ThermaGlo™ | CLEAR www.clearlighting.com

SAUNA LEDFLEX LINEAR LIGHT

Silicone

Ambient Working Temperature	Ambient Relative Humidity	Lumen Output	Warranty
Max. 95℃	Max. 100%	Max. 450 lm/m	3 years

Available Silicone Products	F22 | F15 | F21 | F16
IP Rating	IP67
Rated Power	≤6W/m
Applicable to	High temperature and humidity environments such as Dry Sauna, Wet Sauna, Steam Room, SPA, etc.

2200K 2700K 3000K 3500K 4000K 5700K

Red Green Blue Amber RGB 2200K~5700K RGBW


Steam Room


Sauna Room

★ Safe & Reliable

Adopt built-in constant current design to control temperature rise, no need extra protection shade against high temperature.

★ Versatile Installation

Indirect or direct lighting, horizontal or vertical bending.

★ Ready & Convenient for Installation

Factory-assembled connector, integrated to the light body by machine.

★ Standard or Bespoke Lengths

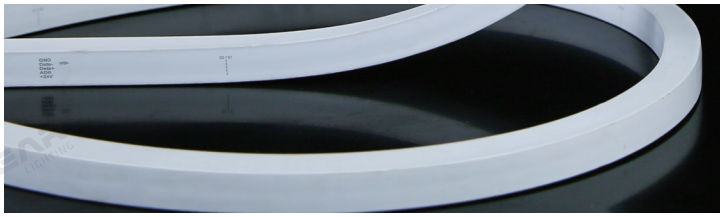
Max. 10m per piece and min. 55mm increment.

★ Ideal Lighting Continuity

Even spliced by multiple pieces of LED flex.

★ Much Lower User & Maintenance Cost

Compared with traditional sauna light fixtures prevailing in light efficiency, lifespan, and accommodation.



Monochrome

Item Code	Finished Product						LED	
	CCT	CCT Tolerance	Color Tolerance	CRI	Lumen/m	Lumen/ft	Color Tolerance	CRI
C-SFR-F22B-VB-24CC-22K-WM-108-80-6W-55.6	2200K	2265±85K	<6SDCM	80	330lm	101lm	<2.3SDCM	82~87
C-SFR-F22B-VB-24CC-27K-WM-108-80-6W-55.6	2700K	2765±135K	<6SDCM	80	350lm	107lm	<2.3SDCM	82~87
C-SFR-F22B-VB-24CC-30K-WM-108-80-6W-55.6	3000K	3075±150K	<6SDCM	80	350lm	107lm	<2.3SDCM	82~87
C-SFR-F22B-VB-24CC-35K-WM-108-80-6W-55.6	3500K	3485±175K	<6SDCM	80	350lm	107lm	<2.3SDCM	82~87
C-SFR-F22B-VB-24CC-40K-WM-108-80-6W-55.6	4000K	3985±245K	<6SDCM	80	350lm	107lm	<2.3SDCM	82~87
C-SFR-F22B-VB-24CC-57K-WM-108-80-6W-55.6	5700K	5685±355K	<6SDCM	80	350lm	107lm	<2.3SDCM	82~87
C-SFR-F22B-HB-24CC-22K-WM-108-80-6W-55.6	2200K	2265±85K	<6SDCM	80	230lm	70lm	<2.3SDCM	82~87
C-SFR-F22B-HB-24CC-27K-WM-108-80-6W-55.6	2700K	2765±135K	<6SDCM	80	260lm	79lm	<2.3SDCM	82~87
C-SFR-F22B-HB-24CC-30K-WM-108-80-6W-55.6	3000K	3075±150K	<6SDCM	80	260lm	79lm	<2.3SDCM	82~87
C-SFR-F22B-HB-24CC-35K-WM-108-80-6W-55.6	3500K	3485±175K	<6SDCM	80	260lm	79lm	<2.3SDCM	82~87
C-SFR-F22B-HB-24CC-40K-WM-108-80-6W-55.6	4000K	3985±245K	<6SDCM	80	260lm	79lm	<2.3SDCM	82~87
C-SFR-F22B-HB-24CC-57K-WM-108-80-6W-55.6	5700K	5685±355K	<6SDCM	80	260lm	79lm	<2.3SDCM	82~87

Item Code	Finished Product							LED	
	CCT	CCT Tolerance	Color Tolerance	CRI	R9	Lumen/m	Lumen/ft	Color Tolerance	CRI
C-SFR-F15B-HB-24CC-22K-WM-72-80-6W-83.3	2200K	2265±85K	<6SDCM	80		200lm	61lm	<2.3SDCM	82~87
C-SFR-F15B-HB-24CC-27K-WM-72-80-6W-83.3	2700K	2765±135K	<6SDCM	80		210lm	64lm	<2.3SDCM	82~87
C-SFR-F15B-HB-24CC-30K-WM-72-80-6W-83.3	3000K	3075±150K	<6SDCM	80		210lm	64lm	<2.3SDCM	82~87
C-SFR-F15B-HB-24CC-35K-WM-72-80-6W-83.3	3500K	3485±175K	<6SDCM	80		210lm	64lm	<2.3SDCM	82~87
C-SFR-F15B-HB-24CC-40K-WM-72-80-6W-83.3	4000K	3985±245K	<6SDCM	80		210lm	64lm	<2.3SDCM	82~87
C-SFR-F15B-HB-24CC-57K-WM-72-80-6W-83.3	5700K	5685±355K	<6SDCM	80		210lm	64lm	<2.3SDCM	82~87

Item Code	Finished Product							LED	
	CCT	CCT Tolerance	Color Tolerance	CRI	R9	Lumen/m	Lumen/ft	Color Tolerance	CRI
C-SFR-F21B-HB-24CC-22K-WM-72-80-6W-83.3	2200K	2265±85K	<6SDCM	80		230lm	70lm	<2.3SDCM	82~87
C-SFR-F21B-HB-24CC-27K-WM-72-80-6W-83.3	2700K	2765±135K	<6SDCM	80		280lm	85lm	<2.3SDCM	82~87
C-SFR-F21B-HB-24CC-30K-WM-72-80-6W-83.3	3000K	3075±150K	<6SDCM	80		280lm	85lm	<2.3SDCM	82~87
C-SFR-F21B-HB-24CC-35K-WM-72-80-6W-83.3	3500K	3485±175K	<6SDCM	80		280lm	85lm	<2.3SDCM	82~87
C-SFR-F21B-HB-24CC-40K-WM-72-80-6W-83.3	4000K	3985±245K	<6SDCM	80		280lm	85lm	<2.3SDCM	82~87
C-SFR-F21B-HB-24CC-57K-WM-72-80-6W-83.3	5700K	5685±355K	<6SDCM	80		280lm	85lm	<2.3SDCM	82~87

Item Code	Finished Product							LED	
	CCT	CCT Tolerance	Color Tolerance	CRI	R9	Lumen/m	Lumen/ft	Color Tolerance	CRI
C-SFR-F16B-VB-24CC-22K-TT-36-80-6W-166.7	2200K	2238±66K	<5SDCM	80		350lm	107lm	<2.3SDCM	82~87
C-SFR-F16B-VB-24CC-27K-TT-36-80-6W-166.7	2700K	2725±85K	<5SDCM	80		400lm	122lm	<2.3SDCM	82~87
C-SFR-F16B-VB-24CC-30K-TT-36-80-6W-166.7	3000K	3045±105K	<5SDCM	80		450lm	137lm	<2.3SDCM	82~87
C-SFR-F16B-VB-24CC-35K-TT-36-80-6W-166.7	3500K	3465±245K	<5SDCM	80		450lm	137lm	<2.3SDCM	82~87
C-SFR-F16B-VB-24CC-40K-TT-36-80-6W-166.7	4000K	3985±150K	<5SDCM	80		450lm	137lm	<2.3SDCM	82~87
C-SFR-F16B-VB-24CC-57K-TT-36-80-6W-166.7	5700K	5669±305K	<5SDCM	80		450lm	137lm	<2.3SDCM	82~87
C-SFR-F16B-VB-24CC-65K-TT-36-80-6W-166.7	6500K	6532±340K	<5SDCM	80		450lm	137lm	<2.3SDCM	82~87

Item code	Finished Product				LED
	Color	Wavelength	Lumen/m	Lumen/ft	Color Tolerance
C-SFR-F22B-VB-24CC-R-WM-108-6W-83.3	Red	618-624nm	190lm	58lm	<3nm
C-SFR-F22B-VB-24CC-G-WM-108-6W-55.6	Green	522-530nm	390lm	119lm	<3nm
C-SFR-F22B-VB-24CC-B-WM-108-6W-55.6	Blue	468-474nm	75lm	23lm	<3nm
C-SFR-F22B-VB-24CC-A-WM-108-6W-83.3	Amber	588-594nm	190lm	58lm	<3nm
C-SFR-F22B-HB-24CC-R-WM-108-6W-83.3	Red	618-624nm	140lm	43lm	<3nm
C-SFR-F22B-HB-24CC-G-WM-108-6W-55.6	Green	522-530nm	300lm	91lm	<3nm
C-SFR-F22B-HB-24CC-B-WM-108-6W-55.6	Blue	468-474nm	55lm	17lm	<3nm
C-SFR-F22B-HB-24CC-A-WM-108-6W-83.3	Amber	588-594nm	140lm	43lm	<3nm

Item code	Finished Product				LED
	Color	Wavelength	Lumen/m	Lumen/ft	Color Tolerance
C-SFR-F15B-HB-24CC-R-WM-72-6W-125	Red	618-624nm	105lm	32lm	<3nm
C-SFR-F15B-HB-24CC-G-WM-72-6W-83.3	Green	522-530nm	200lm	61lm	<3nm
C-SFR-F15B-HB-24CC-B-WM-72-6W-83.3	Blue	468-474nm	40lm	12lm	<3nm
C-SFR-F15B-HB-24CC-A-WM-72-6W-125	Amber	588-594nm	110lm	34lm	<3nm

Item code	Finished Product				LED
	Color	Wavelength	Lumen/m	Lumen/ft	Color Tolerance
C-SFR-F21B-HB-24CC-R-WM-72-6W-125	Red	618-624nm	130lm	40lm	<3nm
C-SFR-F21B-HB-24CC-G-WM-72-6W-83.3	Green	522-530nm	280lm	85lm	<3nm
C-SFR-F21B-HB-24CC-B-WM-72-6W-83.3	Blue	468-474nm	55lm	17lm	<3nm
C-SFR-F21B-HB-24CC-A-WM-72-6W-125	Amber	588-594nm	150lm	46lm	<3nm

Item code	Finished Product				
	Color	Wavelength	Lumen/m	Lumen/ft	Color Tolerance
C-SFR-F16B-VB-24CC-R-TT-36-4W-250	Red	618-624nm	150lm	46lm	<3nm
C-SFR-F16B-VB-24CC-G-TT-36-6W-166.7	Green	522-530nm	350lm	107lm	<3nm
C-SFR-F16B-VB-24CC-B-TT-36-6W-166.7	Blue	468-474nm	85lm	26lm	<3nm
C-SFR-F16B-VB-24CC-A-TT-36-4W-250	Amber	588-594nm	150lm	46lm	<3nm

