CLEAR Lighting®

CLEAR Lighting®

Clear Lighting Co.,Ltd.

International Business Division
ADD: 0905#, CADRE Group Center,168 Tongsha Road, Xili,Shenzhen

Factory
ADD:CLEAR Lighting Production Base, Fulong Industrial Park,
Shatian Town, Huiyang District, Huizhou

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2014-2015

A Specialist of LED Flex Ribbon Light

CLEAR Lighting

To be a respectable enterprise

Contents

2013

Trademark was registered in Europe

CLEAR Lighting

2012

High brightness neon ribbon light "Artist Series" was launched

2011

Huizhou production base was built

2009

Clear optoelectronics laboratory was built

2008

World's thinnest LED strip was launched

2006

Invention patent was awarded in Germany

2003

ISO 9001 was certified

2000

Clear Lighting was founded

History
2000-2014

Company profile

[Positioning]

We have always focused on LED Neon Ribbon Light and LED Crystal Ribbon Light. In this niche market, our business integrated design, R&D, manufacturing, marketing and customer service. We will not produce full range of LED products to satisfy all customers, but to meet all demands of customers who need high end LED flex ribbon light.

[R&D]

Clear Lighting has a strong R&D team to make quick reaction to new tread of LED ribbon light market. We respect the protection of patent, and we realize the importance to develop new technology and apply patents. As a result, 70 patents have been awarded including patents obtained in Germany, US and European Union. 14 years technology accumulation and talent cultivation make us the leader in this field. We will keep innovating to be the specialist of LED flex ribbon light.

[Products]

Our products have superior performance on water proof, DIY cutting & connecting accessories, and uniform neon light effect. We give adequate consideration on product UV resistance, corrosion resistance, impact resistance and flame resistance to ensure that products meet the requirements of various applications, and we have passed relevant tests of third party inspection authority. We have UL and CE certificates for all our products.

[Service]

For a dozen years, our products have been applied to main countries in the world. We respect our customers and position ourselves as their business partner. Short lead time, promotion consultancy, project solution, and holistic after-sales services constitute the added value we provide to our honored customers; they are members of Twinkling Club. We are trying to give better experience to Twinkling Club members who are selling and using our products. Expertise and earnest make us capable of delighting them by defining new standards.

[**Intellectual Property**]

[**Certificate**]

Clear Lighting has high consciousness of the importance of Intellectual Properties protection, we have solely owned 70 patents by March of 2013.

Artist of Light

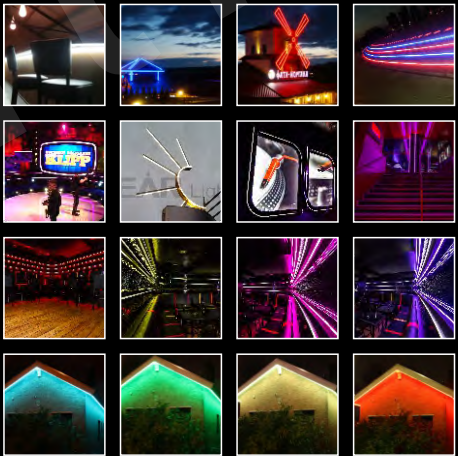| F10	F11	F15	F21	F22
18mm / 9mm	26mm / 11.5mm	21mm / 11.5mm	29mm / 11.5mm	16mm / 16mm

Artist of Light

LED Neon Ribbon Light
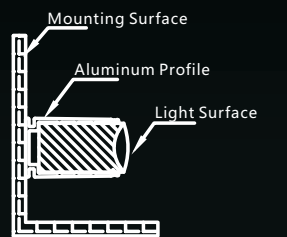
C-FR-F10B

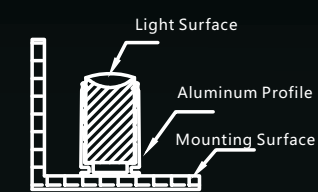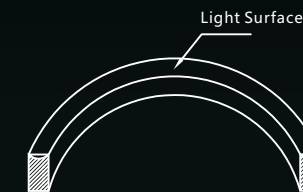The smallest profile, flat surface

Features
1. High quality SMD LED chip
2. UV & flame resistant construction (PVC)
3. Slim size with flat surface for slimline projects
4. Uniform & even light source with no LED "hotspots"
5. Flexible with 90mm Minimum bending diameter
6. Easy to use, with DIY accessories for joining, terminating, mounting & powering
7. High IP rating (IP68)
8. Ambient temperature: -20℃~45℃;
   Operating temperature: 0℃~45℃
9. Continuous length up to 100m
10. Environmentally friendly & energy efficient
11. Automated production, high reliability & long warranty
12. 5 years life span

Application
Smallest profile of the Linear LED lights, it is also the most flexible with the smallest cutmark. Suitable for finer detailed work including signage, architectural features and sculptures

18mm

9mm

Light Surface

Light Surface

Aluminum Profile

Mounting Surface

Mounting Surface

Aluminum Profile

Light Surface

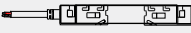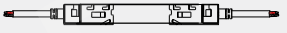|							
Beam Angle	Bending Diameter	Flame Resistant	UV Resistant	Solvents Resistant	Saltwater Resistant	IP68 Protection	Warranty
160°	D:9cm						3 year

Technical Data

Article No.	C-FR-F10B-D24V	C-FR-F10B-D24V	C-FR-F10B-230V
Color	Red/Amber	Green/Blue/White	Red/Amber/Green/Blue/White
Working Voltage	DC24V	DC24V	AC230V
Rated Power / mtr	3.5W	5W	5W
LED Qty/mtr	72LEDs	72LEDs	72LEDs
LED Distance	1.39cm	1.39cm	1.39cm
Min. Cutting Unit	9LEDs (12.5cm)	6LEDs (8.33cm)	72LEDs (1m)
IP Rating	IP68	IP68	IP65

Matching Table for Power and Length(DC24V)

Power	35W	60W	85W	100W	120W	150W	180W
3.5W Length	9m	15m	20m	25m	30m	37.5m	40m
5W Length	6m	10.5m	15m	17.5m	21m	26.5m	30m
Energizing Way	DC input 01/02			DC input 01		02	DC input

>>More details refer to P175

Package Data

Carton	75m/ctn	578*465*195mm	20.5kg

>>More details refer to P183

Photometric Data

Article No.	C-FR-F10B-D24V	
LED Type	SMD	
Beam angle	160°	
Color	CCT/Wavelength	Lumen/m
Red	620-630nm	>45lm
Green	520-530nm	>80lm
Blue	460-470nm	>15lm
Amber	590-595nm	>50lm
Warm White	2725±145K	>120lm
White	3465±245K	>120lm
Cool White	4503±243K	>120lm
Daylight White	5665±355K	>120lm

Photometric Data

Article No.	C-FR-F10B-230V	
LED Type	SMD	
Beam angle	160°	
Color	CCT/Wavelength	Lumen/m
Red	620-630nm	>40lm
Green	520-530nm	>80lm
Blue	465-475nm	>12lm
Amber	590-595nm	>60lm
Warm White	2725±145K	>100lm
White	3465±245K	>100lm
Cool White	4503±243K	>100lm
Daylight White	5665±355K	>100lm

Candle power distribution   Illuminance Characteristics
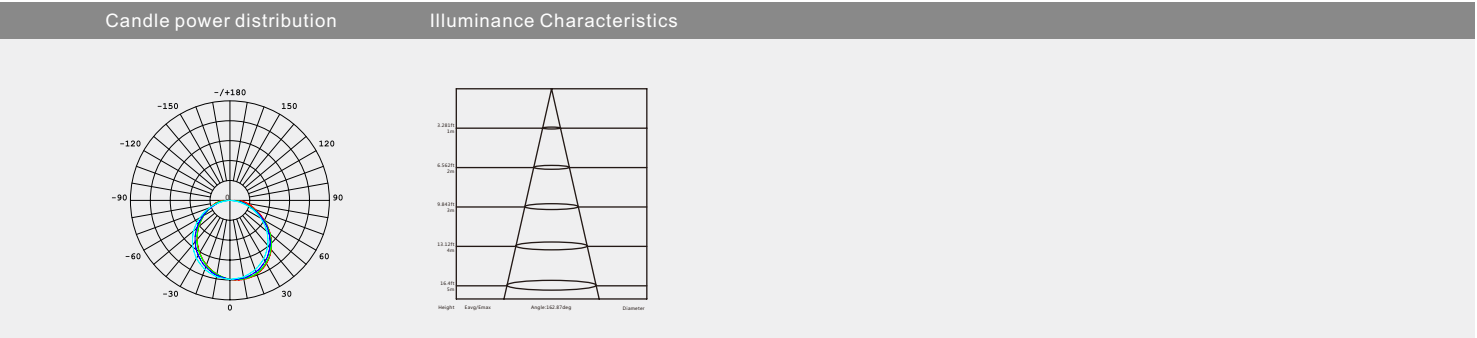
>>Download IES file at www.clearlighting.com

F10B Accessories

Optional accessories

Male & Female Connector

>>More details refer to P172

Installation Accessories
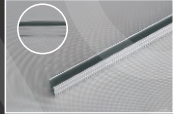
Aluminum Profile   Self-locking Aluminum Profile

>>More details refer to P169

Tool kit

Cutter   Gripper   Insert inducer

>>More details refer to P173

Driver

>>More details refer to P175

System Diagram
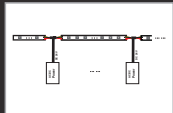
>>More details to refer P177

Clasp Front Connector   Clasp End Cap

>>More details refer to P147

**IP68
Protection**

Modern House

Ceiling

Ceiling
C-FR-F10B
2700K

Wall
C-FR-F10B
2700K

C-FR-F11B

Smaller profile, domed surface

Features
1. High quality SMD LED chip
2. UV & flame resistant construction (PVC)
3. Slim size with domed surface for slimline projects
4. Uniform & even light source with no LED "hotspots"
5. Flexible with 120mm Minimum bending diameter
6. Easy to use, with DIY accessories for joining, terminating, mounting & powering
7. High IP rating (IP68)
8. Ambient temperature: -20℃~45℃;
   Operating temperature: 0℃~45℃
9. Continuous length up to 100m
10. Environmentally friendly & energy efficient
11. Automated production, high reliability & long warranty
12. 5 years life span

Application
Smallest profile of the Linear LED lights it is also the most flexible with the smallest cutmark. Suitable for finer detailed work including signage, architectural features and sculptures

26mm

11.5mm

Light Surface

Light Surface

Aluminum Profile

Mounting Surface

Mounting Surface

Aluminum Profile

Light Surface

Beam Angle	Bending Diameter	Flame Resistant	UV Resistant	Solvents Resistant	Saltwater Resistant	IP68 Protection	Warranty
160°	D:12cm						3 year
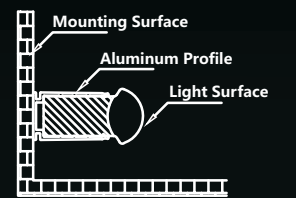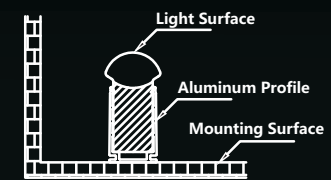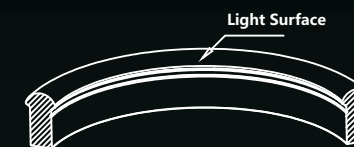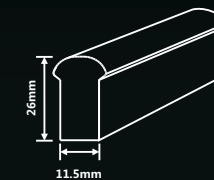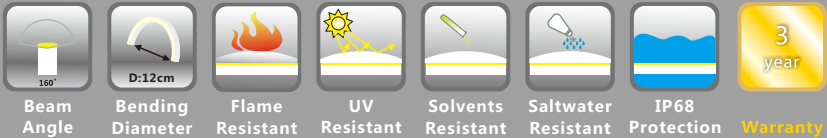
Technical Data

Article No.	C-FR-F11B-D24V	C-FR-F11B-D24V	C-FR-F11B-230V
Color	Red/Amber	Green/Blue/White	Red/Amber/Green/Blue/White
Working Voltage	DC24V	DC24V	AC230V
Rated Power / mtr	3.5W	5W	5W
LED Qty/mtr	72LEDs	72LEDs	72LEDs
LED Distance	1.39cm	1.39cm	1.39cm
Min. Cutting Unit	9LEDs (12.5cm)	6LEDs (8.33cm)	72LEDs (1m)
IP Rating	IP68	IP68	IP65

Matching Table for Power and Length(DC24V)

Power	35W	60W	85W	100W	120W	150W	180W
3.5W Length	9m	15m	20m	25m	30m	37.5m	40m
5W Length	6m	10.5m	15m	17.5m	21m	26.5m	30m
Energizing Way	DC input			DC input			DC input
	01/02			01		02	

>>More details refer to P175

Package Data

Carton	50m/ctn	632*522*225mm	25kg

>>More details refer to P183

Photometric Data

Article No.	C-FR-F11B-D24V	
LED Type	SMD	
Beam angle	160°	
Color	CCT/Wavelength	Lumen/m
Red	620-630nm	>60lm
Green	520-530nm	>100lm
Blue	460-470nm	>20lm
Amber	590-595nm	>65lm
Warm White	2725±145K	>130lm
White	3465±245K	>130lm
Cool White	4503±243K	>130lm
Daylight White	5665±355K	>130lm

Photometric Data

Article No.	C-FR-F11B-230V	
LED Type	SMD	
Beam angle	160°	
Color	CCT/Wavelength	Lumen/m
Red	620-630nm	>45lm
Green	520-530nm	>100lm
Blue	465-475nm	>15lm
Amber	590-595nm	>70lm
Warm White	2725±145K	>120lm
White	3465±245K	>120lm
Cool White	4503±243K	>120lm
Daylight White	5665±355K	>120lm

Candle power distribution   Illuminance Characteristics
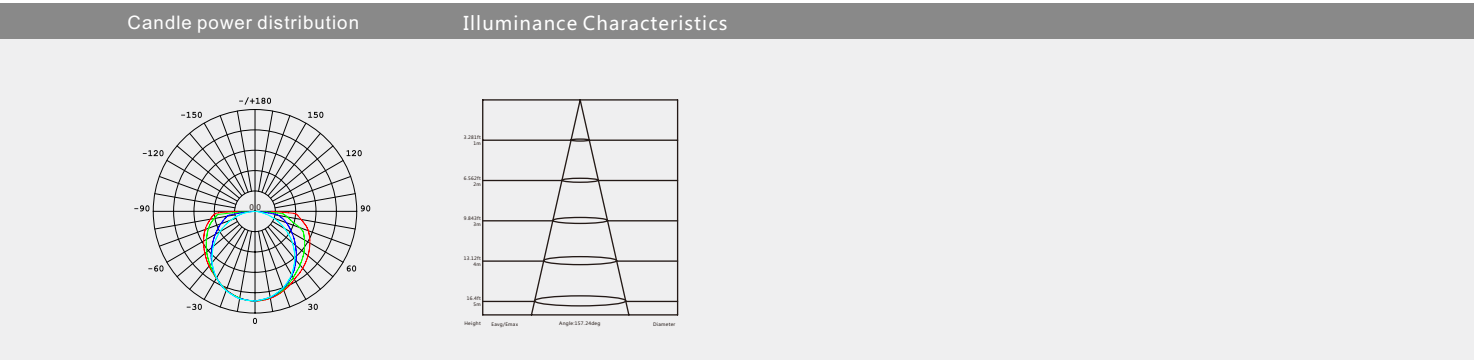
>>Download IES file at www.clearlighting.com

F11B Accessories

Optional accessories

Male & Female Connector

>>More details refer to P172

Installation Accessories

Aluminum Profile   Self-locking Aluminum Profile

>>More details refer to P169

Tool kit
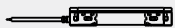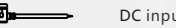
Cutter   Gripper   Insert inducer

>>More details refer to P173

Driver

>>More details refer to P175

System Diagram

>>More details to P177

IP68 Protection

Clasp Front Connector   Clasp End Cap
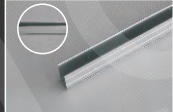
>>More details refer to P149
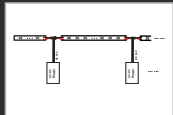
Flat LED Neon Ribbon Light

C-FR-F15

Flat profile
High illumination
DIY accessories
Long continuous length

F15A
F15B
F15S

F15FCJ

F15CJ

C-FR-F15A

RGB

C-FR-F15B

| Red | Green | Blue | Amber |

| 2000K | 2700K | 3000K | 3500K | 4000K | 4500K | 5000K | 5700K | 6500K |

C-FR-F15FCJ

| Red | Green | Blue | Yellow1 | Yellow2 | Yellow3 |

C-FR-F15CJ

| Red | Green | Blue | Yellow1 | Yellow2 | Yellow3 |
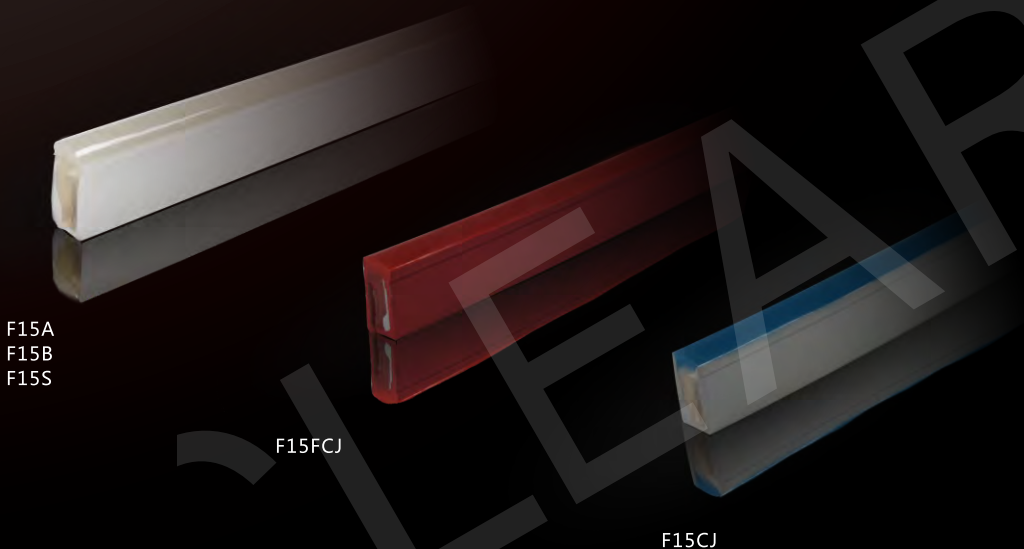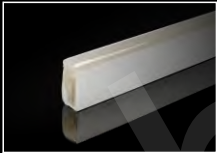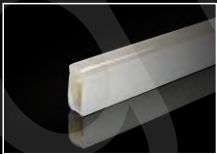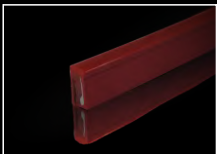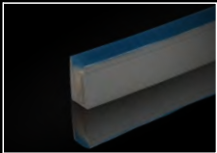
C-FR-F15S

Single Color Chasing

RGB Chasing

C-FR-F15A

Flat profile, color changing
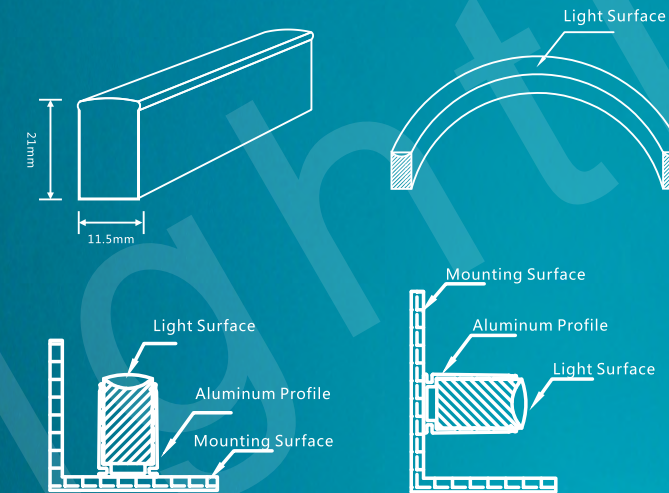
RGB

21mm

11.5mm

Light Surface

Light Surface
Aluminum Profile
Mounting Surface

Mounting Surface
Aluminum Profile
Light Surface

C UL US LISTED CE TÜV SÜD RoHS COMPLIANT

Features
1. High quality SMD, RGB LED chip
2. UV & Flame resistant construction (PVC)
3. Flat profile
4. Uniform & Even light source with no LED "hotspots"
5. High illumination
6. Flexible with 120mm minimum bending diameter
7. Easy to use, with DIY accessories for joining, terminating, mounting & powering
8. High IP rating (IP68)
9. Ambient temperature: -20℃~45℃;
    Operating temperature: 0℃~45℃
10. Continuous length up to 10m
11. Environmentally friendly & energy efficient
12. Automated production, high reliability & long warranty
13. 5 years life span

Application
A color changing linear LED product, looks similar to glass neon. Suitable for many installations including outdoor, indoor, signage, architectural and a whole lot more

Beam Angle	Bending Diameter	Flame Resistant	UV Resistant	Solvents Resistant	Saltwater Resistant	IP68 Protection	IK08 Protection	3 year Warranty

Technical Data

Article No.	C-FR-F15A-D24V
Working Voltage	DC24V
Rated Power / mtr	12W
LED Qty/mtr	60LEDs
LED Distance	1.67cm
Min. Cutting Unit	6LEDs (10cm)
Continuous Length	10m
IP Rating	IP68/IP40

Matching Table for Power and Length

Power	35W	60W	100W	120W	150W	180W	240W	320W
Length	2.5m	4.5m	7.5m	9.0m	10m	13.5m	18m	20m
Energizing Way	DC input 01/02					DC input 01		02 DC input

>>More details refer to P175

Package Data

Carton	50m/ctn	578*465*195mm	21kg

>>More details refer to P183

Connection Diagram for Injection-Moulded Light

Input

Length 1   Length 2   Length 3

Length 1   Length 2   Length 3

Input

Customized Length of Injection-Mould Light

	Length 1	Length 2	Length 3	Length 4	Length 5	Length 6
Length	10cm	20cm	50cm	100cm	200cm	500cm

Photometric Data

Article No.	C-FR-F15A-D24V	
LED Type	SMD	
Beam angle	160°	
Color	CCT/Wavelength	Lumen/m
Red	620-630nm	>20lm
Green	520-530nm	>75lm
Blue	460-470nm	>15lm
White		>110lm
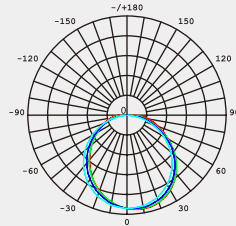
Candle power distribution   Illuminance Characteristics
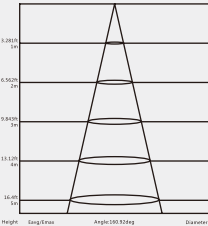
>>Download IES life at www.clearlighting.com

F15A Accessories

Optional accessories

Seamless Power T-Feed   Seamless Middle Connector   Power T-Feed

Male & Female Connector

>>More details refer to P172

Installation Accessories

Aluminum Profile   Self-locking Aluminum Profile

>>More details refer to P169

Tool kit

Cutter   Gripper   Insert inducer

>>More details refer to P173

Driver

>>More details refer to P175
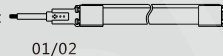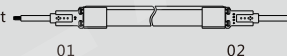
System Diagram

>>More details refer to P179

IP40

IP40
Protection

Sleeve Front Connector   Sleeve End Cap   Sleeve Middle Connector   Sleeve Jumper

>>More details refer to P151

IP68
Protection

Screw Front Connector   Screw End Cap   Screw Jumper

>>More details refer to P153

IP68
Protection

Clasp Front Connector   Clasp End Cap   Injection-moulded Front Connector (side)   Injection-moulded Front Connector (bottom)   Injection-moulded End Cap
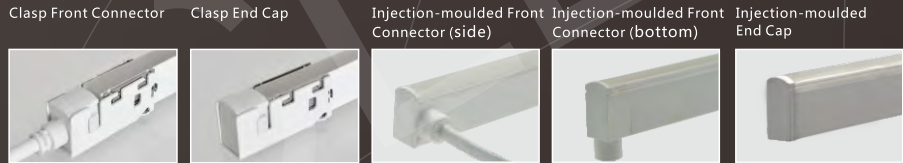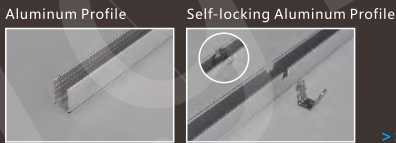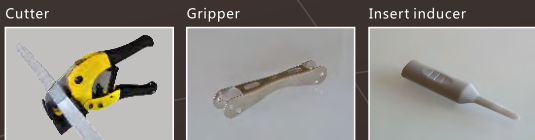
>>More details refer to P155

Elegant Villatic Courtyard

Germany

Courtyard

C-FR-F15A

90°Corner

C-FR-F15A

Luxurious Bar

France

Wine counters
C-FR-F15A

Bar counter
C-FR-F15A

Dreamlike Bar

Austria

Arch
C-FR-F15A

Step
C-FR-F15A

C-FR-F15B

Flat profile, high illumination
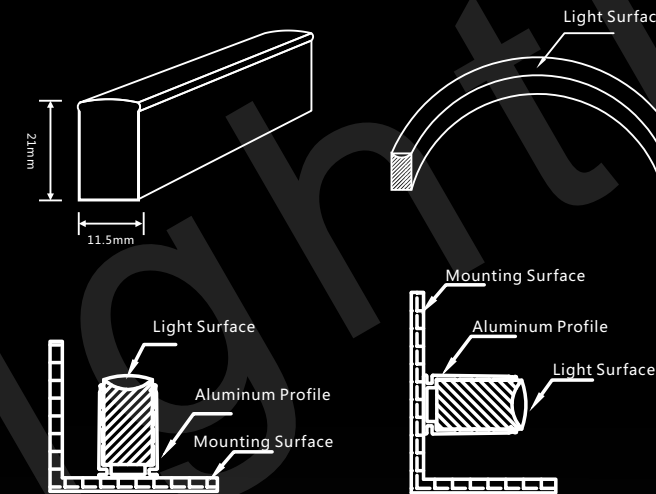
21mm

11.5mm

Light Surface

Light Surface

Aluminum Profile

Mounting Surface

Mounting Surface

Aluminum Profile

Light Surface

Features
1. High quality SMD LED chip
2. Large choice of Color Temperatures (2000k-6500k)
3. UV & Flame resistant construction (PVC)
4. Flat profile
5. Uniform & Even light source with no LED "hotspots"
6. High illumination
7. Flexible with 120mm minimum bending diameter
8. Easy to use, with DIY accessories for joining, terminating, mounting & powering
9. High IP rating (IP68)
10. Ambient temperature: -20℃~45℃;
    Operating temperature: 0℃~45℃
11. Continuous length up to 100m
12. Environmentally friendly & energy efficient
13. Automated production, high reliability & long warranty
14. 5 years life span

Application
The perfect replacement for Glass neon. Suitable for many installations including outdoor, indoor, signage, architectural and a whole lot more

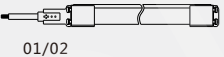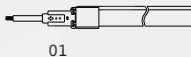| Beam Angle	Bending Diameter	Flame Resistant	UV Resistant	Solvents Resistant	Saltwater Resistant	IP68 Protection	IK08 Protection	Warranty
160°	D:12cm							3 year

Technical Data

Article No.	C-FR-F15B-D24V	C-FR-F15B-D24V	C-FR-F15B-230V	C-FR-F15B-CC-24V	C-FR-F15B-CC-24V
Color	Red/Amber	Green/Blue/White	Red/Green/Blue/Amber/White	Red/Amber	Green/Blue/White
Working Voltage	DC24V	DC24V	AC230V	DC24V	DC24V
Rated Power / mtr	7.2W	12W	12W	6.5W	10.6W
LED Qty/mtr	60LEDs	60LEDs	72LEDs	60LEDs	60LEDs
LED Distance	1.67cm	1.67cm	1.39cm	1.67cm	1.67cm
Min. Cutting Unit	10LEDs (16.7cm)	6LEDs (10cm)	72LEDs (1m)	10LEDs (16.7cm)	6LEDs (10cm)
Continuous Length	15m	10m	80m	15m	10m
IP Rating	IP68/IP40	IP68/IP40	IP65/IP40	IP68/IP40	IP68/IP40

Matching Table for Power and Length(DC24V)

Power	35W	60W	100W	120W	150W	150W	180W	240W	320W
7.2W Length	4m	7.5m	12m	15m		18.5m	22m	30m	
12W Length	2.5m	4.5m	7.5m	9.0m	10m		13.5m	18m	20m
Energizing Way	DC input 01/02					DC input 01		02 DC input	

>>More details refer to P175

Package Data

Carton	50m/ctn	578*465*195mm	21kg

>>More details refer to P183

Connection Diagram for Injection-Moulded Light

Length 1   Length 2   Length 3   DC24V input

Length 1   Length 2   Length 3
DC24V input

Customized Length of Injection-Mould Light

	Length 1	Length 2	Length 3	Length 4	Length 5	Length 6	Length 7
Length (Green/Blue/White)	10cm	20cm	50cm	100cm	200cm	500cm	1000cm
Length (Red/Amber)	16.7cm	33.3cm	50cm	100cm	200cm	500cm	1000cm

Photometric Data

Article No.	C-FR-F15B-D24V	
LED Type	SMD	
Beam angle	160°	
Color	CCT/Wavelength	Lumen/m
Red	620-630nm	>100lm
Green	520-530nm	>250lm
Blue	460-470nm	>35lm
Amber	590-595nm	>75lm
Warm White	2725±145K	>320lm
	3045±145K	>320lm
White	3465±245K	>320lm
	3985±275K	>320lm
Cool White	4503±243K	>320lm
	5028±283K	>320lm
Daylight White	5665±355K	>320lm
	6530±510K	>320lm

Photometric Data

Article No.	C-FR-F15B-230V	
LED Type	SMD	
Beam angle	160°	
Color	CCT/Wavelength	Lumen/m
Red	620-630nm	>90lm
Green	520-530nm	>130lm
Blue	465-475nm	>25lm
Amber	590-595nm	>100lm
Warm White	2725±145K	>280lm
White	3465±245K	>280lm
Cool White	4503±243K	>280lm
Daylight White	5665±355K	>280lm

