



SST-640

12V 640Wh BATTERY PACK SPECIFICATION

DATE

revision Date : NOV. 20. 2016

MODEL P/N

12V 640Wh : SZFST18650P3S-640



CONTENTS

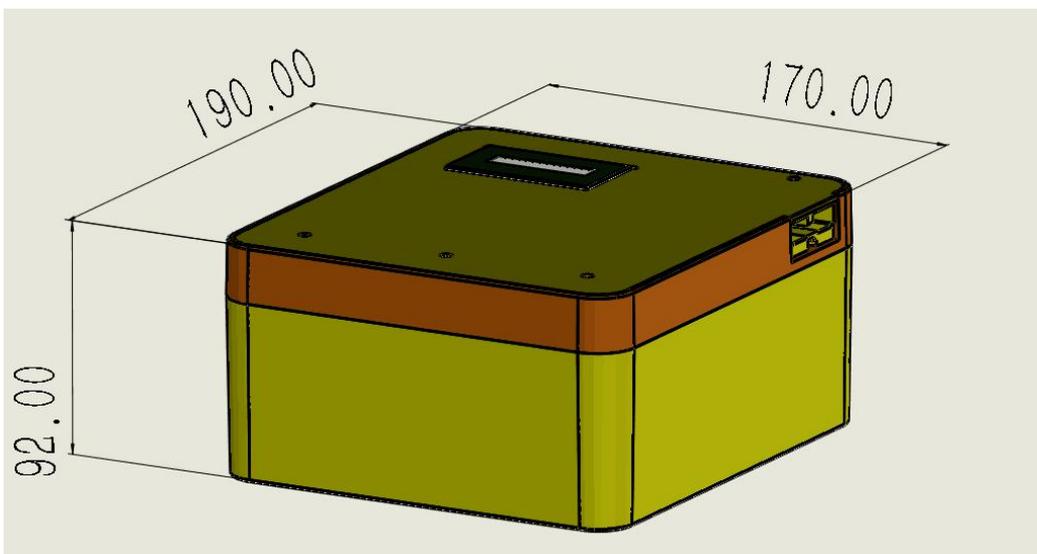
1. Features	2
2. Outline Dimensions	2
3. Technical Data	3
4. Product Composition	4
5. General Precautions	4
6. Battery Handling Guide	5
7. Response to Emergency Situations	6
8. Troubleshooting	7

1. Features

SZFST18650P3S-640 battery pack designed for indoor photovoltaic systems, which is easily adaptable in energy storage solutions. And it can be also “cross-connected” with other 12V unit .

- Compact and light weight
- Powerful Performance : High Energy Density
- Easy and Flexible installation
- Easy wall-mounted or floor-standing installation enable
- Diverse Matched Inverters Available

2. Outline dimensions



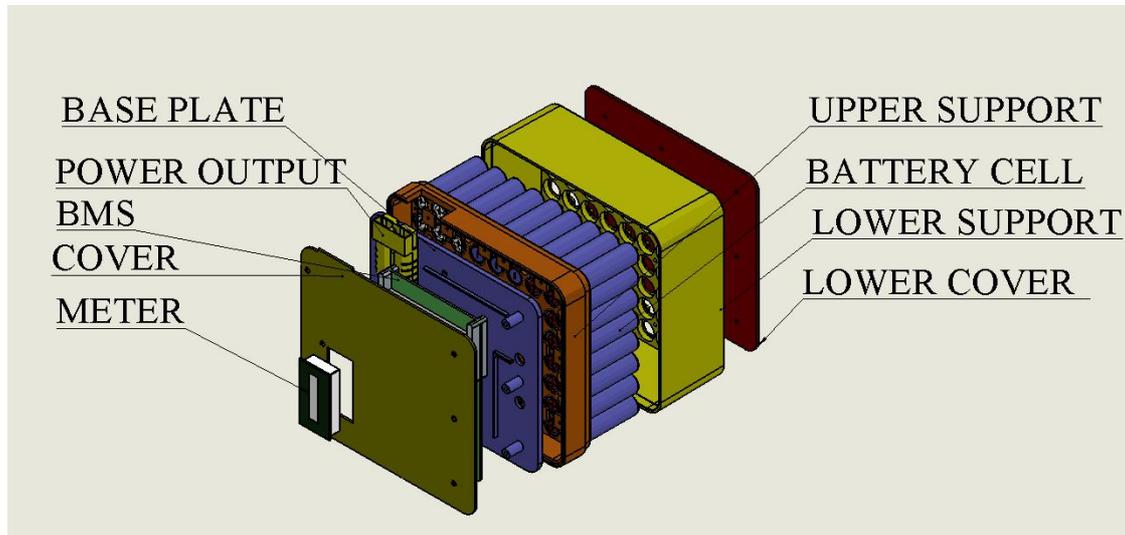
Physical characteristics	SZFST18650P3S-640
Length (mm)	190mm
Width (mm)	170mm
Depth (mm)	92mm
Weight (kg)	5kg

