LARS

Simply **brighter.**

SPECIFICATION

LedNEON LF15S-HB-CC-RGB-RGBW

c UL us LISTED   C E   TÜV SÜD   RoHS COMPLIANT

Table of Contents

Introduction

LF15S-HB-CC-RGB-RGBW is a member of the LedNEON series embodied all the benefits of LF15A and LF15B with the addition of DMX addressable technology, generating advanced chasing and programmable scenes and complete animated visual effects.

LF15S-HB-CC-RGB-RGBW is UL/cUL, CE i TUV and RoHS compliant. Moreover, it has passed rigorous environmental resistance, optical, mechanical and electrical tests in our lab under the support of advanced experimental equipments and technology to ensure it meets the requirements of harsh environments. Also it has passed relevant tests of thrid party inspection authority.
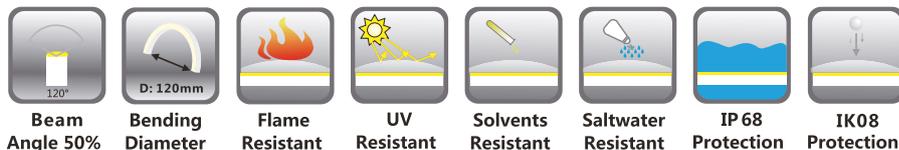
Fully encapsulated in the flexible PCV chamber by utilizing consumate extrusion technology, assembled with multiple patented connectors to achieve IP68 protection, easy for installation and applicable for various circumstances.

LF15S-HB-CC-RGB-RGBW features the capability of producing millions of colors and impressive animated effects when paired with DMX controller, also ultra flexibility and pliability with small bend diameter in curve bending shape.
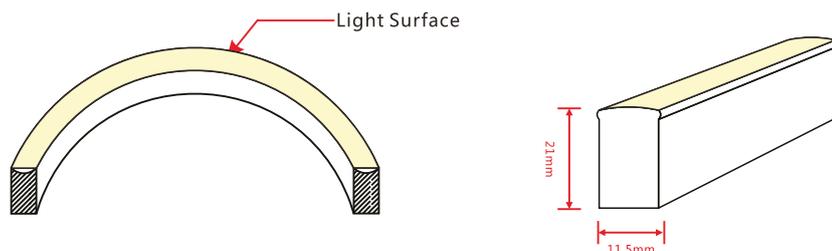
Application:
1. Outdoor or Indoor Contour/Border Lighting
2. Architectural Outline/Decorative Lighting
3. Cove/Accent Lighting
4. Facade/Floor Lighting
5. Signage/Guide Lighting

1. Specifications & Parameters

Beam Angle 50%	Bending Diameter	Flame Resistant	UV Resistant	Solvents Resistant	Saltwater Resistant	IP 68 Protection	IK08 Protection

1.1 Dimensions of Light

Light Surface

21mm

11.5mm

1.2 Technical Parameters

| Technical Parameters		
Article No.	C-FR-F15S-24CC	C-FR-F15S-24CC
Color	RGB	RGBW(2700K/3000K4000K)
IC Type	UCS2903	UCS2904
Working Voltage	DC24V	DC24V
Rated Power/m	12W	15W
LED Qty/m	56	56
LED Distance	17.8mm	17.8mm
Min. Cutting Unit	7LEDs (1 pixel)	7LEDs (1 pixel)
Min. Cutting Length	125mm (1unit)	125mm (1unit)
Continuous Length	15m (Dynamic Operating)	10m (Dynamic Operating)
	10m (Static Full Loading)	5m (Static Full Loading)
Weight/m	325g	
Storage Temperature	-20 ~ 60℃	
Ambient Working Temperature	-20 ~ 45℃	
Ambient Installation Temperature	0 ~ 45℃	
IP Rating	IP68	

Note: For this product that over 12W per meter, full loading operating is not recommended.

1.3 Optical Parameters

| Photometric Data		
Article No.	C-FR-F15S-24CC(RGB/RGBW)	
LED Type	SMD	
Beam Angle 50%	120°	
Color	Wavelength	Lumen
Red	618-624nm	>40lm
Green	522-528nm	>100lm
Blue	468-474nm	>15lm
White	2725±145K	>100lm
	3045±175K	>100lm
	3985±275K	>100lm

Candle power distribution

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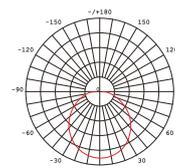
2. Functions & Features

2.1 Product Features

1. High quality SMD LED & IC Chip.
2. UCS2903/2904 IC, SPI signal input, DMX512 signal compatible, DMX address writable or programable.
3. UV & flame resistant construction(PVC).
4. Extremely flat profile and flush light surface.
5. High color consistency&smooth illumination with invisible light dots.
6. Flexible with 120mm minimum bending diameter.
7. Easy installation and assembly with DIY accessories for joining and terminating. 8. High IP rating(IP68).
9. The product IP rate is ultimately in line with properly applied IP rated connectors.
10. Environmentally friendly & energy efficient.

