



## Technical Bulletin

Bulletin No: TB-0043-21-333-SW    Effective Date: 11-29-2021    Type: Installation

**Subject: Configuring the Superwind SCR charge regulator to charge Lithium / LiFePO4 Batteries**

### Scope

This technical bulletin provides instructions on configuring the Superwind SCR charge regulator to charge Lithium / LiFePO4 Batteries.

### Background information

The SCR charge regulator is well suited to charge Lithium / LiFePO4, particularly as the unit is designed to be powered by the wind turbine, rather than consuming power from the battery itself. The internal Battery Management System (BMS) may automatically disconnect the battery from consumers and chargers when it detects irregular internal or external operating conditions. For charge regulators designed to consume power from the battery, this disconnect creates a “no load” condition that would leave the turbine unregulated, allowing it accelerate to destructive speeds.

This design of the SCR Charge regulator ensures that the Superwind turbine will continue to operate properly, even in the event the BMS automatically disconnects the battery.

### Installation

The SCR charge regulator features a temperature compensation function that employs a temperature sensor located on the top of the unit (**see photo 1**). This temperature compensation function is not used when charging Lithium / LiFePO4 batteries. To convert the SCR charge regulator from charging lead to Lithium / LiFePO4 batteries, the temperature sensor is removed and replaced with a 2 k Ohm / 600 mW resistor (**see photo 2**).

This resistor is available from Mission Critical Energy or any electronics supply source. When ordering a new SCR or Superwind system, this resistor will be installed free of charge by Mission Critical Energy if notified at time of order that the system will be used to charge Lithium / LiFePO4 batteries.

### Charge voltage settings

The SCR standard setting of 14.4 V / 28.8 volts DC is suitable for most all Lithium / LiFePO4 batteries, however this must be confirmed by reviewing the specifications of the particular batteries installed. Should the charge voltage level of the SCR need to be adjusted, the unit can be returned to Mission Critical Energy.



Photo 1



Photo 2

For additional information or assistance, please contact Mission Critical Energy at (716) 276-8465 or visit us at [www.missioncriticalenergy.com](http://www.missioncriticalenergy.com).