NLED Pixel Data Extender

Converts 1-wire data signals for asynchronous addressable LED pixels into a 2-wire differential pair, which significantly improves signal reliability and allows the data to be transmitted up to 1000'. Great for projects that require long distances between addressable pixels and/or needs to be reliable with no glitchs or signal issues. This device is a set of two tiny modules, one for transmission(TX) and one for reception(RX). The data signal output from a pixel controller is connected to the TX module, along with 5-12 volt power. 3 wires are connected from the TX module to the RX module. The RX module converts the signal back to the standard 1-wire data signal that can be directly connected to a pixel strip. These modules are extremly tiny, designed to be small enough to solder directly onto standard 10mm wide LED pixel strip. Or can be connected inline by adding wire leads or JST connectors.

Features:

- Extends 1-wire addressable pixel data signal up to 1000'
- Reliable data transmission
- Small Size
- Easy to Mount
- Level Shifting. Converts 3.3 volt data signal to 5 volt.
- Supports WS2811, WS2812, WS2813, WS2814, WS2815, SK6812, SK6805, UCS2903 and all other one wire / asynchronous pixel chipsets.
- Can be used with synchronous chipsets that require CLK and DATA signals by using two sets of these modules.
- Designed and Manufactured in the United States. Includes 3 Year Warranty and Lifetime Support.

Input Power	3.3 to 12 volts
Current Draw	< 5mA
Max Data Rate	12 Mbps
Connectors	Solder Pads
ESD Protection	±15-kV
Data Input Voltage	TTL, 3.3 to 5 volts
Data Output Voltage	TTL,5 volt (if receiver board is supplied with 5 volts or higher)
Board Dimensions	12mm x 10mm x 3mm

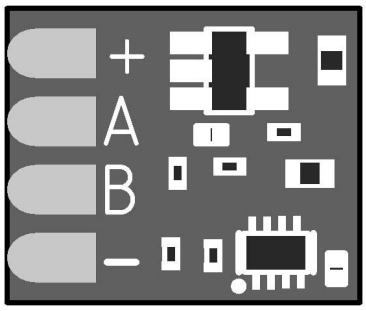


Fig. 1a

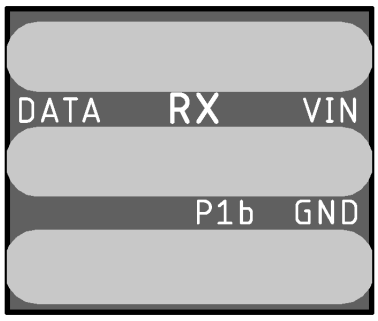
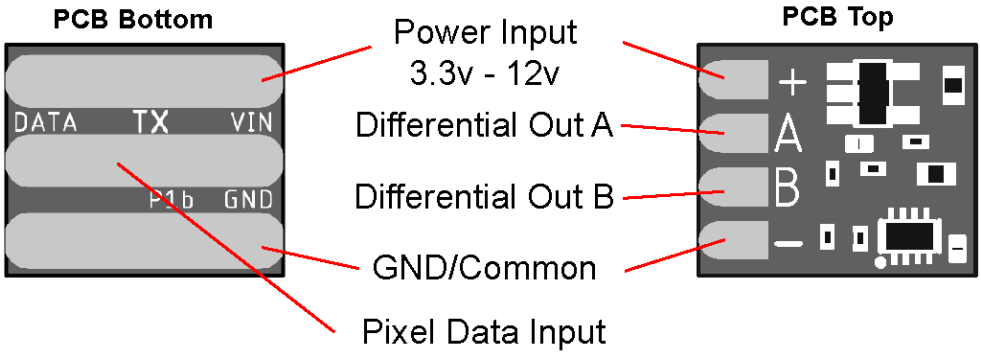


