

# Storion SMILE5

User Manual

EN - V 1.1



Alpha·ESS  
your smart energy

# Copyright Statement

This manual is under the copyright of Alpha ESS Co., Ltd., with all rights reserved. Please keep the manual properly and operate in strict accordance with all safety and operating instructions in this manual. Please do not operate the system without reading through the manual.

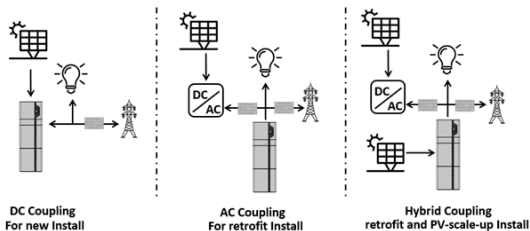
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## 1. General Introduction

### 1.1 Functions

Storion Smile5 is a new energy storage system specifically developed for grid applications by AlphaESS. It can be applied in DC-coupled systems (mostly new installation), AC-coupled systems (mostly retrofit) and Hybrid-coupled systems (mostly retrofit, and PV capacity-increase), as following scheme:



Pic 1. DC/AC/Hybrid Storage System - Scheme

## 2. Safety Precautions



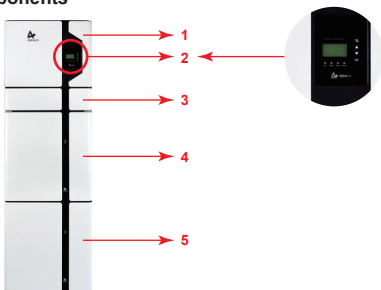
### Warning - Electrical hazards

#### Please read through this manual carefully before operation

- ★ In unlikely event of smoke or fire, turn off main switch immediately and contact your installer for further instructions.
- ★ System should be installed indoor and kept away from water, high temperature, mechanical force and flames.
- ★ Do not disassemble, move or modify any parts of the system without authorization and instruction from AlphaESS.
- ★ Lock the cabinet when it's operating and keep the keys out of reach of children.
- ★ Do not install the system in any environment of temperature below  $-10^{\circ}\text{C}$  or over  $50^{\circ}\text{C}$ , and humidity over 80%.
- ★ Do not touch the system with wet hands.
- ★ Do not put any heavy objects on the top of the cabinet.

### 3. System Introduction

#### 3.1 System components



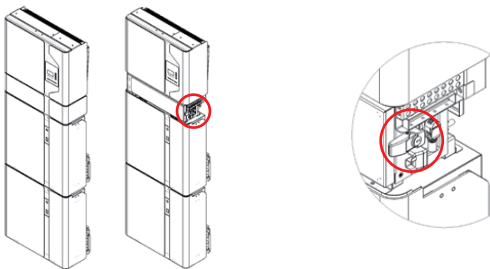
*Pic 2. Storion-Smile5 Delivery Scope*

Item	Components
1	Hybrid Inverter
2	Display
3	Cable Box
4	Smile5-BAT battery 1
5	Smile5-BAT battery 2

### 4. Operation- Switch On/Off

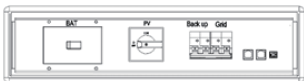
#### 4.1 Switch On

System shall be turned on in the correct sequence to avoid any damage.



**Step 1,** Open cable box outer shell.

**Step 2,** Unlock then open Cable box inner cover.



**Step 3**, turn on the PV switch on the cable box.

**Step 4**, Turn on the GRID switch.

**Step 5**, If backup load is applied, connect it to Back up ports and turn on the Back up switch; if not, then keep the Back up switch off.

**Note: The Backup switch is only used when a backup load is applied.**

**Step 6**, Turn on the Battery switch.

**Step 7**, Press button 1 on all the batteries, and the indicator light 2 will be on.

**Step 8**, Close the inner cover and outer shell of Cable box.

## 4.2 Switch Off

**Step 1**, Open Cable box following the steps in 4.1 step 1, 2.

**Step 2**, Press button 1 on all the batteries, till the lights off.

**Step 3**, turn off the Battery switch.

**Step 4**, Turn off the GRID switch.

**Step 5**, If backup load is applied, turn off the Backup switch.

**Step 6**, turn off the PV switch on the cable box.

**Step 7**, Close the inner cover and outer shell of Cable box.

**More information can be found in [Smile5-BAT user manual](#).**

## 4.3 Display



Object	Name	Description
A	Indicator	Green: The inverter is in normal state.
B		Blue: The battery is in charging or discharging.
C		Yellow: The inverter is in communication.
D		Red: The inverter is in fault.
E	Function	Down button: Move cursor to downside or decrease value.
F		Return button: Escape from current interface or function.
G	Button	ENT button: Confirm the selection.
H		Up button: Move cursor to upside or increase value.
I	LCD Screen	Display the information of the inverter in this LCD screen.

### 4.3.1 Main

Power	0W
Today	00.0KWh
Battery	%
Normal	

*Main interface*

Main displays the inverter working status and information, including:  
 Power: Real-time output power;  
 Today: Power generation of the day.  
 Battery: Current remaining battery power (SOC).  
 Normal: Current working state of the equipment, including Standby.

>>>>> MENU <<<<<
>Status
History
Setting

*Status Menu*

In the Main interface, press ENT key to enter the Menu main interface. Through the up and down key, select the sub-menu, press the ENT key to enter the select sub-menu, press Return key to return to the previous layer.