Dynamic White

Item code	Finished Product				LED
	Color	Wavelength	Lumen/m	Lumen/ft	Color Tolerance
C-SFR-F22D-VB-24CC-2200-5700K-WM-144-6W-83.3	2200K~5700K	2238±66K	110lm	34lm	N/A
C-SFR-F22D-HB-24CC-2200-5700K-WM-144-6W-83.3		5669±305K	135lm	41lm	N/A

Item code	Finished Product				LED
	Color	Wavelength	Lumen/m	Lumen/ft	Color Tolerance
C-SFR-F15D-HB-24CC-2200-5700K-WM-144-6W-83.3	2200K~5700K	2238±66K	70lm	21lm	<3nm
		5669±305K	85lm	26lm	<3nm

Item code	Finished Product				LED
	Color	Wavelength	Lumen/m	Lumen/ft	Color Tolerance
C-SFR-F21D-HB-24CC-2200-5700K-WM-144-6W-83.3	2200K~5700K	2238±66K	85lm	26lm	<3nm
		5669±305K	105lm	32lm	<3nm

Item code	Finished Product				LED
	Color	Wavelength	Lumen/m	Lumen/ft	Color Tolerance
C-SFR-F16D-VB-24CC-2200-6500K-WM-144-6W-83.3	2200K~6500K	2238±66K	160lm	49lm	<3nm
		6532±340K	205lm	63lm	<3nm

RGB

Item code	Finished Product				LED
	Color	Wavelength	Lumen/m	Lumen/ft	Color Tolerance
C-SFR-F22A-VB-24CC-RGB-WM-84-4.5W-83.3	Red	618-624nm	33lm	10lm	<3nm
	Green	522-530nm	90lm	27lm	<3nm
	Blue	468-474nm	15lm	5lm	<3nm
	R+G+B	R+G+B	138lm	42lm	/
C-SFR-F22A-HB-24CC-RGB-WM-84-4.5W-83.3	Red	618-624nm	30lm	9lm	<3nm
	Green	522-530nm	85lm	26lm	<3nm
	Blue	468-474nm	13lm	4lm	<3nm
	R+G+B	R+G+B	128lm	39lm	/

Item code	Finished Product				LED
	Color	Wavelength	Lumen/m	Lumen/ft	Color Tolerance
C-SFR-F15A-HB-24CC-RGB-WM-60-3.6W-100	Red	618-624nm	15lm	5lm	<3nm
	Green	522-530nm	36lm	11lm	<3nm
	Blue	468-474nm	7lm	2lm	<3nm
	R+G+B	R+G+B	58lm	18lm	/

Item code	Finished Product				LED
	Color	Wavelength	Lumen/m	Lumen/ft	Color Tolerance
C-SFR-F21A-HB-24CC-RGB-WM-60-3.6W-100	Red	618-624nm	18lm	5lm	<3nm
	Green	522-530nm	42lm	13lm	<3nm
	Blue	468-474nm	9lm	3lm	<3nm
	R+G+B	R+G+B	69lm	21lm	/

Dimension	Finished Product				LED
	Color	Wavelength	Lumen/m	Lumen/ft	Color Tolerance
C-SFR-F16A-VB-24CC-RGB-WM-60-3.6W-100	Red	618-624nm	30lm	9lm	<3nm
	Green	522-530nm	84lm	26lm	<3nm
	Blue	468-474nm	16lm	5 lm	<3nm
	R+G+B	/	130lm	40lm	/

RGBW

Item code	Finished Product				LED
	Color	Wavelength	Lumen/m	Lumen/ft	Color Tolerance
C-SFR-F22E-VB-24CC-RGBW(27K)-WM-84-6W-83.3	Red	618-624nm	36lm	11lm	N/A
	Green	522-530nm	95lm	29lm	N/A
C-SFR-F22E-HB-24CC-RGBW(27K)-WM-84-6W-83.3	Blue	468-474nm	16lm	5lm	N/A
	2700K	2765±135K	95lm	29lm	N/A
C-SFR-F22E-VB-24CC-RGBW(30K)-WM-84-6W-83.3	Red	618-624nm	36lm	11lm	N/A
	Green	522-530nm	95lm	29lm	N/A
C-SFR-F22E-HB-24CC-RGBW(30K)-WM-84-6W-83.3	Blue	468-474nm	16lm	5lm	N/A
	3000K	3075±150K	95lm	29lm	N/A
C-SFR-F22E-VB-24CC-RGBW(40K)-WM-84-6W-83.3	Red	618-624nm	36lm	11lm	N/A
	Green	522-530nm	95lm	29lm	N/A
C-SFR-F22E-HB-24CC-RGBW(40K)-WM-84-6W-83.3	Blue	468-474nm	16lm	5lm	N/A
	4000K	3985±245K	95lm	29lm	N/A

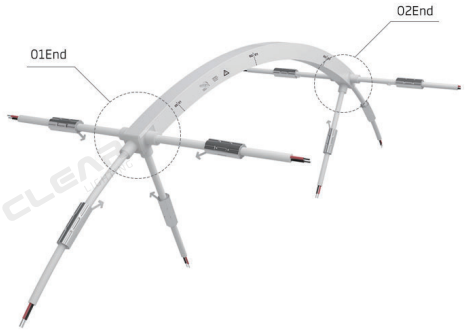
Item code	Finished Product				LED
	Color	Wavelength	Lumen/m	Lumen/ft	Color Tolerance
C-SFR-F15E-HB-24CC-RGBW(27K)-WM-60-5W-100	Red	618-624nm	16lm	5lm	N/A
	Green	522-530nm	40lm	12lm	N/A
	Blue	468-474nm	8lm	2lm	N/A
	2700K	2765±135K	40lm	12lm	N/A
C-SFR-F15E-HB-24CC-RGBW(30K)-WM-60-5W-100	Red	618-624nm	16lm	5lm	N/A
	Green	522-530nm	40lm	12lm	N/A
	Blue	468-474nm	8lm	2lm	N/A
	3000K	3075±150K	40lm	12lm	N/A
C-SFR-F15E-HB-24CC-RGBW(40K)-WM-60-5W-100	Red	618-624nm	16lm	5lm	N/A
	Green	522-530nm	40lm	12lm	N/A
	Blue	468-474nm	8lm	2lm	N/A
	4000K	3985±245K	40lm	12lm	N/A

Item code	Finished Product				LED
	Color	Wavelength	Lumen/m	Lumen/ft	Color Tolerance
C-SFR-F21E-HB-24CC-RGBW(27K)-WM-60-5W-100	Red	618-624nm	20lm	6lm	<3nm
	Green	522-530nm	46lm	14lm	<3nm
	Blue	468-474nm	10lm	3lm	<3nm
	2700K	2765±135K	46lm	14lm	N/A
C-SFR-F21E-HB-24CC-RGBW(30K)-WM-60-5W-100	Red	618-624nm	20lm	6lm	<3nm
	Green	522-530nm	46lm	14lm	<3nm
	Blue	468-474nm	10lm	3lm	<3nm
	3000K	3075±150K	46lm	14lm	N/A
C-SFR-F21E-HB-24CC-RGBW(40K)-WM-60-5W-100	Red	618-624nm	20lm	6lm	<3nm
	Green	522-530nm	46lm	14lm	<3nm
	Blue	468-474nm	10lm	3lm	<3nm
	4000K	3985±245K	46lm	14lm	N/A

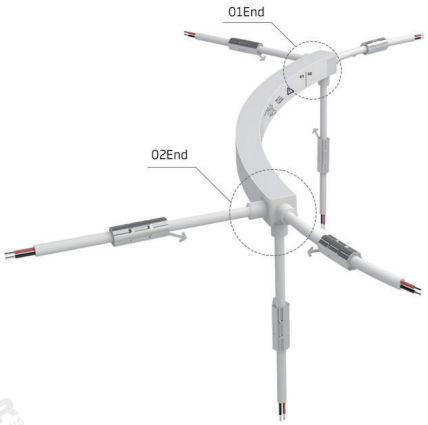
Item code	Finished Product				LED
	Color	Wavelength	Lumen/m	Lumen/ft	Color Tolerance
C-SFR-F16E-VB-24CC-RGBW(27K)-WM-60-5W-100	Red	618-624nm	35lm	11lm	<3nm
	Green	522-530nm	92lm	28lm	<3nm
	Blue	468-474nm	18lm	5lm	<3nm
	2700K	2765±135K	92lm	28lm	N/A
C-SFR-F16E-VB-24CC-RGBW(30K)-WM-60-5W-100	Red	618-624nm	35lm	11lm	<3nm
	Green	522-530nm	92lm	28lm	<3nm
	Blue	468-474nm	18lm	5lm	<3nm
	3000K	3075±150K	92lm	28lm	N/A
C-SFR-F16E-VB-24CC-RGBW(40K)-WM-60-5W-100	Red	618-624nm	35lm	11lm	<3nm
	Green	522-530nm	92lm	28lm	<3nm
	Blue	468-474nm	18lm	5lm	<3nm
	4000K	3985±245K	92lm	28lm	N/A

