

## IMPORTANT

Please take the time to read this installation guide before you install the product. The guide contains important information regarding installation and operation. It must be installed in a proper way.

## PREPERATION

1. Verify all parts like LED flexible strip, LED power supply, LED controllers, and LED strip accessories, are compatible
2. Configure and pre-test the connection and control system before installation, to ensure it runs correctly.
3. The suitable cable should be selected correctly considering the voltage drop, amperage rating, and wire type (in-wall rated, wet location rated, etc)



LED Tape



LED Power Supply



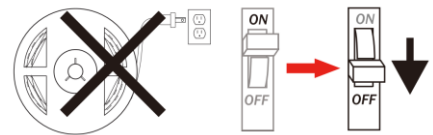
LED Controller



Cable



**SHOCK HAZARD!**  
**IT MAY RESULT IN SERIOUS INJURY OR DEATH**  
 Do not connect the LED flexible strip directly to the high voltage power. Please turn off the power prior to installation.



## IP RATING

Choosing an LED tape with the right IP rating of waterproof protection is essential.

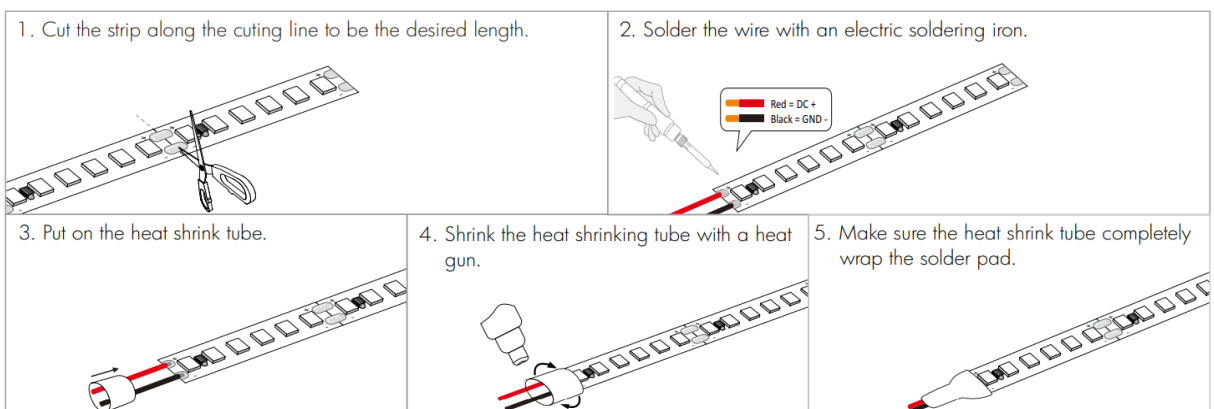
IP Rating	Location Type	Features
IP20	Dry Location	Not Waterproof
IP54	Damp Location	Silicone/PU Dripping Process Anti Splash Water
IP65	Wet Location	Silicone Tube Process Anti Spray Water
IP67	Wet Location	Silicone Pouring Process Immerse In Water For Short Time (depth≤1 meter & less than 30 minutes)

