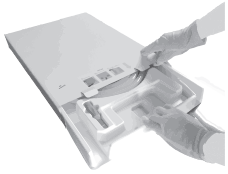
3



4

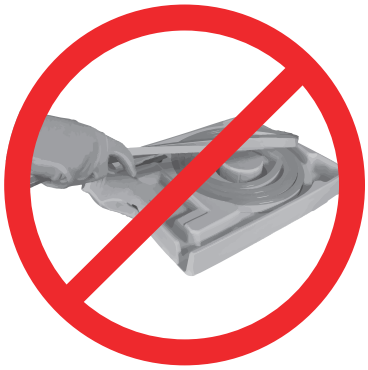
5

6



7

8



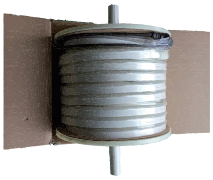
FXN 1617 | FLEXIBLE NEON

UNPACKING - Reel Packing

1

2

3



4

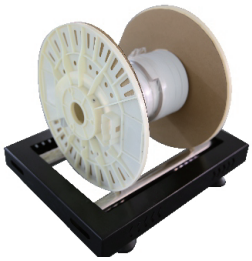
5

FXN 1617 | FLEXIBLE NEON

UNPACKING - Reel Packing

Uncoiling Roller

Uncoiling Roller (Optional Device)



Put the light on the middle of uncoiling roller

Rotate the roller edge to uncoil the light with another hand

Use recommended cutter to cut the light vertically

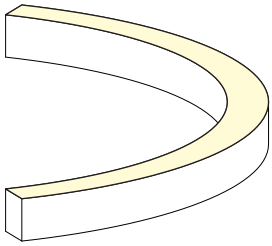
Roll up the rest of the light

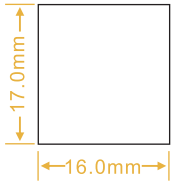
Protect the light end and fix it

FXN 1617 FLEXIBLE NEON

BASIC PARAMETERS

1. Dimensions: 16mm * 17mm.
2. Min. bending diameter: 300mm.
3. Protection rate: IP68/IP67/IP20
4. IP68 protection rate: Protected against dust and submersion in water (1 meter above).
5. The product IP Rate is ultimately in line with properly applied IP rated connectors. Connector termination required after cutting to achieve appropriate IP Rating.
6. Easy to use, with a range of accessories for joining, terminating, mounting & powering.
7. Long lifetime: 5 years.
8. Environmental Working Temperature: -20ºC TO 45ºC
9. Environmental Installation Temperature: 0ºC TO 45ºC



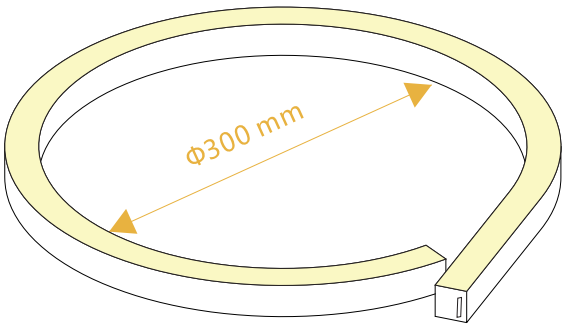


Electrical	Power Consumption	15W per metre (fixed, standard configuration)
	Operating Voltage	24V DC
	Installation Temperature	-40ºC TO 50ºC - (-40ºF TO 122ºF)
	Operating Temperature	-40ºC TO 55ºC - (-40ºF TO 131ºF)
	Storage Temperature	-40ºC TO 60ºC - (-40ºF TO 140ºF)
Physical	Dimensions	L: 1000mm – H: 17mm – W: 16mm
	Bending	Horoizontal Bending
	Housing / Lens	Silicone
	Weight/m	365g
	IK Rating	IK08
	IP Rating	IP67
	Min. Cutting Unit	7LEDs(1unit)
	Min. Cutting Length	83.3mm(1unit)
	Min. Bending Diameter	300mm
	Unit/m (Pixel Qty/m)	12 pixels
	Connectors	Swivel Connector, Snap Connector, Socket Connector, Injection-moulded Connector, Silicone Injection-moulded Connector, Dual Injection-moulded Connector
	Mounting Profiles	Aluminium Profile, Flange Aluminium Profile, Thickened Plastic Profile, Stainless Steel Profile, Self-clinching Aluminium Profile, Bendable self-clinching Aluminium Profile, Serrated Aluminium Profile, Flange Serrated Aluminium Profile, Bendable SerratedO Aluminium Profile, Surface-mounted Raceway Aluminium Profile, Suspended Raceway Aluminium Profile, Bendable Anole Profile
	Mounting Brackets	Pivot Mounting Bracket, Rotary Locking Bracket, Side Mounting Bracket, Joining Bracket
	Mounting Clips	Ceiling Mounting Clip, Suspended Mounting Clip, Cable-exit Mounting Clip
	Data Maximum Run Length	64m @ 12pixels/m – 6 universes
Optical	Beam Angle	120º
	Colour Range	RGBW, RGB, RGBA White
	LED Qty/m	84LEDs
	LED Type	EPISTAR SMD LED
	LED Distance	16.67mm
	Total Lumens	>90lm/m
Diming & Control	Control Protocols	X-Stream: SPI protocol with data redundancy
	Dimming Resolution	Others – SPI, DMX
Fixture Rating & Certifications	UL LISTED, CE RoHs COMPLIANT	CE RoHS UL
Limited Warranty	5 Years	Extendable Warranty Available

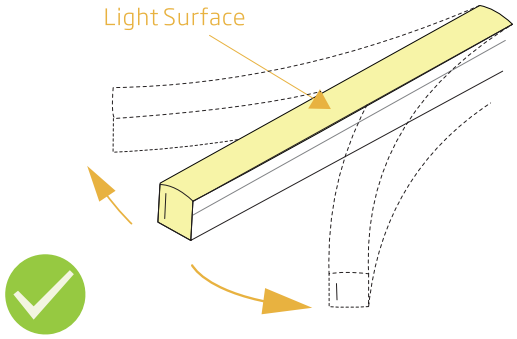
FXN 1617 FLEXIBLE NEON

CAUTIONS

1. Before making any cuts, installation, maintenance or connection, be sure the main is disconnected.
2. Note – all connectors should be properly installed to achieve the appropriate level of IP, IP Rating can NOT be achieved without connector termination.
3. Please operate this flex light by instructions, and confirm the work voltage, it must be matched with product requirements.
4. Plase confirm the polarity of connector before insertion front connection cable.
5. Connect and cut this product correctly. Any wrong operation will damage this product.
6. Using qualifies DC power supply.
7. Please correctly use and bend this flex ribbon light, see the figures below.
8. Do not operate light when ambient temperature exceeds the range of specified temperature in User Manual.
9. Do not energise the light over 30 minutes in coil packaging.
10. Do not mix the four colours (R, G, B, W) in full load simultaneously.

