LED STRIP STUDIO

www.LEDSTRIPSTUDIO.COM

manual

product: SS12V digital rgb led strip 60LPM IP67

Brief product description

Flexible individually addressable LED strip

Dual data for redundant operation

12V DC operation

5050 3in1 RGB LEDs

60LED per meter

High frequency PWM, Flicker free on most cameras



Applications

Decoration illumination

Events, lounges, clubs

Scenography

Theatre

Light show

Special effects

Showcase

General specification

Operating voltage	**12V DC**
Operating current	**0.72 A per meter**
Rated power	**8.64W per meter**
Ports	**INPUT, OUTPUT**
Input Port pins	**GND, Bin, Din, +12V**
Output Port pins	**GND, Bout, Dout, +12V**
Ports connection type	**Solder pads 4.5x1.6mm**
Communication protocol	**Asynchronous single wire SPI (RTZ) 800kHz, WS2811**
Signal data level	**5V TTL**
PWM frequency	**~2000Hz**
Grayscale	**8bit**
LED type	**3in1 RGB 5x5mm package with built-in IC WS2815**
LED count	**60pcs per meter**
Typical light output flux	**260 lm per meter**
Typ. Dominant Wavelengths	**R:620nm, G:520nm, B:465nm**
View angle 2⊖1/2	**120 Degrees**
Dimension	**Width 10mm, thickness <4mm, max length 5m**
Mouting options	**Self adhesive 3M tape**
Operating air temperature	**-10°C to 45°C**
Storage air temperature	**-30°C to 85°C**
Relative humidity	**5% to 80% non-condensing**
Ingress protection	**IP67**
Weight	**40g per meter**
Standard packing	**Reel with 5m of LED strip**

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product LSS12V digital rgb led strip 60LPM IP67

Detailed description

LSS 12V DIGITAL RGB LED STRIP 60LPM IP67 is high quality flexible LED strip with individually addressable 5050 3in1 RGB LEDs with built in high frequency WS2815 PWM chip driver inside each LED. Every single LED can be controlled individually as a RGB pixel and therfore this LED strip can be used to create unique lighting decorations with video-like effects. This LED strip needs to be connected to fixed 12V DC power source and controller with asynchronous single wire SPI (RTZ) 800kHz communication protocol with 5V TTL level. Individual LEDs Data are connected in series, so every LED recieve RGB data and then rest of incoming data are shifted out to Dout pin to next LED by internal reshape circuit to prevent data corruption. Used WS2815 chip use dual data input also called a back-up, so if one LED fail it not affect rest of strip. Each LED has 8bit grayscale depth so >16.7Milion colors can be dipslayed. Used high frequency PWM makes this LED pixels flicker free on most cameras. Maximum LED count per controller output is not limited, however some limitations exist. To achive framrate about 30fps, you can connect maximum about 1024 LEDs per controller output. Another limitation is voltage drop on LED strip, where voltage drop from point of power with every LED and distance. Voltage drop can be limited by connecting power to several points.

Technical notes & cautions

NEVER use LED strip which seems to be damaged by any way! E.g. Mechanically, electrically or visually.

Supplier of this product is not responsible of any damages caused by improper installation.

ALWAYS read instructions and safety informations before installation!
Installation must be done by trained electicians with respecting local electrical and safety regulations.
Always handle this product with extra care as it is electronic device. Avoid ESD events using proper ESD tools and enviroment. Where end user can physically touch product it is necessary to protect product from ESD events for example by using Profiles with diffuser.

-Do not expose this product to permanent or high mechanical stress
-During any connection of product, power must be switched off
-Product cannot be modified!
-Connect product only to power supply with same voltage rating as product.

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-LED strip produce heat and should be mounted on thermal conductive surface e.g. Aluminium profile.
-Install product to clean surface only.
-Product is not a toy. Do not leave children to play with this product.
-After installing product check that product is not overheating when on full power.

Maintance and use

-Use this product only when it was installed by qualified technician and proved that product is ready to be used.
-Use this product only when it is not damaged
-Do not use product when it is not fully working or seems to be damaged by any way. E.g. mechanically broken, too dirty, out of working temperature or moist.
-If properly installed, product not require special maintanence.
-When cleaning is necessary power off product and clean it with dry cloth, or light air pressure.

End of life & waste

Do not waste this product as household waste. Dispose it as a electronic waste for proper recycling.

Detailed photo of product



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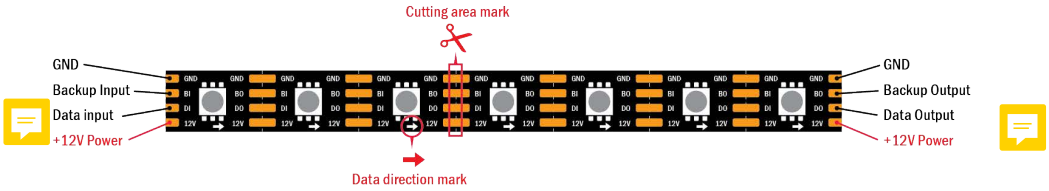
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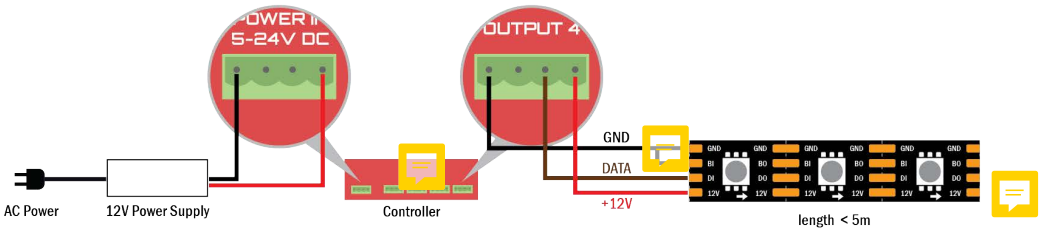
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Connection diagram

