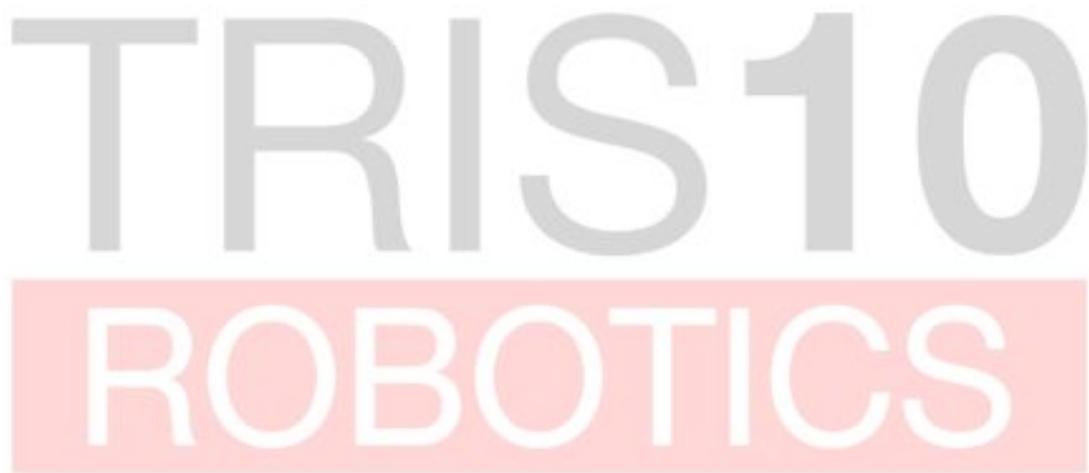


TRIS10 **ROBOTICS** ControlMotion: Assembly Guide

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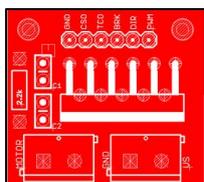
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1.0 Required Equipment

- Soldering Iron
- Solder
- Paper Masking Tape (not plastic)

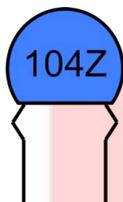
2.0 Components



PCB PCB (image shows the top side)



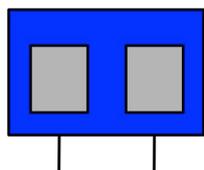
R1 2.2kΩ Resistor (1% tolerance)



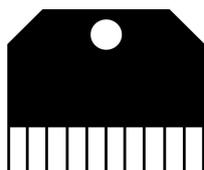
C1, C2 0.1µF Ceramic Capacitor (not polarised)



JP1 6 pin, 2.54mm (0.1”) pitch header



JP2, JP3 2 pin, 5mm pitch screw terminal

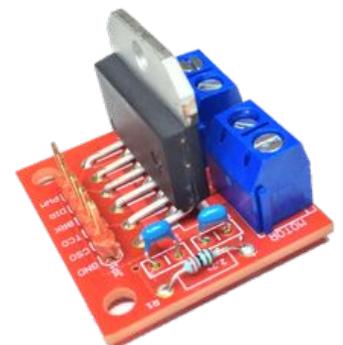
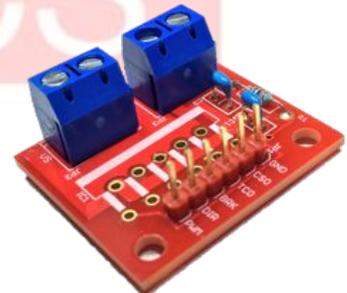
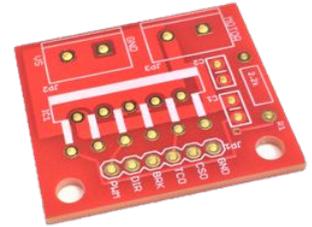


IC1 LMD18200 Motor Driver IC

3.0 Instructions

The ControlMotion is relatively simple to solder, with the most difficult component being the LMD18200 IC. To make it as easy as possible, solder parts in groups, beginning with the shortest and finishing with the tallest (the IC).

1. Start with the bare PCB with the top side (the side with the part outlines) facing up, as shown to the right.
2. Insert one capacitor into the box named C1 and the other capacitor into the box named C2. Push the capacitors in until the kinks in the leads are touching the PCB.
3. Form the leads of the resistor by bending them until they are at right angles with the body of the resistor. Place the resistor in the R1 box (with "2.2k" written in it).
4. Use masking tape to hold the three components in but only place it on the topside of the PCB.
5. Flip the board over and solder the three components in. After flipping the board back over (to the topside), it should now look like the board on the right.
6. With the top of the board facing up, remove the masking tape and place the six-pin header into the JP1 header bay. The short side of the pins should be in the board. Use masking tape to hold the header in the place and make sure it is in fully and straight.
7. Flip the board over and solder one header pin. Check that the header is still in correctly and straight, then solder the remaining five pins.
8. Remove the masking tape and place the two screw terminals in JP2 and JP3 on the topside with the connectors facing out. Use masking tape to secure each terminal to the PCB.
9. Flip the board over and solder both pins of each terminal. To keep the terminals straight, push both pins against one edge of the drill holes. The topside of the board should now look like the photo to the right.
10. Remove the masking tape and place the LMD18200 IC in in the IC1 area on the topside. The heat tab (back) should be towards the screw terminals. Use masking tape to keep the IC in place.
11. Flip the board over and solder in the IC. Depending on your soldering iron and solder, the solder may take some time to melt on each pin. Be careful to not put too much on any pin to avoid a bridge across multiple pins.
12. The ControlMotion is now fully assembled and should look similar to the photo on the right. If you had problems, just use solder wick to remove the solder and try again.



Total Solder Joints: 27