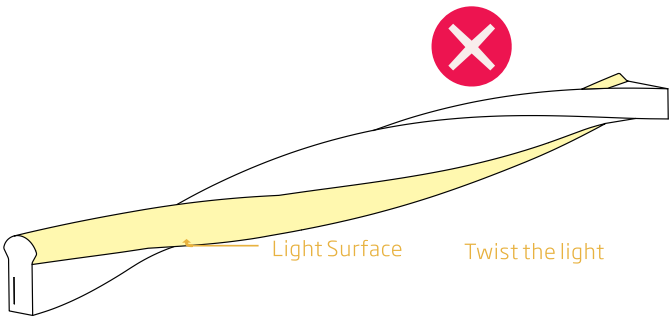


Do not bend smaller than allowed minimum bend diameter 300mm.



(HB) Horizontal Bending

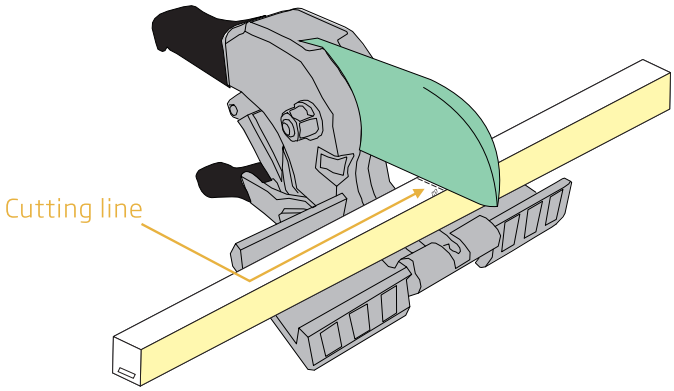
Bend the light according to above illustration (same printing mark on the side of the light)

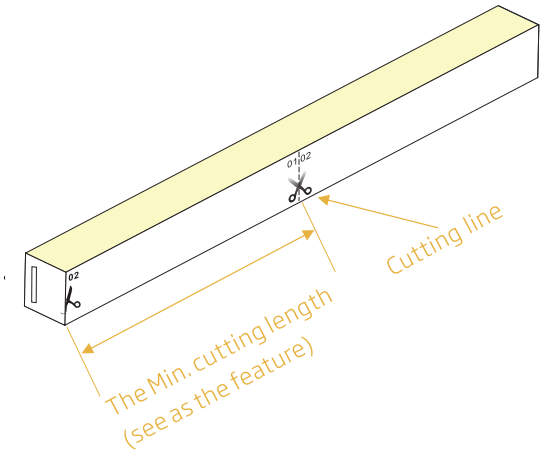


WARNING: The above wrong approaches will damage the light.

FXN 1617 | FLEXIBLE NEON

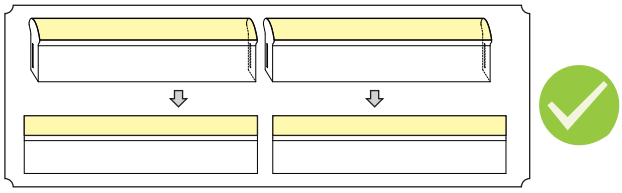
INSTRUCTIONS FOR LIGHT CUTTING



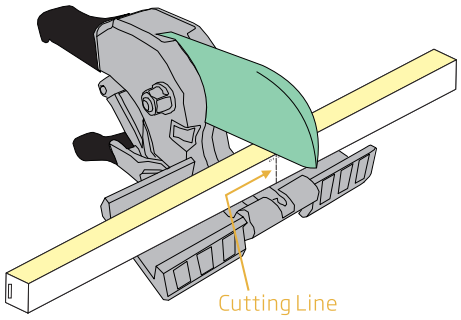


Cut the light only at printed cutting line with printing mark face upwards

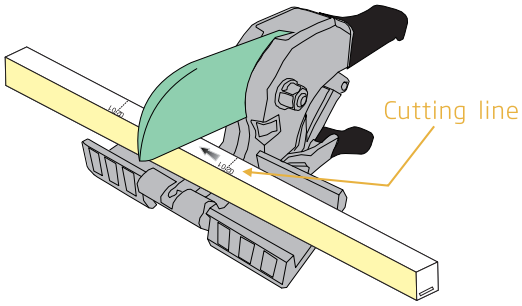
Note:
1. Place the light horizontally when cutting it.
2. Use only factory-recommended cutter.
3. Cut the light according to the following instructions
   Incorrect operation will damage the light.



The cutting surface must be flush and smooth



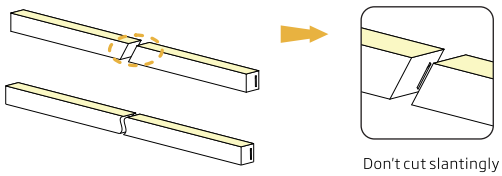
Printing mark should be faced upwards



Cutting can only be made at the printed cutting line

Please use a smooth and sharp cutter for cutting when the dedicated cutter is not available, any rusty or jagged cutter is prohibited

Note: Waterproof may not be achieved with the following situations



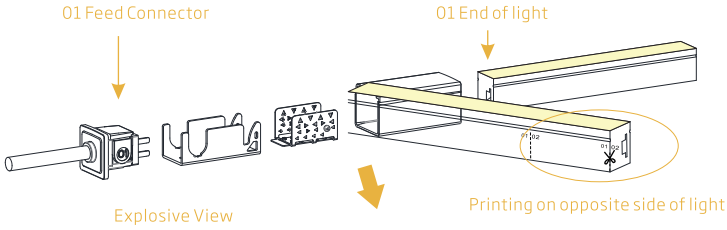
Don't cut slantingly

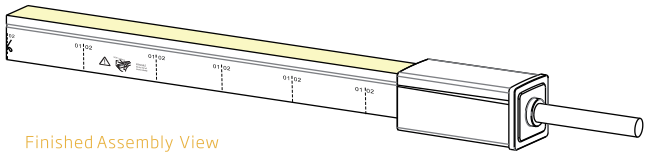
FXN 1617 FLEXIBLE NEON

SNAP FRONT CONNECTOR

Please ignore these steps if the front connector has been assembled before delivery.

Note:
1. Repeated assembly or reuse of the connector may result in waterproof failure.

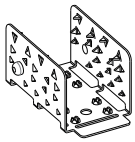




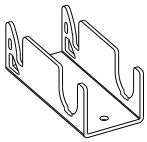
Finished Assembly View

1. Components of Front Connector

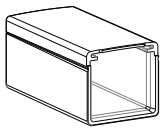
Note:
The light ends are marked with either an 01 or an 02. Always make sure to use an identically labeled connector for the appropriate direction.