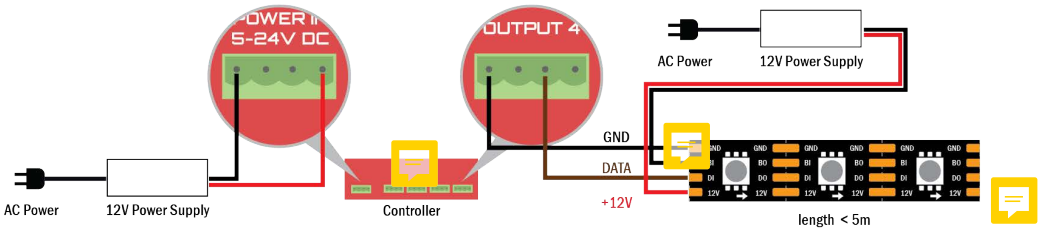
Pinout & Markings



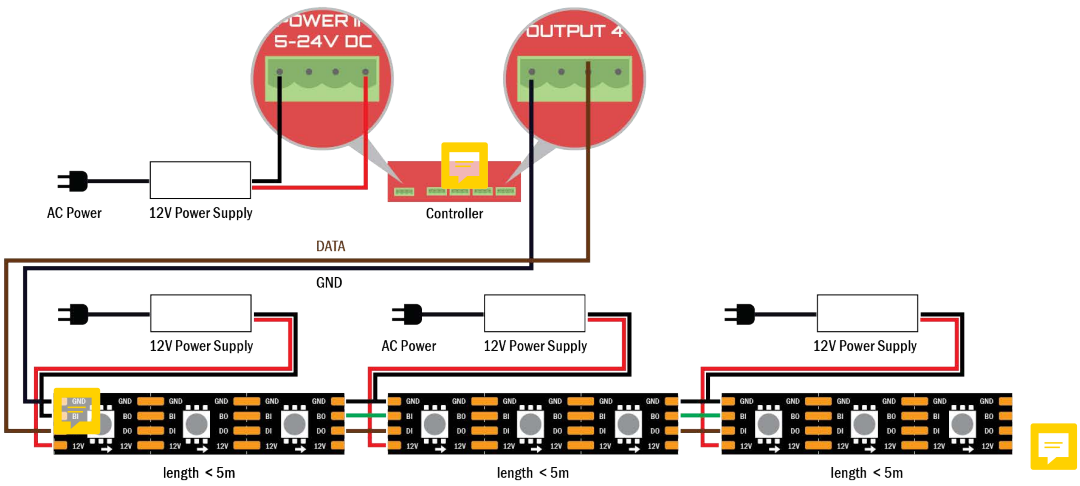
Connection to controller with power THRU controller



Connection to controller with external power supply



Connection longer LED strips than 5m



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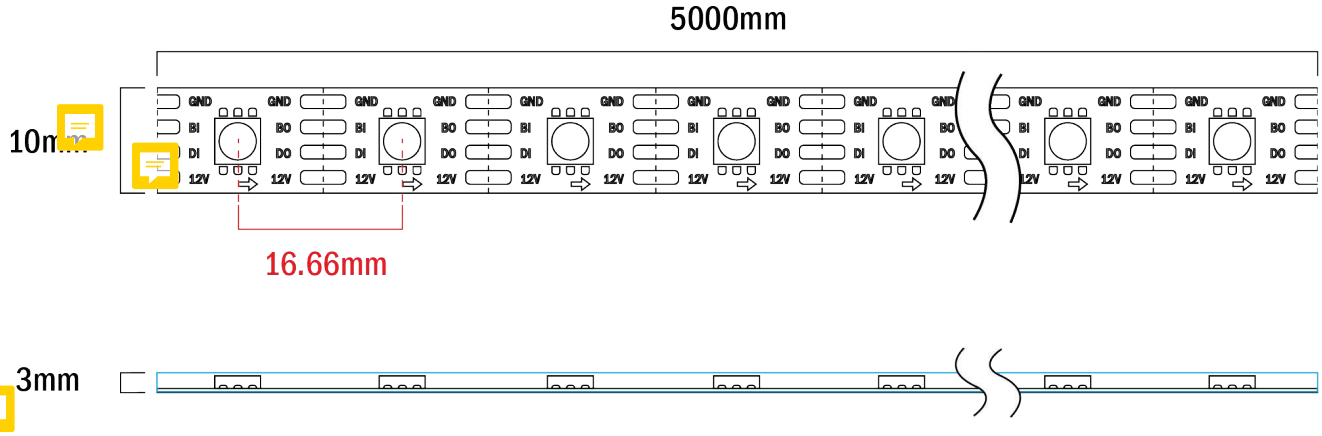
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Drawing



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