

Connection Guide for the Eggtimer WiFi Switch

The Eggtimer WiFi Switch is designed to connect to almost every hobby rocketry altimeter/deployment controller on the market, giving you remote power control as well as the status of the battery and deployment channel igniters. This guide will help you connect your WiFi Switch properly... we've tried it with a number of popular altimeters (even ours!), but we have also included a generic guide for figuring out how to connect devices that we haven't had a chance to try yet.

Generic Continuity Connection Guide

Here's how to figure out what terminals to use for the continuity connections. In general, the continuity wires will go on the battery terminal that's switched, and the output terminal that's switched. Almost all altimeters on the market switch the NEGATIVE lead of the battery so chances are pretty good that one of them is going to go to the negative battery lead, and the other to one of the two deployment terminals. The tricky part is figuring out WHICH one. This procedure mentions the drogue channel, but you'll do the same thing for the main channel too.

With nothing in the deployment terminals, power on your altimeter.

Put the BLACK lead on your DMM on the battery "-" terminal. Put the RED lead on your DMM on one terminal of the DROGUE channel. If it registers the battery voltage, check the other DROGUE channel. If it reads zero, then you need to connect the continuity leads to 1) The Battery - lead, and 2) The DROGUE terminal that read zero.

If you do NOT get a battery voltage reading from either drogue terminal, your altimeter may switch the positive side of the battery. Put the RED lead of your DMM on the battery "+" terminal. Put the BLACK lead on your DMM on one terminal of the DROGUE channel. If it registers the battery voltage, check the other DROGUE channel. If it reads zero, then you need to connect the continuity leads to 1) The Battery + lead, and 2) The DROGUE terminal that read zero.

If you don't get a battery voltage reading from either of these procedures, either 1) You need to check again..., or (less likely) 2) The altimeter has a secondary switch on the deployment channels' power. We've checked altimeters from PerfectFlite, Missile Works, Featherweight Rocketry, and Eggtimer Rocketry (of course!) and the Eggtimer WiFi Switch works fine with them using this procedure. However, there are a number of other altimeters out there that we have not tested yet, and it is possible that at least one of them may have a secondary switch on the deployment power so it won't register continuity. If you run into one of these, send us an email at support@eggtimerrocketry.com and we'll try to work it out.

Connect the output of your WiFi Switch to the battery + and - terminals of your altimeter, and shunt the switch inputs (if it has them). Connect one continuity channel per the diagram that you figured out, turn on the switch, and see if you have continuity. You shouldn't, since there's no igniter or other load yet. Turn it off, and put an igniter (or other similar load like a Christmas tree bulb) on the drogue channel, then turn it back on. You should see continuity on the drogue channel. If you do, congratulations, you got it! If not, go back and take another look

Repeat for the main channel.