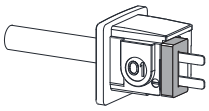
Anti-skidding Clip (1pcs)



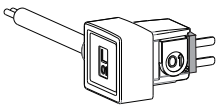
U Steel Plate (1pc)



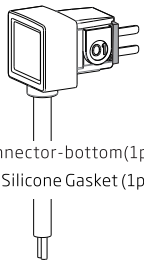
PC Cover (1pc)



Feed Connector-top end(1pc)
[Contain Silicone Gasket (1pc)]

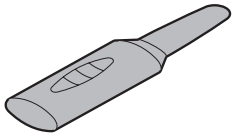


Feed Connector-side(1pc)
[Contain Silicone Gasket (1pc)]



Feed Connector-bottom(1pc)
[Contain Silicone Gasket (1pc)]

2. Tools

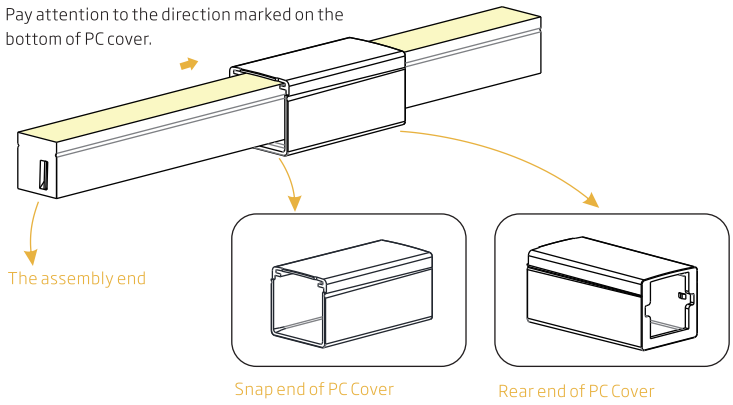


Inducer

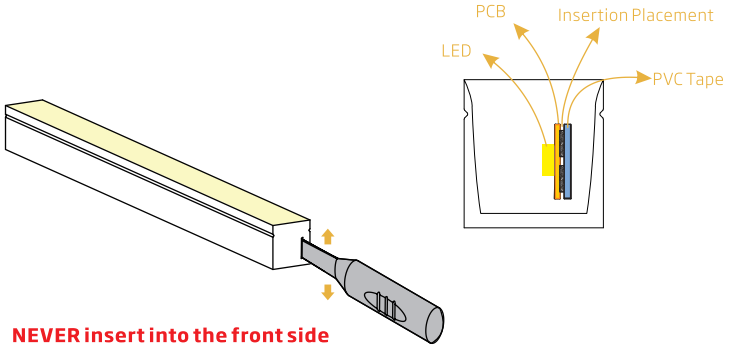
3. Installation steps

3.1 Placing PC Cover

Pay attention to the direction marked on the bottom of PC cover.

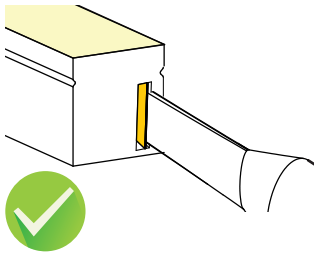


3.1 Inducing a Cavity for Feed Connector

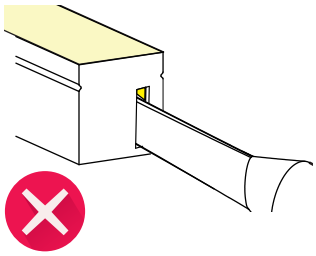


NEVER insert into the front side (LED side) of the PCB

Insert the inducer to the backside of PCB around 10~12mm, move the inducer up and down 3~5 times gently to create a small cavity.



Insert the inducer into the backside of PCB

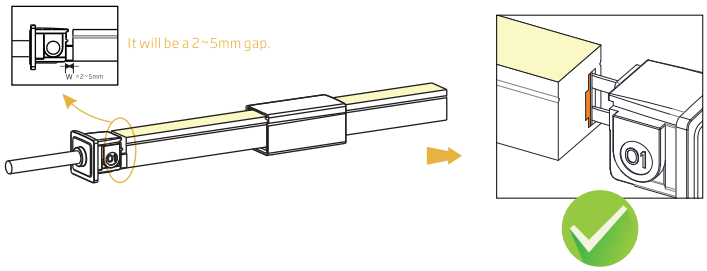


It will damage the light if insert into front side of PCB

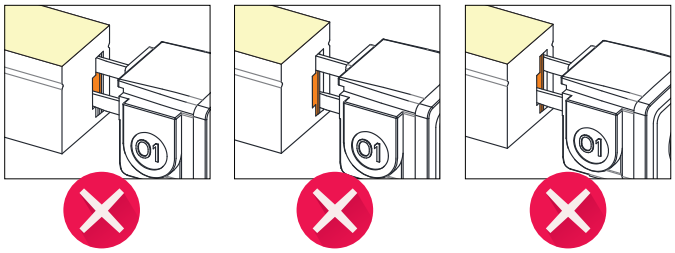
FXN 1617 FLEXIBLE NEON

SNAP FRONT CONNECTOR

3.3 Inserting the Feed Connector



The following operations are prohibited:

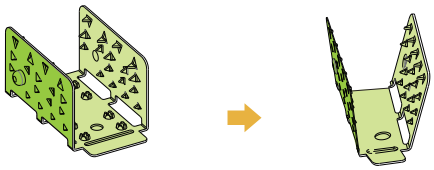


Insert into the front side of the PCB

Insert crosswise into the PCB

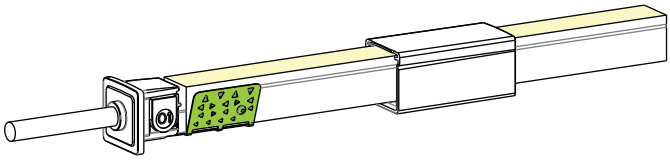
Insert crosswise into the PCB

3.4 Treatment of Anti-skidding Clip

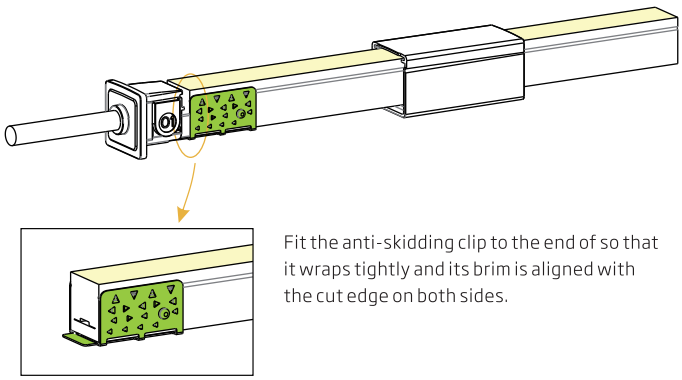


Unfold the anti-skidding clip about 20 degrees on both sides.

3.5 Installation of Anti-Skidding Clip



Place the anti-skidding clip onto the assembly end of the light.
Pay attention to its direction



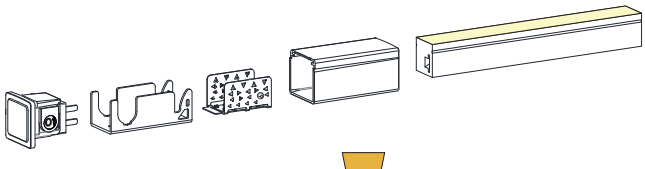
Fit the anti-skidding clip to the end of so that it wraps tightly and its brim is aligned with the cut edge on both sides.

FXN 1617 | FLEXIBLE NEON

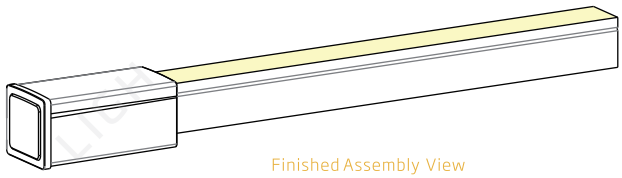
SNAP END CAP

Please ignore these steps if the End Cap has been assembled before delivery.

