

EG4® LL 12V 400AH BATTERY

SOC RECALIBRATION GUIDE



PURPOSE

For use after a Battery Management System's (BMS) Printed Circuit Board (PCB) replacement has been completed. The new BMS PCB will not accurately know the battery cell pack it is managing. Due to this new learning curve, the BMS will need to learn the cell pack's State of Health % (SOH = Total Remaining Capacity) and the State of Charge % (SOC = Actual Remaining Capacity). SOC% drift is a natural occurrence that can occur over time if the battery is never Top Balanced or Bottom Balanced.

TOP BALANCING

The EG4-LL line of batteries will automatically recalibrate the SOC to 100% whenever one cell has reached the Cell Overvoltage Alarm at 3.8V while charging. To ensure this happens, use a DC charger that is **SAFE** to use with Lithium-Ion batteries, or specifically a LiFePO4 (Lithium Ferrous Phosphate) battery charger. Apply a 14VDC charging voltage at $\leq 100A$. This will ensure a safe power threshold for the battery to reach the Cell Overvoltage Alarm at 3.8V. Once this alarm occurs, the SOC will round to 100%.

BOTTOM BALANCING

The EG4-LL line of batteries will automatically recalibrate the SOC to 0% whenever one cell has reached the Cell Undervoltage alarm at 2.3VDC.

To ensure this happens, use a 12VDC load bank or inverter. Apply a $\leq 100A$ discharge current to the individual battery. This will ensure a safe power threshold for the battery to reach the Cell Undervoltage alarm at 2.3VDC. Once this alarm occurs, the SOC will round down to 0%.

BATTERY COMPATIBILITY

EG4® LL 12V 400Ah V1 & V2 batteries

EG4® LifePower



NOTE:

A monthly maintenance routine should be performed to ensure the SOC recalibration remains accurate. It is recommended to perform the recalibration once a month to ensure the battery bank remains calibrated.