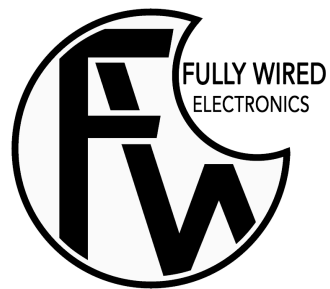


# Fully Wired Electronics - Power Bus Board User Manual



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## Limited Warranty:

Fully Wired Electronics warrants this product to be free of defects in materials or construction for a one year (twelve month) period<sup>1</sup> from the date of purchase<sup>2</sup>. Proof of purchase via a receipt or invoice is required when making a warranty claim.

Malfunction resulting from incorrect power supply voltages, reversed or backwards Eurorack bus board connections, faulty or damaged cables, incorrect patching, general misuse, the modification of the faceplate and/or the products circuitry or any other causes of malfunction that Fully Wired Electronics deems to be at the fault of the user are not covered by this limited warranty. Normal service rates will be applied.

Attempting to alter and/or modify this product in any way will void this limited warranty.

During this one year limited warranty period, all defective products will be repaired or replaced at the discretion of Fully Wired Electronics. Products must be returned directly to Fully Wired Electronics, with the customer paying the cost of transit to Fully Wired Electronics.

Fully Wired Electronics accepts and implies that no responsibility will be taken for harm to person and equipment through the operation of this product.



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<sup>1</sup> Unless explicitly sold under the agreement that an extend warranty will be awarded

<sup>2</sup> For pre-orders this is applicable from the date of shipment rather than the date of purchase

## Installation and Safety:

Prior to installing and uninstalling this product, please ensure that your Eurorack power supply is turned OFF. Installing or uninstalling this product without doing so is potentially dangerous, running the risk of causing damage to your equipment and electrocuting yourself. To minimise the possibility of backwards or reversed power supply connections, the power bus board is fitted with shrouded 10 (2x5) pin headers. Despite this precaution please ensure that both the power cable header, and the power supply headers are orientated correctly. Also ensure that there is NO damage to the power cable being used. A damaged power cable may cause harm to your modules, the power supply being used, or yourself!

Note: When installing the power bus board, you assume full responsibility for the health of your equipment and yourself. If you are not confident in installing the power bus board, please seek help from a professional or someone who is competent who can assist you, carry out the work on your behalf.

## Foreword:

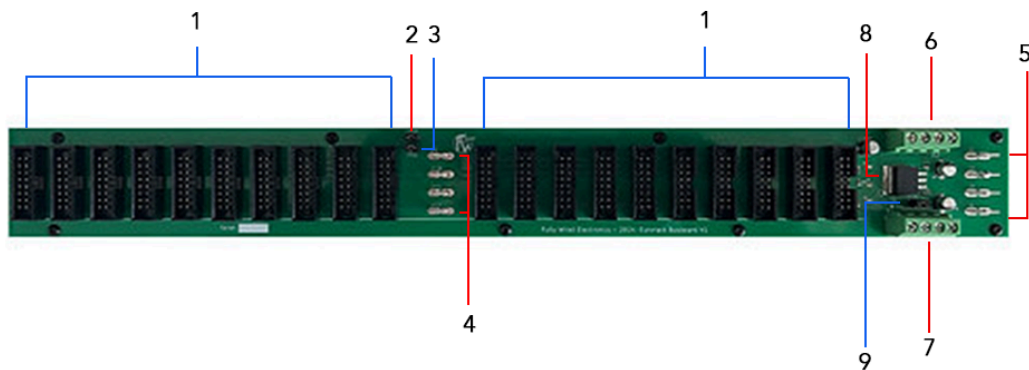
Thank you for purchasing the Fully Wired Electronics - Power Bus Board. We value all of our customers for their support. Your purchase is greatly appreciated!

Special thanks to everyone who was involved during the development and production of this module, and the journey of Fully Wired Electronics for your help and unwavering support!

