

Flexglo™ F22AT -Three-side Emitting RGB Light (Silicone)



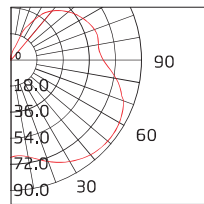
| | | | | |
|---------------------------|------------------|--------------------|-------------------|----------------|
| Certification Mark | | | | |
| Test Standard/Directive | UL2108 Class 2 | UL2108 Non Class 2 | CE-EMC | IS 10322 |
| Certificate Serial Number | 20180801-E360029 | 20180312-E360029 | SZEM1712012372LMV | R-41128376 |
| Report Reference | E360029-20130322 | E360029-20180309 | SZEM171201237201 | NO.20190425001 |



| | | |
|--|--|--|
| Ambient Working Temperature 12W/m -40~55°C /-40~131°F | Ambient Installation Temperature ≥ -40°C /-40°F | Storage Temperature -40 ~ 60°C /-40~140°F |
| Max. Mounting Surface Temperature 85°C /185°F | Constant Current DC24V | |

C-SFR-F22AT-VB

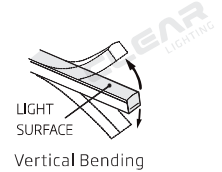
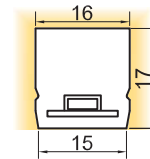
C-SFR-F22AT-VB-24CV-RGB-WM
-84-12W-83.3



UNIT: cd
-C90/270

AVERAGE BEAM ANGLE (50%): 272.0°

- Min. Bending Diameter
300mm/11.81in
- Min. Cutting Length
83.3mm/3.28in, 7LEDs



Note:

- The illuminated light length shall be an integral multiple of min. cutting length.
- The waterproof reliability of the lighting fixture depends on the IP rating of connector, and please make sure connector is properly assembled before installation. The highest IP rating we can achieve is IP68.

Item Code

| | | | | | | | | | |
|---------|-----------------------------|---------------------------------------|----------------------|--------------------------|-------|-------------------------|------------|---------|--------------------------|
| C | SFR | F22AT | VB | 24CV | RGB | WM | 84 | 12W | 83.3 |
| Company | Material | Product Series | Bending Direction | Voltage & Circuit Type | Color | Base & Lighting Surface | LEDs Qty/m | Power/m | Min. Cutting Length (mm) |
| Clear | SFR= (Silicone) Flex Ribbon | F22AT A=RGB Three-side Emitting | VB= Vertical Bending | DC24V & Constant Voltage | RGB | WM= White & Milky | 84 | 12W | 83.3 |

Feature


Flexglo™ F22AT Three-side Emitting RGB Light (silicone) is a color changing product with tri-chip SMD5050 RGB LEDs as light source, RGB color changing is achievable via a 3-channel PWM controller or any compatible DMX-512 controller. Thanks to the excellent weatherproof and UV-resistant performance of silicone material, it features a wide ambient working temperature range of -40-55°C, especially suitable for harsh environment application.

Multiple connector options are available for different applications. Combined with the adoption of the DryWire™ technology,

*The IP68 Silicone Injection-moulded Connector is engineered for outdoor use, owing to its elegant appearance and strong adhesiveness acquired by the liquid silicone injection workmanship.

This product has an ultra-long lifespan in outdoor application by leveraging other ClearTech™ such as the PinBoost™ technology enhancing physical reliability of light engine, the TwinFlex™ technology improving the conductivity and optimizing heat dissipation performance, the C-Mask™ technology making the light body self-cleaning and anti-UV and enabling consistent illumination.

Electrical Parameter

| Category | C-SFR-F22AT-VB  |
|--------------------------|--|
| Voltage (V) | 24 |
| Current (mA/m) | 500 |
| Power (W/m) | 12 |
| Circuit Type | CV |
| LED Type | 5050 |
| LEDs Qty/m | 84 |
| LEDs Qty/unit | 7 |
| Unit/m | 12 |
| Min. Cutting Length (mm) | 83.3 |
| Min. Cutting Length (in) | 3.28 |

Optical Parameter

| Item Code | Finished Product | | | | LED |
|--|------------------|------------|---------|----------|-----------------|
| | Color | Wavelength | Lumen/m | Lumen/ft | Color Tolerance |
| C-SFR-F22AT-VB-24CV-RGB-WM-84-12W-83.3 | Red | 618-624nm | 125lm | 38lm | < 3nm |
| | Green | 522-530nm | 350lm | 107lm | < 3nm |
| | Blue | 468-474nm | 70lm | 21lm | < 3nm |
| | R+G+B | R+G+B | 545lm | 166lm | N/A |