## NOTICE

1. These operating instructions do not supersede any applicable federal, state, local, or international laws, regulations, rules, ordinances, or codes related to electrical installations.
2. Installation and electrical connections must be carried out by a qualified professional electrician in accordance with all applicable electrical codes and standards.
3. Installation, operation, and storage must take place within the temperature ranges specified on the LED flexible strip product datasheet (typically  $-20^{\circ}\text{C}$  to  $+45^{\circ}\text{C}$  for installation and operation, and  $-20^{\circ}\text{C}$  to  $+60^{\circ}\text{C}$  for storage).
4. Ensure that the operating voltage of the LED flexible strip matches the output voltage of a certified LED power supply and LED controller intended for the LED lighting industry. Do not connect the LED flexible strip directly to AC mains power (e.g. 230V or 120V).
5. Select the appropriate waterproof rating of the LED flexible strip according to the actual application environment.
6. Always unroll the LED flexible strip from the reel before powering it on to prevent damage caused by heat buildup.
7. LED flexible strips may be cut into shorter lengths or connected to form longer lengths. Refer to the standard length and cutting increments specified on the product datasheet. Exceeding the maximum working length may cause quality issues such as overload or uneven brightness.
8. Switch off the power supply before wiring, assembly, processing, cleaning, or maintenance. Ensure that all wiring connections and polarities are correct before switching the power on.
9. Do not secure the LED flexible strip with staples, nails, or similar fasteners that may damage the insulation or waterproof housing.
10. Observe ESD (electrostatic discharge) precautions. Handle the product with care, avoid impact or crushing, do not apply mechanical pressure to LEDs or other components, and do not cover the LED flexible strip with heat-insulating materials.
11. Use the LED flexible strip in a well-ventilated environment and avoid fully sealed installations. Do not install or operate the strip near heat sources or potentially hazardous substances such as corrosive solvents.
12. To protect your eyesight, avoid staring directly at the LED light for prolonged periods during operation.
13. The use of an additional heat sink can improve heat dissipation and extend LED lifetime. Please refer to the heat sink and LED lifespan specifications on the product datasheet.
14. To minimise voltage drop, keep the cable lengths between the LED flexible strip, LED power supply, and LED controller as short as possible.
15. For improved reliability, it is recommended that the LED power supply and LED controller operate at no more than 80% of their rated output power.
16. Ensure that neither the LED power supply nor the LED controller generates reverse voltage, as this may damage the LED flexible strip.
17. Dust and dirt that accumulate on the light-emitting surface should be removed periodically to ensure optimal performance. Always disconnect the power before cleaning or maintenance.
18. Do not allow paints, solvents, or corrosive cleaning agents to come into contact with the LED flexible strip.
19. This product must not be disposed of as household waste. Dispose of it in accordance with regulations for the recycling of electrical and electronic equipment.

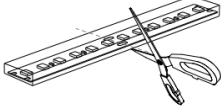


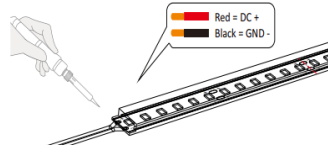
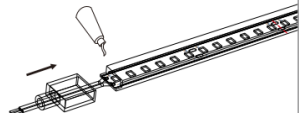
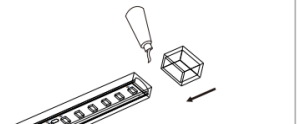
## ASSEMBLY IP20

Apply the wire soldering for LED flexible strip in IP20



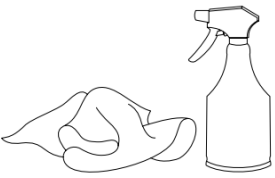
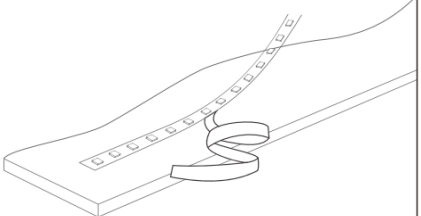
## ASSEMBLY IP54/IP65/IP67