Photometric Data

Article No.	C-FR-F15B-CC-24V	
LED Type	SMD	
Beam angle	160°	
Color	CCT/Wavelength	Lumen/m
Red	620-630nm	>100lm
Green	520-530nm	>250lm
Blue	460-470nm	>35lm
Amber	590-595nm	>75lm
Extra Low Temp.	2000±100K	>220lm
	2200±100K	>220lm
	2400±100K	>220lm
Warm White	2725±145K	>320lm
	3045±145K	>320lm
White	3465±245K	>320lm
	3985±275K	>320lm
Cool White	4503±243K	>320lm
	5028±283K	>320lm
Daylight White	5665±355K	>320lm
	6530±510K	>320lm

Candle power distribution   Illuminance Characteristics
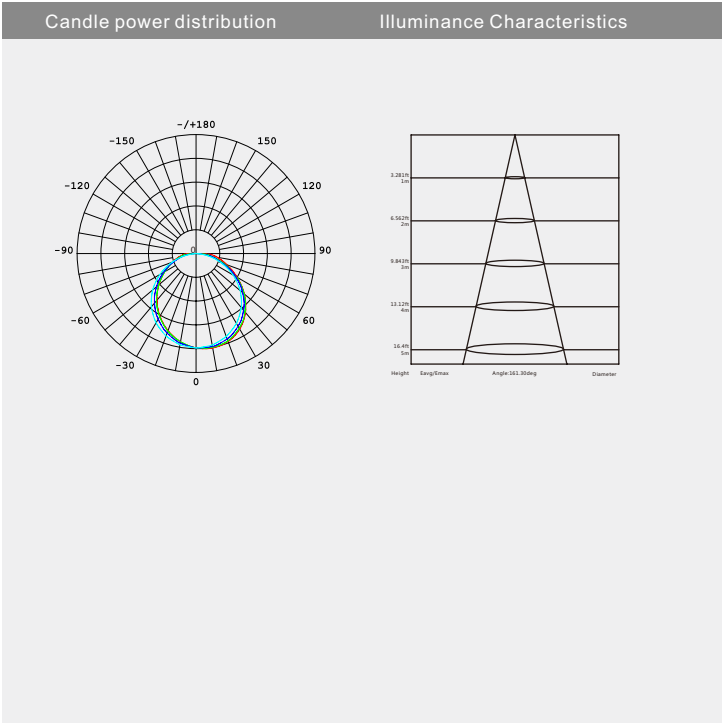
>>Download IES file at www.clearlighting.com

F15B Accessories

IP40

IP40 Protection

IP68 Protection

IP68 Protection

Sleeve Front Connector Sleeve End Cap Sleeve Middle Connector Sleeve Jumper

>>More details refer to P151

Screw Front Connector Screw End Cap Screw Jumper

>>More details refer to P153

Clasp Front Connector Clasp End Cap Injection-moulded Front Connector (side) Injection-moulded Front Connector (bottom) Injection-moulded End Cap

>>More details refer to P155

Optional accessories:

L Extension Shape T Extension Shape X Extension Shape Seamless Power T-Feed Seamless Middle Connector Power T-Feed Male & Female Connector

>>More details refer to P172

Installation Accessories

Aluminum Profile Self-locking Aluminum Profile

>>More details refer to P169
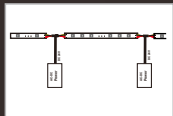
Tool kit

Cutter Gripper Insert inducer
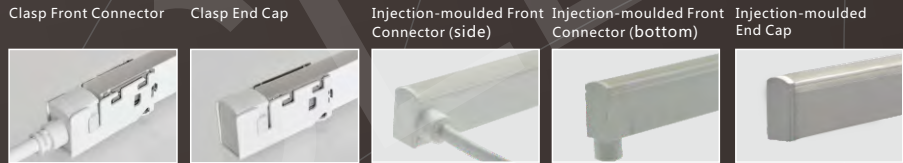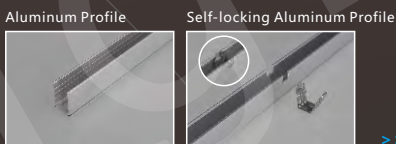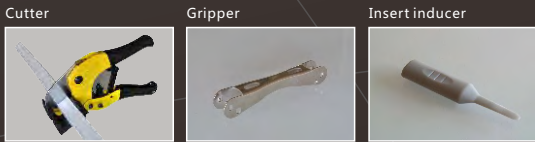
>>More details refer to P173

Driver

>>More details refer to P175

System Diagram
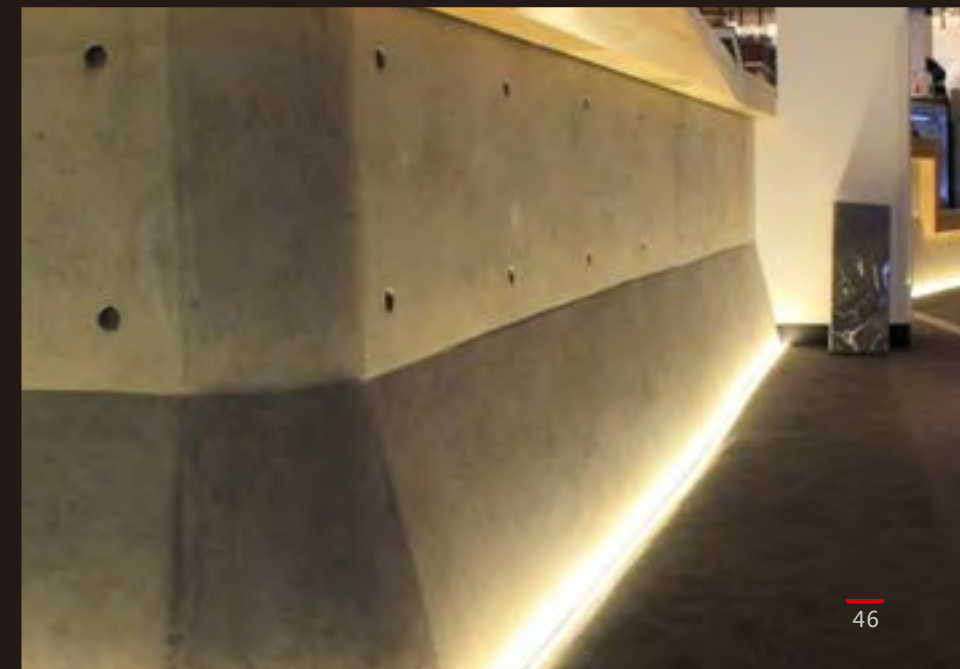
>>More details refer to P177

Bright Hotel

Australia

Counter
C-FR-F15B
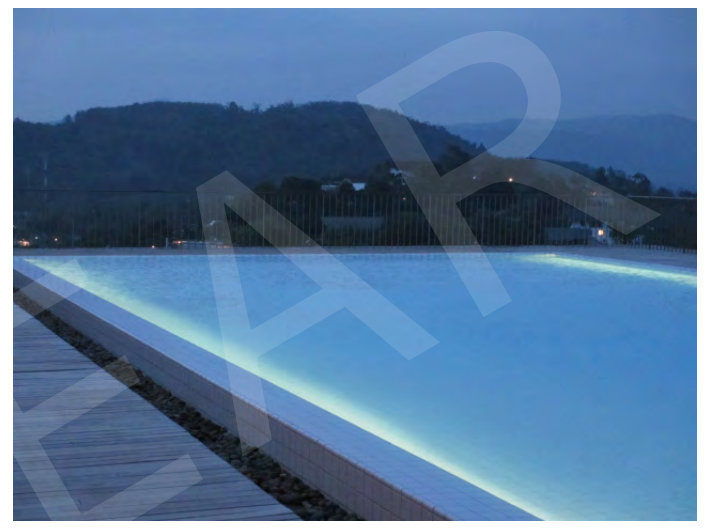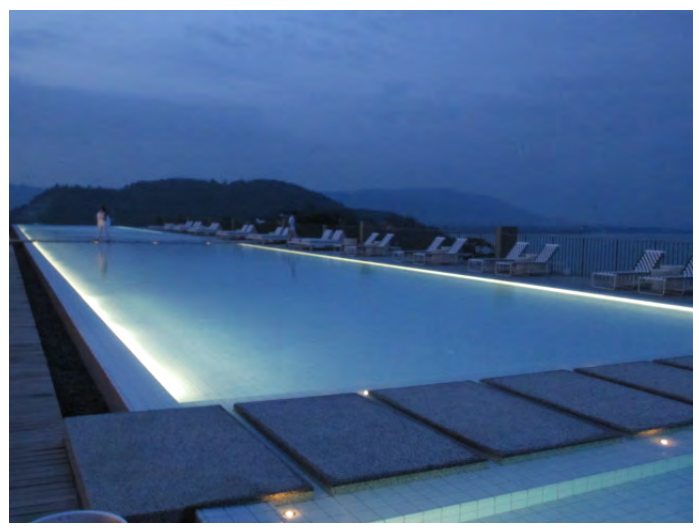3000K

Dearmlike Bar

Austria

Frame

C-FR-F15B

5700K

Bright Hotel

Australia

Steps

C-FR-F15B

3000K

Swimming Pool

Thailand

Underwater
C-FR-F15B
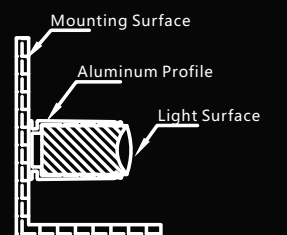4000K

C-FR-F15FCJ

Flat profile, full color jacket

C US LISTED   CE   TÜV SÜD   TÜVRheinland   RoHS COMPLIANT
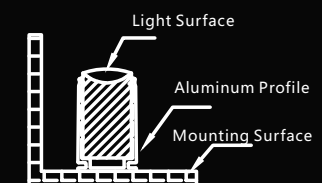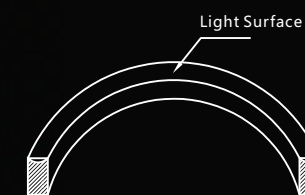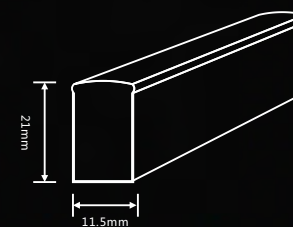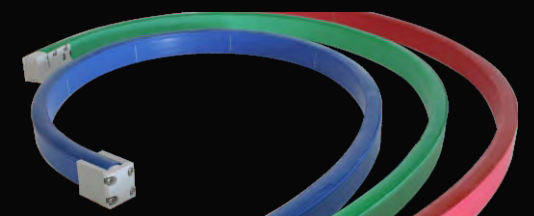
Features
1. High quality SMD LED chip
2. Full color Jacket (when not illuminated, color is visible)
3. UV & Flame resistant construction (PVC)
4. Flat profile
5. Uniform & Even light source with no LED "hotspots"
6. High illumination
7. Flexible with 120mm minimum bending diameter
8. Easy to use, with DIY accessories for joining, terminating, mounting & powering
9. High IP rating (IP68)
10. Ambient temperature: -20℃~45℃;
    Operating temperature: 0℃~45℃
11. Continuous length up to 100m
12. Environmentally friendly & energy efficient
13. Automated production, high reliability & long warranty
14. 5 years life span

Application
The perfect replacement for Glass Neon. Easy to use, long lasting & Durable. Suitable for many projects and installations including indoor, outdoor, signage & architectural. The color jacket ensures that colors are visible in direct sunlight

21mm

11.5mm

Light Surface

Light Surface

Aluminum Profile

Mounting Surface

Mounting Surface

Aluminum Profile

Light Surface

Beam Angle	Bending Diameter	Flame Resistant	UV Resistant	Solvents Resistant	Saltwater Resistant	IP68 Protection	IK08 Protection	3 year Warranty

Technical Data

Article No.	C-FR-F15FCJ-230V	C-FR-F15FCJ-CC-24V	C-FR-F15FCJ-CC-24V
Color	Red/Green/Blue/Yellow	Red	Green/Blue/Yellow
Working Voltage	AC230V	DC24V	DC24V
Rated Power / mtr	12W	6.5W	10.6W
LED Qty/mtr	72LEDs	60LEDs	60LEDs
LED Distance	1.39cm	1.67cm	1.67cm
Min. Cutting Unit	72LEDs (1m)	10LEDs (16.7cm)	6LEDs (10cm)
Continuous Length	80m	15m	10m
IP Rating	IP65/IP40	IP68/IP40	IP68/IP40

Connection Diagram for Injection-Moulded Light

DC24V input

Length 1   Length 2   Length 3

Length 1   Length 2   Length 3

DC24V input

Customized Length of Injection-Mould Light

	Length 1	Length 2	Length 3	Length 4	Length 5	Length 6	Length 7
Length (Green/Blue/White)	10cm	20cm	50cm	100cm	200cm	500cm	1000cm
Length (Red/Yellow)	16.7cm	33.4cm	50cm	100cm	200cm	500cm	1000cm

Photometric Data
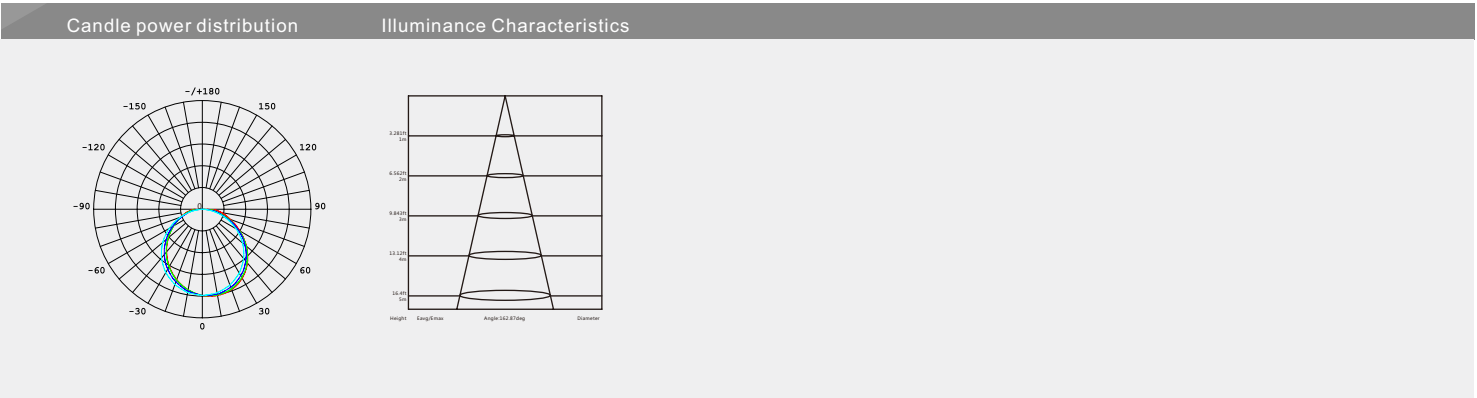
Article No.	C-FR-F15FCJ-230V	
LED Type	SMD	
Beam angle	160°	
Color	CCT/Wavelength	Lumen/m
Red	620-630nm	>30lm
Green	520-530nm	>75lm
Blue	465-475nm	>8lm
Yellow1	574±1.5nm	>150lm
Yellow2	578±1.5nm	>150lm
Yellow3	582±1.5nm	>150lm

Photometric Data

Article No.	C-FR-F15FCJ-CC-24V	
LED Type	SMD	
Beam angle	160°	
Color	CCT/Wavelength	Lumen/m
Red	620-630nm	>90lm
Green	520-530nm	>132lm
Blue	460-470nm	>14lm
Yellow1	574±1.5nm	>200lm
Yellow2	578±1.5nm	>200lm
Yellow3	582±1.5nm	>200lm

Candle power distribution   Illuminance Characteristics

>>Download IES file at www.clearlighting.com

Package Data

Carton	50m/ctn	578*465*195mm	21kg

>>More details refer to P183

F15FCJ Accessories
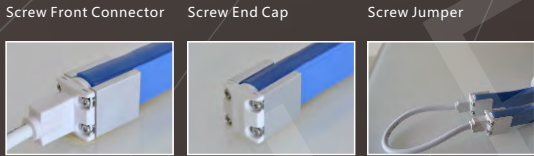
Optional accessories

Seamless Power T-Feed Seamless Middle Connector Power T-Feed Male & Female Connector

>>More details refer to P172

Installation Accessories

Aluminum Profile   Self-locking Aluminum Profile

>>More details refer to P169

Tool kit

Cutter   Gripper   Insert inducer

>>More details refer to P173

Driver

>>More details refer to P175

System Diagram

>>More details refer to P177

IP40
IP40 Protection

IP68 Protection

IP68 Protection

Sleeve Front Connector Sleeve End Cap Sleeve Middle Connector Sleeve Jumper

>>More details refer to P151

Screw Front Connector Screw End Cap Screw Jumper

>>More details refer to P153

Clasp Front Connector Clasp End Cap Injection-moulded Front Connector (side) Injection-moulded Front Connector (bottom) Injection-moulded End Cap
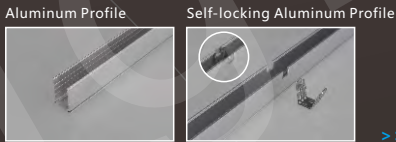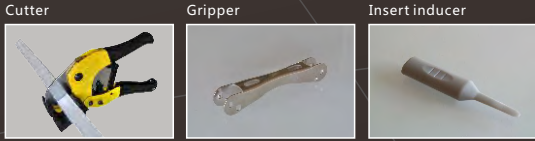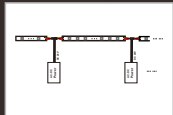
>>More details refer to P155
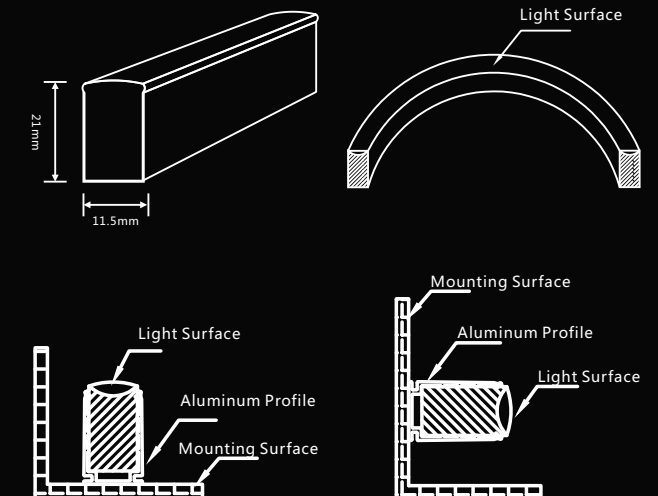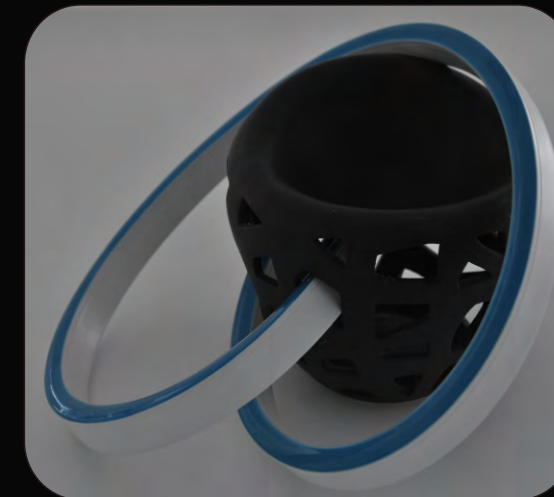
C-FR-F15CJ

Flat profile, color jacket

Features
1. High quality SMD LED chip
2. Color Jacket (when not illuminated, color is visible)
3. UV & Flame resistant construction (PVC)
4. Flat profile
5. Uniform & even light source with no LED "hotspots"
6. High illumination
7. Flexible with 120mm minimum bending diameter
8. Easy to use, with DIY accessories for joining, terminating, mounting & powering
9. High IP rating (IP68)
10. Ambient temperature: -20℃~45℃; Operating temperature: 0℃~45℃
11. Continuous length up to 100m
12. Environmentally friendly & energy efficient
13. Automated production, high reliability & long warranty
14. 5 years life span

Application
The perfect replacement for Glass Neon. Easy to use, long lasting & Durable. Suitable for many projects and installations including indoor, outdoor, signage & architectural. The color jacket ensures that colors are visible in direct sunlight

Light Surface

21mm

11.5mm

Light Surface

Mounting Surface

Aluminum Profile

Light Surface

Light Surface

Aluminum Profile

Mounting Surface

Beam Angle | Bending Diameter | Flame Resistant | UV Resistant | Solvents Resistant | Saltwater Resistant | IP68 Protection | IK08 Protection | Warranty

Technical Data

Article No.	C-FR-F15CJ-230V	C-FR-F15CJ-CC-24V	C-FR-F15CJ-CC-24V
Color	Red/Green/Blue/Yellow	Red	Green/Blue/Yellow
Working Voltage	AC230V	DC24V	DC24V
Rated Power / mtr	12W	6.5W	10.6W
LED Qty/mtr	72LEDs	60LEDs	60LEDs
LED Distance	1.39cm	1.67cm	1.67cm
Min. Cutting Unit	72LEDs (1m)	10LEDs (16.7cm)	6LEDs (10cm)
Continuous Length	80m	15m	10m
IP Rating	IP65/IP40	IP68/IP40	IP68/IP40

Connection Diagram for Injection-Moulded Light

DC24V input

Length 1   Length 2   Length 3

Length 1   Length 2   Length 3

DC24V input

Customized Length of Injection-Mould Light

	Length 1	Length 2	Length 3	Length 4	Length 5	Length 6	Length 7
Length (Green/Blue/White)	10cm	20cm	50cm	100cm	200cm	500cm	1000cm
Length (Red/Yellow)	16.7cm	33.4cm	50cm	100cm	200cm	500cm	1000cm

Photometric Data

Article No.	C-FR-F15CJ-230V	
LED Type	SMD	
Beam angle	160°	
Color	CCT/Wavelength	Lumen/m
Red	620-630nm	>30lm
Green	520-530nm	>75lm
Blue	465-475nm	>8lm
Yellow1	574±1.5nm	>150lm
Yellow2	578±1.5nm	>150lm
Yellow3	582±1.5nm	>150lm

Photometric Data

Article No.	C-FR-F15CJ-CC-24V	
LED Type	SMD	
Beam angle	160°	
Color	CCT/Wavelength	Lumen/m
Red	620-630nm	>90lm
Green	520-530nm	>132lm
Blue	460-470nm	>14lm
Yellow1	574±1.5nm	>200lm
Yellow2	578±1.5nm	>200lm
Yellow3	582±1.5nm	>200lm

Candle power distribution   Illuminance Characteristics

>>Download IES file at www.clearlighting.com

Package Data

Carton:	50m/ctn	578*465*195mm	21kg

F15CJ Accessories

Optional accessories

Seamless Power T-Feed   Seamless Middle Connector   Power T-Feed   Male & Female Connector

>>More details refer to P172

Installation Accessories

Aluminum Profile   Self-locking Aluminum Profile

>>More details refer to P169

Tool kit

Cutter   Gripper   Insert inducer

>>More details refer to P173

Driver

>>More details refer to P175

System Diagram

>>More details refer to P177

IP40
IP40 Protection

Sleeve Front Connector   Sleeve End Cap   Sleeve Middle Connector   Sleeve Jumper

>>More details refer to P151

IP68 Protection

Screw Front Connector   Screw End Cap   Screw Jumper

>>More details refer to P153

IP68 Protection

Clasp Front Connector   Clasp End Cap   Injection-moulded Front Connector (side)   Injection-moulded Front Connector (bottom)   Injection-moulded End Cap

>>More details refer to P155

C-FR-F15S

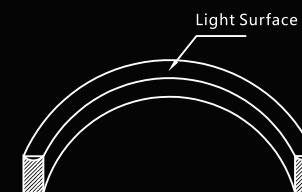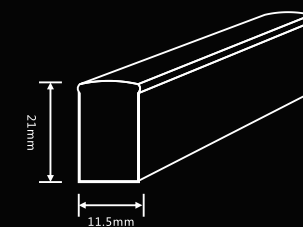C US LISTED CE TÜV SÜD RoHS COMPLIANT

Features

1. High quality SMD, LED Chip & IC Chip (Chasing)
2. UV & Flame resistant construction (PVC)
3. Flat profile
4. Uniform & even light source with no LED "hotspots"
5. High illumination
6. Flexible with 120mm minimum bending diameter
7. Easy to use, with DIY accessories for joining, terminating, mounting & powering
8. High IP rating (IP68)
9. Ambient temperature: -20℃~45℃;
   Operating temperature: 0℃~45℃
10. Continuous length up to 15m
11. Environmentally friendly & energy efficient
12. Automated production, high reliability & long warranty
13. 5 years life span

Application

F15S allows for advanced chasing and programmble scenes. Perfect for creating a stunning visual display. Achieve advanced lighting scenes easily with its inbuilt IC and control gear. Suitable for architectural, stage, indoor & outdoor applications

Flat profile, programmable light

21mm

11.5mm

Light Surface

Light Surface

Aluminum Profile

Mounting Surface

Mounting Surface

Aluminum Profile

Light Surface

160°	D:12cm							3 year
Beam Angle	Bending Diameter	Flame Resistant	UV Resistant	Solvents Resistant	Saltwater Resistant	IP68 Protection	IK08 Protection	Warranty

Programme

Chasing
Flowing
Meteor shower
Skipper
Flashing
Gradual changing
Fade-out and fade-in
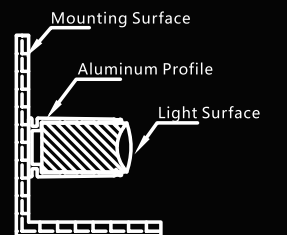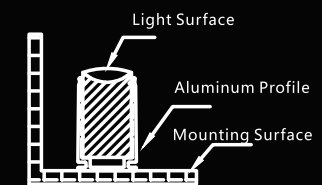
Technical Data(RGB/Single Color)

Article No.	C-FR-F15S-D24V
Working Voltage	DC24V
Rated Power / mtr	12W
LED Qty/mtr	56LEDs
LED Distance	1.78cm
Min. Cutting Unit	7LEDs (12.5cm)
Continuous Length	15m
IP Rating	IP68/IP40

Package Data

Carton	50m/ctn	578*465*195mm	20kg

>>More details refer to P183

F15S Accessories

IP40
Protection

IP68
Protection

IP68
Protection

Sleeve Front Connector Sleeve End Cap Sleeve Middle Connector Sleeve Jumper

>>More details refer to P151

Screw Front Connector Screw End Cap Screw Jumper

>>More details refer to P153

Clasp Front Connector Clasp End Cap

>>More details refer to P155

Optional accessories

Seamless Power T-Feed Seamless Middle Connector Power T-Feed Male & Female Connector

>>More details refer to P172

Installation Accessories

Aluminum Profile Self-locking Aluminum Profile

>>More details refer to P169

Tool kit

Cutter Gripper Insert inducer
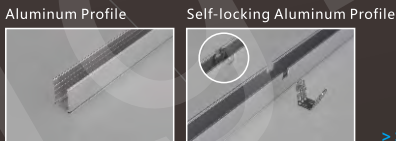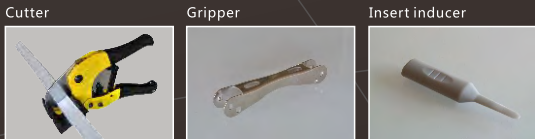
>>More details refer to P173

Driver

>>More details refer to P175

System Diagram

>>More details refer to P181

Domed LED Neon Ribbon Light

C-FR-F21

Domed profile
High illumination
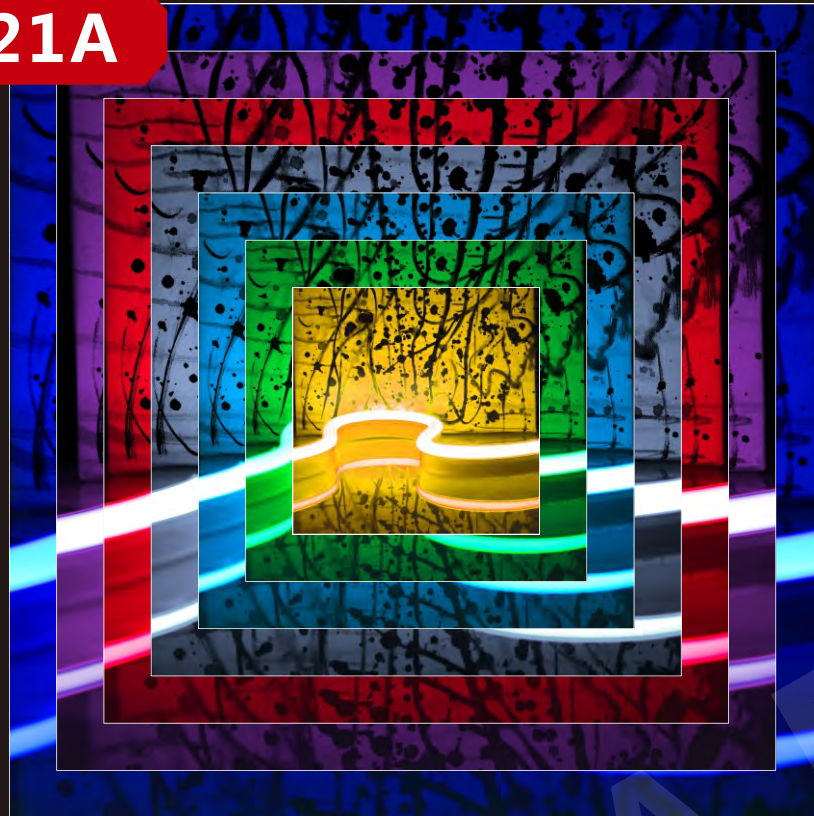DIY accessories
Long continuous length

