

### Battery Charge-Leads

The battery charge leads provide both a way to charge each battery and a way to monitor each battery's voltage. The charge-leads have a Futaba male on one end and a JR male on the other end. The Futaba male should be inserted into the SuperReg and the JR male should be inserted into the Ernst charge jacks. The charge-leads can be extended with either Futaba or JR extensions.

As with any common ground system, there are chargers where it is impossible to charge both batteries at once. It is highly recommended that you charge only one battery at a time if you are unsure if your charger will have problems with a common ground system.

## Regulator Specifications

**Input Voltage Range:** 5.7V to 8.5V  
**Output Voltage Range:** 5.2V to 6.5V  
**Drop-out Voltage (Includes BatShare):** 0.5V

**Supports Smart-Fly Failsafe Switch (optional)**

**BatShare on battery inputs to protect against lost cell or shorted battery pack and to keep both batteries at equal voltage during use when both battery packs are good.**

Additional information, technical help, set-up hints and FAQs can also be found at [www.Smart-Fly.com](http://www.Smart-Fly.com)

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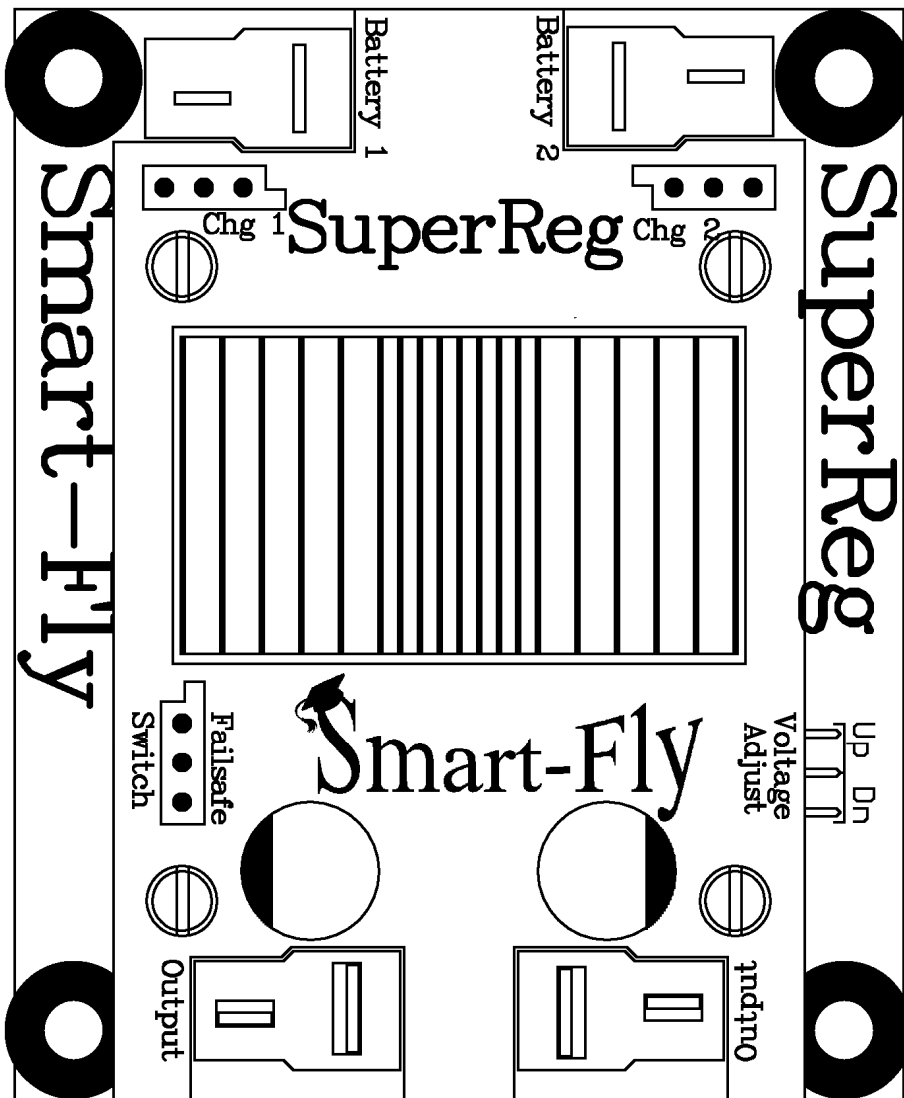