Note:
1. Repeated assembly or reuse of the connector may result in waterproof failure.

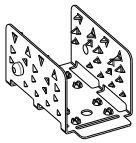


Explosive View

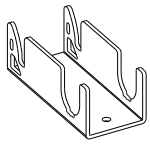


Finished Assembly View

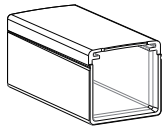
1. Components of End Cap



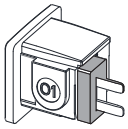
Anti-skidding Clip (1pc)



U Steel Plate (1pc)

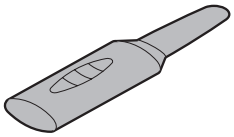


PC Cover (1pc)



Tail Plug (1pc)
[Contain Silicone Gasket (1pc)]

2. Tools

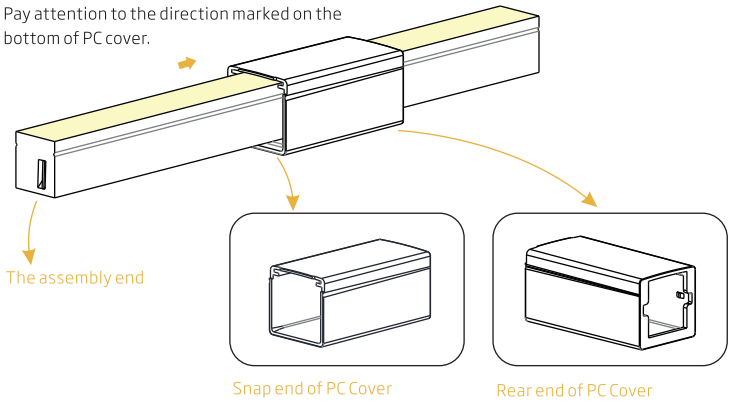


Inducer

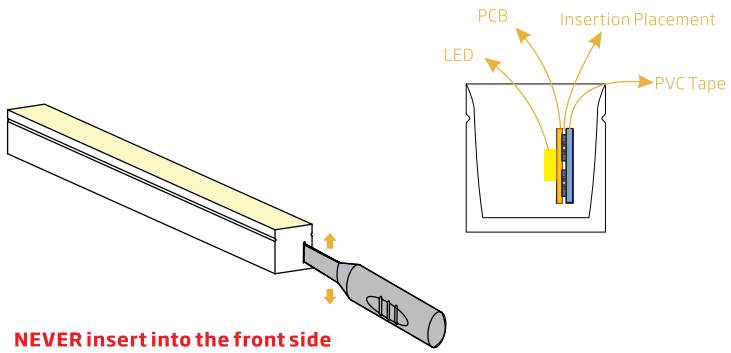
3. Installation steps

3.1 Placing PC Cover

Pay attention to the direction marked on the bottom of PC cover.

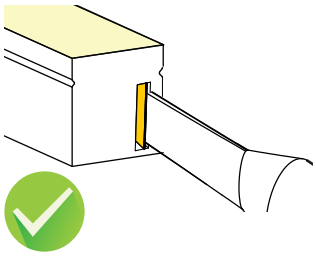


3.2 Inducing a Cavity for Tail Plug

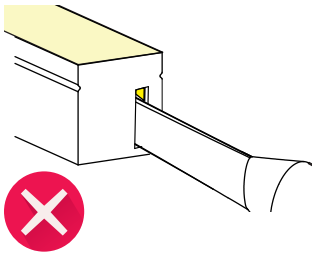


NEVER insert into the front side (LED side) of the PCB

Insert the inducer to the backside of PCB around 10~12mm, move the inducer up and down 3~5 times gently to create a small cavity.



Insert the inducer into the backside of PCB

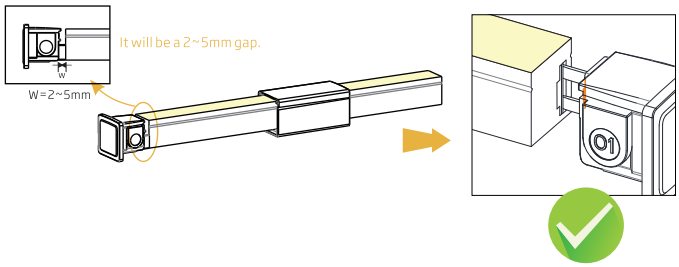


It will damage the light if insert into front side of PCB

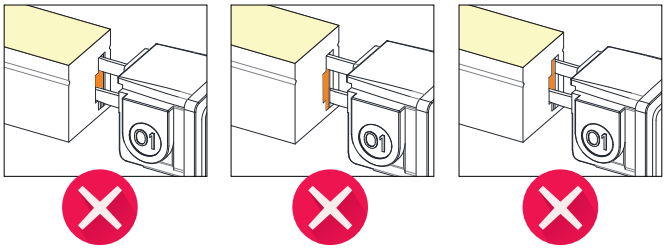
FXN 1617 FLEXIBLE NEON

SNAP END CAP

3.3 Inserting the Tail Plug



The following operations are prohibited:



Insert into the front side of the PCB

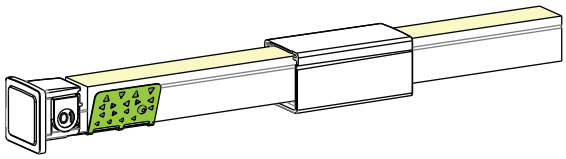
Insert crosswise into the PCB

Insert crosswise into the PCB

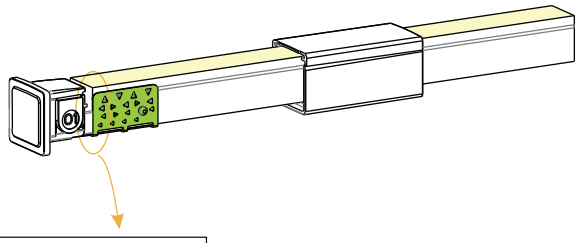
3.4 Treatment of Anti-skidding Clip

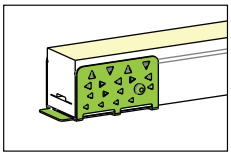
Unfold the anti-skidding clip about 20 degrees on both sides.

3.5 Installation of Anti-Skidding Clip



Place the anti-skidding clip onto the assembly end of the light.
Pay attention to its direction



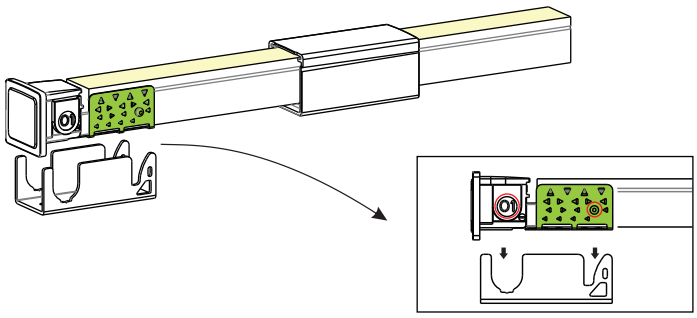


Fit the anti-skidding clip to the end of so that it wraps tightly and its brim is aligned with the cut edge on both sides.

