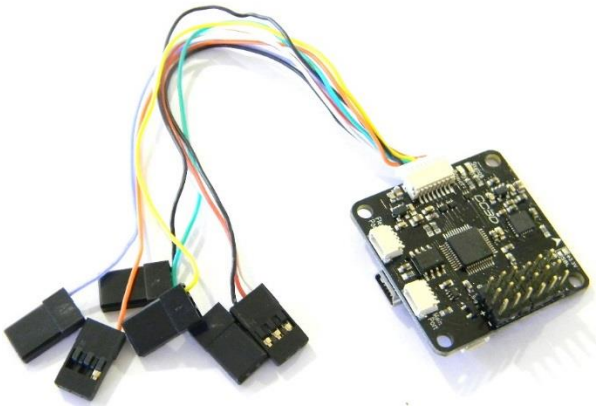
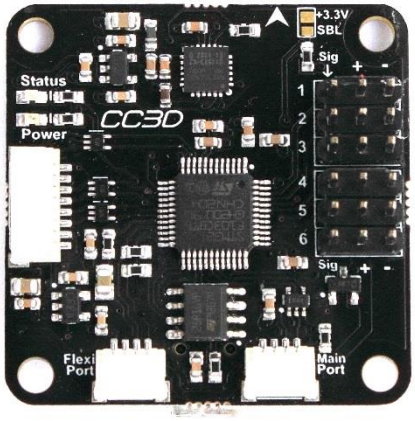
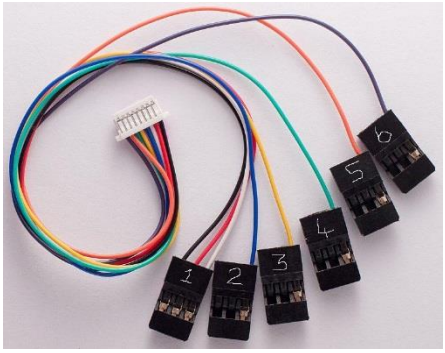
CC3D Flight Controller Set-Up



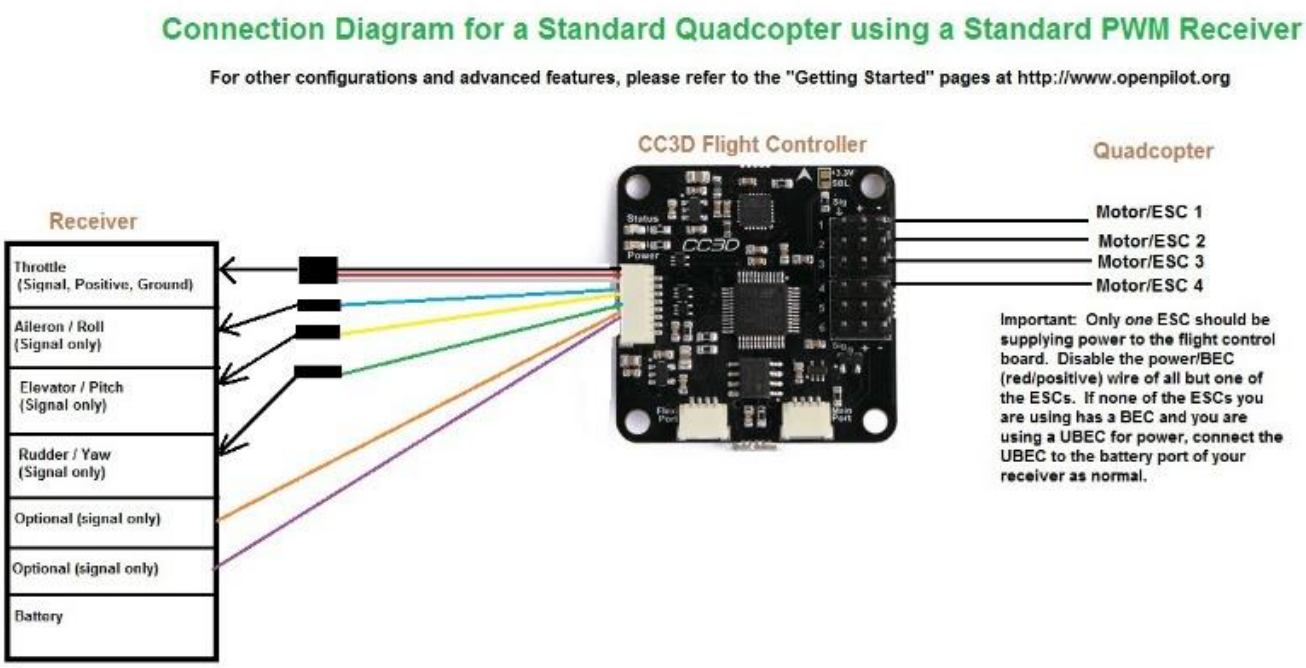
These are the basic instructions for setting up the CC3D Flight Controller for use on a standard quadcopter. For more advanced functions please refer the full Hardware Manual at
http://www.wiki.openpilot.org/display/DOC/CopterControl+Hardware+Manual



CC3D FLIGHT CONTROL BOARD



RECEIVER CABLE



Power

MAKE SURE YOU ARE CONNECTING POSITIVE AND NEGATIVE CORRECTLY.

