

SKYWORTH PV-Tech

2021



CARBON-FREE FUTURE



Designing Engineering Procurement Construction and Operation
DEPCO

Shenzhen Skyworth Photovoltaic Technology Co.,Ltd

Room 1317, Building 2#B, Skyworth Innovation Valley, TangTou Road No.1, ShiYan ,Bao'An, ShenZhen, China

www.skyworthpv.com www.skyworth-pv.com

(Tel) : 010-86226096 (Email): hwyx@skyworth.com



*The copyright of the text, pictures, logos and other information contained in this brochure reserved by the original author and original source; statistics, qualifications, cooperation with customers and other information valid up to October 31th, 2021.
*In case of any update or change in the content involved in this brochure, please refer to the latest content provided by Shenzhen Skyworth Photovoltaic Technology Co., Ltd.

Shenzhen Skyworth Photovoltaic Technology Co., Ltd.

SUBSIDIARY OF SKYWORTH GROUP

Skyworth Group founded in 1988, mainly engaged in multimedia, smart appliances, smart system and modern service. The Group has two listed companies: Skyworth Group (00751.HK), Skyworth Digital (00810.SZ).

Shenzhen Skyworth Photovoltaic Technology Co.,Ltd. is a new energy IOT company integrating development, design, construction, operation, management and consultant services. We are committed to building a smart clean energy asset construction and management platform. We always insist on offering innovative residential solar power solution, creating smart green energy system for your home, and strive to make positive contributions to reach goal of global zero carbon.



51.2V100AH Module Spec

1. Overview

51.2V100Ah is Lithium iron phosphate battery module which designed for backup power application. This battery module integrated with intelligent BMS inside, has big advantages on safety, cycle life, energy density, temperature range and environmental protection. This product specification describes the type, size, structure, electrochemistry performance, service life, and BMS characteristics.

2. Battery Module

The battery module consists of single LFP cells, wire, BMS and metal container.

- Packed with high performance LFP single cell, long life, safety and wide temperature range
- High energy density, small size, light weight, no pollution;
- Packing with single cell container, fire retardant wire and copper connecting bar, stable and safe.
- Built-in BMS, with battery voltage, current, temperature and health management.
- Compact design, protection level P20.
- Compatible with various types of inverter.
- Flexible customization of dimensions
- 10 years design life, Stable performance, maintenance free.

Battery module picture



SKYWORTH PHOTOVOLTAIC

▶ Battery module specification

Item		Specification	Conditions
Nominal	Voltage	51.2V	25°C,0.2C
	Capacity	100Ah	
Module weight		46.0kg	±0.5kg
Dimensions(W*D*H), mm		442*470*134	±2mm
Operating parameters	Charging Voltage	55.2V~56.8V	
	Discharging Voltage	46.0V	
	Charging current	Recommended 30A	
	Max. Discharging current	100A	
Temperature	Charge range	-10°C~45°C	
	Discharge range	-20°C~60°C	
	Storage range	-20°C~45°C	
BMS	Built-in BMS	Voltage, current, temperature management & cell balance	RS485,CAN2.0
Service life	Design life	>10years	25°C,0.2C
	Cycle life	>4000 times	

3. BMS specification

BMS provides complete management and protection for the battery ;

- Voltage warning and protection for module and each single cell ;
- Current warning and protection, and the maximum operating current can be customized ;
- Temperature warning and protection, 4 sensors for battery pack ;
- Battery module SOC and SOH calculation, display the accurate battery status ;
- Communicate with laptop or other controller, LCD display ;
- Relay control logic, support continuous high current discharge and plus discharge ;
- Switch-off mode, sleep mode, and operating mode, different mode for different condition ;

