

The SIRS-E® **SPI Digital (SD)** Led Strip Series utilizes integrated IC technology per LED to communicate and reproduce millions of colors. Create captivating effects that are limited only by the imagination of the user.



The slim 10mm profile allows it to fit into various mounting channels for multiple lighting applications. Easily mountable utilizing 3M VHB Aero-Grade tape, engineered to dissipate heat.

The **SPI** series provides amazing results for all kinds of entertainment applications such as commercial, residential, productions, shows, and many more.



- **Digital RGB LED Strip**
- Cuttable every pixel (**16.5mm**) allowing for precise designs.
- **1 Pixel 1 LED**
- Improved Digital LED density **60 LEDs/m**
- Smooth transition dimming curves
- Higher refresh rate for cinematography.
- Pixel Mapping Order- GRB
- Black PCB Board.
- White PCB Board (**Special Order**)
- IP 40 - Indoor, Dry / IP 68 - Damp, Wet
- **5V DC Input Voltage**

Delivering superior strip lighting with a proven record spanning more than a decade without electrical, chromatic, LED or color rendering issues. SIRS-E® continues to lead the market place in stability, reliability, and efficiency of LED lighting and lighting control systems.

DIGITAL RGB LED Strip



Customer Name Project Name Part Number

Description

SIRS-E® SPI 5V RGB Digital LED strip, allows you to create billions of colors by simply mixing the Red, Green, and Blue colors and by having the ability to control each individual pixel and diode. Allowing the user to achieve an endless desire of design possibilities.
Comes in a Black PCB Board | White PCB Board (**Special Order**)

Product Specifications

Input Voltage	5 V DC	Cuttable Segment	Cuttable every pixel: 16.5mm / 0.64in
Control Method	1 Pixel 1 LED	Reel Length	16.4 ft / 5 m
Power Consumption	10.5 W/m / 3.2 W/ft	Max Run Length	16.4 ft / 5 m, powered from both sides
LED Chip Type	High Quality SMD 3-Diode RGB	Board Width	0.39 in (10 mm)
LED Density	18 LEDs/ft / 60 LEDs/m	Luminous Flux Maintenance	75,000 hrs ¹
Channels/Pixels	3 Channels per Pixel (180 Channels/m)	IC	SK6812 - Pixel by Pixel
Board Type/Color	3 oz Density Copper, Black or White PCB	Environmental	IP 40 - Dry Locations / IP 68 - Damp, Wet
Operating Temperature	-10°F to 110°F	Warranty	5 Year Limited
Mounting	Non-Porous: 3M VHB Adhesive Tape		
Pixel Mapping order	GRB		

Product Photometrics - Red, Green and Blue Diodes²

Color Diode	Peak Wavelength (nm)	Dominant Wavelength (nm)	CIE (x,y)	Luminous Flux (lm/ft)	Luminous Efficacy (lm/W)
Red	630	618.6	(0.6824, 0.3116)	N/A	18.93
Green	525	532.1	(0.2100, 0.6846)	N/A	62.67
Blue	456	471.7	(0.1359, 0.0865)	N/A	15.20

Product Photometrics - All Three Colors at Full Intensity²

Nominal CCT (K)	Luminous Flux (lm/ft)	Luminous Efficacy (lm/W)	CIE (x,y)	Duv ³	CRI	TM-30-15 Fidelity (Rf) Gamut (Rg)	
10252 K	139.10	29.9	(0.2705, 0.3033)	+0.0138	70	N/A	N/A

1 - After 75,000 hrs: 30% Luminous Flux loss, 10% Chromaticity change, as per LM-80-15
 2 - Photometric values estimated from our Digital Pix Series of LED strips
 3 - Duv Chromaticity Consistency is throughout the run length. Typically below 1-step MacAdam Ellipse

