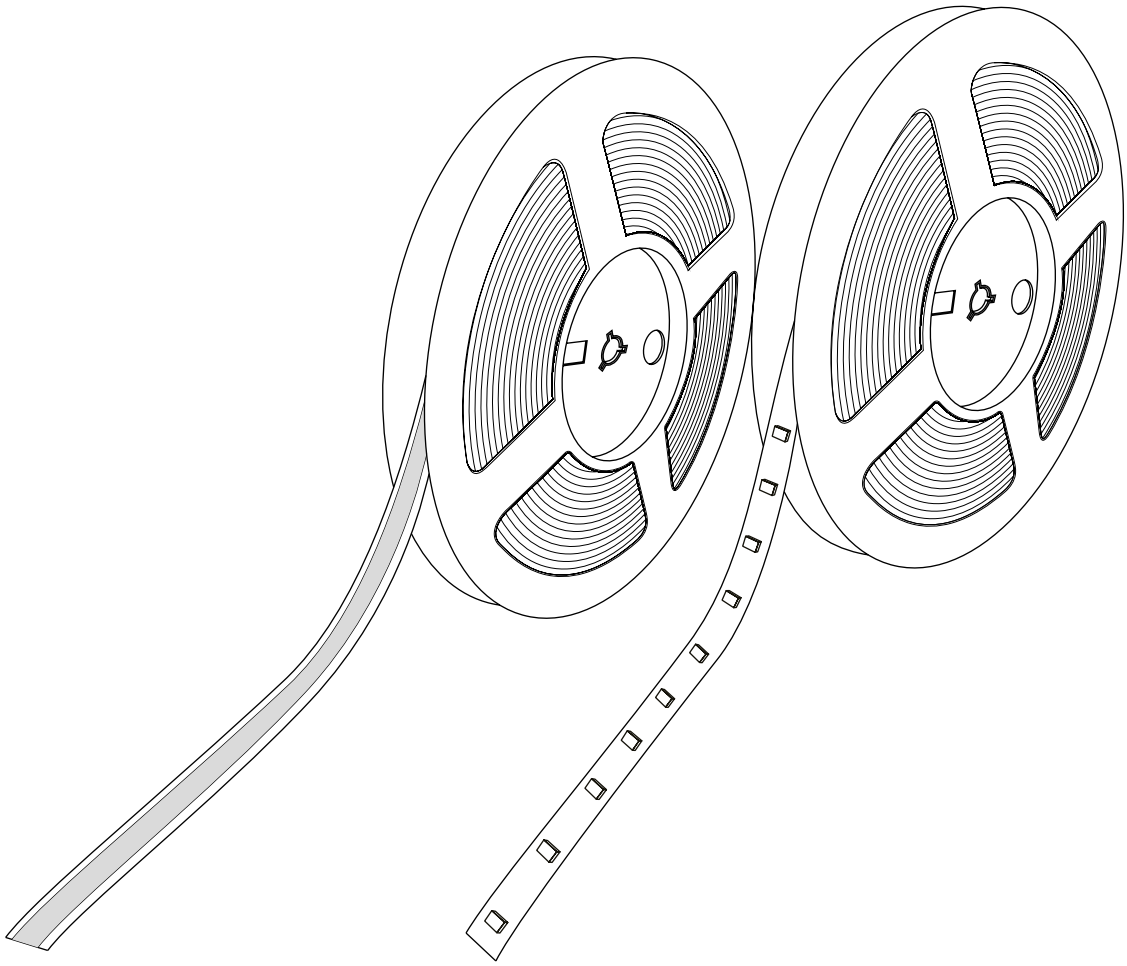
ATEA

STRIP LED
INSTALLATION INSTRUCTIONS



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ATEA

GENERAL INFORMATION REGARDING PROPER USE OF THE PRODUCT

The ATEA LED strip is a flexible LED module, which serves as a component to manufacture luminaires for general lighting.
The LED strip is to be provided with a suitable housing during operation that meets the normative and legal requirements for the application purpose and location and that pro-tects the sensitive electronic components of the flexible PCB from external influences and ESD. When used outdoors in particular, it should be ensured that corresponding precautions are taken to protect it against water, moisture and salt. In addition, a sophisticated cooling of the LED strip is to be ensured. During operation, the permissible maximum Tc temperature may not be exceeded.

Please take the time to read the safety instructions carefully. The installation of the LED strip may only be carried out by a qualified electrician !

The product must be processed in a proper way.

WARRANTY

- White/CCT products provide a 5 years warranty - 60 000h (3 years for some models),
- 48V/D2W/Color/RGB/RGBW/RGBCCT/High Output/POOL/SAUNA products provide a 3 years warranty - 36 000h.
- Pixel (SPI/DMX) products offer a 2 years warranty - 20 000h.

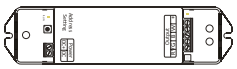
- DISCLAIMER :
  Damage to the product resulting from failure to comply with the installation instructions for use will void the warranty and all related claims. We also accept no liability for damages resulting from improper use. The same applies forproperty damage and personal injury caused by improper handling or non-observance of the safety instructions.

PREPARATION

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 wire should be selected correctly considering the voltage drop, amperage rating, and wire type (in-wall rated, wet location rated, etc.).

LED Flexible Strip

LED Power Supply

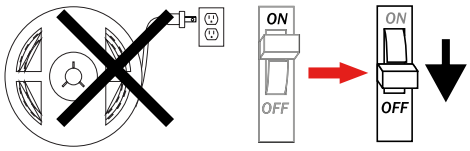


LED Controller

Wire

SAFETY INSTRUCTION

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.