### Apply the wire soldering for LED flexible strip in IP54/IP65/IP67

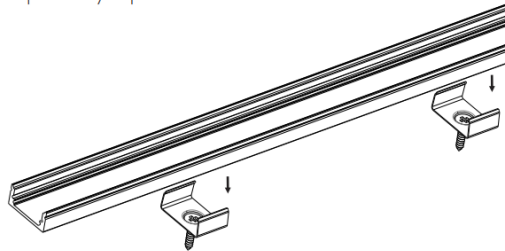
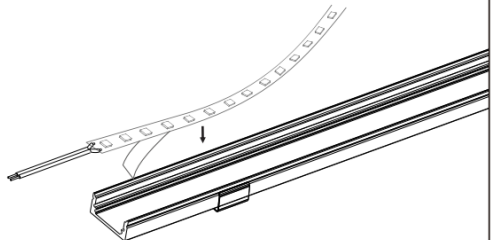
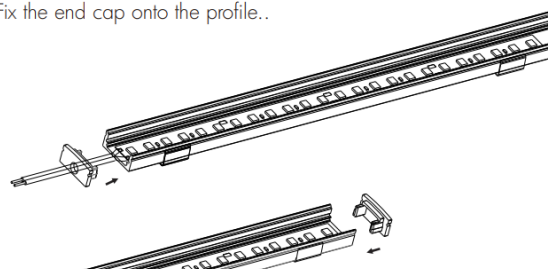
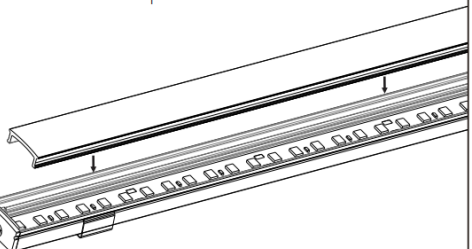
<p>1. Cut the strip along the cutting line to be the desired length.</p> 	<p>2. Cut off some parts of upper silicone jacket in 3mm long carefully, until these upper solder pads on PCB are exposed.</p> 	<p>3. Clean the solder pads thoroughly. Be careful not to damage the PCB.</p> 
<p>4. Solder the wire cable to the upper solder pads on PCB.</p> 	<p>5. Fill the inner part of front cap by silicone glue and then seal it to the LED flexible strip.</p> 	<p>6. Fill the inner part of end cap by silicone glue and then seal it to the LED flexible strip.</p> 

## INSTALLATION

### Option 1: Fixed with adhesive tape.

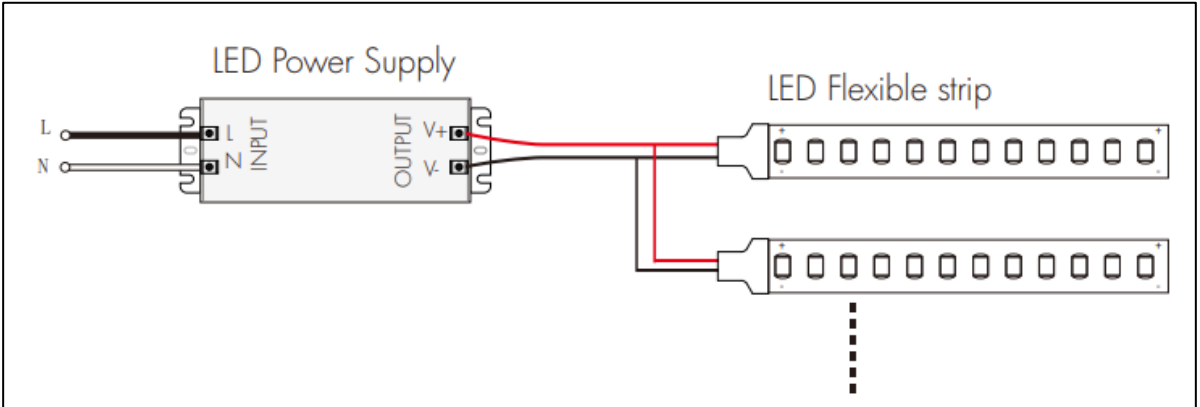
<p>1. Clean the mounting surface by removing any dirt, debris, or moisture.</p> 	<p>2. Peel off the release paper of the adhesive tape and then stick the LED flexible strip to the mounting surface.</p> 
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### Option 2: Fixed with aluminium profile.