Ordering Guide

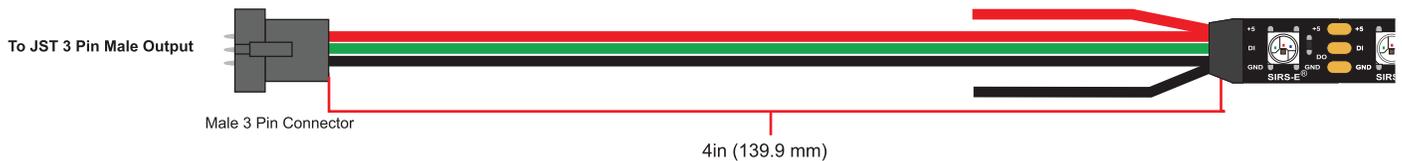
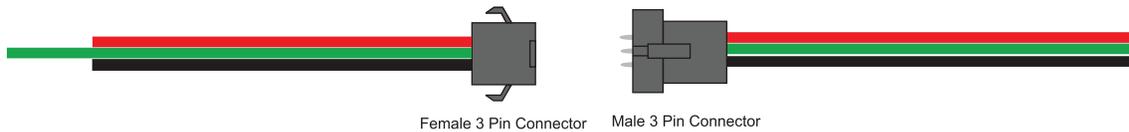
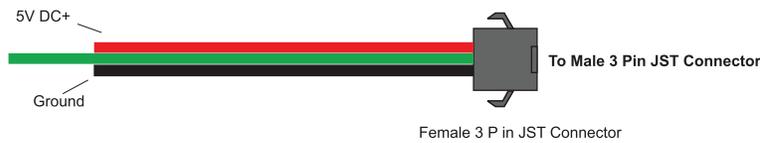
Series	Voltage	Color	Density	IP	PCB Board Color
SPI	5	RGB	XX XX		X
			60 40		B
			68		W*

*W - White PCB board is made special order

Product Country of Origin

Product Engineering & Design	USA
Assembled	China Pre-assembled / USA Final Assembly
QC Quality Control	USA
Product Customization	USA
Technical Support	USA