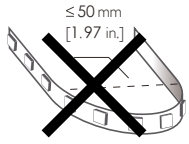
RISK OF INJURY, RISK OF BLINDING !
The Led strip shine very brightly. Looking directly at the light source may result in eye injuries

RISK OF INJURY, RISK OF BLINDING !
The device may not be operated in which explosive or combustible gases, fumes or dust are present. Doing so carries a risk of explosion and fire

SAFETY & WARNING

- The operation instruction does not supersede federal, state, local, or (inter) national laws, regulations, rules, ordinances, and codes that may apply to electrical installations.
- The installation and electrical connection process must be operated by a professional electrician using the applicable and appropriate electrical codes.
- Installation, usage and storage must occur in the environment within the temperature range (usually -10~40°C for installation &usage and -20~60°C for storage) indicated on the product datasheet of the LED flexible strip.
- Make sure the operating voltage of the LED flexible strip coincides with the voltage of the extra LED power supply and LED controller certified for the LED lighting industry, do not connect the LED flexible strip directly to the AC power such as 230V or 120V input.
- Please choose the suitable waterproof rating of the LED flexible strip according to the actual application scene.
- Unroll the LED flexible strip from reel before illumination, to avoid product damage caused by the heat.
- LED flexible strips can be cut into certain shorter lengths, and also can be spliced into longer lengths. Please refer to the standard length and increment written on the product datasheet of the LED flexible strip. Beyond working length will lead to quality issues like overload, uneven brightness, etc.
- Turn off the power supply before wiring, assembly, processing, cleaning, maintenance, etc, and ensure all wiring and polarities arecorrect before powering on.
- Do not secure the LED flexible strip with staples, nails, or similar objects that can damage the insulated housing for waterproofing.
- Be aware of ESD protection, handle with care without colliding or crushing, do not mechanically press down on LED and other components, and do not cover the LED flexible strip with heat insulation gasket material.
- Try to use in a well ventilated environment and avoid complete sealing. Avoid installing and using the LED flexible strip near heat sources, or other potentially dangerous sources like corrosive solvents.
- To protect your eyes, do not stare at the light for a long time when illuminating the LED flexible strip.
- To reduce the voltage drop as much as possible, the wire length between the LED flexible strip, LED power supply, and LED controller should be as short as possible.
- Considering the reliability of the LED power supply and LED controller, it's recommended to use their loading powers not exceed 80% of their rated output power.
- Make sure that neither the LED power supply nor the LED controller does not generate reverse voltage, it will damage the LED flexible strip.
- Dust and dirt accumulated over time should be removed from the light emitting surface to assure optimal functioning of the LED flexible strip. Disconnect the power before maintenance and cleaning.
- Paints, solvents and corrosive cleaning chemicals may not contact and thus affect the LED flexible strip.
- This product may not be treated as household waste, dispose of the material through the waste recycling of electrical and electronic equipment.

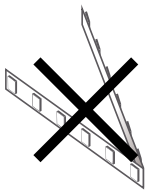
HANDLE PRODUCT WITH CARE !



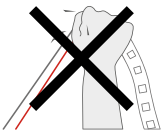
DO NOT BEND THE LED FLEXIBLE STRIP TO A RADIUS LESS THAN 50mm[1.97 INCHES]. IN ADDITION, THE BENDING POSITION SHOULD AVOID ELECTRONIC COMPONENTS TO PREVENT DAMAGE.

DO NOT BEND THE LED FLEXIBLE STRIP ON A HORIZONTAL PLANE.

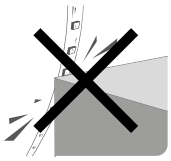
DO NOT COVER THE LED FLEXIBLE STRIP WITH ANY MATERIALS.



DO NOT FOLD, CREASE THE LED FLEXIBLE STRIP.



DO NOT PULL THE LED FLEXIBLE STRIP OR LED POWER SUPPLY WIRE HARD DURING INSTALLATION AND USING.



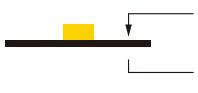
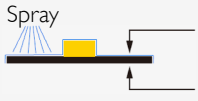
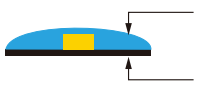
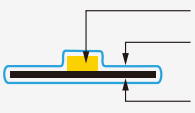
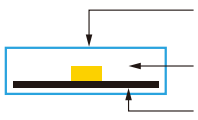
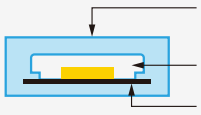
DO NOT RUB THE LED FLEXIBLE STRIP WITH OTHER OBJECTS.