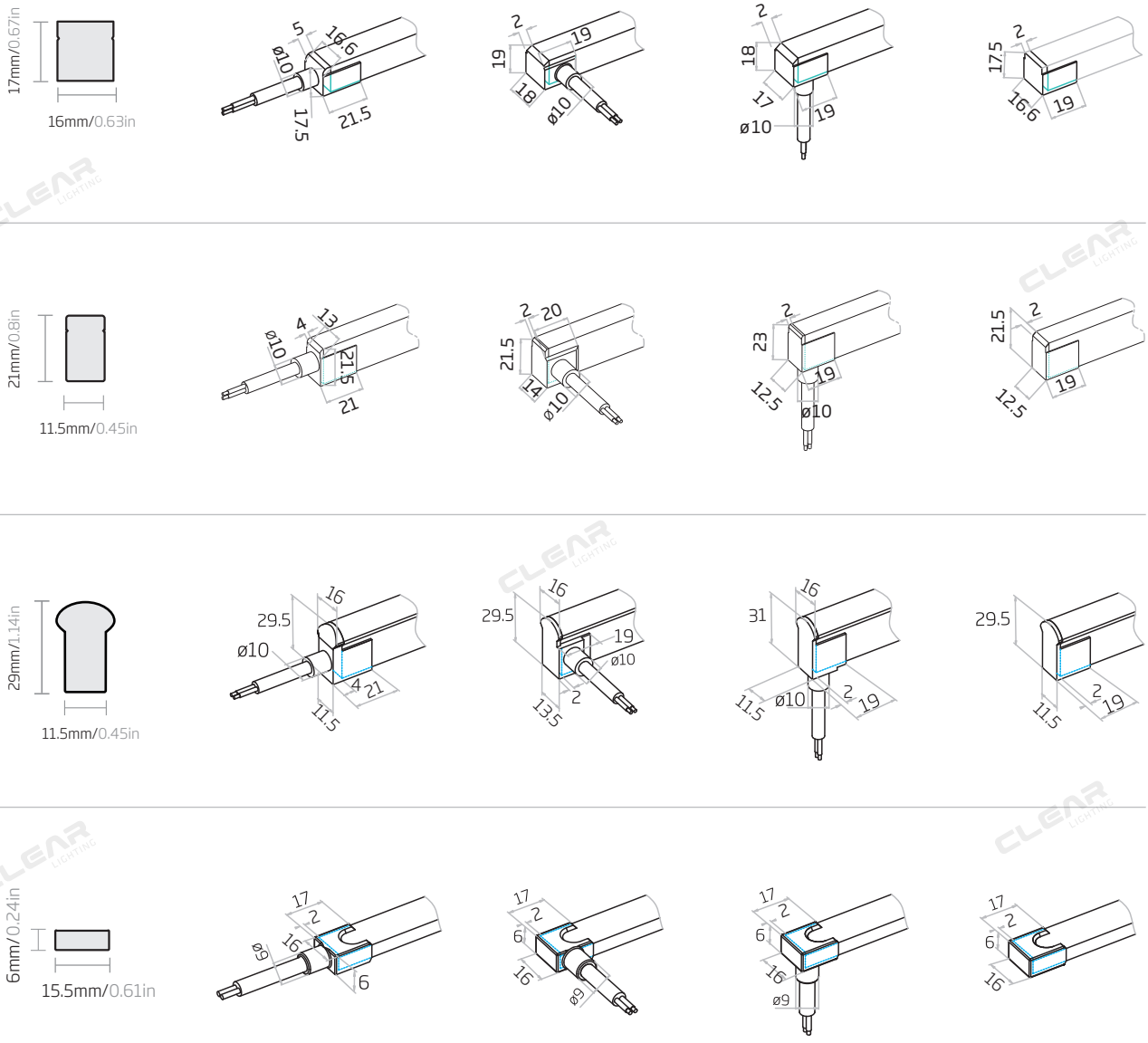
Silicone Injection-moulded Connector (mm)

Vertical Bending



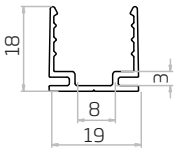
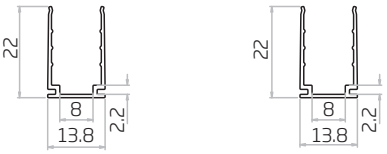
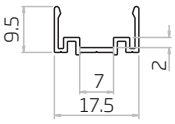
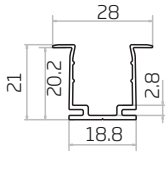
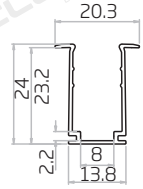
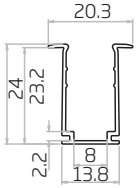
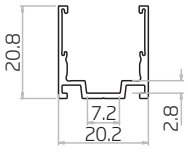
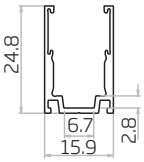
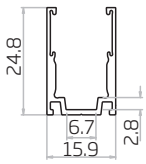
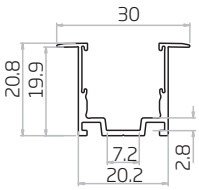
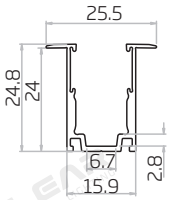
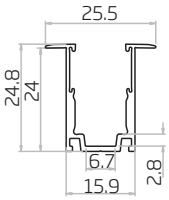
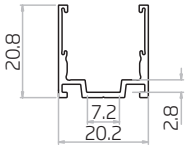
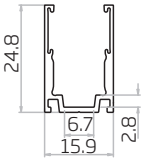
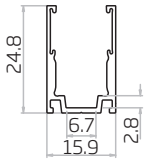
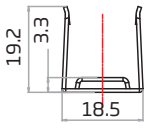
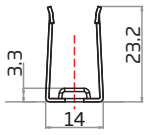
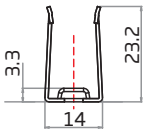
Horizontal Bending





Note:
1.Unless otherwise stated, the tolerance of the connector is ±0.5mm;
2.To avoid damage from the excessive force on cable joint, please keep at least 60mm of cable ahead in the natural state.

Mounting Profile

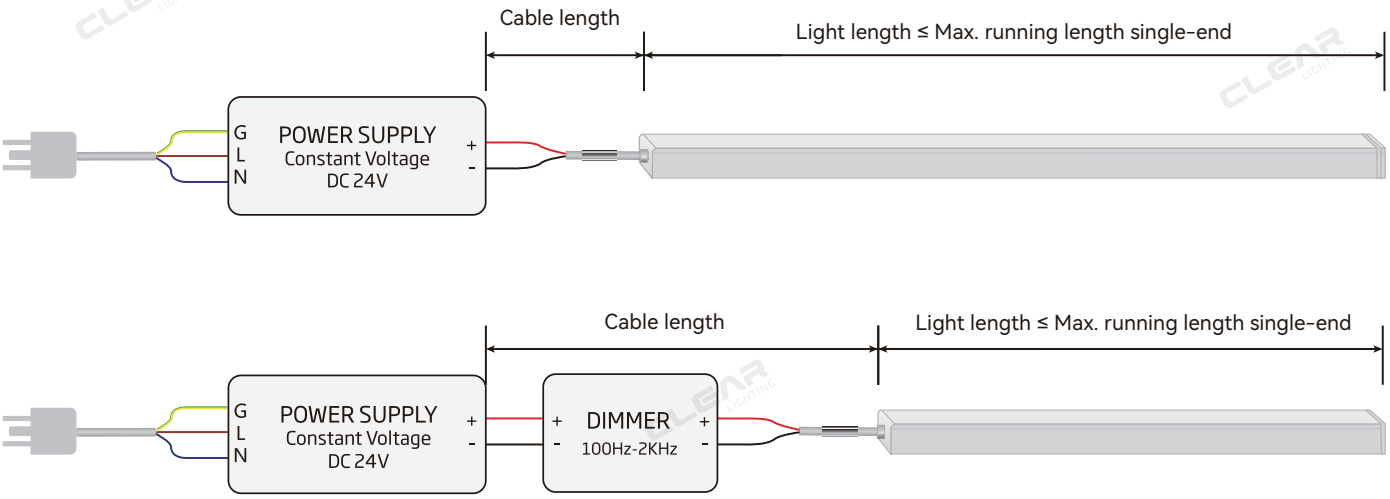
Type	17mm/0.67in 16mm/0.63in	21mm/0.8in 11.5mm/0.45in	29mm/1.14in 11.5mm/0.45in	6mm/0.24in 15.5mm/0.61in
Aluminum Profile	 			
	Available Length: 35mm | 500mm | 1000mm | 2000mm			
Flange Aluminum Profile	 			
	Available Length: 35mm | 500mm | 1000mm | 2000mm			
Serrated Aluminum Profile	 			
	Available Length: 20mm | 500mm | 1000mm | 2000mm			
Flange Serrated Aluminum Profile	 			
	Available Length: 20mm | 500mm | 1000mm | 2000mm			
Bendable Serrated Aluminum Profile	 			
	Available Length: 500mm | 1000mm			
Stainless Steel Profile	 			
	Available Length: 35mm			

Note:
1. Unless otherwise stated, the tolerance of the mounting profile is ±0.2mm;
2. It's not recommended to install the light repeatedly, otherwise the light inside might be damaged.

ThermGlo™ F22B Wiring Diagram

1. Please use a constant voltage power supply with corresponding output voltage, and rated wattage of the power supply shall be 25% more than the actual power consumption of light to increase its life expectancy;
2. This wiring diagram is using the mains of AC230V with brown and blue wires as an example, and please connect with the corresponding live and neutral wires for other mains electricity;
3. Dimming frequency ranges from 100Hz to 2000Hz, and 500Hz is recommended.
4. Types of standard plugs are optional if power cord is purchased from CLEAR.

Single-end Feed



Light Length

The length of the longest single light in parallel connection or sum of lights in series connection.

Cable Length

The length of an electrical cable between power output end and light input end, and the cables for serial interconnection are inclusive.

How to Minimize Voltage Drop

1. Please ensure the cable length is not more than the table "Max. Cable Length" according to light length and its wire gauge.
2. Please ensure the light length is less than the cable "Max. Running Length Single-end Feed".

Max. Cable Length (Silicone)

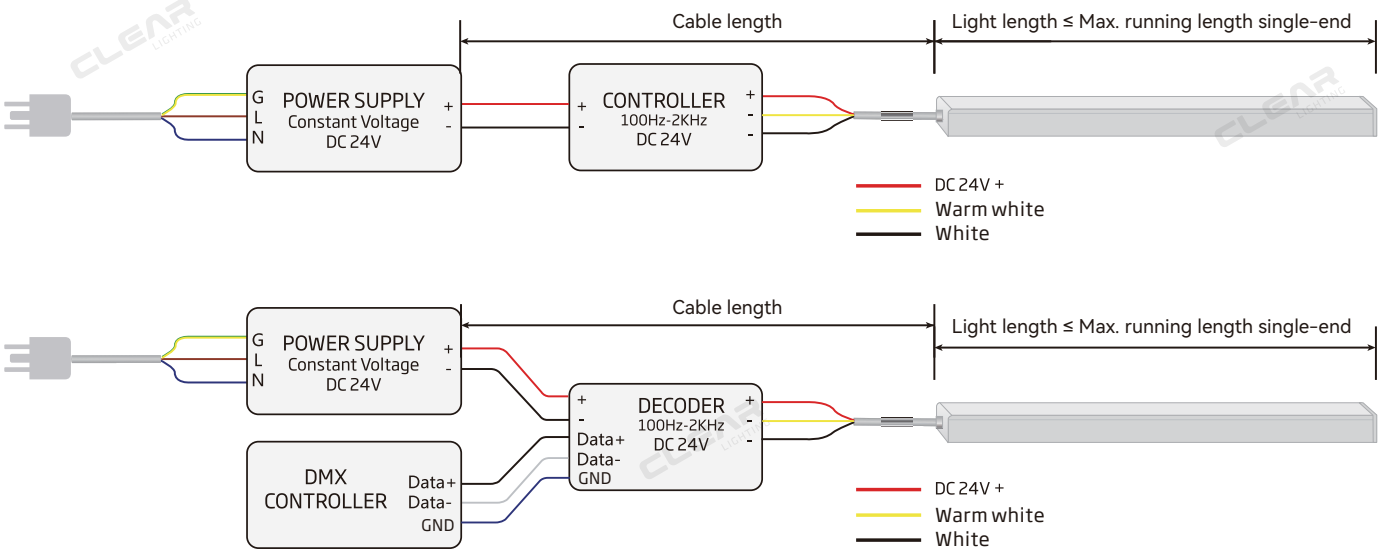
Input: DC24V

C-SFR-F22B-CC										
Light Length (m)	0.32mm² 22AWG		0.52mm² 20AWG		0.81mm² 18AWG		1.32mm² 16AWG		2.07mm² 14AWG	
	m	ft	m	ft	m	ft	m	ft	m	ft
1	76.11	249.70	123.68	405.77	192.65	632.06	313.95	1030.03	492.34	1615.28
2	42.28	138.72	61.84	202.88	96.33	316.03	156.98	515.02	246.17	807.64
3	27.77	91.10	40.61	133.24	63.26	207.54	103.09	338.22	161.66	530.39
4	20.67	67.82	30.23	99.19	47.09	154.50	76.74	251.79	120.35	394.85
5	16.61	54.50	24.29	79.70	37.84	124.16	61.67	202.33	96.71	317.29
6	13.88	45.55	20.31	66.62	31.63	103.77	51.54	169.11	80.83	265.19
7	11.93	39.13	17.44	57.22	27.17	89.14	44.28	145.26	69.43	227.80
8	10.39	34.10	15.20	49.87	23.68	77.68	38.59	126.60	60.51	198.53
9	9.26	30.37	13.54	44.41	21.09	69.18	34.36	112.74	53.89	176.80
10	8.34	27.37	12.20	40.03	19.01	62.36	30.97	101.62	48.57	159.35