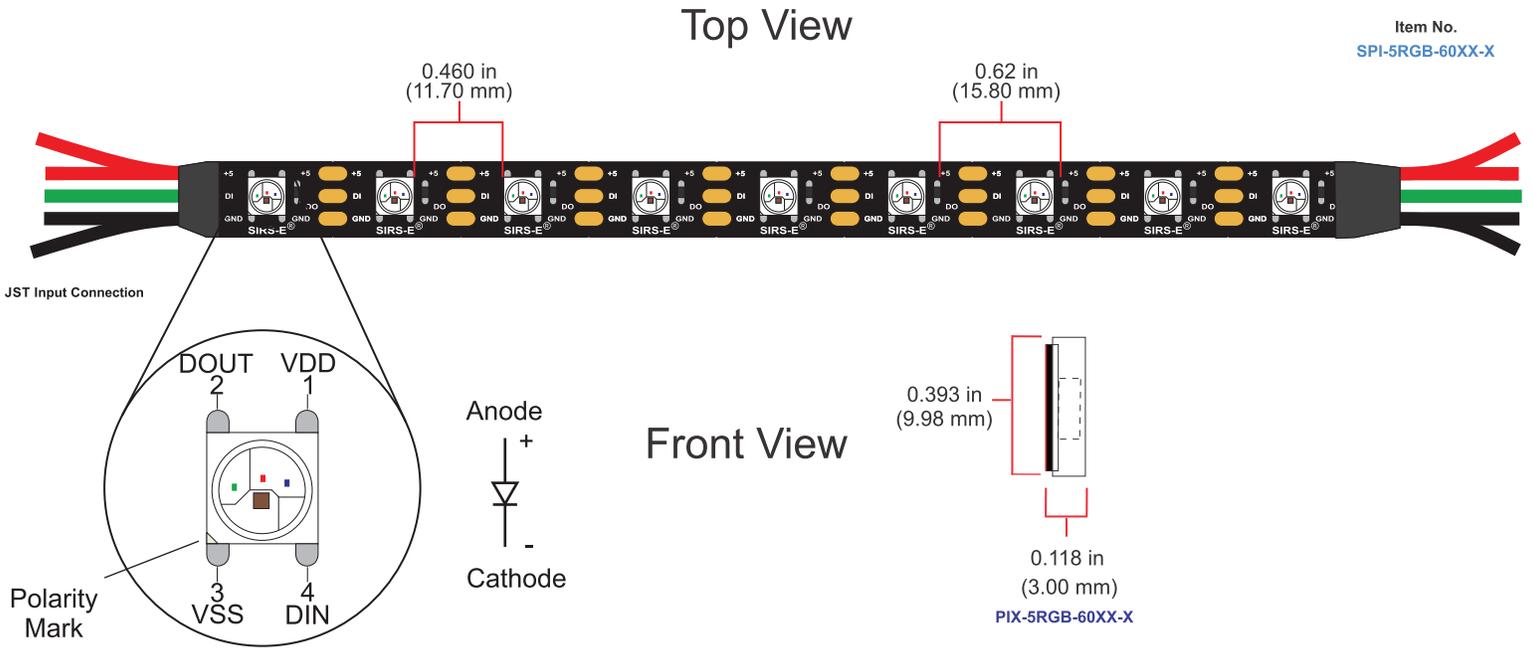
Wiring Diagram



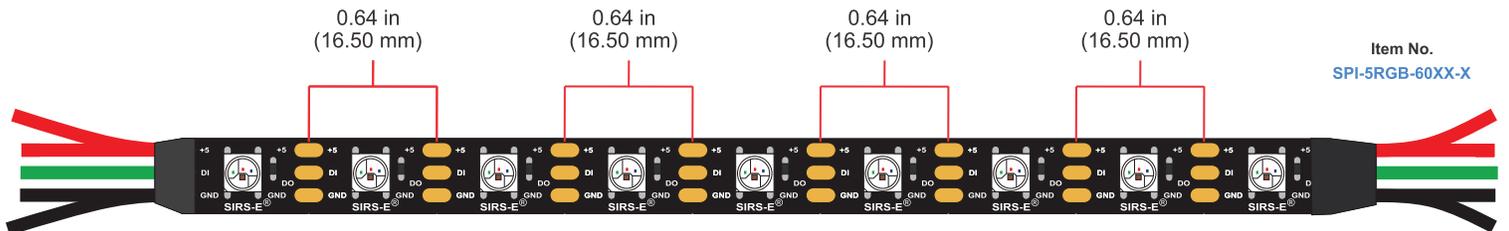
Color Code LED Strip

—	+5V
—	DI
—	GROUND

Mechanical Dimensions



Cutable Segments



Note:

- Cuttable at every pixel segment

Weight

Product Weight: 4.2 oz, 16.4 ft Reel (IP 40), Without Packaging.

Accessories Compatible

This list depicts some of our trusted accessories that are compatible for this product. For a complete list, please visit our website.



MADRIX Nebula Controller



MADRIX Compatible Software



DMX to SPI decoder



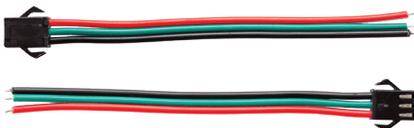
Meanwell 5V PSU 200W (LED-PS05V-200W-UL)



Meanwell 5V PSU 60W (LED-PS05-60W-UL)



SE Aluminum Extrusion



SIRS-E JST Wire Connectors



SIRS-E JST Wire Leads



Notes

A good technique to minimize brightness loss and increase lumen output on LED Strips is to power the strip on both sides. LED electrical and photometric characteristics change with the manufacturing batch/bin date. Approximately 3-Step MacAdam Ellipses between batches.

We reserve the right to change any data without prior notice.

About Us



SIRS-E[®] /semiconductor • illumination • research • solutions /

In 2004, SIRS-E[®] began research into the use of high powered LED components to be applied in direct lighting fixtures and LED strips.