2.2 Minimum Bend Diameter

Φ120 mm

01|02
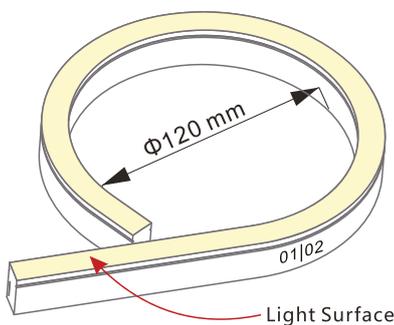
Light Surface

The light can only be bent laterally (opposite bend along to light surface).

Light Surface

01|02

01|02
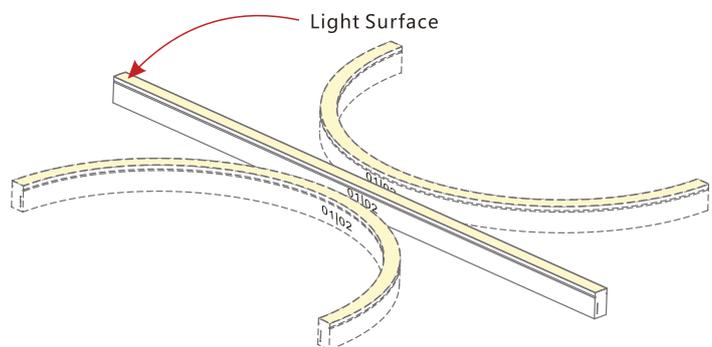
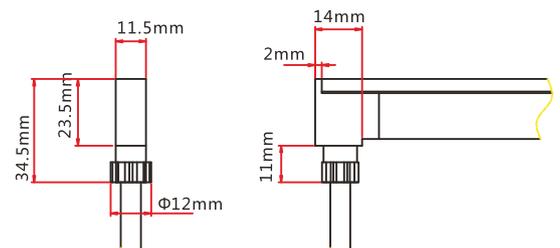Do not bend smaller than allowed minimum bend diameter.
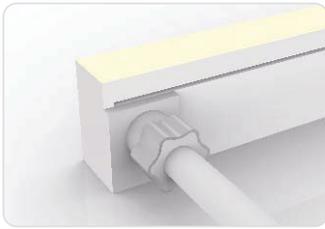
3. Types of Connector

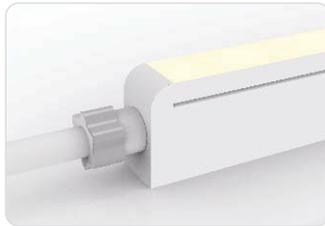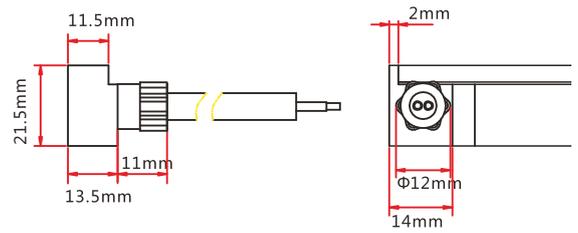## 3.1 Injection-moulded Connector

Injection-moulded Front Connector (bottom)

Connects light to power supply with pre-installed bottom feed cable, IP67. Cable length available in 0.3m, 1m, 3m, 5m, 10m, 15m, 20m.

11.5mm

23.5mm

34.5mm

Φ12mm

14mm

2mm

11mm

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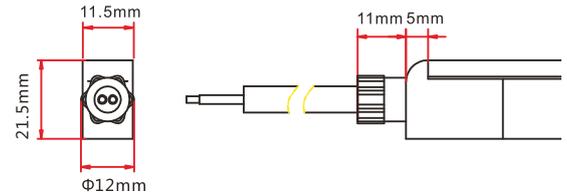c UL US LISTED   CE   TÜV SÜD   RoHS COMPLIANT

Wer. 3.1

Injection-moulded Front Connector (side)

Connects light to power supply with pre-installed side feed cable, IP67. Cable length available in 0.3m, 1m, 3m, 5m, 10m, 15m, 20m.
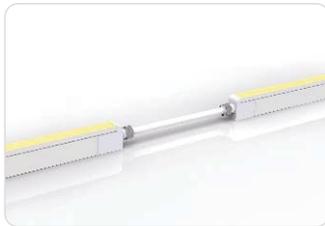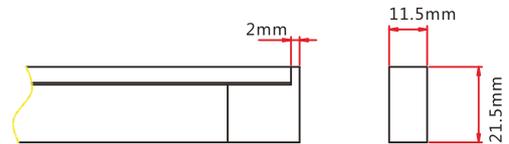
11.5mm
21.5mm
11mm
13.5mm
2mm
Φ12mm
14mm

