



These instructions and the accompanying wiring diagram represent a “best practice” approach for charging standard-density AGM batteries in 12V, 24V, and 48V systems.



Required Components:

- WS500 Alternator Regulator – Updated to the current firmware revision and configured with the CPE #1 low voltage AGM charging profile
- WS500 Wiring Harness, such as the WS500/PH or WS500/NH, which include alternator temperature sensor
- WS500/BT Battery Temperature Sensor
- 500A/50mV Current Shunt

The installation shown in the diagram provides the regulator with the ability to accurately monitor and regulate based on system voltage, alternator temperature, battery temperature and current into and out of the batteries being charged.

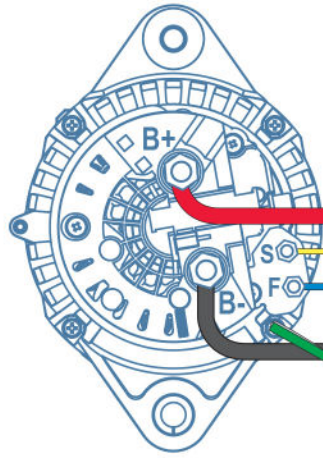
When installing the configuration profile for your batteries, be sure to set the proper battery capacity multiplier to ensure that the regulator will be able to accurately monitor charging based on the overall capacity of the batteries being charged.

See the Configuration Utility User’s Guide for instructions when modifying the configuration profile.

In order to safely monitor charging voltage, the regulator’s power and voltage sense wires (red and red/yellow tracer) must be connected in a location that’s always on alternator side of any switches or fuses.

KiloVault Configuration Data Points	
Alternator Temperature Setpoint	100°C
Default Battery Capacity Multiplier	500ah = 0.0
Engine Warmup Delay	30 Sec.
Bulk/Acceptance Voltage Target	14.1V (Std. 12V system)
Float Voltage Target	13.4 (Std. 12V system) at 3% tail current
Temperature Compensation	0.024/degree
Hard Temperature Limits (High / Low)	>45°C / <-45°C
Minimum Absorption Current	3A @ 500aH in normalized 12V system

IMPORTANT: The information is provided for reference, and is intended to provide guidance required to tailor the configuration profile to your system. Please refer to the Wakespeed Communications and Configuration Guide and Configuration Utility Users Guide for detailed configuration instructions.



CPE #1 Standard AGM Installation Notes

1. Only a single current shunt is required for current sensing, and can be installed on either positive or negative cables between the alternator and the battery. If placed on the positive cable, current sense wires should be fused at 3A.
2. Download the CPE #1 Configuration Utility from the Wakespeed Technical Page at www.wakespeed.com on a Windows computer and follow the prompt window instructions to install file.
3. Battery temperature sensing is recommended with to ensure accurate voltage compensation and response to low and high temperature charging conditions.
4. Alternator temperature sensing is required for safe operation. Sensor can be mounted on alternator case bolt or ground post. Consult with alternator manufacturer for recommendation.

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