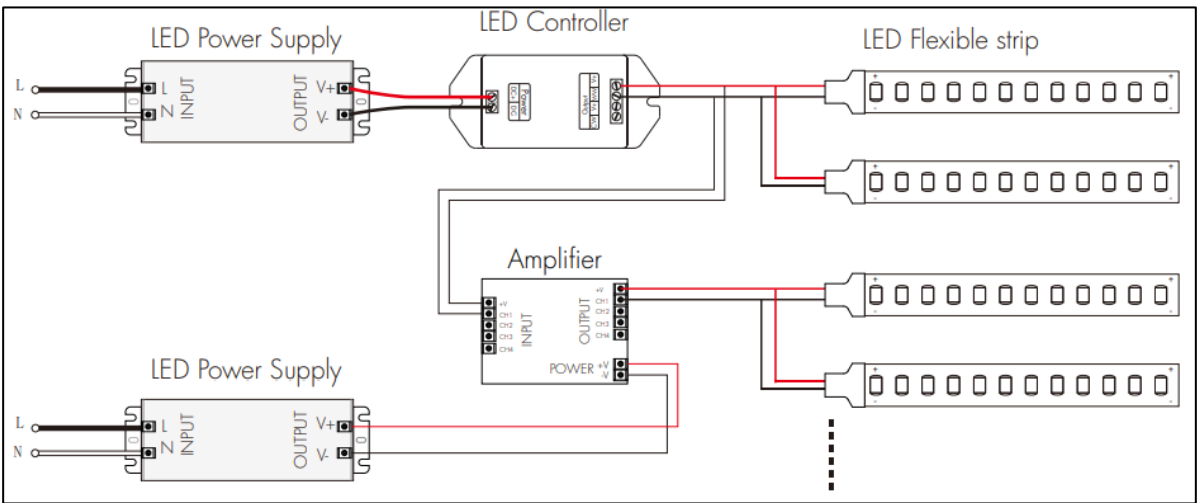
<p>1. Fixed the profile by clip and screw.</p> 	<p>2. Clean the profile and then stick the LED flexible strip into it.</p> 
<p>3. Fix the end cap onto the profile..</p> 	<p>4. Mount the cover onto the profile.</p> 

## CONNECTION

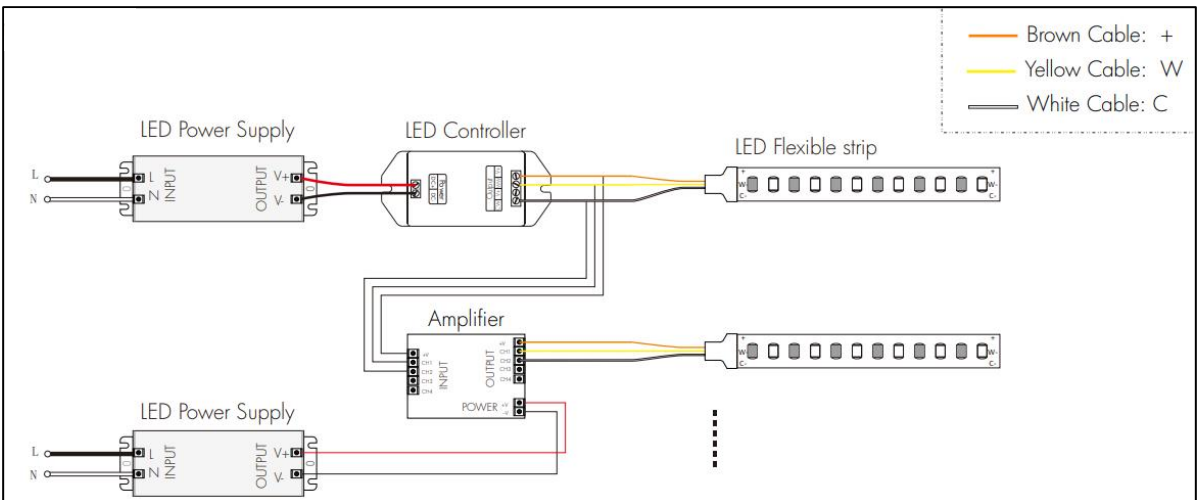
### Non-Dimming Single Colour Control Systems