Injection-moulded Front Connector (top end)

Connects light to power supply with pre-installed end feed cable, IP67. Cable length available in 0.3m, 1m, 3m, 5m, 10m, 15m, 20m.
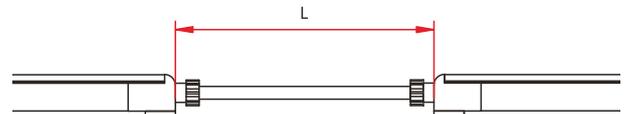
11.5mm
21.5mm
Φ12mm
11mm 5mm

Injection-moulded End Cap

Pre-installed termination protection of the light, IP67.

2mm
11.5mm
21.5mm

Injection-moulded Jumper

Connects two pieces of lights together with a flexible cable. IP67 Injection-moulded connector. L available in 0.3~1m.

Maximum 8 Jumpers in 20m
Maximum 4 Jumpers in 10m

L

Injection-moulded T-feed

Connects two pieces of lights together with a T joint, energized from middle. IP67 Injection-moulded connector. L1 and L2 available in 0.15~0.5m. L3 available in 0.3-3m.

Maximum 8 T-feeds in 20m
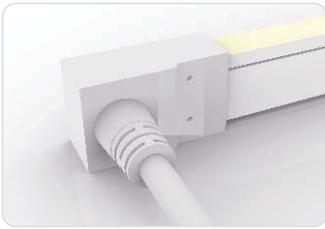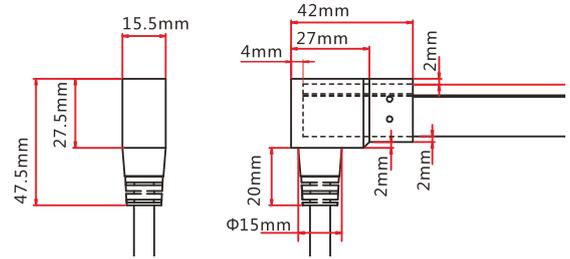Maximum 4 T-feeds in 10m

L1
50mm
L2
L3

C UL US LISTED   C E   TÜV SÜD   RoHS COMPLIANT
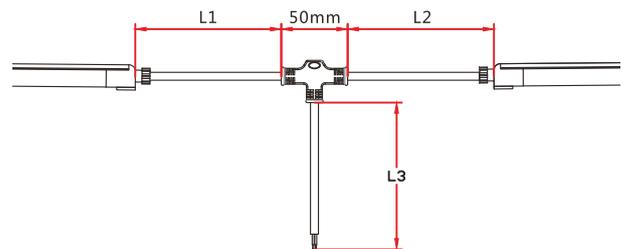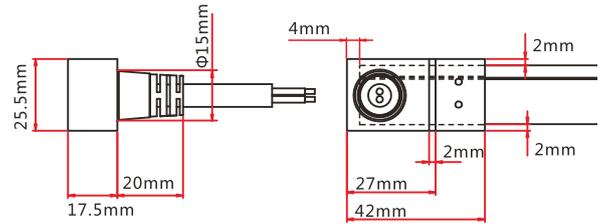
3.2 Dual Injection-moulded Connector

Dual Injection-moulded Front Connector (bottom)

Connects light to power supply with pre-installed bottom feed cable, IP68. Cable length available in 0.3m, 1m, 3m, 5m, 10m, 15m, 20m.
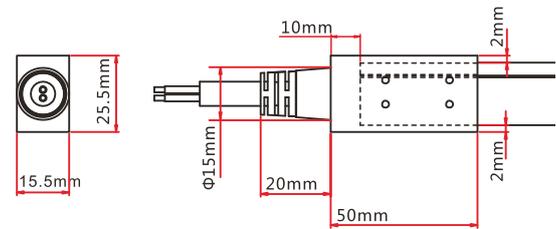
Dual Injection-moulded Front Connector (side)

Connects light to power supply with pre-installed side feed cable, IP68. Cable length available in 0.3m, 1m, 3m, 5m, 10m, 15m, 20m.
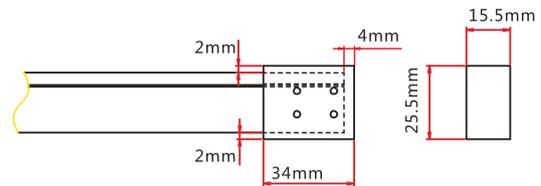
Dual Injection-moulded Front Connector (top end)

Connects light to power supply with pre-installed end feed cable, IP68. Cable length available in 0.3m, 1m, 3m, 5m, 10m, 15m, 20m.