ThermGlo™ F22D Wiring Diagram

1. Please use a constant voltage power supply with corresponding output voltage, and rated wattage of the power supply shall be 25% more than the actual power consumption of light to increase its life expectancy;
2. A compatible controller is required to achieve various light changing effects;
3. The rated power of controller/decoder shall be higher than the actual power consumption of light; its frequency range shall be 100~2000Hz, and 500Hz is recommended;
4. This wiring diagram is using the mains of AC230V with brown and blue wires as an example, and please connect with the corresponding live and neutral wires for other mains electricity;
5. Types of standard plugs are optional if power cord is purchased from CLEAR.

Single-end Feed



Light Length

The length of the longest single light in parallel connection or sum of lights in series connection.

Cable Length

The length of an electrical cable between power output end and light input end, and the cables for serial interconnection are inclusive.

How to Minimize Voltage Drop

1. Please ensure the cable length is not more than the table "Max. Cable Length" according to light length and its wire gauge.
2. Please ensure the light length is less than the cable "Max. Running Length Single-end Feed".
3.. Shielded Twisted Pair cable is required to be used to connect DMX master controller and decoder, and its length shall be less than 300m.

Max. Cable Length (Silicone)

Input: DC24V

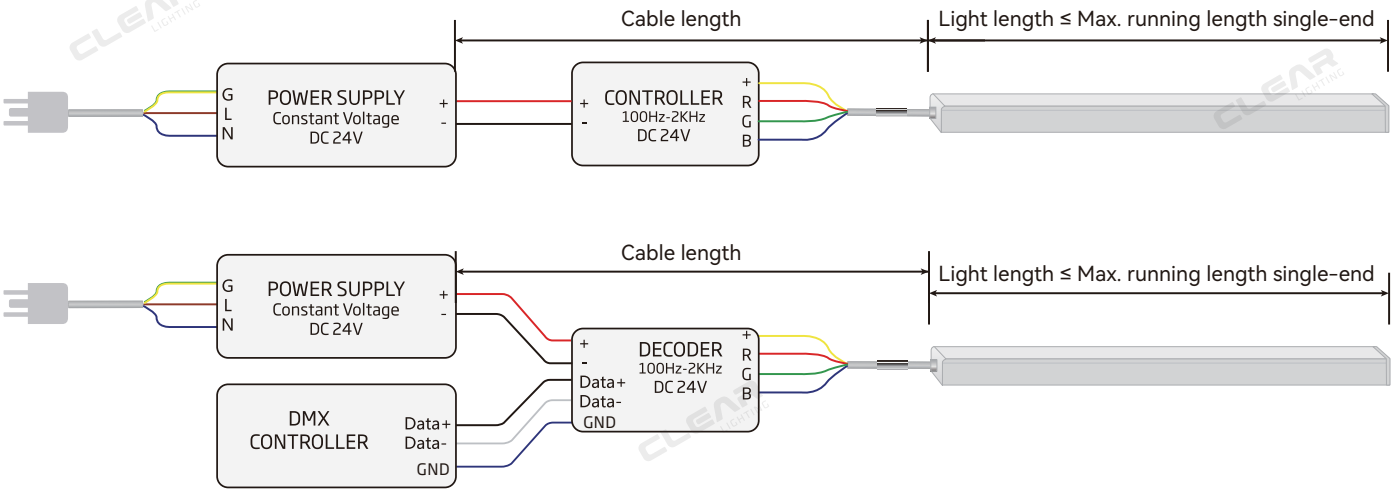
C-SFR-F22D-CC

Light Length (m)	0.32mm² 22AWG		0.52mm² 20AWG		0.81mm² 18AWG		1.32mm² 16AWG		2.07mm² 14AWG	
	m	ft	m	ft	m	ft	m	ft	m	ft
1	110.51	362.57	179.58	589.18	279.73	917.76	455.86	1495.61	714.87	2345.38
2	55.81	183.12	90.70	297.56	141.28	463.51	230.23	755.36	361.05	1184.54
3	39.48	129.53	64.16	210.49	99.94	327.88	162.86	534.32	255.39	837.90
4	28.20	92.52	45.83	150.35	71.38	234.20	116.33	381.65	182.42	598.50
5	24.53	80.47	39.86	130.76	62.08	203.69	101.17	331.93	158.66	520.53
6	18.87	61.90	30.66	100.59	47.76	156.68	77.83	255.33	122.04	400.41
7	16.22	53.20	26.35	86.45	41.05	134.66	66.89	219.45	104.89	344.14
8	13.51	44.33	21.96	72.04	34.20	112.22	55.74	182.88	87.41	286.78
9	11.45	37.55	18.60	61.03	28.97	95.06	47.22	154.91	74.05	242.93
10	10.41	34.14	16.91	55.48	26.34	86.42	42.92	140.83	67.31	220.85

ThermGlo™ F22A Wiring Diagram

1. Please use a constant voltage power supply with corresponding output voltage, and rated wattage of the power supply shall be 25% more than the actual power consumption of light to increase its life expectancy;
2. A compatible controller is required to achieve various light changing effects;
3. The rated power of controller/decoder shall be higher than the actual power consumption of light; its frequency range shall be 100~2000Hz, and 500Hz is recommended;
4. This wiring diagram is using the mains of AC230V with brown and blue wires as an example, and please connect with the corresponding live and neutral wires for other mains electricity;
5. Types of standard plugs are optional if power cord is purchased from CLEAR.

Single-end Feed



Light Length

The length of the longest single light in parallel connection or sum of lights in series connection.

Cable Length

The length of an electrical cable between power output end and light input end, and the cables for serial interconnection are inclusive.

How to Minimize Voltage Drop and Signal Transmission Attenuation

1. Please ensure the cable length is not more than the table "Max. Cable Length" according to light length and its wire gauge.
2. Please ensure the light length is less than the cable "Max. Running Length Single-end Feed".
3. Shielded Twisted Pair cable is required to be used to connect DMX master controller and decoder, and its length shall be less than 300m.

Max. Cable Length

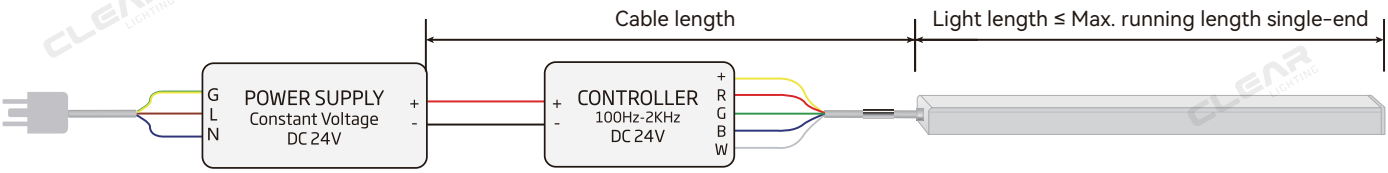
Input: DC24V

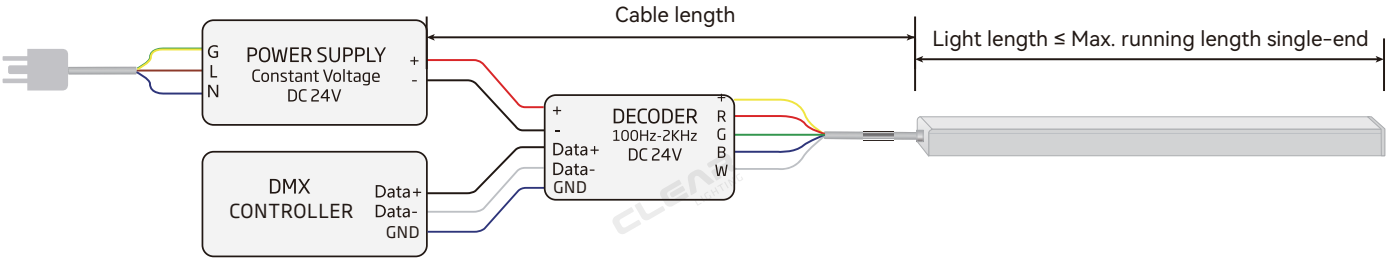
C-SFR-F22A-CC										
Light Length (m)	0.32mm² 22AWG		0.52mm² 20AWG		0.81mm² 18AWG		1.32mm² 16AWG		2.07mm² 14AWG	
	m	ft	m	ft	m	ft	m	ft	m	ft
1	125.58	412.01	204.07	669.52	317.88	1042.91	518.02	1699.55	812.35	2665.21
2	62.79	206.01	102.03	334.76	158.94	521.45	259.01	849.78	406.18	1332.60
3	44.42	145.72	72.18	236.80	112.43	368.86	183.22	601.10	287.32	942.64
4	31.73	104.09	51.55	169.14	80.31	263.47	130.87	429.36	205.23	673.32
5	25.47	83.56	41.39	135.79	64.47	211.52	105.06	344.70	164.76	540.55
6	21.23	69.64	34.49	113.16	53.73	176.27	87.55	287.25	137.30	450.46
7	18.24	59.85	29.64	97.26	46.18	151.50	75.25	246.88	118.01	387.16
8	15.20	49.88	24.70	81.05	38.48	126.25	62.71	205.74	98.34	322.63
9	13.46	44.17	21.88	71.77	34.08	111.80	55.53	182.20	87.09	285.72
10	11.71	38.41	19.02	62.41	29.63	97.22	48.29	158.43	75.73	248.45

ThermGlo™ F22E Wiring Diagram

1. Please use a constant voltage power supply with corresponding output voltage, and rated wattage of the power supply shall be 25% more than the actual power consumption of light to increase its life expectancy;
2. A compatible controller is required to achieve various light changing effects;
3. The rated power of controller/decoder shall be higher than the actual power consumption of light; its frequency range shall be 100~2000Hz, and 500Hz is recommended;
4. Full loading in RGBW is not recommended to avoid the overheating of light.
5. This wiring diagram is using the mains of AC230V with brown and blue wires as an example, and please connect with the corresponding live and neutral wires for other mains electricity;
6. Types of standard plugs are optional if power cord is purchased from CLEAR.

