



DimensionEngineering

# Sabertooth 2x60 Quick Start Guide

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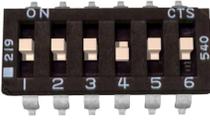
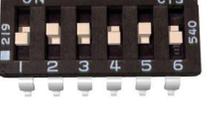
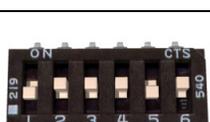
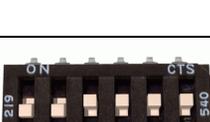
Congratulations on your purchase of a Sabertooth 2x60 regenerative motor driver. Sabertooth 2x60 is one of the most flexible and configurable motor drivers on the market. As a result, it must be set to the correct operating mode before use. Below is a generalized hookup diagram of a Sabertooth 2x60. On the reverse side is a chart of some of the most commonly used operating modes.

Sabertooth 2x60 motor driver pinout guide		Specs:
<p>0V provides a circuit ground for your control circuitry</p> <p>5V is a switch-mode 1A regulated output provided by the driver</p> <p>S1 is the primary signal input. It must always be connected to a signal source e.g. a R/C receiver or analog voltage</p> <p>S2 is the secondary signal input. It is used to control the second motor, or for serial network functionality</p> <p>These DIP switches are used to set the operating mode of the driver</p> <p>M2A and M2B connect to the two wires of your second DC brushed motor</p> <p>B+ connects to the positive battery terminal. Absolute maximum voltage is 33.8V</p> <p>B- connects to the negative battery terminal. Can be used as a signal ground</p> <p>M1A and M1B connect to the two wires of your first DC brushed motor</p> <p><b>Do not connect B+ and B- backwards! Make sure you configure the DIP switches properly before connecting power!</b></p>		<p>Input voltage: 6V-33.6V</p> <p>Output current: 60A per channel</p> <p>Peak Output current: 120A per channel</p> <p>Operating modes: Analog, R/C, Serial</p>

For full product documentation and manual, please visit <http://www.dimensionengineering.com/Sabertooth2x60.htm>

## Sabertooth 2X60

Operating mode quick reference chart. All options are set via the switches

	<p><b>Analog control, linear, independent:</b> a 0V to 5V analog input is connected to terminal S1. 0V is full reverse, 5V is full forward, 2.5V is stop.</p>
	<p><b>Microcontroller pulses, independent linear control:</b> An R/C servo signal is connected to terminals S1 and S2. A 1000us – 2000us pulse controls speed and direction. 1500us is stop.</p>
	<p><b>Radio control, differential drive, exponential:</b> An R/C servo signal is connected to terminals S1 and S2. The Sabertooth will autocalibrate the center and endpoints of the signal.</p>
	<p><b>Simplified Serial, 38400 Baud:</b> A TTL level 8N1 serial data stream is connected to terminal S1. Control is by single byte commands. Motor 1: 1 is full reverse, 64 is stop and 127 is full forward. Motor 2: 128 is full reverse, 192 is stop and 255 is full forward.</p>
	<p><b>Packetized Serial, address 128:</b> A TTL level 8N1 serial data stream is connected to terminal S1. Control is via a multi-byte packet.</p>
	<p><b>Lithium cutoff option:</b> When switch 3 is in the down position (in any operating mode) the Sabertooth will shut down at 3.0V per cell. This protects lithium batteries from damage.</p>

Sabertooth features many more operating modes and options not shown here. For the full manual, please visit:

<http://www.dimensionengineering.com/>