

## Features

- High density and better linear effect for high brightness and high efficacy up to 100lm/W
- PCB width narrow to 4mm[0.16in] with great flexibility, easy mounted in curved surface
- Enhanced reliability due to stronger LED bracket.
- 29.4mm[1.16in] cuttable to satisfy different requirement
- Long lifespan with great lumen maintenance
- Excellent weather resistance and UV resistance

Bending radius:  $R_{min}=20mm$



## Application

- Light guide plate and other lighting.

## Installation

- Fix by 3M self adhesive tape



Optical & Electrical Parameters

| Model No.     | Light Color | Color Temperature(K) | Beam Angle | Ra  | Typical Luminous Flux(lm/m) | Efficacy (lm/w) | Voltage (DC V) | Power (W/m) |
|---------------|-------------|----------------------|------------|-----|-----------------------------|-----------------|----------------|-------------|
| MN2110-238-24 | W           | 2700                 | 120        | 90+ | 1052                        | 86              | 24             | 12.24       |
|               | W           | 3000                 | 120        | 90+ | 1077                        | 88              | 24             | 12.24       |
|               | W           | 4000                 | 120        | 90+ | 1126                        | 92              | 24             | 12.24       |
|               | W           | 5000                 | 120        | 90+ | 1187                        | 97              | 24             | 12.24       |
|               | W           | 6000                 | 120        | 90+ | 1224                        | 100             | 24             | 12.24       |
| MN2110-300-12 | W           | 2700                 | 120        | 90+ | 472                         | 79              | 12             | 6           |
|               | W           | 3000                 | 120        | 90+ | 487                         | 81              | 12             | 6           |
|               | W           | 4000                 | 120        | 90+ | 500                         | 84              | 12             | 6           |
|               | W           | 5000                 | 120        | 90+ | 517                         | 86              | 12             | 6           |
|               | W           | 6000                 | 120        | 90+ | 539                         | 90              | 12             | 6           |

Other Parameters

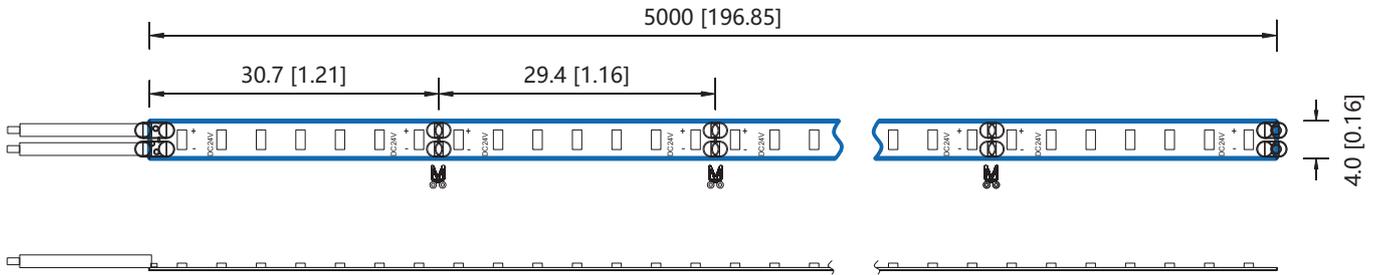
| Model No.     | LED Quantity (pcs/m) | Standard Packing Length L*W(mm) | Max Run (Single Feed)(m) | Min Cuttable length(mm) | Working Temperature | Storage Temperature |
|---------------|----------------------|---------------------------------|--------------------------|-------------------------|---------------------|---------------------|
| MN2110-238-24 | 238                  | 5000*4                          | 2.0                      | 29.4                    | -20~+60             | -20~+70             |
| MN2110-300-12 | 300                  | 5000*4                          | 1.0                      | 10                      | -20~+60             | -20~+70             |

NOTE:

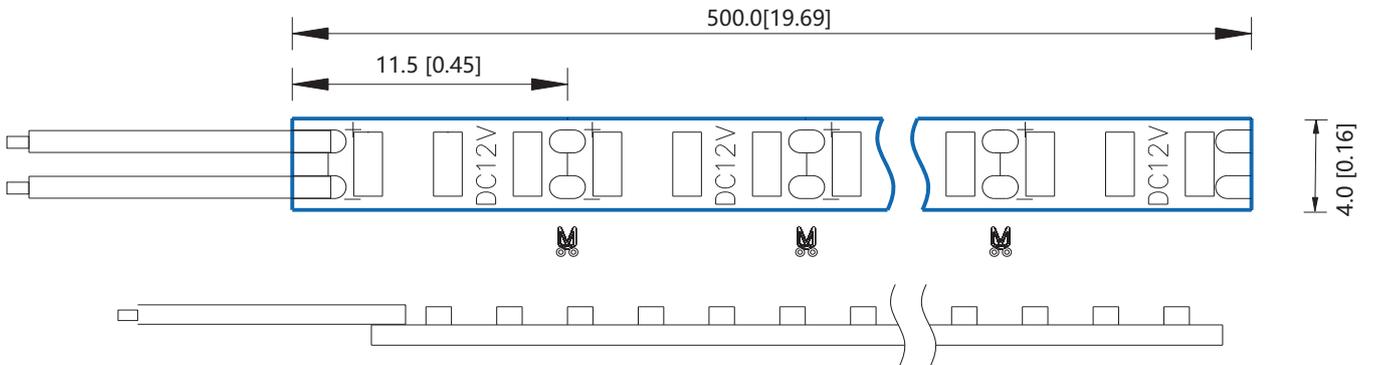
- Test environment temperature : 25±2°C.
- The above data is typical values. The actual data of each single product may differ from the typical values. The data is subject to change without notice.
- The luminous flux is tested with single light on.
- Different color temperature will make luminous flux different.
- The working temperature here is the range with the heat dissipation of the aluminum track; for bare board, it is -20~50 °C.

1.MN2110-238-24

Unit:mm

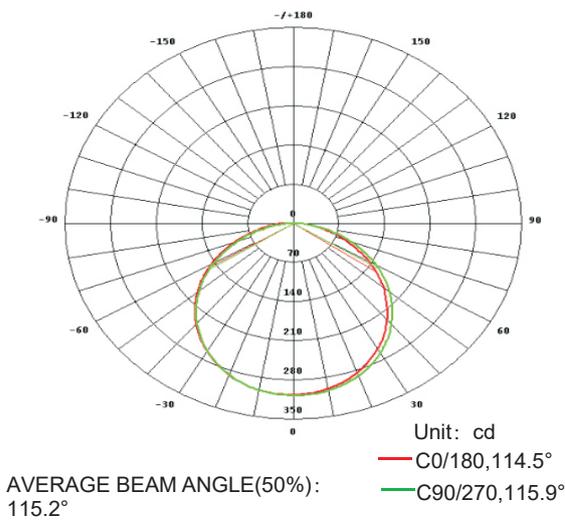


2.MN2110-300-12

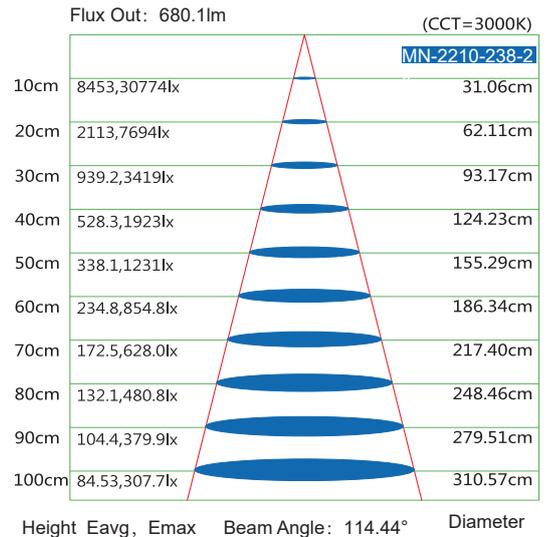


Note: Feel free to contact your sales for detailed drawings.

