

The Ant Compact PCB Maker

Connections scheme



The Ant Team

Introduction

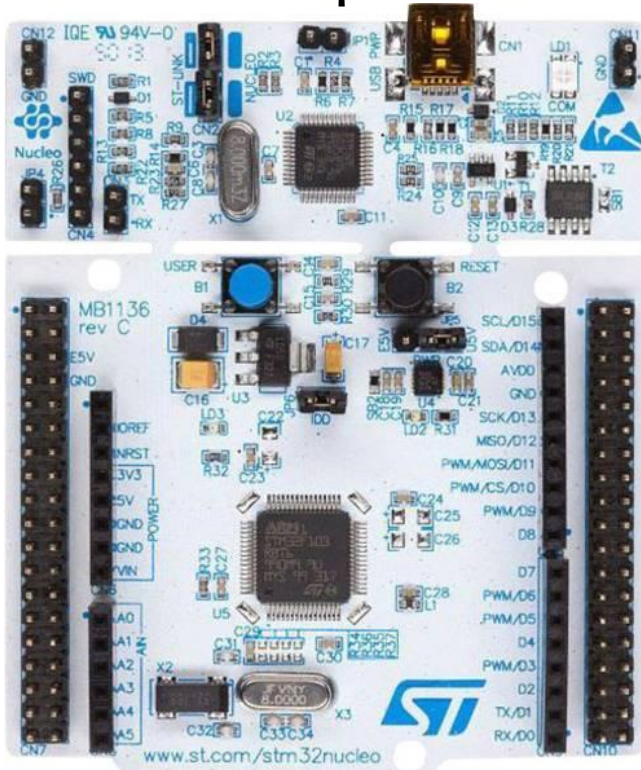
This document shows how to connect the different electronics parts of The Ant Machine. We strongly suggests you to watch this video:

https://youtu.be/eRefCvD_KVs

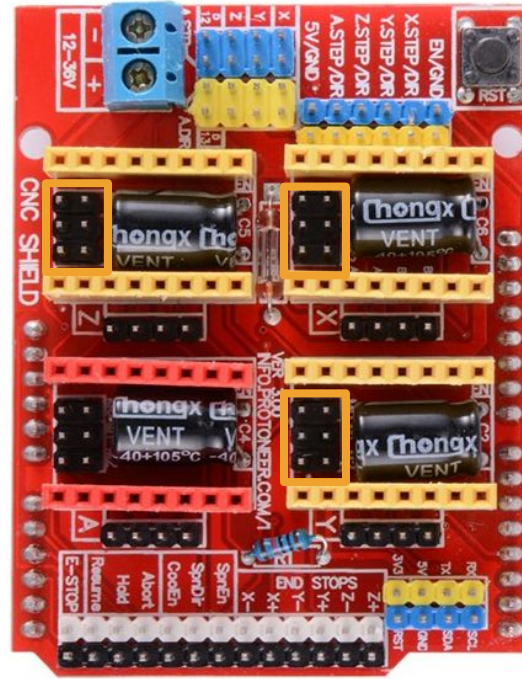
as a preparation for this stage of machine construction.