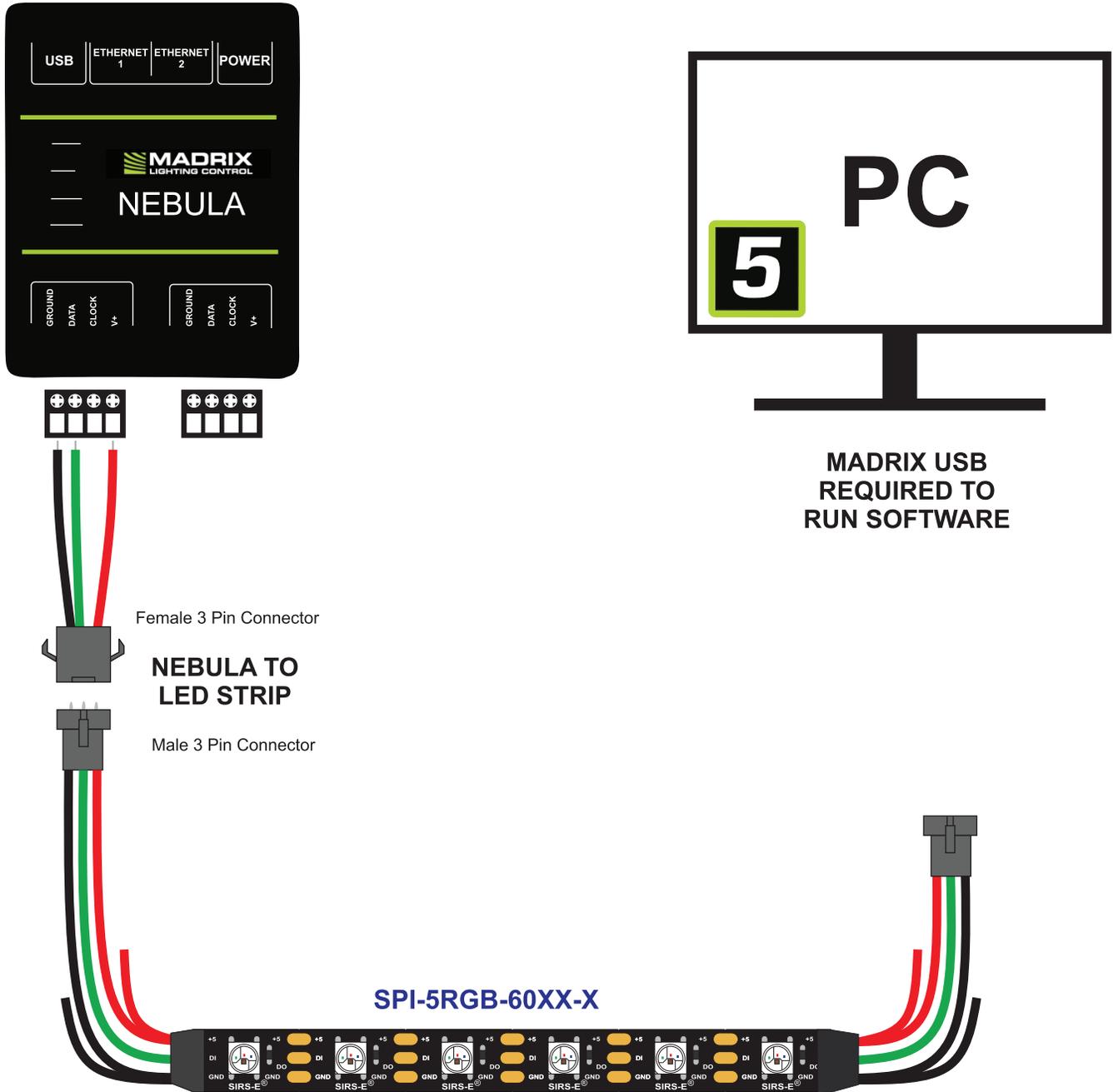
In 2005, SIRS-E[®] developed the RGB HPL01 – 12 watt (60 lumens per watt efficiency) RGB lighting fixture controlled via DMX using LumiLEDS, one of the first high powered LEDs eventually acquired by Phillips.

Included in early research solutions, was the development and testing of many different LED strips intended to be used for direct RGB lighting and effects applications.

This was the beginning of what we now know as SIRS – Electronics[®].

