EV-101

Dilithium BMS 2.2
Common Settings - Quick Start

Settings are for a 3.30V-4.20V Chemistry
Compatible Modules Include Tesla 5.3kWh, Smart, LG Chem, Samsung, Panasonic

This is a quick refererence guide to the most common settings for our most commonly used battery modules. This is not a replacement for the Dilithium Designs BMS 2.2 Manual, and you must fully read the manual before using this guide.

HVC - High Voltage Cutoff = 4.15-4.20 Volts

This is the voltage at which the BMS goes into High Voltage Alert. You want this to be at or slightly above your charge voltage, so if you are more conservative with your charge voltage (4.15V) then the HVC should reflect that setting.

LVC - Low Voltage Cutoff = 3.30-3.35 Volts

This is the voltage at which the BMS goes into Low Voltage Alert. You want this to be at or slightly above your discharge voltage of your cell, so while many chemistries will list 3.0 to 3.2 Volts for the disharge floor, we like 3.30 Volts as it's a little more conservative and will help your pack last longer with less degradation.

HVCC - High Voltage Cutoff Clear = 4.10-4.15 Volts

This is the voltage at which the High Voltage Cutoff Alert is cleared, so the voltage needs to drop below this value. We typically set this for 0.05 Volts below your HVC value.

LVCC - Low Voltage Cutoff Clear = 3.35-3.40 Volts

This is the voltage at which the Low Voltage Cutoff Alert is cleared, so the voltage needs to rise above this value. We typically set this for 0.05 Volts above your LVC value.

HVCDELAY - High Voltage Alarm Delay = 10 Seconds

This is the time in Seconds that the HVC Alert is supressed. This is useful during periods of brake regen that might briefly cause the voltage to go above the HVC value when the state of charge is high. By having a 10 Second delay, this allows the alarm to function well for charging while also filtering regen high voltages.

LVCDELAY - Low Voltage Alarm Delay = 10 Seconds

This is the time in Seconds that the LVC Alert is supressed. This is useful during periods of hard acceleration that might briefly cause the voltage to fall below the LVC value when the state of charge is low. By having a 10 Second delay, this allows the alarm to function well for discharge values, while filtering short periods of hard acceleration and temporary voltage sag.

BVMIN - Balancing Voltage Minimum = 3.60 Volts

This is the voltage at which the BMS will stop the balance discharge function once the cells drops below this value. This prevents a total discharge of the pack, or loss of range at a lower state of charge. Typically we set this just below nominal voltage to balancing won't occur in the bottom 40% of the pack.

THMAX - Thermistor Maximum = 50 Degrees Celsius

This is the temperature at which the over-temperature fault is set. Most battery chemistries can operate up to 60° Celsius, but we like to be more conservative and under normal conditions the batteries should be kept below 50° Celcius.

BVC - Balance Voltage Cutoff = Default Setting

This is to taper the charge current from the EVCC to the Charger. We leave this in the default setting.

When finished setting up your values, don't forget to enable the balancing function, the thermistors, and lock the configuration. Locking the configuration will cause an alert if any of the LTCs fail to report. This can be done with the following commands:

```
enable balance
enable thermistor
lock
```

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