Electronics central unit parts

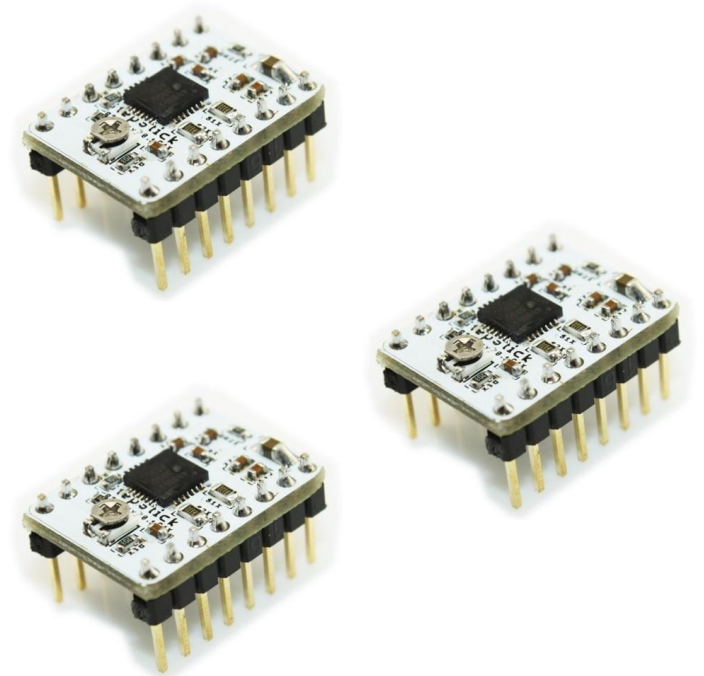
NUCLEO-F401RE



GRBL SHIELD V3.0

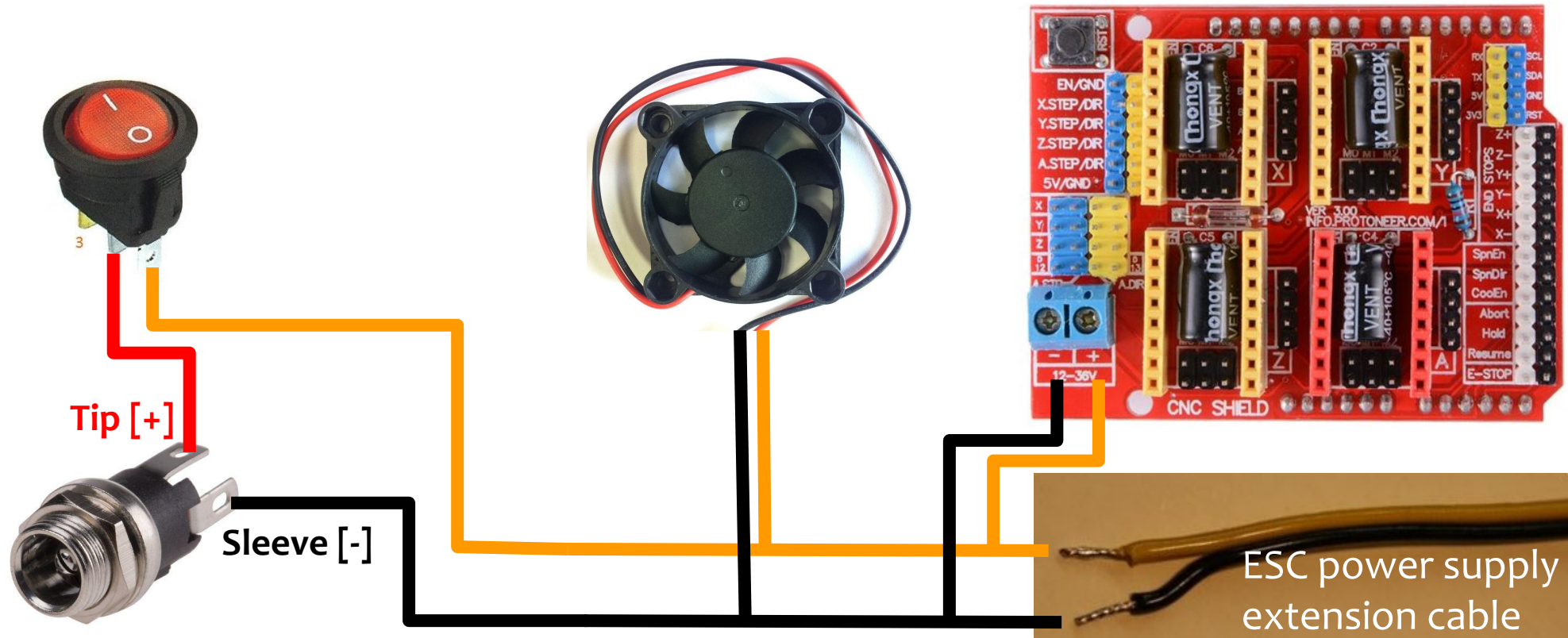


STEPSTICK COMPATIBLE BOARDS

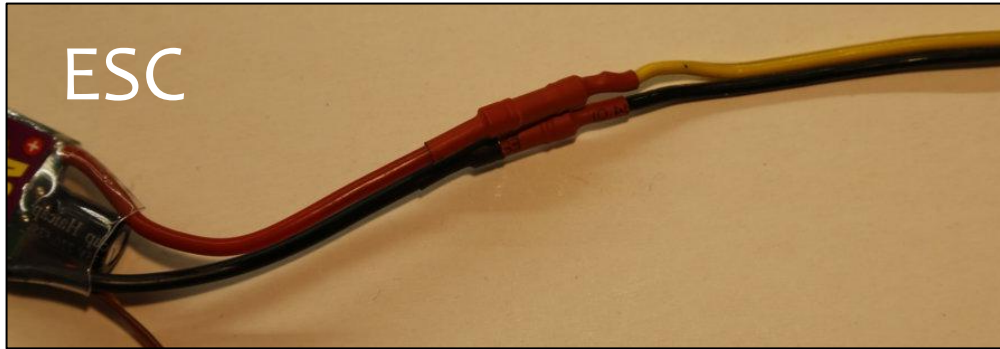
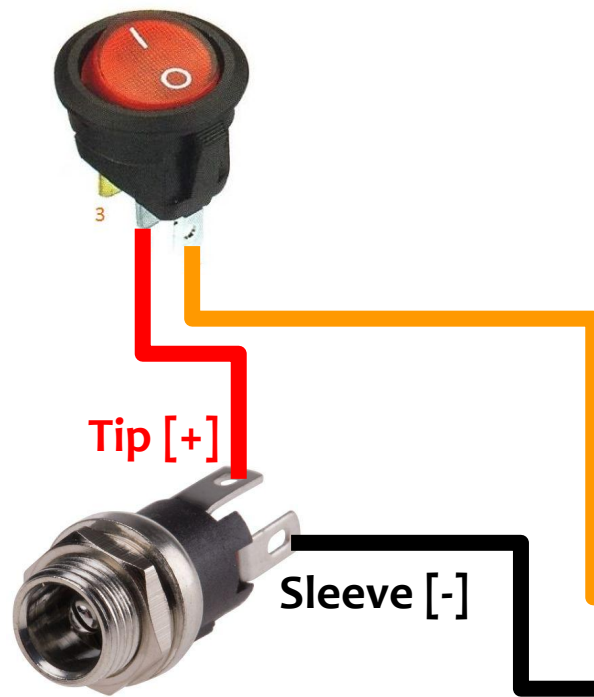


Before connecting the stepstick boards, set the micro-stepping **jumpers** on the shield. Set the X and Y drivers to 1/16th of a step, and the Z driver to 1/2 of a step. Check the chosen stepstick datasheet for more information.