Luminous Intensity Distribution Diagram



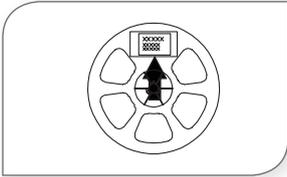
Average Illumination



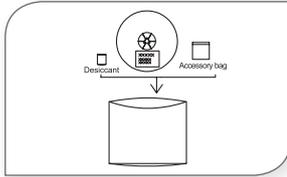
Note:

the above two figures are tested with the sample MN-2210-238-24 normally on at color temperature 3000K. Welcome to contact with the sales for more product info.

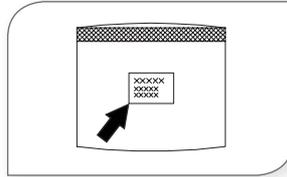
packing



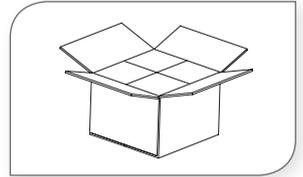
Label the reel;



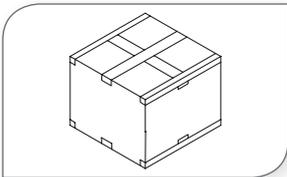
Put reel, accessory bag and desiccant together into static shielding bag;



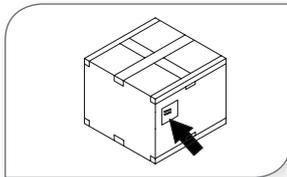
Seal and label the static shielding bag;



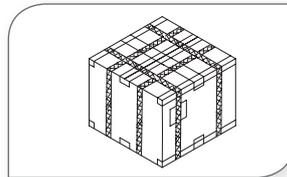
Put the packed static shielding bag into carton box;



Seal the carton box;



Label the box;



Use packing belt to pack. Add edge protectors if necessary.

Packaging information

| Model No.     | Product Size L*W(mm) | Carton Size(mm) | Meter/Reel | Reel/Carton | Net Weight(kg) | Gross Weight(kg) |
|---------------|----------------------|-----------------|------------|-------------|----------------|------------------|
| MN2110-238-24 | 5000*4               | 550*400*340     | 5          | 140         | 6.35(1±10%)    | 10.55(1±10%)     |
| MN2110-300-12 | 5000*4               | 550*400*340     | 5          | 140         | 6.05(1±10%)    | 10.25(1±10%)     |

Note:

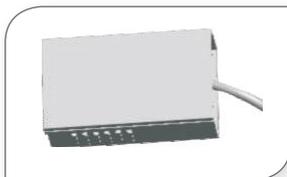
- Five meters per reel, packed in the static shielding bag.
- The above quantity and weight are only for the illustrated packaging method. There will be differences in the quantity and weight with other packaging methods.

Installation

1.Products and Tools



MN-2110



LED power supply



Self-tapping screw



Insulation Tape



Clips



Electric iron



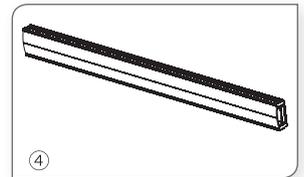
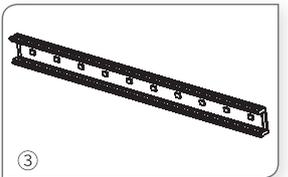
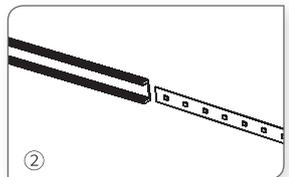
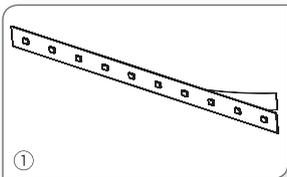
Diagonal pliers