## Overview:

The Fully Wired Electronics Power Bus Board is a 20 Header (1) Eurorack power bus board, with noise-reducing bypass capacitors and two sets of joinable CV (2) and Gate (3) Rails.

The Power Bus Board features two sets of spade terminals (4 & 5) as well as two sets of block terminals (6 & 7) allowing you plenty of freedom when connecting to your power supply. The Power Bus Board also features its own 5V regulator (8) which can be turned on if your power supply does not feature a 5V rail, via a jumper (9).



1. Box Header (x20) - The Power Bus Board is fitted with 20 16-Pin box headers, which you connect your power cables directly to. The box headers are keyed to prevent you from connecting the power cables in the wrong orientation. These headers are broken up into two sets of 10.

Note: Please always check that the power cable you are using has the RED stripe (-12V) at the bottom of the cable, as sometimes incorrectly made cables are distributed when buying modules.

2. Gate Header - This head allows you to connect the Gate rails of the two sets of Box Headers (1). If you wish to have both Gate Rails separate, remove the Jumper from the header.

3. CV Header - This head allows you to connect the CV rails of the two sets of Box Headers (1). If you wish to have both CV Rails separate, remove the Jumper from the header.
  
4. Centre Spade Terminals - These Spade terminals are located between two sets of Box Headers (1). From top to bottom, the corresponding power rails are as follows
  1. +5V
  2. +12V
  3. Ground (GND)
  4. -12V
  
5. End Spade Terminals - These Spade terminals are located at the leftmost edge of the Power Bus Board. From top to bottom, the corresponding power rails are as follows
  1. +5V
  2. +12V
  3. Ground (GND)
  4. -12V
  
6. Top Block Terminal - This block terminal is located at the top edge towards the left of the Power Bus Board. From left to right, the corresponding power rails are as follows
  1. +5V
  2. +12V
  3. Ground (GND)
  4. -12V
  
7. Bottom Block Terminal - This block terminal is located at the bottom edge towards the left of the Power Bus Board. From left to right, the corresponding power rails are as follows
  1. +5V
  2. +12V
  3. Ground (GND)
  4. -12V

8. 5V Voltage Regulator - The 5V voltage regulator allows you to have a +5V rail for each of your modules (which require it), if your Power Supply Unit (PSU) does not feature a 5V rail. This is powered via the +12V rail.
  
9. 5V Regulator Jumper - This jumper allows you to connect or disconnect the 5V voltage regulator (8) from the +12V rail. If your Power Supply Unit (PSU) does feature a +5V rail, please make sure that you REMOVE this jumper.



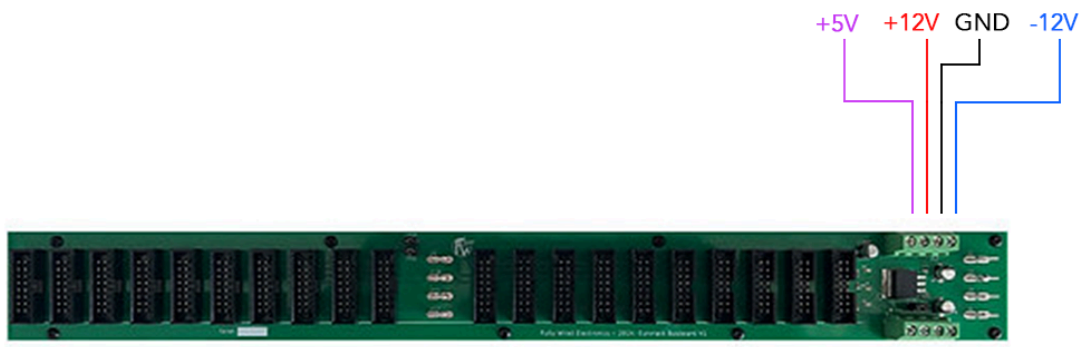
## Insulation/ Routing:

1. Using the mounting template mark and drill the holes in the appropriate places within your case. We recommend that you use a 2mm drill bit.
2. Mount your Power Bus board using the supplied screws. If longer mounting screws are needed, please use M2.5 screws. If you are unable to find such screws in your region, please contact us via [info@fullywiredelectronics.com](mailto:info@fullywiredelectronics.com), and we will assist you, or source them on your behalf.
3. Connect each of the cable terminals to the correct output of your Power Supply Unit:
  - a. 5V to 5V (Optional - if your PSU does not feature a 5V output use the Power Bus Board's 5V regulator as a 5V supply)
  - b. +12V to +12V
  - c. GND to GND (Ground to Ground)
  - d. -12V to -12V

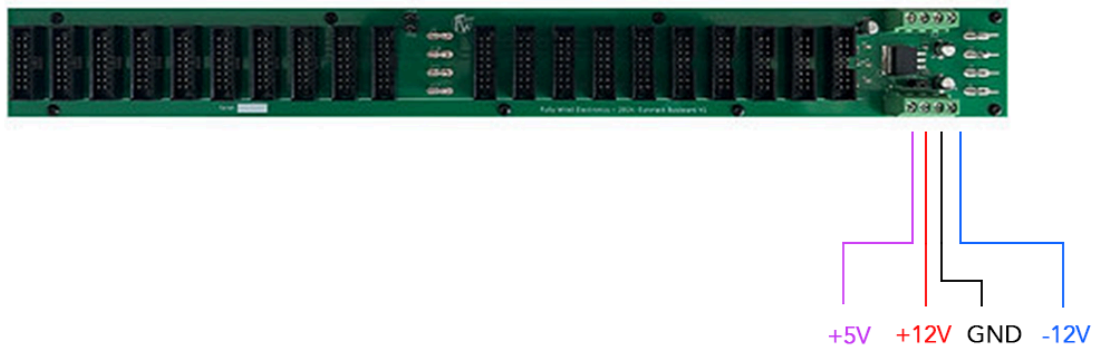
When connecting Power Bus Boards together be careful not to create any loops, or to overload the power rails of your PSU. If connected correctly the associated LED for each power rail will illuminate.

Note: Ensure your +12v and 5V rails are connected the correct way, as both of the associated LEDs will be illuminated even if they rails are connected the wrong way around.

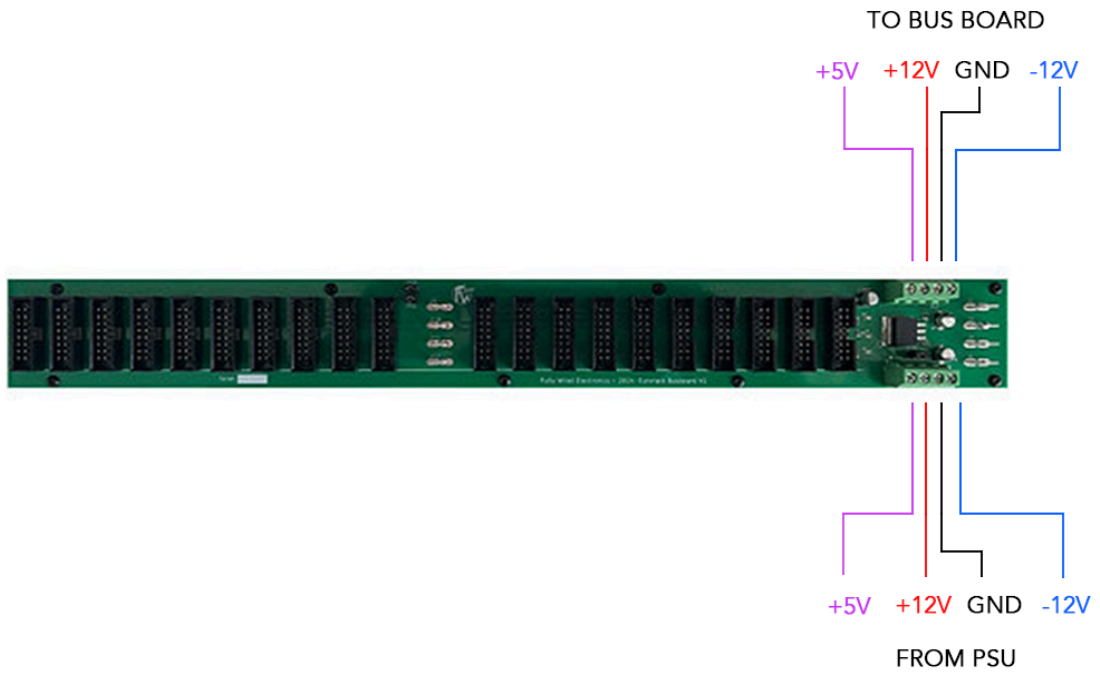
Routing option 1:



