

PixelPro Troubleshooting Manual

The latest in intelligent LED lighting is here, and it's amazing! Our PixelPro line combines the ability to produce millions of colors, with the technology needed to achieve individual pixel control. This new family of LED pixel lighting gives you a wide range of LED module shapes and sizes for building custom LED digital displays, along with the superior quality light you're accustomed to from EnvironmentalLights.com products.

This document contains helpful hints for troubleshooting your PixelPro lighting system.

Wire Colors

Many issues can be avoided by paying careful attention to the wire colors and corresponding inputs on PixelPro lights.



Red: Power

- The red cable supplies power to the PixelPro lights.
- Non-directional.
- Power can be supplied on either or both ends of lights.
- Power is defined by the required input voltage on the modules you wish to control.
- **Before** supplying power to your lights, check if the PixelPro lights in use require 5 or 12 VDC. ****Never apply 12 VDC to 5 VDC products.** Applying 12V to modules or strip requiring 5V will destroy the product.

Green: Clock

- The green cable supplies the clock signal to PixelPro lights. The clock signal enables the timing of all PixelPro lights to be synchronized for simultaneous control.
- Directional.
- Connect CLK channel on the DMX 512 Pixel Decoder to the green wire corresponding to Clock In (CI) on PixelPro lights.

Yellow: Data

- The yellow cable supplies the data signal to PixelPro lights. The data signal line supplies information to PixelPro lights, as defined by DMX input.
- Directional.
- Connect DATA channel on the DMX 512 Pixel Decoder to the yellow wire corresponding to Data In (DI) on PixelPro lights.

Black: Ground

- The black cable is the common ground line for PixelPro lights.
- Non-directional.
- Ground can be connected on either or both ends.
- All ground wires in the PixelPro light system need to be connected to a common ground wire, especially when using multiple power sources.
- If all grounds are not connected, then the PixelPro lights will display erratic behavior, such as rapid flashing or flickering.

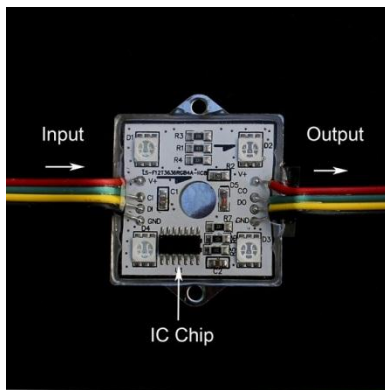
Data/Clock Input Direction

If you are having trouble communicating and controlling your PixelPro lights, check to make sure that the correct input end on PixelPro lights is being used.

PixelPro lights are one directional, so pay close attention to the orientation of the string. The data input direction is indicated by an arrow.

Always insert data at the female input. Modules and strip are labeled with arrows pointing from input to output, and solder pads are labeled with CI/DI (clock/data input) and CO/DO (clock/data output). The one exception is the dome modules (RGB-pixelpro-dome-50), which have no visible circuit board. In that case, you can rely on the fact that the female wire end will always be the input.

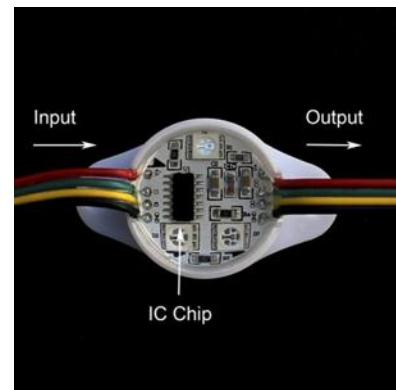
Data/clock direction indicator images are provided below, for your convenience:



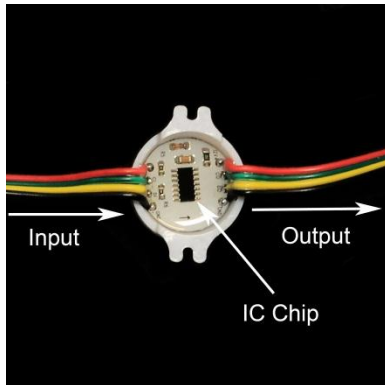
RGB PixelPro LED
Square Module



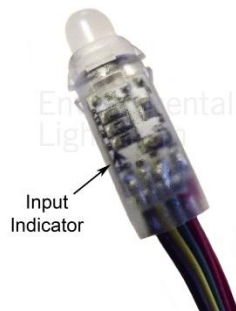
RGB PixelPro LED
Dome Module



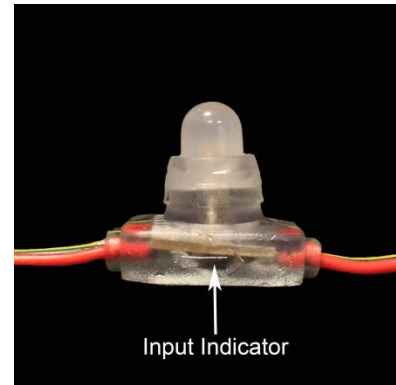
RGB PixelPro LED
Circle Module



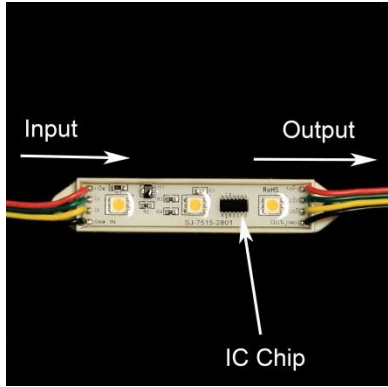
RGB PixelPro LED
Mini Dome Module



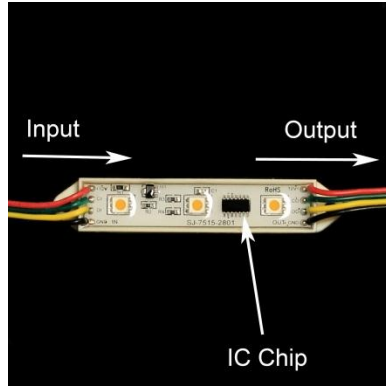
RGB PixelPro LED
Bullet



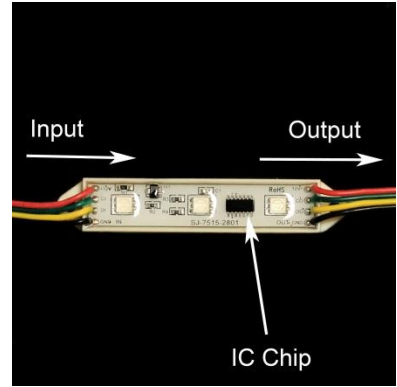
RGB PixelPro LED
Bullet (Square Base)



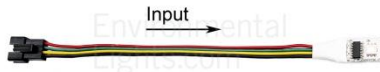
Waterproof Daylight White PixelPro Rectangle Module



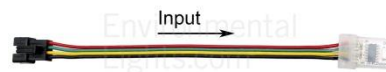
Waterproof Warm White PixelPro Rectangle Module



Waterproof RGB PixelPro Rectangle Module



RGB PixelPro LED Strip



Waterproof RGB PixelPro LED Strip



Female Data/Clock Input

Power

Always use the proper voltage for your modules – application of incorrect voltage can permanently damage your PixelPro modules and lights. The required voltage for PixelPro lights is either 5 or 12 VDC.