F21A
F21B
F21S

F21FCJ

F21CJ

C-FR-F15A

C-FR-F15B

RGB

| Red | Green | Blue | Amber |

2000K 2700K 3000K 3500K 4000K 4500K 5000K 5700K 6500K

C-FR-F15FCJ

| Red | Green | Blue | Yellow1 | Yellow2 | Yellow3 |

C-FR-F15CJ

| Red | Green | Blue | Yellow1 | Yellow2 | Yellow3 |

C-FR-F15S

Single Color Chasing

RGB Chasing
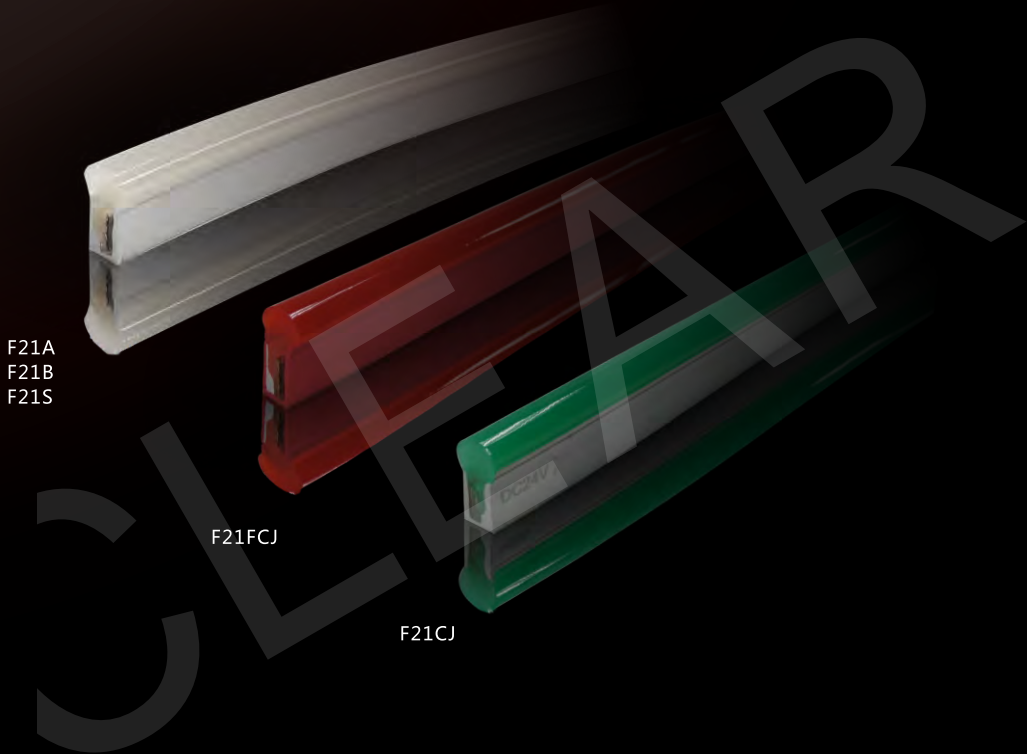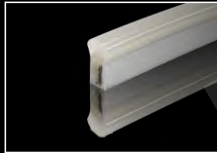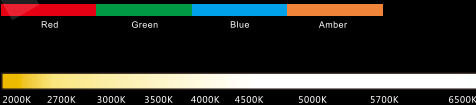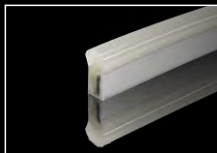
C-FR-F21A

Large viewing angle, color changing

RGB

Features
1. High quality SMD, RGB LED chip
2. UV & Flame resistant construction (PVC)
3. Domed Profile for large viewing angles (270°)
4. Uniform & even light source with no LED "hotspots"
5. High illumination
6. Flexible with 120mm minimum bending diameter
7. Easy to use, with DIY accessories for joining, terminating, mounting & powering
8. High IP rating (IP68)
9. Ambient temperature: -20℃~45℃;
   Operating temperature: 0℃~45℃
10. Continuous length up to 10m
11. Environmentally friendly & energy efficient
12. Automated production, high reliability & long warranty
13. 5 years life span

Application
Perfect replacement for Glass Neon. The curved profile allows for a large viewing angle. Suitable for indoor, outdoor, architectural and signage applications. Achieve effects with color changing ability
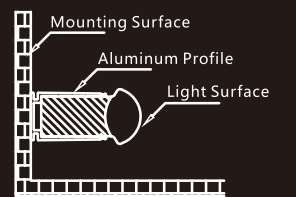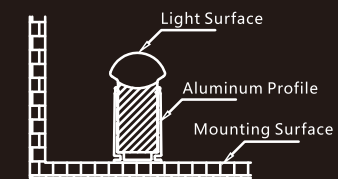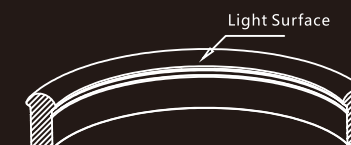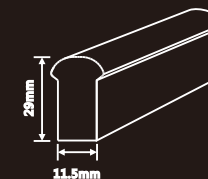
29mm

11.5mm

Light Surface

Light Surface

Aluminum Profile

Mounting Surface

Mounting Surface

Aluminum Profile

Light Surface

Beam Angle	Bending Diameter	Flame Resistant	UV Resistant	Solvents Resistant	Saltwater Resistant	IP68 Protection	3 year Warranty
160°	D:12cm						

Technical Data

Article No.	C-FR-F21A-D24V
Working Voltage	DC24V
Rated Power / mtr	12W
LED Qty/mtr	60LEDs
LED Distance	1.67cm
Min. Cutting Unit	6LEDs (10cm)
Continuous Length	10m
IP Rating	IP68/IP40

Matching Table for Power and Length

Power	35W	60W	100W	120W	150W	180W	240W	320W
Length	2.5m	4.5m	7.5m	9.0m	10m	13.5m	18m	20m
Energizing Way	DC input 01/02					DC input 01	02	DC input

>>More details refer to P175

Package Data

Carton	50m/ctn	632*522*225mm	30.5kg

>>More details refer to P183
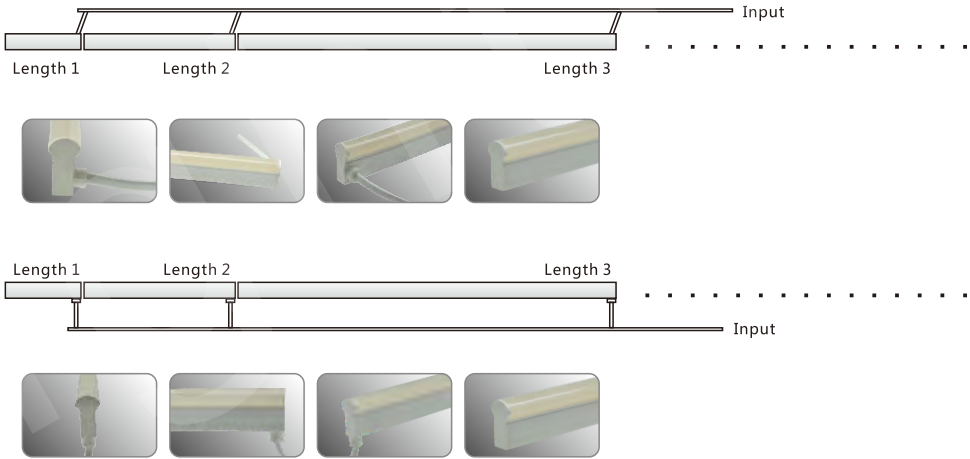
Connection Diagram for Injection-Moulded Light

Length 1　　Length 2　　Length 3　　Input

Length 1　　Length 2　　Length 3　　Input

Customized Length of Injection-Mould Light

	Length 1	Length 2	Length 3	Length 4	Length 5	Length 6
Length	10cm	20cm	50cm	100cm	200cm	500cm

Photometric Data

Article No.	C-FR-F21A-D24V	
LED Type	SMD	
Beam angle	160°	
Color	CCT/Wavelength	Lumen/m
Red	620-630nm	>22lm
Green	520-530nm	>90lm
Blue	460-470nm	>18lm
White		>130lm

Candle power distribution　　**Illuminance Characteristics**
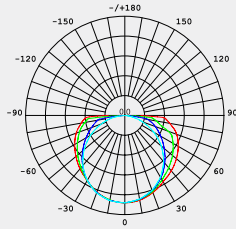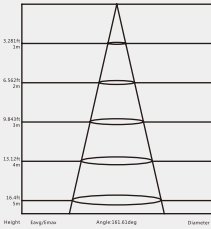
>>Download IES file at www.clearlighting.com

F21A Accessories

Optional accessories

Seamless Power T-Feed   Seamless Middle Connector   Power T-Feed   Male & Female Connector

>>More details refer to P172

Installation Accessories

Aluminum Profile   Self-locking Aluminum Profile

>>More details refer to P169

Tool kit

Cutter   Gripper   Insert inducer

>>More details refer to P173

Driver

>>More details refer to P175

System Diagram

>>More details refer to P179

IP40

Protection

Sleeve Front Connector   Sleeve End Cap   Sleeve Jumper

>>More details refer to P157

IP68
Protection

Screw Front Connector   Screw End Cap   Screw Jumper

>>More details refer to P159

IP68
Protection

Clasp Front Connector   Clasp End Cap   Injection-moulded Front Connector (side)   Injection-moulded Front Connector (bottom)   Injection-moulded End Cap
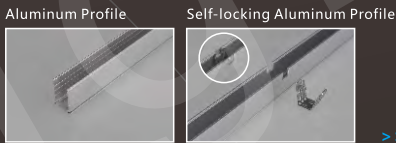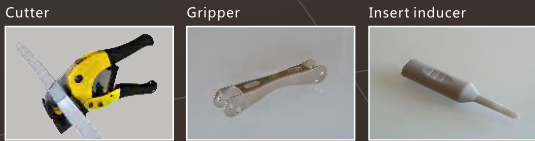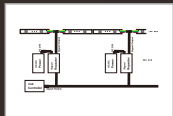
>>More details refer to P161

Color Changing Club

Nethelands

Eave
C-FR-F21A
RGB Changing

C-FR-F21B

Large viewing angle, high illumination

28mm

11.5mm

Light Surface

Light Surface
Aluminum Profile
Mounting Surface

Mounting Surface
Aluminum Profile
Light Surface

Features
1. High quality SMD LED chip
2. Large choice of Color Temperatures (2000k-6500k)
3. UV & flame resistant construction (PVC)
4. Domed profile for large viewing angles (270°)
5. Uniform & even light source with no LED "hotspots"
6. High illumination
7. Flexible with 120mm minimum bending diameter
8. Easy to use, with DIY accessories for joining, terminating, mounting & powering
9. High IP rating (IP68)
10. Ambient temperature: -20℃~45℃;
    Operating temperature: 0℃~45℃
11. Continuous length up to 100m
12. Environmentally friendly & energy efficient
13. Automated production, high reliability & long warranty
14. 5 years life span

Application
Perfect replacement for Glass Neon. The curved profile allows for a large viewing angle. Suitable for indoor, outdoor, architectural and signage applications

Beam Angle	Bending Diameter	Flame Resistant	UV Resistant	Solvents Resistant	Saltwater Resistant	IP68 Protection	3 year Warranty
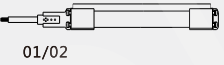
Technical Data

Article No.	C-FR-F21B-D24V	C-FR-F21B-D24V	C-FR-F21B-230V	C-FR-F21B-CC-24V	C-FR-F21B-CC-24V
Color	Red/Amber	Green/Blue/White	Red/Green/Blue/Amber/White	Red/Amber	Green/Blue/White
Working Voltage	DC24V	DC24V	AC230V	DC24V	DC24V
Rated Power / mtr	7.2W	12W	12W	6.5W	10.6W
LED Qty/mtr	60LEDs	60LEDs	72LEDs	60LEDs	60LEDs
LED Distance	1.67cm	1.67cm	1.39cm	1.67cm	1.67cm
Min. Cutting Unit	10LEDs (16.7cm)	6LEDs (10cm)	72LEDs(1m)	10LEDs (16.7cm)	6LEDs (10cm)
Continuous Length	15m	10m	80m	15m	10m
IP Rating	IP68/IP40	IP68/IP40	IP65/40	IP68/IP40	IP68/IP40

Matching Table for Power and Length(DC24V)

Power	35W	60W	100W	120W	150W		150W	180W	240W	320W
7.2W Length	5m	7.5m	12m	15m			18.5m	22m	30m	
12W Length	2.5m	4.5m	7.5m	9.0m	10m			13.5m	18m	20m
Energizing Way	DC input		01/02				DC input	01	02	DC input

>>More details refer to P175

Package Data

Carton:	50m/ctn	632*522*225mm	30kg

>>More details refer to P183

Connection Diagram for Injection-Moulded Light

Length 1   Length 2   Length 3   DC24V input

Length 1   Length 2   Length 3   DC24V input

Customized Length of Injection-Mould Light(Low Voltage)

	Length 1	Length 2	Length 3	Length 4	Length 5	Length 6	Length 7
Length(Green/Blue/White)	10cm	20cm	50cm	100cm	200cm	500cm	1000cm
Length(Red/Amber)	16.67cm	33.34cm	50cm	100cm	200cm	500cm	1000cm

Photometric Data

Article No.	C-FR-F21B-D24V	
LED Type	SMD	
Beam angle	160°	
Color	CCT/Wavelength	Lumen/m
Red	620-630nm	>120lm
Green	520-530nm	>280lm
Blue	460-470nm	>40lm
Amber	590-595nm	>90lm
Warm White	2725±145K	>380lm
	3045±145K	>380lm
White	3465±245K	>380lm
	3985±275K	>380lm
Cool White	4503±243K	>380lm
	5028±283K	>380lm
Daylight White	5665±355K	>380lm

Photometric Data

Article No.	C-FR-F21B-230V	
LED Type	SMD	
Beam angle	160°	
Color	CCT/Wavelength	Lumen/m
Red	620-630nm	>120lm
Green	520-530nm	>150lm
Blue	465-475nm	>26lm
Amber	590-595nm	>120lm
Warm White	2725±145K	>300lm
White	3465±245K	>300lm
Cool White	4503±243K	>300lm
Daylight White	5665±355K	>300lm

Photometric Data

Article No.	C-FR-F21B-CC	
LED Type	SMD	
Beam angle	160°	
Color	CCT/Wavelength	Lumen/m
Red	620-630nm	>120lm
Green	520-530nm	>280lm
Blue	460-470nm	>40lm
Amber	590-595nm	>90lm
Extra Low Temp.	2000±100K	>280lm
	2200±100K	>280lm
	2400±100K	>280lm
Warm White	2725±145K	>380lm
	3045±145K	>380lm
White	3465±245K	>380lm
	3985±275K	>380lm
Cool White	4503±243K	>380lm
	5028±283K	>380lm
Daylight White	5665±355K	>380lm

Candle power distribution   Illuminance Characteristics
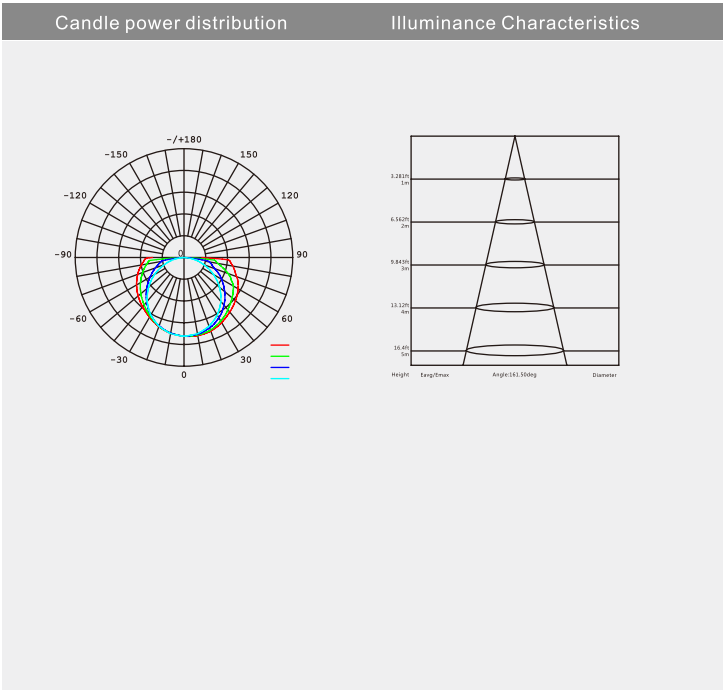
> > Download IES file at www.clearlighting.com

F21B Accessories

Optional accessories

L Extension Shape	T Extension Shape	X Extension Shape	Seamless Power T-Feed	Seamless Middle Connector	Power T-Feed	Male & Female Connector

>>More details refer to P172

Installation Accessories

Aluminum Profile	Self-locking Aluminum Profile

>>More details refer to P169

Tool kit

Cutter	Gripper	Insert inducer

>>More details refer to P173

Driver

>>More details refer to P175

System Diagram

>>More details refer to P177

IP40

Protection

Sleeve Front Connector	Sleeve End Cap	Sleeve Jumper

>>More details refer to P157

IP68 Protection

Screw Front Connector	Screw End Cap	Screw Jumper

>>More details refer to P159

IP68 Protection

Clasp Front Connector	Clasp End Cap	Injection-moulded Front Connector (side)	Injection-moulded Front Connector (bottom)	Injection-moulded End Cap
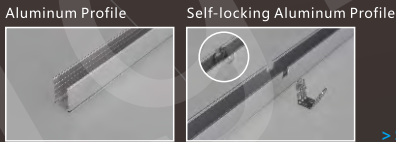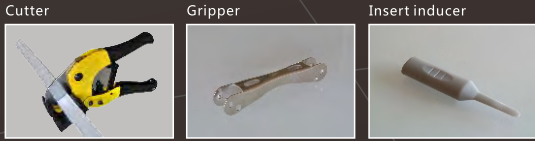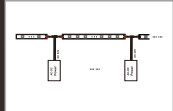
>>More details refer to P161

High-level Restaurant

New Zealand

Bar Counter
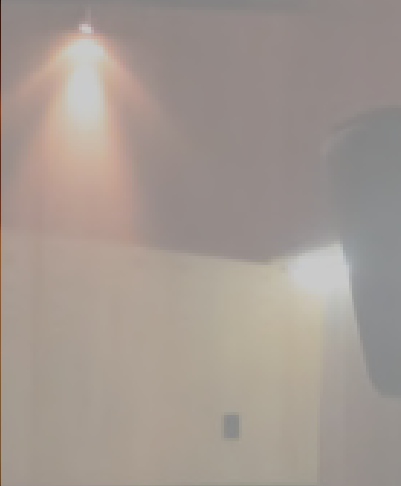
C-FR-F21B

5000K

Gate

C-FR-F21B

5000K

C-FR-F21FCJ

Large viewing angle, full color jacket

C UL US LISTED CE TÜV SÜD TÜVRheinland RoHS COMPLIANT

29mm

11.5mm

Light Surface

Light Surface

Aluminum Profile

Mounting Surface

Mounting Surface

Aluminum Profile

Light Surface

Features
1. High quality SMD LED chip
2. Full color Jacket (when not illuminated, color is visible)
3. UV & flame resistant construction (PVC)
4. Domed profile for large viewing angles (270°)
5. Uniform & even light source with no LED "hotspots"
6. High illumination
7. Flexible with 120mm minimum bending diameter
8. Easy to use, with DIY accessories for joining, terminating, mounting & powering
9. High IP rating (IP68)
10. Ambient temperature: -20℃~45℃;
    Operating temperature: 0℃~45℃
11. Continuous length up to 100m
12. Environmentally friendly & energy efficient
13. Automated production, high reliability & long warranty
14. 5 years life span

Application
The perfect replacement for Glass Neon, easy to use, long lasting & Durable. Suitable for many projects and installations including indoor, outdoor, signage & architectural. The color jacket ensures that colors are visible in direct sunlight.

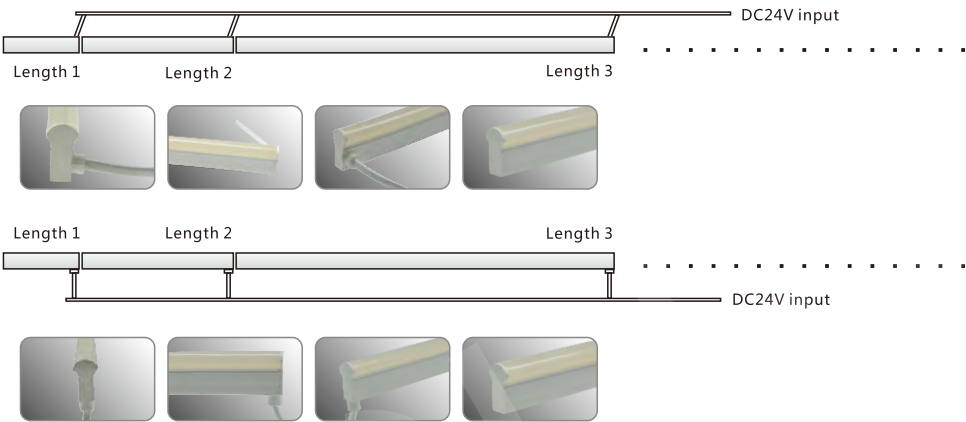| Beam Angle	Bending Diameter	Flame Resistant	UV Resistant	Solvents Resistant	Saltwater Resistant	IP68 Protection	Warranty
160	D:12cm						3 year

Technical Data

Article No.	C-FR-F21FCJ-230V	C-FR-F21FCJ-CC-24V	C-FR-F21FCJ-CC-24V
Color	Red/Green/Blue/Yellow	Red	Green/Blue/Yellow
Working Voltage	AC230V	DC24V	DC24V
Rated Power / mtr	12W	6.5W	10.6W
LED Qty/mtr	72LEDs	60LEDs	60LEDs
LED Distance	1.39cm	1.67cm	1.67cm
Min. Cutting Unit	72LEDs(1m)	10LEDs (16.7cm)	6LEDs (10cm)
Continuous Length	80m	15M	10M
IP Rating	IP65/40	IP68/IP40	IP68/IP40

Connection Diagram for Injection-Moulded Light

DC24V input

Length 1   Length 2   Length 3

Length 1   Length 2   Length 3

DC24V input

Customized Length of Injection-Mould Light(Low Voltage)

	Length 1	Length 2	Length 3	Length 4	Length 5	Length 6	Length 7
Length(Green/Blue/Yellow)	10cm	20cm	50cm	100cm	200cm	500cm	1000cm
Length(Red)	16.67cm	33.34cm	50cm	100cm	200cm	500cm	1000cm

Photometric Data

Article No.	C-FR-F21FCJ-230V	
LED Type	SMD	
Beam angle	160°	
Color	CCT/Wavelength	Lumen/m
Red	620-630nm	>50lm
Green	520-530nm	>135lm
Blue	465-475nm	>10lm
Yellow1	574±1.5K	>210lm
Yellow2	578±1.5K	>210lm
Yellow3	582±1.5K	>210lm

Photometric Data

Article No.	C-FR-F21FCJ-CC-24V	
LED Type	SMD	
Beam angle	160°	
Color	CCT/Wavelength	Lumen/m
Red	620-630nm	>100lm
Green	520-530nm	>185lm
Blue	460-470nm	>15lm
Yellow1	574±1.5nm	>275lm
Yellow2	578±1.5nm	>275lm
Yellow3	582±1.5nm	>275lm

Candle power distribution   Illuminance Characteristics
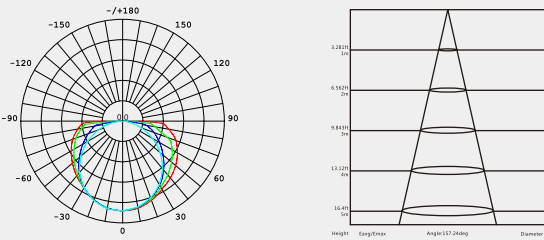
> >Download IES file at www.clearlighting.com

Package Data

Carton	50m/ctn	632*522*225mm	30kg

> >More details refer to P183

F21FCJ Accessories
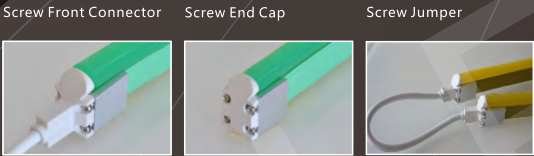
IP40

Protection

IP68 Protection

IP68 Protection

Sleeve Front Connector   Sleeve End Cap   Sleeve Jumper

>>More details refer to P157

Screw Front Connector   Screw End Cap   Screw Jumper

>>More details refer to P159

Clasp Front Connector   Clasp End Cap   Injection-moulded Front Connector (side)   Injection-moulded Front Connector (bottom)   Injection-moulded End Cap

>>More details refer to P161

Optional accessories

Seamless Power T-Feed   Seamless Middle Connector   Power T-Feed   Male & Female Connector

>>More details refer to P172

Installation Accessories

Aluminum Profile   Self-locking Aluminum Profile

>>More details refer to P169

Tool kit

Cutter   Gripper   Insert inducer
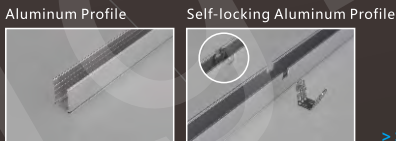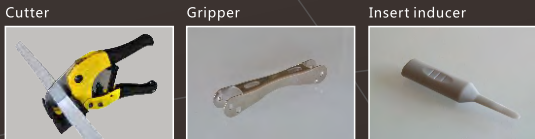
>>More details refer to P173

Driver

>>More details refer to P175

System Diagram
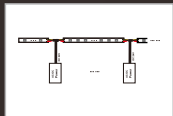
>>More details refer to P177

C-FR-F21CJ

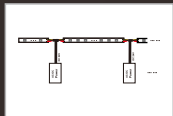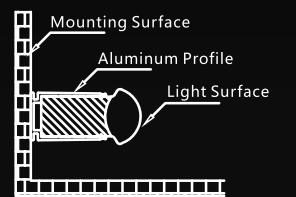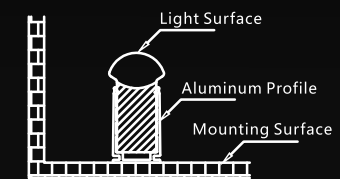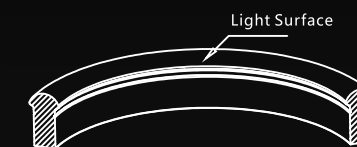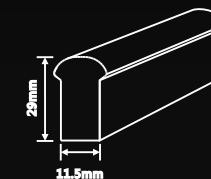Large viewing angle, color jacket

Features
1. High quality SMD LED chip
2. Color Jacket (when not illuminated, color is visible)
3. UV & Flame resistant construction (PVC)
4. Domed profile for large viewing angles (270º)
5. Uniform & even light source with no LED "hotspots"
6. High illumination
7. Flexible with 120mm minimum bending diameter
8. Easy to use, with DIY accessories for joining, terminating, mounting & powering
9. High IP rating (IP68)
10. Ambient temperature: -20℃~45℃;
 Operating temperature: 0℃~45℃
11. Continuous length up to 100m
12. Environmentally friendly & energy efficient
13. Automated production, high reliability & long warranty
14. 5 years life span

Application
The perfect replacement for Glass Neon, easy to use, long lasting & Durable. Suitable for many projects and installations including indoor, outdoor, signage & architectural. The color jacket ensures that colors are visible in direct sunlight

Light Surface

29mm

11.5mm

Light Surface

Light Surface

Aluminum Profile

Mounting Surface

Mounting Surface

Aluminum Profile

Light Surface

Beam Angle | **Bending Diameter** | **Flame Resistant** | **UV Resistant** | **Solvents Resistant** | **Saltwater Resistant** | **IP68 Protection** | **Warranty**

Technical Data

Article No.	C-FR-F21CJ-230V	C-FR-F21CJ-CC-24V	C-FR-F21CJ-CC-24V
Color	Red/Green/Blue/Yellow	Red	Green/Blue/Yellow
Working Voltage	AC230V	DC24V	DC24V
Rated Power / mtr	12W	6.5W	10.6W
LED Qty/mtr	72LEDs	60LEDs	60LEDs
LED Distance	1.39cm	1.67cm	1.67cm
Min. Cutting Unit	72LEDs(1m)	10LEDs (16.7cm)	6LEDs (10cm)
Continuous Length	80m	15M	10M
IP Rating	IP65/40	IP68/IP40	IP68/IP40

Connection Diagram for Injection-Moulded Light

DC24V input

Length 1   Length 2   Length 3

Length 1   Length 2   Length 3

DC24V input

Customized Length of Injection-Mould Light(Low Voltage)

	Length 1	Length 2	Length 3	Length 4	Length 5	Length 6	Length 7
Length(Green/Blue/Yellow)	10cm	20cm	50cm	100cm	200cm	500cm	1000cm
Length(Red)	16.67cm	33.34cm	50cm	100cm	200cm	500cm	1000cm

Photometric Data

Article No.	C-FR-F21CJ-230V	
LED Type	SMD	
Beam angle	160°	
Color	CCT/Wavelength	Lumen/m
Red	620-630nm	>50lm
Green	520-530nm	>135lm
Blue	465-475nm	>10lm
Yellow1	574±1.5K	>210lm
Yellow2	578±1.5K	>210lm
Yellow3	582±1.5K	>210lm

Photometric Data

Article No.	C-FR-F21CJ-CC-24V	
LED Type	SMD	
Beam angle	160°	
Color	CCT/Wavelength	Lumen/m
Red	620-630nm	>100lm
Green	520-530nm	>185lm
Blue	460-470nm	>15lm
Yellow1	574±1.5nm	>275lm
Yellow2	578±1.5nm	>275lm
Yellow3	582±1.5nm	>275lm

Candle power distribution   **Illuminance Characteristics**

>>Download IES file at www.clearlighting.com

Package Data

Carton	50m/ctn	632*522*225mm	30kg

F21CJ Accessories

IP40

Protection

IP68 Protection

IP68 Protection

Sleeve Front Connector   Sleeve End Cap   Sleeve Jumper

>>More details refer to P157

Screw Front Connector   Screw End Cap   Screw Jumper

>>More details refer to P159

Clasp Front Connector   Clasp End Cap   Injection-moulded Front Connector (side)   Injection-moulded Front Connector (bottom)   Injection-moulded End Cap

>>More details refer to P161

Optional accessories

Seamless Power T-Feed   Seamless Middle Connector   Power T-Feed   Male & Female Connector

>>More details refer to P172

Installation Accessories

Aluminum Profile   Self-locking Aluminum Profile

>>More details refer to P169

Tool kit

Cutter   Gripper   Insert inducer

>>More details refer to P173

Driver

>>More details refer to P175

System Diagram

>>More details refer to P177

C-FR-F21S

US LISTED · CE · TÜV SÜD · RoHS COMPLIANT

Large viewing angle, programmable light

Features
1. High quality SMD, LED Chip & IC Chip (Chasing)
2. UV & flame resistant construction (PVC)
3. Domed profile for large viewing angles (270°)
4. Uniform & even light source with no LED "hotspots"
5. High illumination
6. Flexible with 120mm minimum bending diameter
7. Easy to use, with DIY accessories for joining, terminating, mounting & powering
8. High IP rating (IP68)
9. Ambient temperature: -20℃~45℃;
   Operating temperature: 0℃~45℃
10. Continuous length up to 15m
11. Environmentally friendly & energy efficient
12. Automated production, high reliability & long warranty
13. 5 years life span

