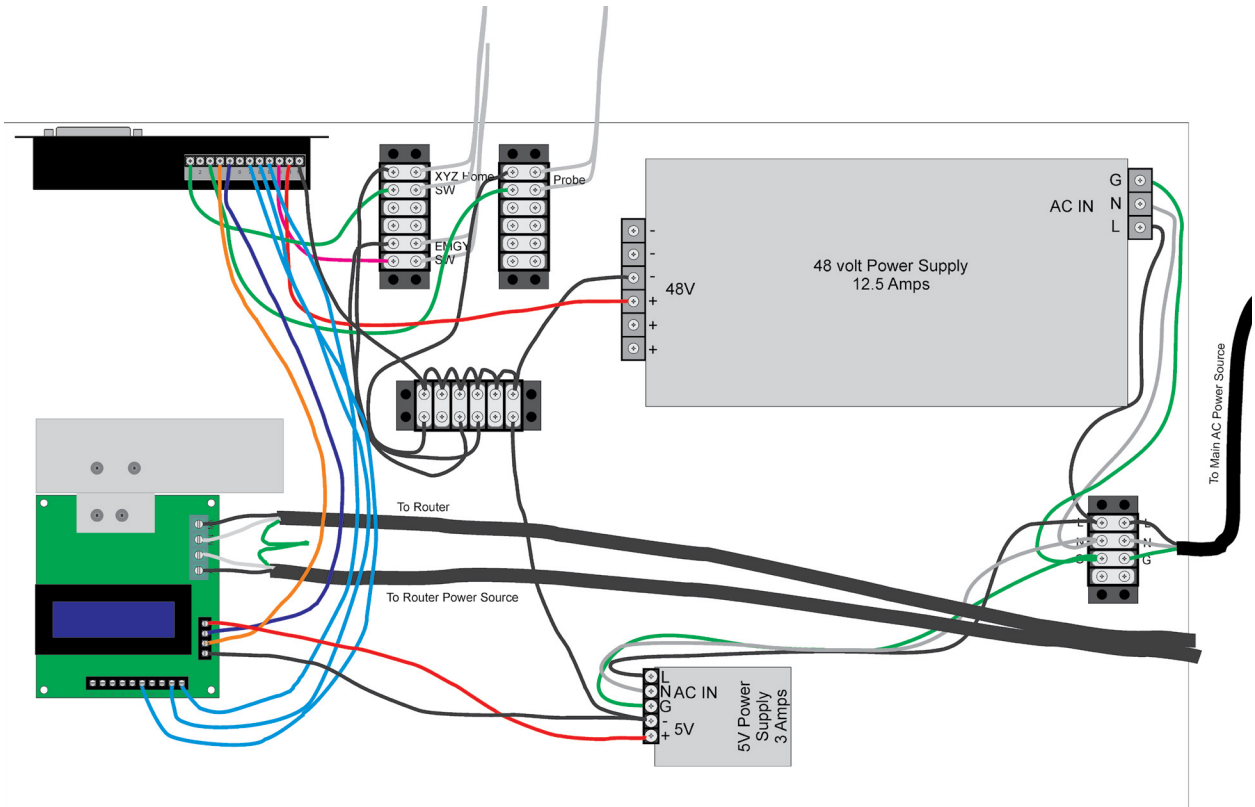# Super-PID Wiring #2

V2.03 Copyright 2012 Kronos Robotics

This project takes up where the last project left off. Once you complete this chapter you will have total control of your router.

Tools Needed For This Project

- Phillips screwdriver
- Small Flat head screwdriver (Super-PID Terminals)
- Small Phillips screwdriver (G540 Terminals)
- Wire cutters/ strippers

Other Items Needed For This Project

- Super-PID Controller
- Regulated 5v power supply
- Hookup Wire

Tip

You can get a regulated 5v power source a from your PC via the USB cable or from one of the hard drive connectors inside your PC. The connector will have four wires.

Yellow = 12V

Black = GND

Black = GND

Red = 5V

You will want to use one of the black wires and the red wire.

The following is the power supplu that I used on this project.

Prerequisites

Your router should have been converted with the RPM sensor installed.

!! Important !!

Please be advised, if you are using a SmoothStepper, speed control of your router via the SuperPID is not possible at this time.

You should also download the Super-PID instructions. They can be found here:

Warning

The triac and metal heatsink should always be treated as LIVE and dangerous and connected to the AC mains. This is the safest option.