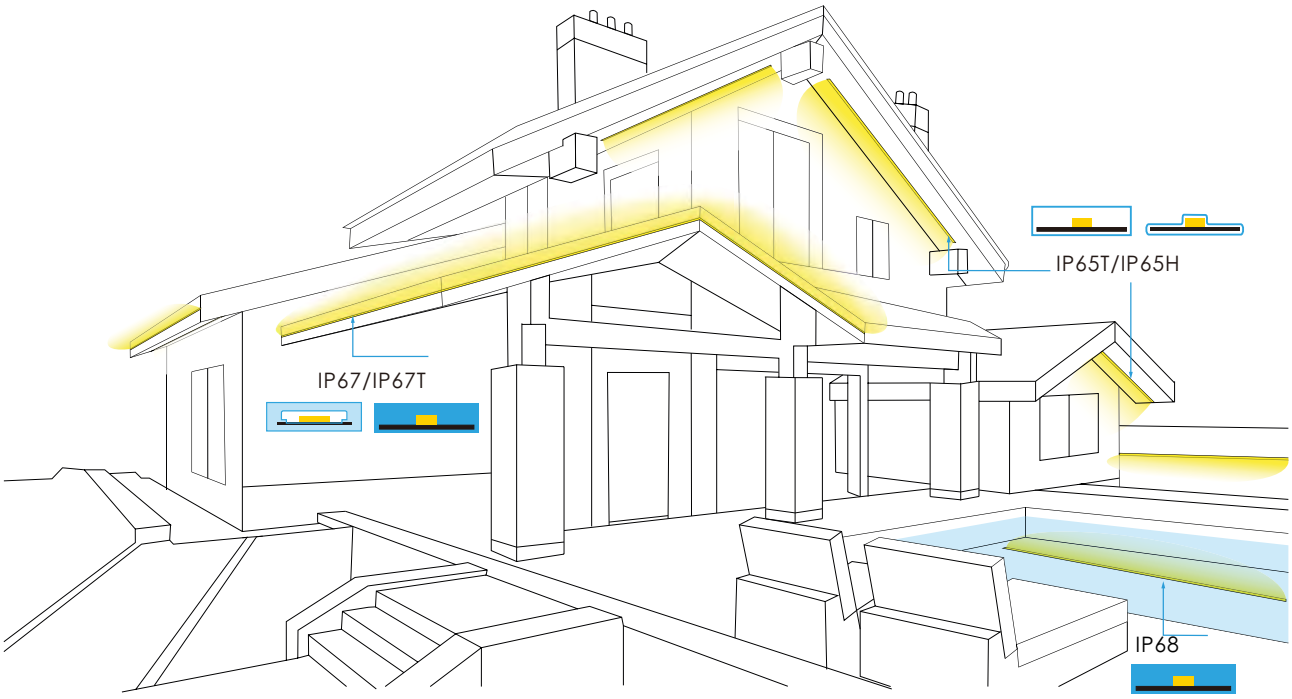
DO NOT TWIST THE LED FLEXIBLE STRIP.

DO NOT PUT EXCESSIVE PRESSURE ON SURFACE OF THE LED FLEXIBLE STRIP (GLASS/ACRYLIC PANES, ETC.)

IP RATING

Choosing a LED flexible strip with the right IP rating of waterproof protection is essential.

IP Rate	Structure	Description	Application
IP20		Non-waterproof	Indoor Use
IP54		Tropicalization	Damp Environments E.g. Kitchen, Balhroom
IP54R		Silicone Coating	Damp Environmenls E.g. Kilchen, Balhroom
IP65R		Heat Shrink Tube	Semi-ouldoor Raining Environmenls E.g. Porch, Eaves
IP20		Silicone Tube	Semi-ouldoor Raining Environmenls E.g. Porch, Eaves
IP67 T		Silicone Tube Extrusion	Semi-ouldoor Raining Environments E.g. Porch, Eaves
IP67/IP68		Silicone Extrusion	Outdoor Use Under Water Within 2 Meters Deep.

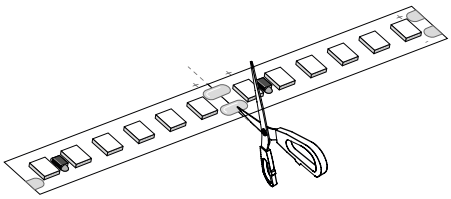


ASSEMBLY

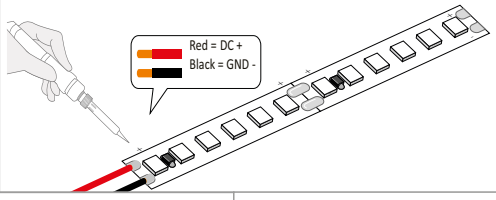
During installation, observe the safety regulations for the prevention of electrostatic discharge (ESD).
This is one of the most common causes of failure in electronic components containing semiconductors.
ATEA produces, stores and packages all LED strips in an ESD-protected environment and uses anti-static packaging.

Option 1 : Apply the wire soldering for LED flexible strip in IP20

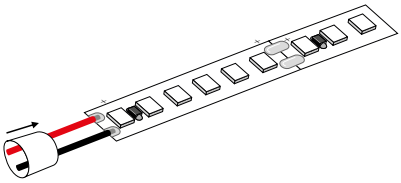
1. Cut the strip along the cuting line to be the desired length.



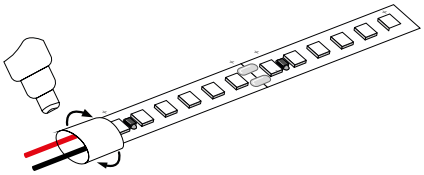
2. Solder the wire with an electric soldering iron.



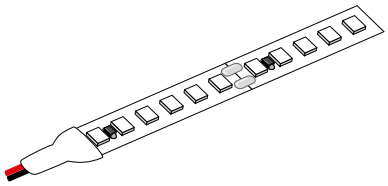
3. Put on the heat shrink tube.



4. Shrink the heat shrinking tube with a heat gun.



5. Make sure the heat shrink tube completely wrap the solder pad.

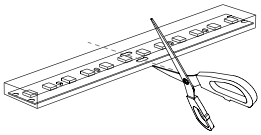


Important note :

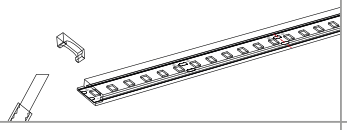
- Link the supply line or connection cable by solde-ring it to the provided solder pads.
- Note the polarity (+/- label) on the solder pads. If the polarity is incorrect, no light will be emitted and/or the LED strip may be damaged.
- When soldering, a max. soldering time of 3 seconds and a max. soldering temperature of 400°C must be observed.
- When connecting multiple LED modules, observe the maximum operable length of a combined module (see corresponding datasheet).
  Correspondingly longer LED modules can be created by connecting an (intermediate) feed at the beginning and end of the LED module.