Dual Injection-moulded End Cap

Pre-installed termination protection of the light, IP68.

Dual Injection-moulded Jumper

Connects two pieces of lights together with a flexible cable. IP68 Dual Injection-moulded connector. L available in 0.3~1m.

Maximum 8 Jumpers in 20m
Maximum 4 Jumpers in 10m
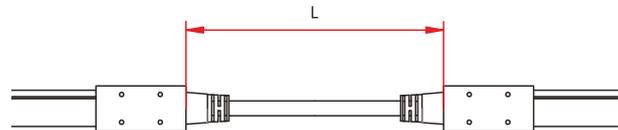
Dual Injection-moulded T-feed

Connects two pieces of lights together with a T joint, energized from middle. IP68 Dual Injection-moulded connector. L1 and L2 available in 0.15~0.5m. L3 available in 0.3-3m.

Maximum 8 T-feeds in 20m
Maximum 4 T-feeds in 10m

3.3 Sleeve Connector

Sleeve Front Connector

Connects light to power supply. IP40 DIY connector. Cable length available in 0.3m, 1m, 3m, 5m, 10m, 15m, 20m.
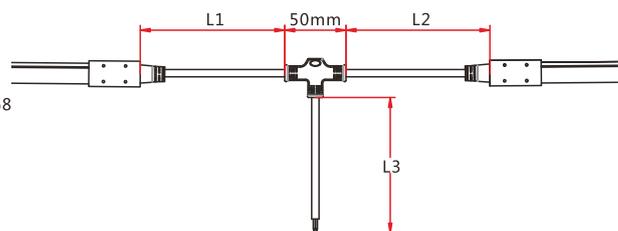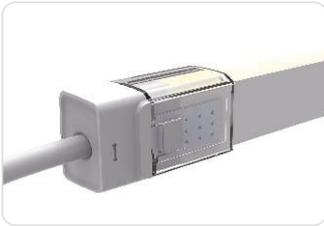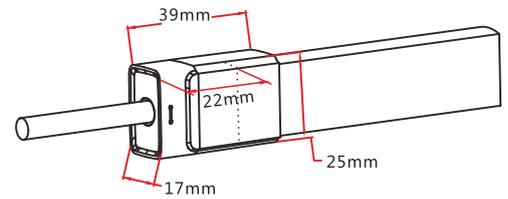
Feed connector*1 (Three-pin)
PC cover*1
Anti-skidding clips*2

39mm
22mm
17mm
25mm

Sleeve End Cap

Termination protection of the light. IP40 DIY connector.

Shading Sheat*1
PC cover*1

15mm
17mm
25mm

Sleeve Middle Connector

Combine two pieces of lights together. DIY connector.

Pin connector*1 (Three-pin)
PC cover*2
Anti-skidding clips*4

17mm
56mm
25mm
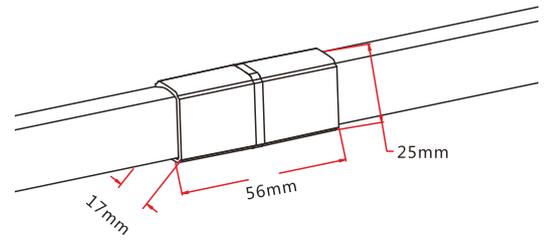
Sleeve Jumper

Connects two pieces of lights together with a flexible cable. IP40 DIY connector. L available in 0.3m, 1m and 3m.

Double-end feed connector*1 (Three-pin)
PC cover*2
Anti-skidding clips*4

L
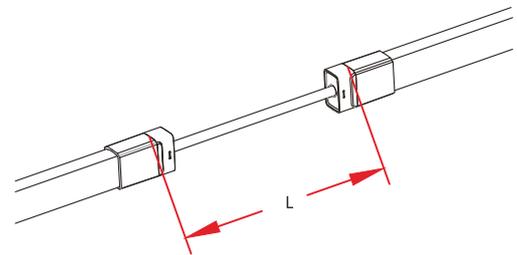
Sleeve Power T-feed

Connects two pieces of lights together with a T joint, energized from middle. IP40 DIY connector. L1 and L2 available in 0.3m.

T joint*1 (Three-pin)
PC cover*2
Anti-skidding clips*4

50mm
L2
L1

3.4 Snap Connector

Snap Front Connector(top end)

Connects light to power supply. IP67
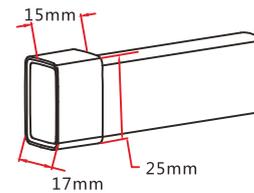DIY connector. Cable length available
in 0.3m, 1m, 3m, 5m, 10m, 15m, 20m.

