

PowerPlus Energy LiFe Settings for SMA Sunny Island Inverters

Step one – Basic Configuration using the Installation Assistant.

At step 7 “Battery configuration”, select “Valve Regulated Lead Acid (VRLA) as the Battery Type and set the nominal capacity as the total battery size in Ah at the C10 rating

To calculate this, simply add up the total Wh of the battery installed and divide by 48V.

Leave the Nominal Battery Voltage as 48V

Step two – Device configuration.

Enter the “Device Parameter” tab and select “Edit Parameters”.

Suggested to enter into the “Protection Mode” and set the SOC limits to ensure there is some capacity for the SI to come back on-line after ~09:00.

Then enter into the “Battery” section below.

The following changes need to be set (see screenshots below):

1. Maximum Charging Current
2. Time for Boost Charge
3. Time for Full Charge
4. Discharge Cut-off Voltage
5. Maximum Discharge Current
6. Cell Charge Nominal Voltage for Boost Charging (divide the voltage by 24)
7. Cell Charge Nominal Voltage for Full Charging (divide the voltage by 24)
8. Cell Charge Nominal Voltage for Float Charge (divide the voltage by 24)
9. Temperature Compensation – set to 0°
10. Automatic Equalization Charge – set to off

IMPORTANT NOTE FOR COLD TEMPERATURE CHARGING

Under most conditions, under continuous operation, PowerPlus Energy LiFe Batteries will maintain an internal operating temperature within the published range.

Extra consideration must be taken in extreme cold temperatures

- Operating Temperature: -20° to 60°C
- Charging Temperature: 0° to 45°C

In the event that a PowerPlus Energy LiFe Battery is left idle or non-operational in temperatures below Freezing:

- DO NOT ATTEMPT TO CHARGE THE BATTERY.
- DO NOT CHARGE UNTIL THE BATTERY BANK IS AT OR ABOVE 0°C
- CONTACT PowerPlus Energy FOR ASSISTANCE

Sunny Island Settings for Powerplus

Screen shot 1:

The screenshot shows a web browser window displaying the SMA Sunny Island 8.0H web interface. The browser's address bar shows the URL `192.168.12.3/#/settings`. The page title is "SUNNY ISLAND 8.0H". The navigation menu includes "Home", "Instantaneous values", "Device parameters" (which is active), "Events", "Device configuration", and "Data". The main content area is titled "Edit parameters" and contains a list of expandable settings categories: Type Label, Device, User Rights, DC Side, AC Side, Grid Monitoring, Generator, Battery, System communication, External Communication, Device Components, and System and device control. There are buttons for "Edit parameters" and "Export all parameters". At the bottom of the page, the serial number is "3002680119" and the user group is "Installer" with the date "26/10/2018 12:57".

Screen shot 2:

▼ Battery			
▼ Charge			
Maximum charging current	<input type="text" value="103.000"/>	A	(10.000 A ... 900.000 A)
Time for boost charge	<input type="text" value="120"/>	min	(1 min ... 600 min)
Time for equalization charge	<input type="text" value="1"/>	h	(1 h ... 48 h)
Time for full charge	<input type="text" value="3"/>	h	(1 h ... 20 h)
Discharge cut-off voltage	<input type="text" value="50.80"/>	V	(35.00 V ... 63.00 V)
Maximum discharge current	<input type="text" value="900.000"/>	A	(0.000 A ... 900.000 A)
Cell charge nominal voltage for boost charge	<input type="text" value="2.33"/>	V	(2.20 V ... 2.70 V)
Cell charge nominal voltage for full charging	<input type="text" value="2.33"/>	V	(2.30 V ... 2.70 V)
Cell charge nominal voltage for equalization charge	<input type="text" value="2.30"/>	V	(2.30 V ... 2.70 V)
Cell charge nominal voltage for float charge	<input type="text" value="2.25"/>	V	(2.20 V ... 2.40 V)
Cycle time full charge	<input type="text" value="1209597"/>	s	(86,400 s ... 15,552,000 s)
Cycle time equalization charge	<input type="text" value="15551965"/>	s	(604,800 s ... 31,536,000 s)
Temperature compensation	<input type="text" value="0.000"/>	V/°C	(0.000 V/°C ... 0.010 V/°C)
Automatic equalization charge	<input type="text" value="On"/>	▼	
Voltage setpoint with deactivated BMS	<input type="text" value="54.00"/>	V	(41.00 V ... 63.00 V)