Single-end Feed





Light Length

The length of the longest single light in parallel connection or sum of lights in series connection.

Cable Length

The length of an electrical cable between power output end and light input end, and the cables for serial interconnection are inclusive.

How to Minimize Voltage Drop and Signal Transmission Attenuation

1. Please ensure the cable length is not more than the table "Max. Cable Length" according to light length and its wire gauge.
2. Please ensure the light length is less than the cable "Max. Running Length Single-end Feed".
3. Shielded Twisted Pair cable is required to be used to connect DMX master controller and decoder, and its length shall be less than 300m.

Max. Cable Length

Input: DC24V

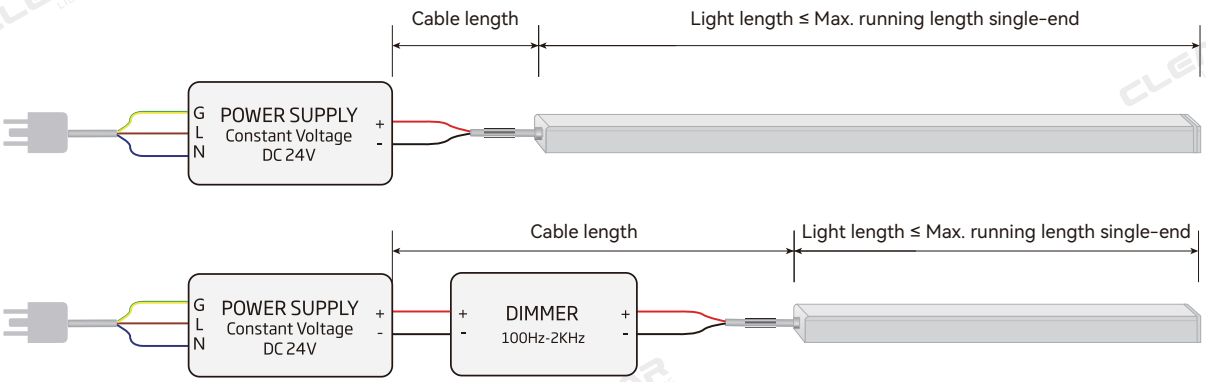
C-SFR-F22E-CC

Light Length (m)	0.32mm² 22AWG		0.52mm² 20AWG		0.81mm² 18AWG		1.32mm² 16AWG		2.07mm² 14AWG	
	m	ft	m	ft	m	ft	m	ft	m	ft
1	94.53	310.13	153.61	503.96	239.27	785.01	389.92	1279.28	611.47	2006.14
2	47.98	157.43	77.97	255.82	121.46	398.48	197.93	649.38	310.39	1018.35
3	32.15	105.48	52.24	171.40	81.38	266.98	132.61	435.09	207.96	682.29
4	23.81	78.13	38.70	126.96	60.28	197.77	98.23	322.29	154.05	505.40
5	19.22	63.05	31.23	102.46	48.64	159.60	79.27	260.08	124.31	407.86
6	15.25	50.04	24.78	81.31	38.61	126.66	62.92	206.41	98.66	323.69
7	13.24	43.45	21.52	70.61	33.53	109.99	54.63	179.25	85.68	281.09
8	11.04	36.21	17.94	58.84	27.94	91.66	45.53	149.37	71.40	234.25
9			15.24	49.99	23.73	77.87	38.68	126.90	60.66	199.00
10			13.85	45.45	21.58	70.79	35.16	115.36	55.14	180.91

ThermGlo™ F15B Wiring Diagram

1. Please use a constant voltage power supply with corresponding output voltage, and rated wattage of the power supply shall be 25% more than the actual power consumption of light to increase its life expectancy;
2. This wiring diagram is using the mains of AC230V with brown and blue wires as an example, and please connect with the corresponding live and neutral wires for other mains electricity;
3. Dimming frequency ranges from 100Hz to 2000Hz, and 500Hz is recommended.
4. Types of standard plugs are optional if power cord is purchased from CLEAR.

Single-end Feed



Light Length

The length of the longest single light in parallel connection or sum of lights in series connection.

Cable Length

The length of an electrical cable between power output end and light input end, and the cables for serial inter-connection are inclusive.

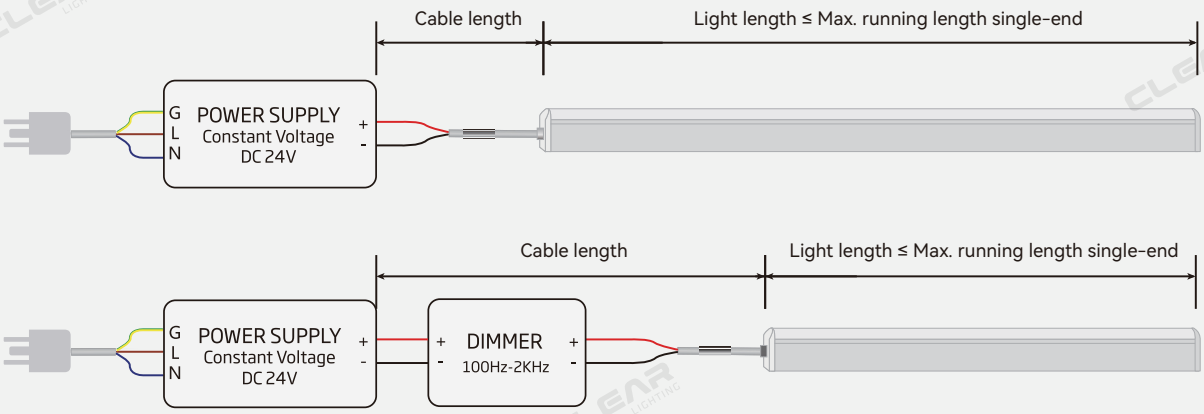
How to Minimize Voltage Drop

1. Please ensure the cable length is not more than the table "Max. Cable Length" according to light length and its wire gauge.
2. Please ensure the light length is less than the cable "Max. Running Length Single-end Feed".

ThermGlo™ F21B Wiring Diagram

1. Please use a constant voltage power supply with corresponding output voltage, and rated wattage of the power supply shall be 25% more than the actual power consumption of light to increase its life expectancy;
2. This wiring diagram is using the mains of AC230V with brown and blue wires as an example, and please connect with the corresponding live and neutral wires for other mains electricity;
3. Dimming frequency ranges from 100Hz to 2000Hz, and 500Hz is recommended.
4. Types of standard plugs are optional if power cord is purchased from CLEAR.

Single-end Feed



Light Length

The length of the longest single light in parallel connection or sum of lights in series connection.

Cable Length

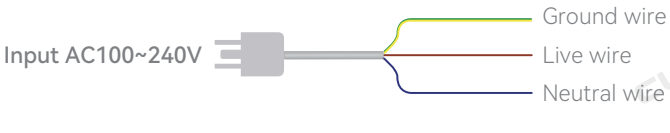
The length of an electrical cable between power output end and light input end, and the cables for serial interconnection are inclusive.

How to Minimize Voltage Drop

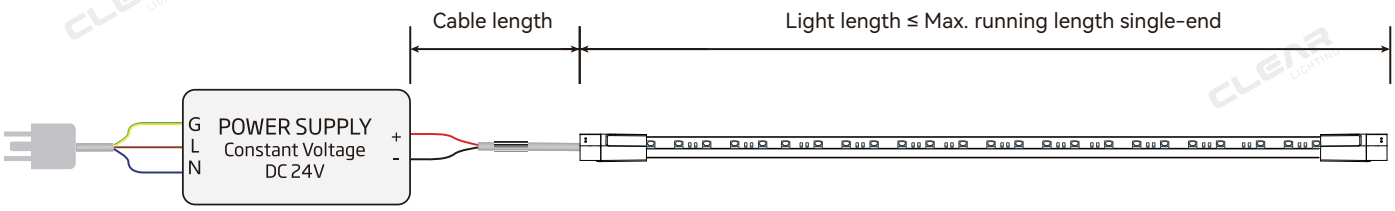
1. Please ensure the cable length is not more than the table "Max. Cable Length" according to light length and its wire gauge.
2. Please ensure the light length is less than the cable "Max. Running Length Single-end Feed".

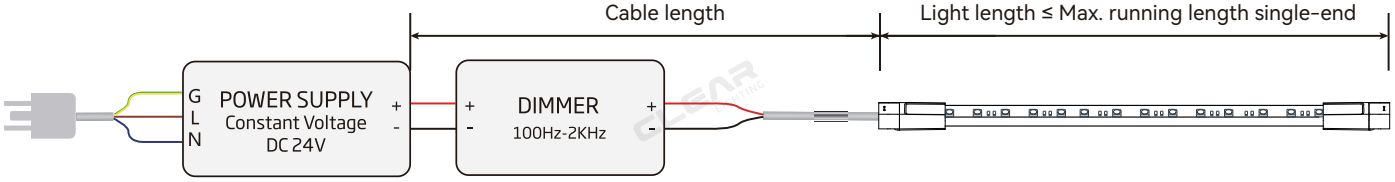
ThermGlo™ F16B Wiring Diagram

1. Please use a constant voltage power supply with corresponding output voltage, and rated wattage of the power supply shall be 25% more than the actual power consumption of light to increase its life expectancy;
2. This wiring diagram is using the mains of AC230V with brown and blue wires as an example, and please connect with the corresponding live and neutral wires for other mains electricity;
3. Dimming frequency ranges from 100Hz to 2000Hz, and 500Hz is recommended;
4. Types of standard plugs are optional if power cord is purchased from CLEAR.



Single-end Feed





Light Length

The length of the longest single light in parallel connection or sum of lights in series connection.

Cable Length

The length of an electrical cable between power output end and light input end, and the cables for serial interconnection are inclusive.

How to Minimize Voltage Drop

1. Please ensure the cable length is not more than the table "Max. Cable Length" according to light length and its wire gauge.
2. Please ensure the light length is less than the cable "Max. Running Length Single-end Feed".