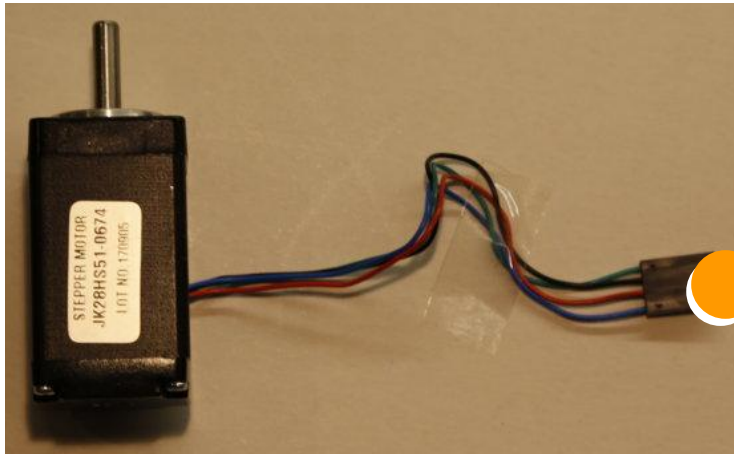
Power Supply



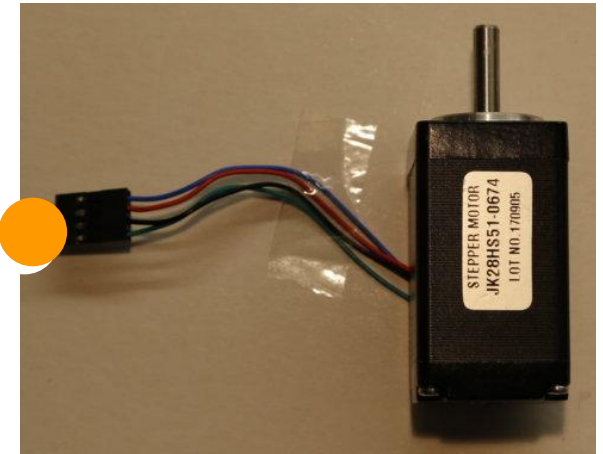
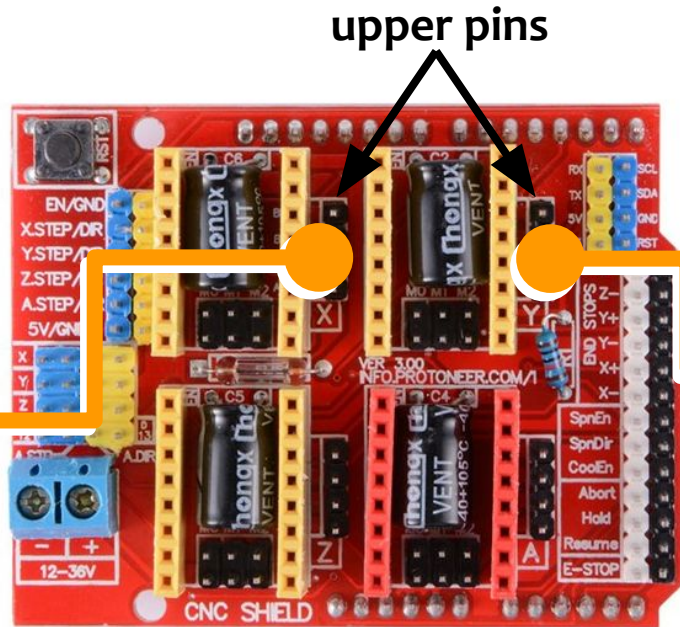
ESC Power Supply



CoreXY Stepper Motors



Long Cable NEMA11 Motor



Short Cable NEMA11 Motor

**For both the connectors, connect from upper pin to bottom one:
blue - red - black - green**

Z axis Stepper Motor

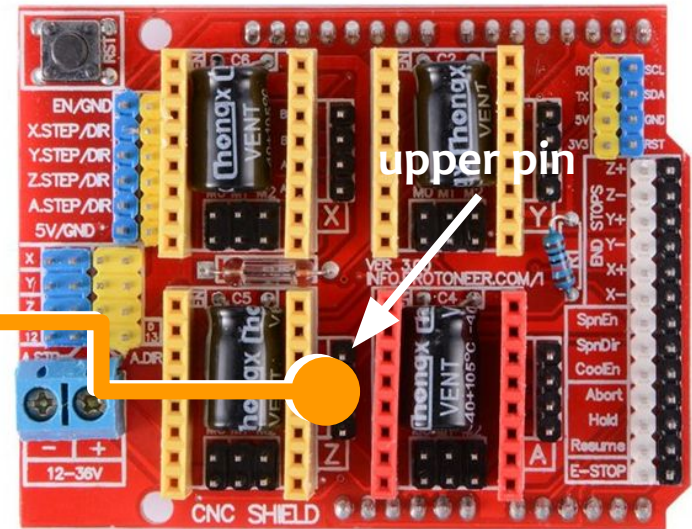
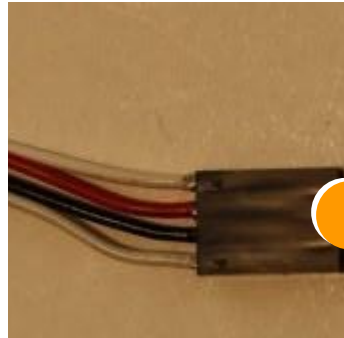
Connect the Z axis motor to the board through the appropriate extension cable



