



Storion SMILE5 Commission Checklist

V1.0

Installation & Commission Checklist

Product: Storion-SMILE 5
Version Date: Feb. 4, 2019

Item	Description	Checked by _____
1	Check before turning on system:	
1.1	Check the cabinet grounding is reliable;	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA
1.2	Check all battery DIP settings. Only the battery on the end of power chain should turn on the DIP Switch 2. The other batteries should keep the DIP Switch off; *B.2	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA
1.3	Check the following power cables, should be connected right and tight, screws should be fixed:	
1.3.1	Power cables between battery modules; *B.1	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA
1.3.2	Power cables between battery and inverter;	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA
1.3.3	Cabling of meters/CT, installation of meters/CTs direction; *C.2	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA
1.3.4	Power cables between inverter and grid;	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA
1.3.5	Power cables between inverter and backup load;	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA
1.4	Check the backup load applied is below 3 KW; *A.3	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA
1.5	Check the following communication cables, should be connected right and tight:	
1.5.1	Check all communication LAN are in Type B and the color sequence is correct; *A.2	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA
1.5.2	Communication cables between batteries;	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA
1.5.3	Communication cable between battery and inverter; *A.1	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA
1.5.4	Communication cables between inverter and meter; *C.3	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA
1.5.5	Communication cables between grid meter and PV meter (if there two meters)	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA
1.5.6	Communication cable to Internet;	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA
1.6	Check the circuit breaker is above C25; *C1	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA
1.7	Check the address of meter; *C.4	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA

2.	Check after turn on system:	
2.1	Check that batteries indicator lights should be green and blinking every 10 secs;	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA
2.2	Check the 4 indicator lights on inverter, Battery, Internet and Normal should be on, and EMS LCD screen shows normal;	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA
2.3	Check that communication status, BMS / Net / Meter 1/ Meter2 should be yes on EMS. Menu location: Status->Communication 	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA
2.4	Check the system mode is correct; *D.1	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA
2.5	Enable CT and set CT ratio is 80/120 (if CTs are installed); *D.2e	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA
2.6	Check PV capacity setting; *D.2a	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA
2.7	Check UPS reserve setting; *D.2c	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA
2.8	Register and login monitoring system at https://www.alphaess.com/ , check that the system status should be Normal;	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA
2.9	Set the time-zone;	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA
2.10	After above steps completed, please send the system SN to AlphaESS engineer to check the system status online.	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA
3	System Testing	
3.1	Test if system could power the load or not;	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA
3.2	Test if the PV could charge the battery system or not (if PV modules and PV inverter are installed);	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA
3.3	Test if grid can charge the battery system or not when system is grid connected.	<input type="checkbox"/> Y <input type="checkbox"/> N <input type="checkbox"/> NA

Note: Please refer the appendix for the section with *

Appendix

This document is a summary of the points that are easy to be neglected based on our long-term onsite maintenance experience and customers' feedbacks. Please pay much attention on it, and kindly keep in mind that proper installation and system settings can avoid most of the system errors in the future.

This appendix will be in the form of Q & A, and consist of 5 sections, Invertor, Battery, Meter, EMS Settings and Online Registration.

A. Invertor

1. Have the 5 pre-wired cables been connected correctly and properly?

There are 3 communication cables and 2 power cables are pre-made on the back of the cable box, as shown below.