Electric drill

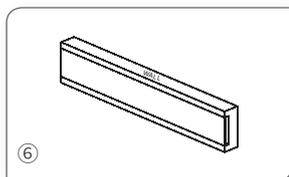
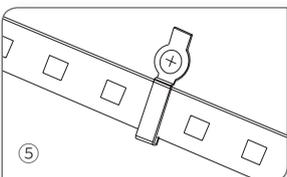
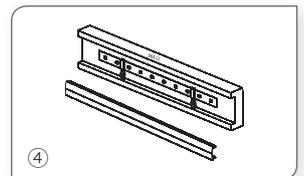
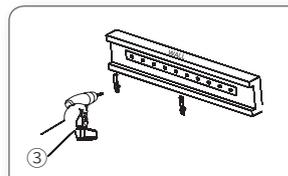
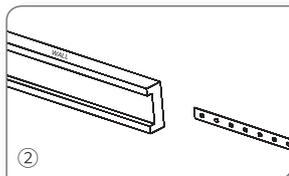
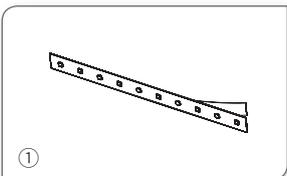
## 2.Installation Methods and Steps

### Aluminum channel installation



1. Peel away the self adhesive tape on the back of strip.
2. Cut off the excess part based on the installation position.
3. Evenly arrange the strips with appropriate space in the track.
4. Install the cover and end cap.

### Covered channel installation



1. Peel away the self adhesive tape on the back of strip.
2. Cut off the excess part based on the installation position.
3. Evenly arrange the strips with appropriate space in the track and fix them with clips.
4. Install the cover and end cap.
5. Clip installation as the figure show
6. Finished



## Attentions

- Before installation, check that the product parameters are consistent with the requirements (Seeing product specifications or product labels)
- Load voltage, current, power and power supply should be matched with the product.
- Follow the instructions of wiring diagram (first connect the product and then the power supply) to avoid short circuit.
- Make sure the correct connection of positive and negative poles between the product and power supply. Otherwise, the light will not be on.
- Make sure the power cord firmly screwed into the terminal and it should not be pulled out by hands.
- The terminal should have insulation, waterproof and anti-corrosive treatment.
- If the working length exceeded the max run length, make sure to have extra power supply.
- If it needs higher current of a LED, make sure having extra cooling.

## Common Faults and Troubleshoot

| Quick Guide   |  |  |
|---|--|--|
| Problems  | Reasons  | Solutions  |
| All LEDs can not light on.                          | No electric supply.  | Fix the short circuit problem.   |
|   | Automatic power protection from the open or short circuit in output of the power supply. | Fix the short circuit problem.   |
|   | Wrong connection of power supply.  |  |
| LEDs can not light on partly.                       | Some switching mode power supplies are not powered.                                      | Check the power supply system to fix it.   |
|   | Power supply line error.   |  |
|   | Mistaken wire connection of some of products   | Correctly connection   |
| Brightness of LED is inconsistent tor insufficient. | Power overloaded.  | Replace with more powerful power   |
|   | Power supply circuit excessive consumption.  | Make sure the working voltage of the product within $\pm 5\%$ of standard voltage, or keep balance by circuit power consumption. |
|   | Excessive quantities in series connection of the product                                 | Reduce the quantities of the product in series connection to meet requirement.   |
| LED flicker   | Connection point fault.  | Remove bad connection point.   |
|   | Switching power supply failure.  | Replace a new power supply.  |
|   | Wrong Installation or use of products  | Please follow the instructions   |

## Warning

- Do not disassemble or retrofit the light. Do not touch the surface of the light with a sharp object.
- Do not do live-line working during installation, especially for high voltage product.
- Do not use any organic chemical solvents.
- Use neutral glass adhesive to fix this product and it needs to be dried 4 hours in the open environment after operation.
- Treat the ends and the circuit connection points that are not connected to the main line with insulation, waterproof, and anti-corrosion in the installation.
- Use 18AWG (0.75mm<sup>2</sup> cross-sectional area) or thicker core wire to avoid adverse consequences caused by overheating, if the power cable need to lengthen.
- Make sure the input voltage meets the requirements and lines are connected correctly before lighting on.
- Series connection within the max run.
- The length of the power cable between the power supply and the led strip should not exceed 2 meters. Otherwise, large circuit loss will lead to inconsistent brightness.
- Installation, maintenance and repair should be operated by a qualified technician.