### Dimming Single Colour Control Systems

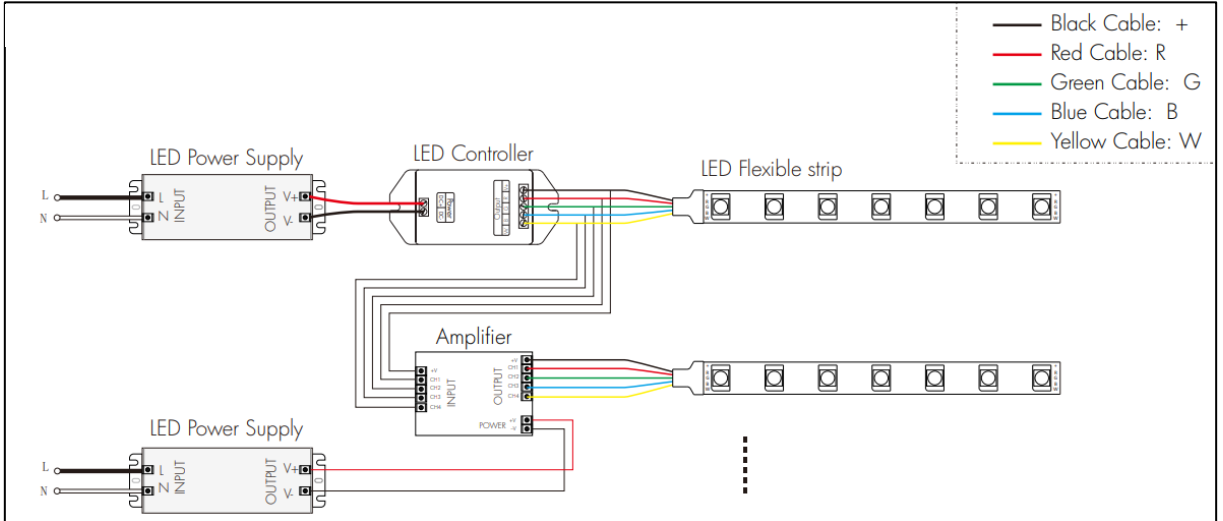


### CCT Colour Control Systems

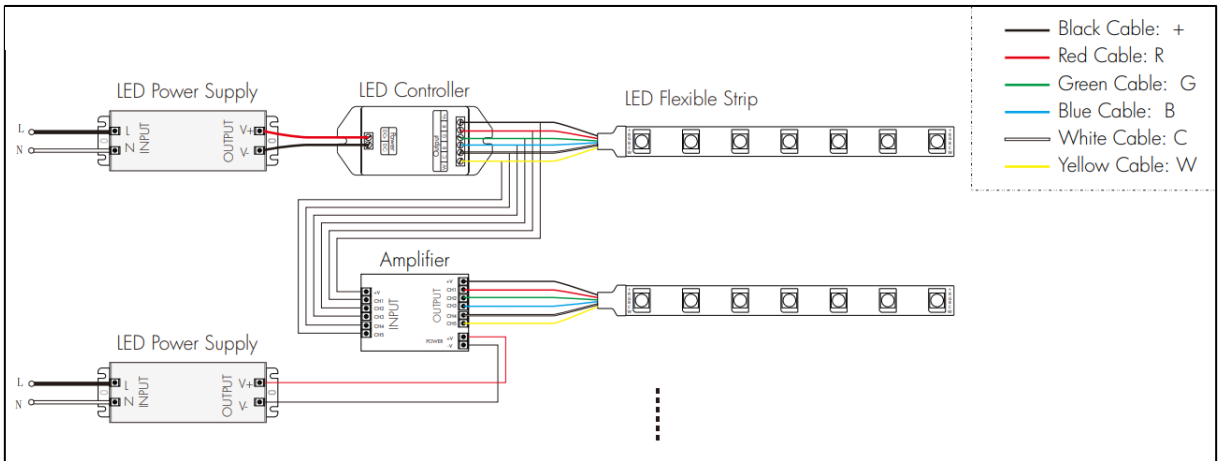


## CONNECTION

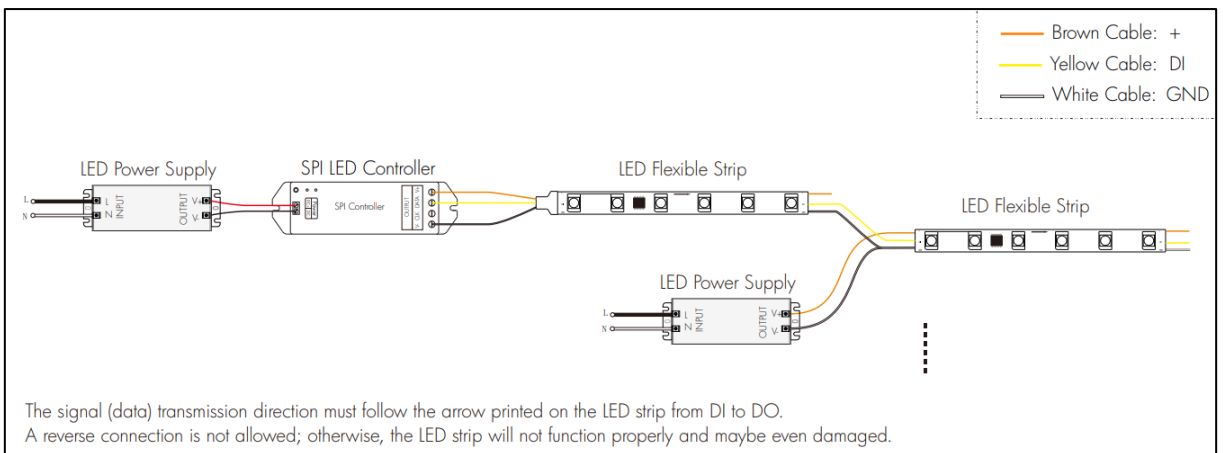
### RGB / RGBW Colour Control Systems



### RGBCW Colour Control Systems

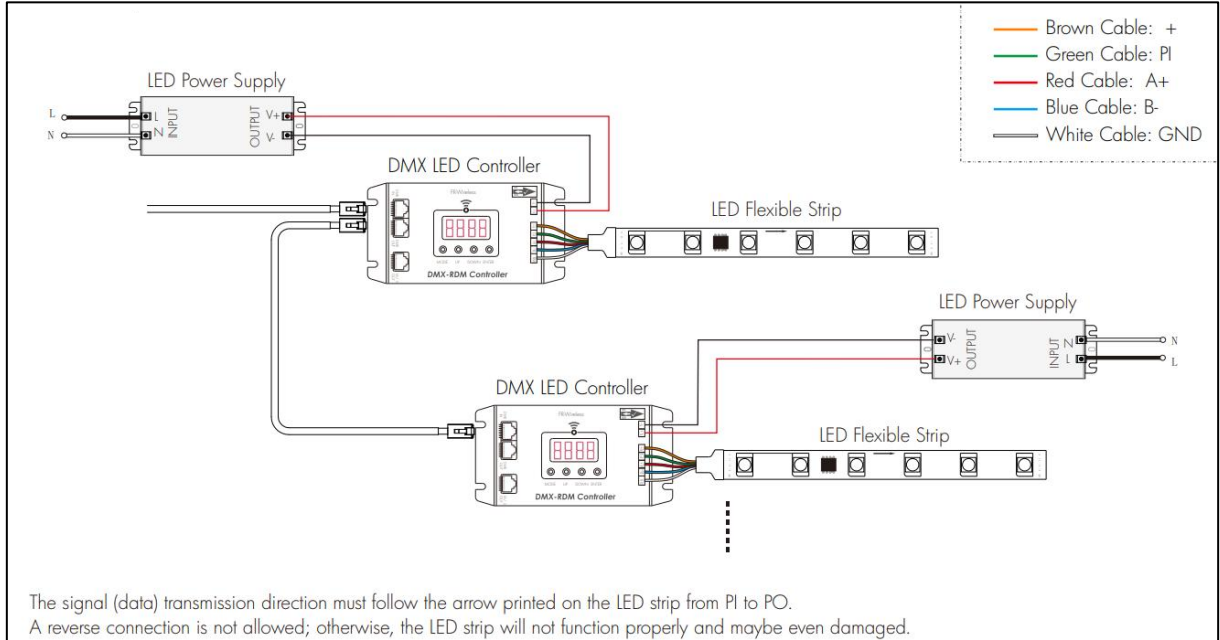


### SPI Control Systems



## CONNECTION

### DMX Control Systems



## CALCULATION

### VOLTAGE DROP GUIDANCE CHART

Always choice a nearest value for following calculation (1st step: calculate the Max. load power/current; 2nd step: measure the distance between power supply and load; 3rd step: select the suggested wire gauge.)