Screen shot 3:

▼ Battery switch	
Max. charge capacity	6,000 W
Max. discharge capacity	6,000 W
▼ Battery charge	
Process specification battery charge current	-----
▼ Battery discharge	
Process specification battery discharge current	-----
▼ Areas of application	
Lower lmt deep disch. protect area prior shutdown	<input type="text" value="10"/> % (10 % ... 20 %)
Minimum width of deep discharge protection area	<input type="text" value="5"/> % (2 % ... 50 %)
Minimum width of backup power area	<input type="text" value="0"/> % (0 % ... 100 %)
Area width for conserving battery state of charge	<input type="text" value="5"/> % (4 % ... 20 %)
Minimum width of own consumption area	<input type="text" value="35"/> % (0 % ... 100 %)
Most profitable month	<input type="text" value="June profitable"/> ▼
Season operation active	<input type="text" value="Yes"/> ▼

Screen shot 4:

▼ Protection mode		
Start time [A]	<input type="text" value="22:00:00"/>	(00:00:00 ... 23:59:59)
Start time [B]	<input type="text" value="17:00:00"/>	(00:00:00 ... 23:59:59)
End time [A]	<input type="text" value="06:00:00"/>	(00:00:00 ... 23:59:59)
End time [B]	<input type="text" value="09:00:00"/>	(00:00:00 ... 23:59:59)
Limit of battery state of charge [A]	<input type="text" value="25.0"/> %	(0.0 % ... 70.0 %)
Limit of battery state of charge [B]	<input type="text" value="25.0"/> %	(0.0 % ... 70.0 %)
Limit of battery state of charge [C]	<input type="text" value="20.0"/> %	(0.0 % ... 70.0 %)

▼ Battery		
Rated capacity	17,328 Wh	
Nominal capacity	<input type="text" value="361"/> Ah	(100 Ah ... 10,000 Ah)
Type	Valve Regulated Lead Acid battery (VRLA) ▼	
Nominal voltage	48 V	
Current sensor type (60mV 50mV)	----- ▼	
Current sensor gain	<input type="text" value="100"/> A	(0 A ... 1,800 A)
Maximum temperature	<input type="text" value="40.0"/> °C	(35.0 °C ... 50.0 °C)
Switch-on limit after overtemperature shutdown	<input type="text" value="35.0"/> °C	(0.0 °C ... 40.0 °C)
Output resistance DC connection	<input type="text" value="0.003"/> Ohm	(0.000 Ohm ... 0.100 Ohm)

Screen shot 5:

▼ Battery		
Rated capacity	17,328 Wh	
Nominal capacity	<input type="text" value="361"/> Ah	(100 Ah ... 10,000 Ah)
Type	Valve Regulated Lead Acid battery (VRLA) ▼	
Nominal voltage	48 V	
Current sensor type (60mV 50mV)	----- ▼	
Current sensor gain	<input type="text" value="100"/> A	(0 A ... 1,800 A)
Maximum temperature	<input type="text" value="40.0"/> °C	(35.0 °C ... 50.0 °C)
Switch-on limit after overtemperature shutdown	<input type="text" value="35.0"/> °C	(0.0 °C ... 40.0 °C)
Output resistance DC connection	<input type="text" value="0.003"/> Ohm	(0.000 Ohm ... 0.100 Ohm)

▼ Operation	
Manual equalization charge	<input type="text"/>

▼ Kalibrierung	
Batteriestromsensor	<input type="text"/>