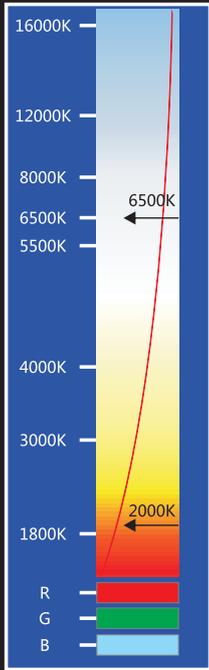
## Statements and Recycling

### Statements:

- Repair should be operated by a qualified technician, if the external circuit or main line of this product is damaged.
- The parameters given in this manual are typical values and for reference only.
- All illustrations and drawings in this manual are for reference.
- This product is subject to change without notice.

### Recycling:

- LED lighting products belongs to electronic products, please do recycling treatment according to the relevant WEEE directives.



## Features

1. WW and CW LED package
2. High brightness and high efficacy up to 94lm/W
3. Great linear effect and dimmable via controller
4. Small size with great flexibility, easy mounted in curved surface
5. Cuttable every 50mm [1.97in] for various application
6. Long lifespan with great lumen maintenance

Lighting Mode: WW and CW



Bending radius:  $R_{min}=20mm$



## Application

Signage lighting and linear decoration for shopping mall, hotels, entertainment clubs etc.

## Installation

Fix by 3M self adhesive tape



## Specification

| Model No.         | Light Color | Color Temperature/Wavelength(K/nm) | Beam Angle | Typical Luminous Flux(Lm/m) | Ra  | Efficacy (Lm/W) | Voltage (V DC) | Power (W/m) |
|-------------------|-------------|------------------------------------|------------|-----------------------------|-----|-----------------|----------------|-------------|
| MN-2110-280-24-CW | WW          | 2000                               | 120°       | 317                         | 90+ | 66              | 24V            | 5           |
|                   | CW          | 6500                               | 120°       | 453                         | 90+ | 94              | 24V            | 5           |

## Temperature-Related Parameters(Normal Working)

| Model No.         | Power(W/m) | No Brightness Difference MAX(m) | T <sub>a</sub> (°C ) | Operating Temp MAXTc(°C ) |
|-------------------|------------|---------------------------------|----------------------|---------------------------|
| MN-2110-280-24-CW | 10         | 1m                              | -20~+60°C            | --                        |

## Other Parameters

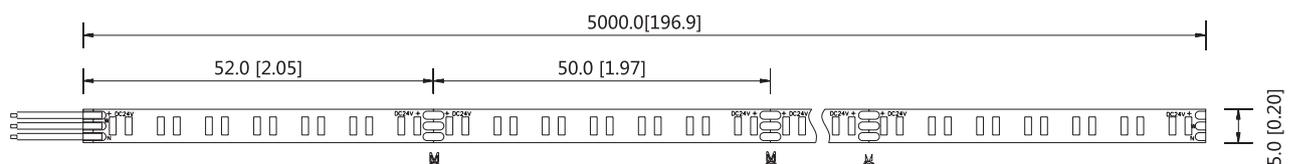
| Model No.         | LED Quantity(pcs/m) | Min Cuttable Length(mm) | Storage Temperature(°C ) |
|-------------------|---------------------|-------------------------|--------------------------|
| MN-2110-280-24-CW | 280                 | 50                      | -20~+70°C                |

### NOTE:

1. Test environment temperature : 25±2°C.
2. Figures above are typical figures. Actual figures could be different with typical figures, and the data is subject to change without notice.
3. Luminous flux above is single-color single-light tested result.
4. Different color temperature or wavelength will make luminous flux different.
5. Max run is in single feed.
6. UL max run refers to operating length at UL class II @100W.24V.
7. Power tolerance within ±10%.
8. Cutting marks see profile drawing below.

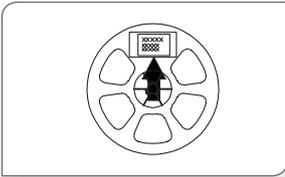
## Profile Drawings

Unit:mm[inch]

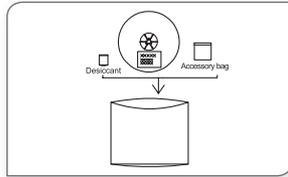


Note:For detail drawing,please consult sale rep.