Max. Running Length Input: DC24V

| Type | Silicone Injection-moulded Connector | |
|-----------------|--------------------------------------|-----------------|
| IP Rating | IP68 | |
| Item Code | Single-end Feed | Double-end Feed |
| C-SFR-F22AT-12W | 10m/32.8ft | 20m/65.6ft |

Note:

- Above conclusion is based on voltage drop testing result of the light with 0.3m (0.98ft) cable only.
- The maximum running length is based on the light in static full loading status.
- Above running length is only the light length excluding lengths of connectors. Please refer to the specific dimension of each connector.
- The delivery length might be subject to the maximum packing length.

F22A Connector (Silicone)



| Type/IP Rating | Bending Direction | Front Connector End | Front Connector Side from Left | Front Connector Side from Right | Front Connector Bottom | Seamless Middle Connector & Power Feed | Middle Connector & Power T-feed | Jumper | End Cap |
|--------------------------------------|-------------------|---|---|--|--|---|--|--|---|
| Silicone Injection-moulded Connector | HB | F22A-HB-SJM/FC-01/02-E- 0,3m/1m/3m/5m/ 10m/15m/20m 20AWG*1+22AWG*3 | F22A-HB-SJM/FC-02-SL- 0,3m/1m/3m/5m/ 10m/15m/20m 20AWG*1+22AWG*3 | F22A-HB-SJM/FC-01-SR- 0,3m/1m/3m/5m/ 10m/15m/20m 20AWG*1+22AWG*3 | F22A-HB-SJM/FC-01/02-B- 0,3m/1m/3m/5m/ 10m/15m/20m 20AWG*1+22AWG*3 | N/A | F22A-HB-SJM/MC-PTF-0,3m/1m/3m 20AWG*1+22AWG*3 | F22A-HB-SJM/JU-0,3m/1m 20AWG*1+22AWG*3 | F22-SJM/EC |
| | IP68 | VB | F22A-VB-SJM/FC-01/02-E- 0,3m/1m/3m/5m/ 10m/15m/20m 20AWG*1+22AWG*3 | F22A-VB-SJM/FC-01/02-SL- 0,3m/1m/3m/5m/ 10m/15m/20m 20AWG*1+22AWG*3 | F22A-VB-SJM/FC-01/02-SR- 0,3m/1m/3m/5m/ 10m/15m/20m 20AWG*1+22AWG*3 | F22A-VB-SJM/FC-01/02-B- 0,3m/1m/3m/5m/ 10m/15m/20m 20AWG*1+22AWG*3 | N/A | F22A-VB-SJM/MC-PTF-0,3m/1m/3m 20AWG*1+22AWG*3 | F22A-VB-SJM/JU-0,3m/1m 20AWG*1+22AWG*3 |

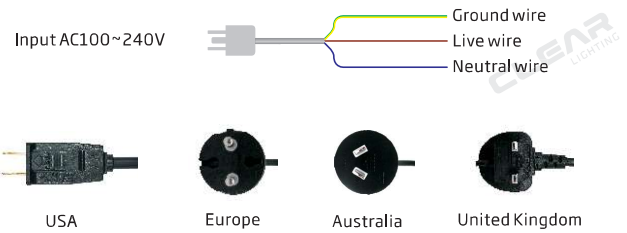
F22 Mounting Profile

| Picture | Name/Item Code | Installation Way |
|---------|---|------------------|
| | Aluminum Profile F22-A/PL-35/500/1000/2000mm | |
| | Flange Aluminum Profile F22-FA/PL-35/500/1000/2000mm | |
| | Self-clinching Aluminum Profile F22-SCA/PL-20/500/1000/2000MM | |
| | Serrated Aluminum Profile F22-SA/PL-20/500/1000/2000mm | |
| | Flange Serrated Aluminum Profile F22-FSA/PL-20/500/1000/2000mm | |
| | Bendable Serrated Aluminum Profile F22-BSA/PL-500/1000mm Note: only horizontal bending is available | |



