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PixelDMX Manual

RGB PixelDMX LED lighting combines RGB LEDs with cutting edge circuit board technology, eliminating the need for pixel decoders! These DMX controllable modules and strip lights can be directly connected to any standard DMX controller for ultimate control of your lights. Direct DMX pixels do not require any additional decoders, since they are already integrated into the RGB DMX circuitry. You now have the capability to produce eye catching animated effects, without the hassle of external decoders. Pixel control has never been this easy!

Easy to customize and control, without the need for external pixel decoders. Compatible with standard DMX output, RGB PixelDMX LED lights can be used with any DMX controller or light board control system of your choice. Each RGB LED pixel is individually addressable, so you can set the color of each one for custom visual effects. This allows you to create lighting effects for large displays that were never thought possible. This granularity of control creates an endless number of scenarios for creative lighting design. This is the beauty of pixel control.

Features

- Pixel decoders are already built into the PixelDMX strip! No external pixel decoder needed.
- All strip and modules besides 100mm domes use 12VDC. 100mm domes require 24VDC input.
- Red, Green, Blue (623/522/472 nm wavelength).
- All products except non-waterproof strip are IP65 rated.
- 50,000 hours expected lifetime.
- Warranty: 3 years limited.
- No ultra-violet emissions, so it won't harm your art or documents.

Module Types

Strip
The RGB PixelDMX LED Strip Light is sold either by the meter or by the 5-meter reel. Note that although solder joints appear every quarter meter, the strip can only be cut every meter, measuring from the beginning of the reel. There are 32 LEDs per meter, and each pair of two LEDs is controlled together. Therefore, there are 16 RGB pixels (48 DMX channels) per meter. At the beginning of the string is a 3-pin female plug input and bare wires for power input. At the end of the string is a 3-pin male plug output and wires for power injection.

Waterproof Strip
The Waterproof RGB PixelDMX LED Strip Light is sold either by the meter or by the 5-meter reel. Note that although solder joints appear every quarter meter, the strip can only be cut every meter, measuring from the beginning of the reel. There are 32 LEDs per meter, and each pair of two LEDs is controlled together. Therefore, there are 16 RGB pixels (48 DMX channels) per meter. At the beginning of the string is a 3-pin female plug input and bare wires for power input. At the end of the string is a 3-pin male plug output and wires for power injection.

Mini Dome (30mm)
The RGB PixelDMX Mini Dome Module requires 12VDC power input. The modules come in strings of 20, but can be cut between any two modules. At the beginning of the string is a 3-pin female plug input and bare wires for power input. At the end of the string is a 3-pin male plug output and wires for power injection. Power should be injected every 20 modules.

Dome (100mm)
The RGB PixelDMX LED Dome Module is the only PixelDMX module that requires 24VDC input. Each module has a 4-pin male input, and 4-pin female output. Power should be injected every 20 modules, using the T-4pin-to-4pin-power connector.

High Power
The RGB PixelDMX High Power LED Module requires 12VDC power input. The high power modules have a strong beam and cast light further than any of the other PixelDMX modules. Each module has a 4-pin male input, and 4-pin female output. Power should be injected every 20 modules, using the T-4pin-to-4pin-power connector.

Directionality

Each Dome and High Power module has an input and output connector, to make set-up easy. This male and female ends also ensure that data is always sent in the correct direction. The PixelDMX Strip Light and Mini Dome modules, however, are cuttable, and it is always important to keep proper data direction in mind.

The Mini Domes come in strings of 20 modules, with connectors and power wires at each end. If you want to use fewer than twenty you can cut the wires between any two modules. On the back of each dome is an arrow indicating the direction of data flow. The PixelDMX strip (both waterproof and non-waterproof) can be cut every meter (32 LEDs), measuring from the beginning of the reel. Like the Mini Domes, the strip circuit board has arrows indicating the direction of data flow.

Circuit Board Markers
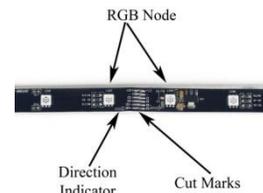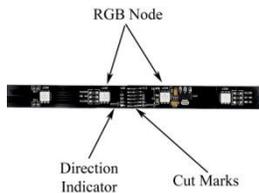
3 Pin Connectors (Mini Domes and Strip)
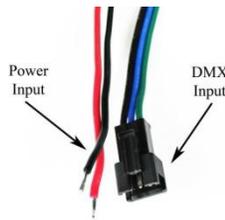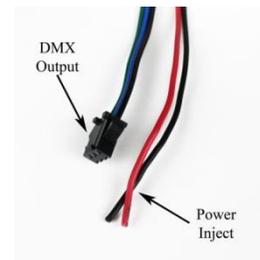
                3-Pin Female   3-Pin Male