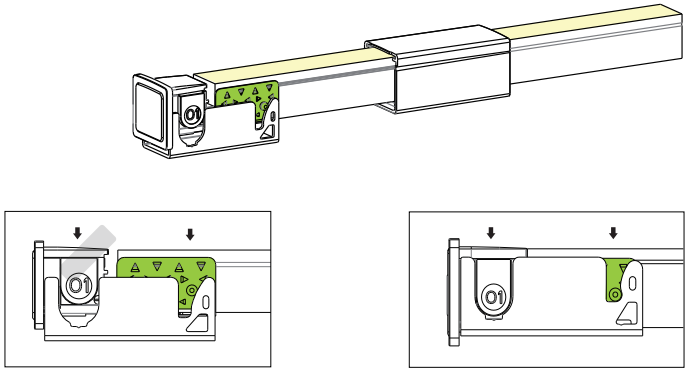
FXN 1617 | FLEXIBLE NEON

SNAP END CAP

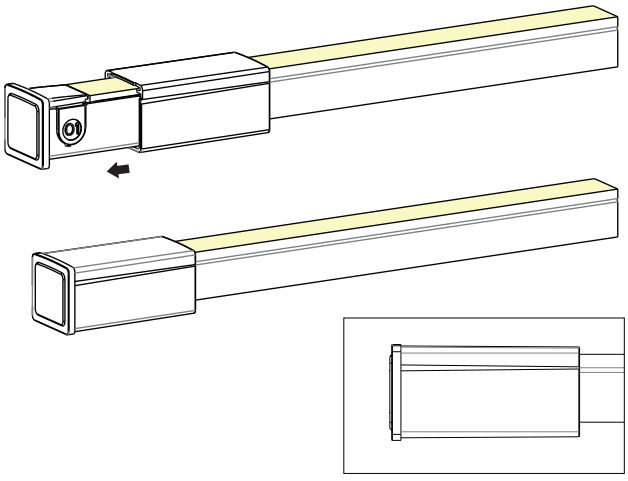
3.6 Installation of U Steel Plate and PC Cover



Align the tail plug and anti-skidding clip with the U steel plate.



Press the tail plug and light downwards at the same time till bottom.



Slide back the PC cover till it snaps in the tail plug.

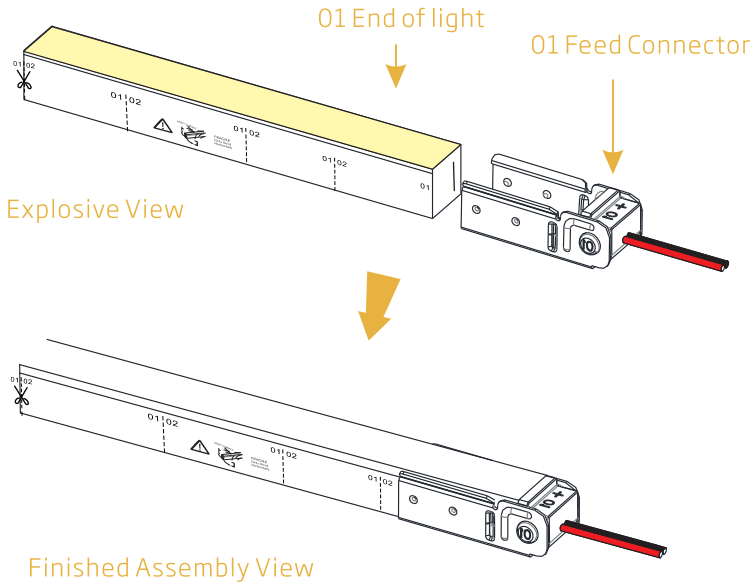
Please energize the light to check its functionality and do waterproof reliablity testing (refer to "waterproof reliability testing instruction" video) after connector assembly.

FXN 1617 FLEXIBLE NEON

SWIVEL FRONT CONNECTOR

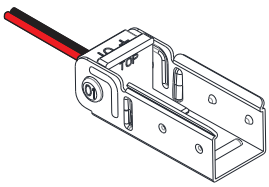
Please ignore these steps if the front connector has been assembled before delivery.

Note:
1. Never wet the assembly units or assemble with wet hands;
2. Please use the tools correctly;
3. Please pay attentions to personal security when using tools.
4. Failure to properly seal and assemble as instructed may void warranty.
5. Repeated assembly or reuse of the connector may result in waterproof failure.



1.Components of Front Connector

Note:
The light ends are marked with either an 01 or an 02. Always make sure to use an identically labeled connector for the appropriate direction.

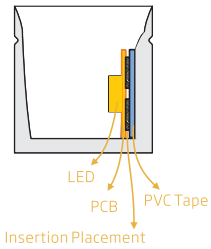


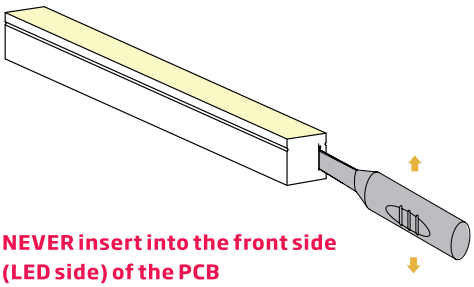
Feed Connector-top end (1pc)
[U Steel Plate (1pc)]

2.Installation Steps

Note:
Installation steps are the same for Vertical Bending version and Horizontal Bending version, even though the PCB locations are different.

2.1 Inducing a Cavity for Feed Connector



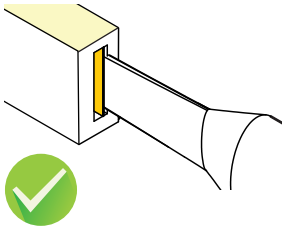


NEVER insert into the front side (LED side) of the PCB

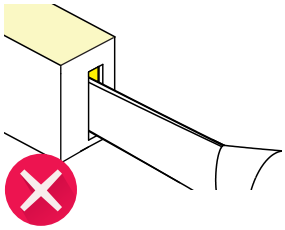
Insert the inducer to the backside of PCB around 10~12mm, move the inducer up and down 3~5 times gently to create a small cavity.

FXN 1617 | FLEXIBLE NEON

SWIVEL FRONT CONNECTOR



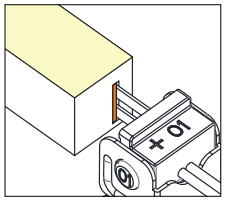
Insert the inducer into the backside of PCB



It will damage the light if insert into front side of PCB

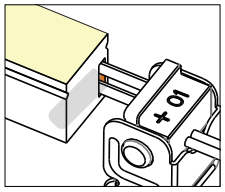
2.2 Inserting the Feed Connector

Rotate the feed connector pin to make its orientation vertical and insert it into the backside of PCB tightly.

