SyRen 10 Quick Start Guide

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DimensionEngineering

Congratulations on your purchase of a Syren 10 regenerative motor driver. SyRen 10 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 before use. Below is a generalized hookup diagram of a Syren 10. On the reverse side is a chart of some of the most commonly used operating modes.
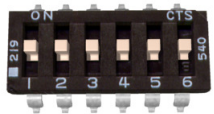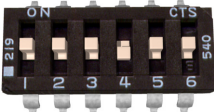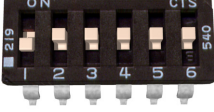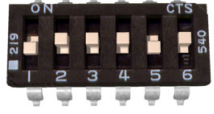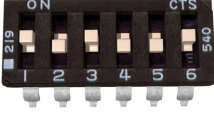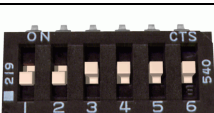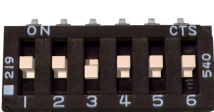

SyRen 10/20 motor driver pinout

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 10

Input voltage:
6V-24V

Output current:
10A

Peak Output current:
15A

Operating modes:
Analog, R/C, Serial

For full product documentation and manual, please visit
http://www.dimensionengineering.com/SyRen10.htm

SyRen 10

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 10 features an additional 17 operating modes and options not shown here. For the full manual, please visit http://www.dimensionengineering.com/SyRen10.htm