## *SuperReg* User Guide

*Thank you for purchasing the Smart-Fly SuperReg!*

This manual takes you through the installation and operation of the Smart-Fly *SuperReg* regulator. The *SuperReg* provides the highest power density of any available regulator for giant scale aircraft. The *SuperReg* provides the user with battery redundancy, failsafe operation with remote on/off switch and an adjustable regulator. Its dual battery inputs have isolation between the batteries so in case of a catastrophic failure of one battery, the other can continue to supply power to the aircraft. The *SuperReg's* input and output power connectors are Deans UltraPlugs to handle the high current the *SuperReg* is capable of handling. The *SuperReg's* output voltage is continuously adjustable from 5.2 volts to 6.5 volts (factory set to its lowest value) and can supply 7.5 amps continuous current when the input voltage is 8.4 volts and the regulator is set to an output voltage of 6.0 volts.

**Warning:** When the failsafe switch is used to turn the regulator on and off the regulator will draw a slight amount of current (approximately 10mA per day) even when in the off position. If you are going to let the aircraft sit for an extended period you should unplug the batteries from the *SuperReg*.



### Battery Inputs

The *SuperReg* has two battery inputs. Each input can supply 12 amps of power to the unit. The inputs are isolated from each other so that in case of catastrophic battery failure the bad battery cannot affect the good battery. The unit can be used with a single battery input if desired. The isolation results in a 0.45V drop which results in a regulator dropout voltage of approximately 0.50V at 7.5 amps.

The unit can be turned on and off by either using a heavy-duty mechanical switch between the batteries and the *SuperReg*, such as the Smart-Fly SuperSwitchHD or the optional failsafe-switch can be used.

### Regulator Outputs

The *SuperReg* provides two battery outputs. The two outputs are wired in parallel and it does not matter which output you use if you use only one output. If you are using the *SuperReg* with one of the Smart-Fly PowerExpanders, both outputs can be used to tie to the PowerExpander to provide redundancy in the unlikely event that one of the cables should have a failure.

### Adjusting The Output Voltage

The *SuperReg* comes from the factory set to its lowest setting, approximately 5.2 volts. The regulator's output voltage is adjusted by momentarily (less than a second) shorting one of the adjustment pins to the center pin. This can be done with any metal object such as a screwdriver. To increase the voltage, short the pin designated "Up" to the center pin momentarily. To decrease the voltage, short the pin designated "Down" to the center pin momentarily. If you hold the pins shorted for longer than one second the voltage will increase or decrease at a rate of about one quarter volt a second.

**Mounting:** The *SuperReg* is mounted using the grommet and eyelets. Standard servo screws that you would use to mount a high-torque servo work well for this application.

### Optional Failsafe-switch and Charge Package

An optional failsafe-switch and charge package is available for the *SuperReg*. This package contains a failsafe-switch, either a slide switch or pin & flag switch, charge leads and charge jacks.

**Failsafe-switch:** The *SuperReg* can be used with an optional failsafe-switch. The regulator may be used without the failsafe switch by leaving the switch disconnected. The advantage of a failsafe-switch is that if the switch or wiring to the switch fail, the regulator will stay on until you unplug it from the batteries.

***The regulator will draw a slight amount of current (approximately 22mAH per day) even when in the off position when using the failsafe switch. If you are going to let the aircraft sit for an extended period you should unplug the batteries from the SuperReg.***