#### 24V Voltage Drop & Wire Length Distance (3% Drop or 23.28V)

Wire / Load	20W (0.83A)	30W (1.3A)	40W (1.7A)	50W (2.1A)	60W (2.5A)	70W (2.9A)	80W (3.3A)	90W (3.75A)	100W (4.2A)	150W (6.25A)	200W (8.33A)	300W (12.5A)
0.5mm <sup>2</sup>	13.1 m	8.2 m	6.4 m	5.2 m	4.3 m	3.7 m	3.1 m	2.7 m	2.4 m	1.2 m	Don't Use	Don't Use
0.75mm <sup>2</sup>	20.7 m	13.7 m	10.1 m	8.2 m	6.7 m	5.8 m	5.2 m	4.6 m	4.3 m	2.1 m	1.5 m	1.0 m
1.5mm <sup>2</sup>	33.2 m	21.9 m	16.5 m	13.1 m	11.0 m	9.4 m	8.2 m	7.3 m	6.7 m	3.4 m	2.7 m	1.73 m
2.5mm <sup>2</sup>	53.0 m	35.1 m	26.2 m	21.0 m	17.4 m	14.9 m	13.1 m	11.9 m	11.0 m	5.8 m	4.3 m	2.7 m
4mm <sup>2</sup>	82.9 m	55.2 m	41.1 m	32.9 m	27.4 m	23.5 m	20.7 m	18.6 m	17.1 m	9.1 m	6.7 m	4.6 m
6mm <sup>2</sup>	121 m	80.2 m	60.0 m	48.2 m	39.9 m	36.9 m	29.9 m	29.6 m	25.0 m	13.7 m	13.7 m	6.9 m