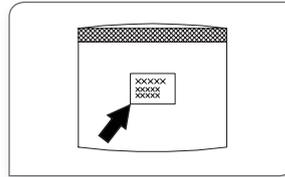
packing



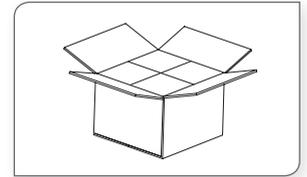
Label the reel;



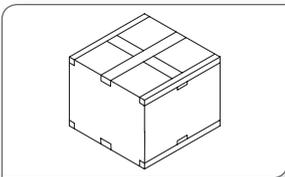
Put reel, accessory bag and desiccant together into static shielding bag;



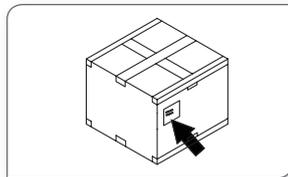
Seal and label the static shielding bag;



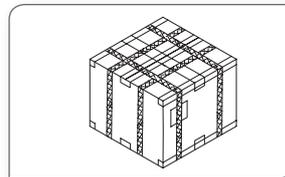
Put the packed static shielding bag into carton box;



Seal the carton box;



Label the box;



Use packing belt to pack. Add edge protectors if necessary.

Packaging information

| Model No.         | Product Size L*W(mm) | Carton Size(mm) | Meter/Reel | Reel/Carton | Net Weight(kg) | Gross Weight(kg) |
|-------------------|----------------------|-----------------|------------|-------------|----------------|------------------|
| MN-2110-280-24-CW | 5000X5               | 550X400X340     | 5          | 60          | 6.20(1±10%)    | 11.02(1±10%)     |

Note:

Five meters per reel, packed in the static shielding bag.

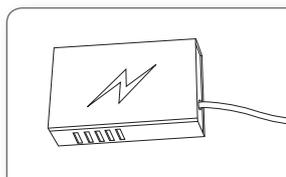
The above quantity and weight are only for the illustrated packaging method. There will be differences in the quantity and weight with other packaging methods.

Installation

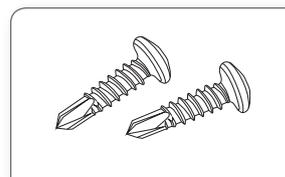
1.Products and Tools



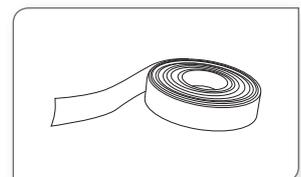
MN-2110-280-24-CW



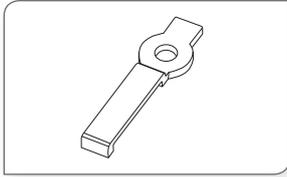
LED power supply



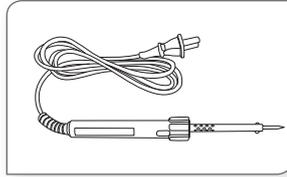
Self-tapping screw



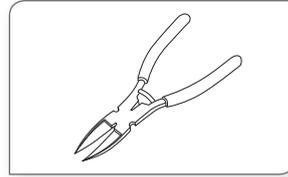
Insulation Tape



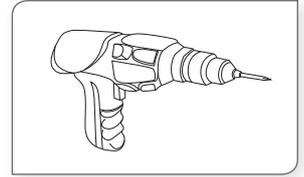
Clips



Electric iron



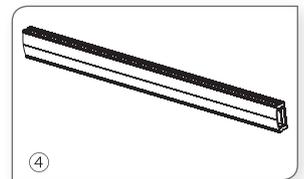
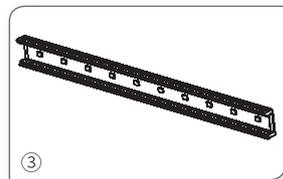
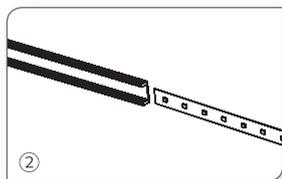
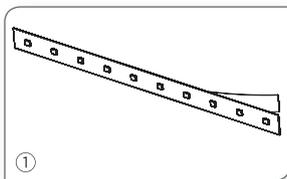
Diagonal pliers