Option 2 : Apply the wire soldering for LED flexible strip in IP54/IP65/IP67/IP68.

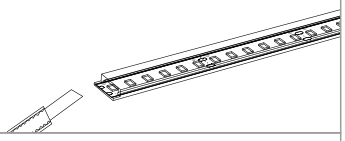
1. Cut the strip along the cuting line to be the desired length.



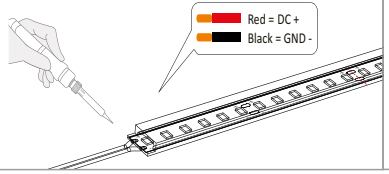
2. Cut off some parts of upper silicone jacket in 3mm long carefully, until these upper solder pads on PCB are exposed.



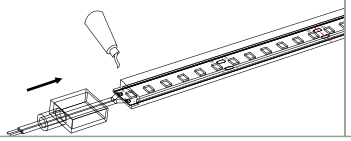
3. Clean the solder pads thoroughly. Be careful not to damage the PCB.



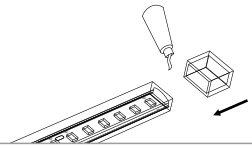
4. Solder the wire cable to the upper solder pads on PCB.



5. Fill the inner part of front cap by silicone glue and then seal it to the LED flexible strip.



6. Fill the inner part of front cap by silicone glue and then seal it to the LED flexible strip.



Importantant note :

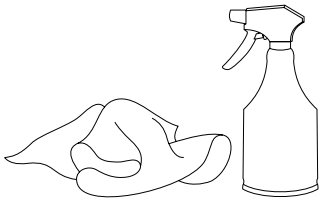
- After cutting the strip, use a sharp object to remove the potting compound (If it's IP strip LED) so that the solder points are expo-sed. Ensure that you do not damage the LED strip on the inside !
- When cutting or soldering a protection class IP (except >IP65) LED strip, these cut/soldered locations must then be resealed to restore full protection.
- For this purpose, we only recommend the use of **transparent silicone or Loctite 3090.**

INSTALLATION

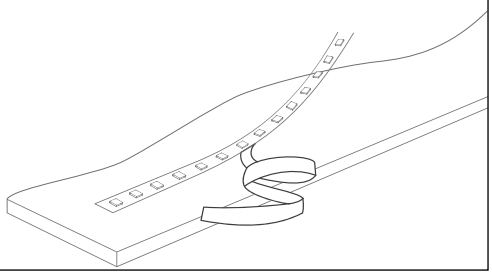
Before installation, test the LED strip for proper functioning in the unrolled state. Subsequent complaints about material defects cannot be accepted.

Option 1: Fixed by adhesive tape

1. Clean the mounting surface by removing any dirt, debris, or moisture.

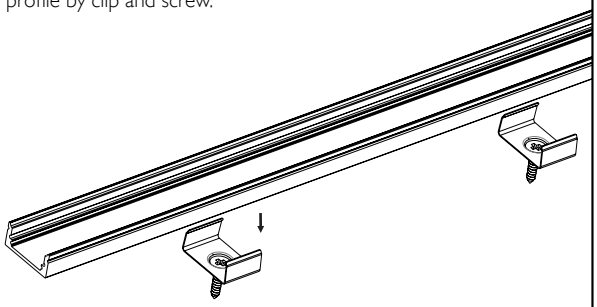


2. Clean the profile and then stick the LED flexible strip into it.

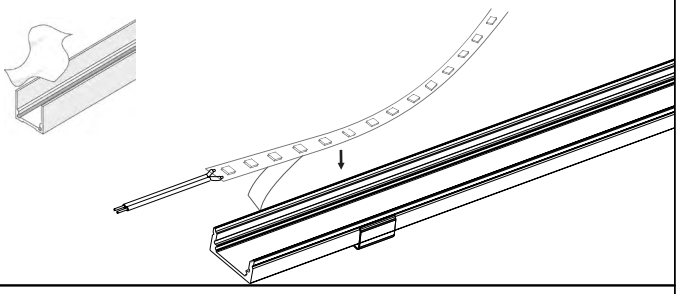


Option 2: Fixed by aluminum profile.

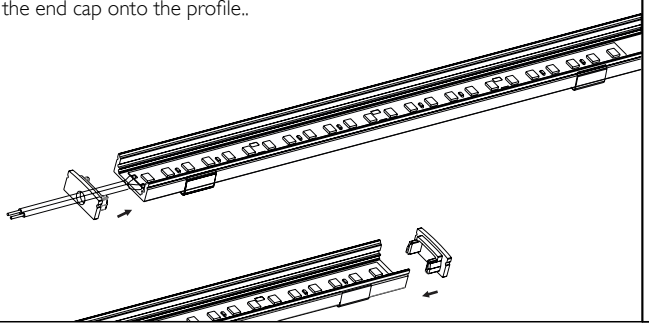
1. Fixed the profile by clip and screw.



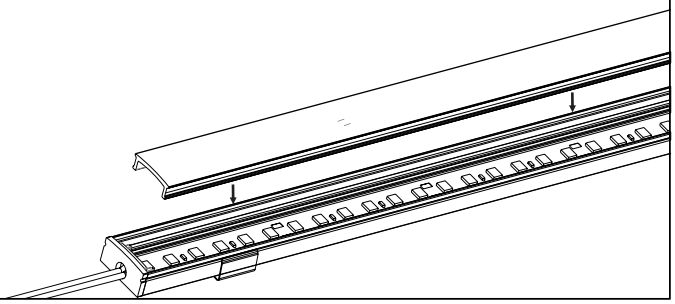
2. Clean the profile and then stick the LED flexible strip into it.