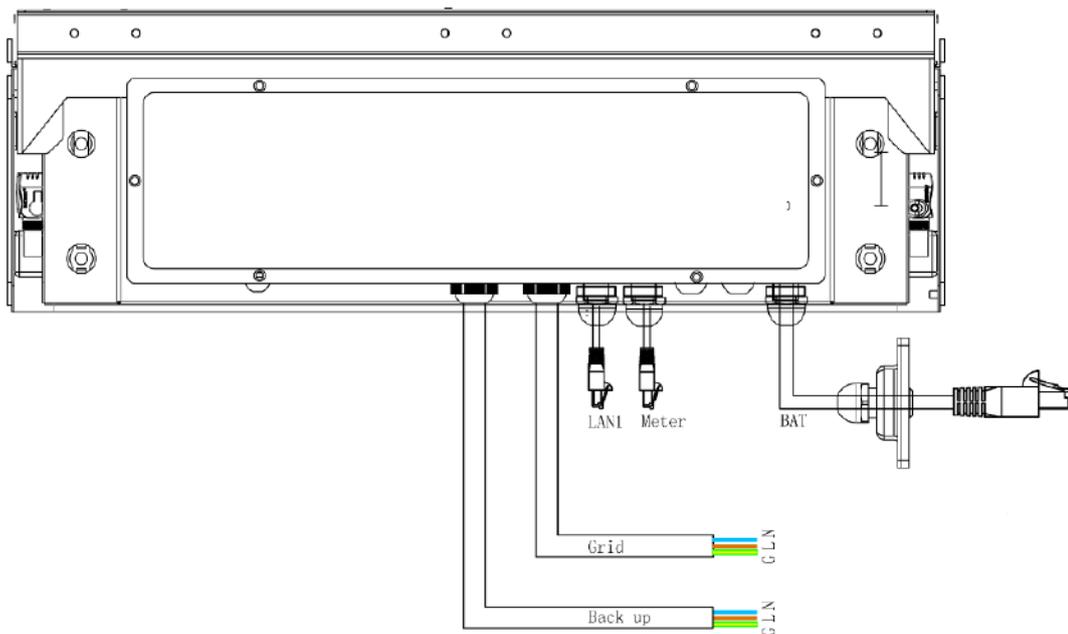


Figure 1

The power cable labeled “**Grid**” should connect to the grid and the cable labeled “**Backup**” or “**AC**” should connect to the essential load which is the customer wants to keep powered when blackout happens. The communication cable labeled “**LAN**” should connect to the customer’s router or a Wifi extender. The cable labeled “**Meter**” should connect to the grid meter and the cable labeled “**Bat**” should connect to the nearest battery.

2. Have you noticed the communication cable is in Type B?

All the communication cables are in **Type B**, the line sequence is as the Figure 2 shown below.

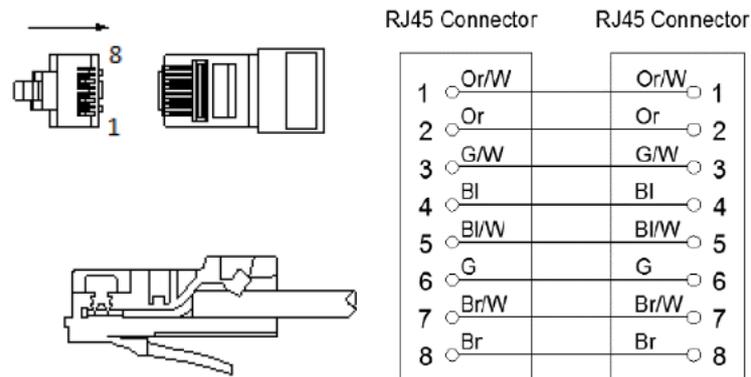


Figure 2

3. How much load are connected to the backup end?

The backup switch is only used when a backup load is applied. The backup load is totally powered by the system, so please pay attention to the rated output power of our system. In theory, for pure resistance load, the power limit is 4.6 KW, and for pure inductance load the limit is 1.6 KW. As a result, for the practical situation, make the backup load around 3 KW for security purpose.

B. Battery

1. Have you connected the power cable and communication cable properly?

There are two set of positive and negative power connection points on the top and sides of the battery respectively. The battery power cable should connect to the **top** connection points first, red-red, black-black.

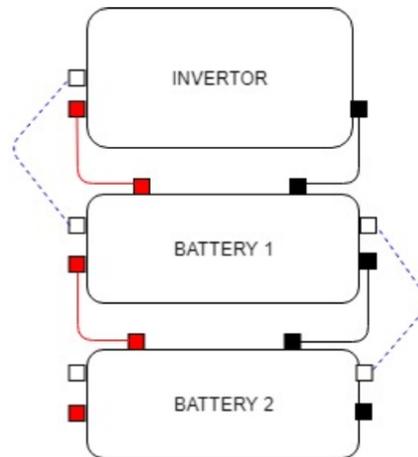


Figure 3

Then connect the power cable to the other battery's **side** connection points, red-red, black-black. This can make sure the last battery's **side** connection points are always available for extra batteries in the future.

There are two communication ports on both sides of battery respectively. Connect the communication cable from the cable box to the battery. Use the communication cable from parts list to connect the two batteries at the side. After above connections done then lock all communication baffles.

2. Have you switched on the DIP switch 2 on the end of power chain?

Only the "farthest" battery from inverter need to set DIP switch, the other batteries keep the DIP setting as default.

