

LiFePO4 Battery Important information & Axpert Inverter Settings

- The Sun Pays LiFePO4 battery (rack mount and wall mount models) have a built-in battery management system (BMS) which monitors and protects the battery during use. It is important to note that the BMS is set to switch off the battery if the voltage drops below 41 V. Please arrange with the technicians at The Sun Pays if the battery have switched off due to low voltage protection.
- The charging current is limited by the BMS between 20 A to 40A to ensure optimal battery life.
- The battery life expectancy is strongly dependant on the depth of discharge (DoD) of the battery. A DoD of 80% is recommended for the battery to obtain at least 3500 Cycles. The 80% DoD voltage is as follows:
 - Battery Discharge rate 100 A [~ 4.8 kW Load] : 47.4 V
 - Battery Discharge rate 50 A [~ 2.4 kW Load] : 47.9 V
 - Battery Discharge rate 20 A [~ 0.96 kW Load] : 48.1 V
- Batteries should be connected in parallel if more than one LiFePO4 battery is to be used. Care should be given for cable sizes and copper busbars should be used if large currents is drawn.

The following settings can be used on the Axpert inverters for TSP LiFePO4 batteries:

Setting Description	Value	TSP 4kW /5kW – Menu Item No.	Sacolar / Growatt– Menu Item No.
Discharge Priority	SBU	01	01
Total Charge Current	20A per battery	02	02
Battery Type	USE	05	05
Utility Charge Current	20A per battery	11	11
Back to Utility	47.7 V (if generator is used, set to 51V)	12	12
Back to Battery	51.0 V (if generator is used, set to 52V)	13	13
Charge Priority	SnU	16	14
Charge Voltage	51.6 V	26	19
Floating Voltage	51.5 V	27	20
Battery Cut-off	46.4 V (Alarm will sound from 47.4 V)	29	21

The following settings can be used on the TSP 5.5 kVa / 5.5 kW high voltage inverter.

Setting Description	Value	TSP 5.5 kVa / 5.5 kW – Menu Item No.
Discharge and Charge priority	PUL or PAL	01
Battery Type	USE	04
Bulk Charge Voltage	51.6 V	05
Floating Charge Voltage	51.5 V	06
Low Voltage Alarm	47.7 V (33% SoC)	07
Low Voltage Cut-off	46.4 V	08
AC Charge Current	20A per battery	10
Total Charge Current	20A per battery	13
Battery Full Voltage	51.0 V	14

Custom battery cable from battery RS485 to inverter RS485 with the above settings

For more information on warranty conditions, please visit : <https://shop.thesunpays.co.za/pages/product-warranty>