Fig. 1B

Fig. 1c

Pinout

TX Module



RX Module

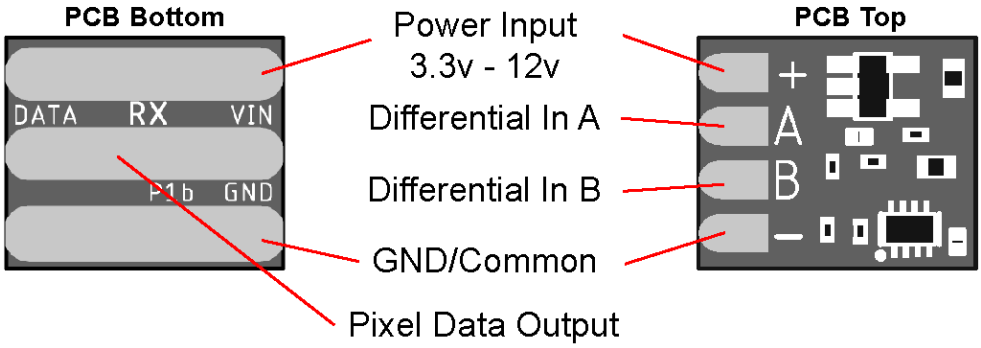
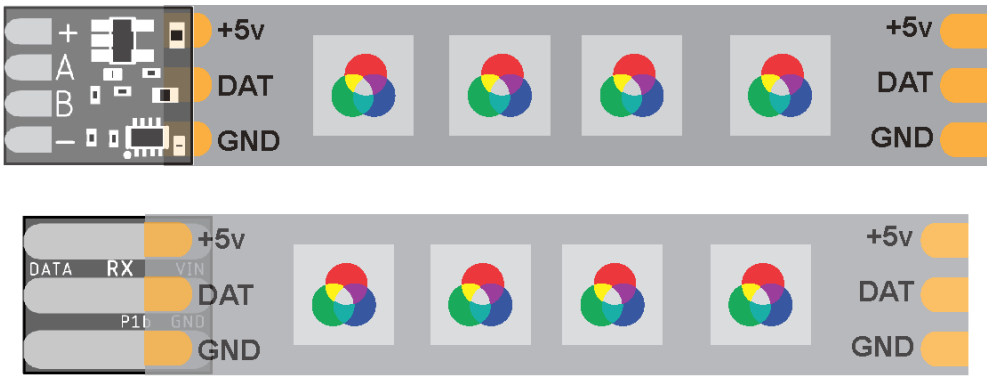


Fig. 2a

Connection



Option To Solder Module Directly to LED Pixel Strip.
The Module can be soldered to the top or bottom of the strip.
Ensure the strip pinout matches the module.

Fig. 2b

Connection(continued)