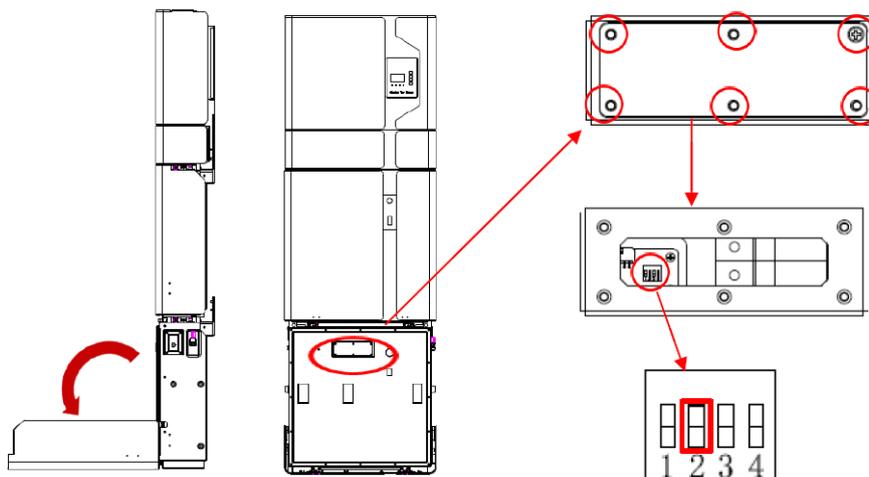


Figure 4

However, when you need to add more batteries, please keep in mind to switch off the original “farthest” battery’s DIP and switch on the new one. **Unproper DIP settings will result in battery communication lost.**

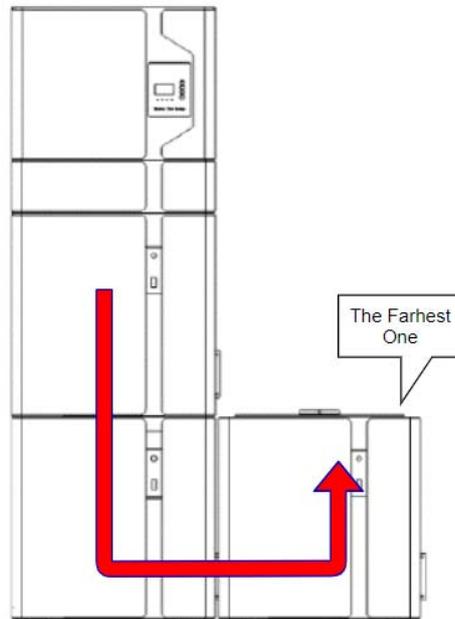


Figure 5

When adding on batteries, please install only by side. Up to 6 batteries can be installed in one system, with each two in a column.

C. Meter

1. Have you double checked the circuit breaker is above 25A?

The current of the circuit breaker that connects the inverter must be more than **25A**. The installation as below will cause circuit breaker open intermittently.



Figure 6

2. Are the meters/CTs installed in the correct direction?

Briefly, for the meters, the power comes in through port L and N, come out through L' and N'. For CTs, the arrow must keep the same direction with the power flow.



Figure.7



Figure 8

3. Have the meter communication cables been connected to the correct ports?

If there is no meter plug installed, please make sure the wiring of meter communication is correct.

For ADL-3000, line 3 (G/W) from the RJ45 should be connected to Port 7 of the meter. Line 6 (G) should be connected to Port 8 of the meter.

For SM60A, it should be line 3 connecting to port 5, line 6 connecting to port 6.

For ACR10R, line 3 connects to port 21, line 6 connects to port 22.

If it is a DC system, there is only one grid meter needs to be connected to the system. If it is an AC or Hybrid system, after the connection between system and grid meter, the grid meter and PV meter also need to be connected. It will be the same number of ports are connected to each other with the line 3 and 6. (7-7, 8-8, 5-5, 6-6, 21-21, 22-22) For example, the figure shown below is the connection of SM60A.

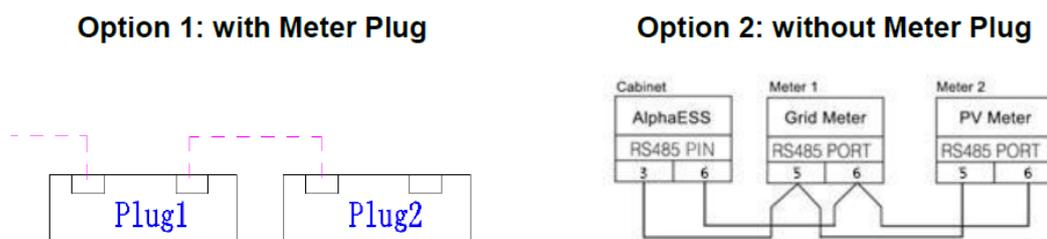


Figure 9

4. Have you set the meter address correctly?

To get access to the meter setting, the password is 0001.

