

### WHAT IS THINGLOW™?

ThinGlow™ is a flexible strip series with printed LED Circuit Boards that provide high quality even illumination and variable colors and brightness. ThinGlow™ bends for easy installation with a self adhesive back and variable cutting units for each model number. Energy efficient and adjustable settings make LED's ideal for almost any lighting application. ThinGlow™ models are available for both indoor & outdoor use.

### WHAT IS THINGLOW™ USED FOR?

ThinGlow™ flexible lighting is ideal for residential and commercial custom lighting applications including architectural lighting such as cove lighting, path lighting, signage and channel letters, shelf and under cabinet lighting, step lighting with extrusions, task lighting, recreational lighting for boats and vehicles and many more creative applications.

### WHAT THINGLOW™ DO I CHOOSE FOR MY APPLICATION?

Choose your ThinGlow™ by the following criteria:

- 1) Color
- 2) Brightness
- 3) IP Rating
- 4) Trim Length, and Length of Cut
- 5) Voltage

#### 1. COLOR

**You can choose white or color for your ThinGlow™ strips.**

White typically comes in 3 color temperatures: Warm White (WW) Cool White (CW) and Natural White (NW).

- Warm White has a warm glow with a slightly yellow tint producing a similar light to that produced by light bulbs.
- Natural White is a little cleaner in appearance with just a hint of warmth.
- Cool White produces a light similar to daylight, with a slightly blue tint.

Color on LED chips is created by a combination of Red, Green and Blue (RGB) to create 16.7 million colors. White is achieved on an RGB strip by all three being on at 100%, however the white achieved by this method may have magenta or blue hues and is not considered a "pure white"

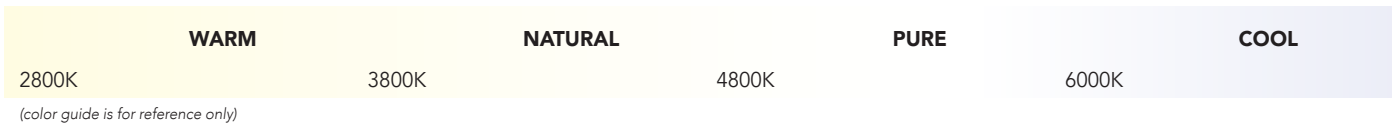
#### What is the difference between RGB and RGBX?

RGBX is a combination of Red, Green, Blue AND White on a single LED chip. RGBX can achieve 16.7 million colors plus a pure white. You can choose the temperature of white you would like with your RGBX ThinGlow™.

#### What temperature color is available for white LED's?

White LEDs come in Warm White, Natural White, Pure White and Cool White. These different light shades are assigned Kelvin ratings. A low kelvin rating is assigned to warmer shades of light, a higher rating denotes a cooler shade of light.

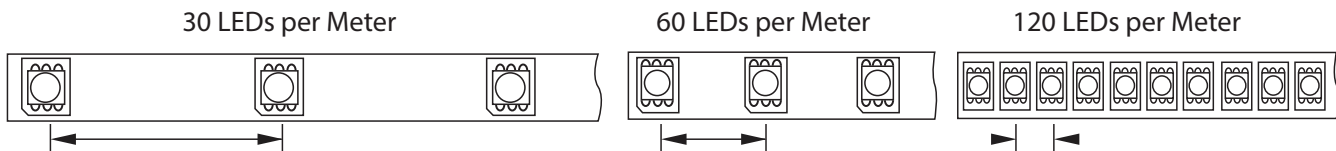
Warm White has a warm glow with a slightly yellow tint similar to that produced by halogen bulbs. Natural white is a little cleaner with just a hint of warmth. Pure White is a plain white without any warmth. Cool white produces a light similar to daylight with a slightly blue tint.



#### 2. BRIGHTNESS

**Brightness in LED strips is measured by metric lumens. (The space between LED chips)**

Unlike incandescent bulbs, different LED strips can have different levels of efficiency, so a wattage rating is not always meaningful in determining actual light output. LED strip brightness is typically described in lumens per foot (or meter). 60 LEDs per meter will not be as bright as 120 LEDs per meter.



### 3. IP RATING

#### What is an IP rating?

IP (or "Ingress Protection") ratings are used to define levels of sealing effectiveness of electrical enclosures against intrusion from foreign bodies (tools, dirt etc) and moisture. Below are the most popular ratings.