3. Fix the end cap onto the profile..

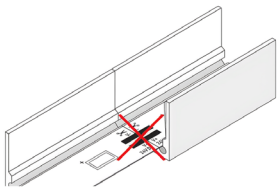


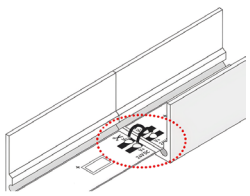
4. Mount the cover onto the profile



Importantant note :

- We do not recommend mounting the LED strip on a profile joint ! Physical expansion or contraction of the profile in the event of temperature fluctuations can damage the LED strip. We recommend cutting off the soldering points at the profile joint and using flexible connections, such as soldered flexible wire bridges.





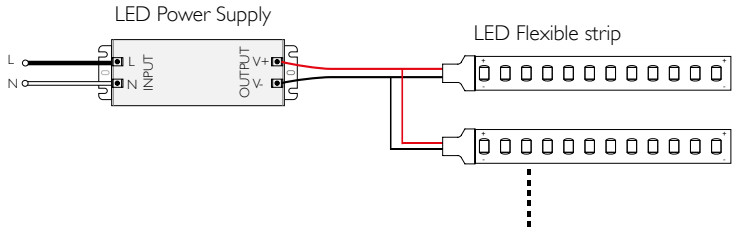
- Ensure that the installation surface is clean and free from grease, oil, silicone and dirt particles. To clean surface we recommand **VHB degreaser 3M. (Please note that the installation surface must be completely dry before applying the led strip)**.
- Install the LED strip on a thermally conductive substrate using the double-sided adhesive tape on the rear. For this purpose, completely remove the protective foil.
- Ensure that solder joints are properly insulated from the profile.
- Ensure that the maximum permissible **ambient temperature of -25° to +45°C** is not exceeded during operation and that suficient cooling is provided.
- We strongly advise against performing the installation on uneven or poorly heat-conductive surfaces, such as plasterboard, wallpaper, wood or stone, as this may significantly shorten the product's service life and adversely aff ect the adhesion of the adhesive tape.

WIRING

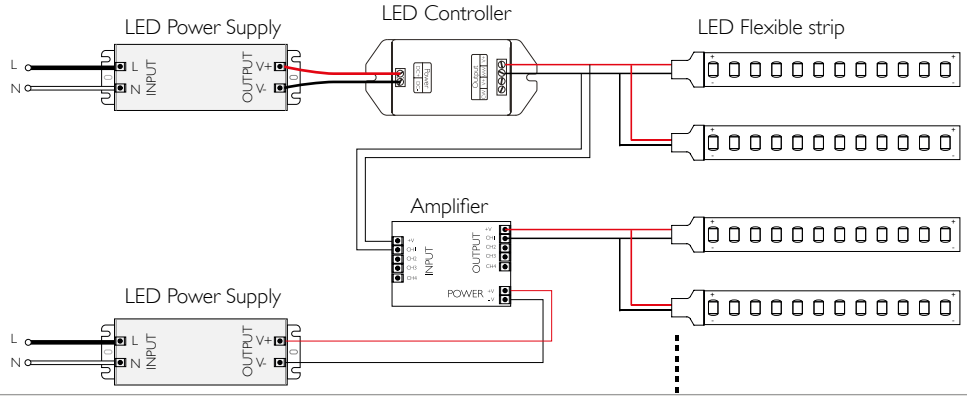
A constant voltage power supply is required for operation — this must be dimensioned ac-cording to the power and voltage of the LED strip. For this purpose, note the latest data sheet version at www.atea.

A controller is required for advanced features (e.g. dimming or colour control). We can provide you with the appropriate control unit according to your needs.

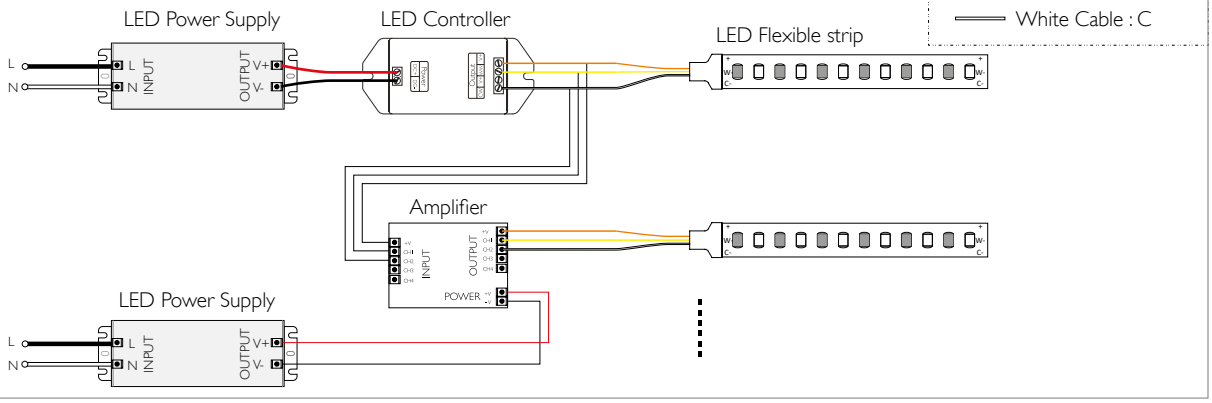
Non-Dimming single color control systems