For ADL-300, address of grid meter is 001, PV meter is 002.

For SM60A, address of grid meter is 003, PV meter is 004.

For ACR10R, address of grid meter is 005, PV meter is 006.

D. EMS Setting

After the installation of hardware, please also remember to set the EMS settings. **Unproper EMS settings can also result in system crush.** To get in the setting, the password is 1111.

1. Have you set up the correct system mode?

Navigating to Enter > Setting > Function > System Mode

There are three system working modes for our system, DC, AC and Hybrid as the figure shown below.

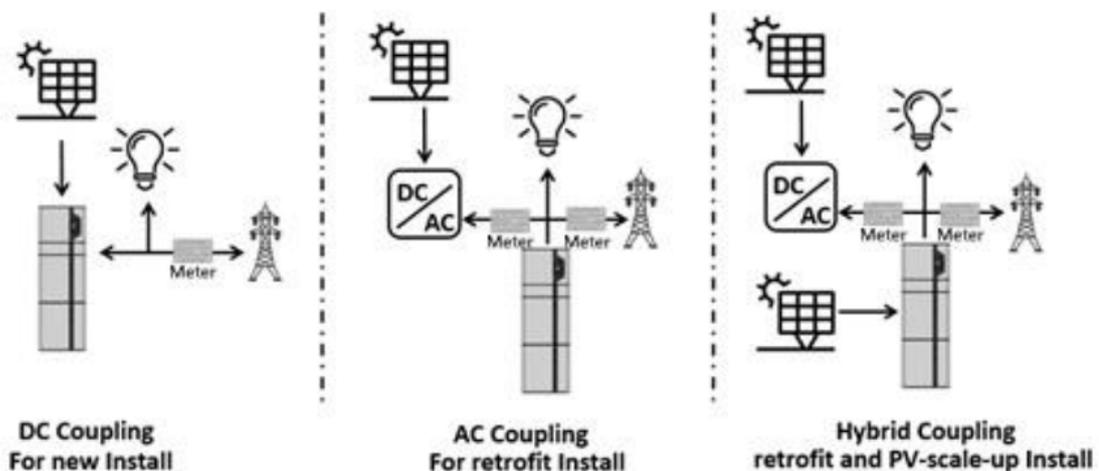


Figure 10

In brief, we can tell which mode the system is in the method below.