Application
F21S allows for advanced chasing and programmble scenes. Perfect for creating a stunning visual display. Achieve advanced lighting scenes easily with its inbuilt IC and control gear. Suitable for architectural, stage, indoor & outdoor applications

29mm

11.5mm

Light Surface

Light Surface
Aluminum Profile
Mounting Surface

Mounting Surface
Aluminum Profile
Light Surface

160°	D:12cm						3 year
Beam Angle	Bending Diameter	Flame Resistant	UV Resistant	Solvents Resistant	Saltwater Resistant	IP68 Protection	Warranty

Programme

Chasing
Flowing
Meteor shower
Skipper
Flashing
Gradual changing
Fade-out and fade-in

Artist Neon Chasing
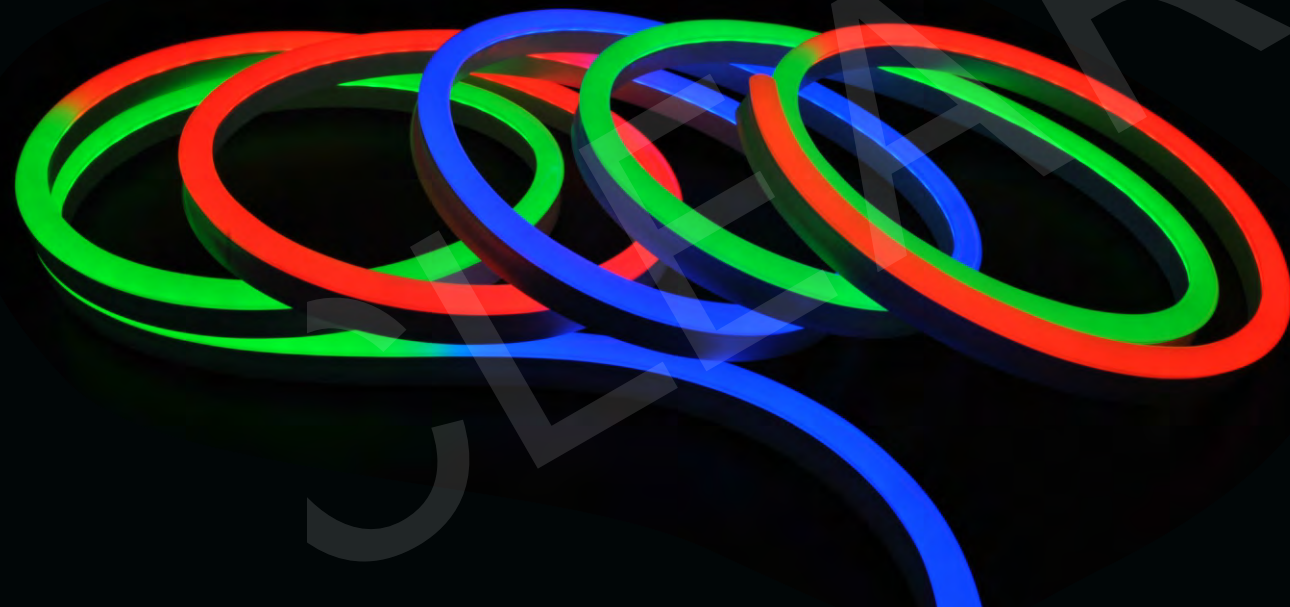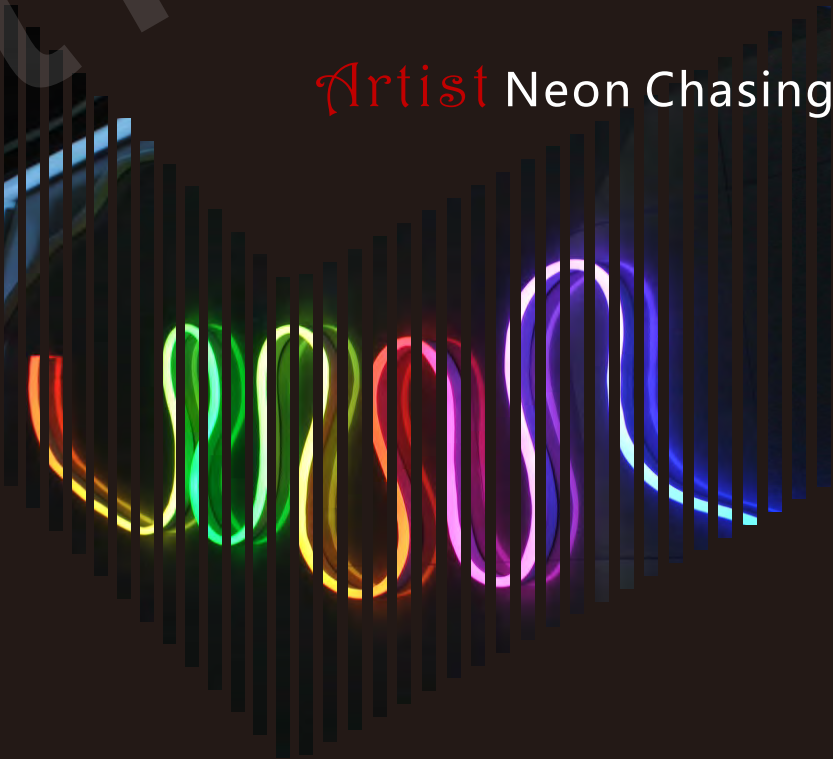
Technical Data

Article No.	C-FR-F21S-D24V
Color	RGB/Single Color
Working Voltage	DC24V
Rated Power / mtr	7.2W
LED Qty/mtr	56LEDs
LED Distance	1.79cm
Min. Cutting Unit	7LEDs (12.5cm)
Continuous Length	15m
IP Rating	IP68/IP40

Package Data

Carton	50m/ctn	632*522*225mm	30kg

>>More details refer to P183

F21S Accessories

Optional accessories

Seamless Power T-Feed   Seamless Middle Connector   Power T-Feed
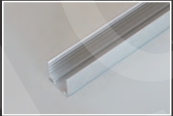
Male & Female Connector

>>More details refer to P172

Installation Accessories

Aluminum Profile   Self-locking Aluminum Profile

>>More details refer to P169

Tool kit

Cutter   Gripper   Insert inducer

>>More details refer to P173

Driver

>>More details refer to P175

System Diagram

>>More details refer to P181

IP40

Protection

Sleeve Front Connector   Sleeve End Cap   Sleeve Jumper

>>More details refer to P157

IP68
Protection

Screw Front Connector   Screw End Cap   Screw Jumper

>>More details refer to P159

IP68
Protection

Clasp Front Connector   Clasp End Cap
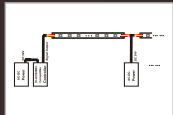
>>More details refer to P161

C-FR-F22B

Very high illumination, perfect uniform & even light

C US LISTED CE TÜV SÜD RoHS COMPLIANT

Features
1. High quality SMD LED chip
2. UV & flame resistant construction (PVC)
3. Extremely flat profile for slimline projects
4. Perfect uniform & even light source with no LED "hotspots"
5. Very high illumination
6. Easy to use, with DIY accessories for joining, terminating, mounting & powering
7. High IP rating (IP68)
8. Ambient temperature: -20℃~45℃;
   Operating temperature: 0℃~45℃
9. Continuous length up to 15m
10. Environmentally friendly & energy efficient
11. Automated production, high reliability & long warranty
12. 5 years life span

Application
It is one of the brightest flexible LED lights on the market. Its high light output makes it sutiable for a wide range of lighting tasks including indoor, outdoor, sculptures and architectural features

17mm

16mm

Light Surface

Light Surface
Aluminum Profile
Mounting Surface

Mounting Surface
Aluminum Profile
Light Surface

Beam Angle	Bending Diameter	Flame Resistant	UV Resistant	Solvents Resistant	Saltwater Resistant	IP68 Protection	IK08 Protection	Warranty
160	D:30cm							3 year

Connection Diagram for Injection-Moulded Light

Length 1   Length 2   Length 3

DC24V input

Customized Length of Injection-Mould Light

	Length 1	Length 2	Length 3	Length 4	Length 5	Length 6
Length (Red/Amber)	8.3cm	16.6cm	50cm	100cm	200cm	500cm
Length (Green/Blue/White)	5.5cm	11.1cm	50cm	100cm	200cm	500cm

Technical Data

Article No.	C-FR-F22B-CC	C-FR-F22B-CC
Color	Red/Amber	Green/Blue/White
Working Voltage	DC24V	DC24V
Rated Power / mtr	7.2W	10.5W
LED Qty/mtr	108LEDs	108LEDs
LED Distance	0.926cm	0.926cm
Min. Cutting Unit	9LEDs (8.33cm)	6LEDs (5.6cm)
Continuous Length	15m	10m
IP Rating	IP68	IP68

Photometric Data

Article No.	C-FR-F22B-CC-D24V	
LED Type	SMD	
Beam angle	160°	
Color	CCT/Wavelength	Lumen/m
Red	620-630nm	>180lm
Green	520-530nm	>360lm
Blue	460-470nm	>50lm
Yellow	580-595nm	>160lm
Warm White	2725±145K	>450lm
White	3465±245K	>450lm
Cool White	4503±243K	>450lm
Daylight White	5665±355K	>450lm

Candle power distribution
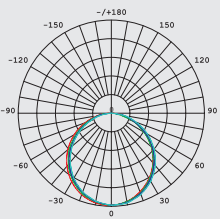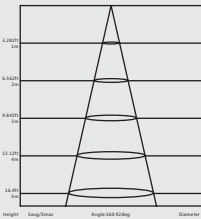
Illuminance Characteristics

>>Download IES file at www.clearlighting.com

Package Data

Carton	50m/ctn	697*582*168mm	21.65kg

>>More details to P**

F22B Accessories

Optional accessories

Seamless Power T-Feed   Seamless Middle Connector   Male & Female Connector

>>More details refer to P172

Installation Accessories

Aluminum Profile   Self-locking Aluminum Profile
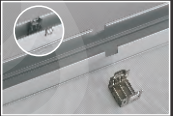
>>More details refer to P169

Tool kit

Scissors   Gripper   Insert inducer

>>More details refer to P173

Driver

>>More details refer to P175

System Diagram

>>More details refer to P177

IP68 Protection

Clasp Front Connector   Clasp End Cap   Injection-moulded Front Connector   Injection-moulded End Cap
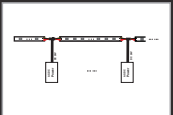
>>More details to P163

Galaxy of Light

NEW PATENTS APPLICATION

Anti-Skidding
(in IP40 connector)

Punching Cover
(helps to ensure PVC extrusion's Precision and esthetics)

Photics Cover
(by changing optical conductivity to insure the consistency for light color and CCT)
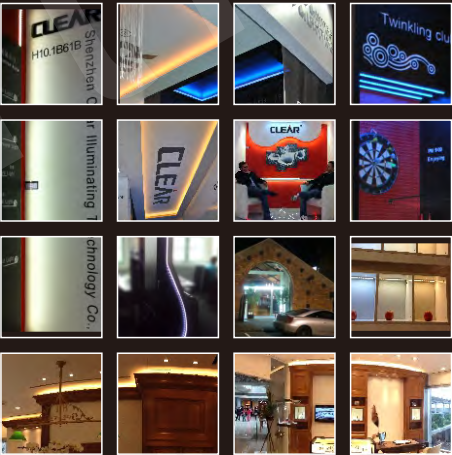
PVC-Clear Transparent   PVC-Ivory White   PVC-Black

F16A/F16B/F16C   F16S   F17A/F17B/F17C

6mm   6mm   6mm
15.5mm   15.5mm   13.5mm
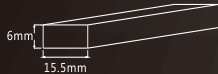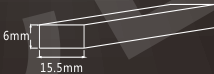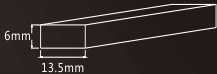
Galaxy of Light

LED Crystal Ribbon Light
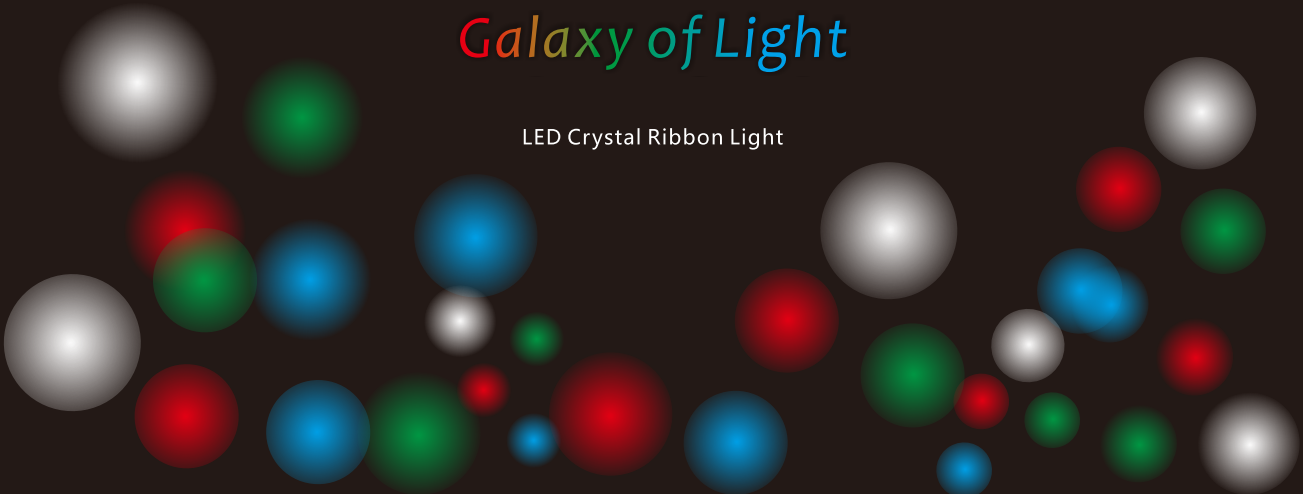
C-FR-F16A

Ultra slimline profile, color changing,transparent jacket

RGB
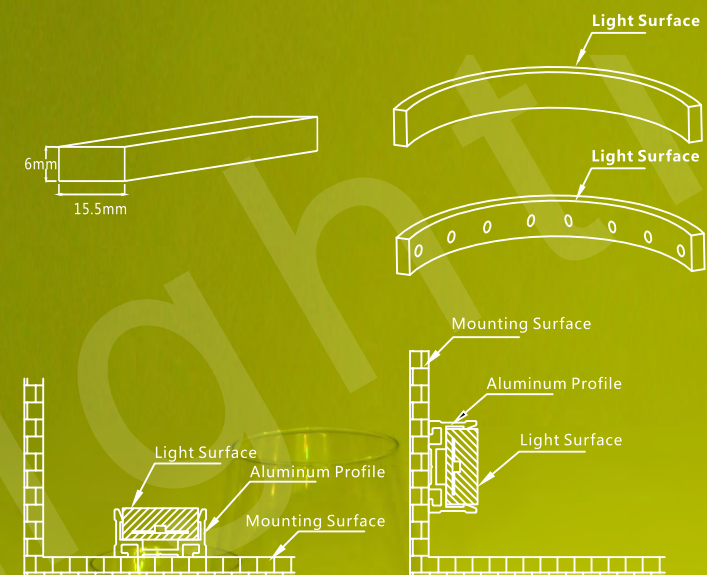
Features
1. High quality SMD, RGB LED chip
2. UV & Flame resistant construction (PVC)
3. Transparent jacket
4. Small design with custom PCB for optimum thermal management
5. High illumination
6. Very Flexible (5cm minimum bending diameter)
7. Easy to use, with DIY accessories for joining, terminating, mounting & powering
8. High IP rating (IP40)
9. Ambient temperature: -20℃~45℃; Operating temperature: 0℃~45℃
10. Continuous length up to 10m
11. Environmentally friendly & energy efficient
12. Automated production, high reliability & long warranty
13. 5 years life span

Application
The ultra slimline profile enables a wide range of lighting applications, including cove lighting, accent lighting and back lighting. RGB LEDs allow for a wide range of colors or color changing options.

Light Surface

Light Surface

6mm

15.5mm

Mounting Surface

Aluminum Profile

Light Surface

Light Surface

Aluminum Profile

Mounting Surface

C-FR-F16B

Ultra slimline profile, color changing, ivory white jacket

RGB

C UL US LISTED   CE   TUV SUD   RoHS COMPLIANT

6mm
15.5mm

Light Surface
Light Surface
Mounting Surface
Aluminum Profile
Light Surface
Light Surface
Aluminum Profile
Mounting Surface
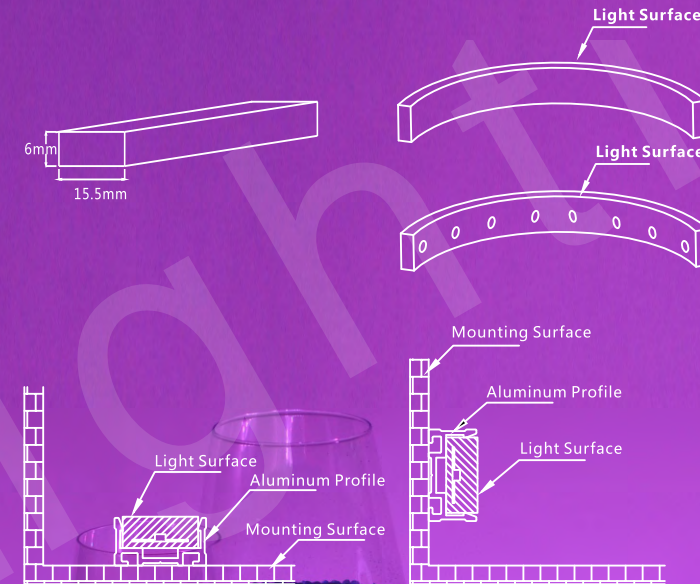
Features
1. High quality SMD, RGB LED chip
2. UV & Flame resistant construction (PVC)
3. Ivory white jacket
4. Small design with custom PCB for optimum thermal management
5. Very high illumination
6. Very Flexible (5cm minimum bending diameter)
7. Easy to use, with DIY accessories for joining, terminating, mounting & powering
8. High IP rating (IP40)
9. Ambient temperature: -20℃~45℃;
   Operating temperature: 0℃~45℃
10. Continuous length up to 10m
11. Environmentally friendly & energy efficient
12. Automated production, high reliability & long warranty
13. 5 years life span

Application
The ultra slimline profile enables a wide range of lighting applications, including cove lighting, accent lighting and back lighting. RGB LEDs allow for a wide range of colors or color changing options.

C-FR-F16C

Ultra slimline profile, color changing, black jacket

RGB
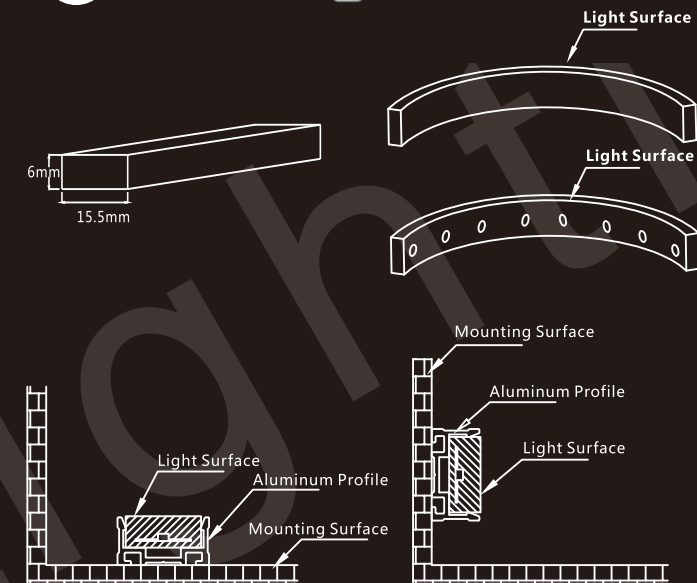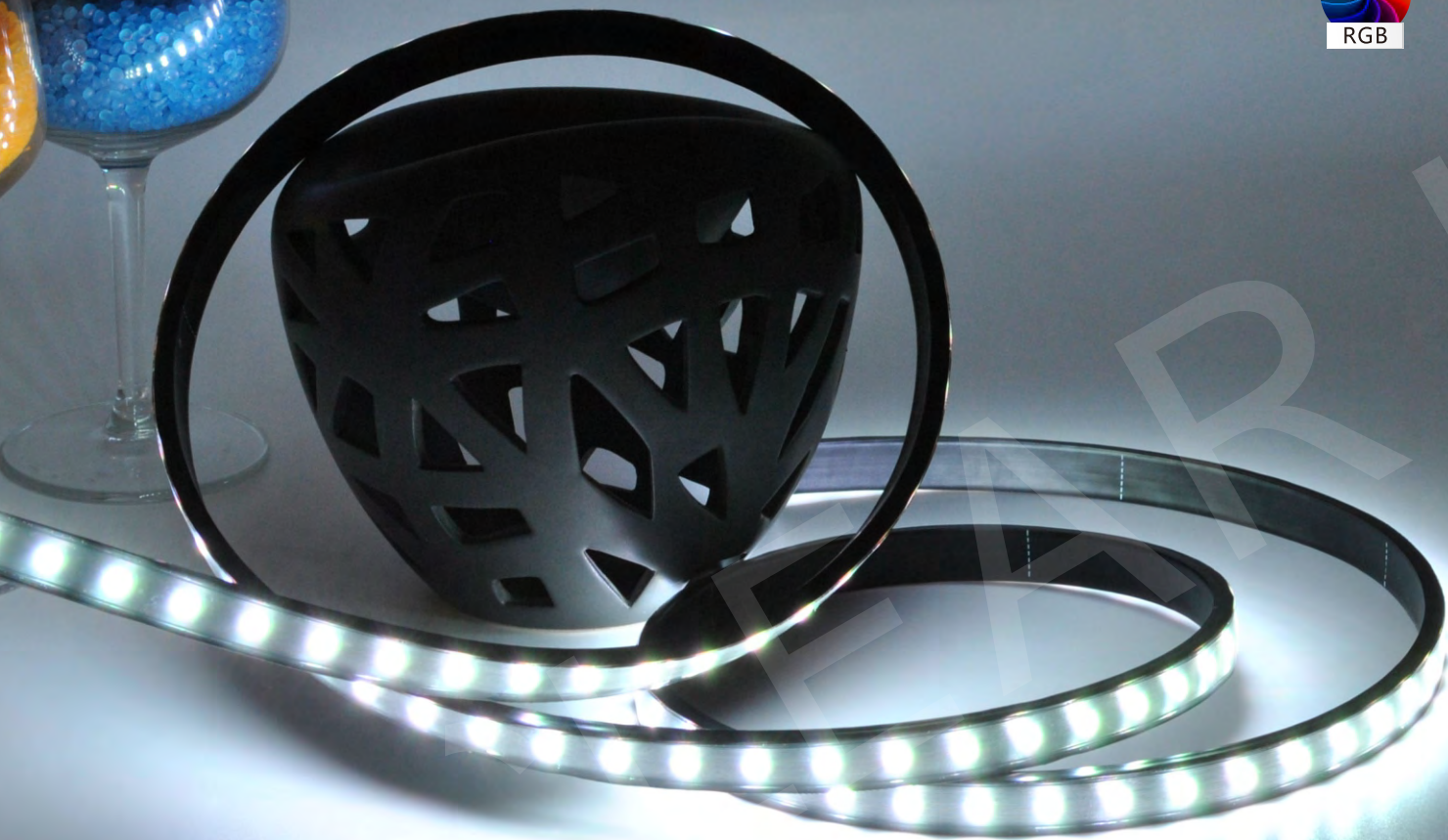
Features
1. High quality SMD, RGB LED chip
2. UV & Flame resistant construction (PVC)
3. Black jacket
4. Small design with custom PCB for optimum thermal management
5. Very high illumination
6. Very Flexible (5cm minimum bending diameter)
7. Easy to use, with DIY accessories for joining, terminating, mounting & powering
8. High IP rating (IP40)
9. Ambient temperature: -20℃~45℃;
   Operating temperature: 0℃~45℃
10. Continuous length up to 10m
11. Environmentally friendly & energy efficient
12. Automated production, high reliability & long warranty
13. 5 years life span

Application
The ultra slimline profile enables a wide range of lighting applications, including cove lighting, accent lighting and back lighting. RGB LEDs allow for a wide range of colors or color changing options.

Light Surface

Light Surface

6mm

15.5mm

Mounting Surface

Aluminum Profile

Light Surface

Light Surface

Aluminum Profile

Mounting Surface

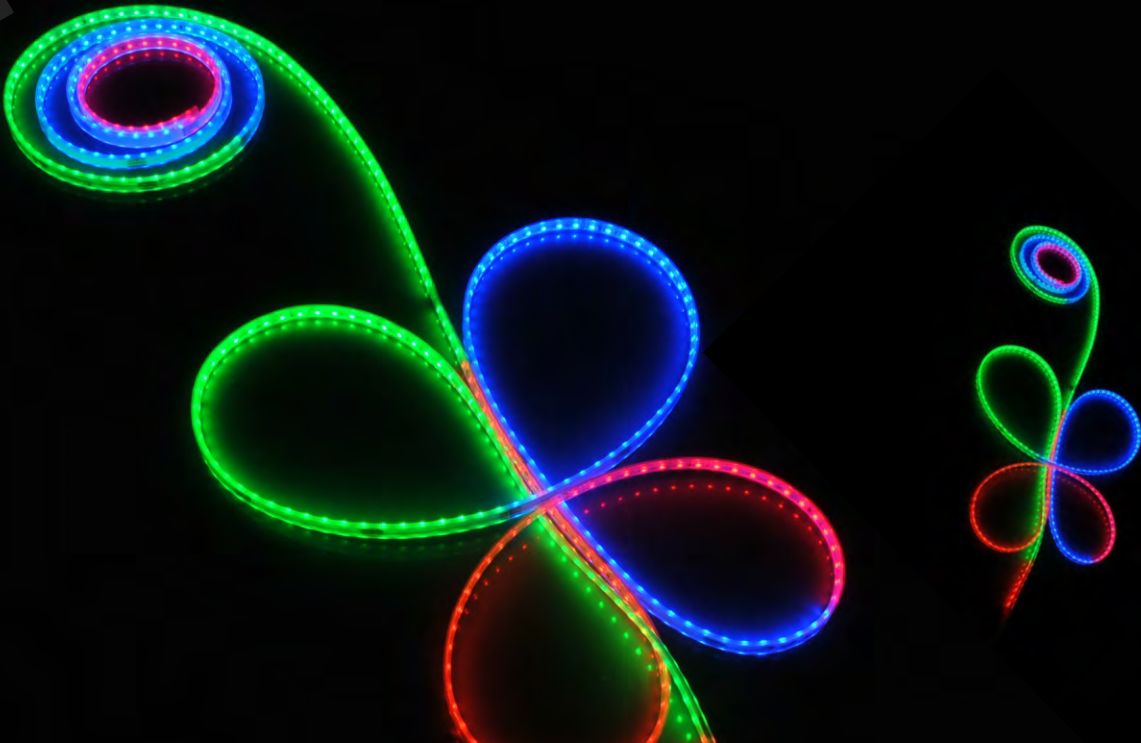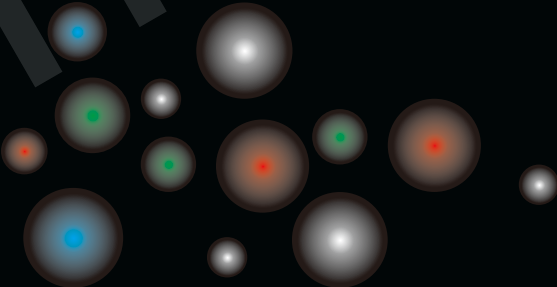| Beam Angle	Bending Diameter	Flame Resistant	UV Resistant	Solvents Resistant	Saltwater Resistant	IP40 Protection	Warranty
150°	D:5cm					IP40	3 year

C-FR-F16A

PVC-Transparent

C-FR-F16B

PVC-Ivory White

C-FR-F16C

PVC-Black

Technical Data

Article No.	C-FR-F16A-D24V-30	C-FR-F16A-D24V-60	C-FR-F16B-D24V-30	C-FR-F16B-D24V-60	C-FR-F16C-D24V-30	C-FR-F16C-D24V-60
Jacket Color	Transparent	Transparent	Ivory white	Ivory white	Black	Black
Working Voltage	DC24V	DC24V	DC24V	DC24V	DC24V	DC24V
Rated Power / mtr	6W	12W	6W	12W	6W	12W
LED Qty/mtr	30LEDs	60LEDs	30LEDs	60LEDs	30LEDs	60LEDs
LED Distance	3.33cm	1.67cm	3.33cm	1.67cm	3.33cm	1.67cm
Min. Cutting Unit	6LEDs (20cm)	6LEDs (10cm)	6LEDs (20cm)	6LEDs (10cm)	6LEDs (20cm)	6LEDs (10cm)
Continuous Length	15m	10m	15m	10m	15m	10m
IP Rating	IP40	IP40	IP40	IP40	IP40	IP40

Matching Table for Power and Length

Power:	35W	60W	100W	120W	150W	150W	180W	240W	320W
6w/m Length:	5m	9.0m	15m	15m		20m	27m	30m	
12w/m Length:	2.5m	4.5m	7.5m	9m	10m		13.5m	18m	20m
Energizing Way:	DC input 01/02					DC input 01		DC input 02	

>>More details refer to P175

Photometric Data

Article No.	C-FR-F16A/B/C-D24V-60	
LED Type	SMD	
Beam angle	150°	
Color	CCT/Wavelength	Lumen/m
Red	620-630nm	>75lm
Green	520-530nm	>185lm
Blue	460-470nm	>40lm
White		>300lm
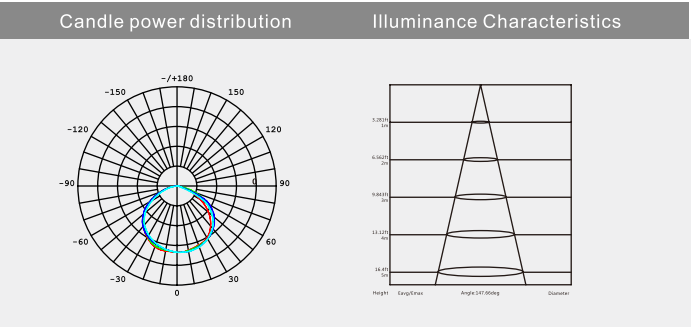
Candle power distribution   Illuminance Characteristics

