

How To Set Up Fortress Power Lithium Batteries Using SMA 6048-US

Introduction

This integration guide will help set up the charge/discharge parameters of Fortress Power batteries as they relate to Sol-ark inverters, as well as closed-loop communication

Datasheets / Manuals: <https://www.fortresspower.com/resources/>

Email: techsupport@fortresspower.com

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Open Loop Setup between Fortress Batteries and SMA

For open loop settings, select VRLA for battery type.

Closed-Loop Setup between Fortress Batteries and SMA

All Fortress Power batteries work in open-loop communication mode—that is, with voltage detection.

However, functions in the SMA must be fully defined for complete open loop operation. Please assign correct values in the complete list on the Sunny Island User Manual's parameters for complete commissioning

Closed-loop does not exempt the installer from programming the inverter manually. Open loop settings should be programmed before setting up closed loop communication. The inverter will revert to open loop settings if closed loop communication drops.

1. Connect communication cables and CANbus terminator between the batteries
 - a. RX/TX ports are universal
 - b. The “master” battery is the one powered up first – so after plugging in the communication cables, turn the battery which will communicate to the SMA first.
 - c. After the light show completes, push button the next eFlex battery on. Proceeding down the chain to the last eFlex with the CANbus terminator to complete commissioning.

Exhibit A

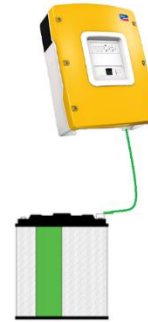
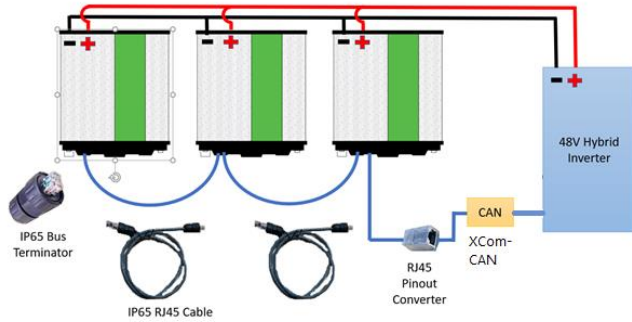
2. Make sure the Breaker for the SMA is in the “ON” (Make) position.
3. Power on the eFlex/eVault Max in correct commissioning sequence.
4. Hold [Enter] Button on SMA to Initialize Inverter.
5. Verify on the SMA that SOC is viewable.

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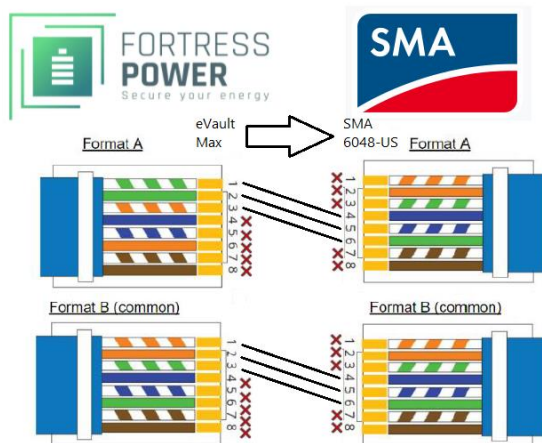
Initial Closed Loop Setup

eFlex:

No Cable Modifications are needed for closed loop communication with an eFlex and SMA 6048-US



eVault Max:



Modification of Communication cables is necessary for eVault Max to SMA 6048-US using a keystone or other methods of pin assignment.



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Sunny Island Settings - Please Refer to Sunny Island User Manual for detailed explanations

SMA Settings for Closed Loop Operation All unspecified settings will remain at factory values			Password is Check Sum of AH in Password menu. Eg 105 Ah Total = 1+0+5 = 06	
Number	Name	Desc	eFlex Value	eVault Max Value
210-02	InvChrgCurMax	Max AC Charge Current	100A per eFlex	180A per eVault
221-01	BatTyp	Battery Type	Lilon_Ext-BMS	Lilon_Ext-BMS
221-02	BatCpyNom	Nominal Battery Capacity	105Ah per eFlex	360Ah per eVault
222-01	BatrChrgCurMax	Charging Current	80A / eFlex	160A / eVault
222-02	AptTmBoost	Absorp Time for nominal Charge	60 min	60 min
222-03	AptTmFul	Absorption Time for full Charge	60 min	60 min
222-04	AptTmEq	Absorp time for equalize charge	1 hr	1 hr
222-05	CycTmFul	Cycle Time of Full Charge	30 days	30 days
222-06	CycTmEqu	Equalize Cycle Time	180 Days	180 Days
222-07	ChrgVtgBoost	Cell setpoint normal charge	2.26 V	2.26 V
222-08	ChrgVtgFul	Cell setpoint for Full Charge	2.3 V	2.3 V
222-09	ChrgVtgEqu	Cell set Equalize Charge	2.3 V	2.3 V
222-10	ChrgVtgFlo	Cell setpoint Float Charge	2.2 V	2.2 V
222-12	AutoEquChrgEn	Automatic Equalization	Disable	Disable
226-01	BatChrgVtgMan	Manual set battery charge voltage w/ disabled BMS	54.5 V	54.5 V
226-02	BatDiChgVtg	Min. Charge V. of Battery	48 V	48 V
226-03	BatDiChgVtgStr	Start V after Undervoltage	51.2 V	51.2 V
231-##	External Settings	...	User Defined Settings	User Defined Settings
232-07	GdVldTm	Min Time for grid in range	<5 sec	<5 sec
232-08	GdMod	Grid interface	User Defined	User Defined
232-09	GdRvPwr	Permissible grid backfeed	User Defined	User Defined
232-41	GdSocEna	Activate grid request based on SOC	User Defined (If used, configure 233-[01-06])	User Defined (If used, configure to configure 233-[01-06])
234/235	Generator Settings		User Defined	User Defined
240	Critical Load Panel Relay Settings		User Defined	User Defined