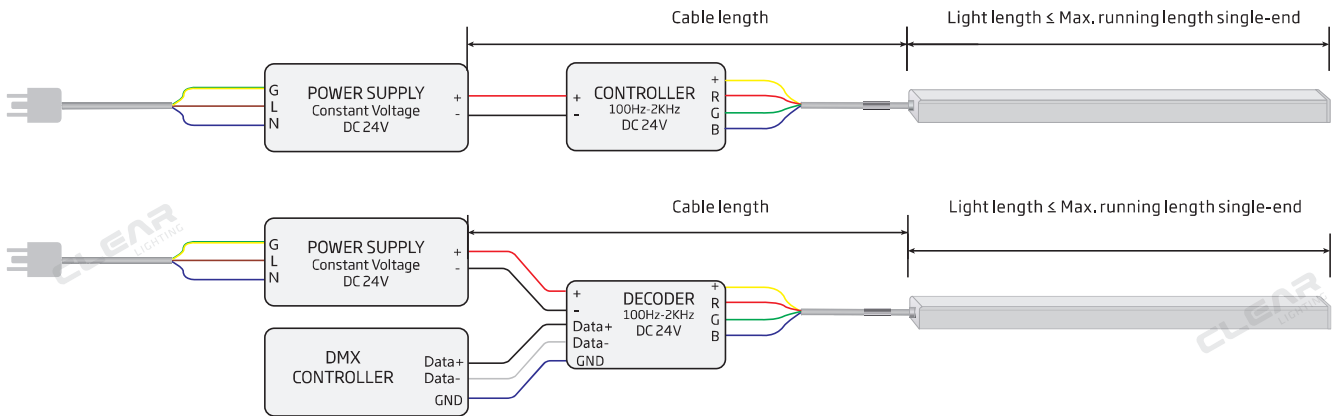
Flexglo™ F22A Wiring Diagram

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. Running Length Single-end Feed

Input: DC24V

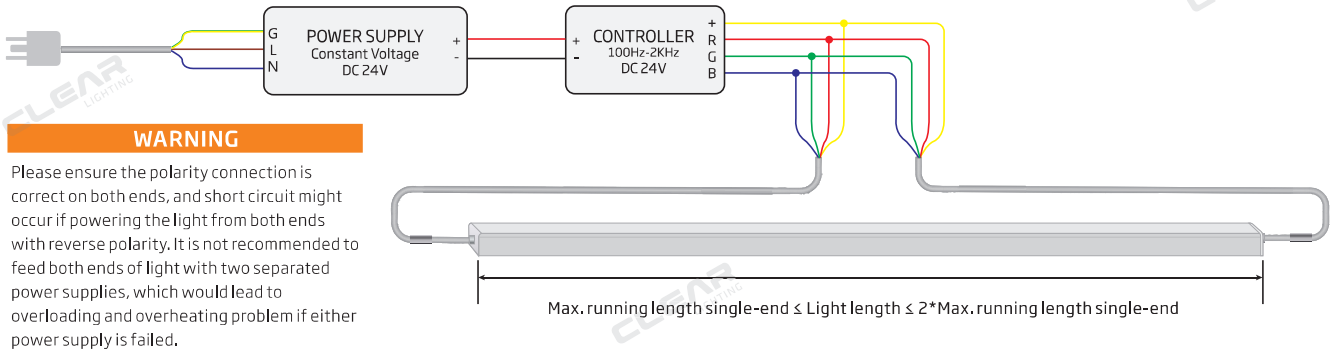
| Connector Type | Injection-moulded Connector | Dual Injection-moulded Connector |
|---------------------------------------|-----------------------------|----------------------------------|
| Wire Gauge | 20AWG*1+22AWG*3 | 20AWG*1+22AWG*3 |
| C-FR-F22A-12W-Static full loading | 7m/23ft | 7m/23ft |
| C-FR-F22A-12W-Dynamic operating | 10m/32.8ft | 10m/32.8ft |
| C-FR-ProF22A-12W-Static full loading | 5m/16.4ft | 5m/16.4ft |
| C-FR-ProF22A-12W-Dynamic operating | 8m/26.2ft | 8m/26.2ft |
| C-SFR-F22A-12W-Static full loading | 10m/32.8ft | / |
| C-SFR-F22A-12W-Dynamic operating | 15m/49.2ft | / |
| C-SFR-ProF22A-12W-Static full loading | 8m/26.2ft | / |
| C-SFR-ProF22A-12W-Dynamic operating | 12m/39.4ft | / |

Note:

1. Above conclusion is based on voltage drop testing result of the light with 0.3m (0.98ft) cable only.
2. The maximum running length is based on the light in static full loading status exceptionally stated dynamic operating.
3. Above running length is only the light length excluding lengths of connectors.
4. The delivery length might be subject to the maximum packing length.