If the triac ever fails there is a possibility that the heatsink could then short to AC mains. So it is always best to be absolutely safe.

Step 1

Remove the potentiometer from the Super PID and add the following connections.

Connect the G540 port 7 to Super-PID terminal marked PG.

Connect the G540 port 8 to Super-PID terminal marked POT.

Connect the G540 port 9 to Super-PID terminal marked P5.
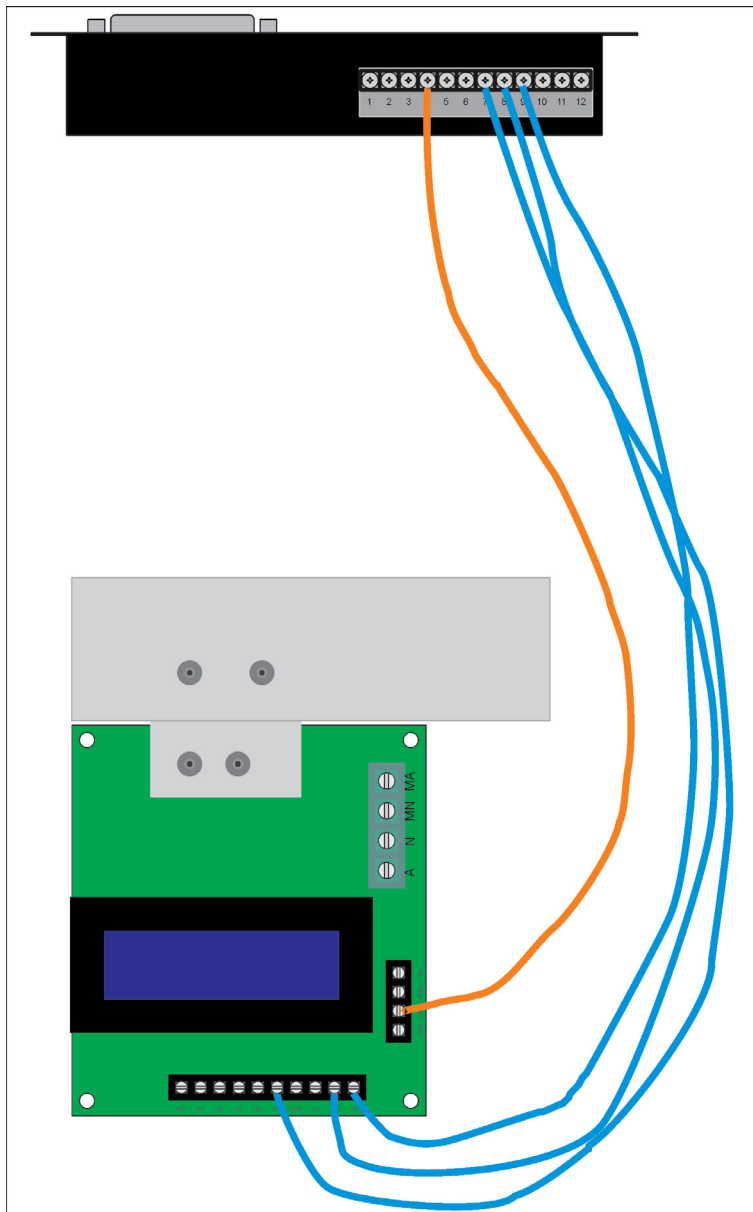
Connec the G540 port 4 to Super-PID terminal marked TACH.