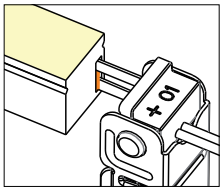


Insert the feed connector pins into the cavity that you created with the inducer (backside of PCB)

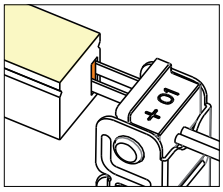
The following operations are prohibited:



Insert into the front side of the PCB



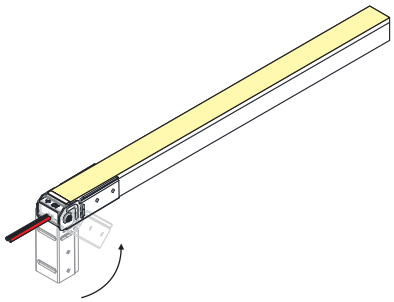
Insert crosswise into the PCB

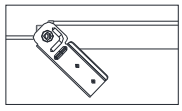


Insert crosswise into the PCB

2.3 Rotate back till the light seat into the steel plate tightly

Apply power to test light after assembly



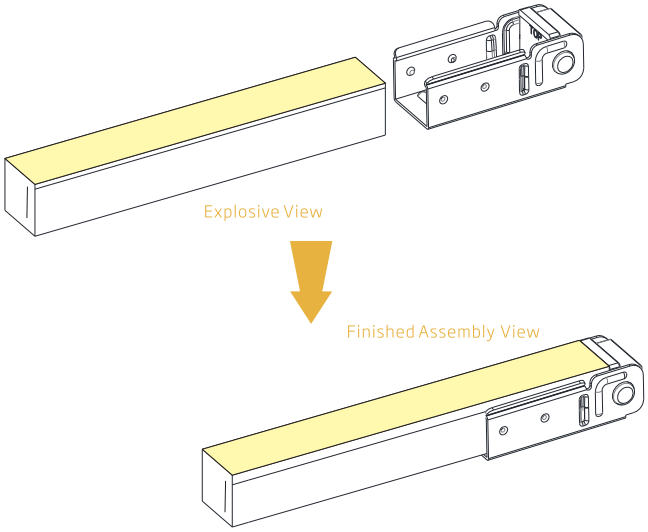


FXN 1617 | FLEXIBLE NEON

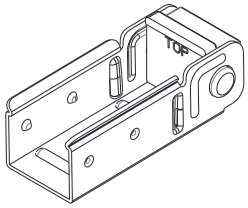
SWIVEL END CAP

Please ignore these steps if the end cap has been assembled before delivery.

Note:
1. Never wet the assembly units or assemble with wet hands;
2. Please use the tools correctly;
3. Please pay attentions to personal security when using tools.
4. Failure to properly seal and assemble as instructed may void warranty.
5. Repeated assembly or reuse of the connector may result in waterproof failure.



1.Components of End Cap



Tail Plug (1pc)
[U Steel Plate (1pc)]

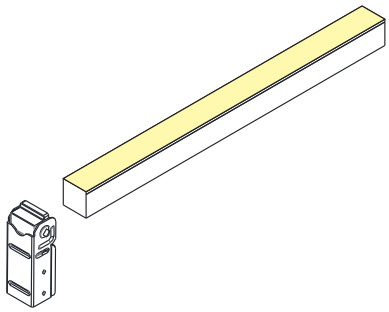
FXN 1617 | FLEXIBLE NEON

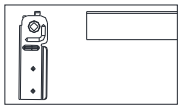
SWIVEL END CAP

2.Installation Steps

Note:
Installation steps are the same for Vertical Bending version and Horizontal Bending version, even though the PCB locations are different.

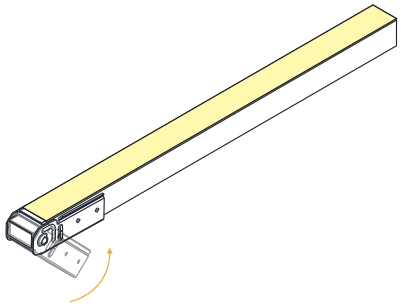
2.1 Rotate the end cap clockwise by 90 degrees.

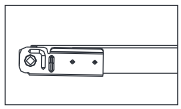




2.2 Installation of Tail Plug

Put the light end and end cap together and rotate it to seat into the steel plate horizontally. Slide the light to the end cap and make sure they are attached tightly.





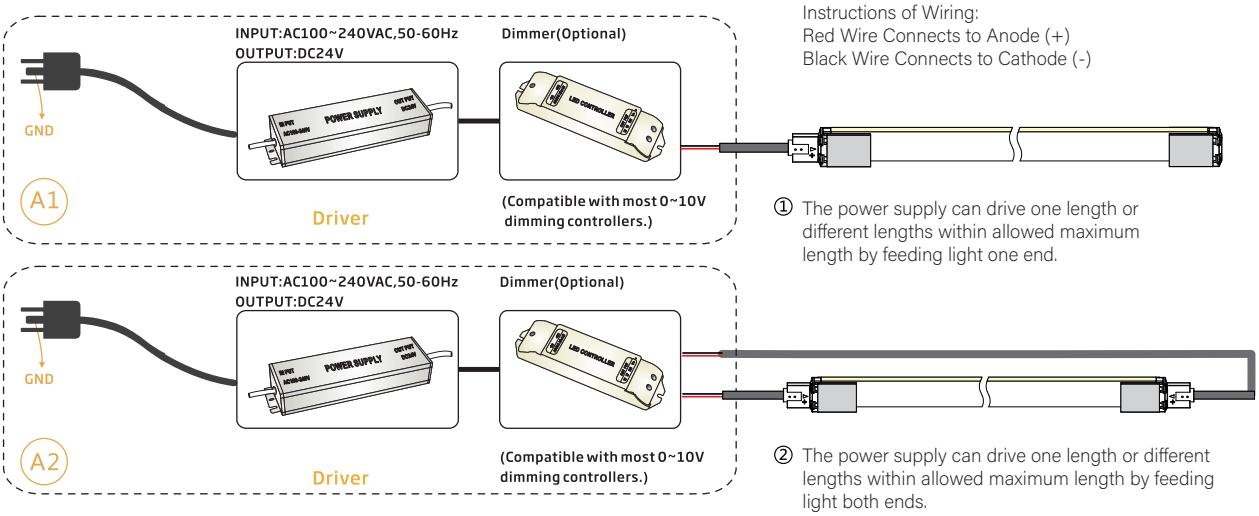
FXN 1617 FLEXIBLE NEON

DIAGRAM OF LIGHT WIRING

1. Monochrome Light Wiring

Note:

1. This LED Neon Flex Ribbon must be used in conjunction with DC24V power supply.
2. Always observe proper ploraity
3. Ensure to add 20% buffer when sizing power supply.
4. Ensure that the power cable carried current is no greater than 80% of its capacity.
5. To minimise the voltage drop and keep light consistency, position power supply nearest to the power feed end of LED Neon Flex Ribbon and keep the power line as short as possible.



Instructions of Wiring:
Red Wire Connects to Anode (+)
Black Wire Connects to Cathode (-)

① The power supply can drive one length or different lengths within allowed maximum length by feeding light one end.

② The power supply can drive one length or different lengths within allowed maximum length by feeding light both ends.