Feed connector*1 (Three-pin)
Silicone gaskett*1
U steel plate*1
Anti-skidding clip*1
PC Cover*1

19.5mm
27.5mm
19.5mm
46.5mm
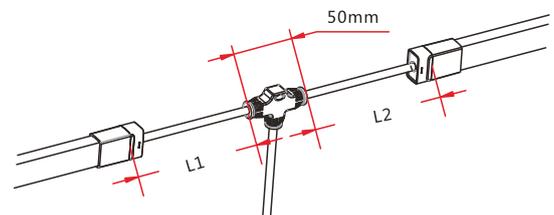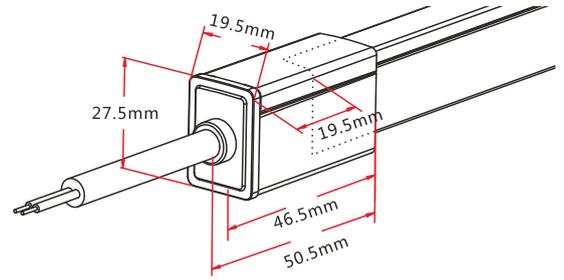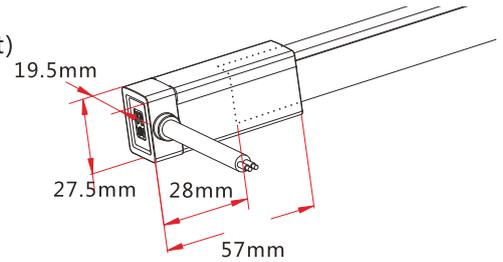50.5mm

Snap Front Connector(side right/left)

Connects light to power supply. IP67
DIY connector. Cable length available
in 0.3m, 1m, 3m, 5m, 10m, 15m, 20m.

Feed connector*1 (Three-pin)
Silicone gaskett*1
U steel plate*1
Anti-skidding clip*1
PC Cover*1

R   L

19.5mm
27.5mm   28mm
57mm

Snap Front Connector(bottom)

Connects light to power supply. IP67
DIY connector. Cable length available
in 0.3m, 1m, 3m, 5m, 10m, 15m, 20m.

Feed connector*1 (Three-pin)
Silicone gaskett*1
U steel plate*1
Anti-skidding clip*1
PC Cover*1

19.5mm
27.5mm   28mm
57mm

Snap End Cap

Termination protection of the light.
IP67. DIY connector.

Tail plug*1
Silicone gasket*1
U steel plate*1
Anti-skidding clip*1
PC Cover*1

19.5mm
27.5mm
19.5mm
46.5mm
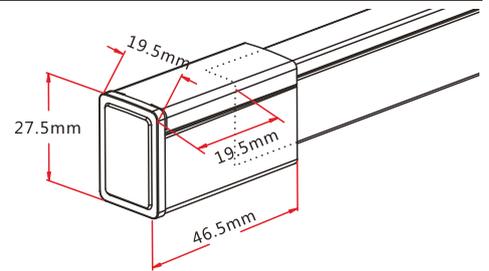
Snap Jumper

Connects two pieces of lights together with a
flexible cable. IP67 DIY connector. L available
in 0.3m, 1m and 3m.

Double-end feed connector*1 (Three-pin)
Silicone gasket*2
U steel plate*2
Anti-skidding clip*2
PC Cover*2

L
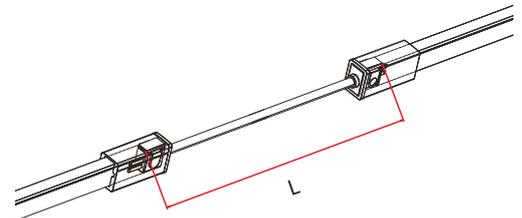
Snap Power T-feed

Connects two pieces of lights together
with a T joint, energized from middle. IP67
DIY connector. L1 and L2 available in 0.3m.

T joint*1 (Three-pin)
Silicone gasket*2
U steel plate*2
Anti-skidding clip*2
PC Cover*2

L1   L2
50mm
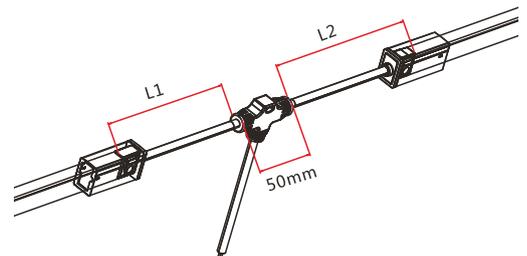
3.5 Anti-wicking Ferrule

Anti-wicking Ferrule

The anti-wicking ferrule is located at 115mm (±5mm tolerance) from the connector on the cable.