Max. Cable Length

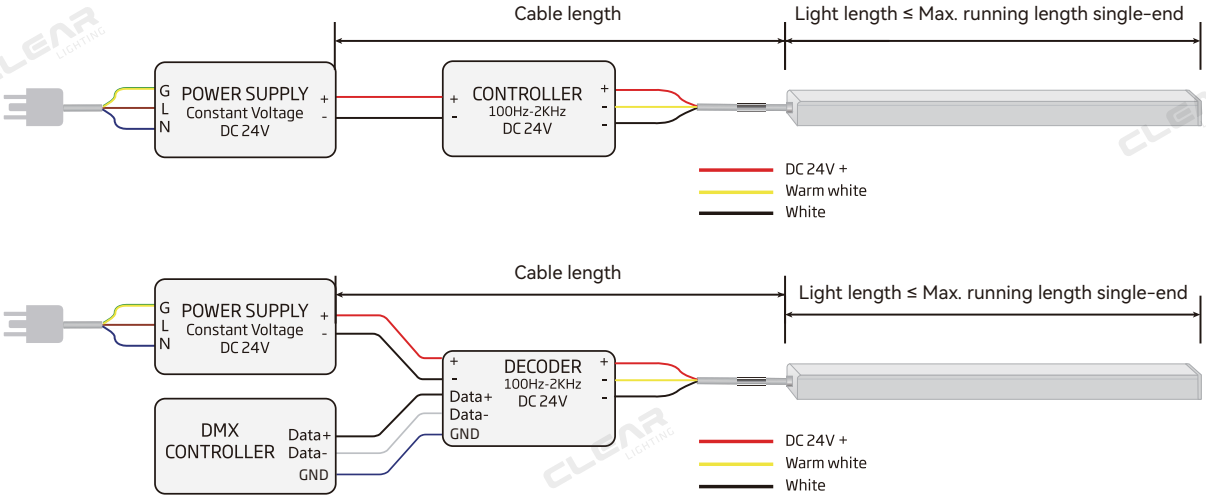
Input: DC24V

C-SFR-F15B\F21B\F16B										
Light Length (m)	0.32mm² 22AWG		0.52mm² 20AWG		0.81mm² 18AWG		1.32mm² 16AWG		2.07mm² 14AWG	
	m	ft	m	ft	m	ft	m	ft	m	ft
1	76.11	249.70	123.68	405.77	192.65	632.06	313.95	1030.03	492.34	1615.28
2	38.05	124.85	61.84	202.88	96.33	316.03	156.98	515.02	246.17	807.64
3	24.99	81.99	40.61	133.24	63.26	207.54	103.09	338.22	161.66	530.39
4	18.60	61.04	30.23	99.19	47.09	154.50	76.74	251.79	120.35	394.85
5	14.95	49.05	24.29	79.70	37.84	124.16	61.67	202.33	96.71	317.29
6	12.50	41.00	20.31	66.62	31.63	103.77	51.54	169.11	80.83	265.19
7	10.73	35.21	17.44	57.22	27.17	89.14	44.28	145.26	69.43	227.80
8	9.35	30.69	15.20	49.87	23.68	77.68	38.59	126.60	60.51	198.53
9	8.33	27.33	13.54	44.41	21.09	69.18	34.36	112.74	53.89	176.80
10	7.51	24.63	12.20	40.03	19.01	62.36	30.97	101.62	48.57	159.35

ThermGlo™ F15D Wiring Diagram

1. Please use a constant voltage power supply with corresponding output voltage, and rated wattage of the power supply shall be 25% more than the actual power consumption of light to increase its life expectancy;
2. A compatible controller is required to achieve various light changing effects;
3. The rated power of controller/decoder shall be higher than the actual power consumption of light; its frequency range shall be 100~2000Hz, and 500Hz is recommended;
4. This wiring diagram is using the mains of AC230V with brown and blue wires as an example, and please connect with the corresponding live and neutral wires for other mains electricity;
5. Types of standard plugs are optional if power cord is purchased from CLEAR.

Single-end Feed



Light Length

The length of the longest single light in parallel connection or sum of lights in series connection.

Cable Length

The length of an electrical cable between power output end and light input end, and the cables for serial inter-connection are inclusive.

How to Minimize Voltage Drop and Signal Transmission Attenuation

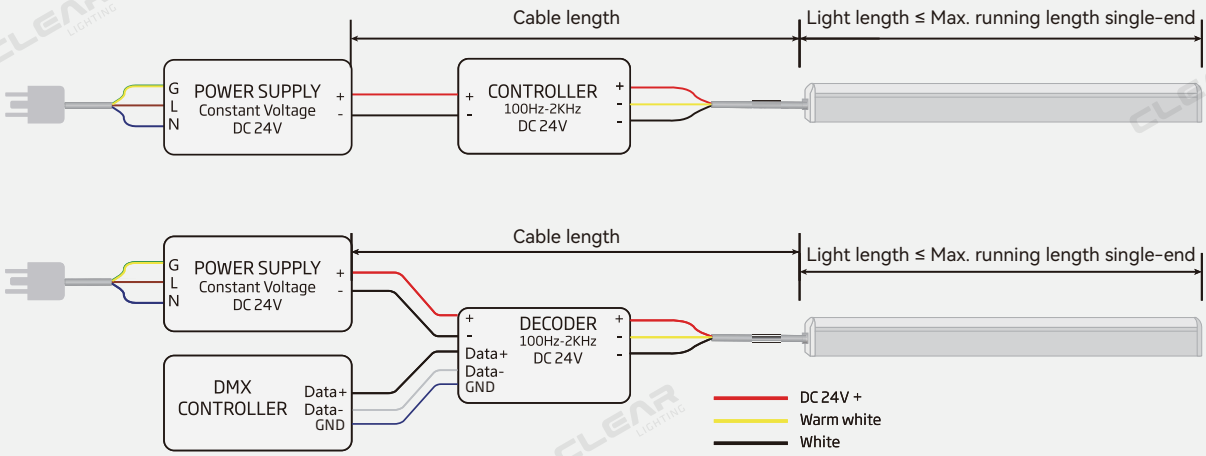
Ways to minimize voltage drop and signal transmission attenuation,

1. Please ensure the cable length is not more than the table "Max. Cable Length" according to light length and its wire gauge.
2. Please ensure the light length is less than the cable "Max. Running Length Single-end Feed".
3.. Shielded Twisted Pair cable is required to be used to connect DMX master controller and decoder, and its length shall be less than 300m.

ThermGlo™ F21D Wiring Diagram

1. Please use a constant voltage power supply with corresponding output voltage, and rated wattage of the power supply shall be 25% more than the actual power consumption of light to increase its life expectancy;
2. A compatible controller is required to achieve various light changing effects;
3. The rated power of controller/decoder shall be higher than the actual power consumption of light; its frequency range shall be 100~2000Hz, and 500Hz is recommended;
4. This wiring diagram is using the mains of AC230V with brown and blue wires as an example, and please connect with the corresponding live and neutral wires for other mains electricity;
5. Types of standard plugs are optional if power cord is purchased from CLEAR.

Single-end Feed



Light Length

The length of the longest single light in parallel connection or sum of lights in series connection.

Cable Length

The length of an electrical cable between power output end and light input end, and the cables for serial inter-connection are inclusive.

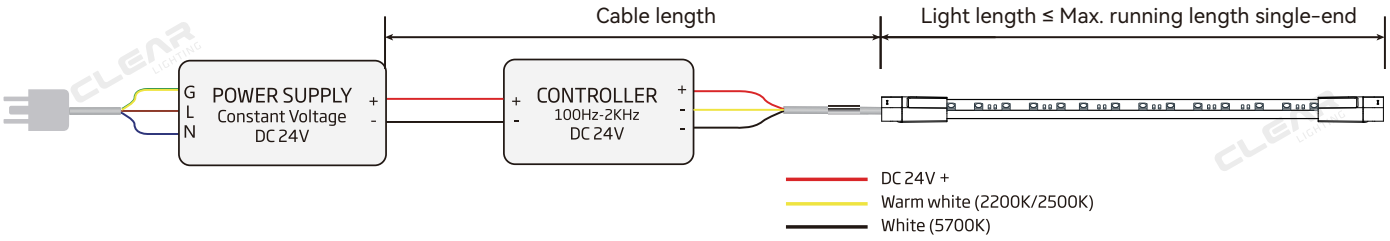
How to Minimize Voltage Drop and Signal Transmission Attenuation

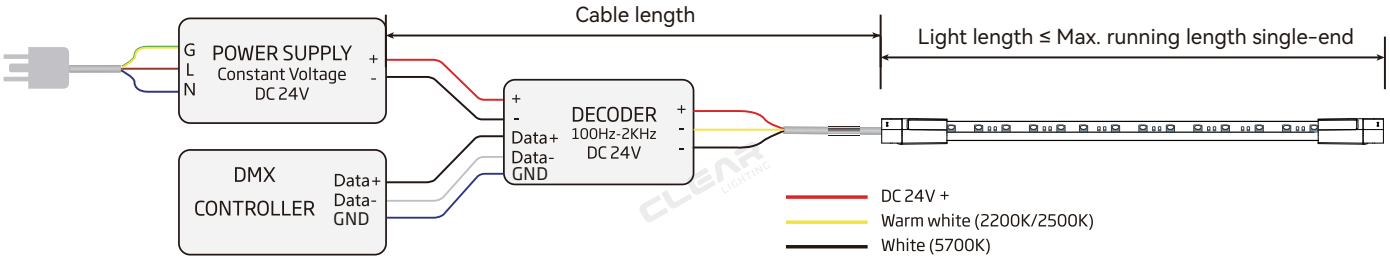
1. Please ensure the cable length is not more than the table "Max. Cable Length" according to light length and its wire gauge.
2. Please ensure the light length is less than the cable "Max. Running Length Single-end Feed".
3.. Shielded Twisted Pair cable is required to be used to connect DMX master controller and decoder, and its length shall be less than 300m.

ThermGlo™ F16D Wiring Diagram

1. Please use a constant voltage power supply with corresponding output voltage, and rated wattage of the power supply shall be 25% more than the actual power consumption of light to increase its life expectancy;
2. A compatible controller is required to achieve various light changing effects;
3. The rated power of controller/decoder shall be higher than the actual power consumption of light; its frequency range shall be 100~2000Hz, and 500Hz is recommended;
4. This wiring diagram is using the mains of AC230V with brown and blue wires as an example, and please connect with the corresponding live and neutral wires for other mains electricity;
5. Types of standard plugs are optional if power cord is purchased from CLEAR.

Single-end Feed





Light Length

The length of the longest single light in parallel connection or sum of lights in series connection.

Cable Length

The length of an electrical cable between power output end and light input end, and the cables for serial interconnection are inclusive.

How to Minimize Voltage Drop and Signal Transmission Attenuation

Ways to minimize voltage drop and signal transmission attenuation,

1. Please ensure the cable length is not more than the table "Max. Cable Length" according to light length and its wire gauge.
2. Please ensure the light length is less than the cable "Max. Running Length Single-end Feed".
3.. Shielded Twisted Pair cable is required to be used to connect DMX master controller and decoder, and its length shall be less than 300m.