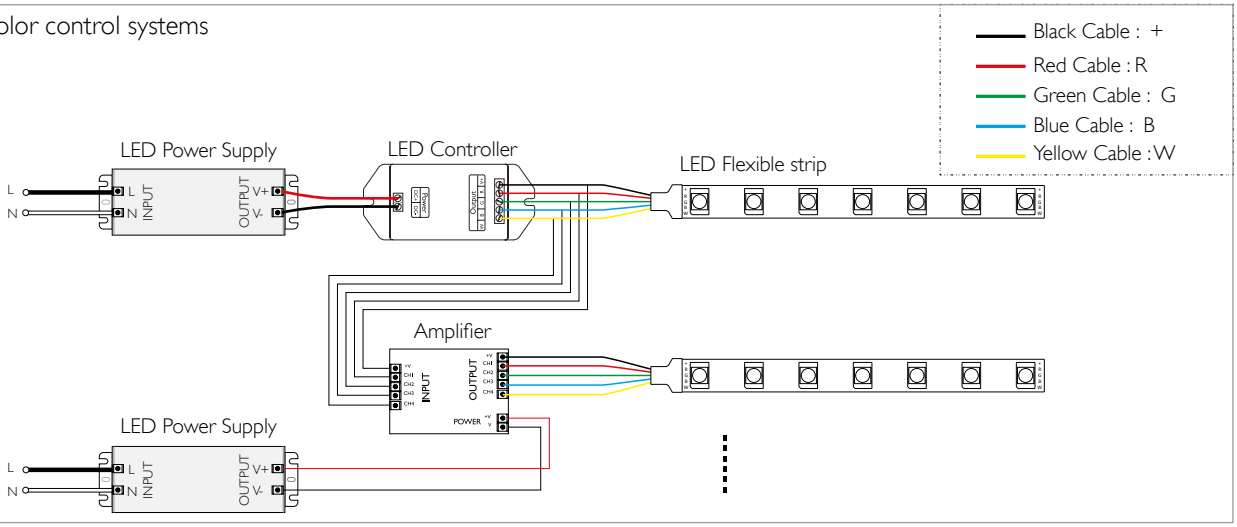
Dimming single color control systems



CCT color control systems

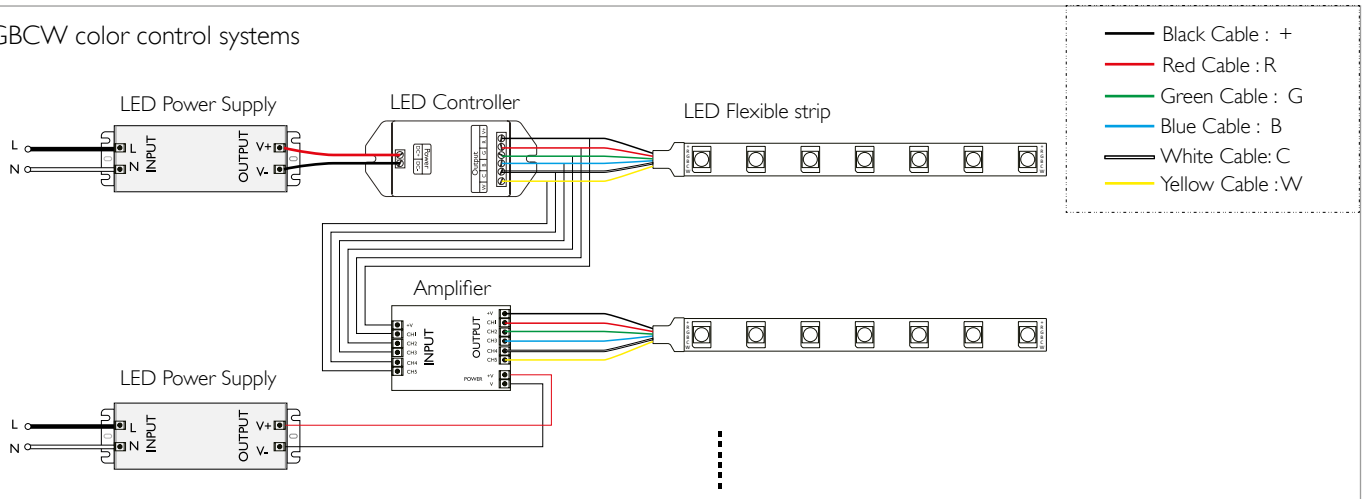


RGB/RGBW color control systems

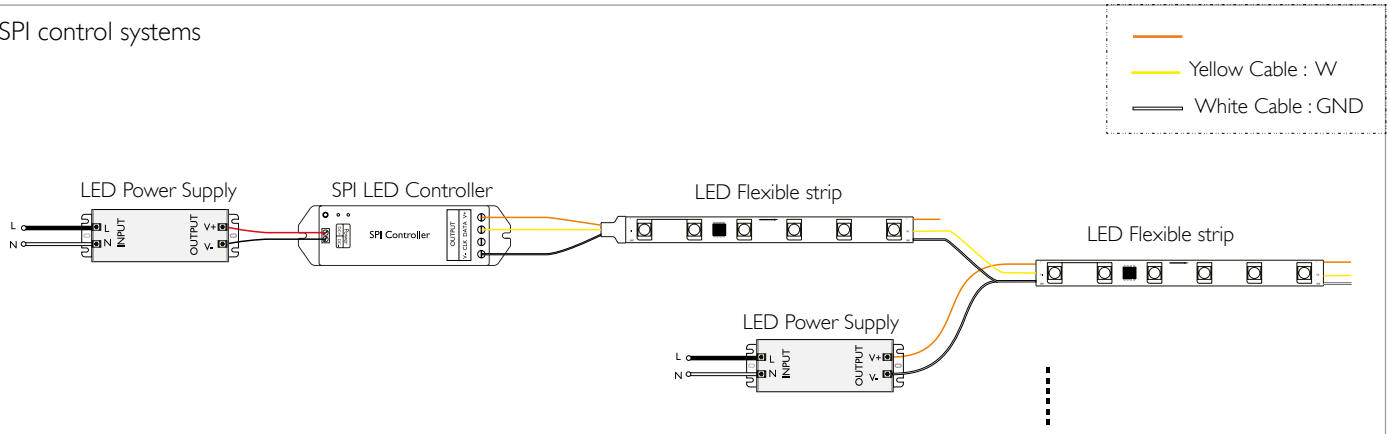


WIRING

RGBCW color control systems

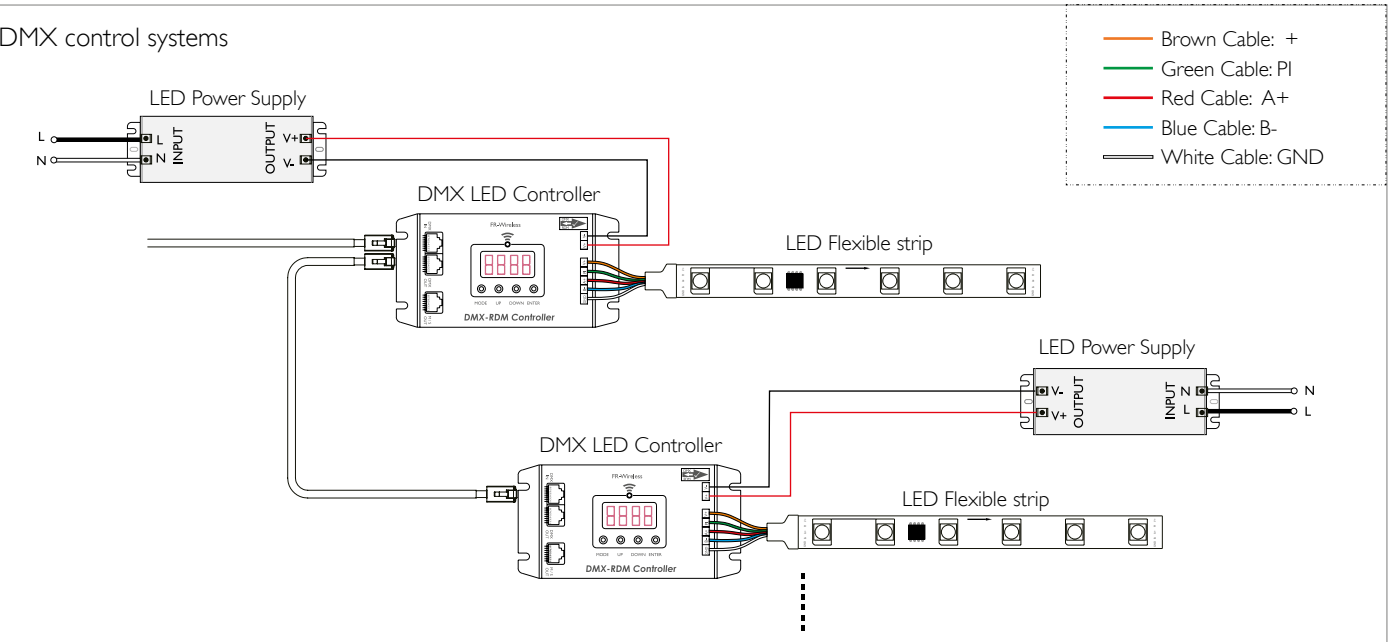


SPI control systems



The signal (data) transmission direction must follow the arrow printed on the LED strip from DI to DO.
A reverse connection is not allowed; otherwise, the LED strip will not function properly and maybe even damaged.

DMX control systems



The signal (data) transmission direction must follow the arrow printed on the LED strip from PI to PO.
A reverse connection is not allowed; otherwise, the LED strip will not function properly and maybe even damaged.

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.)

12V Voltage Drop & Wire Length Distance (3% Drop or 11.64V)

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
