

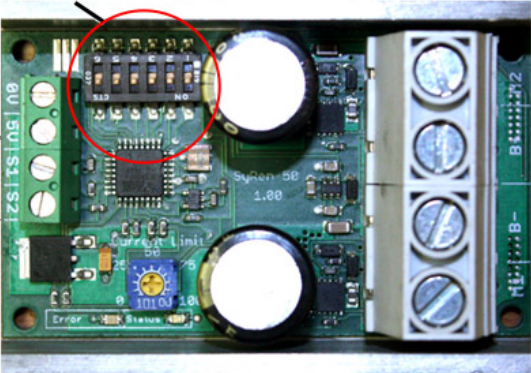


Dimension**Engineering**

SyRen 50 Quick Start Guide

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Congratulations on your purchase of a SyRen 50 regenerative motor driver. SyRen 50 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 SyRen 50. On the reverse side is a chart of some of the most commonly used operating modes.

These DIP switches are used to set the operating mode of the driver.  0V is internally connected to B-. It provides a circuit ground (GND) for your control circuitry. 5V is a regulated 5V supply provided by the driver. Drawing more than 10mA can reduce performance of the driver. S1 is the primary signal input. It must always be connected to something e.g. a R/C receiver signal or analog voltage. S2 is the secondary signal input. It only gets used in certain operating modes. M2 connects to one wire of your DC brushed motor B+ connects to the positive terminal of your battery. The max recommended battery voltage is 24V. B- connects to the negative terminal of your battery. It is internally connected to 0V and can be used as a circuit ground M1 connects to the other wire of your DC brushed motor Don't get B+ and B- connected backwards! Make sure you have the DIP switches configured correctly for the mode you are using!	SyRen 50 Input voltage: 6V-24V Output current: 50A Peak Output current: 100A Operating modes: Analog, R/C, Serial
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Operating mode reference chart. All options are set via the DIP switches

	Analog bi-direction: a 0V to 5V analog input is connected to terminal S1. 0V is full reverse, 5V is full forward and 2.5V is stop
	Analog single-direction: a 0V to 5V analog input is connected to terminal S1. 0V is stop and 5V is full forward.
	R/C standard: An R/C servo signal is connected to terminal S1. A 1000us pulse is full reverse and a 2000us pulse is full forward. 1500us is stop.
	R/C auto-calibrate: An R/C servo signal is connected to terminal S1. The SyRen will automatically detect the center and endpoints of the signal.
	Simplified Serial, 38400 Baud: A TTL level 8N1 serial data stream is connected to terminal S1. Control is by single byte commands: 0 is full reverse, 128 is stop and 255 is full forward.
	Packetized Serial, address 128: A TTL level 8N1 serial data stream is connected to terminal S1. Control is via a multi-byte packet.
	Lithium cutoff option: When switch 3 is in the down position (in any operating mode) the SyRen will shut down at 3.0V per cell. This protects lithium batteries from damage.

SyRen 50 features additional operating modes and options not shown here. See the full manual for details.