Figure 1

Step 2

Open the "Ports and Pins" form and select the Input signals tab. Change the settings to those shown in Figure 2.
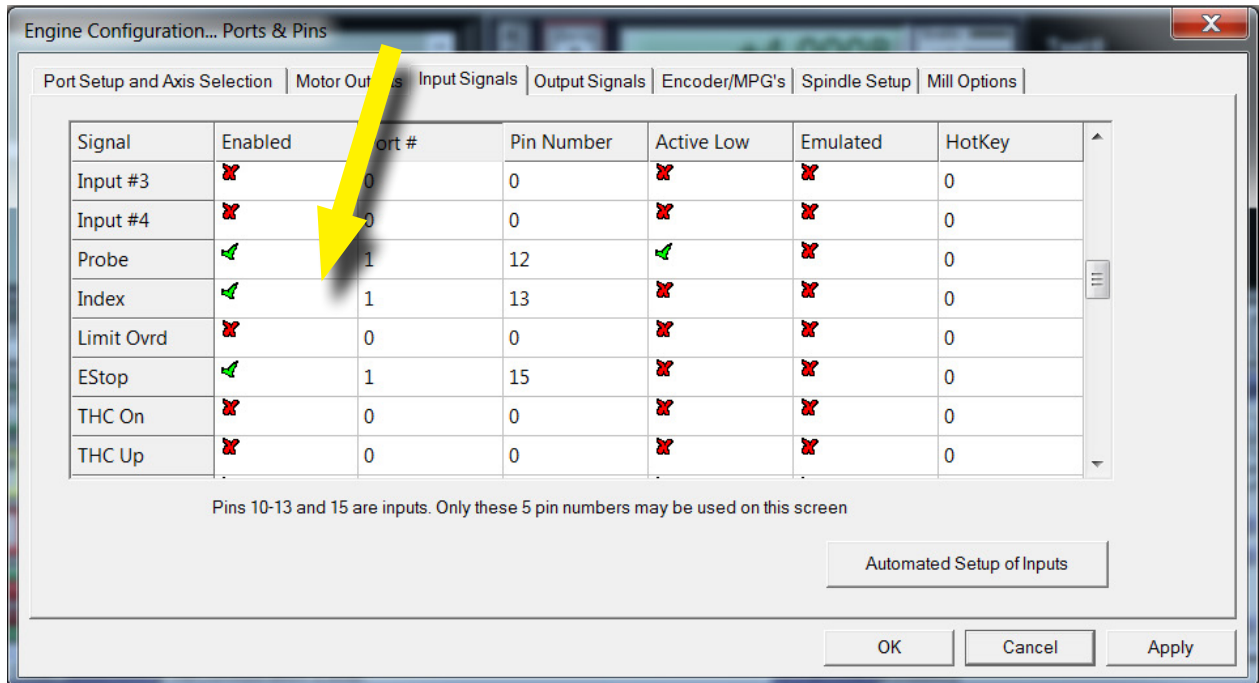

Signal	Enabled	Port #	Pin Number	Active Low	Emulated	HotKey
Input #3	✗	0	0	✗	✗	0
Input #4	✗	0	0	✗	✗	0
Probe	✓	1	12	✓	✗	0
Index	✓	1	13	✗	✗	0
Limit Ovrd	✗	0	0	✗	✗	0
EStop	✓	1	15	✗	✗	0
THC On	✗	0	0	✗	✗	0
THC Up	✗	0	0	✗	✗	0

Pins 10-13 and 15 are inputs. Only these 5 pin numbers may be used on this screen

Automated Setup of Inputs

OK   Cancel   Apply

Figure 2

Step 3

Open the "Ports and Pins" form and select the Output Signals tab. Change the settings to those shown in Figure 3.
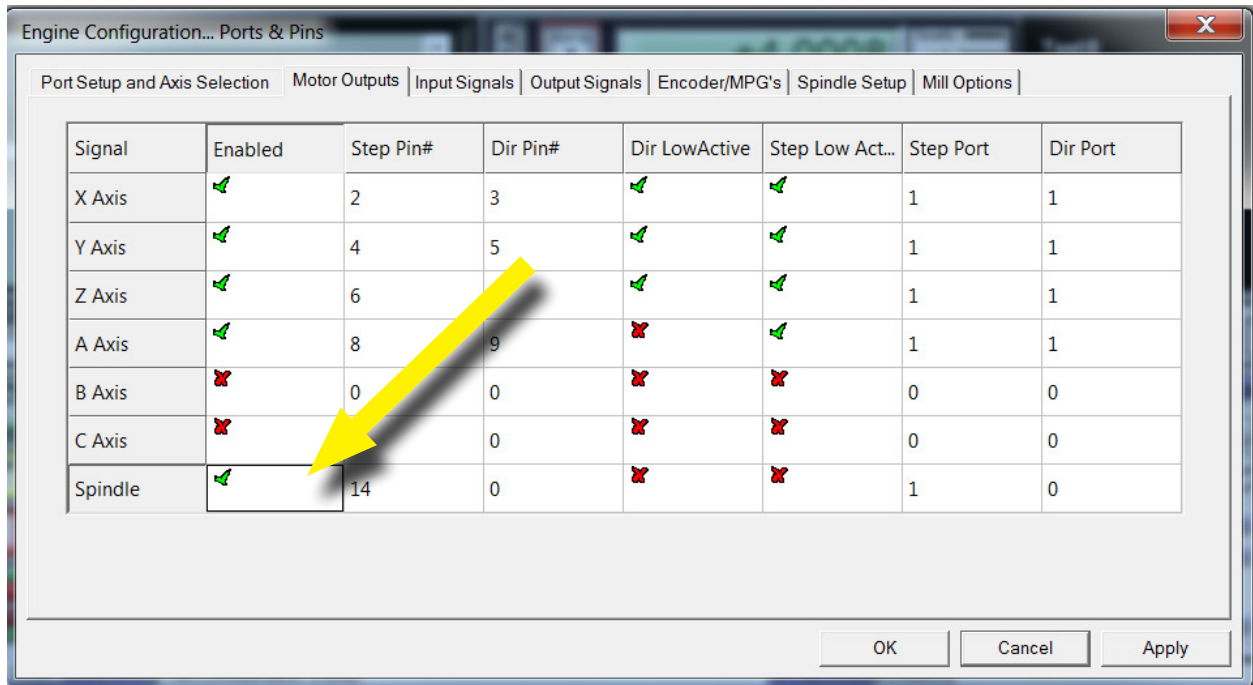