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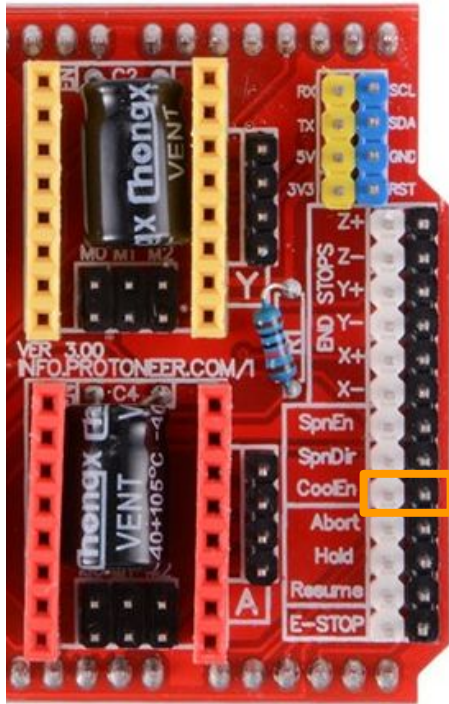


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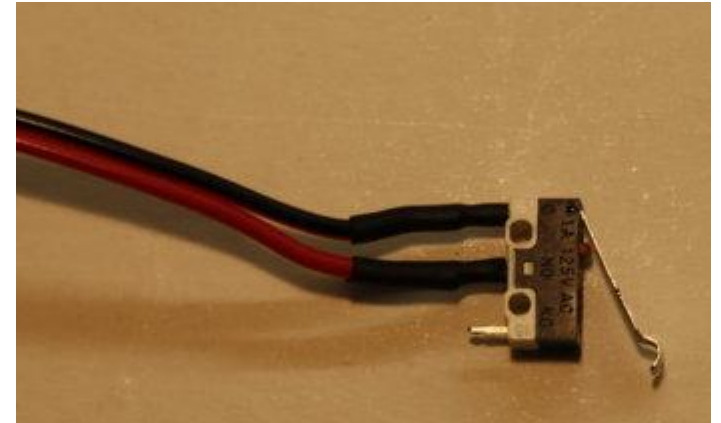


From upper pin to bottom one: white - red - black - white

Z axis Limit Switch

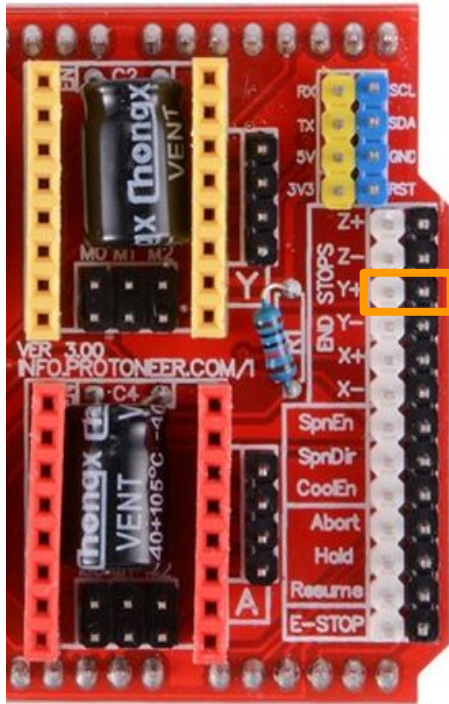


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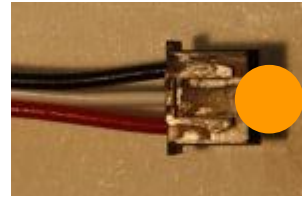


Black ground wire connected to the right pin,
signal red wire connected to the left pin