For protection against water ingress from inside of cable wire and hence damage the light.

Φ15mm

30mm
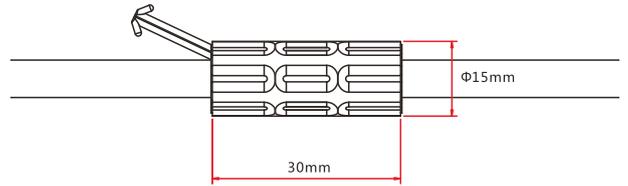
3.6 Male & Female Connector

Male & female Connector

For plug and play cable junction, DIY or Pre-installed connector, IP68

50mm

21mm

4. Compatible DMX Control System
(Recommended)

4.1 LT-200 Unit

1. SPI signal output, control light directly to achieve max.540 lighting effects.
2. Support third-party DMX 512 interface, it can be realized DMX management mode, invoke controller's most function by DMX console.
3. It can work as DMX-SPI decoder, using DMX 512 console to control every channel and program new changing effect.

Suitable for controlling maximum 100m by series connection and each length maximum 15m.
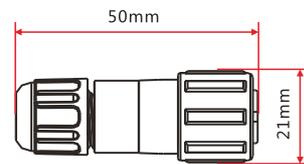
4.2 LT-800 & LT-DMX-1809 Unit

LT-800

LT-1809

1. LT-1809 decoder works to convert DMX512 digital signal to SPI (TTL) digital signal, realizing the function of 0~100% dimming or editing all sorts of change effect.
2. LT-800 DMX512 controller works with LT-1809 decoder to control lights .
3. Each LT-800 DMX512 controller can control max. 32 sets LT-1809 decoders.

Suitable for relatively large projects; each decoder can control max. 15m lights.

4.3 LT-600 Unit

1. Offline SD card store request programme. Ethernet real time computer control via synchronous display.
2. DMX 512 and SPI signal outputs are optional; can be connected with DMX console to form lighting control network.
3. Extra large control capability, 16 channels signal output, max. control 30720 pixels.

Suitable for large projects; each channel can control max. 120m lights, each LT-600 can control around 1600m lights.

Note:
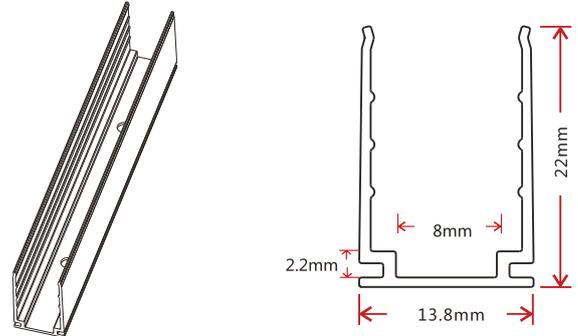**The Pixel Addressable Light series allows precise control of every cutting increment. To ensure IC chips receive strong control signals, please adhere to the parameters listed below.**

1) To ensure strong signal the 3-wire signal cable should not exceed 10m.
2) For cable lengths longer than 10m, a signal amplifier must be used for strong signal transmission. Please ask our technical team for more details.
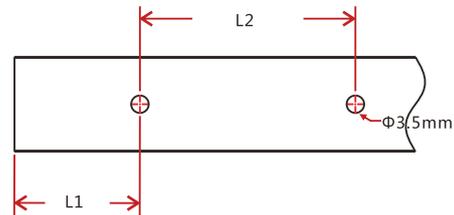
5. Mounting Profile

5.1 Standard Aluminum Profile

Note: Unless otherwise stated, the tolerance of the profile is ±0.5mm.

22mm

8mm

2.2mm

13.8mm

L2

Φ3.5mm

L1

Installation Way

Model	W*H(mm)	Standard Length (mm)	L1 (mm)	L2 (mm)	Screw Hole (mm)	Hole Number
F15-A/PL	13.8*22	35	17.5	/	Φ3.5	1
		500	50	200	Φ3.5	3
		1000	100	200	Φ3.5	5
		2000	100	200	Φ3.5	10

5.2 Plastic Profile

Note: Unless otherwise stated, the tolerance of the profile is ±0.5mm.

9 mm

24 mm

7.6mm

2.5mm

14mm

L1

L2

Φ3.5mm

Installation Way

Model	W*H(mm)	Standard Length (mm)	L1 (mm)	L2 (mm)	Screw Hole (mm)	Hole Number
F15-P/PL	14*24	500	50	200	Φ3.5	3
		1000	100	200	Φ3.5	5
		2000	100	200	Φ3.5	10

5.3 Spring Clip Aluminum Profile

Note: Unless otherwise stated, the tolerance of the profile is ±0.5mm.