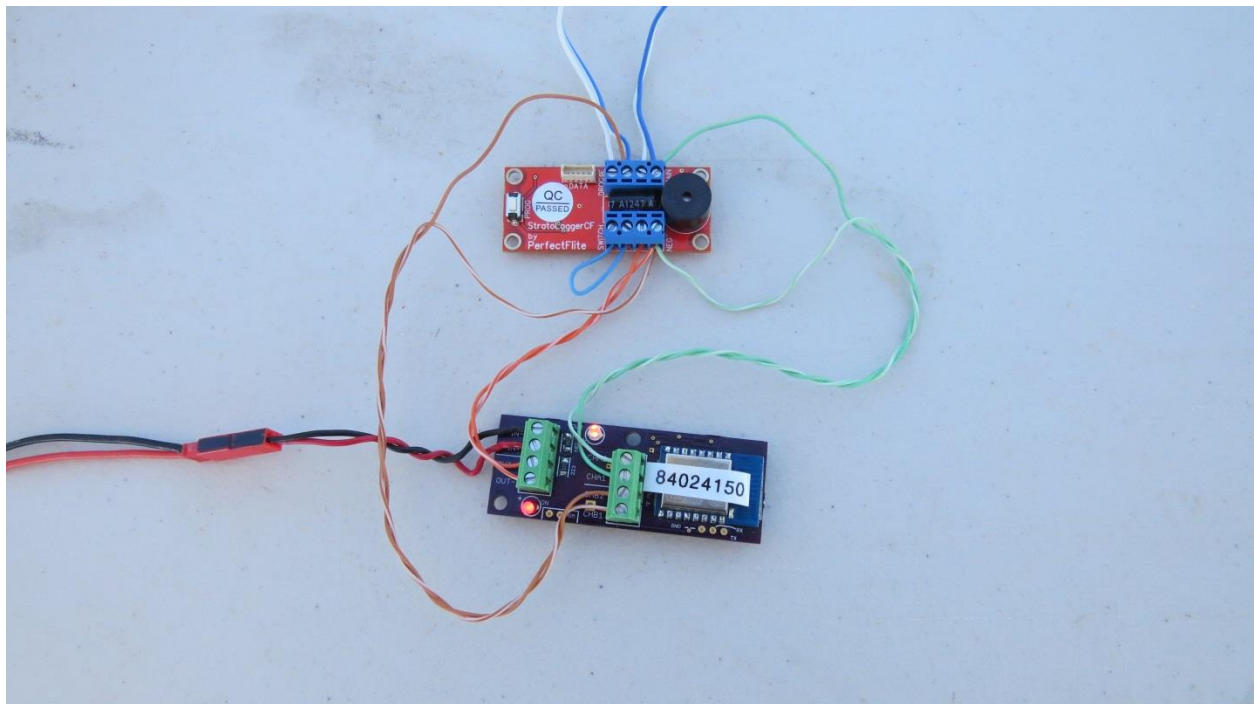
PerfectFlite Stratologger CF

The Stratologger CF has two inputs for the battery, typically which are used for a 2S LiPo. It has two switch input terminals, and two sets of terminals for the deployment channels, marked MAIN and DROGUE. The Stratologger CF switches on the battery's "-" side.

Here's a connection picture, with color-coded wires to make it easier to understand. The igniters are MJG Firewire igniters, they're the ones with the blue and white wires at the top (one in MAIN, one in DROGUE).

IN+	Battery "+" (2S LiPo typically)	RED
IN-	Battery "-"	BLACK
OUT+	Stratologger CF positive terminal (next to the "NEG" terminal)	ORANGE