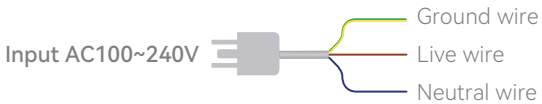
Max. Cable Length

Input: DC24V

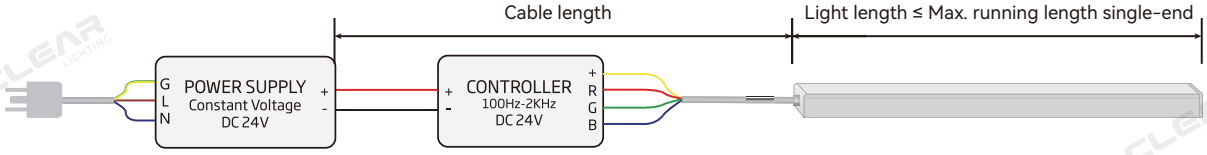
C-SFR-F15D\F21D\F16D										
Light Length (m)	0.32mm² 22AWG		0.52mm² 20AWG		0.81mm² 18AWG		1.32mm² 16AWG		2.07mm² 14AWG	
	m	ft	m	ft	m	ft	m	ft	m	ft
1	111.63	366.23	181.40	595.13	282.56	927.03	460.47	1510.71	722.09	2369.07
2	55.81	183.12	90.70	297.56	141.28	463.51	230.23	755.36	361.05	1184.54
3	37.22	122.13	60.49	198.46	94.23	309.14	153.55	503.78	240.80	790.02
4	28.20	92.52	45.83	150.35	71.38	234.20	116.33	381.65	182.42	598.50
5	22.64	74.28	36.79	120.70	57.31	188.02	93.39	306.40	146.45	480.49
6	18.87	61.90	30.66	100.59	47.76	156.68	77.83	255.33	122.04	400.41
7	15.40	50.54	25.03	82.13	38.99	127.93	63.54	208.48	99.65	326.93
8	13.51	44.33	21.96	72.04	34.20	112.22	55.74	182.88	87.41	286.78
9	11.45	37.55	18.60	61.03	28.97	95.06	47.22	154.91	74.05	242.93
10	10.41	34.14	16.91	55.48	26.34	86.42	42.92	140.83	67.31	220.85

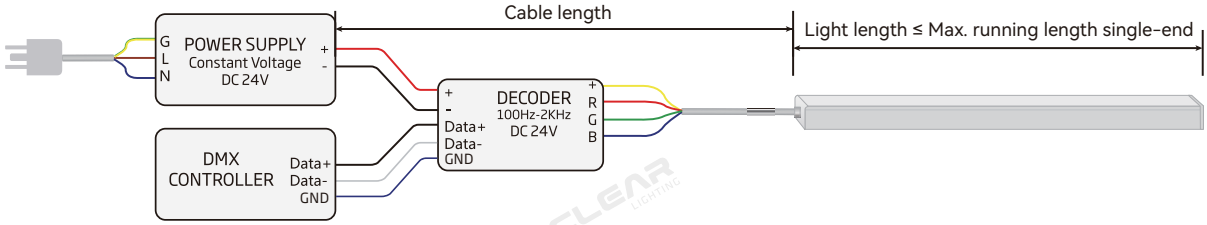
ThermGlo™ F15A Wiring Diagram

1. Please use a constant voltage power supply with corresponding output voltage, and rated wattage of the power supply shall be 25% more than the actual power consumption of light to increase its life expectancy;
2. A compatible controller is required to achieve various light changing effects;
3. The rated power of controller/decoder shall be higher than the actual power consumption of light; its frequency range shall be 100~2000Hz, and 500Hz is recommended;
4. This wiring diagram is using the mains of AC230V with brown and blue wires as an example, and please connect with the corresponding live and neutral wires for other mains electricity;
5. Types of standard plugs are optional if power cord is purchased from CLEAR.



Single-end Feed





Light Length

The length of the longest single light in parallel connection or sum of lights in series connection.

Cable Length

The length of an electrical cable between power output end and light input end, and the cables for serial inter-connection are inclusive.

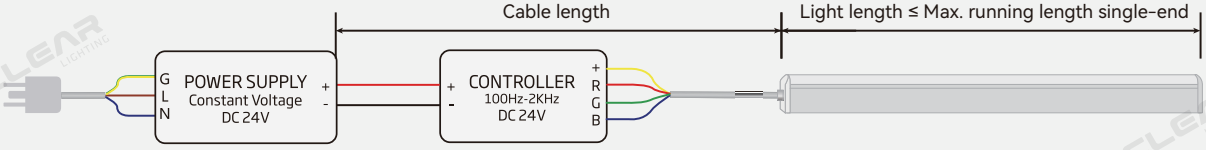
How to Minimize Voltage Drop and Signal Transmission Attenuation

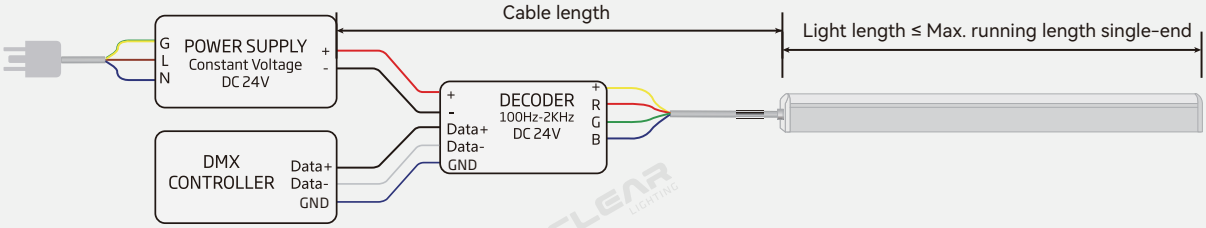
1. Please ensure the cable length is not more than the table "Max. Cable Length" according to light length and its wire gauge.
2. Please ensure the light length is less than the cable "Max. Running Length Single-end Feed".
3. Shielded Twisted Pair cable is required to be used to connect DMX master controller and decoder, and its length shall be less than 300m.

ThermGlo™ F21A Wiring Diagram

1. Please use a constant voltage power supply with corresponding output voltage, and rated wattage of the power supply shall be 25% more than the actual power consumption of light to increase its life expectancy;
2. A compatible controller is required to achieve various light changing effects;
3. The rated power of controller/decoder shall be higher than the actual power consumption of light; its frequency range shall be 100~2000Hz, and 500Hz is recommended;
4. This wiring diagram is using the mains of AC230V with brown and blue wires as an example, and please connect with the corresponding live and neutral wires for other mains electricity;
5. Types of standard plugs are optional if power cord is purchased from CLEAR.

Single-end Feed





Light Length

The length of the longest single light in parallel connection or sum of lights in series connection.

Cable Length

The length of an electrical cable between power output end and light input end, and the cables for serial inter-connection are inclusive.

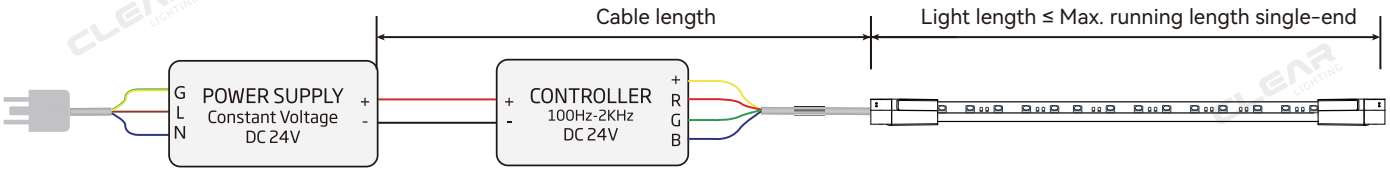
How to Minimize Voltage Drop and Signal Transmission Attenuation

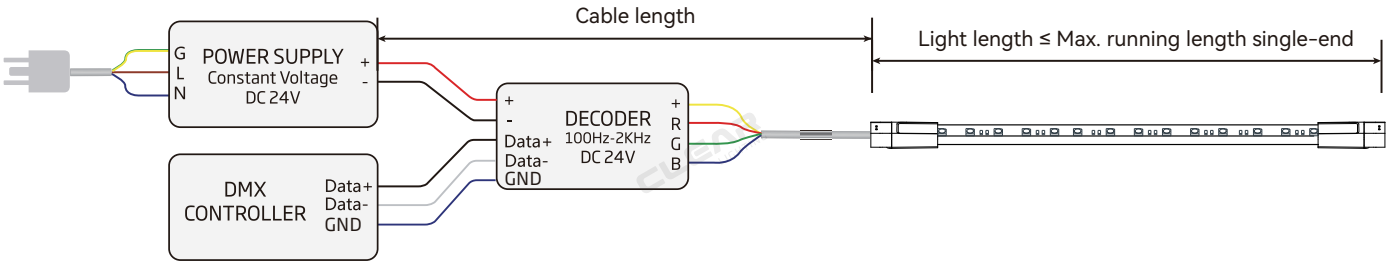
1. Please ensure the cable length is not more than the table "Max. Cable Length" according to light length and its wire gauge.
2. Please ensure the light length is less than the cable "Max. Running Length Single-end Feed".
3. Shielded Twisted Pair cable is required to be used to connect DMX master controller and decoder, and its length shall be less than 300m.

ThermGlo™ F16A Wiring Diagram

1. Please use a constant voltage power supply with corresponding output voltage, and rated wattage of the power supply shall be 25% more than the actual power consumption of light to increase its life expectancy;
2. A compatible controller is required to achieve various light changing effects;
3. The rated power of controller/decoder shall be higher than the actual power consumption of light; its frequency range shall be 100~2000Hz, and 500Hz is recommended;
4. This wiring diagram is using the mains of AC230V with brown and blue wires as an example, and please connect with the corresponding live and neutral wires for other mains electricity;
5. Types of standard plugs are optional if power cord is purchased from CLEAR.

Single-end Feed





Light Length

The length of the longest single light in parallel connection or sum of lights in series connection.

Cable Length

The length of an electrical cable between power output end and light input end, and the cables for serial interconnection are inclusive.

How to Minimize Voltage Drop and Signal Transmission Attenuation

1. Please ensure the cable length is not more than the table "Max. Cable Length" according to light length and its wire gauge.
2. Please ensure the light length is less than the cable "Max. Running Length Single-end Feed".
3. Shielded Twisted Pair cable is required to be used to connect DMX master controller and decoder, and its length shall be less than 300m.