Y axis Limit Switch

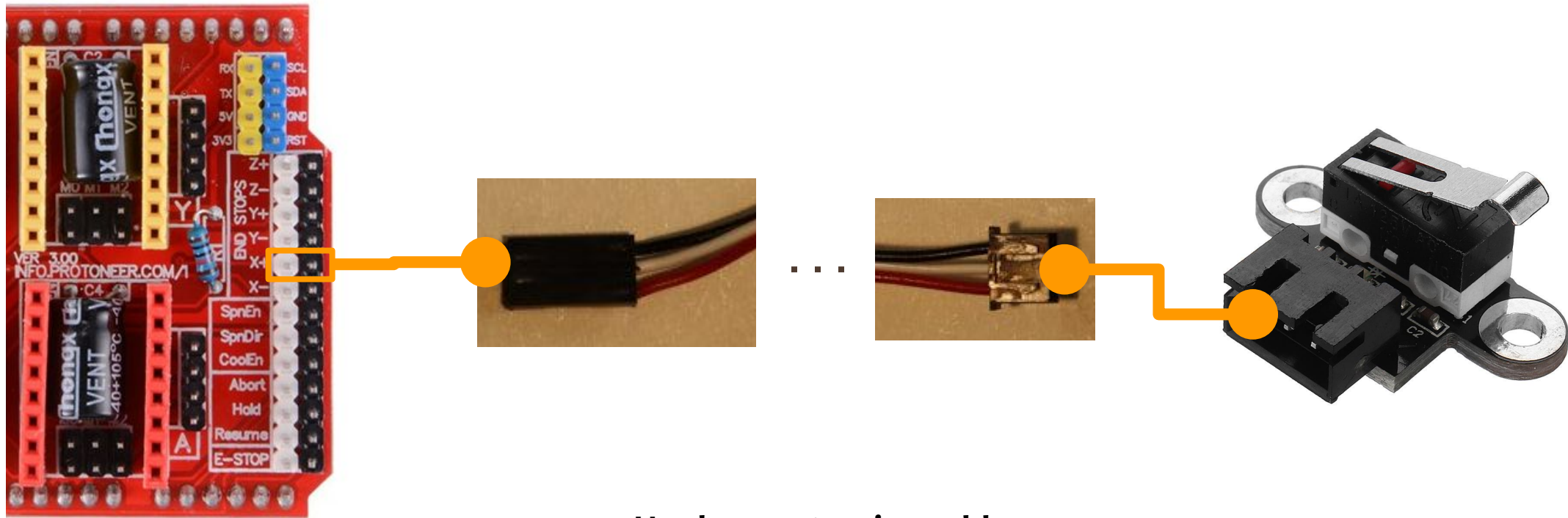


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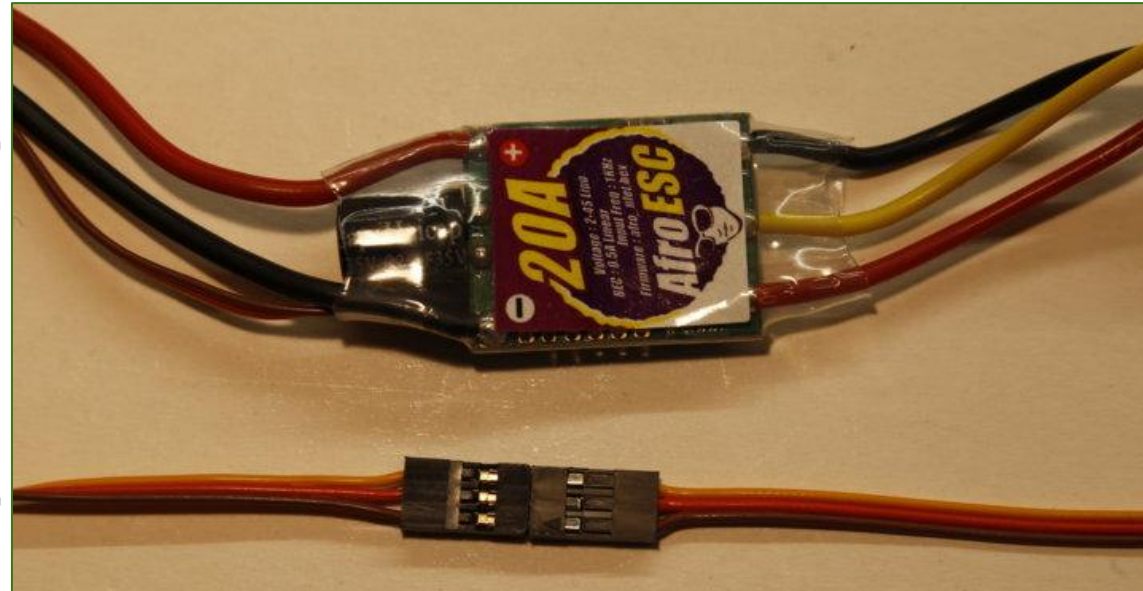
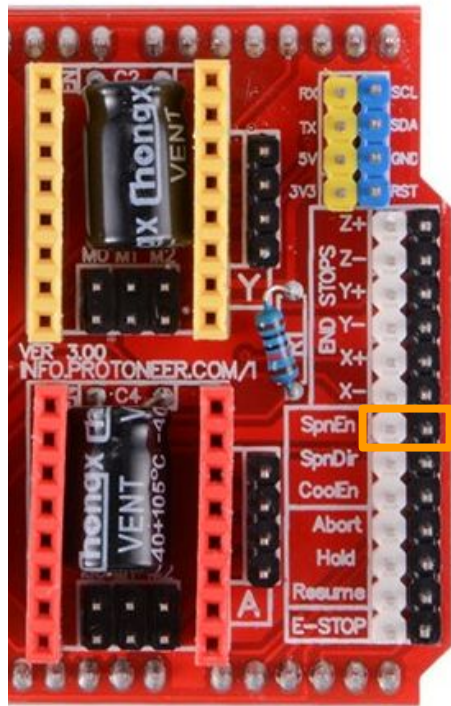
Use short extension cable.
Connect the black ground wire to the right pin.