FXN 1617 FLEXIBLE NEON

DIAGRAM OF LIGHT WIRING

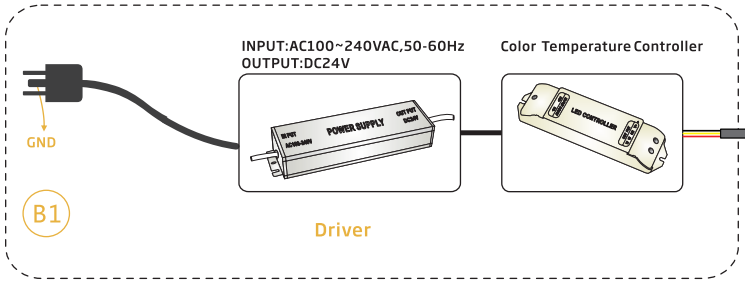
Lorem ipsum

2. Dynamic Light Wiring

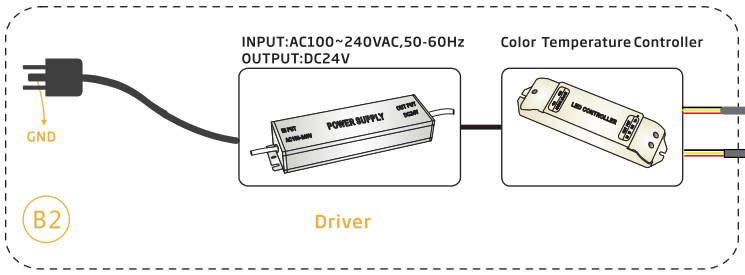
Note:

1. This LED Neon Flex Ribbon must be used in conjunction with DC24V power supply.
2. Always observe proper polarity. Polarity symbols should match on each component.
3. Ensure to add 20% buffer when sizing power supply.
4. Ensure that the power cable carried current is no greater than 80% of its capacity.
5. To minimise the voltage drop and keep light consistency, position power supply nearest to the power feed end of LED Neon Flex Ribbon and keep the power line as short as possible.
6. Compatible with RGB controller and DMX control.

Instructions of Dynamic Light Wiring:
Red Wire Connects to Anode (+).
Yellow Wire Connects to Low Colour Temperature Connection, Cathode (-)
Black Wire Connects to High Colour Temperature Connection, Cathode (-).



① The Dynamic light can be powered on by connecting one end to the controller.
It can be different lengths or combined with other conenctors, but each length must not exceed 10m and the combined lengths cannot overload controller.



② The Dynamic light can be powered on by connecting both ends to the controller within allowed maximum 20m.

FXN 1617 | FLEXIBLE NEON

TROUBLESHOOTING

The whole light doesn't work.
Check power supply is plugged, switched on and receiving power.
Check all light, dimmer or controller connections connection from the power supply to LED Neon Flex Ribbon.
Check polarity of all wire connections.
Make sure power supply output voltage is 24VDC
Check front connector is inserted into backside of PCB and properly assembled.

Light emitting appear dim or dull at one end.
Check whether the output voltage of the power supply is lower than that of light.
Adjust the dimming level to the maximum.
Power from both ends or shorten lighting length to prevent voltage drop.

Light emitting appear excessive brightness.
Check whether the output voltage power supply is higher than that of light.
Check whether the power grid is stable.

If the first segment doesn't work.
Cut not in indicated cutting line or not in a straight line. Cut out and remove the first segment.
Damage casued to the first LED when inserting the front connector to the right side of PCB. Cut out the first segment and properly assemble connector.
Water ingress due to poor connector assembly could cause a short circuit of first segment. Replace length with a new one.
External impact damage inside LEDs. Only use your hands to install LED Neon Flex Ribbon into aluminium profile.

LED Neon Flex Ribbon is flashing on and off.
Check the power supply to ensure it supports the length you are using. Select the appropriate strength or install and additional power supply to support your installation.
Check power supply output voltage is stable.
Check front connector is properly installed with good contact with the copper PCB.
Check proper controller is connected for light working.

FXN 1617 | FLEXIBLE NEON

LIMITED WARRANTY

LEDCTRL® hereby warrants, to the original purchaser, LEDCTRL® finished products to be free of manufacturing defects in material and workmanship for a standard period of **5 year** unless otherwise stated from the date of purchase, with an extended warranty available upon request. This warranty shall be valid only if the product is purchased from LEDCTRL®. Druing the warranty period, you are entitled to have the products repaired or replaced if the products fail to be of acceptable quality and damage occurred under normal use. It is the owner's responsibility to establish the date and warranty as acceptable evidence, at the time service is sought.

Warranty is applied by LEDCTRL®, LEDCTRL® retains the right to review the justification of the claim. The limited warranty is subjected to the following additional conditions:

a. The product is properly handled, installed and maintained according to official latest instructions or manual of LEDCTRL® and applicable regulations and standards.
b. Purchaser must notify LEDCTRL® in writing of a **BD CORRECTIVE ACTION REPORT** to specify the defect in question no later than 15 days after they were detected. Acceptance of the product shall not be denied on the grounds of insignificant defects. Claims for defects notified belatedly are excluded.
c. A copy of the purchase invoice of the concerned products must be attached to submit to LEDCTRL®.
d. The concerned products sample shall be returned back as required quantity to LEDCTRL® for inspection upon request and sent to the following address:

LEDCTRL® Warehouse
3/482 Balmain Rd
Lilyfield, Sydney
NSW, 2040
Australia

This is not a serive contract, and this warranty does not include maintenance, cleaning or periodic check-up. Parts not covered by this warranty include: fuses, external power supplies, third party items not manufactured by LEDCTRL®, accessories. During the period specified above, if any product covered by this limited warranty, LEDCTRL® determines to its satisfaction that such product failed to satisfy this warranty, LEDCTRL® will, at its own discretion, repair or replace the product or the defective part thereof.

For purpose of clarity, "repair or replace the product or the defective part thereof" does not include any removal or reinstallation costs or expenses, including, without limitation, any labor costs or expenses, shipping costs to return non-conforming products or any damages that may occur during the return of product to LEDCTRL®. A refund will not be provided for any warranty claim, but the purchaser may, at its discretion, require deducting the original purchase price of defective product or part from future purchase orders.

If LEDCTRL® chooses to replace the product and is not able to do so because it has been discontinued or is not available, LEDCTRL® may replace it with a comparable product. LEDCTRL® reserves the right to use new, reconditioned, refurbished, repaired, or remanufactured products or parts in the repair or replacement of any product covered by this limited warranty. Please note that lighting properties of replacement products may differ from original product due to technical advancements and usage-related changes in the light flux and light colour.

The warranty period is neither extended nor renewed if the product is repaired or replaced by LEDCTRL®.

LEDCTRL® reserves the right to make changes in design and/or improvements upon its products without any obligation to include these changes in any products heretofore manufactured.

Exclusion of Warranty:
a. Warranty period has expired.
b. Legal proof-of-purchase invoice or PO numbers are not provided, or are reasonably believed to have been forged or tampered with.
c. Damage caused by improper installation, wiring, storage, transportation, incorrect use, bending or operation not in accordance with the official latest instructions or manual.
d. Damage caused by unauthorized modification, dissection, soldering, or any deliberate damage or losses.
e. Damaged caused by the carrier-in-transit, which will be handled under separate terms (Purchaser's designated consignee is responsible for all freight claims; LEDCTRL® will be available to assist in such matters if proving forward service).
f. Accessories or attachments to the product that are not supplied or approved by LEDCTRL® and led to the damage.
g. The products not used for the purpose for which designed or if any repairs, alterations or maintenance are made by any person not authorized by LEDCTRL®.
h. Product silk printed serial numbers, crimped waterproof ring of strip lamps of tampering or removal.
i. Conditions demonstrating misapplication, under/over voltage situations, extreme environmental conditions beyond those defined in the product specification.
j. Abrasions and natural appearance variations (i.e. dusty, fouling, etc.) that do not affect the function of the product.
k. Direct or indirect losses caused by force majeure (i.e. vandalism, natural disaster, warface, acts of terrorism, riots, fire, explosion, etc.).