20AWG	2.7m [9ft.]	1.8m [6ft.]	1.5m [5ft.]	1.2m [4ft.]	0.9m [3ft.]	0.6m [2ft.]	Don't Use	Don't Use	Don't Use	Don't Use	Don't Use	Don't Use
18AWG	5.2m [17ft.]	3.4m [11ft.]	2.4m [8ft.]	1.8m [6ft.]	1.5m [5ft.]	1.2m [4ft.]	1m [3.4ft.]	0.9m [3ft.]	0.8m [2.7ft.]	0.5m [1.8ft.]	0.4m [1.3ft.]	Don't Use
16AWG	8.2m [27ft.]	5.5m [18ft.]	4m [13ft.]	3.1m [10ft.]	2.7m [9ft.]	1.9m [6.2ft.]	1.6m [5.4ft.]	1.5m [4.8ft.]	1.4m [4.5ft.]	0.9m [2.9ft.]	0.6m [2.1ft.]	0.4m [1.4ft.]
14AWG	13.1m [43ft.]	8.8m [29ft.]	6.4m [21ft.]	5.2m [17ft.]	4.3m [14ft.]	3m [9.8ft.]	2.6m [8.5ft.]	2.3m [7.7ft.]	2.1m [7ft.]	1.4m [4.6ft.]	1m [3.4ft.]	0.7m [2.3ft.]
12AWG	20.7m [68ft.]	13.7m [45ft.]	10.4m [34ft.]	8.2m [27ft.]	6.7m [22ft.]	4.9m [16ft.]	4.1m [13.5ft.]	3.7m [12ft.]	3.4m [11ft.]	2.3m [7.4ft.]	1.7m [5.5ft.]	1.1m [3.6ft.]
10AWG	30.2m [99ft.]	20.1m [66ft.]	14.9m [49ft.]	11.9m [39ft.]	10.1m [33ft.]	7.6m [25ft.]	7.5m [24.5ft.]	5.9m [19.5ft.]	5.5m [18ft.]	3.5m [11.6ft.]	2.6m [8.6ft.]	1.8m [6ft.]