3. Technical data

ITEM	SPECIFICATION	
Rated capacity	57.6	Ah@1C
Minimum capacity	55.2	Ah@1C
Normal voltage	11.1	V
Cell energy density	499	Wh/L
	183	Wh/Kg
Charging voltage	12.60	± 0.05V
Discharging ending voltage	9.00	± 0.05V
Standard charging current	28.8	A
Standard discharging current	57.6	A
Max charge current	1C	T ≥ 10°C
	0.5C	10°C > T ≥ 0°C
	0.1C	0°C > T ≥ -10°C
Max discharge current	4 C	T ≥ 10°C
	2 C	0°C > T ≥ -20°C
Maximum recommended charge and discharge cell body temperature	Charge: 0~45°C Discharge: -20 ~ 60°C	
Maximum short term allowable charge and discharge cell body temperature. Charging and discharging at these conditions will shorten cell cycle life	Charge: 60°C Discharge: 75°C	
Internal resistance	≤4.5mΩ (AC Impedance, 1000Hz)	
Cell dimensions	Height: 65.1mm Max. Diameter: 18.4mm Max.	
Weight	5kg	

4. Product composition

The exploded view



Caution:

For safety reasons, installers are responsible for familiarizing themselves with the contents of this document and all warnings before performing installation.

5. General Precautions

Failure to observe the precautions described in this section can cause serious injury to persons or damage to property.

A. Risks of explosion

- Do not subject the battery pack to strong impacts.
- Do not crush or puncture the battery pack.
- Do not dispose of the battery pack in a fire.

B. Risks of fire

- Do not expose the battery pack to temperatures in excess of 60°C.
- Do not place the battery pack near a heat source, such as a fireplace.
- Do not expose the battery pack to direct sunlight.
- Do not allow the battery connectors to touch conductive objects such as wires.

C. Risks of electrical shock

- Do not disassemble the battery pack
- Do not touch the battery pack with wet hands
- Do not expose the battery pack to moisture or liquids
- Keep the battery pack away from children and animals

D. Risks of damage to the battery pack

- Do not allow the battery pack to come in contact with liquids.
- Do not subject the battery pack to high pressures.
- Do not place any objects on top of the battery pack.

Over-voltages or wrong wiring can damage the Battery Pack and cause deflagration, which can be extremely dangerous. Do not install the battery pack on flammable construction materials, in areas, where highly inflammable materials are stored, or in potentially explosive environments. Work with the cover removed must be carried out by a qualified electrician. High contact voltages are present in the device.

6. Battery Handling Guide

- Do not expose battery to temperature over 50°C and open flame.
- Do not damage the unit in such ways as dropping, deforming, impacting, cutting or penetrating with a sharp object. It may cause a leakage of electrolyte or fire.
- Do not connect anode and cathode terminal block opposite direction. It may cause severe short circuits.
- Do not charge or discharge damaged battery.
- Do not place any kind of foreign matters on the cooling path.
- Do not put the battery module upside down on the ground.
- Hold with insulated gloves when carrying the battery modules.
- Do not disconnect, disassemble or repair by unauthorized persons. Services must be made by authorized engineers only.
- All types of breakdown of the product may lead to a leakage of electrolyte or

flammable gas.

- Do not place the product nearby flammables. It may lead to fire or explosion in case of accident.
- Keep out of reach of children or animals.
- Keep the product away from moisture or liquid. Do not touch or use if liquid is spilled on the product.
- Store at cool and dry place

7. Response to Emergency Situations

The SZFST18650P3S-640 battery pack comprises multiple batteries that are designed to prevent hazards resulting from failures. However, we cannot guarantee their absolute safety.

A. Leaking batteries

If the battery pack leaks electrolyte, avoid contact with the leaking liquid or gas. Electrolyte is corrosive and contact may cause skin irritation and chemical burns. If one is exposed to the leaked substance, do these actions:

Inhalation

- Evacuate the contaminated area, and seek medical attention immediately.

Eye contact

- Rinse eyes with flowing water for 15 minutes, and seek medical attention immediately.

Skin contact

- Wash the affected area thoroughly with soap and water, and seek medical attention immediately.

Ingestion

- Induce vomiting, and seek medical attention immediately.

B. Fire

In case there is a fire, always have an ABC or carbon dioxide extinguisher. If a fire breaks out where the battery pack is installed, do these actions:



- Extinguish the fire before the battery pack catches fire.
- If it is impossible to extinguish the fire but you have time, move the battery pack to a safe area before it catches fire.
- If the battery pack has caught fire, do not try to extinguish the fire. Evacuate people immediately.
- ❖ If the battery catches fire, it will produce noxious and poisonous gases. Do not approach.

C. Wet batteries

If the battery pack is wet or submerged in water, do not try to access it. Contact us or your distributor for technical assistance.

D. Damaged batteries

Damaged batteries are dangerous and must be handled with extreme caution. They are not fit for use and may pose a danger to people or property.

If the battery pack seems to be damaged, pack it in its original container, and then return it to us or your distributor.

8. Troubleshooting

Check the indicators on the front to determine the state of the battery pack. A warning state is triggered when a condition, such as with voltage or temperature, is beyond design limitations. The battery pack's BMS periodically reports its operating state to the inverter.

When the battery pack falls outside prescribed limits, it enters a warning state.

When a warning is reported, the inverter immediately stops operation.

Use the monitoring software on the inverter to identify what caused the warning.

The possible warning messages are as follows:

- Battery Over Voltage
- Battery Under Voltage
- Battery Over Temperature
- Battery Under Temperature



- Battery Discharge Over Current
- Battery Charge Over Current
- BMS Internal Communication
- Battery Cell Voltage Imbalance

The abnormal state is cleared when the battery pack recovers normal operation.

- ❖ For a serious warning, if no proper corrective actions are taken by the inverter, the battery pack's circuit breaker automatically trips to protect itself.