4 Pin Connectors (High Power and Dome)

                4-Pin Male   4-Pin Female

Cutting the PixelDMX Strip and Waterproof Strip

The PixelDMX Strip can be cut each meter, measuring from the beginning of the reel, although there are solder joints every quarter meter.
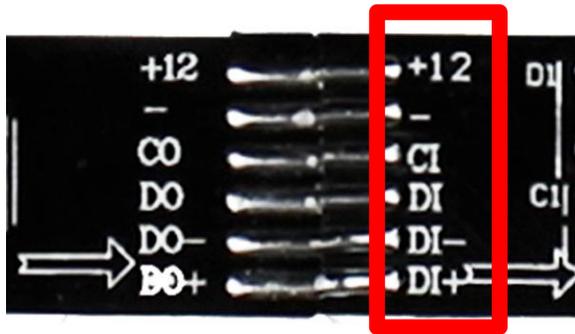
Solder Junction: This is NOT a cut point
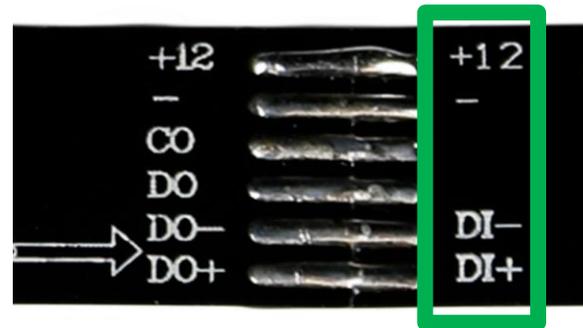
Proper cut point lacks the labels "CI" and "DI" on the middle two solder pads.

Be sure to only cut the PixelDMX Strip and Waterproof Strip at the proper junction. Either measure the strip starting at the beginning of the reel, or look at the labels at the right hand side of each solder junction. At the proper cut points, the two middle solder pads do not have a label. If those two cut points are labeled "CI" and "DI", do not cut.

The reason that the strip cannot be cut at points marked with CI and DI is that this refers to "Clock Input" and "Data Input" respectively. Due to the onboard decoding of DMX data, on these sections Clock and Data information are being transferred in addition to the 12VDC+, negative, and DMX data (positive and negative) lines. Each full meter contains individual onboard decoding segments, so the strip can be cut at these locations, where there is no transfer of Clock and Data information.

Connectors

T-Connector – 3-Pin XLR to 4-Pin Female with Power Injector

T Connector – 5-Pin XLR to 4-Pin Female with Power Injector

T Connector – 4-Pin Male to 4-Pin Female with Power Injector

T Connector – 3-Pin Female to 4-Pin Female with Power Injector

1m Extension Cable – 4-Pin Male to 4-Pin Female

1m Extension Cable – 3-Pin Male to 3-Pin Female

1m Power Cord Extension Cable – 2-Pin Male to 2-Pin Female

Power Cord – 2-Pin Female to Bare Wire

Converter Cable – 3-Pin XLR to 3-Pin Male

Converter Cable – 5-Pin XLR to 3-Pin Male

Power

Always apply DMX signal to PixelDMX before applying power. Applying power without DMX signal can cause permanent damage to your strip.

Always use the proper voltage for your modules – application of incorrect voltage can permanently damage your PixelDMX modules and lights. The required voltage for PixelDMX lights is either 12 or 24 VDC.

Please use the chart below to verify the required input voltage of your PixelPro lights:

12 VDC	24 VDC
RGB PixelDMX LED Strip Light	RGB PixelDMX LED Dome Module
Waterproof RGB PixelDMX LED Strip Light	
RGB PixelDMX LED Mini Dome	
RGB PixelDMX High Power LED Module	

Be sure to match the voltage of the power supply to the required voltage of the PixelDMX modules.

Insert power at proper intervals to avoid voltage drop. Voltage drop will cause dimming or discoloration of modules further from the power source. Power can be injected using the power injection wires (Strip, Waterproof Strip and Mini Domes) or the T-4pin-to-4pin-power (Domes and High Power modules).

Product Name	Power Injection Length
RGB PixelDMX LED Strip Light	Every 160 LEDs
Waterproof RGB PixelDMX LED Strip Light	Every 160 LEDs
RGB PixelDMX LED Mini Dome	Every 20 modules
RGB PixelDMX High Power LED Module	Every 20 modules
RGB PixelDMX LED Dome Module	Every 20 modules

Instructions

Please take the following precautions:

1. This equipment, like all electrical equipment, should be installed by a qualified person.

2. Do not expose these LEDs, dimmers or power supplies to intense electro-magnetic fields, including lightning.

3. The controllers and power supplies are not waterproof. Keep them dry.

4. Install in a well-ventilated area to prevent over-heating.

5. Always observe proper polarity.

When installing LED lighting, it is a good idea to follow this "dry-run" procedure:

1. Be sure you have everything you need before you start.

2. Lay out your lights and power supply on the floor or table.

3. There is some resistance in the LED lighting. If you see any color fading or dimming at the end of a long run, you may have too many LEDs for your power supply and you might need a bigger supply or shorter runs. Use a bus structure as described in rgb_manual.pdf. Call if you need assistance with larger projects.

4. Connect everything and test it to be sure it works and you have it connected properly. It is unlikely, but possible, that some part of your system is defective or was damaged during shipment. If that is the case, it will be very helpful to you to know that before you do all the work involved in installing custom LED lighting systems. You will also know if you damage anything during installation, which is really helpful in trouble-shooting because manufacturing defects and installation damage typically have very different solutions.

Once you have tested the system successfully, you are ready to install it. We recommend you install LEDs, electronic controls and dimmers in such a way that you have access to them in case they fail. All electrical components can fail.