OUT-	Stratologger CF "NEG" terminal	ORANGE/WHITE
CHA1	Stratologger CF "NEG" terminal (or pigtail to NEG)	GREEN/WHITE
CHA2	Stratologger MAIN right terminal	GREEN
CHB1	Stratologger CF "NEG" terminal (or pigtail to NEG)	BROWN/WHITE
CHB2	Stratologger CF DROGUE right terminal	BROWN

The two "SWITCH" pads should be shunted. (BLUE wire)



Missile Works RRC3+

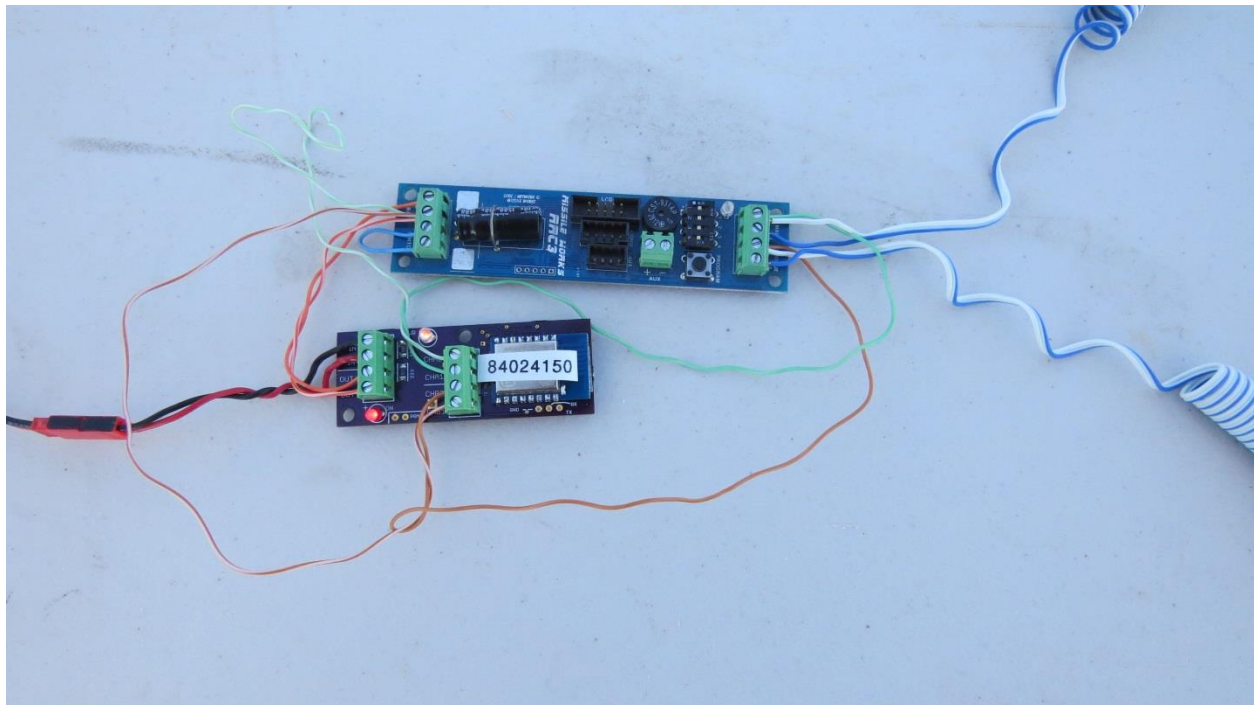
The Missile Works RRC3+ has two battery terminals (typically a 2S LiPo), a pair of switch terminals, and two pairs of output terminals for the Main and Drogue outputs. The RRC3+ switches the negative side of the battery, and the output terminals are marked “+” and “-”, making it very easy to connect.