2.8mm
8 mm
25.6mm
16.2mm

Installation Way

L
L1
L2
Φ3.5
L3
L4
Φ3.5

Model	W*H(mm)	Standard Length(mm)	L1(mm)	L2(mm)	L3(mm)	L4(mm)	Hole Screw(mm)	Hole Number	Clip Number
F15-SCA/PL	16.2*25.6	35	17.5	/	5	25	Φ3.5	2	1
		500	25	225	50	200	Φ3.5	3	3
		1000	25	237.5	100	200	Φ3.5	5	5
		2000	25	243.8	100	200	Φ3.5	10	9

5.6 Bendable Stainless Steel Profile

Installation Way

24.8
7.8
2.8
15.9

Note: Unless otherwise stated,the tolerance of the profile is ±0,2 mm.

L
2-5
(N-2)-L1
L2
Φ4.2
ø5.8~6.2
1,3
3,5
2,5~2,8
25
ø5.8~6.2
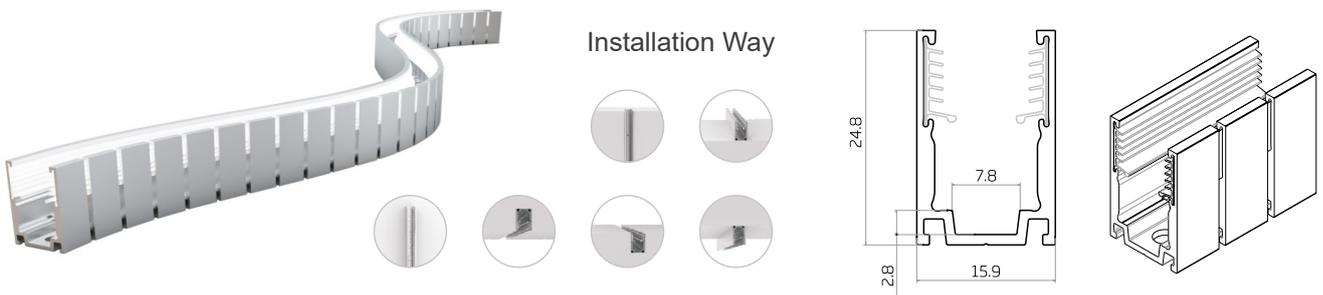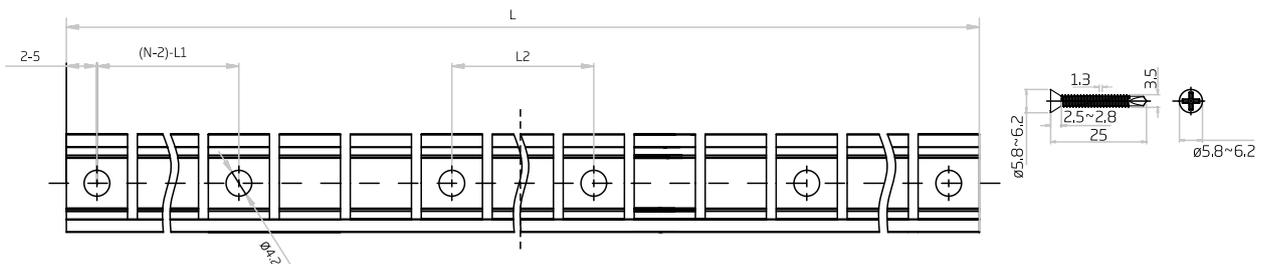
5.5 Cable Exit Oriented Aluminum Profile
(Applicable to Injection-moulded Connector Only)

2.8mm
8 mm
25.6mm
16.2mm
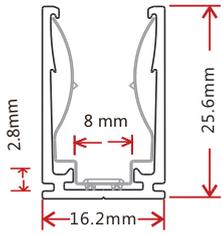
Note: Unless otherwise stated, the tolerance of the profile is ±0.5mm.

Bottom Feed

Middle Feed

Side Feed From Left

Side Feed From Right

5.6 Corner Aluminum Profile
(Applicable to Injection-moulded Connector Only)

2.8mm
8 mm
25.6mm
16.2mm
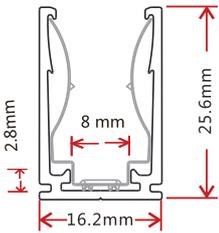
Note: Unless otherwise stated, the tolerance of the profile is ±0.5mm.