Max. Cable Length

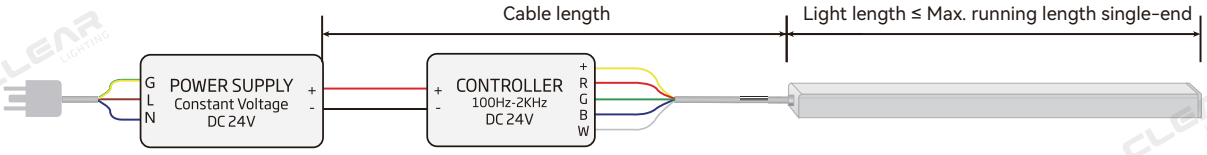
Input: DC24V

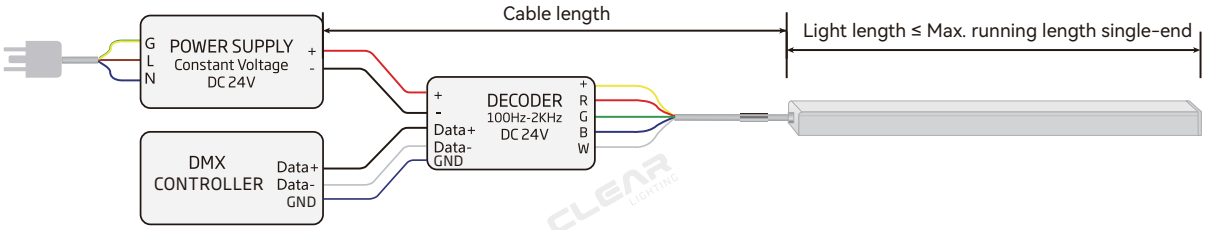
C-SFR-F15A&F21A&F16A										
Light Length (m)	0.32mm² 22AWG		0.52mm² 20AWG		0.81mm² 18AWG		1.32mm² 16AWG		2.07mm² 14AWG	
	m	ft	m	ft	m	ft	m	ft	m	ft
1	137.00	449.47	222.62	730.39	346.78	1137.72	565.12	1854.06	886.21	2907.50
2	68.50	224.73	111.31	365.19	173.39	568.86	282.56	927.03	443.10	1453.75
3	43.11	141.44	70.05	229.84	109.12	358.01	177.83	583.43	278.87	914.92
4	32.09	105.29	52.15	171.10	81.24	266.52	132.38	434.33	207.60	681.11
5	25.79	84.61	41.91	137.49	65.28	214.17	106.38	349.02	166.82	547.32
6	21.56	70.72	35.03	114.92	54.56	179.01	88.91	291.71	139.43	457.46
7	17.71	58.10	28.78	94.42	44.83	147.08	73.05	239.68	114.56	375.86
8	15.43	50.64	25.08	82.29	39.07	128.18	63.67	208.88	99.84	327.57
9	13.12	43.05	21.32	69.95	33.21	108.96	54.12	177.57	84.87	278.45
10	11.83	38.80	19.22	63.05	29.93	98.21	48.78	160.05	76.50	250.98

ThermGlo™ F15E Wiring Diagram

1. Please use a constant voltage power supply with corresponding output voltage, and rated wattage of the power supply shall be 25% more than the actual power consumption of light to increase its life expectancy;
2. A compatible controller is required to achieve various light changing effects;
3. The rated power of controller/decoder shall be higher than the actual power consumption of light; its frequency range shall be 100~2000Hz, and 500Hz is recommended;
4. Full loading in RGBW is not recommended to avoid the overheating of light.5. This wiring diagram is using the mains of AC230V with brown and blue wires as an example, and please connect with the corresponding live and neutral wires for other mains electricity;
5. Types of standard plugs are optional if power cord is purchased from CLEAR.

Single-end Feed





Light Length

The length of the longest single light in parallel connection or sum of lights in series connection.

Cable Length

The length of an electrical cable between power output end and light input end, and the cables for serial inter-connection are inclusive.

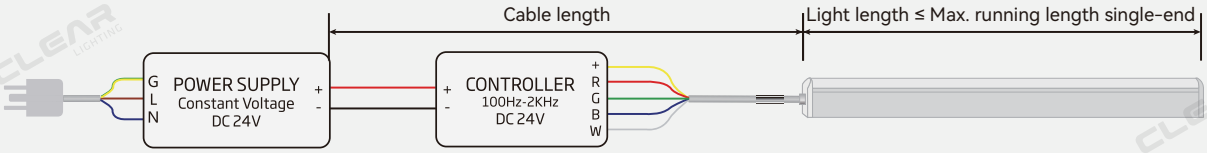
How to Minimize Voltage Drop and Signal Transmission Attenuation

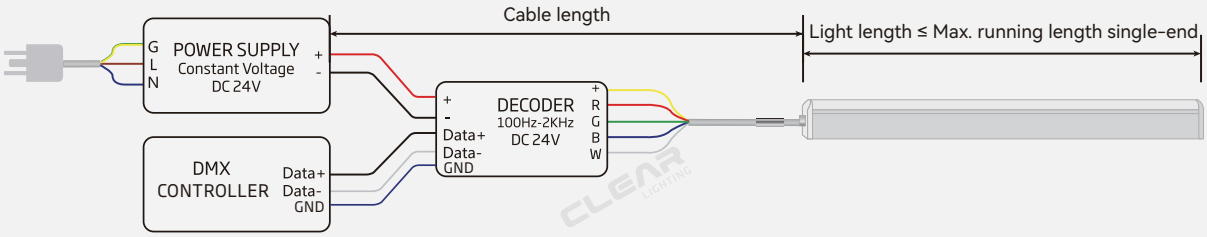
1. Please ensure the cable length is not more than the table "Max. Cable Length" according to light length and its wire gauge.
2. Please ensure the light length is less than the cable "Max. Running Length Single-end Feed".
3. Shielded Twisted Pair cable is required to be used to connect DMX master controller and decoder, and its length shall be less than 300m.

ThermGlo™ F21E Wiring Diagram

1. Please use a constant voltage power supply with corresponding output voltage, and rated wattage of the power supply shall be 25% more than the actual power consumption of light to increase its life expectancy;
2. A compatible controller is required to achieve various light changing effects;
3. The rated power of controller/decoder shall be higher than the actual power consumption of light; its frequency range shall be 100~2000Hz, and 500Hz is recommended;
4. Full loading in RGBW is not recommended to avoid the overheating of light.5. This wiring diagram is using the mains of AC230V with brown and blue wires as an example, and please connect with the corresponding live and neutral wires for other mains electricity;
5. Types of standard plugs are optional if power cord is purchased from CLEAR.

Single-end Feed





Light Length

The length of the longest single light in parallel connection or sum of lights in series connection.

Cable Length

The length of an electrical cable between power output end and light input end, and the cables for serial inter-connection are inclusive.

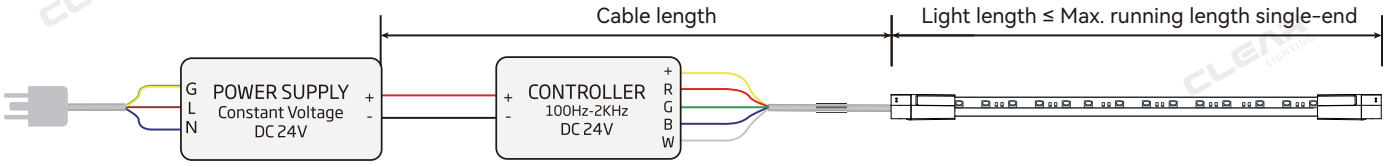
How to Minimize Voltage Drop and Signal Transmission Attenuation

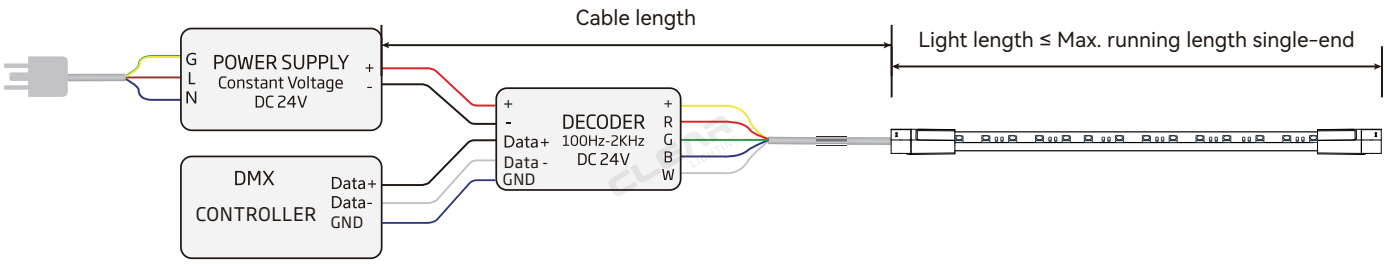
1. Please ensure the cable length is not more than the table "Max. Cable Length" according to light length and its wire gauge.
2. Please ensure the light length is less than the cable "Max. Running Length Single-end Feed".
3. Shielded Twisted Pair cable is required to be used to connect DMX master controller and decoder, and its length shall be less than 300m.

ThermGlo™ F16E Wiring Diagram

1. Please use a constant voltage power supply with corresponding output voltage, and rated wattage of the power supply shall be 25% more than the actual power consumption of light to increase its life expectancy;
2. A compatible controller is required to achieve various light changing effects;
3. The rated power of controller/decoder shall be higher than the actual power consumption of light; its frequency range shall be 100~2000Hz, and 500Hz is recommended;
4. Full loading in RGBW is not recommended to avoid the overheating of light.
5. This wiring diagram is using the mains of AC230V with brown and blue wires as an example, and please connect with the corresponding live and neutral wires for other mains electricity;
6. Types of standard plugs are optional if power cord is purchased from CLEAR.

Single-end Feed





Light Length

The length of the longest single light in parallel connection or sum of lights in series connection.

Cable Length

The length of an electrical cable between power output end and light input end, and the cables for serial interconnection are inclusive.

How to Minimize Voltage Drop and Signal Transmission Attenuation

1. Please ensure the cable length is not more than the table "Max. Cable Length" according to light length and its wire gauge.
2. Please ensure the light length is less than the cable "Max. Running Length Single-end Feed".
3. Shielded Twisted Pair cable is required to be used to connect DMX master controller and decoder, and its length shall be less than 300m.

Max. Cable Length

Input: DC24V

C-SFR-F15E\F21E\F16E										
Light Length (m)	0.32mm² 22AWG		0.52mm² 20AWG		0.81mm² 18AWG		1.32mm² 16AWG		2.07mm² 14AWG	
	m	ft	m	ft	m	ft	m	ft	m	ft
1	94.53	310.13	153.61	503.96	239.27	785.01	389.92	1279.28	611.47	2006.14
2	47.98	157.43	77.97	255.82	121.46	398.48	197.93	649.38	310.39	1018.35
3	31.67	103.91	51.47	168.86	80.17	263.03	130.65	428.64	204.88	672.18
4	23.81	78.13	38.70	126.96	60.28	197.77	98.23	322.29	154.05	505.40
5	18.30	60.05	29.74	97.58	46.33	152.00	75.50	247.70	118.39	388.43
6	15.25	50.04	24.78	81.31	38.61	126.66	62.92	206.41	98.66	323.69
7	12.69	41.64	20.63	67.67	32.13	105.41	52.36	171.78	82.11	269.38
8	11.04	36.21	17.94	58.84	27.94	91.66	45.53	149.37	71.40	234.25
9			15.24	49.99	23.73	77.87	38.68	126.90	60.66	199.00
10			13.85	45.45	21.58	70.79	35.16	115.36	55.14	180.91