

# LED Strip user guide.

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## Aeotec by Aeon Labs LED Strip.

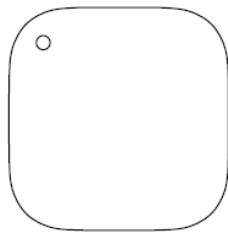
Aeotec LED Strip has been crafted to power connected lighting using **Z-Wave Plus** (<http://aeotec.com/z-wave-plus>). It is powered by Aeotec's **Gen5** (<http://aeotec.com/z-wave-gen5>) technology.

To see whether **LED Strip** (<http://aeotec.com/z-wave-led-light-strip>) is known to be compatible with your Z-Wave system or not, please reference our **Z-Wave gateway comparison** (<http://aeotec.com/z-wave-gateways>) listing. The **technical specifications of LED Strip** (<https://aeotec.freshdesk.com/solution/articles/6000166775-led-strip-technical-specifications->) can be viewed at that link.

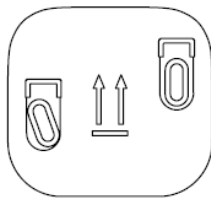
## Familiarize yourself with your LED Strip.

### Package Contents:

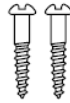
1. LED Strip Controller (×1)
2. Screws (×2)
3. Back Mount Plate (×1)
4. 5 meters LED strip (×1)
5. Power Adapter (×1)
6. Double-Sided Tape (×1)



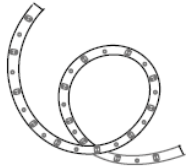
LED Strip Controller



Back Mount Plate

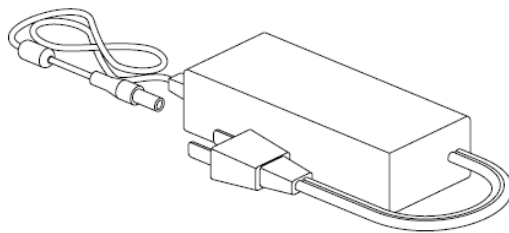


Screws

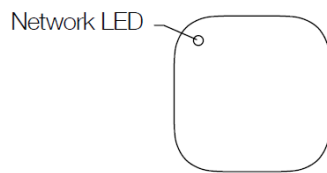


LED Strip

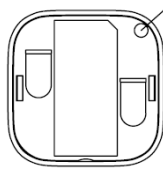
Double-Sided Tape



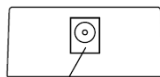
Power Adapter



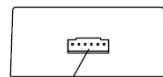
Network LED



Action Button



Power Input



LED Strip Connector

## Install your LED Strip.

The installation of your LED Strip has two major steps: the LED Strip Controller and the LED Strip. LED Strip can be installed inside or outside your home, but the LED Strip Controller should only be installed inside your home and should not be installed outdoors in elements such as rain and snow.

### Tools you need.

These will be needed to cut your LED Strip to fit the area that you want.

- Scissors
- Measuring Tape

### Step 1 - Before you begin, test your LED Strip.

1. Connect the LED Strip to your LED Strip Controller and plug it in.
2. Tap the button located on the back of the LED Strip Controller and tap it once to turn it on, and another to turn it off to test the LED Strip.
3. Disconnect LED Strip from your LED Strip Controller.

### Step 2 - Measure your surface and cut to size.

The LED strip can be cut in increments of around 8 inches / 20.32 cm.

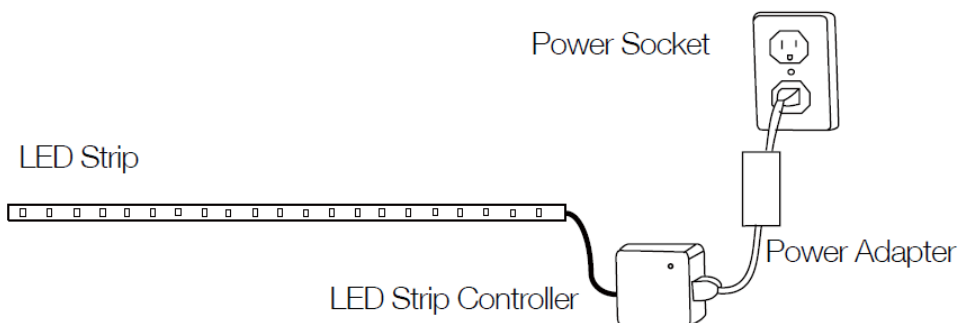
1. Unroll the LED Strip light from the plastic reel
2. Measure the surface that you want to place the LED strip to determine where you need to cut the LED Strip, alternatively, you may unroll the LED strip along the surface you will be placing it on if this works best for you.
3. Cut your LED Strip to size. (**NOTE** - Make sure to only cut on the line where the segments are connected, they are labeled as VCC, W, R, G, B, C and have a line down the center, these are intended areas that you may cut, do not cut after or before these connections)