Electric drill

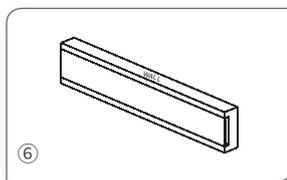
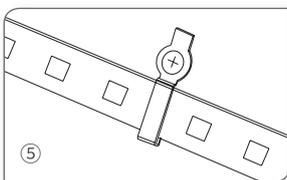
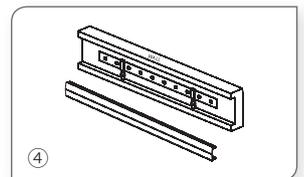
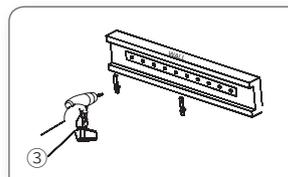
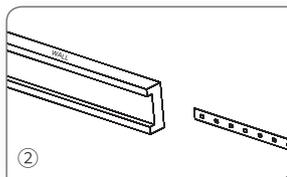
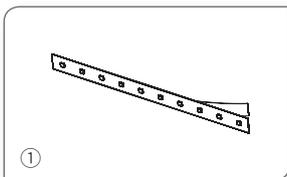
## 2.Installation Methods and Steps

### Aluminum channel installation



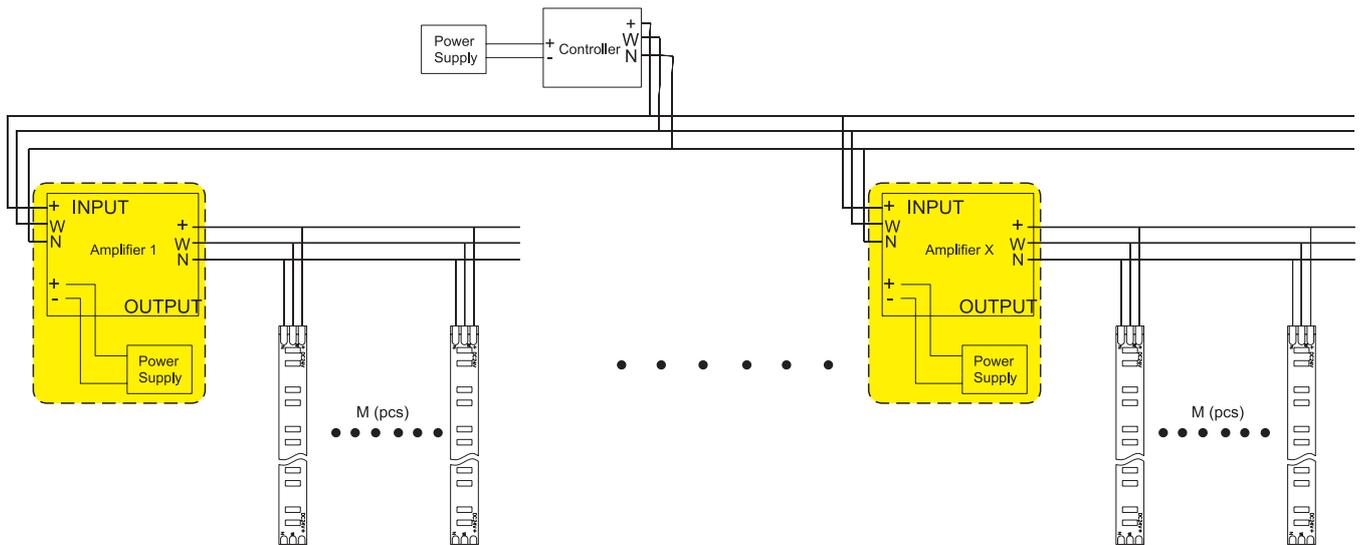
1. Peel away the self adhesive tape on the back of strip.
2. Cut off the excess part based on the installation position.
3. Evenly arrange the strips with appropriate space in the track.
4. Install the cover and end cap.