X axis Limit Switch



Use long extension cable.
Connect the black ground wire to the right pin.

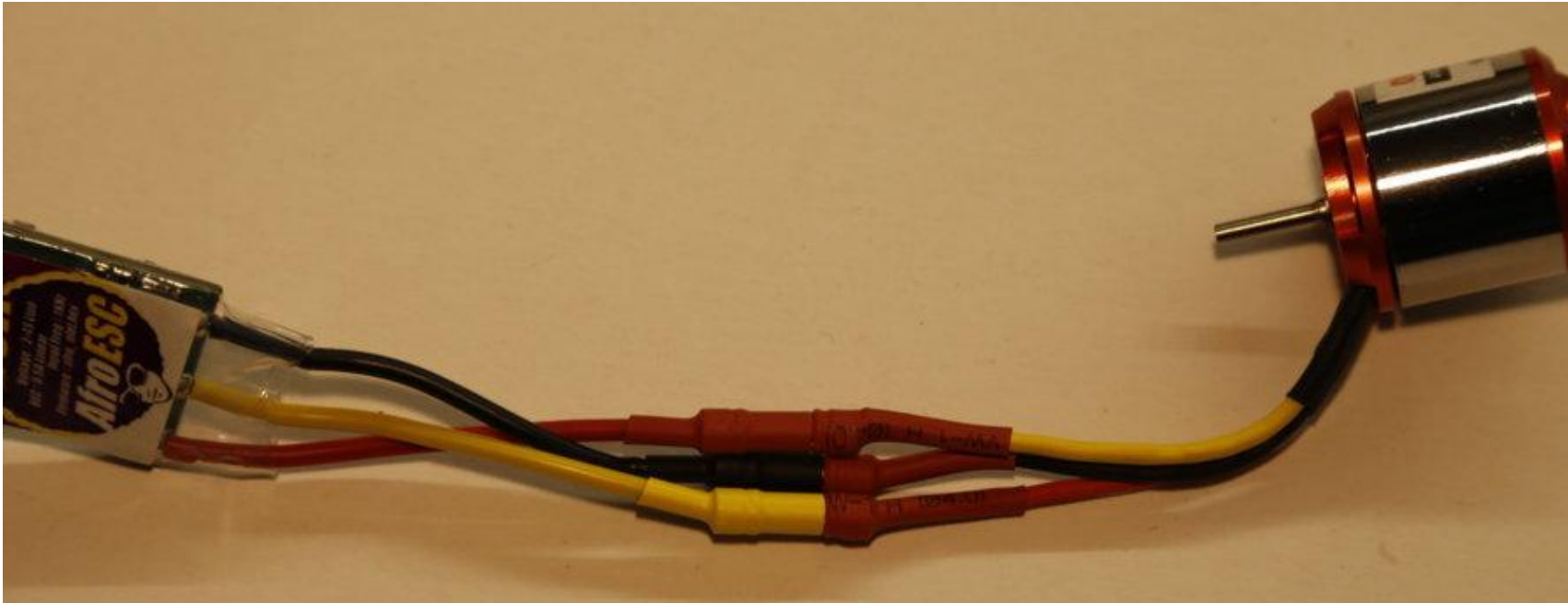
Spindle PWM control



Use the ESC control extension cable.

Connect the black ground wire to the right pin and the yellow one to the left pin.

Spindle ESC to brushless



Check the connections. Red and Yellow wire must be inverted.

Probe jack connector