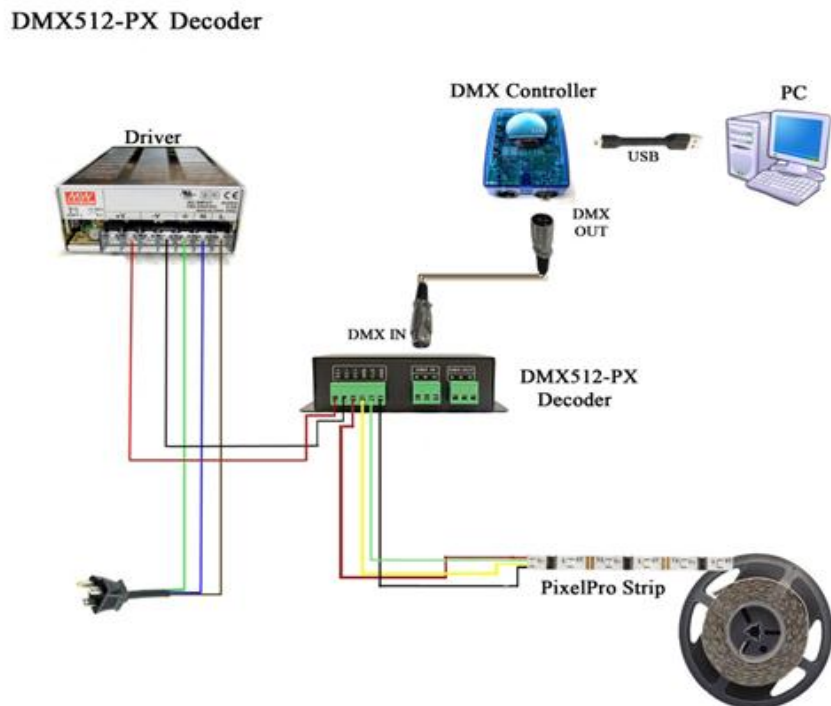
Please use the chart below to verify the required input voltage of your PixelPro lights:

5 VDC	12 VDC
RGB PixelPro LED Strip Light	RGB PixelPro LED Dome Module
Waterproof RGB PixelPro LED Strip Light	RGB PixelPro LED Circle Module
RGB PixelPro LED Bullet	RGB PixelPro LED Square Module
RGB PixelPro LED Bullet (Square Base)	RGB PixelPro LED Mini Dome Module
	Waterproof RGB PixelPro LED Rectangle Module
	Waterproof Warm White PixelPro LED Rectangle Module
	Waterproof Daylight White PixelPro LED Rectangle Module

Refer to the [DMX 512 Pixel Decoder Manual](#) for more information.

Circuit Diagram

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



Insert power at proper intervals to avoid voltage drop. Voltage drop will cause dimming or discoloration of modules further from the power source.

Product Name	Power Injection Length
RGB PixelPro LED Strip Light	Every 100 LEDs
Waterproof RGB PixelPro LED Strip Light	Every 100 LEDs
RGB PixelPro LED Bullet	Every 50 modules
RGB PixelPro LED Bullet (Square Base)	Every 50 modules
RGB PixelPro LED Dome Module	Every 20 modules
RGB PixelPro LED Circle Module	Every 20 modules
RGB PixelPro LED Square Module	Every 20 modules
RGB PixelPro LED Mini Dome Module	Every 20 modules
Waterproof RGB PixelPro LED Rectangle Module	Every 20 modules
Waterproof Warm White PixelPro LED Rectangle Module	Every 20 modules
Waterproof Daylight White PixelPro LED Rectangle Module	Every 20 modules

DMX 512 Pixel Decoder: Dip Switch Settings

An address bit is set ON and has a value of one when it is in the down position. If you are having trouble controlling your lights via DMX and your lights appear to be steady on, then you may be in the functional test mode. **DIP switch 10 should always be “off” when in DMX mode.**

The DMX 512 Pixel Decoder has built in functional test modes, which is active when DIP switch 10 is “on” in the down position. The different test modes can be accessed by setting the DIP switches. When in the Color Step and Color Fade modes, DIP switches 1-5 can be used to adjust the speed of the test modes. In either of these modes, if none of the DIP switches 1-5 are “on” the color will not change.

Dip Switch Settings	
1000000001	Red
0100000001	Green
0010000001	Blue
0001000001	Yellow
0000100001	Purple
0000010001	Cyan
0000001001	White
0000000101	Color Step
0000000011	Color Fade