SKYWORTH PHOTOVOLTAIC

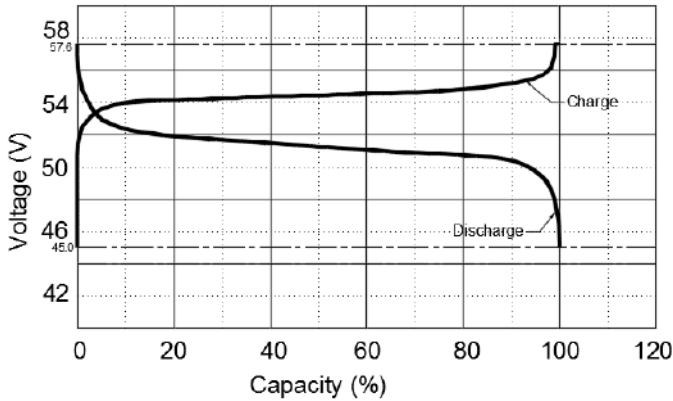
 **BMS parameters.**

Item		Parameters		Condition	
Charge	Cell voltage protection	3.9V	Delay 1s	Recovery at 3.45V	
	Module voltage protection	60.0V	Delay 1s	Recovery at 55.2V	
	Over charging current 1	>100A	Delay 10s		
	Over charging current 2	≥120A	Delay 3s		
	Temperature protection	<-10°C or >70°C	Delay 1s	Recovery when > 0°C or <60°C	
Discharge	Cell voltage protection	2.0V	Delay 1s	Recovery at 3.1V	
	Module voltage protection	45.0V	Delay 1s	Recovery at 48.0V	
	Over discharging current 1	> 100A	Delay 10s	Recovery in 60s	
	Over discharging current 2	> 150A	Delay 2s	Recovery in 60s	
	Temperature protection	<-25°C or >75°C	Delay 1s	Recover when >-10°C or <65°C	
BMS	Environment Temp protection	<-25°C or >70°C	Delay 1s	Recover when >-10°C or <60°C	
	Low SOC warning	< 10%		> 20%	
	Communication ports	RS485			
	Cell balance	150mA	Passive balance	Cell voltage difference > 40mV	
	Power consumption with different condition		<300uA	Switch-off mode	Storage & transportation
			<300uA	Sleep mode	Protection & stand-by
		<14mA	Operating mode	Charging & discharging	

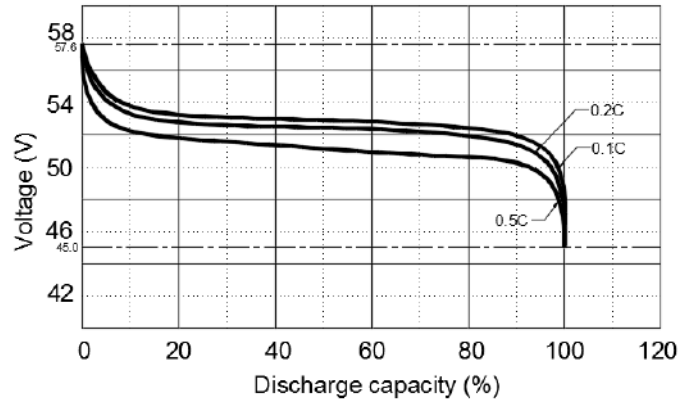
4. Battery module performance Curve

SKYWORTH PHOTOVOLTAIC

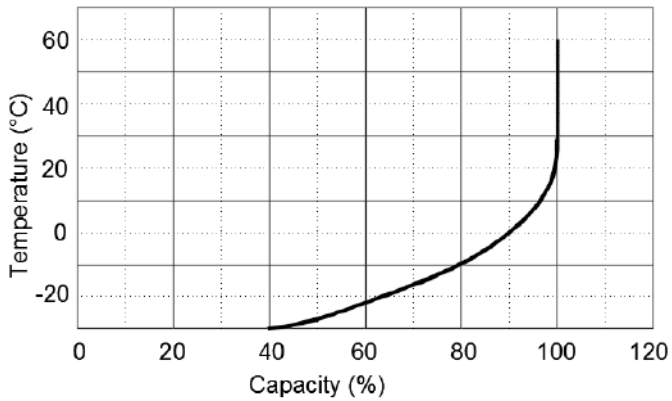
Charge & Discharge curve with 0.5C @ 25°C



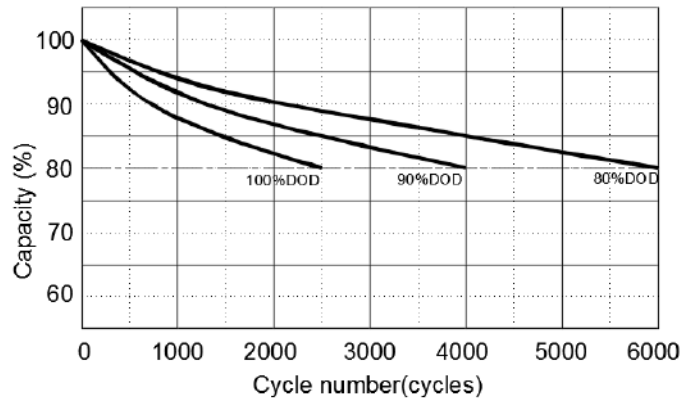
Discharge performance with different rate @ 25°C



Discharge capacity with different temperature @ 0.5C



Cycle life with DOD @ 0.5C, 25°C



Self-discharge @ different temperature