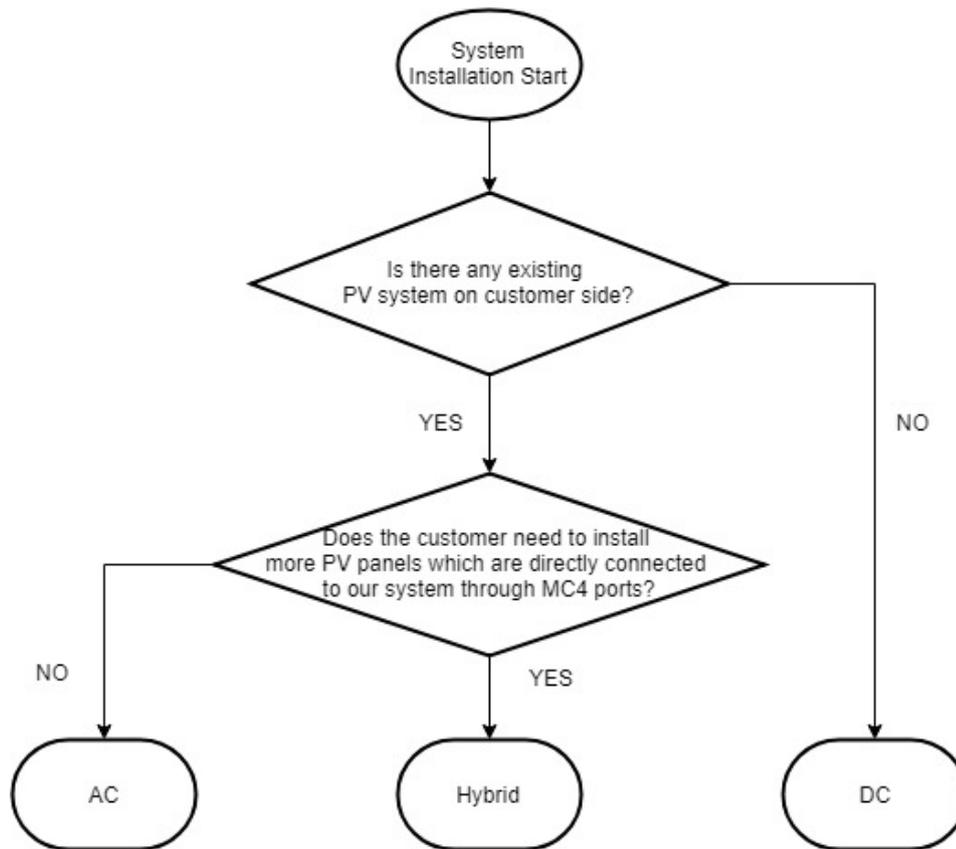


Figure 11

2. Have you already set the following points?

- a. Setting > Function > Solar > On Grid Cap. (The power of existing PV system) and Storage Cap (The power of PV panels directly connected with system)
- b. Setting > Function > Battery > Battery Ready > No
- c. Setting > Function > Work Mode > UPS Reserve SOC > 11% (Minimum value, recommend above 13%)
- d. Setting > System > Ethernet > DHCP
- e. If the CT meter is equipped, Function > System Mode > CT Meter > Enable. And input the correct Ratio (Normally 80 or 120)

E. Online Registration

1. Is this system online?

Make sure the system has been connected to the router or a WIFI extender. The LED indicator of Internet should be on. **Please note that a long-time offline mode may affect the warranty of the product.**

2. Have you registered the customer on our website?

You need to create a new account on our webserver for the normal monitoring. In addition, a part of our warranty is based on this connection to our webserver. The data before the registration would not be retained on the webserver. To log in or register, please refer the following steps:

a. Open the portal: www.alphaess.com.

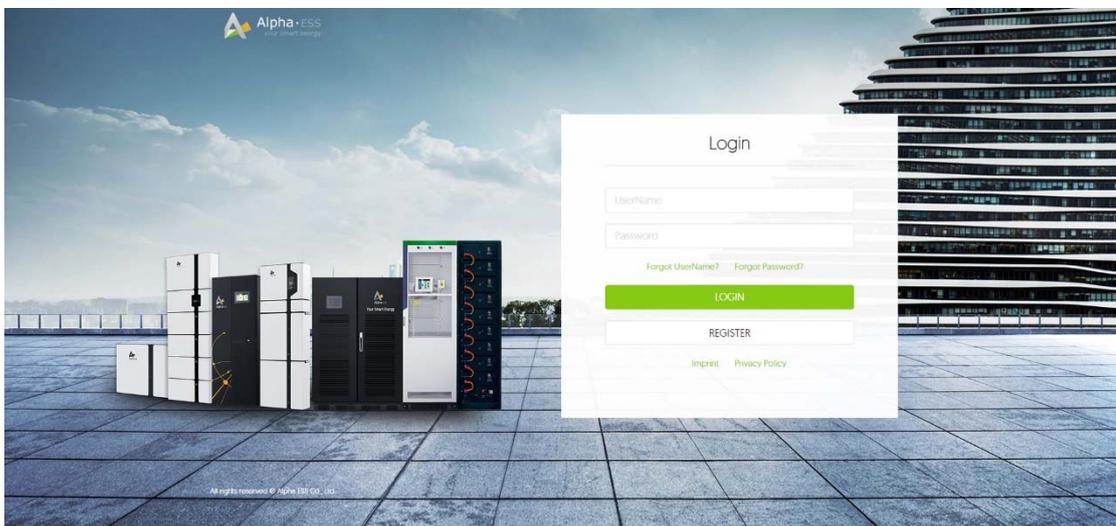


Figure 12

b. Please fill in “Username”, “Password” and click “Login”, if you have registered. If not, please register as following steps

c. In this form, all blanks marked with an asterisk must be filled out, you can choose End user or installer.

Register

User Type * S/N

End user

* Username

* Password * Confirm Password

* Country/Area Province/State City/Town

Address * Zip Code

* Language * Contact name * Contact Number

* E-mail

Time zone

Auto upgrade enabled (The automatic upgrade function is to actively update the latest push program to improve the performance of the device when the system is running on the network.)

Agree to the above terms <<Terms and Conditions>>

[Imprint](#) [Privacy Policy](#)

Figure.13

d. After all the information filled, please tick Agree to the terms and click SIGN UP NOW. Then the registration has been completed.