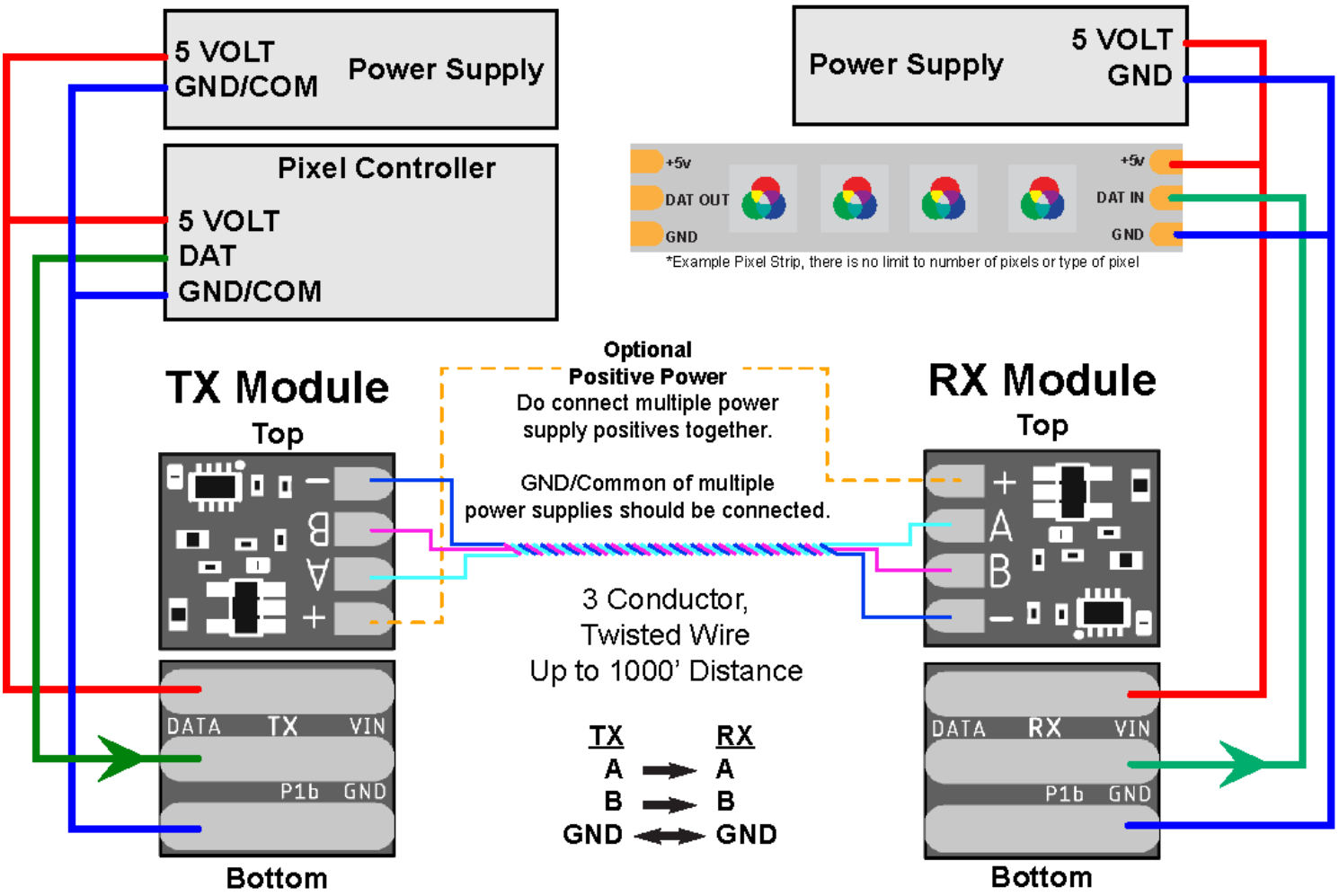


Fig. 3a

Notes:

- Modules require soldering on wires for connection. Wire not included.
- If more than one power supply is used do not connect their positive outputs.
- If more than one power supply is used their GND/Common connections should be connected together.
- The converted data signal wires(differential) and a GND/common should be ran through twisted conductors.
- Solder wires to the module carefully with a temperature controlled soldering iron. The module's components are small and could easily be removed if overheated.

Dimensions and Mounting

3D .step models can be found on the device's webpage.

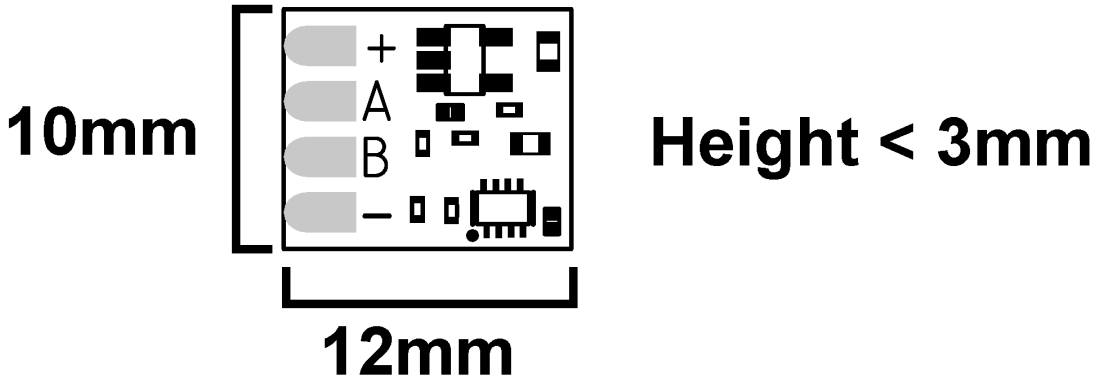


Fig. 4a

Mounting Notes:

Do not allow the PCB to touch anything conductive.
Do not allow foreign material to fall onto or accumulate on the device.
The device should kept dry and clean. If device becomes wet or dirty, do not use until it is cleaned and dried. Contact Us for assistance.

NLED is available to create new designs and derivatives of current designs customized to the clients requirements, please Contact Us with your specifications.