Here’s a connection picture, with color-coded wires to make it easier to understand. The igniters are MJG Firewire igniters, they’re the ones with the blue and white wires at the top (one in MAIN, one in DROGUE).

IN+	Battery “+” (2S LiPo typically)	RED
IN-	Battery “-”	BLACK
OUT+	RRC3+ BATT +	ORANGE
OUT-	RRC3+ BATT -	ORANGE/WHITE
CHA1	RRC3+ BATT- (or pigtail to BATT-)	GREEN/WHITE
CHA2	RRC3+ MAIN -	GREEN
CHB1	RRC3+ BATT- (or pigtail to BATT-)	BROWN/WHITE
CHB2	RRC3+ DROGUE -	BROWN

The two “SWITCH” pads should be shunted. (BLUE wire)

Note that the RRC2+ has the same terminal connections, and is connected the same.



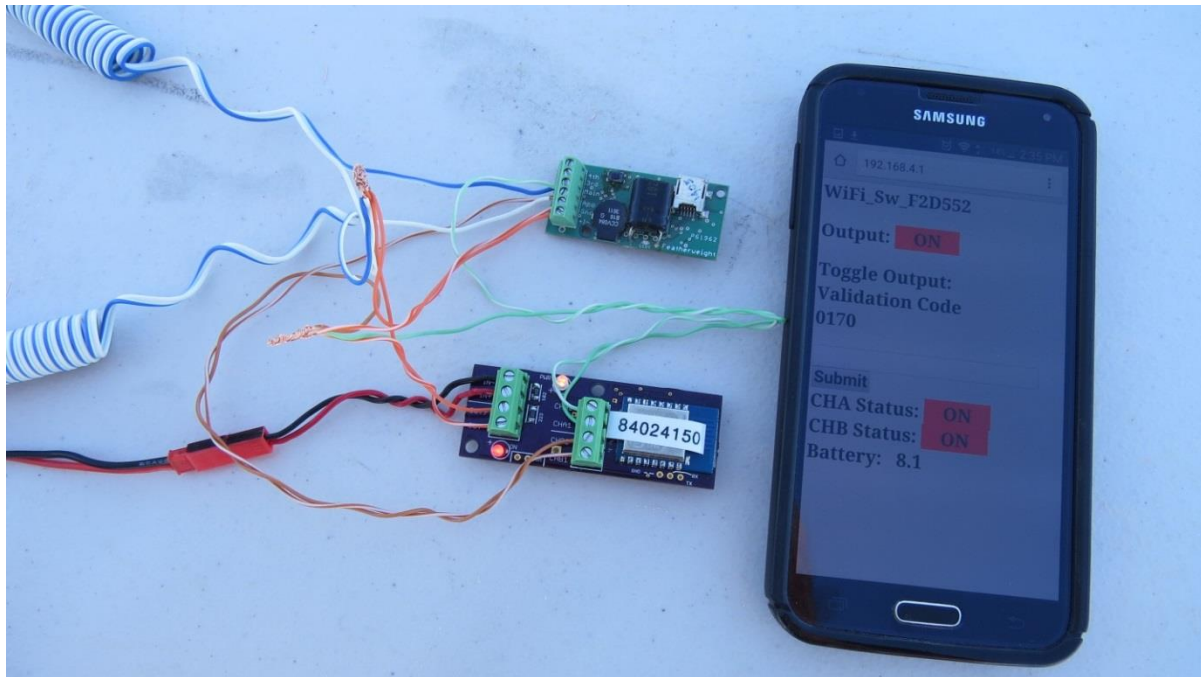
Featherweight Raven

The Raven is a little different than most other altimeters in a few ways. First, it has four deployment channels rather than just two. Since the WiFi Switch only has two continuity channels, you'll typically connect only the main and drogue channels. If you wish, you can use a Second WiFi switch to check the continuity of the second two channels; you'll just leave the power OUT terminals of the second WiFi Switch unconnected and use only the continuity channels.

Another way that the Raven is a little different is that it is very small, and to make it so small there is only one deployment terminal per channel. The second igniter lead for each channel connects to the battery's "+" terminal, usually through a pigtail. The Raven switches the battery's negative lead, so you will be connecting the continuity leads to the battery's "-" lead and the deployment channel terminal. There are no separate switch terminals, you switch the power to the Raven directly.

Here's a connection picture, with color-coded wires to make it easier to understand. The igniters are MJG Firewire igniters, they're the ones with the blue and white wires at the top (one in MAIN, one in DROGUE).

IN+	Battery "+" (2S LiPo typically)	RED
IN-	Battery "-"	BLACK
OUT+	+IN, and common pigtail to output igniters	ORANGE
OUT-	GND	ORANGE/WHITE
CHA1	GND (or pigtail to GND)	GREEN/WHITE
CHA2	APO (also connected to drogue igniter)	GREEN
CHB1	GND (or pigtail to GND)	BROWN/WHITE
CHB2	MAIN (also connected to main igniter)	BROWN



Eggtimer Flight Computer

The battery choice for your Eggtimer depends on the version. The RevC Eggtimer is designed to run on 3V-4V, typically it's powered by a 1S 3.7V LiPo battery. RevD Eggtimers can use a 1S battery with the jumpers set to the "3V" position, or up to a 4S battery with the regulator installed and the jumpers set to the "9V" position. There are a total of three battery inputs: one for the logic, and one for each of the two deployment channels. Since the WiFi Switch has only one output, it will only work in configurations in which the three inputs are tied together, i.e. they're using a single battery. Since most people use it this way, this is generally not a big deal. In the few cases in which this may be a problem (i.e., you want to use a different battery for the deployment channels) you can add a second WiFi Switch for the deployment power).

The Eggtimer has two outputs for deployment status continuity LEDs, they can conveniently be used for the deployment continuity channels on the WiFi Switch. LEDs are polarized but the WiFi Switch's continuity status inputs are not, so it doesn't matter how you connect them. The Eggtimer switches the "+" side of the power rather than the "-" side like most other altimeters.

IN+	Battery "+" (1S only for RevC or RevD without regulator, 1S-4S for RevD with regulator)
IN-	Battery "-"
OUT+	Eggtimer BATT+, BATA+, BATB+
OUT-	Eggtimer BATT-,BATA-,BATB-
CHA1	Eggtimer ALED+
CHA2	Eggtimer ALED-
CHB1	Eggtimer BLED+
CHB2	Eggtimer BLED-

Eggtimer SW inputs should be shunted together

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Eggtimer Quark

The Eggtimer Quark has two inputs for the battery, which can be a 1S LiPo through a 4S LiPo, and two sets of pads for the deployment channels. The Quark switches on the battery's "-" side, so one of the continuity wires will go to the battery's "-" lead.

IN+	Battery "+" (1S-4S LiPo)
IN-	Battery "-"
OUT+	Quark B+
OUT-	Quark B-
CHA1	Quark B-
CHA2	Quark MAIN bottom pad
CHB1	Quark B-
CHB2	Quark DROG bottom pad

INSERT PICTURE HERE