

# Solar Energy Storage System

## Solution Advantages

### Wide Compatibility

Compatible with **99%** of microinverter systems; no communication required for matching and precise power control.

### Easy Self-Installation

Plug-and-play, easy to install.

### Modular Design

Intelligent, modular lithium battery design with stackable parallel connection and flexible expansion based on power consumption.

- Single pack **1024Wh**,
- The system's capacity is as high as **5120Wh** with **five** packs in parallel connection.

### Durable, with a Long Lifespan

- IP65, suitable for harsh outdoor environments.
- LFP battery with more than 6,000 cycles and a lifespan exceeding 10 years.
- Intelligent BMS control with 10 layers of worry-free protection.

### Dual Independent MPPT

- A single point of failure won't affect the output, so the system's reliability is maximized.
- Ensure the maximum energy output of solar panels without wasting solar resources. Address the issue of reduced power-generation efficiency due to shadows from buildings, trees and other obstacles. There is no need to worry about building orientation, sunlight exposure, available space or other factors.

### Precise Control

- Flexible output characteristics, intelligent adjustment of output power to meet back-end load conditions, and greater efficiency for green electricity.
- Default PV characteristic curve output for microinverter systems and strong adaptability.

### Intelligent Control and Monitoring

Equipped with Bluetooth, WiFi module, and Storcube app provide 3 control modes:

- 1.Can be combined with smart plugs to achieve automatic operation mode and precise power supply.
- 2.Uses time period mode, allowing users to customize device power supply time intervals through the app.
- 3.Can be controlled independently using constant power mode.

# Solar Energy Storage System-Smart Lithium Battery Pack

## Specifications

	Item	Technical Specifications	Remarks
Mainframe	Product Model	STC 01/1 E1	
	Capacity	1024 Wh	
	Size(L*W*H)	12.99*8.27*7.68(in) / 330*210*195(mm)	Single pack
	Weight	24.25lbs/11Kg	
	Battery Type	LiFePO4	
	Cycle Life	6000 cycles, remaining capacity $\geq$ 70%	
	Maximum Input Power	1200W	600W*2
	Input Voltage Range	18-55V	
	Input current max	15A*2	
	Maximum Output Power	800W	According to EU regulations
	Output Voltage Range	20-45V	
	Maximum Number of Parallel Battery Packs	5	
	Maximum Expandable Capacity	5120Wh	
	Protection Level	IP65	
Protection	Charging/Discharging Ambient Temperature	-20°C-45°C	Note: When the battery cell temperature is $\leq$ 5°C, the electric heating will activate. Charging is possible once the battery cell temperature exceeds 0°C.
	Electric Heating Start Temperature	$\leq$ 5°C	
Protection	PV high-voltage rapid shutdown function, overcharge, overdischarge, overcurrent, high temperature, low temperature, and short circuit protection	Support	
Others	Wireless Communication	Bluetooth, WiFi	
	Heating Function	Support	
	Balancing Mode	Support	
	Communication	CAN	

2-channel MPPT  
Maximum Output 800W

LiFePO4 10-year lifespan,  
5-year warranty

Single pack capacity of  
1024Wh

Up to 5 packs can be  
connected in parallel

# How to Configure

1

## Check Your Local Regulations

Check your local regulations to determine the allowable maximum power for a home outlet. In most cases, the allowable maximum power is either 600 W or 800 W.

2

## Estimate the Generation Capacity

The maximum output power configured for MPPT is 1200 W. Assuming that the duration of effective sunlight is four hours per day, the daily generation capacity is as follows:  
 $1200 \text{ W} \times 4 \text{ hrs.} = 4.8 \text{ kWh.}$

3

## Estimate the Daytime Power Consumption

Assuming that the power consumption of a refrigerator and other low-voltage equipment (such as the network) is 150 W, the daytime power consumption is  $150 \text{ W} \times 8 \text{ hrs.} = 1.2 \text{ kWh.}$

4

## Calculate the Battery Capacity

The energy-storage configuration is as follows:  $4.8 \text{ kWh} - 1.2 \text{ kWh} = 3.6 \text{ kWh.}$  3~4 smart lithium battery modules are recommended in consideration of fluctuations in power generation due to battery life and the intensity of sunlight.