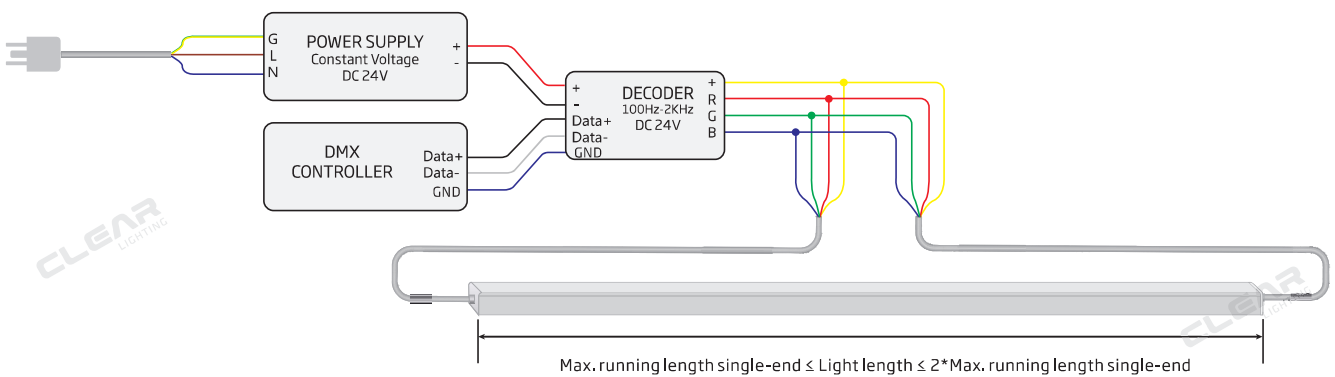
Double-end Feed

Please refer to the following wiring diagram with double-end feed to run length that is longer than max, running length for single-end feed but less than twice the value.



WARNING

Please ensure the polarity connection is correct on both ends, and short circuit might occur if powering the light from both ends with reverse polarity. It is not recommended to feed both ends of light with two separated power supplies, which would lead to overloading and overheating problem if either power supply is failed.



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. It is optimal to position the power supply in the middle of a single light or multiple lines in daisy chain to keep the equivalent cable length on both ends for double-end feed.
2. Please ensure the cable length is not more than the table "Max. Cable Length" according to the half of light length and its wire gauge.
3. Please ensure the light length is less than the table "Max. Running Length Double-end Feed".
4. 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. Running Length Double-end Feed

Input: DC24V

| Connector Type | Injection-moulded Connector | Dual Injection-moulded Connector |
|---------------------------------------|-----------------------------|----------------------------------|
| Wire Gauge | 20AWG*1+22AWG*3 | 20AWG*1+22AWG*3 |
| C-FR-F22A-12W-Static full loading | 14m/45.9ft | 14m/45.9ft |
| C-FR-F22A-12W-Dynamic operating | 20m/65.6ft | 20m/65.6ft |
| C-FR-ProF22A-12W-Static full loading | 10m/32.8ft | 10m/32.8ft |
| C-FR-ProF22A-12W-Dynamic operating | 16m/52.5ft | 16m/52.5ft |
| C-SFR-F22A-12W-Static full loading | 20m/65.6ft | / |
| C-SFR-F22A-12W-Dynamic operating | 30m/98.4ft | / |
| C-SFR-ProF22A-12W-Static full loading | 16m/52.5ft | / |
| C-SFR-ProF22A-12W-Dynamic operating | 24m/78.7ft | / |

Note:

1. Above conclusion is based on voltage drop testing result of the light with 0.3m (0.98ft) cable only.
2. The maximum running length is based on the light in static full loading status exceptionally stated dynamic operating.
3. Above running length is only the light length excluding lengths of connectors.
4. The delivery length might be subject to the maximum packing length.