>>Download IES file at www.clearlighting.com

Package Data

Carton	100m/ctn	587*462*165mm	17.5kg

>>More details refer to P183

F16A/B/C Accessories

Optional accessories

Power T-Feed   Male & Female Connector

>>More details refer to P172

Installation Accessories:

Aluminum Profile   Clips

>>More details refer to P171

Tool kit:

Cutter   Insert inducer

>>More details refer to P173

Driver:

>>More details refer to P175

System Diagram:

>>More details refer to P179

IP40

Protection

Sleeve Front Connector   Sleeve End Cap   Sleeve Middle Connector Sleeve Jumper

>>More details refer to P165

C-FR-F16S

Features
1. High quality SMD, LED Chip & IC Chip (Chasing)
2. UV & flame resistant construction (PVC)
3. Jackets available: transparent, ivory white and black
4. Small design with custom PCB for optimum thermal management
5. High illumination
6. Very flexible (5cm minimum bending diameter)
7. Easy to use, with DIY accessories for joining, terminating, mounting & powering
8. High IP rating (IP40)
9. Ambient temperature: -20℃~45℃;
   Operating temperature: 0℃~45℃
10. Continuous length up to 15m
11. Environmentally friendly & energy efficient
12. Automated production, high reliability & long warranty
13. 5 years life span

Application
The ultra slimline profile and light chasing effect enable a wide range of lighting applications including, cove lighting, accent lighting and back lighting

Ultra slimline profile, programmble light

Light Surface

Light Surface

Mounting Surface

Aluminum Profile

Light Surface

Light Surface

Aluminum Profile

Mounting Surface

6mm

15.5mm

150°	D:5cm					**IP40**	3 year
Beam Angle	**Bending Diameter**	**Flame Resistant**	**UV Resistant**	**Solvents Resistant**	**Saltwater Resistant**	IP40 Protection	Warranty
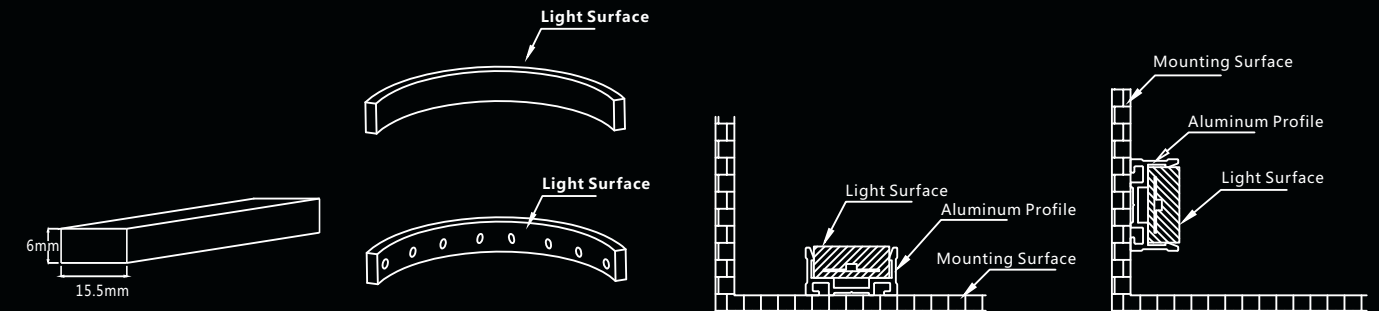
Technical Data

Article No.	C-FR-F16S-D24V-56
LED Color	RGB/Single Color
Working Voltage	DC24V
Rated Power / mtr	12W
LED Qty/mtr	56LEDs
LED Distance	1.78cm
Min. Cutting Unit	7LEDs (12.5cm)
Continuous Length	15m
IP Rating	IP40

Package Data

Carton	100m/ctn	587*462*165mm	17.5kg

>>More details refer to P183

Programme

Chasing
Flowing
Meteor shower
Skipper
Flashing
Gradual changing
Fade-out and fade-in

F16S Accessories

Optional accessories

Power T-Feed

Male & Female Connector

>>**More details refer to P172**

Installation Accessories

Aluminum Profile

Clips

>>**More details refer to P171**

Tool kit

Cutter

Insert inducer

>>**More details refer to P173**

IP40

Protection

Sleeve Front Connector

Sleeve End Cap

Sleeve Middle Connector

Sleeve Jumper

>>**More details refer to P165**

Driver

>>**More details refer to P175**

System Diagram
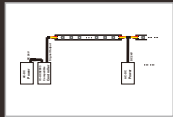
>>**More details refer to P181**

C-FR-F17A

Ultra slimline profile, very high illumination, transparent jacket

c UL US LISTED CE TÜV RoHS COMPLIANT

Features
1. High quality SMD LED, bin controlled within 3 MacAdam ellipses
2. Wide range of white color options (2000k-6500k)
2. UV-resistant and flame resistant PVC materials
3. Transparent jacket
4. Compact and rugged, sufficient thermal management
5. Ultra high brightness
6. 3cm minimum bending diameter
7. Convenient DIY accessories for fieldwork (cut and reconnect)
8. Protection Rating up to IP40
9. Ambient temperature: -20℃~45℃;
Operating temperature: 0℃~45℃
10. Life span: 5 years
11. Continuous length up to 15m
12. Eco-friendly and energy saving
13. Full automatic production and stable quality

Application
Perfect for indirect lighting like background lighting, due to the shallow design, small bending diameter and high IP rating, it offer a wide range of application possibilities

Light Surface

Light Surface

Mounting Surface

Aluminum Profile

Light Surface

6mm

13.5mm

Light Surface

Aluminum Profile

Mounting Surface
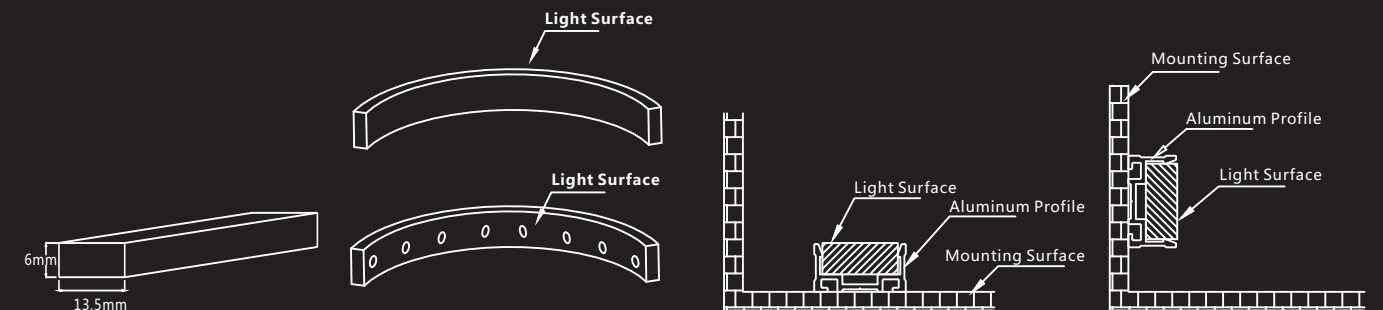
C-FR-F17B

Ultra slimline profile, very high illumination, ivory white jacket

Features
1. High quality SMD LED, bin controlled within 3 MacAdam ellipses
2. Wide range of white color options (2000k-6500k)
2. UV-resistant and flame resistant PVC materials
3. Ivory white jacket
4. Compact and rugged, sufficient thermal management
5. Ultra high brightness
6. 3cm minimum bending diameter
7. Convenient DIY accessories for fieldwork (cut and reconnect)
8. Protection Rating up to IP40
9. Ambient temperature: -20℃~45℃;
Operating temperature: 0℃~45℃
10. Life span: 5 years
11. Continuous length up to 15m
12. Eco-friendly and energy saving
13. Full automatic production and stable quality

Application
Perfect for indirect lighting like background lighting, due to the shallow design, small bending diameter and high IP rating, it offer a wide range of application possibilities

Light Surface

Light Surface

6mm
13.5mm

Mounting Surface
Aluminum Profile
Light Surface
Light Surface
Aluminum Profile
Mounting Surface
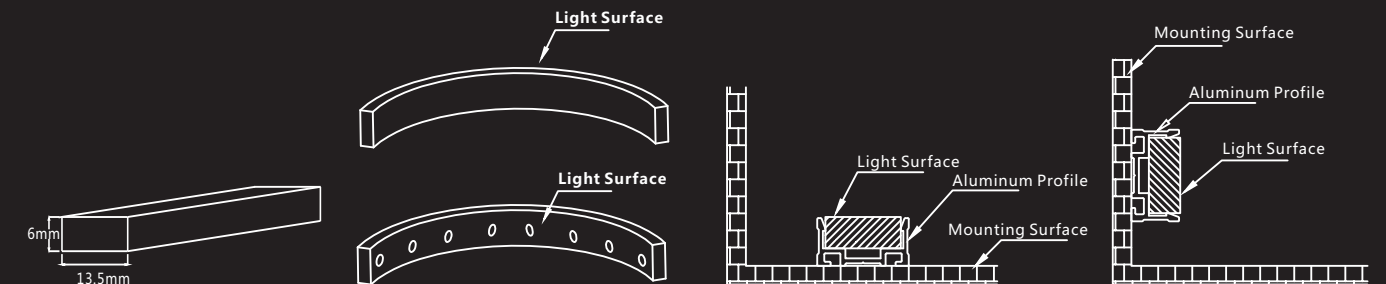
C-FR-F17C

Ultra slimline profile, very high illumination, black jacket
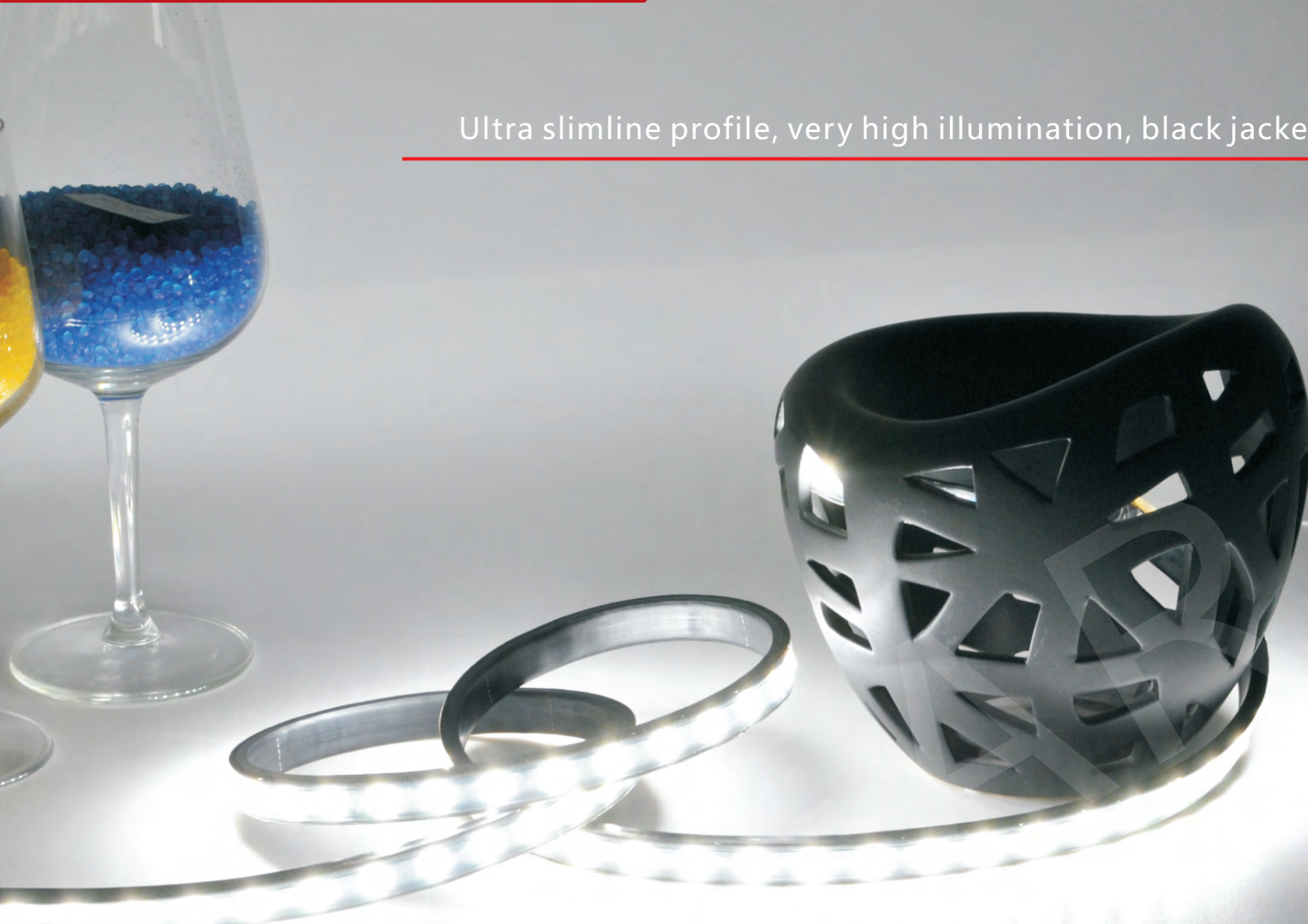
Features

1. High quality SMD LED, bin controlled within 3 MacAdam ellipses.
2. Wide range of white color options (2000k-6500k)
2. UV-resistant and flame resistant PVC materials
3. Black jacket
4. Compact and rugged, sufficient thermal management
5. Ultra high brightness
6. 3cm minimum bending diameter
7. Convenient DIY accessories for fieldwork (cut and reconnect)
8. Protection Rating up to IP40
9. Ambient temperature: -20℃~45℃;
Operating temperature: 0℃~45℃
10. Life span: 5 years
11. Continuous length up to 15m
12. Eco-friendly and energy saving
13. Full automatic production and stable quality

Application

Perfect for indirect lighting like background lighting, due to the shallow design, small bending diameter and high IP rating, it offer a wide range of application possibilities

Light Surface

Light Surface

Light Surface

Mounting Surface

Aluminum Profile

Light Surface

Light Surface

Aluminum Profile

Mounting Surface

6mm

13.5mm

Beam Angle	**Bending Diameter**	**Flame Resistant**	**UV Resistant**	**Solvents Resistant**	**Saltwater Resistant**	**IP40 Protection**	**Warranty**

C-FR-F17A   C-FR-F17B   C-FR-F17C

PVC-Transparent   PVC-Ivory white   PVC-Black
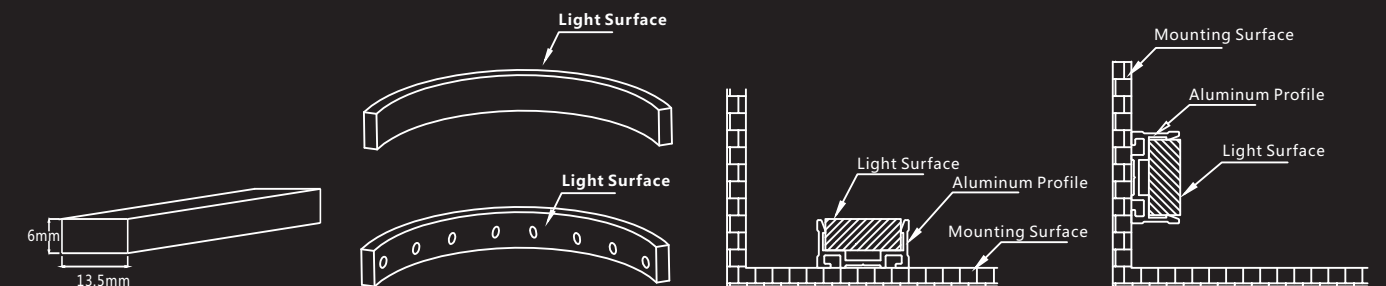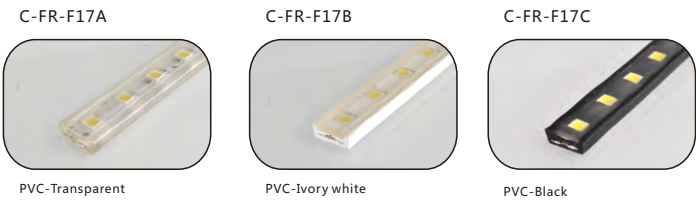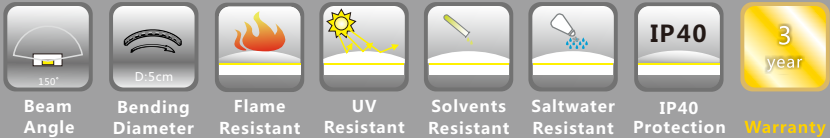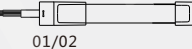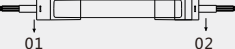
C-FR-F17A/B/C

Technical Data

Article No.	C-FR-F17A/B/C-D24V-30	C-FR-F17A/B/C-D24V-30
LED Color	Red/Amber	Green/Blue/White
Working Voltage	DC24V	DC24V
Rated Power / mtr	4W	6W
LED Qty/mtr	30LEDs	30LEDs
LED Distance	3.33cm	3.33cm
Min. Cutting Unit	10LEDs (33.3cm)	6LEDs (20cm)
Continuous Length	18m	15m
IP Rating	IP40	IP40

Technical Data

Article No.	C-FR-F17A/B/C-D24V-60	C-FR-F17A/B/C-D24V-60	C-FR-F17A/B/C-CC-60	C-FR-F17A/B/C-CC-60
LED Color	Red/Amber	Green/Blue/White	Red/Amber	Green/Blue/White
Working Voltage	DC24V	DC24V	DC24V	DC24V
Rated Power / mtr	7.2W	12W	6.5W	10.6W
LED Qty/mtr	60LEDs	60LEDs	60LEDs	60LEDs
LED Distance	1.67cm	1.67cm	1.67cm	1.67cm
Min. Cutting Unit	10LEDs (16.7cm)	6LEDs (10cm)	10LEDs (16.7cm)	6LEDs (10cm)
Continuous Length	15m	10m	15m	10m
IP Rating	IP40	IP40	IP40	IP40

Matching Table for Power and Length

Power	35W	60W	100W	120W	150W	120W	150W	180W	240W	320W
4w/m Length	7.67m	13.0m	18m			26m	33.0m	36m		
6w/m Length	5m	9.0m	15m			17.5m	20m	27m	36m	
7.2w/m Length	4m	7.5m	12m	15m			18.5m	22m	30m	
12w/m Length	2.5m	4.5m	7.5m	9m	10m			13.5m	18m	20m
Energizing Way		DC input				DC input		DC input		
		01/02				01		02		

>>More details refer to P177

Package Data

Carton	100m/ctn	587*462*165mm	18kg

>>More details to P183

Photometric Data

Article No.	C-FR-F17A/B/C-D24V-60, C-FR-F17A/B/C-CC-60	
LED Type	SMD	
Beam angle	150°	
Color	CCT/Wavelength	Lumen/m
Red	620-630nm	>220lm
Green	520-530nm	>550lm
Blue	460-470nm	>110lm
Amber	590-595nm	>220lm
Warm White	2725±145K	>900lm
	3045±145K	>900lm
White	3465±245K	>900lm
	3985±275K	>900lm
Cool White	4503±243K	>900lm
	5028±283K	>900lm
Daylight White	5665±355K	>900lm
	6530±510K	>900lm

Candle power distribution   Illuminance Characteristics
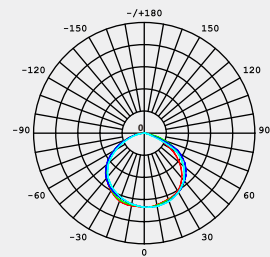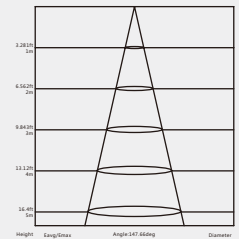
>>Download IES File at www.clearlighting.com

F17A/B/C Accessories

IP40

Protection

Sleeve Front Connector   Sleeve End Cap   Sleeve Middle Connector Sleeve Jumper

Optional accessories

Power T-Feed   Male & Female Connector

Installation Accessories

Aluminum Profile   Clips

Tool kit

Cutter   Insert inducer
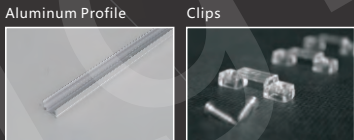
Driver

System Diagram
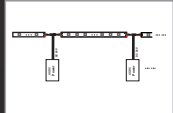
Watch Store

Hong Kong

Ceiling
C-FR-F17C
2700K

Vehicle for Display

South Africa

Show Car

C-FR-F17A

Red&6500K

F10B Accessories

IP68 Protection
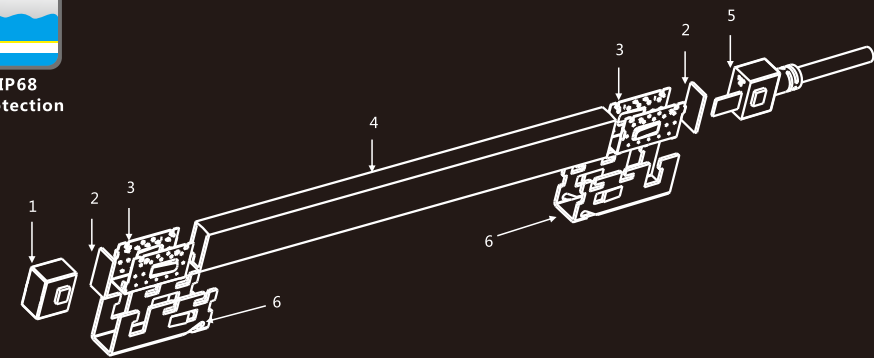
1. The Tail Plug
2. Silicon Gasket
3. Anti-skidding Clip
4. Light
5. Front Connector
6. U Steel Plate

| 1. The Tail Plug | 2. Silicon Gasket | 3. Anti-skidding Clip | 4. Light | 5. Front Connector | 6. U Steel Plate |

F10B Clasp Front Connector　　　F10B Clasp Front Connector
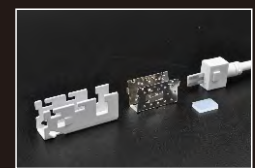
F10B Clasp End Cap　　　F10B Clasp End Cap
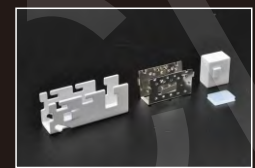
F10B Accessories Installation Step

Clasp Front Connector Installation Step

Step 1.

Step 2.

Step 3.

Step 4.

Step 5.

Step 6.

Push in using gripper

Step 7.

Clasp End Cap Installation Step

Step 8.

Step 9.

Step 10.

Step 11.

Step 12.

Step 13.

Push in using gripper

Step 14.
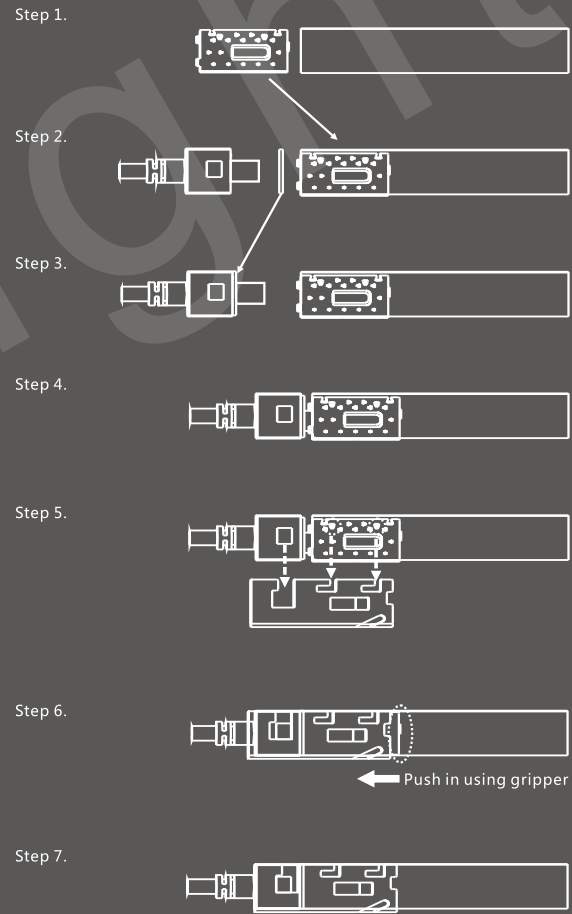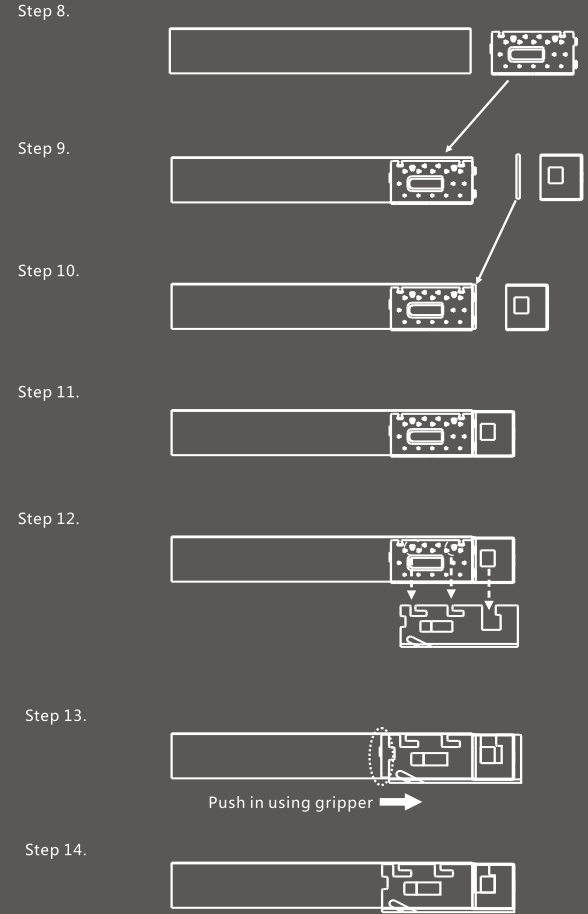
F11B Accessories

F11B Accessories Installation Step

IP68 Protection
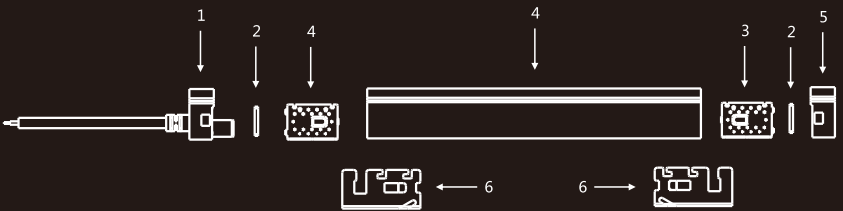
1. Front Connector
2. Silicon Gasket
3. Anti-skidding Clip
4. Light
5. The Tail Plug
6. U Steel Plate

1. Front Connector
2. Silicon Gasket
3. Anti-skidding Clip
4. Light
5. The Tail Plug
6. U Steel Plate

F11B Clasp Front Connector

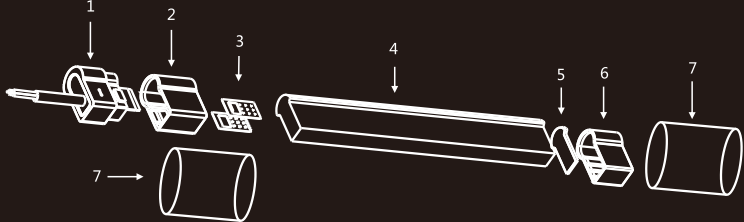F11B Clasp Front Connector
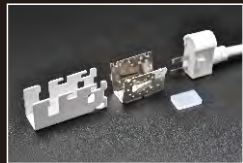
F11B Clasp End Cap

F11B Clasp End Cap

Clasp Front Connector Installation Step

Step 1.

Step 2.

Step 3.

Step 4.

Step 5.

Step 6.

Push in using gripper

Step 7.

Clasp End Cap Installation Step

Step 8.

Step 9.

Step 10.

Step 11.

Step 12.

Step 13.

Push in using gripper

Step 14.