#### 48V Voltage Drop & Wire Length Distance (1% Drop or 47.5V)

Wire / Load	20W (1.66A)	30W (2.5A)	40W (3.3A)	50W (4.2A)	60W (5A)	70W (5.8A)	80W (6.7A)	90W (7.5A)	100W (8.3A)	150W (12.5A)	200W (16.6A)	300W (25A)
0.5mm <sup>2</sup>	17.2 m	11.4 m	8.7 m	6.9 m	5.7 m	4.9 m	4.3 m	3.8 m	3.4 m	2.3 m	Don't Use	Don't Use
0.75mm <sup>2</sup>	27.2 m	18.2 m	13.8 m	10.9 m	9.2 m	7.8 m	6.8 m	6.1 m	5.5 m	3.6 m	2.7 m	Don't Use
1.5mm <sup>2</sup>	43.2 m	29.1 m	21.9 m	17.5 m	14.6 m	12.5 m	10.9 m	9.7 m	8.8 m	5.8 m	4.4 m	Don't Use
2.5mm <sup>2</sup>	68.6 m	46.2 m	34.8 m	27.8 m	23.1 m	19.8 m	17.3 m	15.4 m	13.9 m	9.3 m	6.9 m	4.6 m
4mm <sup>2</sup>	109.2 m	73.4 m	55.4 m	44.2 m	36.7 m	31.4 m	27.5 m	24.4 m	22.1 m	14.7 m	10.9 m	7.4 m
6mm <sup>2</sup>	173.6 m	116.6 m	87.8 m	70.2 m	58.4 m	50.2 m	43.8 m	38.8 m	35.2 m	23.3 m	17.5 m	11.7 m