- The CC3D can be powered in several ways: via the USB port, through the power pins on the servo headers, or through the ReceiverPort connector (see the ports section for the port location). When powered by USB, peripherals connected (receiver, serial ports, servos) will not be powered to protect your computer.
- The minimum allowed input voltage for CopterControl is 4.8V, the maximum allowed input voltage is +15V.
- CC3D power consumption = ±70mA.
- You can connect the USB and the receiver (with the power) at the same time.

Important!

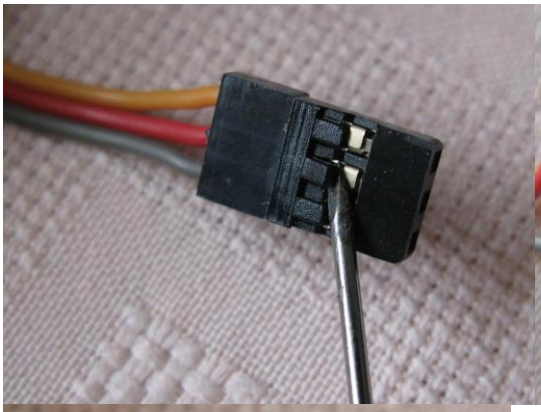
The PWR Out pins provide unregulated voltage to the ports. If the CC3D is powered from a +15V (max. allowed) source then +15V will be on the PWR Out pins and can damage connected receivers, GPS, telemetry modems or other add-on boards.

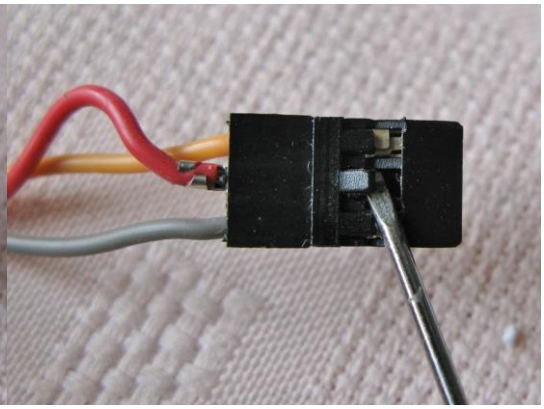
In case CC3D is powered through the servo connectors, then only connect the power from one ESC and remove the positive and negative wire from the other ESC's. Connecting multiple voltage regulators (built in to the ESC's) in parallel could cause problems. Connecting multiple black ground wires could cause ground loops which we want to avoid.

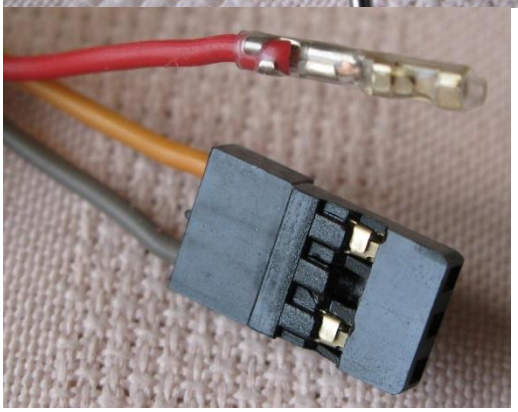
In some rare cases or on high-end ESCs the ESC doesn't perform correctly without connecting the additional ground signal. In those cases it may be necessary to connect the ground wire to the ESC.

Isolating the BEC/Red Wire on an ESC Cable

The photos below show how to remove and insulate the positive wire from the ESC. Remove the positive & negative wire leaving only the signal cable connected for all but one of your ESC's. A small flat blade screwdriver (or X-Acto knife could be used) and 2mm heat shrink tube was used in this example. This modification can easily be reversed by removing the heat shrink and inserting the positive wire back in to the ESC plug. Also, remove the ground wire when removing the hot and insulate separately from the hot wire.







Configuring the CC3D Flight Control Board

In order to configure the CC3D board, you need the **Ground Control Station (GCS) software**. You can download this software for free from the **OpenPilot website**, at the following URL:

http://www.wiki.openpilot.org/display/BUILDS/OpenPilot+Software+Downloads

For more information regarding the use of the OpenPilot CC3D Flight Controller and use of the Ground Control Station (GCS) software and configuring/calibrating the OpenPilot CC3D, please visit the OpenPilot website at http://www.OpenPilot.org