L Shape
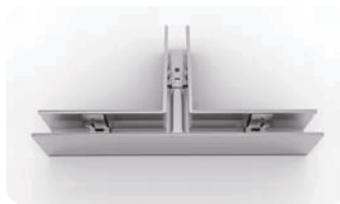
T Shape

Outward L Shape

Inward L Shape

X Shape

5.7 Recessed Mounting Profile

20. 3
10. 6
24
7. 8
13. 8
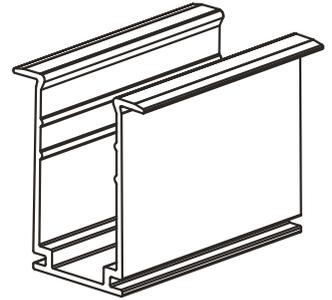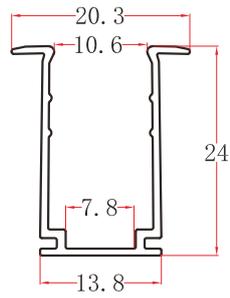
Note: Unless otherwise stated, the tolerance of the profile is ±0.5mm.

Installation Way

L1   L2

Φ3.5mm
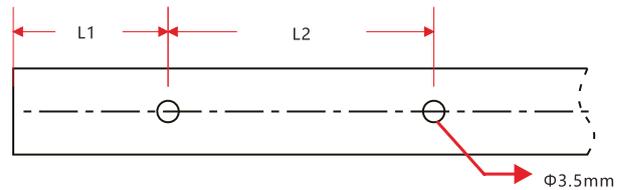
Model	W*H(mm)	Standard Length (mm)	L1 (mm)	L2 (mm)	Screw Hole (mm)	Hole Number
F15-RMA/PL	20.3*24	35	5	25	Φ3.5	2
		500	50	200	Φ3.5	3
		1000	100	200	Φ3.5	5
		2000	100	200	Φ3.5	10

6. Appendix

6.1 Certificate

Certificating Type	Testing Organization	Certificate Serial Number	Report Reference
UL 2108	UL	20180801-E360029	E360029-20130322
CE-EMC	SGS	SZEM1712012372LMV	SZEM171201237201

6.2 Third-Party Test Report

Testing Item	Testing Organization	Report Number
RoHS	SGS	CANEC1815144401
		CANEC1815146401
IP68: Screw type	TUV SUD	68.140.12.136.02
IP68: Clasp type	SGS	GZES140200135301
		GZES140200135401
		GZES140200135501
		GZES140200135701
		GZES140200135801
IPX8: Molding type	SGS	SZES141200357301
		SZES141200357401
		SZES141200357501
IPX8: Snap type	SGS	GZES160600792031
Flame retardant	TUV SUD	68.140.13.068.01
IPX8: Dual Injection Mouding	SGS	SZES171001697401
		SZES171202089731
Safely: IEC60598-1& IEC60598-2-21	LCS	LCS180307033BS
		LCS180307034BS
		LCS180307035BS
		LCS180307036BS
		LCS180307037BS

6.3 Reliability Test of Light

TESTING ITEM	PERFORMANCE	STANDARD/REFERENCE VALUE/DESCRIPTION
PHOTOMETRIC TESTING	Spectrum Analysis	IES LM 79 (lumen, CCT, CRI, XY, SDCM, wave length)
	Photometric Distribution	IES LM 79(lumen intensity distribution & Lux diagram)
	Lumen Maintenance & Life Time	IES LM84 & IES TM28
TEMPERATURE RISE TESTING	Normal Temperature Test	UL1598 & UL2388 & IEC60598-1 & IEC60598-2-21
	Abnormal Operation Test	UL1598 & UL2388 & IEC60598-1 & IEC60598-2-21
MECHANICS & PHYSICS TESTING	Bending Test	Manufacturer-defined, 500 cycles
	Swing Test	UL2388, >750 cycles
	Tensile Test	Manufacturer-defined, > the weight of light in maximum connection length with both ends feed
	Twist Test	Manufacturer-defined, >200 cycles
	Ball Impact	UL1598 & UL2388 & IEC60598-1 & IEC60598-2-21
	IK07 IK08	IEC62262
WEATHERING TESTING	Swimming Pool Water Immersion Test	GB9667, PH6.8-7.6, free chlorine 0.3-0.6mg/L
	Sea Water Immersion Test	IEC60598-1, Salinity 4%
	Salt Spray Test	IEC68-2-11
	Outdoor Exposure	Manufacturer-defined
ENVIROMENT TESTING	Flame Resistant Test	UL94
	UV Exposure Test	ASTMG 154，ISO 4892-3，UVA@340nm
	IPX5 IPX6 IPX7 IPX8	IEC60529
ENDURANCE & THERMAL TEST LAB	Temperature Shock Test	Manufacturer-defined，-40℃-60℃ (typical temperature range)
	Constant Temperature Test	Manufacturer-defined，70℃ (typical temperature)

6.4 (X,Y) Chromaticity Diagram