

Introduction

REBOUND is a simple wired transmitter and receive module pair that will enable you to extend serial data (<1mbps). This is especially useful when using WS2811/WS2812 (and similar NRZ-type variants) Pixel LEDs. The transmitter (green) module will convert the data from single-ended to differential data to be sent down a standard (8-core) ethernet cable. The receiver (red) module converts the data back from differential to single-ended data. This gives the advantage of being able to use very long cable runs (<200m) between transmitter and receiver pairs.

Rebound has the added advantage of having a second channel, giving full DUPLEX data flow. This can be used in many different ways, firstly recovering unused pixel data from the end of a pixel strip, and secondly extending serial TX/RX communications between a PC and a UART device (no handshaking)

Rebound can be powered from voltages of 5v to 24v, and if using the higher voltage, this can be sent from one end of the Cat5 to the other allowing phantom powering. The exact use of this may be trial and error due to different voltages, cable lengths and cable types that could be used in the set up. To enable Phantom-powering BOTH jumpers need to be fitted as described below. These devices DO NOT supply any power from the Vin connection.

Specifications

Transmitter (Green) screw connections : 5V-24V input. Outbound data (<1mbps). Inbound data (<1mbps)

Transmitter (Green) RJ45 connection : Outbound data+/-, Inbound data+/- and ground connections

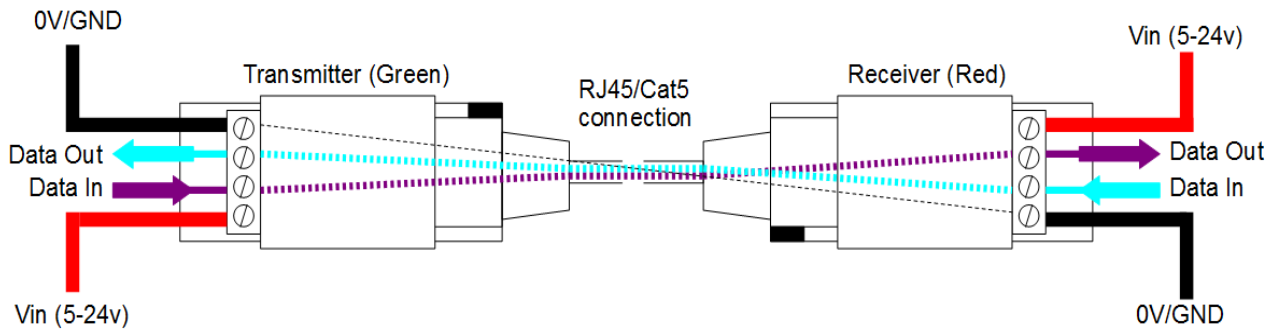
Receiver (Red) screw connections : 5V-24V input. Outbound data (<1mbps). Inbound data (<1mbps)

Receiver (Red) RJ45 connection : Inbound data+/-, Outbound data+/- and ground connections

Parts Supplied

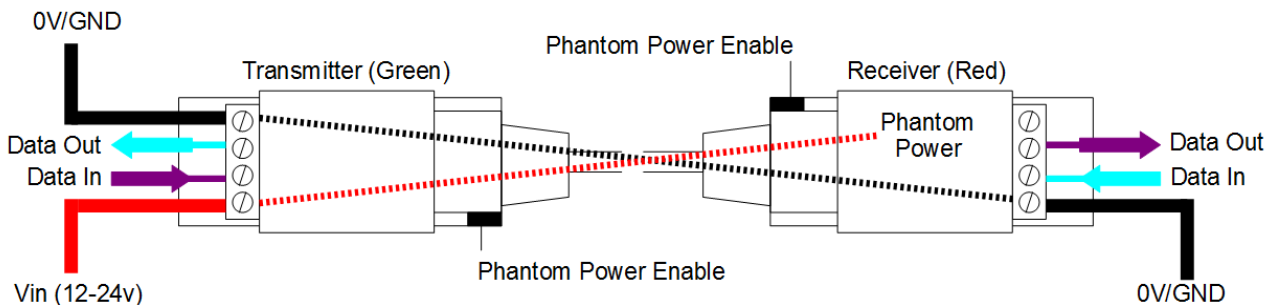
1 x Rebound transmitter, 1 x Rebound Receiver

Connections



Phantom Power

By moving the small jumper on each board to the 'Phantom Power Enable' position shown in the diagram, this will enable phantom powering of one of the boards, from the board at the other end. In this situation it is best to use at least 12V as there could be significant voltage drop over long lengths of Cat5, some experimentation may be required



Variations

Since both Red and Green boards do essentially the same thing, they can be swapped over as long as the connection detail is followed carefully. It is not possible to run two red boards, or two green boards together.

Indicators

On each of the RJ45 connectors there are two LEDs:
Transmitter (Green) DataIn signal is shown on the Yellow LED, DataOut is shown on the Green LED
Receiver (Red) DataIn signal is shown on the Green LED, DataOut is shown on the Yellow LED

Dimensions

Transmitter (Green) Length : 57mm – Width : 22mm – Height : 18mm

Receiver (Red) Length : 57mm – Width : 22mm – Height : 18mm

Technical Support

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