>>>>> Status <<<<<
>Grid
Solar
Battery

*Status Menu*

Status menu contains five sub-menus: Solar, Battery, Grid, EPS and communication, displays the relevant information about the current physical or communication interface respectively.

>>>>> Grid <<<<<	
U	230.2V
I	2.0A
P	460W

*Grid Interface*

Grid interface displays the real-time information on the city electric side:  
 voltage U, current I, power P, Pgrid, frequency F.

>>>>	Solar	<<<<<
U1	360.0V	
I1	1.0A	
P1	360W	

**Solar Interface**

Solar interface displays the real-time information of PV side: voltage U1, current I1, power P1, voltage U2, current I2 and power P2.

>>>>	Battery	<<<<<
U	48.0V	
I	10.0A	
P	480W	

**Battery Interface**

Battery interface displays the real-time information of battery side: voltage U, current I, power P, residual capacity of Battery (SOC), the internal environmental temperature Temp

>>>>	EPS	<<<<<
U	230.2V	
I	2.0A	
P	460W	

**EPS Interface**

EPS interface displays the real-time information in this mode: voltage U, current I, power P, frequency F.

#### 4.3.2 History

>>>>	History	<<<<<
>	Solar Yield	
	Battery Yield	
	Error Logs	

**History Menu**

History menu contains four sub-menus : Solar Yield, Battery Yield, Error Log and Bat Error Log.

>>>>	Solar Yield	<<<<<
Today:	1.6Kwh	

**Solar Yield Interface**

Solar Yield interface displays the related information of power generation of the equipment:

Today: Power generation of today;  
 Yesterday: Power generation of yesterday;  
 This month: Power generation of this month;  
 Last month: Power generation of last month;  
 Total: Total generating capacity;

>>>>	Battery Yield	<<<<<
Today:	1.6Kwh	

**Battery Yield Interface**

Battery Yield Display battery displays the related information of the electric quantity discharged from the battery.

```
>>> Inverter Yield <<<<

Today:

1.6Kwh
```

***Inverter Yield Interface***

Inverter Yield interface displays the related information of electric quantity of inverter.

```
>>> Error Logs <<<<

1st:

2016-09-08      12:00
SPI Fault
```

***Error Logs Interface***

Error Logs interface displays 10 pieces of the latest fault records of the device, including the name of the fault and time of error.

```
>>> Bat Error Logs <<<<

1st:

2016-09-08      12:00
MOS Fault
```

***Bat Error Logs Interface***

Bat Error Logs interface displays 10 entries of the latest fault records of device, including the name of the fault and time of error.

## 5. Emergency Situations

Storion-SMILE5 comprises multiple batteries that are designed to prevent hazards resulting from failures. However, AlphaESS cannot guarantee their absolute safety.

### Fire

In case of fires, make sure that the following equipment is available near the system.

- ★ SCBA (self-contained breathing apparatus) and protective gear in compliance with the Directive on Personal Protective Equipment 89/686/EEC.
- ★ Novec 1230, FM-200, or dioxide extinguisher.

### Note:

**ABC extinguishers are not effective when the battery pack is on fire.**

Batteries may explode when heated above 150°C. If possible, move the battery pack to a safe area before it catches fire.

### Leaking Batteries

If the battery pack leaks electrolyte, avoid contact with the leaking liquid or gas. If one is exposed to the leaked substance, immediately perform the actions described below.

- ★ **Inhalation:** Evacuate the contaminated area, and seek medical attention.
- ★ **Contact with eyes:** Rinse eyes with running water for 5 minutes, and seek medical attention.



- ★ **Contact with skin:** Wash the affected area thoroughly with soap and water, and seek medical attention.
- ★ **Ingestion:** Induce vomiting, and seek medical attention.

### **Wet Batteries**

If the battery pack is wet or submerged in water, do not let people access it, and then contact AlphaESS or an authorized dealer for technical support.

### **Damaged Battery**

Damaged batteries are dangerous and must be handled with the utmost care.

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 AlphaESS or an authorized dealer.

**Note: Damaged batteries may leak electrolyte or produce flammable gas. If such a damage occurs, immediately contact AlphaESS.**

## **6. Online Monitoring**

Before you have access to the online monitoring data, you must obtain an account from your installer.

More detailed information can be obtained in Online Monitoring Webserver User Manual.

## **7. Warranty**

### **7.1 Warranty**

Products that are operated strictly in accordance with the user manual and the AlphaESS Installation Manual are covered by the warranty. Any violation of this manual may void the warranty.

### **7.2 Limitation of Liability**

Any product damage or property loss caused by the following conditions AlphaESS does not assume any direct or indirect liability.

- Product modified, design changed or parts replaced without AlphaESS authorization;
- Changes, or attempted repairs and erasing of series number or seals by non AlphaESS technician;
- System design and installation are not in compliance with standards and regulations;
- The Product has been improperly stored in dealer's or end user's premises;
- Transport damage (including painting scratch caused by movement inside packaging during shipping). A claim should be made directly to shipping or insurance company as soon as the container/packaging is unloaded and such damage is identified;
- Failure to follow any/all of the user manual, the installation guide and the maintenance regulations;
- Improper use or misuse of the device;
- Insufficient ventilation of the device;
- The maintenance procedures relating to the product have not been followed to an acceptable standard;
- Force majeure (violent or stormy weather, lightning, overvoltage, fire etc.).
- Damages caused by any external factors.



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