



How To Set Up Fortress Power Lithium Batteries Using Outback Inverters

Table of Contents

Table of Contents	1
Introduction	1
Parameter settings for Fortress batteries with Radian/FXR	2
Integrating with a SkyBox	3

Introduction

This integration guide will help set up the charge/discharge parameters of Fortress Power batteries as they relate to Outback inverters. For any additional help, please contact techsupport@fortresspower.com

How To Set Up Fortress Power Lithium Batteries Using Outback Inverters

Parameter settings for Fortress batteries with Radian/FXR

Inverter	80% DoD, 6000 cycles
Absorb Voltage and Time	54.4, 2 hour
Float Voltage and Time	54.4 Time = 0 = Disable
Re-float Voltage	52.5
Re-Bulk Voltage	51.5
AC Input Mode	Grid Tied (default, adjust as needed)
AC Charger Limit in AC	LFP-5/LFP-10: 17A@240V or 34A@120V per battery eFlex/eVault: 30A@240V or 60A@120V per battery
Low Battery Cut-Out Voltage	50
LBCO Delay	120 seconds
Low Battery Cut-in Voltage	51.2
High Battery Cut-Out Voltage	58
HBCO Delay	10 seconds
High Battery Cut-in Voltage	55.5
SellRE (Offset) Voltage	53.2
Temp Sensors	<i>Do not use temperature sensors / reduce any temperature coefficients to near zero</i>
Charge Controller	
Absorb Voltage and Time	54.4, 2 hours
Float Voltage	54.4
Rebulk Voltage	52.5 note: higher than above inverter
DC Current Limit **	LFP-5/LFP-10: 80A per battery eVault: 150A per battery eFlex: 100A per battery
Absorb End Amps	1A
FLEXnet DC (FN-DC)	<i>If FLEXNET DC display voltage does not match inverter terminal voltage, calibrate Outback equipment or removed FLEXNET DC device.</i>
Battery AH	LFP-5: 100 per battery eFlex :105 per battery LFP-10: 200 per battery eVault: 360 per battery
Charge Voltage	54.4
Charged Return Amps	1A for 15 minutes
Battery Charge	96%
Relay Invert Logic	No
Relay Voltage	High = 53.8 ; Low = 51.2
Relay Delay	High = 1, Low = 0



How To Set Up Fortress Power Lithium Batteries Using Outback Inverters

MATE3/MATE3s	
FLEXnet DC Advanced	Low SOC Warning = 15%
FLEXnet DC Advanced	Critical SOC Warning = 10%

Integrating with a SkyBox

The settings below should be programmed into the unit under the Custom choice. Please consult the SkyBox Programming Guide for detailed instructions on how to adjust these settings.

Inverter	
Maximum SOC	100%
Minimum SOC	20%
Absorb Charge	Timed
Absorb Voltage	54.4 Vdc
Absorb Time	02:00 hr
Float Charge	Disabled
Float Voltage	Can be left at default
Float Time	Can be left at default
Re-float Voltage	53.1 Vdc
Re-bulk Voltage	52.5 Vdc
Equalize Voltage	54.4 Vdc
Minimum Equalize Time	00:00
Max Charge Current (Adc)	LFP-5 & LFP-10: 50Adc eVault: 100Adc eFlex: 55Adc
Max Discharge Current (Adc)	LFP-5 & LFP-10: 90Adc eVault: 125Adc eFlex: 60Adc
Grid Charge Limit (kW)	Site specific
Low Battery Cutout	50 Vdc
LBCO Delay	15 seconds
Low Battery Cut-in	51.0 Vdc
High Battery Cutout	56.0 Vdc
HBCO Delay	10 seconds
High Battery Cut-in	55.5 Vdc
Battery Series	Custom
Battery Model Number	Custom
Battery Description	Fortress Power



How To Set Up Fortress Power Lithium Batteries Using Outback Inverters

Battery Total Amp-Hours	eFlex: 105Ah LFPP-10: 200Ah eVault: 360 Ah
Charge Efficiency Factor	96%
Absorb End Amps	1Adc



How To Set Up Fortress Power Lithium Batteries Using Outback Inverters

***Ensure the maximum battery charging current is not exceeded after all charge controllers are taken into consideration (i.e. – 2 FM100 controllers would charge at 200 A total, a violation of the limit if only one LFP-10 is used).*

Best Practice Operation

During testing, it was seen that a commissioning charge was necessary to properly calibrate the SkyBox state of charge monitor. If possible, a full load test should also be performed. Each time the battery reaches the low battery cutout voltage, the SkyBox recalculates a state-of-health (SOH) for the battery. This number is used to more accurately track the SOC.