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 (1st. step)	70W 2.9A	80W 3.3A	90W 3.75A	100W 4.2A	150W 6.25A	200W 8.33A	300W 12.5A
20AWG	13.1m [43ft.]	8.2m [27ft.]	6.4m [21ft.]	5.2m [17ft.]	4.3m [14ft.]	3.7m [12ft.]	3.1m [10ft.]	2.7m [9ft.]	2.4m [8ft.]	1.2m [4ft.]	Don't Use	Don't Use
18AWG	20.7m [68ft.]	13.7m [45ft.]	10.1m [33ft.]	8.2m [27ft.]	6.7m [22ft.]	5.8m [19ft.]	5.2m [17ft.]	4.6m [15ft.]	4.3m [14ft.]	2.1m [7ft.]	1.5m [5ft.]	1m [3.5ft.]
16AWG (3rd. step)	33.2m [109ft.]	21.9m [72ft.]	16.5m [54ft.]	13.1m [43ft.]	11m [36ft.] (2nd. step)	9.4m [31ft.]	8.2m [27ft.]	7.3m [24ft.]	6.7m [22ft.]	3.4m [11ft.]	2.7m [9ft.]	1.73m [5.7ft.]
14AWG	53m [174ft.]	35.1m [115ft.]	26.2m [86ft.]	21m [69ft.]	17.4m [57ft.]	14.9m [49ft.]	13.1m [43ft.]	11.9m [39ft.]	11m [36ft.]	5.8m [19ft.]	4.3m [14ft.]	2.7m [9ft.]
12AWG	82.9m [272ft.]	55.2m [181ft.]	41.1m [135ft.]	32.9m [108ft.]	27.4m [90ft.]	23.5m [77ft.]	20.7m [68ft.]	18.6m [61ft.]	17.1m [56ft.]	9.1m [30ft.]	6.7m [22ft.]	4.6m [15ft.]
10AWG	121m [397ft.]	80.2m [263ft.]	60m [197ft.]	48.2m [158ft.]	39.9m [131ft.]	36.9m [121ft.]	29.9m [98ft.]	29.6m [97ft.]	25m [82ft.]	13.7m [45ft.]	13.7m [35ft.]	6.9m [22.7ft.]

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
20AWG	17.2m [56.4ft.]	11.4m [37.4ft.]	8.7m [28.5ft.]	6.9m [22.6ft.]	5.7 m [18.7 ft.]	4.9m [16.1ft.]	4.3m [14.1ft.]	3.8m [12.5ft.]	3.4m [11.2ft.]	2.3m [7.5ft.]	Don't Use	Don't Use
18AWG	27.2m [89.2ft.]	18.2m [59.7ft.]	13.8m [45.3ft.]	10.9m [35.8ft.]	9.2m [30.2ft.]	7.8m [25.6ft.]	6.8m [22.3ft.]	6.1m [20ft.]	5.5m [18ft.]	3.6m [11.8ft.]	2.7m [8.9ft.]	Don't Use
16AWG	43.2m [141.7ft.]	29.1m [95.5ft.]	21.9m [71.9ft.]	17.5m [57.4ft.]	14.6m [47.9ft.]	12.5m [41ft.]	10.9m [35.8ft.]	9.7m [31.8ft.]	8.8m [28.9ft.]	5.8m [19ft.]	4.4m [14.4ft.]	Don't Use
14AWG	68.6m [225.1ft.]	46.2m [151.6ft.]	34.8m [114.2ft.]	27.8m [91.2ft.]	23.1m [75.8ft.]	19.8m [65ft.]	17.3m [56.8ft.]	15.4m [50.5ft.]	13.9m [45.6ft.]	9.3m [30.5ft.]	6.9m [22.6ft.]	4.6m [15.1ft.]
12AWG	109.2m [358.3ft.]	73.4m [240.8ft.]	55.4m [181.8ft.]	44.2m [145ft.]	36.7m [120.4ft.]	31.4m [103ft.]	27.5m [90.2ft.]	24.4m [80.1ft.]	22.1m [72.5ft.]	14.7m [48.2ft.]	10.9m [35.8ft.]	7.4m [24.3ft.]
10AWG	173.6m [569.6ft.]	116.6m [382.5ft.]	87.8m [288.1ft.]	70.2m [230.3ft.]	58.4m [191.6ft.]	50.2m [164.7ft.]	43.8m [143.7ft.]	38.8m [127.3ft.]	35.2m [115.5ft.]	23.3m [76.4ft.]	17.5m [57.4ft.]	11.7m [38.4ft.]

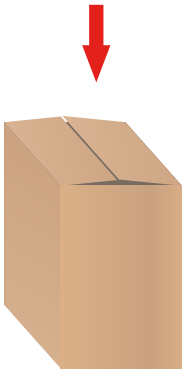
PACKING

Generally speaking, the standard run length and shipping length are 5 meters (some are 3 meters for the run length), and the maximum shipping length can reach 50 meters (some are 10, 20, or 30 meters). In addition, packaging methods, materials, and solutions can be customized according to needs.

LED flexible strip in Reel

ESD bag with Label

Outer Carton



Inner Carton