### Step 3 - Stick the LED Strip on a surface.

1. Make sure to clean the surface that you are sticking LED Strip to before placing it on.
2. Make sure that the surface is dry after you have cleaned the surface.
3. We suggest that you slowly take off the protective tape from one side, then slowly pull it out and ensure that the LED Strip is stuck on the surface straight. Then adjust the angle as you need to in order to avoid possible mistakes.
4. Apply pressure along the area that you remove the tape until you reach the end.

### Step 4 - Connect LED Strip to the LED Strip Controller.

1. Plug the LED strip to the LED strip connector of your LED Strip Controller.
2. Connect the Power Adapter to your LED Strip.
3. Plug the Adapter into an electrical outlet and then the Network LED on LED Strip Controller will blink slowly to indicate it is ready to be paired to your Z-Wave network.
4. Now press the Action Button to toggle your LED strip on or off to ensure the connections between your LED Strip and its Controller properly connected.



## Quick start.

## Adding your LED Strip to a Z-Wave network (insecure pair).

You are now able to manually control the LED Strip directly via pressing your LED Strip' Action Button. It is time to add your LED Strip to your Z-Wave network. To set your Z-Wave gateway/controller into pairing mode, please refer to the respective section within your controller instruction manual.

1. Set your Z-Wave controller into pairing mode.
2. Press the Action Button once on the LED Strip (The network LED will blink green as an indication it is pairing insecurely, please refer to section "Enabling Security Encryption" in the Advanced Function section to pair it securely).
3. If the LED Strip has been successfully added to your Z-Wave network, its Network LED will become solid. If the pairing was unsuccessful, the red LED will be on for 2 seconds and then remain a colorful gradient, repeat the instructions above from step 1.

With your LED Strip now working as a part of your smart home, you'll be able to configure it to indicate different colors from your home control software via setting the RGB value. Please refer to the user manual for your Z-Wave controller/gateway for precise instructions on configuring your LED Strip to your needs.

## Removing your LED Strip from a Z-Wave network.

Your LED Strip can be removed from your Z-Wave network at any time. You'll need to use your Z-Wave network's main controller. To set your Z-Wave controller/gateway into removal mode, please refer to the respective section within your Z-Wave controller instruction manual.

1. Set your Z-Wave controller into device removal mode.
2. Press the Action Button on the LED Strip.
3. If the LED Strip has been successfully removed from your Z-Wave network, its Network LED will remain colorful gradient. If the removal was unsuccessful, the Network LED will still be solid, repeat the instructions above from step 1.

## Advanced functions.

### Color Display Cycle Configuration.

Parameter 37 [4 byte] will cycle the color displayed by LED Strip into different modes:

	7	6	5	4	3	2	1	0
Value 1 (MSB)	Colour Transition Style		Colour Change Speed Option			Colour Display Cycle		
Value 2	Brightness							
Value 3	Cycle Count							
Value 4 (LSB)	Time Base of Coulor Change Speed			Colour Change Speed Level				

Color Display Cycle (4 bits):

The Color Display Cycle field can have the following values corresponding to 4 different modes

Colour Display Cycle	Description
0	Inactive (keep the current configuration values)
1	Rainbow Mode(red, orange, yellow, green, cyan, blue, violet)
2	Multi Colour Mode(colours cycle between selected colours)
3	Random Mode.
4	Single Colour Mode.
5 to 15	Reserved.

:

**Color Transition Style (2 bits):**

The following values correspond to 2 different transition styles between colors:

Colour Transition Style	Description
0	Smooth Colour Transition.
1	Fade Out Fade In Transition.