DATA CONNECTION TO SOFTWARE

POWER CONNECTION (MAY VARY)

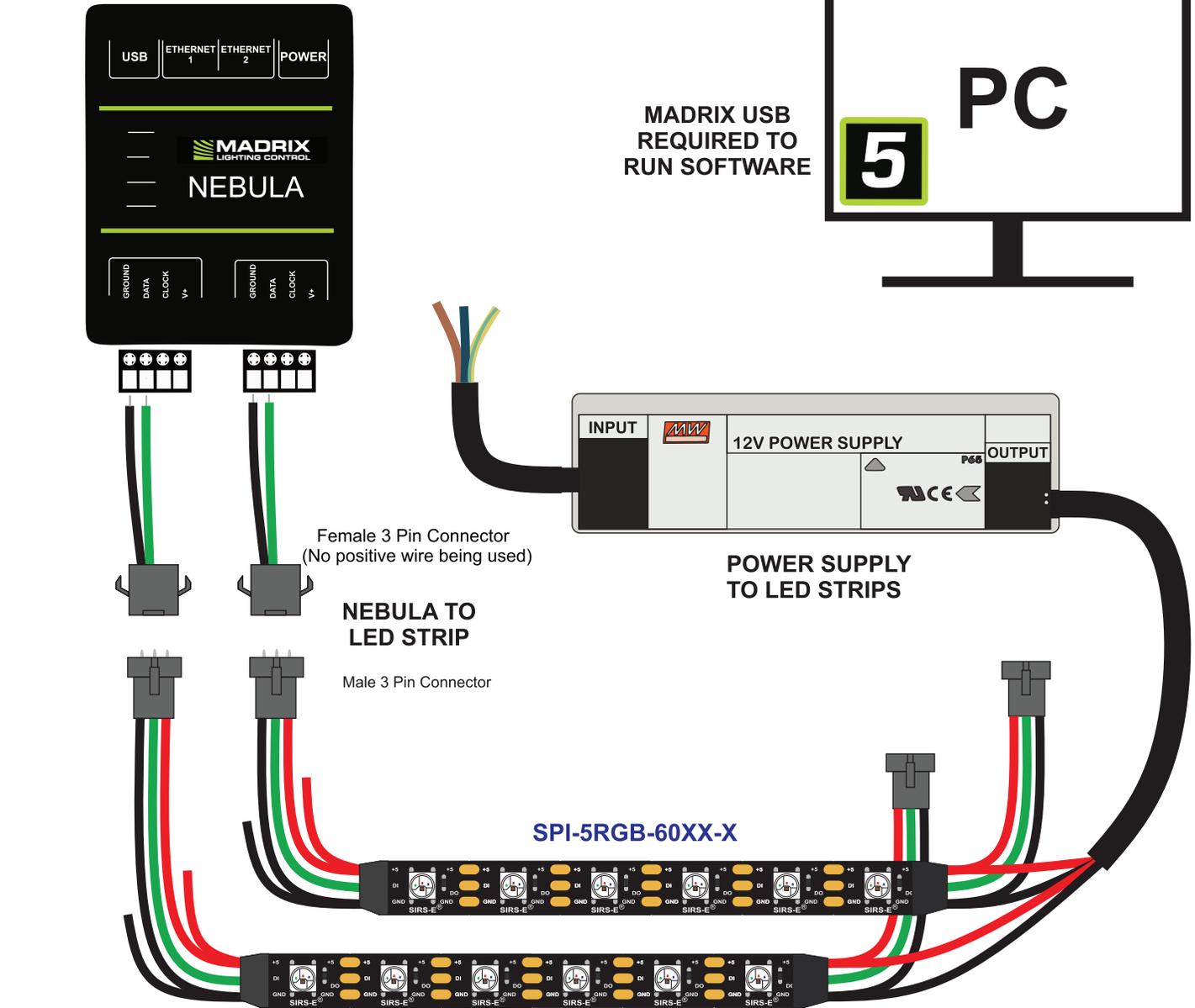


WIRING OPTIONS ARE NOT LIMITED TO THE ONES DEPICTED IN THIS DIAGRAM. FOR A FULL LIST OF OPTIONS PLEASE VISIT [MADRIX NEBULA QUICK START GUIDE](#)

OPTION 1

DATA CONNECTION TO SOFTWARE

POWER CONNECTION (MAY VARY)



OPTION 2

WIRING OPTIONS ARE NOT LIMITED TO THE ONES DEPICTED IN THIS DIAGRAM. FOR A FULL LIST OF OPTIONS PLEASE VISIT [MADRIX NEBULA QUICK START GUIDE](#)