F15 Sleeve Accessories

F15 Sleeve Accessories Installation Step

IP40
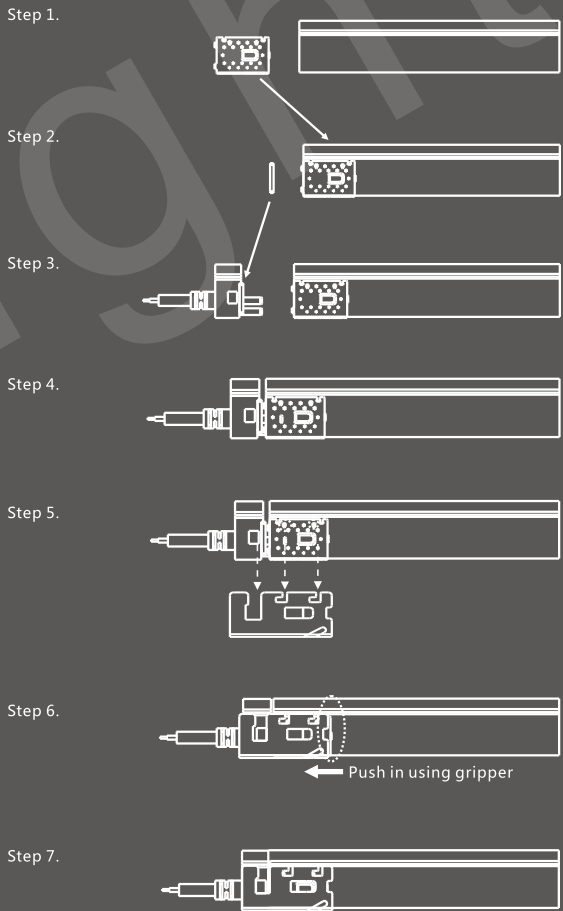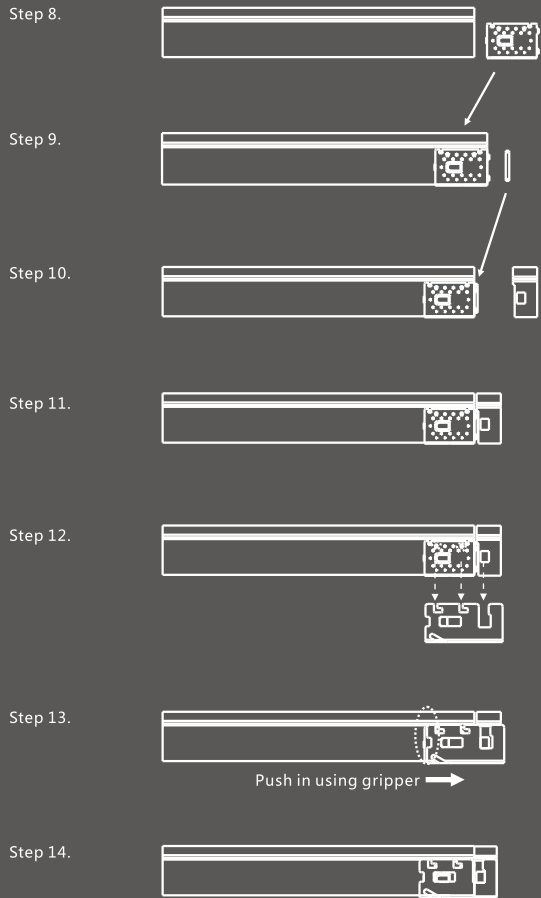
Protection
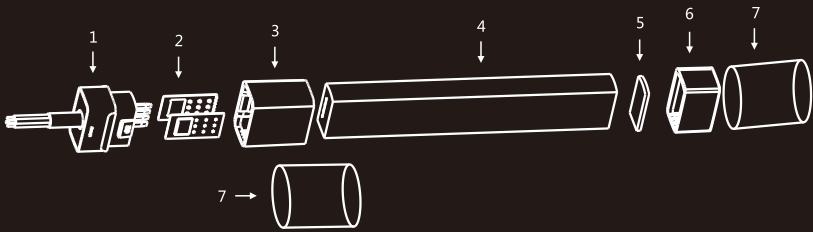
1. Front Connector
2. Anti-skidding Clip
3. Cover
4. Light
5. Shading Sheet
6. End Cap
7. Heat Shrink Tube

1. Front Connector 2. Anti-skidding Clip 3. Cover 4. Light 5. Shading Sheet 6. End Cap 7. Heat Shrink Tube

F15 Sleeve Front Connector

F15A Sleeve Front Connector
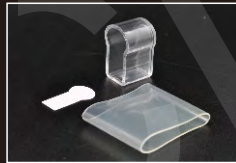
F15B/F15FCJ/F15CJ Sleeve Front Connector

F15S Sleeve Front Connector

F15 Sleeve Middle Connector

F15A Sleeve Middle Connector

F15B/F15FCJ/F15CJ Sleeve Middle Connector

F15S Sleeve Middle Connector
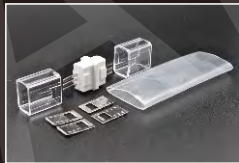
F15 Sleeve End Cap

F15 Sleeve End Cap

Sleeve Front Connector Installation Step

Step 1. Pay attention to wide open side

Step 2.

Step 3.

Step 4.

Step 5.

Step 6.

Sleeve End Cap Installation Step

Step 7.

Step 8.

Step 9.

Step 10.

Step 11. HEAT HEAT 10mm 7.5mm

Step 12.
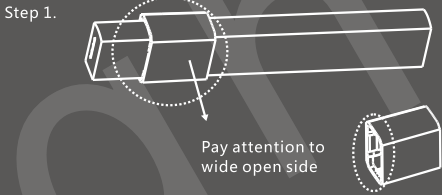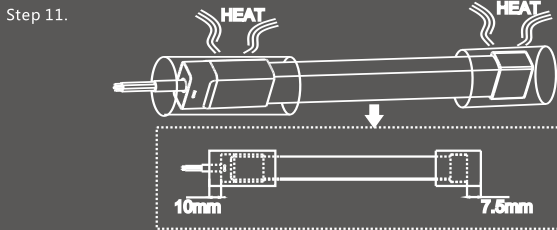
F15 Screw Accessories

IP68 Protection
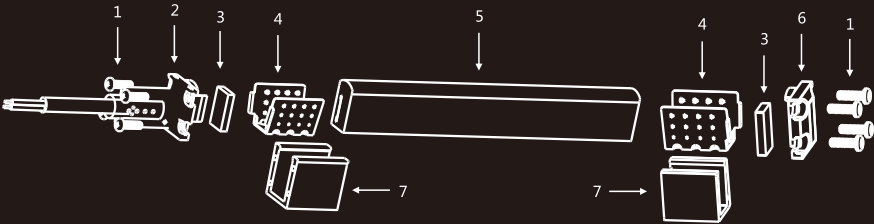
1. Screw
2. Front Connector
3. Silicon Gasket
4. Anti-skidding Clip
5. Light
6. The Tail Plug
7. Aluminum Mounting Piece

1. Screw　　2. Front Connector　　3. Silicon Gasket　　4. Anti-skidding Clip　　5. Light　　6. The Tail Plug　　7. Aluminum Mounting Piece
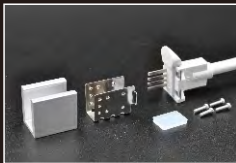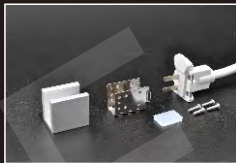
F15 Screw Front Connector　　**F15A Screw Front Connector**　　**F15B/F15FCJ/F15CJ Screw Front Connector**　　**F15S Screw Front Connector**
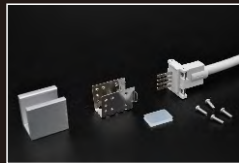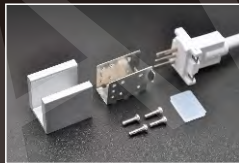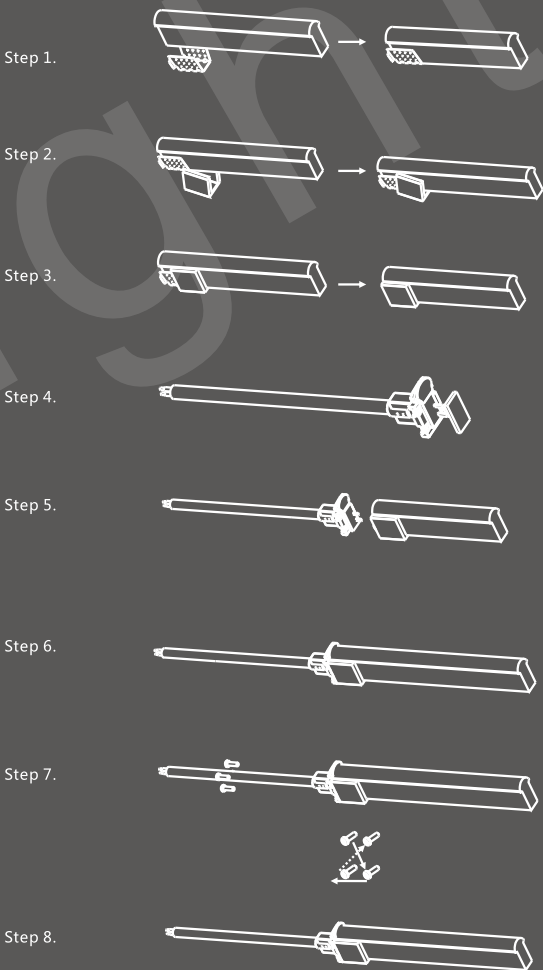
F15 Screw End Cap　　**F15 Screw End Cap**

Screw Front Connector Installation Step

Step 1.

Step 2.

Step 3.

Step 4.

Pins on the back of PCB is correct.

Step 5.

Caution: Right Steps of Screwing

Step 6.

Screw End Cap Installation Step

Step 7.

Step 8.

Step 9.

Step 10.

Step 11.

Step 12.

Caution: Right Steps of Screwing

Step 13.
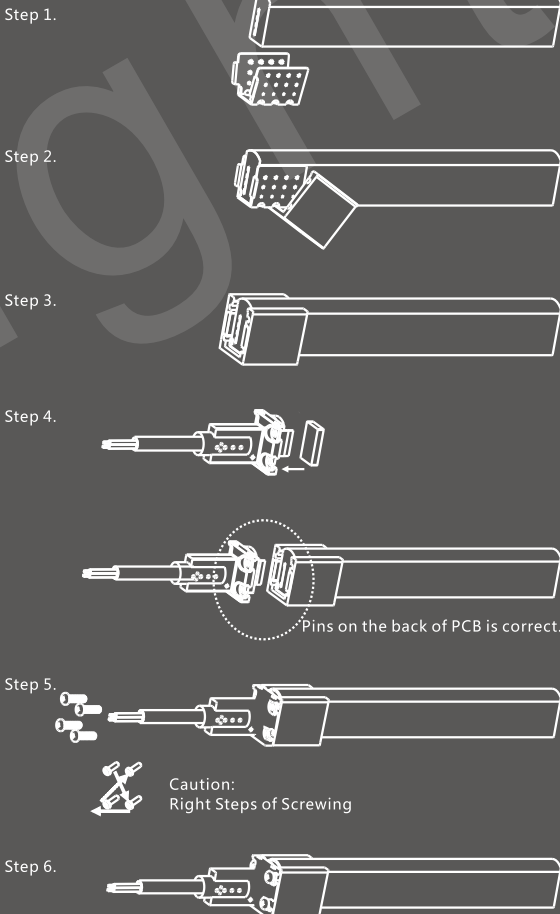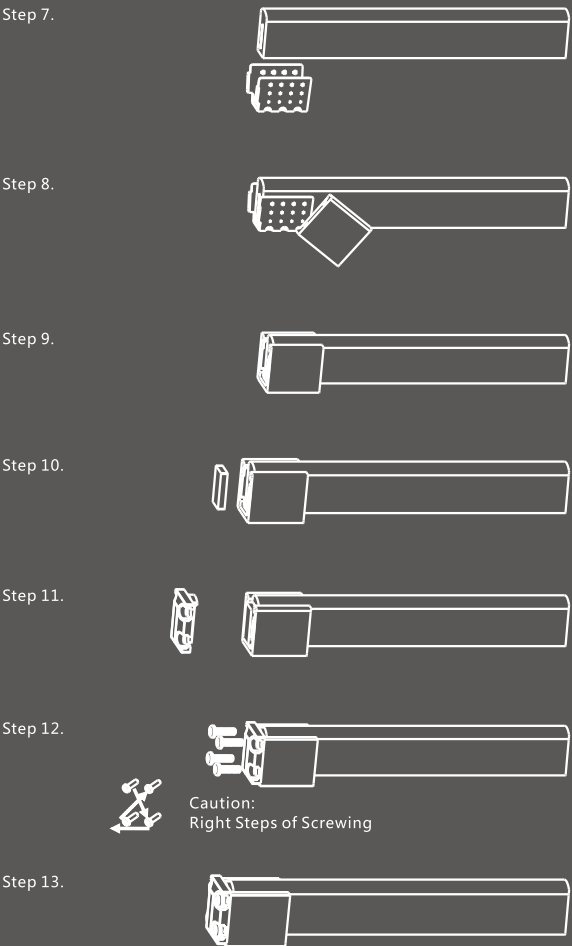
F15 Clasp Accessories

IP68 Protection
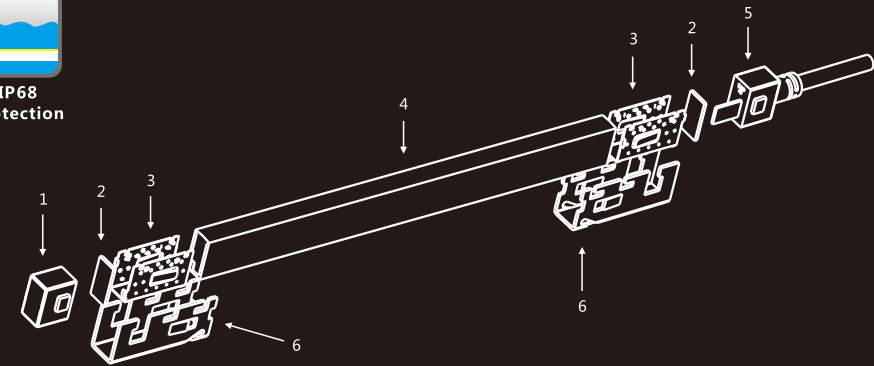
1. The Tail Plug
2. Silicon Gasket
3. Anti-skidding Clip
4. Light
5. Front Connector
6. U Steel Plate

1. The Tail Plug
2. Silicon Gasket
3. Anti-skidding Clip
4. Light
5. Front Connector
6. U Steel Plate

F15 Clasp Front Connector

F15A Clasp Front Connector
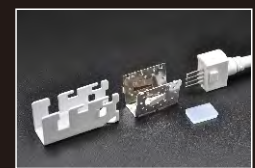
F15B/F15FCJ/F15CJ Clasp Front Connector

F15S Clasp Front Connector
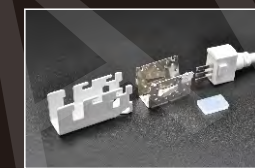
F15 Clasp End Cap

F15 Clasp End Cap

F15 Clasp Accessories Installation Step
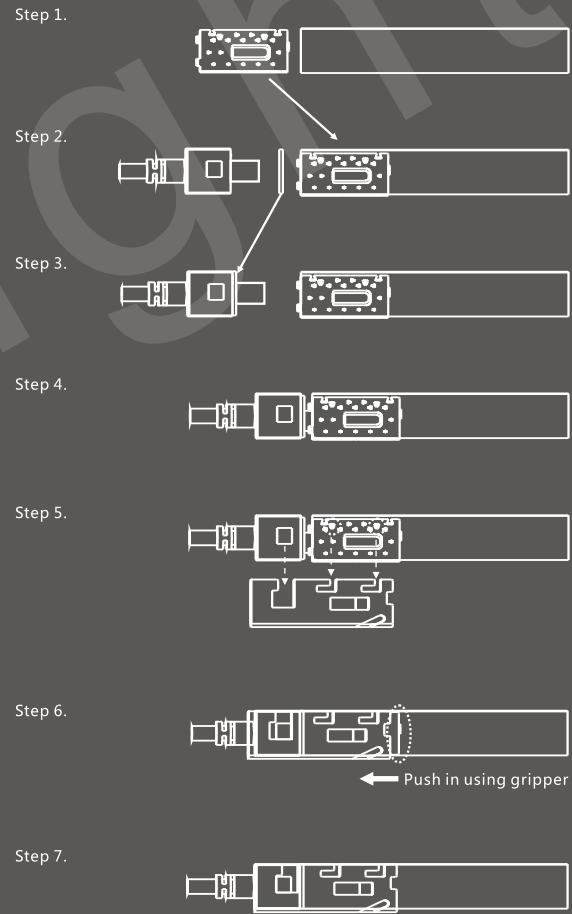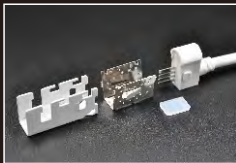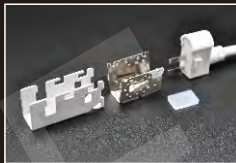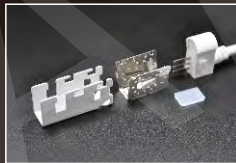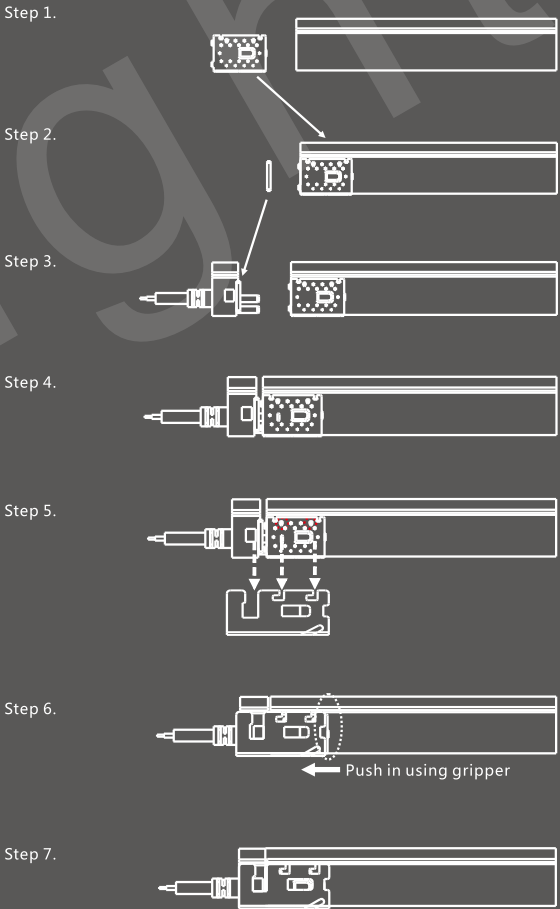
Clasp Front Connector Installation Step

Step 1.
Step 2.
Step 3.
Step 4.
Step 5.
Step 6.
Push in using gripper
Step 7.

Clasp End Cap Installation Step

Step 8.
Step 9.
Step 10.
Step 11.
Step 12.
Step 13.
Push in using gripper
Step 14.

F21 Sleeve Accessories

IP40
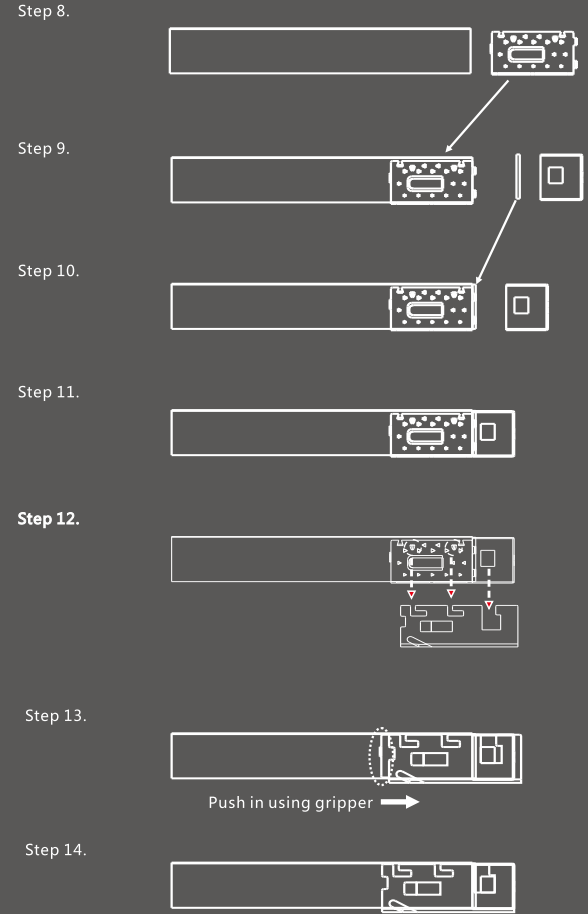
Protection

1. Front Connector
2. Cover
3. Anti-skidding Clip
4. Light
5. Shading Sheet
6. End Cap
7. Heat Shrink Tube

| 1. Front Connector | 2. Cover | 3. Anti-skidding Clip | 4. Light | 5. Shading Sheet | 6. End Cap | 7. Heat Shrink Tube |

F21 Sleeve Front Connector   F21A Sleeve Front Connector   F21B/F21FCJ/F21CJ Sleeve Front Connector   F21S Sleeve Front Connector


F21 Sleeve End Cap   F21 Sleeve End Cap

F21 Sleeve Accessories Installation Step
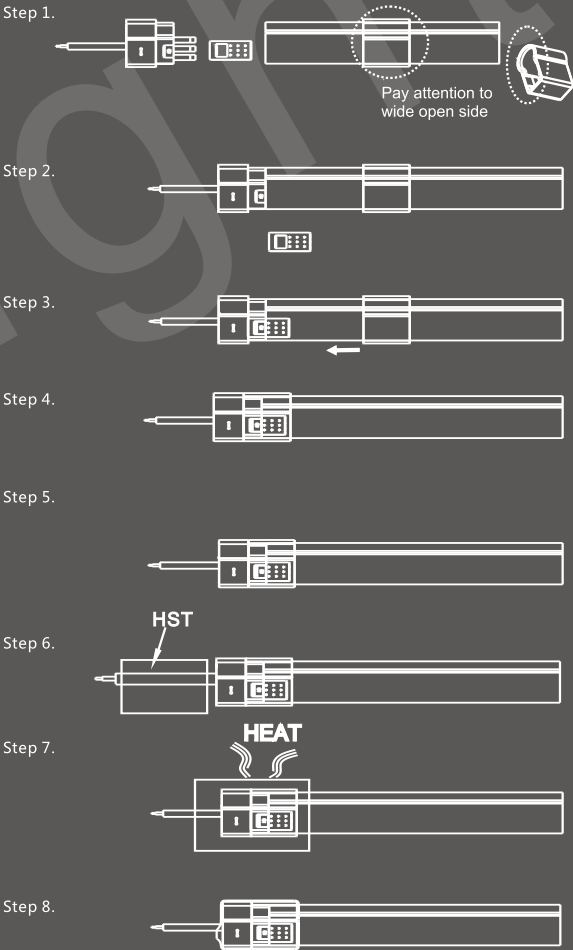
Sleeve Front Connector Installation Step

Step 1.

Pay attention to wide open side

Step 2.

Step 3.

Step 4.

Step 5.

Step 6.

HST

Step 7.

HEAT

Step 8.

Sleeve End Cap Installation Step

Step 9.

Step 10.

Step 11.

Step 12.

HST

Step 13.

HEAT

Step 14.
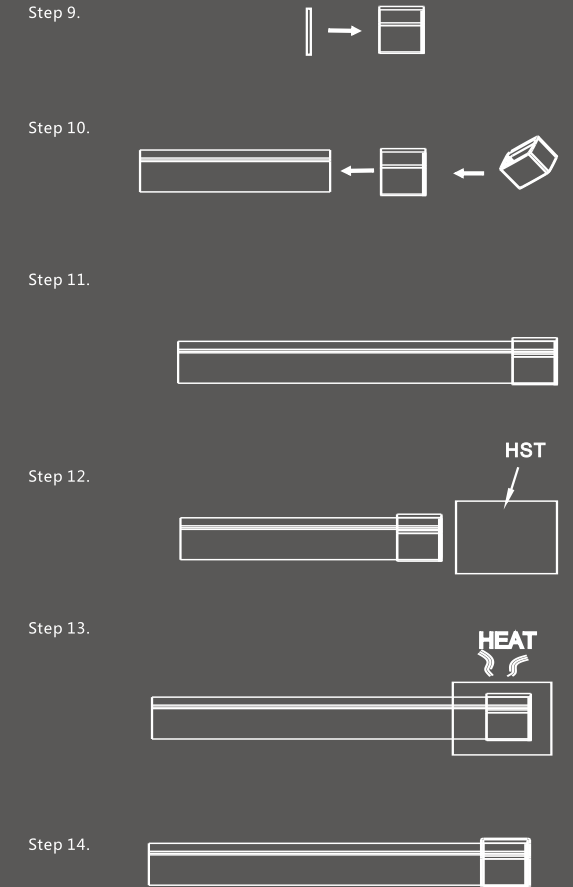
F21 Screw Accessories

IP68 Protection
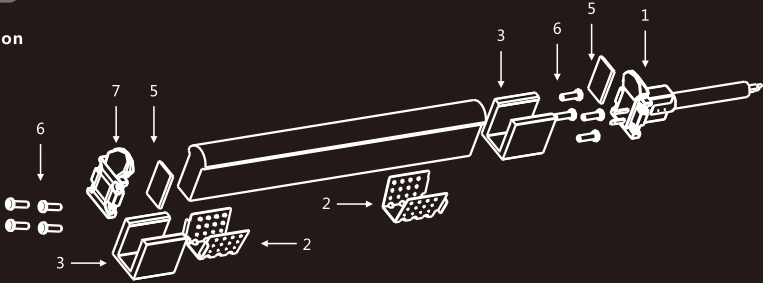
1. Front Connector
2. Anti-skidding Clip
3. Mounting Piece
4. Light
5. Silicon Gasket
6. Screw
7. End Cap

1. Front Connector   2. Anti-skidding Clip   3. Mounting Piece   4. Light   5. Silicon Gasket   6. Screw   7. End Cap

F21 Screw Front Connector

F21A Screw Front Connector

F21B/F21FCJ/F21CJ
Screw Front Connector

F21S Screw Front Connector
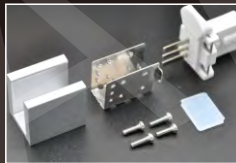
F21 Screw End Cap

F21 Screw End Cap

F21 Screw Accessories Installation Step

Screw Front Connector Installation Step

Step 1.

Step 2.

Step 3.

Step 4.

Step 5.

Step 6.

Step 7.

Step 8.

Screw End Cap Installation Step

Step 9.

Step 10.

Step 11.

Step 12.

Step 13.

Step 14.

Step 15.
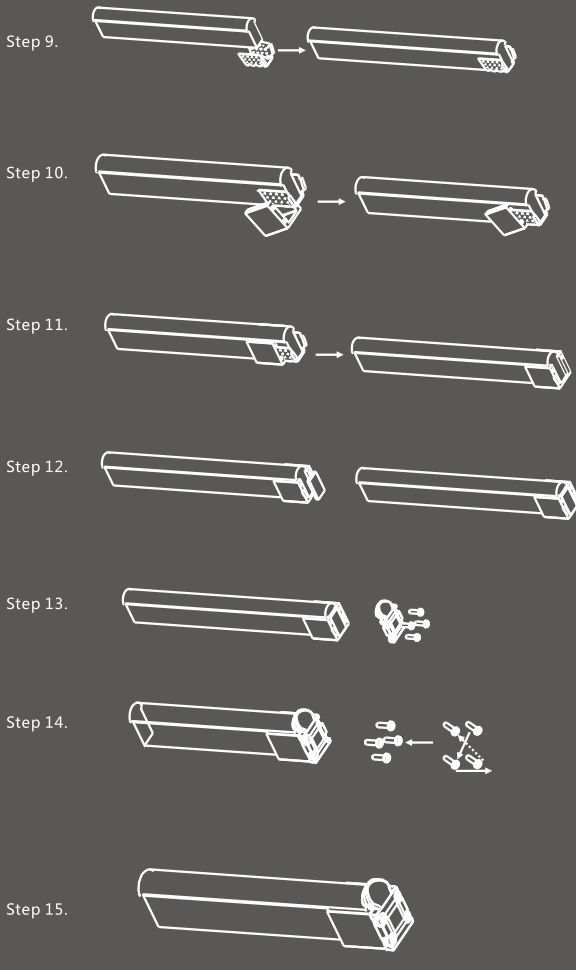
F21 Clasp Accessories

IP68 Protection
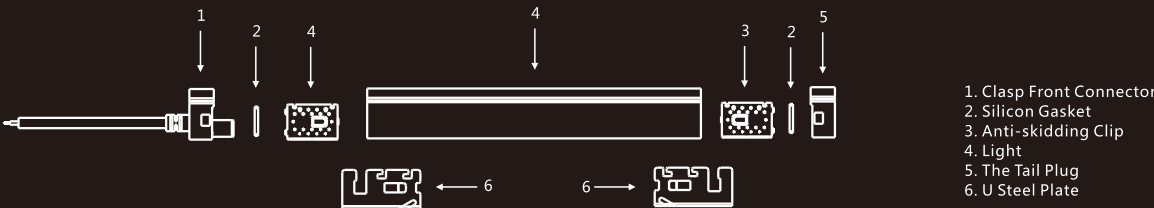
1. Clasp Front Connector
2. Silicon Gasket
3. Anti-skidding Clip
4. Light
5. The Tail Plug
6. U Steel Plate

1. Front Connector

2. Silicon Gasket

3. Anti-skidding Clip

4. Light

5. The Tail Plug

6. U Steel Plate

F21 Clasp Front Connector

F21A Clasp Front Connector

F21B/F21FCJ/F21CJ Clasp Front Connector

F21S Clasp Front Connector

F21 Clasp End Cap

F21 Clasp End Cap

F21 Clasp Accessories Installation Step

Clasp Front Connector Installation Step

Step 1.

Step 2.

Step 3.

Step 4.

Step 5.

Step 6.

Push in using gripper

Step 7.

Clasp End Cap Installation Step

Step 8.

Step 9.

Step 10.

Step 11.

Step 12.

Step 13.

Push in using gripper

Step 14.

