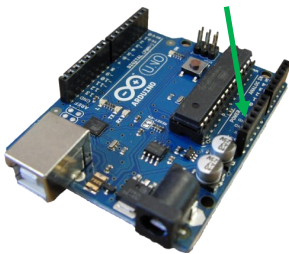


# GRBL SPD

# CONNECTION DIAGRAM

## POWER CONNECTOR

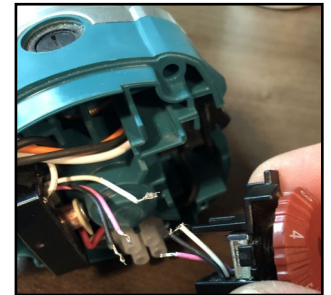
Connect +5V to 5V and GND to GND on Arduino or other controller.



## Router Speed Control

Cut red, black and white wire from Makita dial leaving enough to connect to wires from GRBL\_SPD board and remove dial.

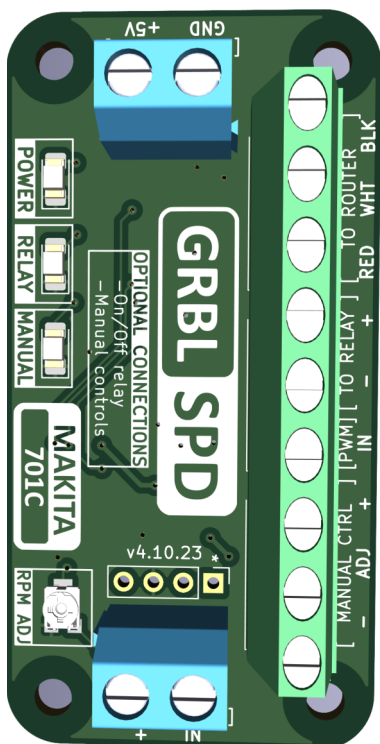
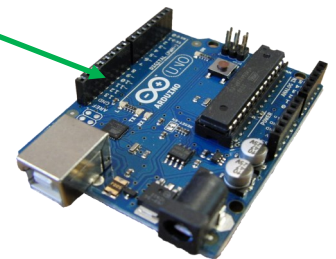
Makita black wire — (BLK)  
Makita white wire — (WHT)  
Makita red wire — (RED)



## PWM INPUT

Connect to PWM Output of Controller. Pin 11 @ 1kHz on GRBL 1.1 with Arduino)

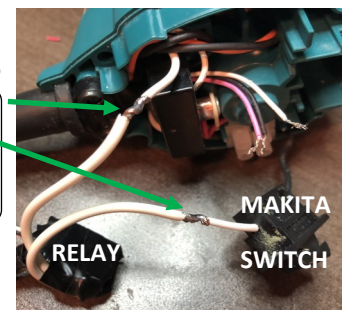
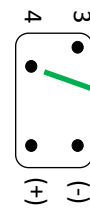
Be sure to check the PWM is present with a voltmeter. Should see 0v to 5v fluctuating when adjusting rpm in your sender software. If not reflash GRBL 1.1 to your controller with variable spindle enabled.



## Router On/Off Relay

(Negative switched)

**UNDER THE HOOD METHOD:**  
Cut white output wire from switch and connect the two wires (3&4) from relay to each end. This allows the original switch to still turn the router off for safety. The relay can be placed where the dial was. (Relay included)



**EXTERNAL METHOD:**  
Many relays are available online to break connection to power. Use whichever best suits your needs. ([+] is +5v and [-] is ground trigger)



(Leave switch in on position for normal operation)

**CAUTION!! 120v/240v UNPLUG FROM ROUTER FROM POWER SOURCE**

## Manual Mode Switch

Two pin switch for manual mode on/off control. Lots of choices as long as its not momentary. (not included)



## Manual Speed Control

Potentiometer for manual mode rpm adjustment. 5k,10k,20k and so on. Functions as a voltage divider for the analog input so value is not critical. (not included)

