LiFe and Eco Series Battery Settings for SMA Sunny Island

Settings listed are only applicable to battery charge and discharge. All other settings are the responsibility of the Integrator.

It is the responsibility of the integrator to have a full understanding of the SMA product prior to programming and it is preferred that they have attended the manufacturer's training or integration courses should they be available

It is highly recommended to use State of Charge control.

It is highly recommend that a system Current Sensor (current shunt) is installed for more accurate SoC monitoring. Follow SMA requirements for installing and setting up.

Note: SMA Sunny Island inverters can have up to a 7% SoC error depending on load and settings. Please take this into consideration when determining system shut downs and generator starts

Note SMA Sunny Islands no longer come supplied with a temperature sensor and need to be purchased separately. If one is not being used, you can attached a 2k ohm resistor to the battery sensor input terminals to remove the alarm.

The table below outlines the required quantity of batteries to achieve the full performance of the Sunny Island. The battery quantity is not compulsory, however is highly recommended as a minimum to reduce possible battery trips due to over current.

Sunny Island	LiFe2433P	LiFe2433PS	LiFe4833P	LiFe4833PS	ECO4840P	ECO4840PS
4.4M			2		2	
6.0H			4		4	
8.0H			4		4	

Installers should ensure an adequate system design is carried out at all times. PPE accepts no responsibility for underperforming systems designs.

As part of our continued improvement process, settings are subject to change without notice and are correct at time of publishing.

Settings for Sunny Island Dash 12 and 13

Sunny Island	LiFe4833P (PS)	LiFE4833PS	Eco4840P	Eco4840PS
Basic Configuration				
Battery Type	VRLA (Valve Regulated Lead Acid)		VRLA (Valve Regulated Lead Acid)	
Nominal Battery Capacity	Total Ah Capacity of PPE Battery Bank Installed		Total Ah Capacity of PPE Battery Bank Installed	
Nominal Battery Voltage	48V		48V	
Device Configuration				
Maximum Charging Current	Max - 0.5 (C2) - 50% of total Ah capacity installed		Max - 0.5 (C2) - 50% of total Ah capacity installed	
Battery Boost Charge Time	4 hours		4 hours	
Battery Full Charge Time	4 hours		4 hours	
Discharge Cut off Voltage	48V		48V	
Maximum Discharge Current	60Amps Per battery installed		60Amps Per battery installed	
Cell Charge for Nominal Voltage for Boost Charging	2.40V	2.36	2.40V	2.36V
Cell Charge for Nominal Voltage for Full Charging	2.40V	2.36	2.40V	2.36V
Float Voltage Cyclic (Short Term Float) (Example Solar Application)	2.40V	2.36	2.40V	2.36V
Float Voltage Standby (Long Term Float) (Example UPS Application)	2.26V to 2.33V	2.26V to 2.33V	2.26V to 2.33V	2.26V to 2.33V
Battery Temperature Compensation	0°		0°	
Automatic Equalisation Charge	Disable (set to off)		Disable (set to off)	
Battery Protection				
Start Time for Battery Preservation Mode (Level 1)	Leave Default if unknown		Leave Default if unknown	
End Time for Battery Preservation Mode (Level 1)	Leave Default if unknown		Leave Default if unknown	
Start Time for Battery Preservation Mode (Level 2)	Leave Default if unknown		Leave Default if unknown	
End Time for Battery Preservation Mode (Level 2)	Leave Default if unknown		Leave Default if unknown	
Battery SoC for Battery Preservation Mode (Level 1)	Recommend 30%		Recommend 30%	
Battery SoC for Battery Preservation Mode (Level 2)	Recommend 25%		Recommend 25%	
Battery SoC for Battery Preservation Mode (Level 3)	Recommend 20%		Recommend 20%	

Sunny Island	LiFe4833P (PS)	LiFE4833PS	Eco4840P	Eco4840PS
BMS Mode Basic/Off				
Manual Battery Charge Nominal Voltage with Deactivated BMS	57.6V	56.8V	57.6V	56.8V
Minimum Discharge Voltage	48V 0% SoC 49.50V 10% SoC 50.20V 20% SoC	48V 0% SoC 49.50V 10% SoC 50.20V 20% SoC	48V 0% SoC 49.50V 10% SoC 50.20V 20% SoC	48V 0% SoC 49.50V 10% SoC 50.20V 20% SoC
Start Voltage After Battery Under voltage Detection	49V 0% SoC 50V 10% SoC 51V 20% SoC	49V 0% SoC 50V 10% SoC 51V 20% SoC	49V 0% SoC 50V 10% SoC 51V 20% SoC	49V 0% SoC 50V 10% SoC 51V 20% SoC
Internal Resistance of Battery	Leave Defalut		Leave Defalut	