Figure 3

Step 4

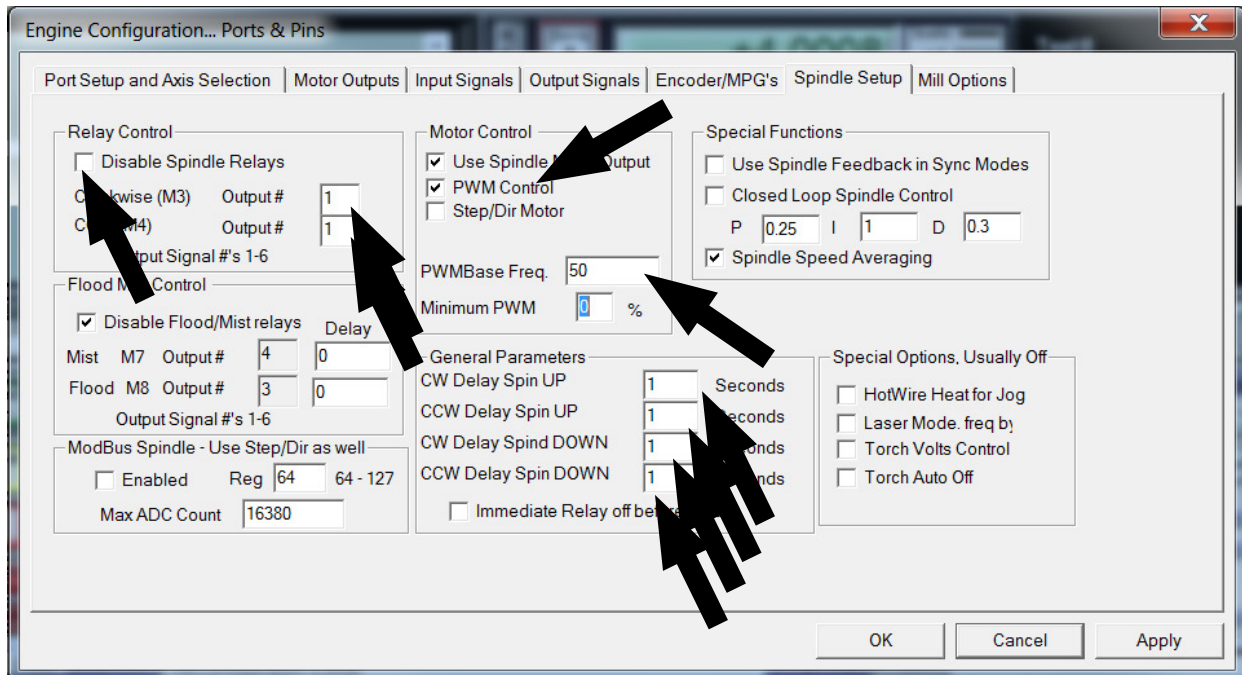Open the "Ports and Pins" form and select the Spindle Setup tab. Change the settings to those shown in Figure 4.