**Cycle Count (8 bits):**

The Cycle Count is used to define the number of repetitions / cycles displayed by your LED Strip in Color Display Cycle before stopping:

Cycle Count	Description
0	Unlimited.
1 to 254	Total number of repetitions/cycles before stopping.
255	Inactive (keep the current configuration values).

**Brightness (8 bits):**

The Brightness is used to define the brightness of animation displayed by the LED Strip.

Brightness Level	Description
1 to 99	1 = Min level. 99 = Max level.
0 or 255	Inactive (keep the current configuration values).

**Time Base of Color Change Speed (3 bits):**

This function would be used when the Color Transition Style is set to Fade Out/In.

Time Base	Description
0	Time base is 1s.
1	Time base is 10ms.
2	Time base is 100ms.

### Color Change Speed Level (5 bits)

This function would be used when the Color Transition Style is set to Fade Out/In.

Speed Level	Description
0	Constant speed.
1 to 30	Accelerate/decelerate speed from the level 1 to 30.
31	Inactive (keep the current configuration values).

The table above shows a decimal representation of the settings that can be set on parameter 37.

## Parameter 39 - Multi Color, Single Color, or Random Mode.

### Multi Color Mode

Parameter 39 [4 byte] can be used to set up to 8 colors to cycle between when LED Strip is in Multi Color Mode. Colors transition from Color Index 1-8.

	7	6	5	4	3	2	1	0
Value 1 (MSB)	Index 1				Index 2			
Value 2	Index 3				Index 4			
Value 3	Index 5				Index 6			
Value 4 (LSB)	Index 7				Index 8			

Color Component Id:

ID	1	2	3	4	5	6	7	8
Colour	Red	Orange	Yellow	Green	Cyan	Blue	Violet	Pinkish

### Example:

If you set the parameter 39 to 305135616 (0x12300000 in hexadecimal), the color will be changed from Red to Orange and then Orange to Yellow circularly (Red-Orange-Yellow).

### Single Color Mode

When your Strip is in Single Color Mode and the Fade Out Fade In transition style, the parameter 39 would be used to set the RGB value.

	7	6	5	4	3	2	1	0
Value 1 (MSB)	Red value							
Value 2	Green value							
Value 3	Blue value							
Value 4 (LSB)	Reserved							

## Random Mode

When your Bulb is in Random Mode, the parameter 39 would be used to set the random seed, then your bulb will automatically generate random colors to be displayed according to the random seed you set.

	7	6	5	4	3	2	1	0
Value 1 (MSB)	Random seed value							
Value 2								
Value 3								
Value 4 (LSB)								

## Enabling Security Encryption.

In order to take full advantage of all functionality the LED Strip, you may want your LED Strip as a secure device that uses secure/encrypted message to communicate in your Z-Wave network. In order to do so, a security enabled controller/gateway is required.

1. Set your Z-Wave controller into pairing mode.
2. Press the Action Button on LED Strip Controller 2 times within 1 second.
3. If LED Strip has been successfully added to your Z-Wave network, its Network LED will be solid when you turn LED Strip on.

## Testing Health Connectivity.

You can determine the health of your LED Strip 6s connectivity to your gateway using a manual button press, hold, and release function which is indicated by the LED color.

1. Press and hold LED Strip 6 Action button
2. Wait until the RGB LED turns into a Purple Color
3. Release LED Strip 6 Action Button

The RGB LED will blink its Purple color while sending ping messages to your gateway, when it has finished, it will blink 1 of 3 colors:

Red = Bad Health  
 Yellow = Moderate Health  
 Green = Great Health

Be sure to watch for the blink, as it will only blink once very quickly.

## Resetting your LED Strip.

This method is not fully advised unless your gateway has failed, and you do not yet have another gateway to perform a general unpair on Multisensor 6.

1. Press and hold LED Strip Action button
2. Wait until the RGB LED turns into a Green Color, and then release.
3. If your LED Strip has been successfully factory reset from its previous network, the RGB LED will be active with a colorful gradient. When you press the Action Button on LED Strip, its green LED will blink. If the removal was unsuccessful, the green LED will stay solid for a few seconds when you press the Action Button.