

GRBLDuino Limit Switch Isolator Datasheet



GRBLDuino Limit Switch Isolators provide three channels of fully optoisolated limit switch connections.

Input voltage for GRBLDuino Limit Switch Isolator is 5 volts DC only. Exceeding this will destroy the optoisolators and render the board unusable. There is no reverse voltage protection on GRBLDuino so take care when connecting the power wires.

Power Options

Power can be input in one of two ways depending on your configuration and needs. Using the separate OPTO PWR terminal block at the top of the PCB between the mounting holes is the preferred and default option. This should be a 5v DC power supply separate from your Arduino and stepper motor power supplies. This provides the greatest noise isolation. Phone chargers will work or any 5v DC supply capable of 500mA or more.

If you wish to use the same power supply for your Arduino and the GRBLDuino Limit Switch Isolator, the jumpers JP0 and JP1 can be soldered to short them together to allow the Arduino power from the lower right power terminal block to supply power to both sides of the optoisolator.

Connections

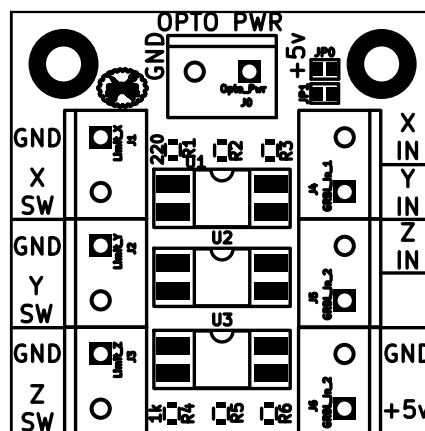
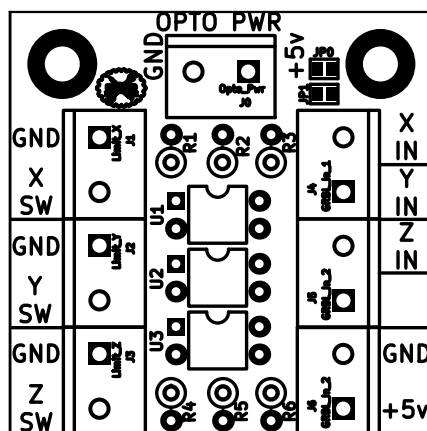
When looking at the PCB from the top with the mounting holes up, the left side of the board is for connections to physical limit switches. The top terminal in each terminal block is for the switch ground connection. The lower terminal is for the switch connection and goes into the optoisolator.

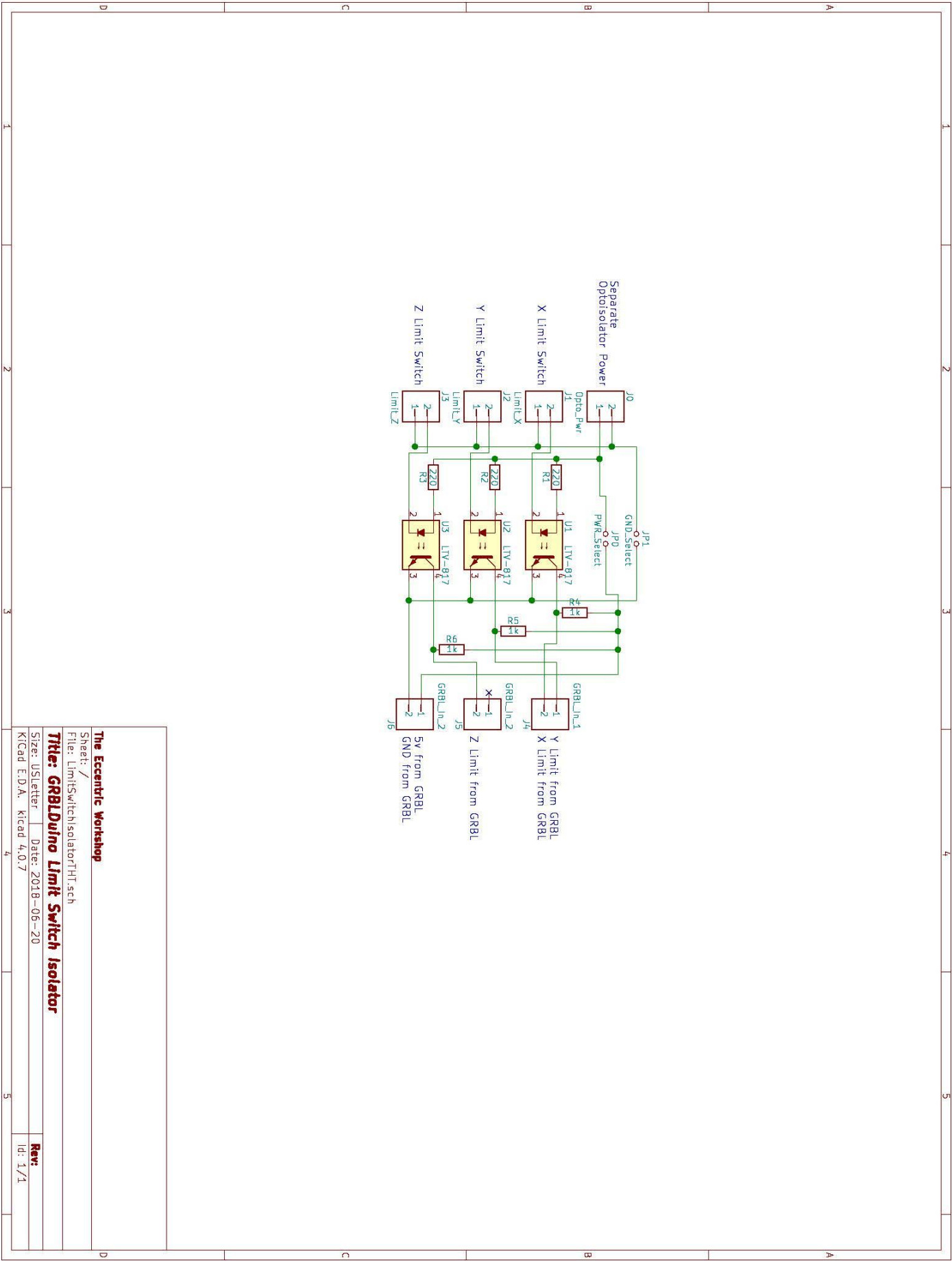
The right side terminal blocks are for connections to the Arduino limit switch pins. The top three terminals are used, one terminal is unused, and the bottom two are for ground and 5v DC from the Arduino.

For most cases, the GRBLDuino Limit Switch Isolator will have two power sources entering the board. Both are required for the board to work properly and provide the greatest noise isolation.

Bill of Materials

- | | |
|---|---|
| <ul style="list-style-type: none">• 1 LSI_THT PCB• 7 2 position screw terminal blocks• 3 LTV-817B Optoisolators, DIP4 (U1, U2, U3)• 3 220 ohm resistors (R1, R2, R3)• 3 1k ohm resistors (R4, R5, R6) | <ul style="list-style-type: none">• 1 LSI_SMD PCB• 7 2 position screw terminal blocks• 3 LTV-817S-D Optoisolators, DIP4 SMD (U1, U2, U3)• 3 220 ohm resistors, 0603 (R1, R2, R3)• 3 1k ohm resistors, 0603 (R4, R5, R6) |
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The Eccentric Workshop

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