Figure 4

Step 5

Open the "Spindle Pulleys" form and change the settings to those shown in Figure 5.
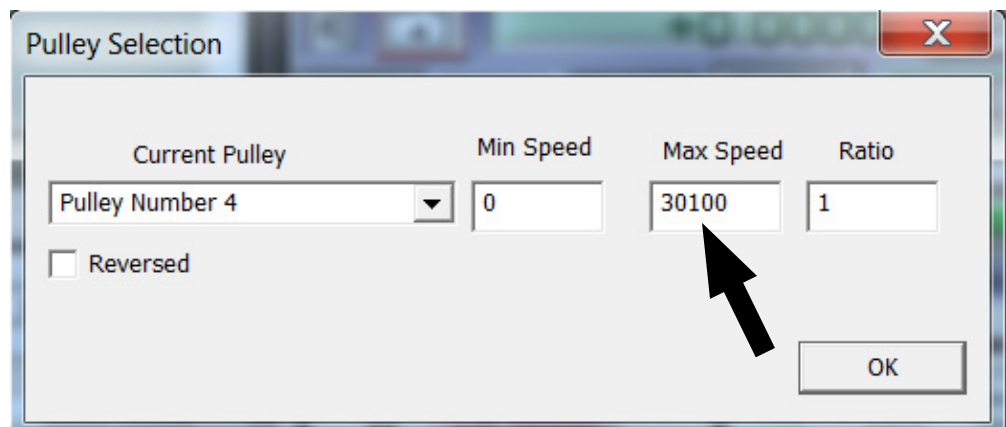

Figure 5

Step 6 - Conclusion and Test

Power up your CNC and ensure that the software is in active mode (Reset = Green). When you hit the "Spindle CW" button shown in Figure 5, you should see the Super-PID go into run mode.. Hit it again and it will click off. If it does not go back and check your wiring and configuration.

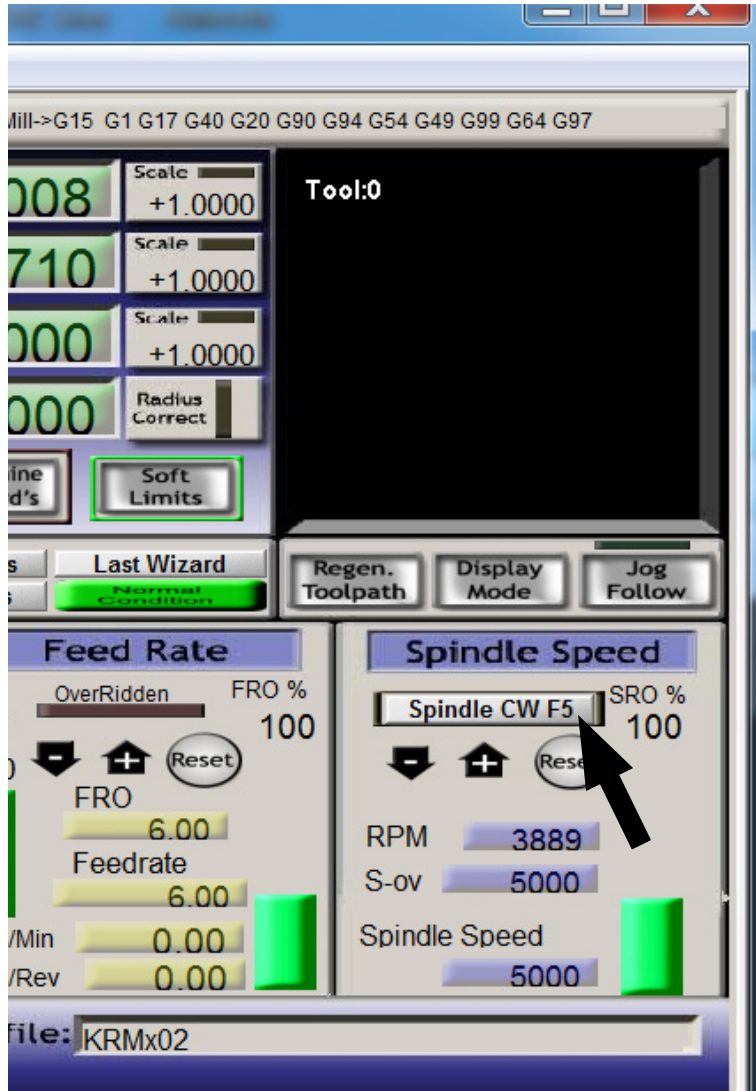By changing the RPM value you can effect a change in the actual router speed.

Figure 6

If you notice the actual RPM is off more than you like, you can try adjusting the upper limit on the spindle pulley form.