Freight

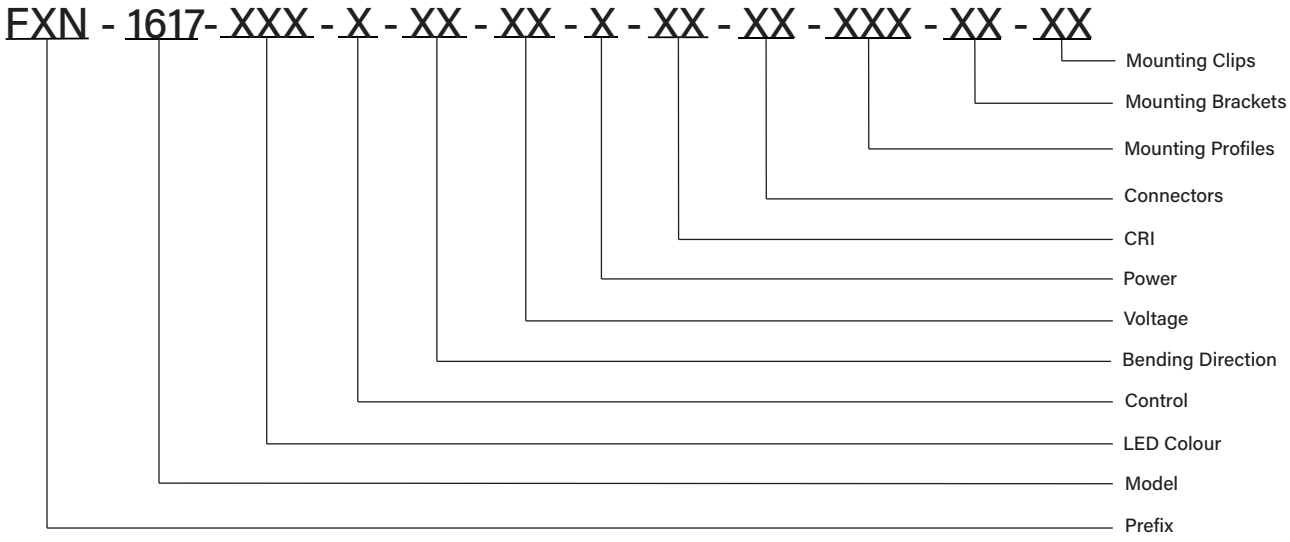
Transportation cost for return product will be carriage paid (at the cost of the claimant). If the product was found to be defective after inspection, LEDCTRL® will reimburse the freight cost by deducting it from future order and bear the cost of replacement or repaired product delivery. If the product was found not to be defective or exclusion of warranty, the claimant shall bear all the return expenses, and may be required to re-purchase the product if it requires replacement.

All products covered by this warranty were manufactured after January 1, 2025 and bear identifying code on the product itself. This warranty is the only written warranty applicable to LEDCTRL® Lighting Products supersedes all prior warranties and written descriptions of warranty terms and conditions heretofore published.

FXN 1617 FLEXIBLE NEON

APPENDIX

1. Part Number Configuration



2. Correlated Colour Temperatue (CCT)

For Example – FXN - 1617 - RGBW (27K) - HB - 24 - 6 - 80 - SWC - AP - PV - CMC

ANSI STANDARD

Nominal CCT Categories

Nominal CCT	Target CCT and tolerance(K)	Target D_{uv}	D_{uv} Tolerance Range
2200K	2238 ±102	0.0000	Tx:CCT of the source
2500K	2460±120	0.0000	For Tx<2870K
2700K	2725 ±145	0.0000	0.000±0.0060
3000K	3045±175	0.0001	For Tx≥2870K
3500K	3465±245	0.0005	Duv(Tx)±0.0060
4000K	3985±275	0.0010	where
4500K	4503±243	0.0015	Duv(Tx)=57700 x (1/Tx)2
5000K	5029±283	0.0020	-44.6 x (1/Tx)
5700K	5667±355	0.0025	+0.00854
6500K	6532±510	0.0031	
Flexible CCT (2200-6500K)	T_F [1] ±ΔT [2]	$D_{uv}T_F$ [3]	

Remark:

1) T_F is chosen to be at 100K steps (2300,2400,.....,6400K),excluding the ten nominal CCTs listed in Table 1.
2) $\Delta T=1.1900x10^{8}xT^{3}-1.5434x10^{4}xT^{2}+0.7168xT-902.55$
3) Same as in the D_{uv} Tolerance Range.

3. Chart of Recommended Feed Cable Length According to Power Consumption

This chart only applicable to input voltage of 24V DC

WattS of Light	22AWG/0.34mm²	20AWG/0.53mm²	18AWG/0.82mm²	17AWG/1.04mm²	16AWG/1.38mm²	14AWG/2.07mm²	12AWG/3.29mm²	10AWG/5.62mm²
10W	36m	60m	100m	120m	140m	240m	400m	600m
20W	18m	30m	50m	60m	70m	120m	200m	300m
30W	12m	20m	30m	38m	45m	80m	130m	200m
40W	8m	15m	22m	28m	35m	60m	95m	140m
50W	6m	12m	18m	22m	28m	48m	75m	105m
60W	5m	10m	15m	18m	22m	36m	60m	88m
70W	/	8m	12m	14m	18m	30m	50m	72m
80W	/	6m	10m	11m	14m	24m	40m	58m
90W	/	4m	7m	8m	10m	18m	30m	45m
100W	/	/	5m	6m	7m	12m	22m	32m
110W	/	/	3m	4m	5m	8m	15m	22m
120W	/	/	2m	2.5m	3m	0m	8m	12m

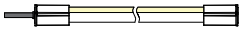
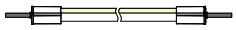
Note:

1. Please adhere to parameters in below chart, feed cable length longer than what specified here will create voltage drop and eventually affect the lumen output of light.
2. The 0.3m feed cable length attached to front connector is not included in this chart.
3. Feed cable length over 10m is NOT recommended unless special circumstance, especially for pixel addressable lights.

FXN 1617 FLEXIBLE NEON

LOADING CHART

4. Loading Chart

Type.	Rated Power /m	Power Supply											
		35w	60w	75w	80w	100w	120w	150w	120w	150w	185w	240w	320w
FXN 1129	8w	3.5m	6m	7.5m	8m	10m	12m	15m			18.5m	24m	30m
	12w	2m	4m	5m	5m	6.5m	8m	10m			12m	16m	20m
	15w/16.5w	1.5m	3m	3.5m	4m	4.5m			5.5m	7m	9m	10m	
	22w	1m	2m	2m	3m	3.5m	4m	5m			6.5m	8.5m	10m
Energising Way		DC input  01/02							DC input  01 02 DC input				

Note:
1. These are the light maximum recommended running length subject to selected power supply.
2. For example: it is recommended to use one 80W power supply loading maximum 8m light (7.2w/m) or maximum 5m light (12w/m) by energising the light one end.