F22B Accessories

IP68 Protection

1. Front Connector
2. Silicon Gasket
3. Anti-skidding Clip
4. Light
5. The Tail Plug
6. U Steel Plate

1. Front Connector   2. Silicon Gasket   3. Anti-skidding Clip   4. Light   5. The Tail Plug   6. U Steel Plate
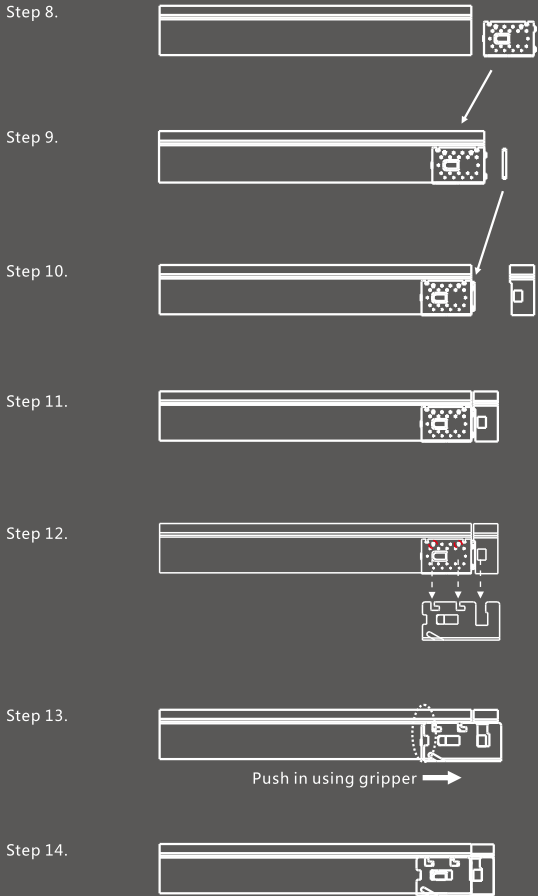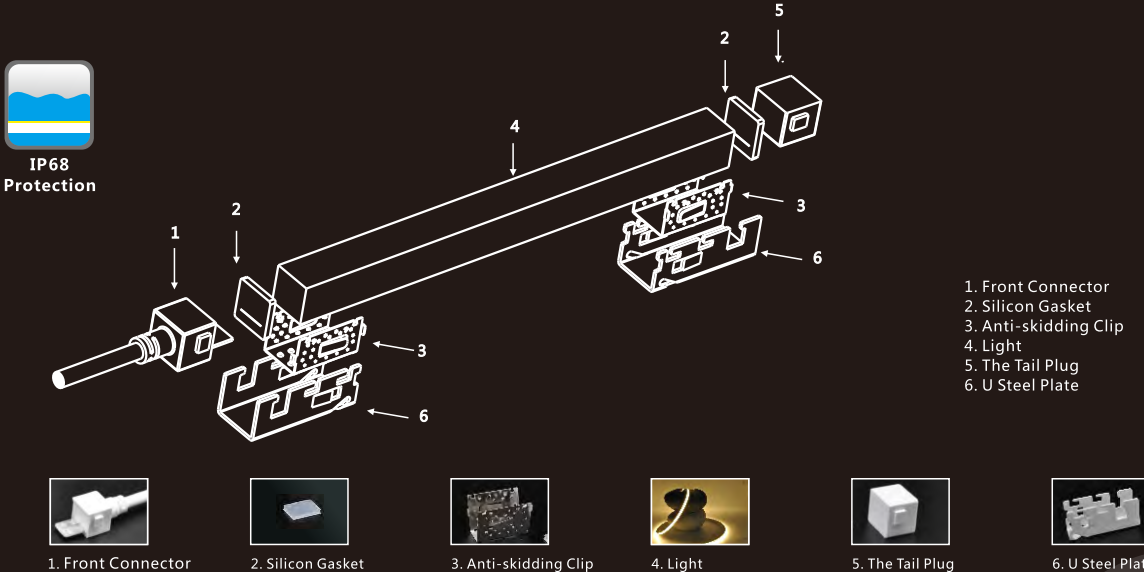
F22B Clasp Front Connector   F22B Clasp Front Connector
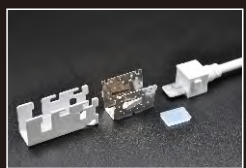
F22B Clasp End Cap   F22B Clasp End Cap
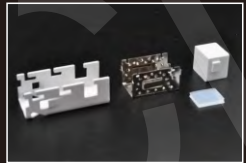
F22B Accessories Installing Step

Clasp Front Connector Installing Step

Step 1.

Step 2.

Step 3.

Step 4.

Step 5.

Step 6.

← Push in using gripper

Step 7.
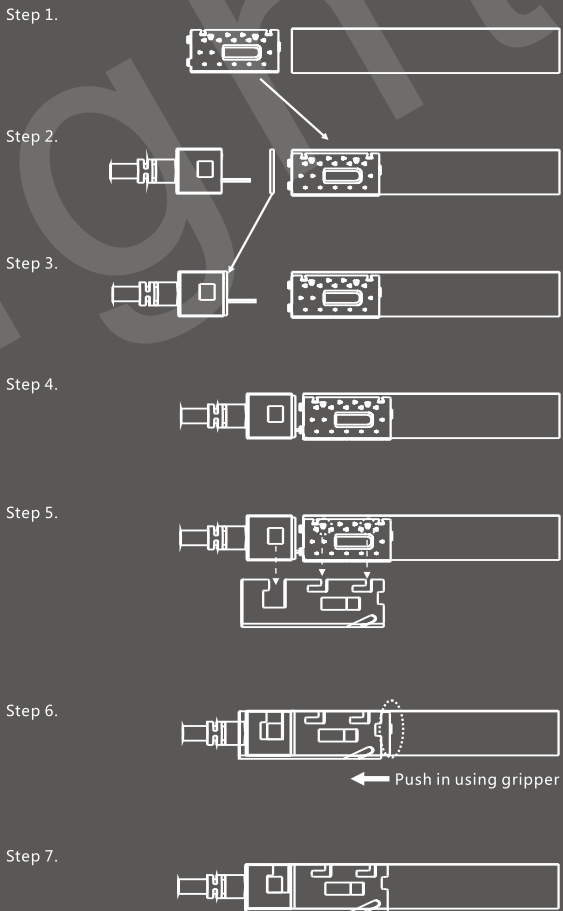
Clasp End Cap Installing Step
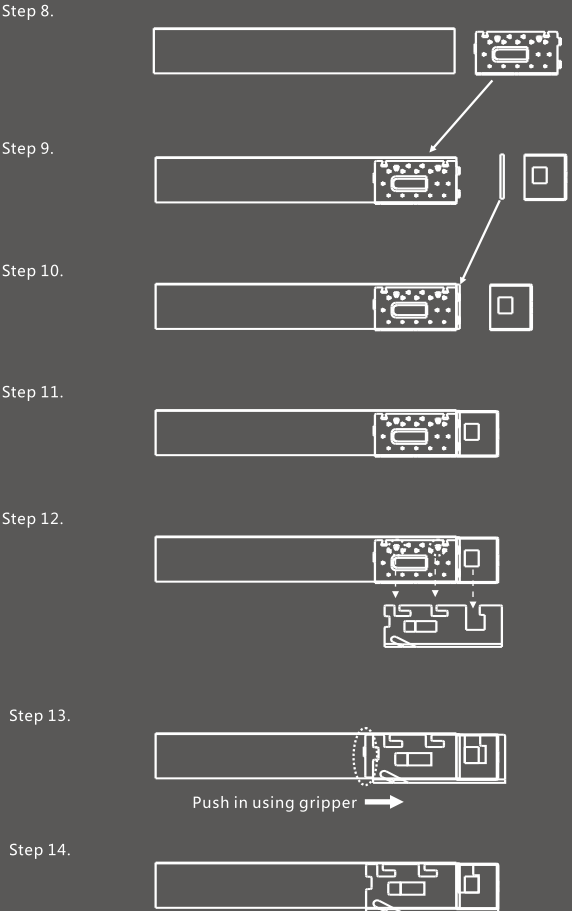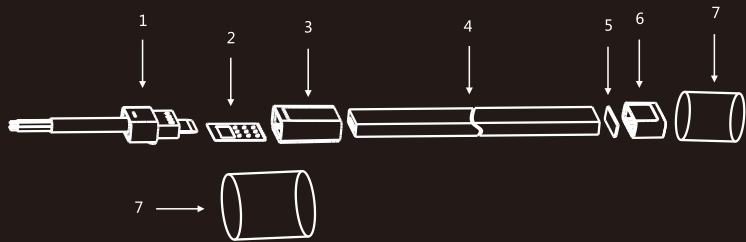
Step 8.

Step 9.

Step 10.

Step 11.

Step 12.

Step 13.

Push in using gripper →

Step 14.

F16 Accessories

IP40

Protection

1 2 3 4 5 6 7

1. Front Connector
2. Anti-skidding Clip
3. Cover
4. Light
5. Shading Sheet
6. End Cap
7. Heat Shrink Tube

7

1. Front Connector   2. Anti-skidding Clip   3. Cover   4. Light   5. Shading Sheet   6. End Cap   7. Heat Shrink Tube

F16 Sleeve Front Connector

F16A/16B/16C Sleeve Front Connector

F16S Sleeve Front Connector

F16 Sleeve Middle Connector

F16A/F16B/F16C Sleeve Middle Connector
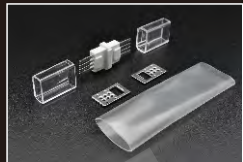
F16 Sleeve End Cap

F16 Sleeve End Cap
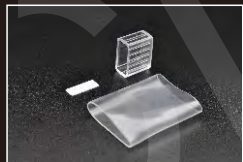
F16 Accessories Installation Step

Sleeve Front Connector Installation Step

Step 1.   Pay attention to wide open side

Step 2.

Step 3.

Step 4.

Step 5.

Step 6.

Step 7.   **HEAT** HST

Step 8.

Sleeve End Cap Installation Step

Step 9.

Step 10.

Step 11.

Step 12.   **HST**

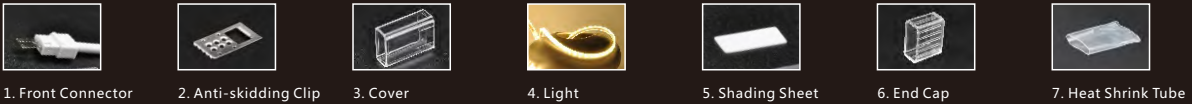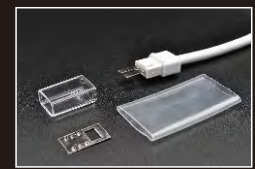Step 13.   **HEAT**

Step 14.

F17 Accessories

IP40

Protection

1 2 3 4 5 6 7

1. Front Connector
2. Anti-skidding Clip
3. Cover
4. Light
5. Shading Sheet
6. End Cap
7. Heat Shrink Tube

7 →
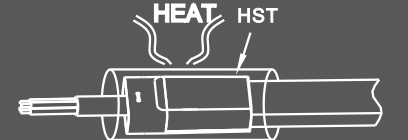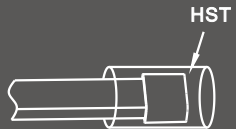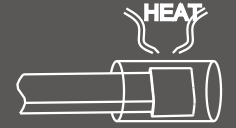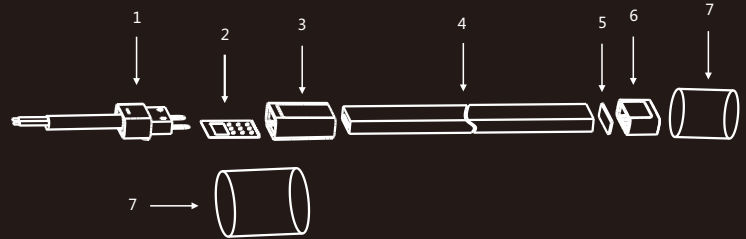
1. Front Connector   2. Anti-skidding Clip   3. Cover   4. Light   5. Shading Sheet   6. End Cap   7. Heat Shrink Tube

F17 Sleeve Front Connector

**F17A/17B/17C
Sleeve Front Connector**
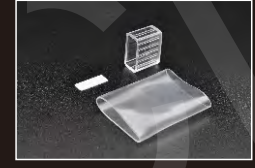
F17 Sleeve Middle Connector

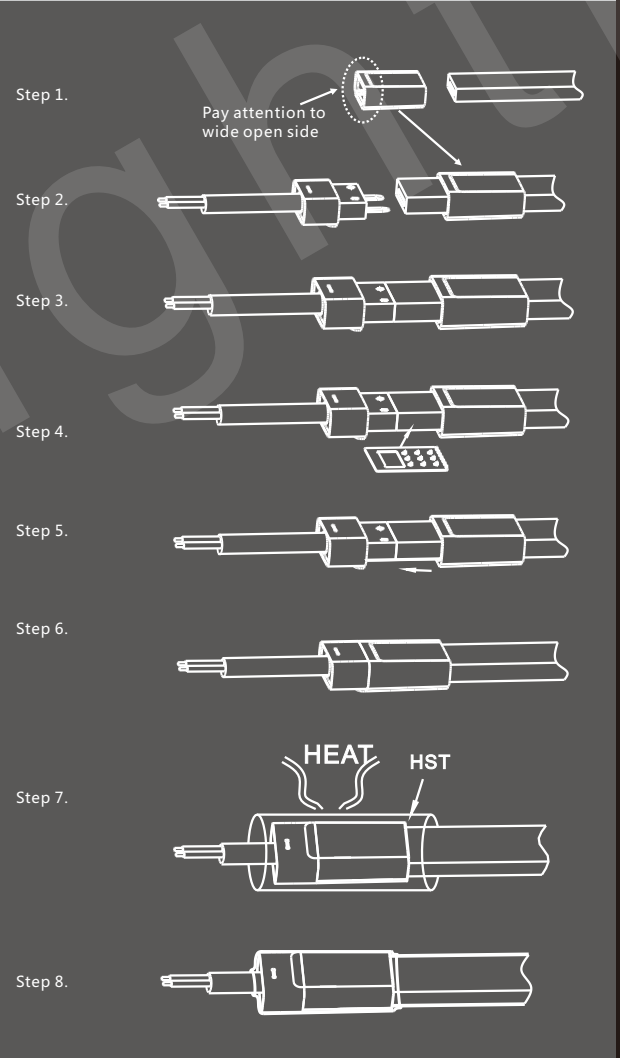**F17A/F17B/F17C
Sleeve Middle Connector**
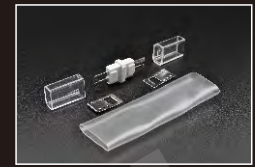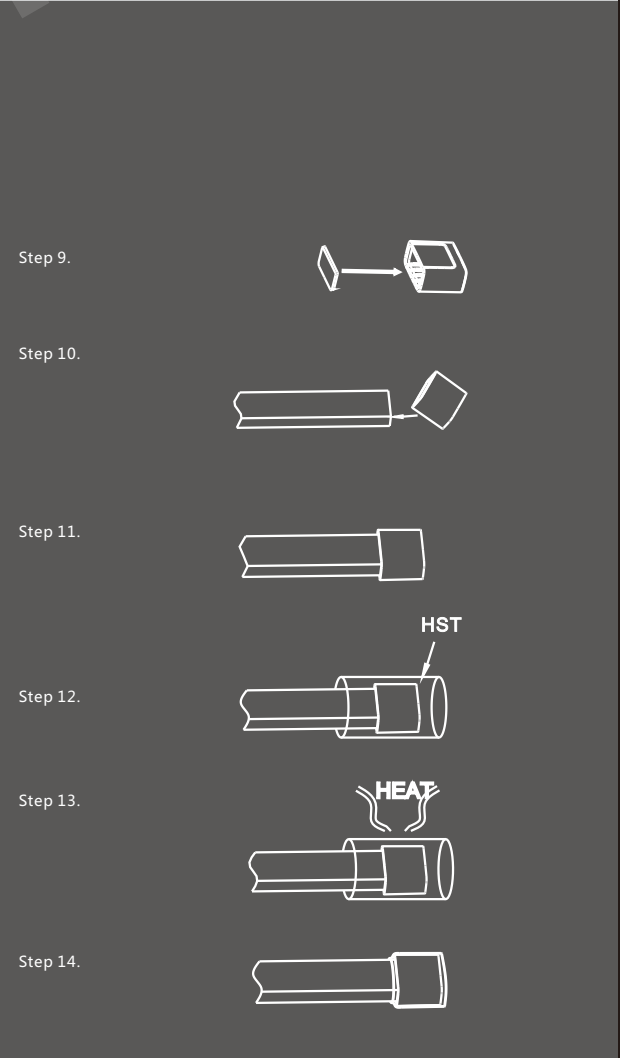
F17 Sleeve End Cap

F17 Sleeve End Cap

F17 Accessories Installation Step

Sleeve Front Connector Installation Step

Step 1.   Pay attention to wide open side
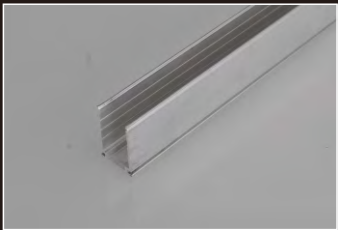
Step 2.

Step 3.

Step 4.

Step 5.

Step 6.

Step 7.   HEAT   HST

Step 8.

Sleeve End Cap Installation Step
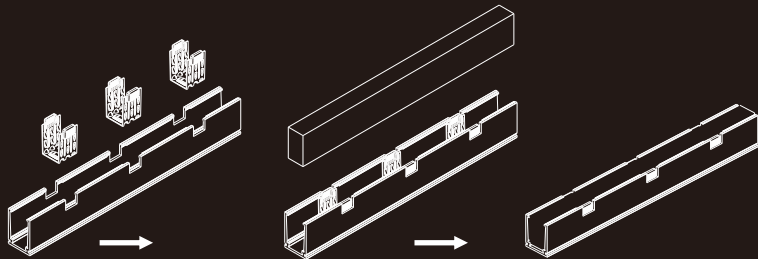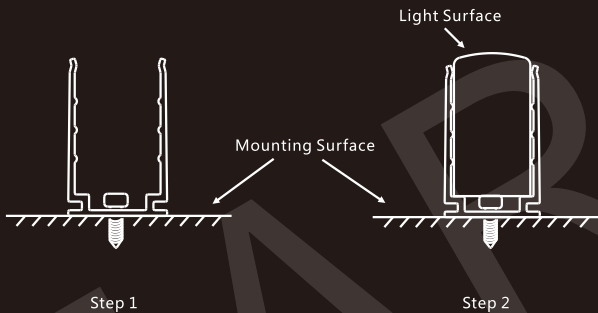
Step 9.
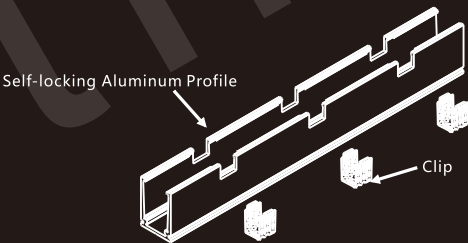
Step 10.

Step 11.

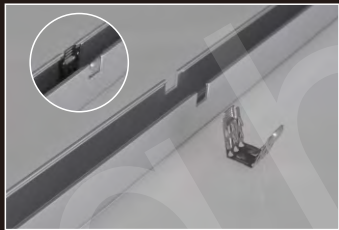Step 12.   HST

Step 13.   HEAT

Step 14.

Artist of Light Installation Step

Aluminum Profile

Self-locking Aluminum Profile

Self-locking Aluminum Profile

Clip

Light Surface

Mounting Surface

Step 1   Step 2

Clip

light

Aluminium U-channel

Installation Surface

Screw   a   b   c   d
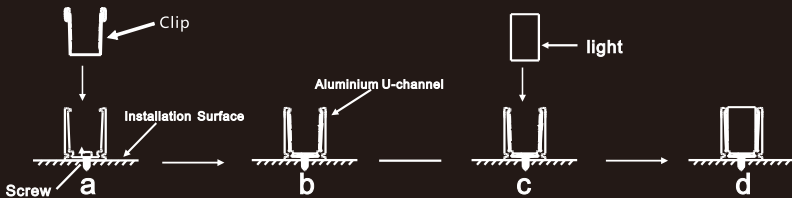
Galaxy of Light Installation Step

Aluminum Profile

Mounting Surface

Light Surface

Step 1

Step 2
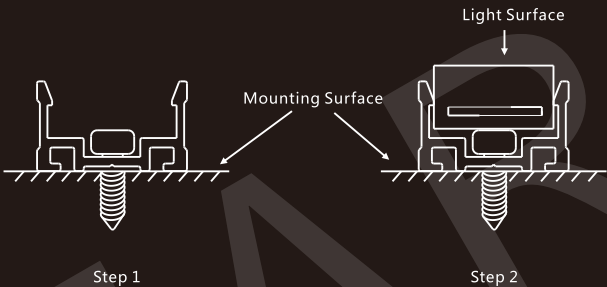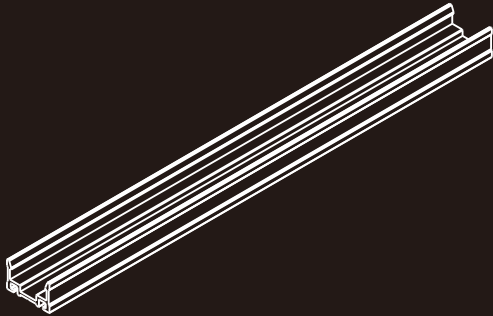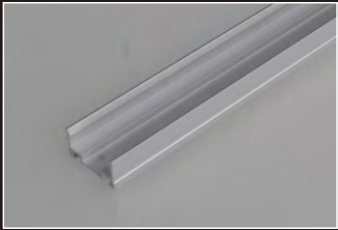
Plastic Clips

Male & Female Connector

Male Connector & Male Pin

Screw Type	Push Lock Type	Push Lock Type	Plug in Type
48.5	48.5	~39	28
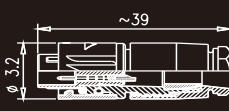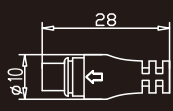
Female Connector & Female Pin

45.5	45.5	~37	28
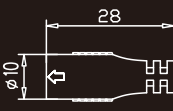
Number of Contacts	2	3	4	2	3	4	2	3	4	2	3	4
Wire Gauge	0.823mm2(18AWG)			0.823mm2(18AWG)			0.34mm2(22AWG)			0.2mm2(24AWG)		
Cable Range	3.5mm-6.8mm(Field solder)			3.5mm-6.8mm(Field solder)			2.9mm-6.3mm					
	Max. 9mm(molded)			Max. 9mm(molded)			Max. 6.3mm(molded)			Max. 5mm(molded)		
IP Rating	IP68/IP67			IP68/ IP67			IP67/IP66			IP65		
Voltage Rating	300V	300V	125V	300V	300V	125V	110V	110V	110V	110V	110V	110V
Rated Current	10A	10A	10A	10A	10A	10A	2A	2A	2A	2A	2A	2A

TOOLS

MINI TOOLS CASE

To provide better customer experience, we launched a set of tool kit to make it more convenient for using our products.

Cutter: Easy to use even for ladies. With this innovative tool, people could cut the light to get a flat and smooth cross section and achieve IP68 waterproof with front connectors and end cap.

Insert inducer: As our light is capsulated by PVC, electrode may be very close to PVC. Insert inducer will help you get them apart easily to find the copper and to install the connector.
Note: Do not insert the inducer too deeply; 5-10mm is enough.

Gripper: It is to finish mechanical clasp connector assembly. After pushing anti-skidding clip into U Steel plate, place it in right setting slot against the U Steel Plate. With U Steel Plate as fulcrum, rotate gripper by lever principle until hearing sound of snap-in or seeing popup of shrapnel on Anti-skidding Clip
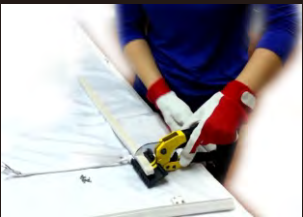

Cutter

Open it

Cut the light vertically

Cut

Place the gripper

Rotate the gripper

Till shrapnel popup

Insert inducer

CLEAR Lighting | Driver

Enclosed type power supply

| Voltage Range	90～264VAC	90～264VAC	90～295VAC	90～295VAC	90-305VAC
Article No.	LPV-35-24	LPV-60-24	CLG-100-24	CLG-150-24A	HLG-320A-24A
Efficiency	85%	89%	88.5%	90%	94%
Output Voltage	DC24V	DC24V	DC24V	DC24V	DC24V
Power Rating	35W	60W	96W	150W	320W
Output Current	1.5A	2.5A	4A	6.3A	13.34A
Certificate	UL, cUL, CE	UL, cUL, CE	UL, cUL, TUV, CB, CE	UL, cUL, TUV, CB, CE	UL, cUL, TUV, CB, CE
IP Rating	IP67	IP67	IP67	IP65	IP65
Size	148*40*30mm (L*W*H)	162.5*42.5*32mm (L*W*H)	222.2*68*38.8mm (L*W*H)	229*68*38.8mm (L*W*H)	256*90*43.8mm (L*W*H)

Voltage Range	85～264VAC	88～132VAC/176～264VAC
Article No.	SP-150-24	SP-320-24
Efficiency	87%	87%
Output Voltage	DC24V	DC24V
Power Rating	150W	312W
Output Current	6.3A	13A
Certificate	UL, cUL, TUV, CB, CE	UL, cUL, TUV, CB, CE
IP Rating	N/A	N/A
Size	199*99*50mm (L*W*H)	215*115*50mm (L*W*H)

Controller

DMX Controller LT 600

DMX Decoder LT 1809

DMX Decoder LT 830

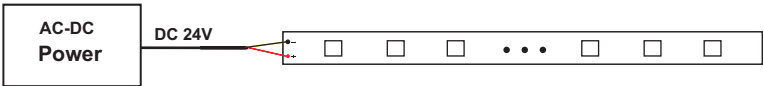| DMX Controller LT 600	DMX Decoder LT 1809	DMX Decoder LT 830
Working voltage: DC12V	Input voltage: DC5V~DC24V	Input signal: DMX512
Output signal channels: 16 channels	Input Signal: DMX512	Input voltage: DC5V~DC24V
Input & output interface: RJ45	Output signal: SPI	Max current load: 6A/CH×3CH 18A Max
Loading capability: >512-1920 pixels/channel	(compatible with TM1803, TM1804, Tm1809,	Max output power: 216W/432W(12V/24V)
Grey level: Max 65536 scale(64K)	Tm1812, UCS1903, UCS1909, UCS1912, UCS2903,	Output Gray Scale: 256 levels/CH(8bit/CH)
Refreshing frequency: 60Hz~3000Hz	UCS2909,UCS2912,WS2811 driving IC)	DMX512 socket: XLR-3, RJ45, Green terminal
Online transmission mode: TCP/IP Protocol	Decoding Channels: 512 channels/unit	Dimension: L163×W78×H40mm
Off-line storage media: Max.2GB SD card	Output Grey Scale: 256 levels/CH(8bit/CH)	Weight(G.W): 340g
The 3th interface: DMX512/1990 Protocol	DMX512 Connector: XLR-3, Green terminal	
Dimensions: L197XW120XH47(mm)	Dimension: L125×W52×H40mm	
Weight (G.W.): 1350g	Weight (G.W): 300g	

DMX Controller LT 800

RGB Controller LT 330

RGB Remote T3

RGB Controller T3-5A
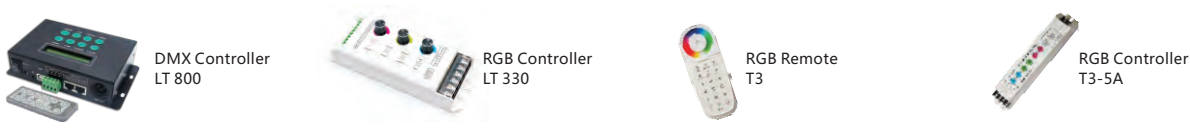
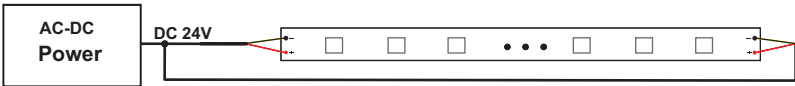| DMX Controller LT 800	RGB Controller LT 330	RGB Remote T3	RGB Controller T3-5A
Working Voltage: DC12V	Input voltage: DC5V~DC24V	Input Voltage: DC5V Li-Battery	Power Supply Chosen:DC CV SMPS
Power Consumption: <2W	Max current load: 8A ×3CH Max 24A	Working Current: <30mA	Input Voltage: DC12V~DC24V
Output Signal: DMX512	Max output power:	Working Frequency: 2.4GHZ	Max Current Load: 5Ax 3CH Max 15A
Output Loop: 1 Port	120W/288W/576W(5V/12V/24V)	RF Remote Distance: 30m	Max Output Power: 180W/360W(12V/24V)
Transmission Speed: 250Kbps	Function Mode: 25 modes	Remote Option: Sync Control	Change Mode: 32 Fantastic modes
Function Mode: 39 modes	Scale Levels: 1024×1024×1024	Battery Capacity: 1000mAh	Control Button: 8 touch buttons
Control Quantity: 170 pixels	Dimension: L170×W64×H44mm	Standby Time: 6 months	Grey Scale Levels: 1024x1024x1024
Dimensions: L163×W108×H40mm	Weight (G.W): 200g	Normal Using Time: 30 days	Compatible Remote Control:T3/T3M/T3X
Weight(G.W): 760g		Dimensions: L145×W55×H22(mm)	Dimensions: L211×W40×H30(mm)
		Weight (G.W.): 200g	Weight (G.W.): 180g

Single Color LED Ribbon Light Connection Diagram

Type 1. Single Power Supply, Single End Feed

AC-DC Power — DC 24V

Type 2. Single Power Supply, Double Ends Feed

AC-DC Power — DC 24V

Type 3. Multi Power Supply, No Limitation for Connection Length

DC 24V — AC-DC Power
DC 24V — AC-DC Power

Type 4. High Voltage Connection Diagram

AC 230V

Max. Continuous Length

Article No.	Single End Feed		Double Ends Feed	
	Red/Amber	Green/Blue/White	Red/Amber	Green/Blue/White
C-FR-F10B-24V	20m	15m	40m	30m
C-FR-F11B-24V	20m	15m	40m	30m
C-FR-F15B-24V	15m	10m	30m	20m
C-FR-F17A/B/C-24V-60	15m	10m	30m	20m
C-FR-F21B-24V	15m	10m	30m	20m
C-FR-F17A/B/C-24V-30	18m	15m	36m	30m
C-FR-F15B-CC	15m	10m	30m	20m
C-FR-F15FCJ-CC	15m	10m	30m	20m
C-FR-F15CJ-CC	15m	10m	30m	20m
C-FR-F21B-CC	15m	10m	30m	20m
C-FR-F21FCJ-CC	15m	10m	30m	20m
C-FR-F21CJ-CC	15m	10m	30m	20m
C-FR-F22B-CC	15m	10m	30m	20m
C-FR-F17A/B/C-CC	15m	10m	30m	20m

RGB Color LED Ribbon Light Connection Diagram

Type 1. Single Power Supply, Single End Feed
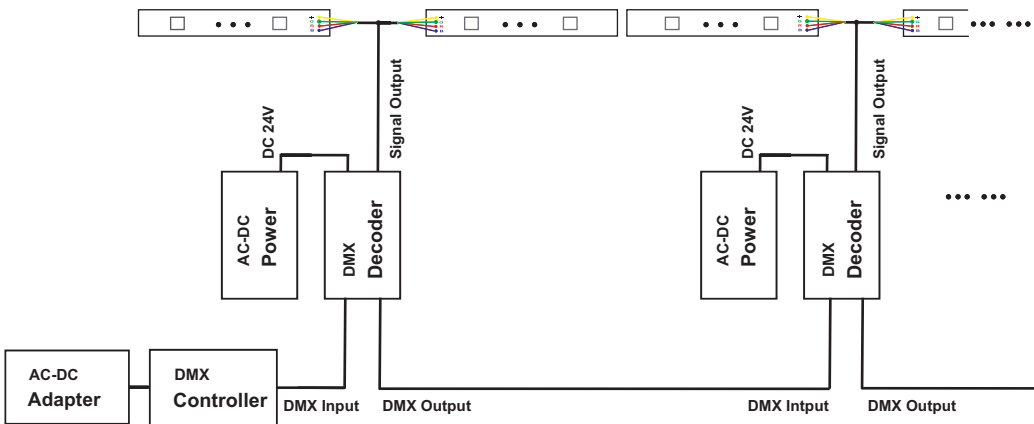

Type 2. Single Power Supply, Double Ends Feed

Type 3. Multi Power Supply and RGB Light, Accurate Synchronization
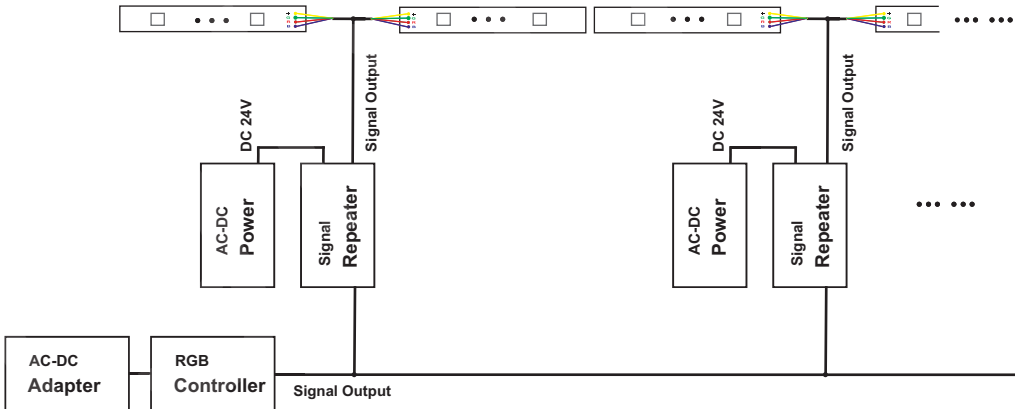
Type 4. Multi Power Supply and RGB Light, DMX Control

Max. Continuous Length
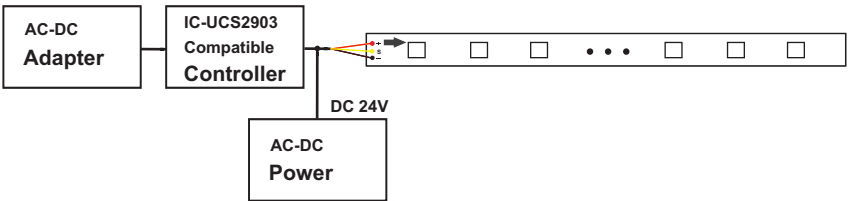
Article No.	Single End Feed	Double Ends Feed
C-FR-F15A-24V	10m	20m
C-FR-F16A/B/C-24V-60	10m	20m
C-FR-F21A-24V	10m	20m
C-FR-F16A/B/C-24V-30	15m	30m

LED Chasing Ribbon Light Connection Diagram

Type 1. Working with DMX Controller and DMX Decoder, Single End Feed.
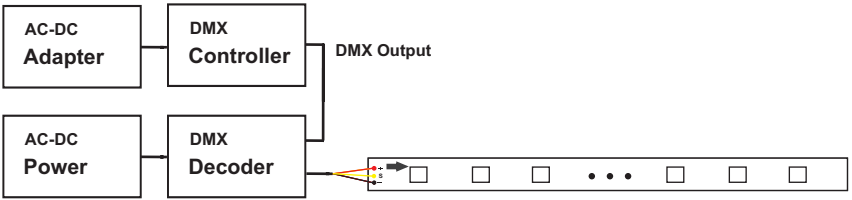
Type 2 . Working with IC-UCS2903 Compatible Controller, Single End Feed.