Setting for Sunny Island Dash 10 and 11
(can be used as a guide for older revision products)

Sunny Island	LiFe2433P	LiFE2433PS	LiFe4833P	LiFe4833PS	Eco4840P	Eco4840PS
Inverter Settings (210#)						
02 InvChrgMax - Maximum AC Charging Current	Max - 0.5 (C2) - 50% of total Ah capacity installed					
Battery Settings (220#) - 221# Battery Property						
01 BatTyp - Maximum AC Charging Current	VRLA					
02 BatCpyNom - Nominal Battery Capacity	Total Ah Capacity of PPE Battery Bank Installed					
03 BatVolNom - Nominal Battery Voltage	VRLA (25.6V)		VRLA (51.2V)			
04 BatTmpMax - Maximum Battery Temperature	50°C					
05 BatTmpStr -Start Battery Temperature (Following stop due to over temp)	40°C					
06 BatWirRes - Power Resistor of Battery Connection in mOhm	Leave Default if unknown					
Battery Settings (220#) - 222# Battery Charge Mode						

Sunny Island	LiFe2433P	LiFE2433PS	LiFe4833P	LiFe4833PS	Eco4840P	Eco4840PS
01 BatChrgCurMax - Charging Current of the Battery	Max - 0.5 (C2) - 50% of total Ah capacity installed					
02 AptTmBoost - Absorption Time for Charge	240 minutes					
03 AptTmFul - Absorption Time for Full Charge	4 hours					
04 AptTmEqu	4 hours					
05 CycTmFul - Absorption Time for Equalisation Charge	7 days					
06 CycTmEqu - Absorption Time for Equalise	365 days					
07 ChrgVtgBoost - Cell Voltage Set Point for Normal Charge	2.40V	2.36V	2.40V	2.36V	2.40V	2.36V
08 ChrgVtgFul - Cell Voltage Set Point for Full Charge	2.40V	2.36V	2.40V	2.36V	2.40V	2.36V
09 ChrgVtgEqu - Cell Voltage Set Point for Equalisation Charge	2.40V	2.36V	2.40V	2.36V	2.40V	2.36V
10 ChrgVtgFlo Float Voltage Cyclic (Short Term Float) (Example Solar Application)	2.40V	2.36V	2.40V	2.36V	2.40V	2.36V
10 ChrgVtgFlo Float Voltage Standby (Long Term Float) (Example UPS Application)	2.26V to 2.33V	2.26V to 2.33V	2.26V to 2.33V	2.26V to 2.33V	2.26V to 2.33V	2.26V to 2.33V
11 BatTmpCps - Battery Temperature Compensation	0mV					
12 AutoEquChrgEna - Automatic Equalisation Charge	Disable					
Battery Setting (220#) - 223# Battery Protection						
01 BatPro1TmStr - Start Time for Battery Preservation Mode (Level 1)	Leave Default if unknown					
02 BatPro1TmStp - End Time for Battery Preservation Mode (Level 1)	Leave Default if unknown					

Sunny Island	LiFe2433P	LiFE2433PS	LiFe4833P	LiFe4833PS	Eco4840P	Eco4840PS
03 BatPro2TmStr - Start Time for Battery Preservation Mode (Level 2)	Leave Default if unknown					
04 BatPro2TmStp - End Time for Battery Preservation Mode (Level 2)	Leave Default if unknown					
05 BatPro1Soc - Battery SoC for Battery Preservation Mode (Level 1)	Recommend 30%					
06 BatPro1Soc - Battery SoC for Battery Preservation Mode (Level 2)	Recommend 25%					
07 BatPro1Soc - Battery SoC for Battery Preservation Mode (Level 3)	Recommend 20%					
Battery Setting (220#) - 226# BMS Mode Basic/Off (Only set if applicable) - optional settings						
01 BatChrgVtgMan - Manual Battery Charge Nominal Voltage with Deactivated BMS	28.8V	28.4V	57.6V	56.8V	57.6V	56.8V
02 BatDiChrgVtg - Minimum Discharge Volatge	24V		48V			
03 BatDiChrgVtgStr - Start Voltage After Battery Under voltage Detection	24.5V		49V			
04 BatRes - Internal Resistance of Battery	Leave Defalut					