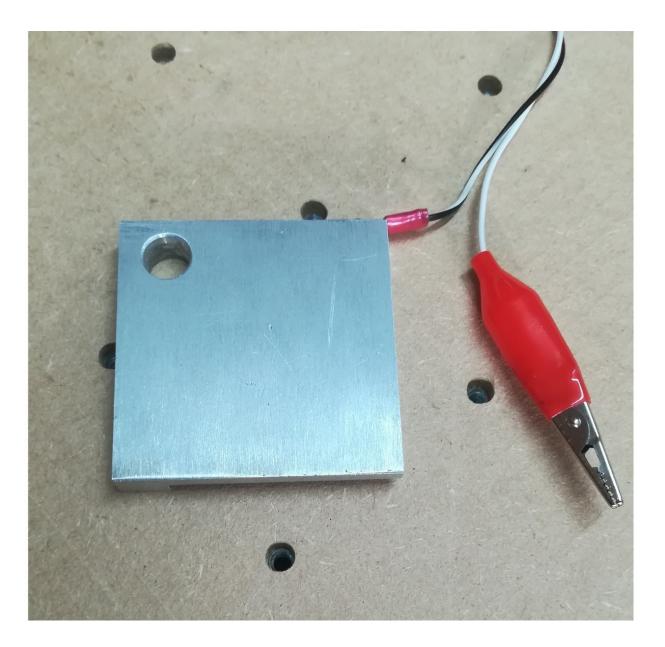


Archive - Setup a XYZ Touch Probe with a CNC xPro

How to wiring and set-up a Touch Probe on the XPRO v3 controller.

Written By: James Fordham

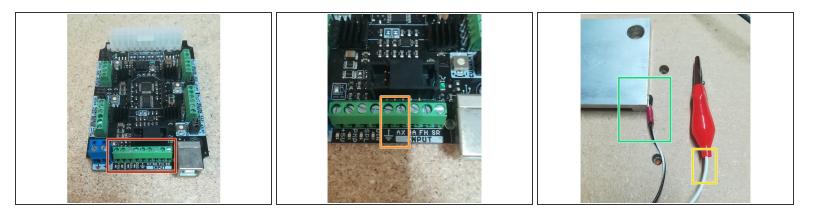


INTRODUCTION

In this guide we will run through the steps to connect and configure a touch probe to your WorkBee or OX CNC running an XPRO controller.

TOOLS:	PARTS:
 Small screw driver (1) 	• Touch probe (1)
	 CNC-xPro (1)

Step 1 — Wiring the Touch Probe



- Locate the Input screw terminals on the XPRO board.
- Identify the Ground and Touch Probe inputs.
- The wire attached to the crocodile clip, should be screwed into the ground terminal.
- The remaining wire (attached to the Probe) should be screwed into the probe terminal.

Step 2 — Setting up the Macros

Juniversal Gcode Sender (Version 2.0 [night]	ly] / Jul 23, 2017)				
Settings Pendant					
Port COM1	Machine Contro Reset Z, Macros Reset X Ads	2 lut / [/	, 2017)		
Baud: 115200 V Open	Reset 2 Avas Return to Zero Reset Y Avis	Ма	thine Control	laros	
Filliwale. GRBL	Soft Reset Reset Z Axis				Help
	SH SX SC		tacro Name		Macro Description
	SG		Probe Z	338.2 Z-25 F100; G10 P0 L20 Z5; G21 G91 G0 Z3	Probe Z and store
Machine status		1			
Active State:		2			
Latest Comment		_			
Work Position: Machine Position: X: 0 X: 0 Y: 0 Y: 0 Z: 0 Z: 0	☑ Scroll output window ☑ Show verbose output ☑ Enable command table		II output window	☑ Show vertose output ☑ Enable command table and Table	
File		Com	mand	Original Command	Sent Done Resp
Rows In File: 0	Console Command Table	=			
Sent Rows: 0	Command Original Command	-			
Remaining Rows: 0					
Estimated Time Remaining: -: Duration: 00:00:00					
Send Pause Cancel Visualize Browse Save					
Liouse Clowse Cave					

- Open up Universal G-code Sender (UGS) & connect to your WorkBee or OX CNC as normal.
- Locate and click on the Macros tab.
- ② On this tab we can set-up a number of macros to work with the Touch Probe.
- The first macro we will make is to probe the Z axis and store this value.
- In the Macro Name field, give your macro a name. In our case we will use "Probe Z".
- The next field is where we enter the GCode for our Macro. To probe and store the Z axis
 information we enter the GCode below. These commands are explained in the documents at the
 bottom of this guide.
- ③ G38.2 Z-25 F100; G10 P0 L20 Z5; G21 G91 G0 Z3
- Lastly we can give our new macro a description such as "Probe Z and store"

Step 3 — Adding more Macros

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trine Control Macros		
	Halp	
Macro Name GCode		Macro Description
Probe Z G38.2 Z-25 F100; G10 P0 L20 Z5; G21 G91 G0 Z3		Probe Z and store
robe 1/4 bit 038.2 Z-25 F100; G91 G0 Z3; G91 G0 X-50; G91 G	0 2 6 2, 038 2 X30 F100; 091 00 X-3; 091 00 28 2; 091 00 Y-50; 091 00 X50; 091 00 2 6 2; 038 2 Y30 F100; 091 00 Y-3; 091 00 28 2; 010 P0 L20 X34 355 Y-17 255 28	Probe XYZ with 1/4 bit and store
robe 1/8 bit G38.2 Z-25 F100; G91 G0 Z3; G91 G0 X-50; G91 G	0 2 8 2, G38 2 X30 F100; G91 G0 X 3; G91 G0 28 2; G91 G0 Y-50; G91 G0 X50; G91 G0 Z 8 2; G38 2 Y30 F100; G91 G0 Y-3; G91 G0 Z 8 2; G10 P0 L20 X35,943 Y-15.067 Z8	Probe XYZ with 1/8 bit and store
3		
	tible	
il output window 🗹 Show verbose culput 🕜 Enable command	500	
	899	
	800	

• To add more macros follow the steps above and use the PDF and spreadsheet documents at the bottom of this guide to configure your G-Code commands.

Step 4 — Using your macros



Now that you have set up your macros, for each size bit you want to use (1/4, 1/8, 1/16 etc) it's time

to put them to action and find your zero point.

- Once you have set up your job, ensuring the work piece is clamped down securely, then home your machine.
 - Place the touch probe on the bottom left corner of your work piece.
- Now use the jog axis commands to centre the bit within the probe.
 Then attach the crocodile clip to the bit in your router.
- You can then run your selected macro by pressing the correct macro number.
- In this example we ran the macro to probe X, Y and Z for a 1/4" bit.
 When the macro had finished we told the WorkBee CNC to return to the zero point.

You are now set to use a touch probe and easily locate your work piece corners.