**Type 3. Working with IC-UCS2903 Compatible Controller, Double Ends Feed.**
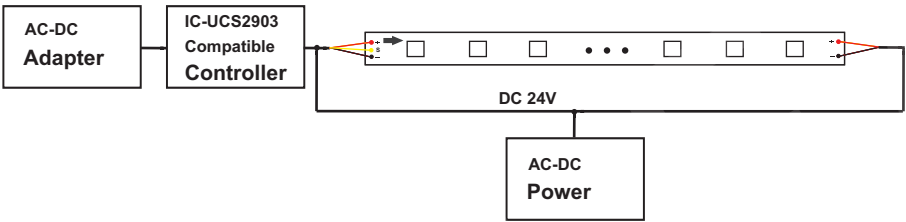
Max. Continuous Length

Article No.	Single End Feed	Double Ends Feed
C-FR-F15S-24V	15m	30m
C-FR-F16S-24V	15m	30m
C-FR-F21S-24V	15m	30m

Type 4. Working with DMX Controller and DMX Decoder, Multi Power Supply and Chasing Light.
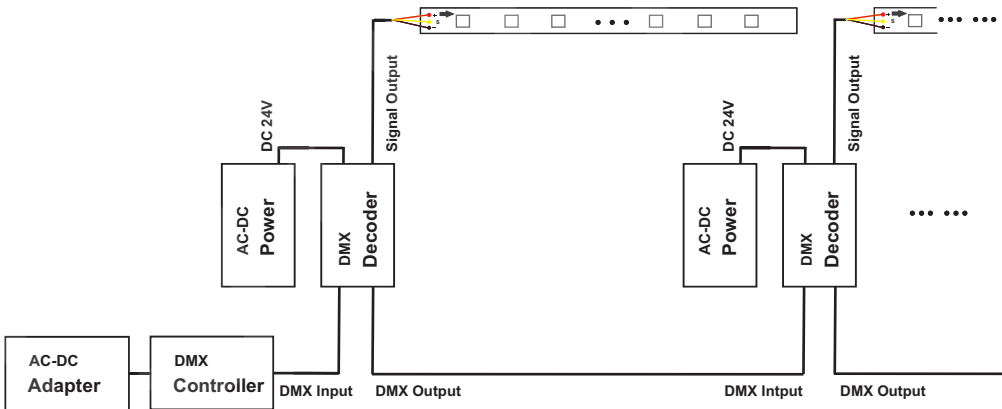
Type 5. Working with IC-UCS2903 Compatible Controller, Multi Power Supply and Chasing Light.
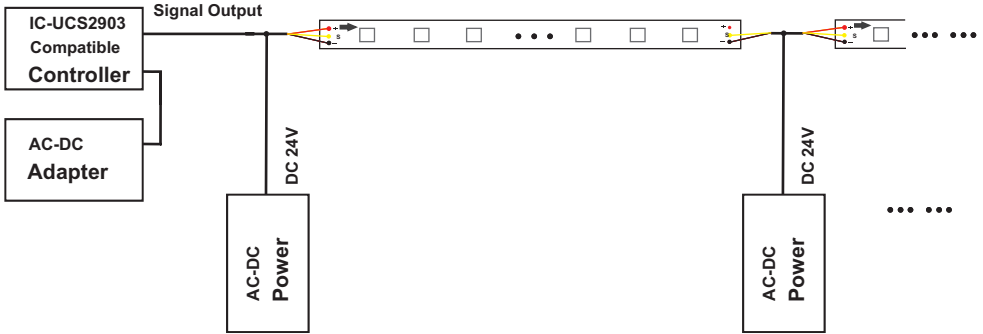
Best Practice

for Good User Experience

Artist and Galaxy are our main product categories. This helpful guide will not only reduce the possibility of damage caused by improper use of the categories, but also let you understand how to make the light work well in a long life time.

We recommend people who store, unpack, install, replace and maintain the light to read the guide before their action. We believe this will lead to a better experience for your using Artist and Galaxy.
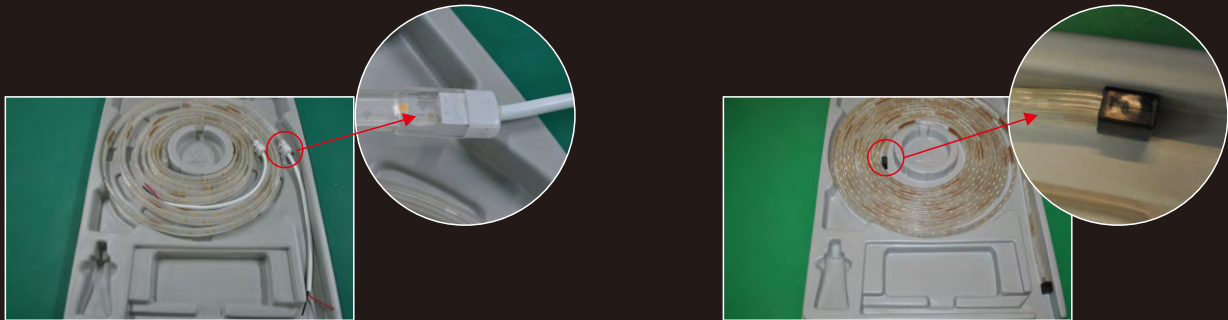
1. Storage and Transport

1.1 Ensure the ribbon installed with front connectors and end caps or covered with black protection caps in storage and transport state.

For Artist category (F10,F15, F21,F22)
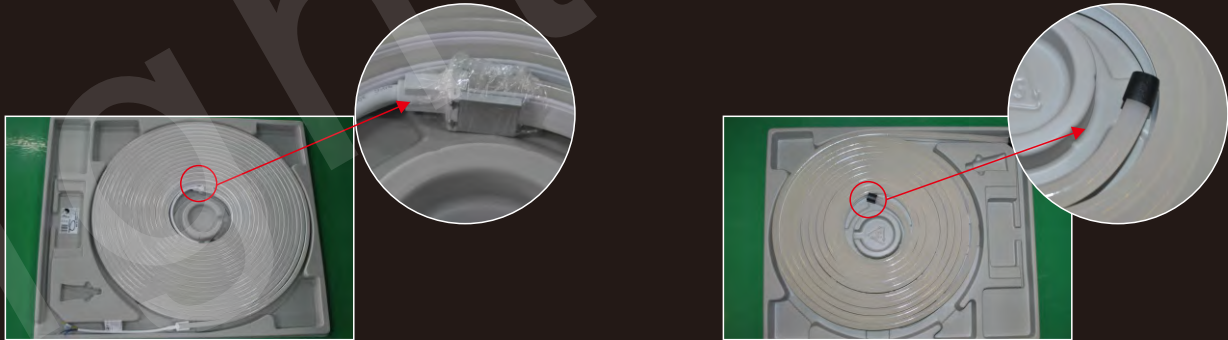
For Galaxy category（F16, F17）

1.2 Storage and transport temperature：-20~60℃.
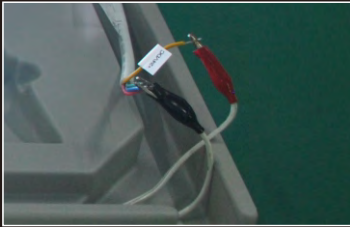
1.3 Don't stress.

2. Unpacking and Encasement

2.1   If you need to test the ribbon lighting effect, please take out the whole inner blister, but no need to diffuse ribbon light, install front connector and correctly power the ribbon light less than 1 minute to avoid excessive heat.

Single end connection for Max. length 10m
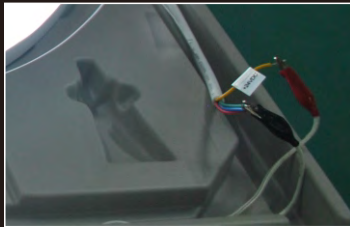

Double ends connection for Max. length 20m

2.2   Always follow indication to pull out inner blister about 10CM and then pull the ribbon light slowly，or reversely pull out the ribbon light. Never twist.


10cm

2.3   If you encase the unrolled ribbon light, cooperate with another person and bend it in correct direction into inner blister. Do not unroll if not use.

The correct bending direction for side view ribbon light (F15, F21) is with print letters on light PVC outwards; and for top view ribbon light (F16, F17) with light surface outwards. Or you can refer to original packing.

For side view light: F10, F15, F21

Light Surface   Light Surface

Light Surface

Light Surface
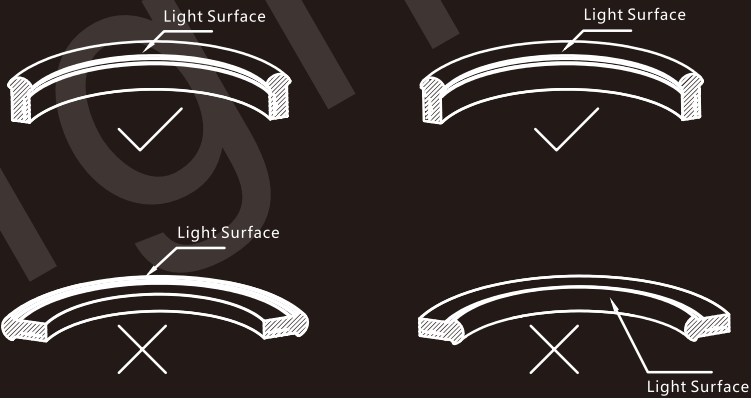
For top view light: F16, F17, F22

Light Surface

Light Surface

Light Surface

Light Surface
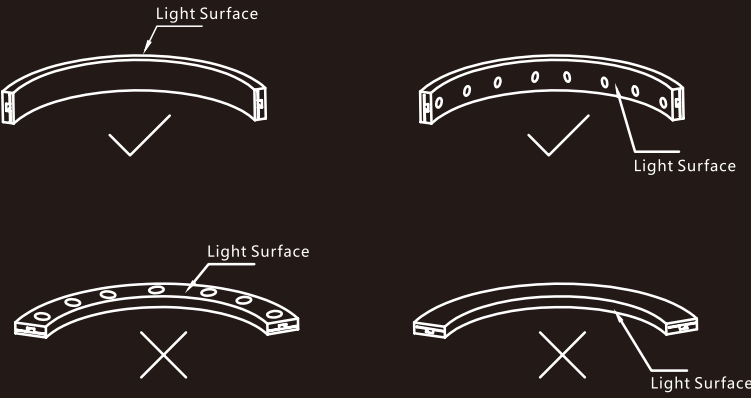
3. Assembling Accessory

3.1　Always follow User Manual to assemble accessories.

3.2　Only use accessories manufactured or approved by **CLEAR Lighting**.

3.3　This product must be assembled by qualified specialist to ensure electrical function and waterproof protection.

3.4　Always follow User Manual to cut the ribbon light correctly: Vertically cut the ribbon light along the cutting line. We recommend using cutter (shearing tool sold separately by **Clear Lighting**).

The correct cutting way,R=90° √
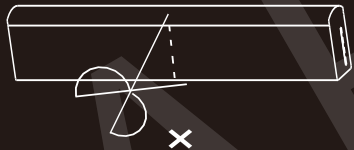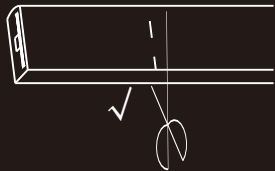
Wave cutting is incorrect ×

R≠90°is incorrect

3.4　Only cut the ribbon light at cutting mark (scissor, cutting line, visible PCB joint).

For Artist category (F10, F15, F21, F22)
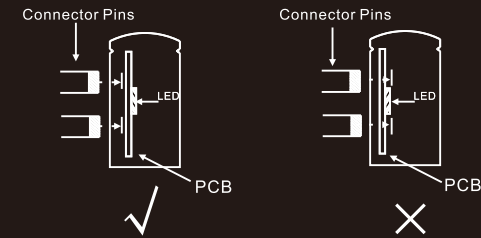

For Galaxy category（F16, F17）

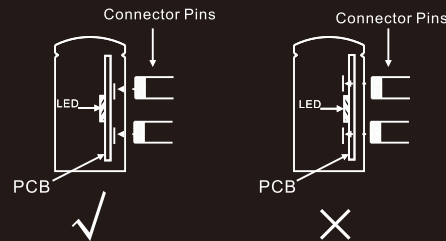3.5　Make sure the section is flat after cutting. Trim the PCB if it is extruded.

3.6 Pay attention to the correct insert position of front connector metal pins.

3.7 Select proper 01 or 02 type front connector based on PCB position in the section view of ribbon light.

For Artist category（F10, F15, F21）

For Galaxy category（F16, F17）

01 type connector

01/02 type connector

Connector Pins

Connector Pins

LED

LED

PCB

PCB

✓   ✗

02 type connector

Connector Pins

Connector Pins

LED

LED

PCB

PCB

✓   ✗

Light Surface

Light Surface

LED

PCB

LED

Connector Pins

✓   ✗

For Artist category（F10, F15, F21）01 type connector

For Galaxy category（F16, F17）01 type connector

Top-view   Back-view

Top-view   Back-view

For Artist category（F15, F21）02 type connector

For Galaxy category（F16, F17）02 type connector

Top-view   Back-view

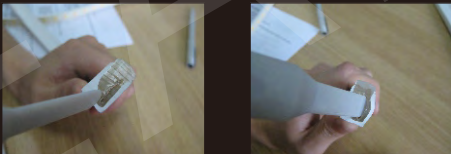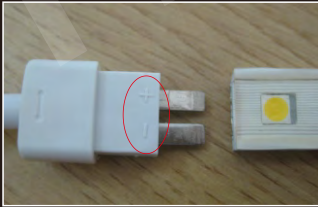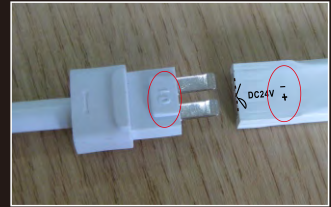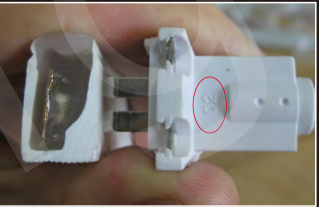Top-view   Back-view
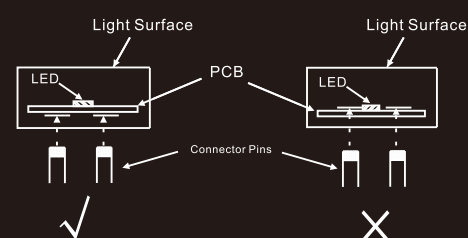
Installation Tools

Recommend using dedicated inducer (sold separately) to help install.
Insert the inducer in the crack between PCB back and thinner PVC side, spread and make space between them. Then along the inducer insert front connector pin in correct polarity. Pull out inducer lastly.

For Artist category（F10, F15, F21）

For Galaxy category（F16, F17）
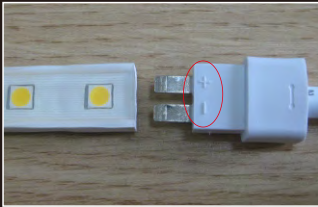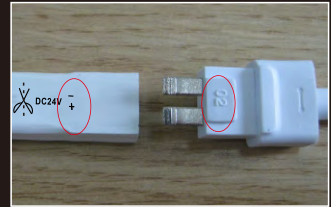
3.8   When install IP68 connector, make sure that there is no space at the bottom between anti-skidding slip and light, no space between anti-skidding slip ear and light section.

✓   ✗   ✗

✓   ✗   ✗

3.9   Always follow User Manual to assemble IP68 connectors.
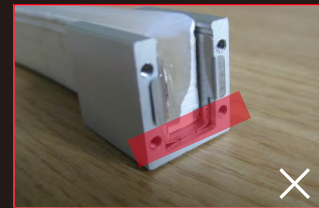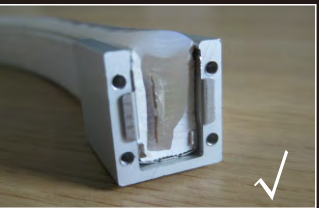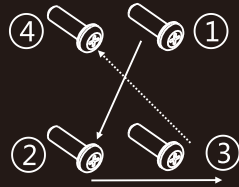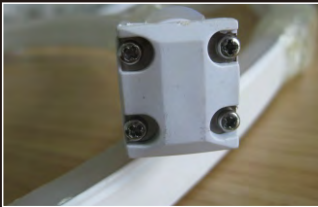

For Artist category (F15, F21) IP68

Always make sure all the connectors are screwed tightly by diagonal sequence.

4. Mounting

4.1   Always follow User Manual to mount. This product must be installed by qualified worker.

4.2   Before installation ensure power is switched off.

4.3   It is better to test the Red, Green and Blue channel respectively before RGB Light installation, then connect the RGB light to the RGB controller if each channel works well.

4.4   Only use the power supply provided or recommended by manufacturer. And the power supply must be constant voltage (CV) output and has over load protection, over voltage protection and short protection functions. CE and UL certificated power supplies are recommended.

 4.5   The power supply load capacity must be higher than total ribbon light load power. 80% load rate is better to ensure your ribbon light life span.

4.6   The max running length must not exceed specified value in instruction manual. Do not over load.

4.7   Only use correct polarity and voltage. Do not power the DC light using high voltage.

4.8   For installation you should use aluminum channel, clip or other mounting accessories proved by **CLEAR Lighting**, especially the product is installed to hang or suspend freely.

4.9   Make sure the product installation is in correct bending direction.
The correct bending direction for side view ribbon light (F10, F11, F15, F21) is with print letters on light PVC outwards; and for top view ribbon light (F16, F17, F22) with light surface outwards. Or you can refer to original packing.

4.10 Please note the minimum bending diameter in Specification or User manual.

4.11   When aluminum profile is used to install the product, take care not to fix the parts with a hammer or other tool, use hands to press the light slightly from one end to the other into aluminum profile. Do not install from both ends to middle that may cause bump. When removing the ribbon light out of channel, elevate one end of the ribbon light gently and gradually till another end.

Installation diagram :
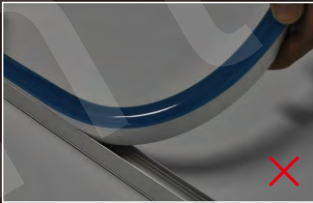
Remove diagram :
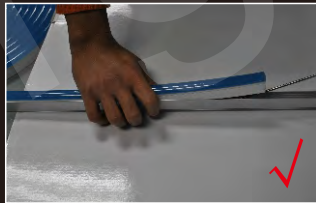
 4.12   No twisting during installation.

4.13   Ribbon light bending operation temperature : 0~45℃; After installation working ambient temperature : -20~45℃

4.14   IP40, IP68 protection rate are based on lab environment test. Harsh operating environment (Large variation of temperature frequently in a short period of time, overheating, strong mechanical pressure etc.) will accelerate aging and degrade water resistance.
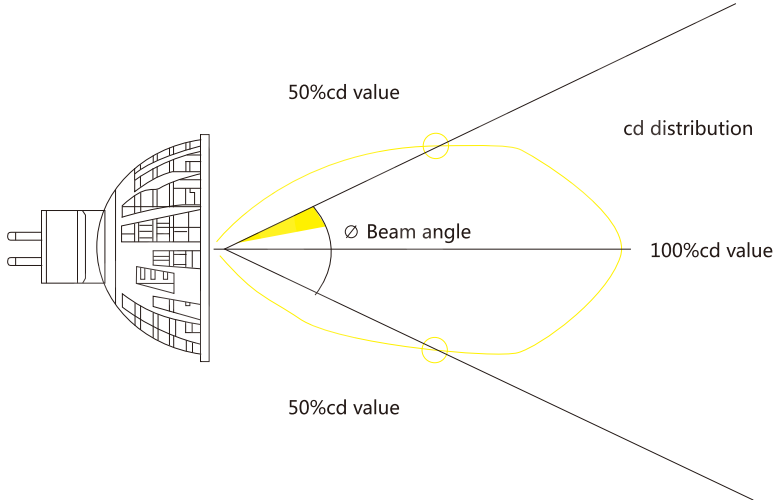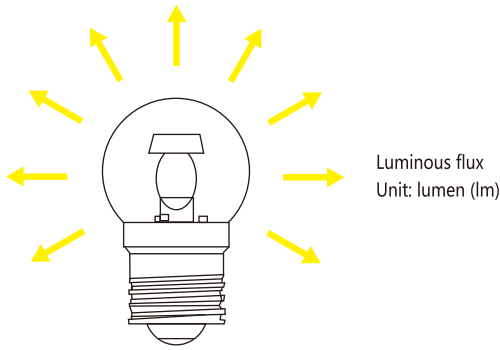
4.15   Do not position this product near heaters or any direct source of heat. Operate in a chemical hazardous free environment. Excess acidic, alkaline, radioactive, corrosive gas etc. conditions will affect your ribbon light PVC protection.

Recommend using special self-locking aluminum profile for easy installing and dismounting.
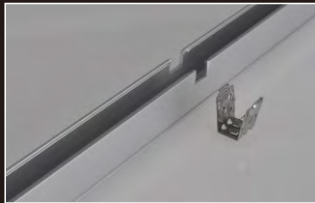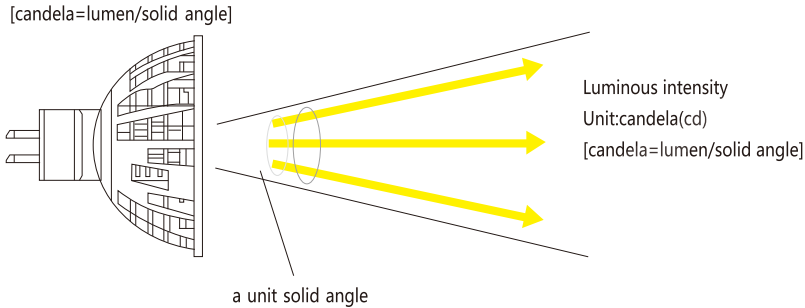
1). Luminous Flux (Ô)

The SI unit of luminous flux is the lumen (lm). The luminous flux Ô [lm] indicates all the radiated power emitted by a light source in all directions.

Luminous flux
Unit: lumen (lm)

2). Candela

The candela is the SI base unit of luminous intensity; that is, power emitted by a light source in a particular direction Luminous intensity in different directions is different from a particular light source.

[candela=lumen/solid angle]

Luminous intensity
Unit:candela(cd)
[candela=lumen/solid angle]

a unit solid angle

3). Beam angle (unit: ±)

The beam angle is the angle between the two directions opposed to each other over the beam axis for which the luminous intensity is half that of the maximum luminous intensity. Beam angle can tell people how the beam transmits from beam axis.

50%cd value

cd distribution

∅ Beam angle

100%cd value

50%cd value

4). Lux (lx)

The lux (symbol: lx) is the SI unit of illuminance and luminous emittance measuring luminous power per area.
1lumen/ ft^2=1foot candlepower
1lumen/m²=1 lux

unit surface area

lumen

illuminance
unit:lux(lx)
[lux =lumen/m²]
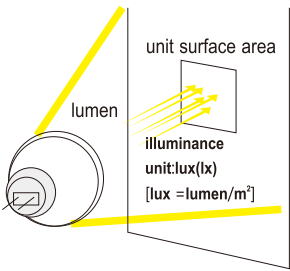
5). Correlated Color Temperature (CCT)

The black-body radiator appears of different colors when heated in correlated temperatures. CCT refers to the temperature when the color of the heated black-body radiator corresponds to that of the light source.

| 1800k | 4000k | 5500k | 8000k | 12000k | 16000k |
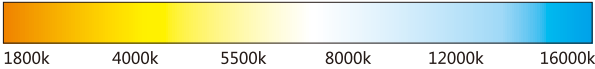
CCT range and standard, referring ANSI_NEMA_ANSLG C78.377-2008

Measurement of chromaticity shall be made in accordance with methods given in the measurement standard IESNA LM-79.

Nominal CCT Categories

Nominal CCT	Target CCT and tolerance(K)	Target Duv and tolerance
2700K	2725 ± 145	0.000 ± 0.006
3000K	3045 ± 175	0.000 ± 0.006
3500K	3465 ± 245	0.000 ± 0.006
4000K	3985 ± 275	0.001 ± 0.006
4500K	4503 ± 243	0.001 ± 0.006
5000K	5028 ± 283	0.002 ± 0.006
5700K	5665 ± 355	0.002 ± 0.006
6500K	6530 ± 510	0.003 ± 0.006

Notes:Six of the nominal CCTs correspond to those in the fluorescent lamp specification : 2700 K, 3000 K (Warm White), 3500 K (White), 4100 K (Cool White), 5000 K, and 6500 K (Daylight), respectively.

6). Color Rendering Index (CRI)

The color rendering index (CRI) (sometimes called color rendition index), is a quantitative measure of the ability of a light source to reproduce the colors of various objects faithfully in comparison with an ideal or natural light source.

7). Luminous Efficacy (lumen/watt)

Luminous efficacy is a measure of how well a light source produces visible light. It is the ratio of luminous flux to power.
[Luminous efficacy = lumen/watt]

8). Lumen Maintenance

Lumen maintenance is the luminous flux output remaining output (typically expressed as a percentage of the maximum output) at any selected elapsed operating time. Lumen maintenance is the converse of lumen depreciation.

9). SDCM & MacAdam Ellipses

SDCM is an acronym which stands for Standard Deviation Colour Matching. SDCM has the same meaning as a "MacAdam ellipse". A 1-step MacAdam ellipse defines a zone in the CIE 1931 2 deg (xy) color space within which the human eye cannot discern color difference. Most LEDs are binned at the 4-7 step level, in other words you certainly can see colour differences in LEDs that are ostensibly the same color.

These are the three sizes often used in the color specifications for light sources. In particular, the 7-step is the standard for color consistency in CFL lamps and in ANSI/NEMA/ANSLG C78.377-2008 American National Standard for Specifications for the Chromaticity of Solid State Lighting (SSL) Products (which is a standard for white light, not colored). 7-step ellipse centered on 3200 K covers a very broad area and spans a 500 K range of color temperatures from 2950 K to 3450 K. The 4-step and 2-step ellipses are tighter standards, which are standards that many light source manufacturers are already working to. The 4-step ellipse is also the standard to which many entertainment industry HID lamps, such as MSR and HMI, have been manufactured for many years.

MacAdam Elipses centered on 3200K point
on Planckian Locus
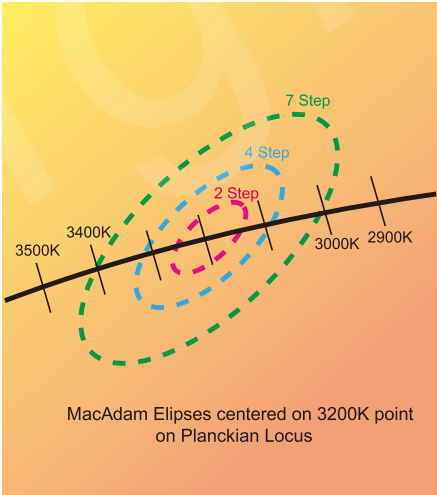
Define New Standards

High Illumination
Uniform & Even Light
Exquisite Appearance
Low Life-cycle Cost
Convenient Accessories

70 Patents Authorized
98% in Time Delivery
100% Mechanized SMD Production
Twinkling Club Membership Service
Customers from over 50 Countries with 85% Satisfaction Rating