#### INDOOR

- IP20 - suitable for any indoor areas that may be exposed to steam, condensation, or water drips (such as kitchens)
- IP44 - great for most covered outdoor applications. Products with this rating should not be exposed to excessive heavy rains.

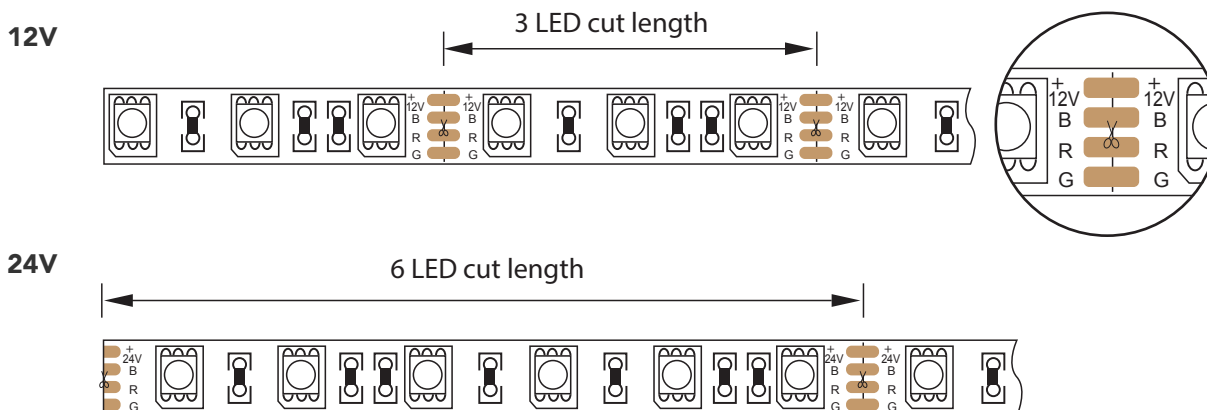
#### OUTDOOR / DAMP ENVIRONMENTS

- IP65 Enclosure - IP rated as "dust tight" and protected against water projected from a nozzle.
- IP66 Enclosure - IP rated as "dust tight" and protected against heavy seas or powerful jets of water.
- IP 67 Enclosures - IP rated as "dust tight" and protected against immersion. for 30 minutes at depths 150mm - 1000mm
- IP 68 Enclosures - IP rated as "dust tight" and protected against complete, continuous submersion in water.

**IP20 & IP68 ARE INVENTORY PRODUCTS. ALL OTHER IP RATINGS ARE SPECIAL ORDER**

### 3. TRIM LENGTH AND LENGTH OF CUT

LED strips can be cut to custom lengths indicated on each strip. With variable distances between LED chips on flexible strips, one must be discerning on the application and the cut length to avoid "dead spots" If you are lighting under cabinets you want to make sure that there is an even amount of LED's under the entire cabinet length. 30 LEDs per meter strip led chips are farther apart and may be hard to evenly light the entire area, 60 LEDs per meter are closer together.



### 4. VOLTAGE

#### Which voltage do I choose 12V or 24V?

Both 12V and 24V fall within low voltage lighting, with 12V being the more common specification. But which is best for you depends on a variety of factors.

1) Do you need to cut the LED strips to a particular length?

12V LED strips come in 3 LEDs per cut length, and 24V LED strips come in 6 LEDs per cut length. That means that 12V LED strips are cuttable every 3 LEDs, while 24V LED strips are cuttable every 6 LEDs.

Depending on the LED density, cutting every 6 LEDs on a 24V strip could mean that your length options come in increments of 3" instead of 1.5" at 12V.

3) Do you not have a preference?

All else being equal, a 24V system will perform better.

Generally, the same product being offered in 12V and 24V will have the same number of LEDs with the same power and light output, but simply different voltage and amperage combination.

For example, a 24W per meter LED strip at 12V would draw 2.0A per meter, while the 24V variant would draw 1.0A per meter. Both will draw 24W and provide the same amount of light output, but because the 24V variant draws less amperage, it will generally perform better internally in the LED strip as well as at the power supply.

This is because resistance is determined by amperage only, and is independent of voltage. Therefore, all else equal, the lower amperage option (24V) will perform better electrically.