F22A Max. Cable Length (PVC)

Input: DC24V

| Item Code | Light Length (m) | Cable Length | | | | | | | | | |
|------------------|------------------|----------------------|-------|----------------------|-------|----------------------|-------|----------------------|-------|----------------------|--------|
| | | 0.32 mm ² | | 0.52 mm ² | | 0.81 mm ² | | 1.32 mm ² | | 2.07 mm ² | |
| | | 22AWG | | 20AWG | | 18AWG | | 16AWG | | 14AWG | |
| | | m | ft | m | ft | m | ft | m | ft | m | ft |
| C-FR-F22A-CV-12W | 1 | 62.8 | 206.0 | 102.0 | 334.8 | 158.9 | 521.5 | 259.0 | 849.8 | 406.2 | 1332.6 |
| | 2 | 30.1 | 98.7 | 48.9 | 160.4 | 76.2 | 249.9 | 124.1 | 407.2 | 194.6 | 638.5 |
| | 3 | 18.3 | 60.1 | 29.8 | 97.6 | 46.4 | 152.1 | 75.5 | 247.9 | 118.5 | 388.7 |
| | 4 | 12.8 | 41.9 | 20.7 | 68.0 | 32.3 | 106.0 | 52.6 | 172.7 | 82.5 | 270.8 |
| | 5 | 9.3 | 30.6 | 15.1 | 49.7 | 23.6 | 77.4 | 38.5 | 126.2 | 60.3 | 197.9 |
| | 6 | 6.6 | 21.5 | 10.7 | 35.0 | 16.6 | 54.5 | 27.1 | 88.8 | 42.4 | 139.2 |
| | 7 | | | 6.7 | 22.0 | 10.4 | 34.2 | 17.0 | 55.7 | 26.6 | 87.4 |

Note:

1. Please check the wire gauge of your connector in the table "Max. Running Length".

E.g.,

Single-end feed, C-FR-F22A-CV-12W, 5m light length when with 20AWG wire, max. cable length should refer to the corresponding value 15.1m for 5m light length;

Double-end feed, C-FR-F22A-CV-12W, 10m light length when with 20AWG wire, max. cable length of each end should refer to the corresponding value 15.1m for half of light length 5m;

2. The above cable lengths are calculated based on 10% allowable voltage drop maximum.

Input: DC24V

| Item Code | Light Length (m) | Cable Length | | | | | | | | | |
|---------------------|------------------|----------------------|-------|----------------------|-------|----------------------|-------|----------------------|-------|----------------------|--------|
| | | 0.32 mm ² | | 0.52 mm ² | | 0.81 mm ² | | 1.32 mm ² | | 2.07 mm ² | |
| | | 22AWG | | 20AWG | | 18AWG | | 16AWG | | 14AWG | |
| | | m | ft | m | ft | m | ft | m | ft | m | ft |
| C-FR-ProF22A-CC-12W | 1 | 48.3 | 158.5 | 78.5 | 257.5 | 122.3 | 401.1 | 199.2 | 653.7 | 312.4 | 1025.1 |
| | 2 | 24.4 | 80.0 | 39.6 | 130.0 | 61.7 | 202.5 | 100.6 | 330.0 | 157.7 | 517.5 |
| | 3 | 16.2 | 53.2 | 26.3 | 86.4 | 41.0 | 134.6 | 66.8 | 219.3 | 104.8 | 343.9 |
| | 4 | 12.2 | 40.0 | 19.8 | 65.0 | 30.9 | 101.3 | 50.3 | 165.0 | 78.9 | 258.8 |
| | 5 | 9.7 | 31.9 | 15.8 | 51.9 | 24.6 | 80.8 | 40.2 | 131.7 | 63.0 | 206.6 |

Note:

1. Please check the wire gauge of your connector in the table "Max. Running Length".

E.g.,

Single-end feed, C-FR-ProF22A-CC-12W, 5m light length when with 20AWG wire, max. cable length should refer to the corresponding value 15.8m for 5m light length;

Double-end feed, C-FR-ProF22A-CC-12W, 10m light length when with 20AWG wire, max. cable length of each end should refer to the corresponding value 15.8m for half of light length 5m;

2. The above cable lengths are calculated based on minimum working voltage of 20.5V to activate the built-in constant current IC on circuitry, which enables input voltage range of 22-26V.