### Covered channel installation



1. Peel away the self adhesive tape on the back of strip.
2. Cut off the excess part based on the installation position.
3. Evenly arrange the strips with appropriate space in the track and fix them with clips.
4. Install the cover and end cap.
5. Clip installation as the figure show
6. Finished

Connection Diagram & Calculation Method between Product and Controller



Amplifier power supply rated power (W): P  
 Product rated power (W): P(strip)  
 Controller load: M(pcs)  
 Amplifier max run: MAX

$$M = \frac{P \times 0.8}{P_{(\text{strip})} \times \text{MAX}}$$

For example: the product is MN2110-280-24-CW, P(strip)=5W/m, the max run MAX=10m, the power supply is 400W,

Amplifier load:

$$M = \frac{P \times 0.8}{P_{(\text{strip})} \times \text{MAX}} = \frac{400 \times 0.8}{5 \times 10} \doteq 6(\text{pcs})$$

Note:

1. The controller's power supply must be consistent with the controller's power requirements.
2. The amplifier must be added to drive the product if the controller is more than 20 meters away from the product, see above.
3. The sample above powered in single-feed



## Attentions before installation

- Before installation, check that the product parameters are consistent with the requirements (Seeing product specifications or product labels)
- Load voltage, current, power and power supply should be matched with the product.
- Follow the instructions of wiring diagram (first connect the load and then the power supply) to avoid short circuit.
- Make sure the correct connection of positive and negative poles between products and power supply. Otherwise, the light will not be on.
- Make sure the power cord firmly screwed into the terminal and it should not be pulled out by hands.
- The terminal should have insulation, waterproof and anti-corrosive treatment.
- If the working length exceeded the max run length, make sure to have extra power supply.
- If it needs higher current of a LED, make sure having extra cooling.

## Common Faults and Troubleshoot

| Quick Guide  |  |  |
|--|--|--|
| Problems   | Reasons  | Solutions  |
| All LEDs can not light on.                         | No electric supply.  | Power on   |
|  | Automatic power protection from the open or short circuit in output of the power supply. | Fix the short circuit problem.   |
|  | Wrong connection of power supply.  |  |
| LEDs can not light on partly.                      | Some switching mode power supplies are not powered.                                      | Check the power supply system to fix it.   |
|  | Power supply line error.   |  |
|  | Mistaken wire connection of some of products   | Correctly connection   |
| Brightness of LED is inconsistent or insufficient. | Power overloaded.  | Replace with more powerful power   |
|  | Power supply circuit excessive consumption.  | Make sure the working voltage of the product within $\pm 5\%$ of standard voltage, or keep balance by circuit power consumption. |
|  | Excessive quantities in series connection of the product                                 | Reduce the quantities of the product in series connection to meet requirement.   |
| LED flicker.                                       | Connection point fault.  | Remove bad connection point.   |
|  | Switching power supply failure.  | Replace a new power supply.  |
|  | Wrong Installation or use of products  | Please follow the instructions   |

### ⚠ Warning

- Do not disassemble or retrofit the light. Do not touch the surface of the light with a sharp object.
- Do not do live-line working during installation, especially for high voltage product.
- Do not use any organic chemical solvents.
- Use neutral glass adhesive to fix this product and it needs to be dried 4 hours in the open environment after operation.
- Treat the ends and the circuit connection points that are not connected to the main line with insulation, waterproof, and anti-corrosion in the installation.
- Use 18AWG (0.75mm<sup>2</sup> cross-sectional area) or thicker core wire to avoid adverse consequences caused by overheating, if the power cable need to lengthen.
- Make sure the input voltage meets the requirements and lines are connected correctly before lighting on.
- This product is for signage, and do not use as general lighting.
- Series connection within the max run.
- The length of the power cable between the power supply and the led strip should not exceed 2 meters. Otherwise, large circuit loss will lead to inconsistent brightness.
- Installation, maintenance and repair should be operated by a qualified technician.

## Statements and Recycling

### Statements:

Repair should be operated by a qualified technician, if the external circuit or main line of this product is damaged.  
The parameters given in this manual are typical values and for reference only.  
All illustrations and drawings in this manual are for reference.  
This product is subject to change without notice.

### Recycling:

LED lighting products belongs to electronic products, please do recycling treatment according to the relevant WEEE directives.