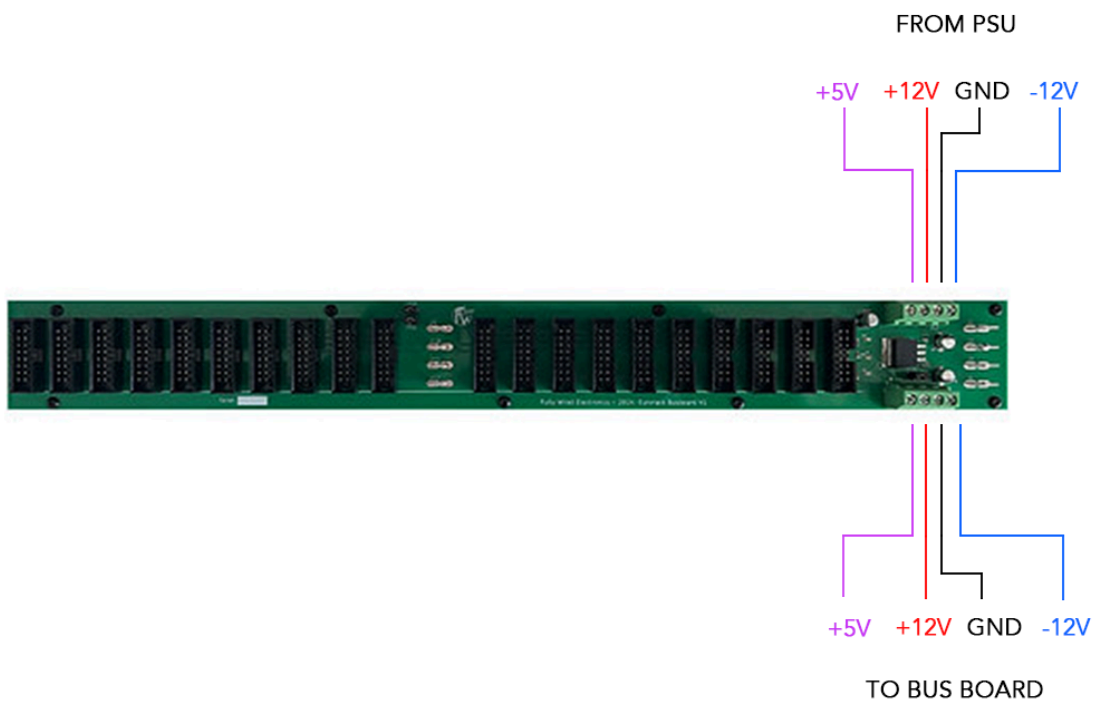
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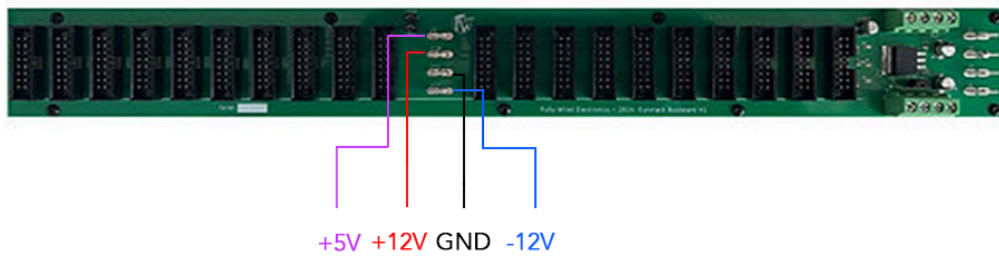
Routing option 3:



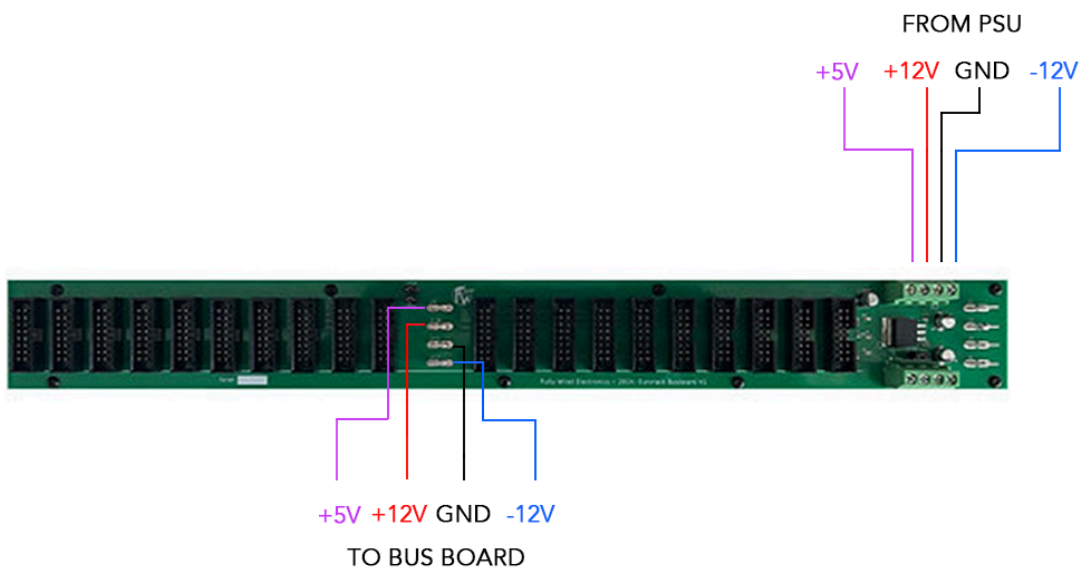
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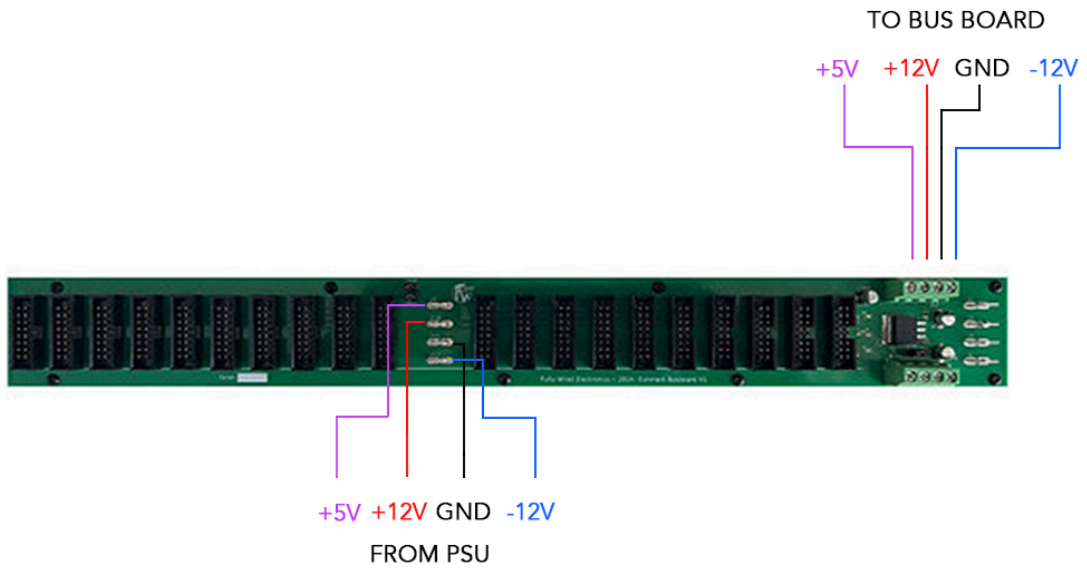
Routing option 5:



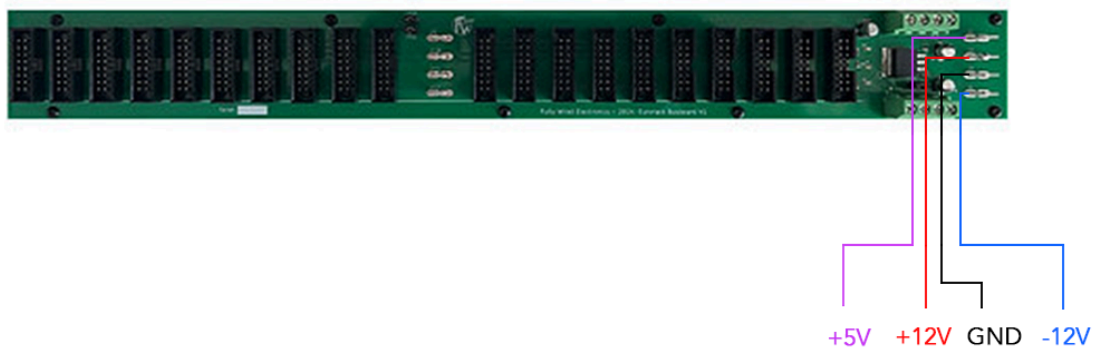
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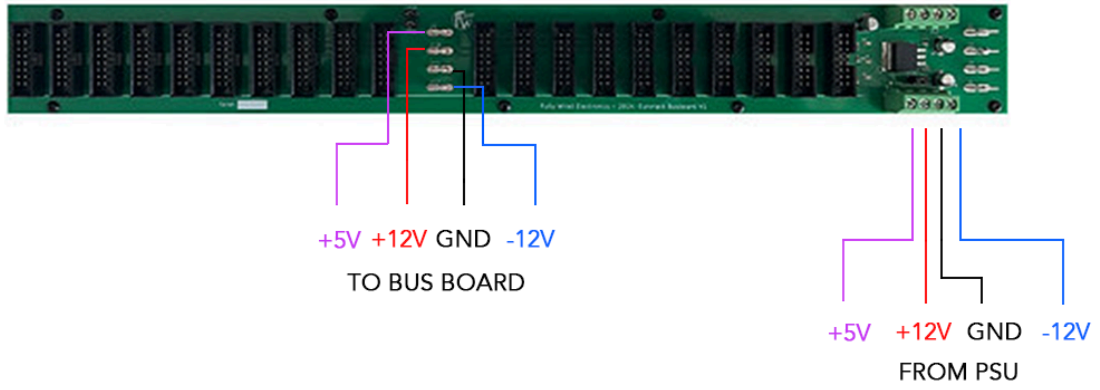
Routing option 7:



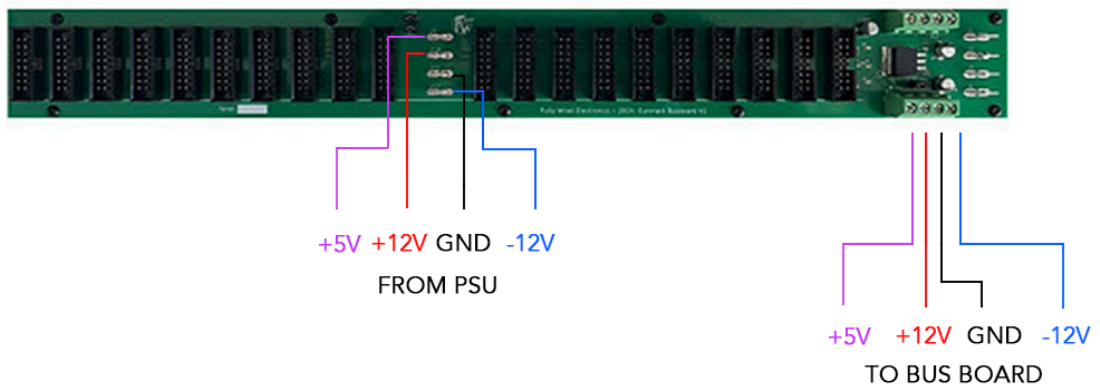
Routing Option 8:



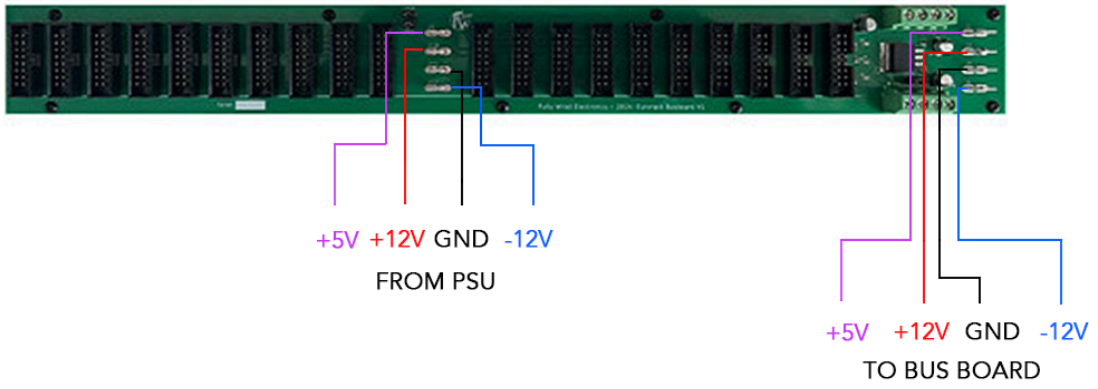
Routing Option 9:



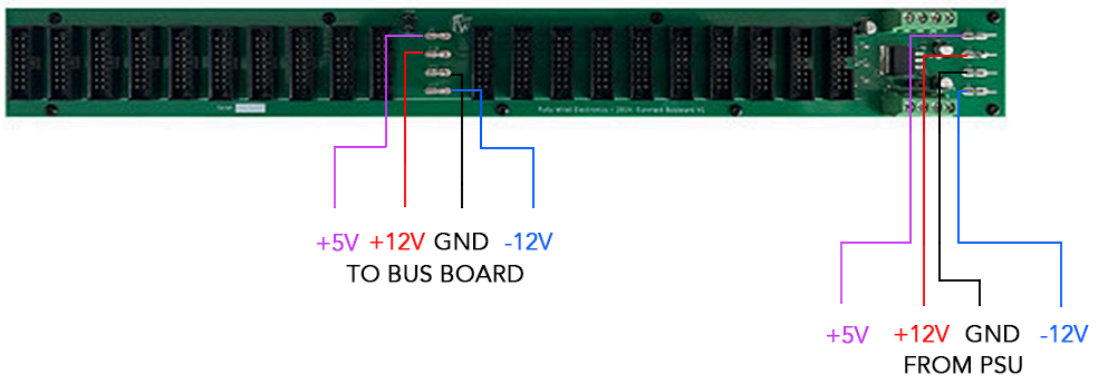
Routing Option 10:



Routing Option 11:



Routing Option 12:



## Technical Specifications:

- Length - 385mm
- Depth - 42mm
- Height (With Standoffs) - 326mm
- Current Draw
  - +12V - 1mA (without 5V Regulator)
  - +5V - 1mA
  - -12V - 1mA