F22A Max. Cable Length (Silicone)

Input: DC24V

| Item Code | Light Length (m) | Cable Length | | | | | | | | | |
|-------------------|------------------|-------------------------------|-------|-------------------------------|-------|-------------------------------|-------|-------------------------------|-------|-------------------------------|--------|
| | | 0.32 mm ² 22AWG | | 0.52 mm ² 20AWG | | 0.81 mm ² 18AWG | | 1.32 mm ² 16AWG | | 2.07 mm ² 14AWG | |
| | | m | ft | m | ft | m | ft | m | ft | m | ft |
| C-SFR-F22A-CV-12W | 1 | 62.8 | 206.0 | 102.0 | 334.8 | 158.9 | 521.5 | 259.0 | 849.8 | 406.2 | 1332.6 |
| | 2 | 31.7 | 104.1 | 51.6 | 169.1 | 80.3 | 263.5 | 130.9 | 429.4 | 205.2 | 673.3 |
| | 3 | 21.2 | 69.6 | 34.5 | 113.2 | 53.7 | 176.3 | 87.6 | 287.2 | 137.3 | 450.5 |
| | 4 | 15.2 | 49.9 | 24.7 | 81.0 | 38.5 | 126.2 | 62.7 | 205.7 | 98.3 | 322.6 |
| | 5 | 11.7 | 38.4 | 19.0 | 62.4 | 29.6 | 97.2 | 48.3 | 158.4 | 75.7 | 248.5 |
| | 6 | 9.4 | 30.8 | 15.3 | 50.0 | 23.8 | 77.9 | 38.7 | 127.0 | 60.7 | 199.2 |
| | 7 | | | 12.5 | 41.1 | 19.5 | 64.0 | 31.8 | 104.3 | 49.8 | 163.5 |
| | 8 | | | 10.5 | 34.4 | 16.3 | 53.6 | 26.6 | 87.3 | 41.7 | 136.9 |
| | 9 | | | 8.9 | 29.3 | 13.9 | 45.6 | 22.6 | 74.3 | 35.5 | 116.4 |
| | 10 | | | 7.7 | 25.2 | 12.0 | 39.2 | 19.5 | 63.9 | 30.6 | 100.2 |

Note:

1. Please check the wire gauge of your connector in the table "Max. Running Length".

E.g.,

Single-end feed, C-SFR-F22A-CV-12W, 5m light length when with 20AWG wire, max. cable length should refer to the corresponding value 19m for 5m light length;

Double-end feed, C-SFR-F22A-CV-12W, 10m light length when with 20AWG wire, max. cable length of each end should refer to the corresponding value 19m for half of light length 5m;

2. The above cable lengths are calculated based on 10% allowable voltage drop maximum.

Input: DC24V

| Item Code | Light Length (m) | Cable Length | | | | | | | | | |
|----------------------|------------------|-------------------------------|-------|-------------------------------|-------|-------------------------------|-------|-------------------------------|-------|-------------------------------|--------|
| | | 0.32 mm ² 22AWG | | 0.52 mm ² 20AWG | | 0.81 mm ² 18AWG | | 1.32 mm ² 16AWG | | 2.07 mm ² 14AWG | |
| | | m | ft | m | ft | m | ft | m | ft | m | ft |
| C-SFR-ProF22A-CC-12W | 1 | 48.3 | 158.5 | 78.5 | 257.5 | 122.3 | 401.1 | 199.2 | 653.7 | 312.4 | 1025.1 |
| | 2 | 24.2 | 79.2 | 39.2 | 128.8 | 61.1 | 200.6 | 99.6 | 326.8 | 156.2 | 512.5 |
| | 3 | 16.1 | 52.8 | 26.2 | 85.8 | 40.8 | 133.7 | 66.4 | 217.9 | 104.1 | 341.7 |
| | 4 | 12.1 | 39.6 | 19.6 | 64.4 | 30.6 | 100.3 | 49.8 | 163.4 | 78.1 | 256.3 |
| | 5 | 9.7 | 31.7 | 15.7 | 51.5 | 24.5 | 80.2 | 39.8 | 130.7 | 62.5 | 205.0 |
| | 6 | | | 13.1 | 42.9 | 20.4 | 66.9 | 33.2 | 108.9 | 52.1 | 170.8 |
| | 7 | | | 11.2 | 36.8 | 17.5 | 57.3 | 28.5 | 93.4 | 44.6 | 146.4 |
| | 8 | | | 9.8 | 32.2 | 15.3 | 50.1 | 24.9 | 81.7 | 39.1 | 128.1 |

Note:

1. Please check the wire gauge of your connector in the table "Max. Running Length".

E.g.,

Single-end feed, C-SFR-ProF22A-CC-12W, 5m light length when with 20AWG wire, max. cable length should refer to the corresponding value 15.7m for 5m light length;

Double-end feed, C-SFR-ProF22A-CC-12W, 10m light length when with 20AWG wire, max. cable length of each end should refer to the corresponding value 15.7m for half of light length 5m;

2. The above cable lengths are calculated based on 10% allowable voltage drop maximum.