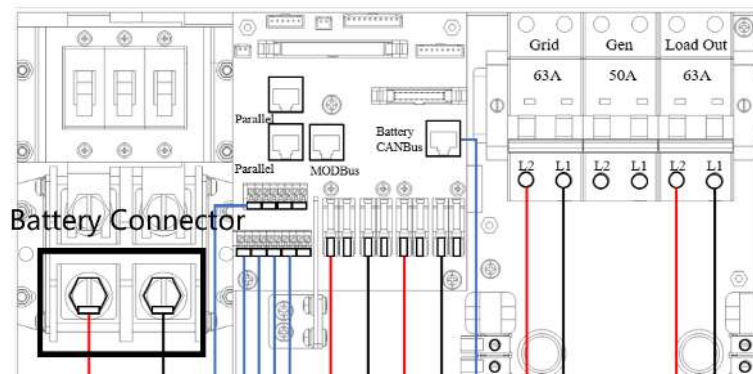




Connect the cables

Connect the power cables between inverter and battery or the Busbars as mentioned.

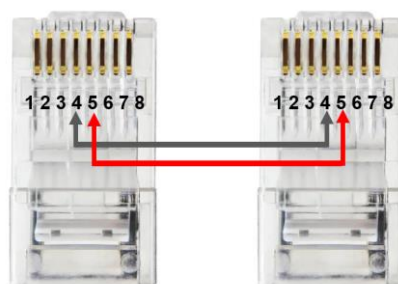
Figure 2.1 Sol-Ark Battery Connector



As for the cable gauge that connects the busbar to the inverter, 4/0 gauge power cable is commended for Sol-Ark 15K model and 3/0 gauge power cable is commended for 8K/12K model.

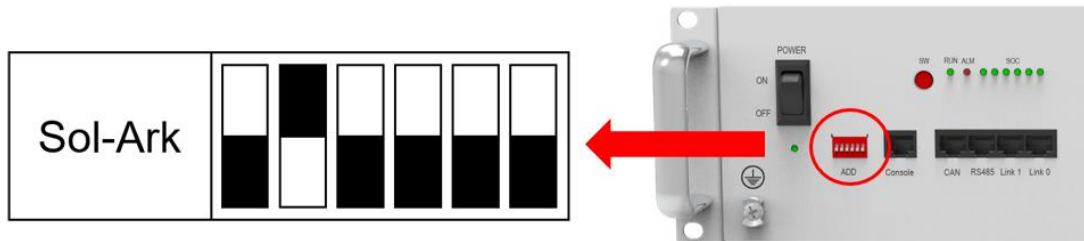
A standard ethernet cable can be used for the communication since Sol-Ark inverter pin assignment is the same as Pytes E-BOX battery.

Figure 2.2 Sol-Ark Standard ethernet cable



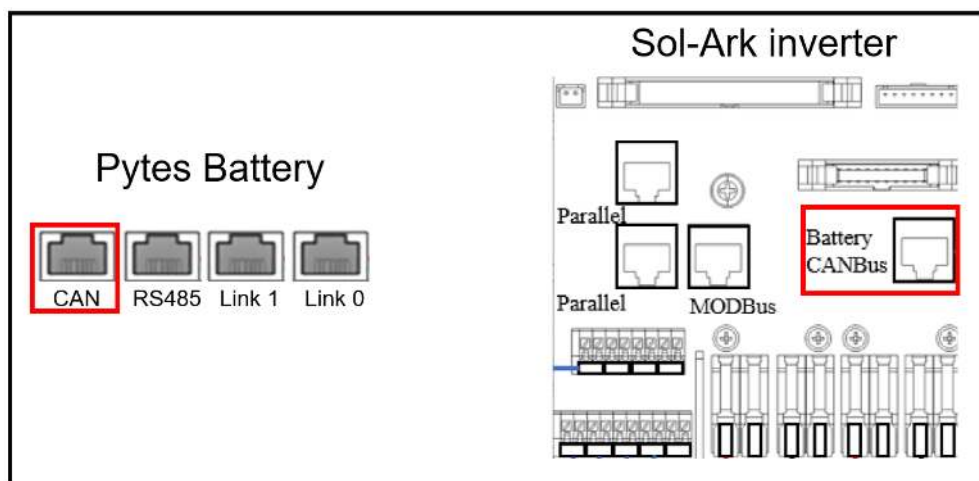
Set the DIP Switch of every master battery as Figure 2.3 shown.

Figure 2.3 Sol-Ark inverter DIP Switch Setting



Plug in the battery end into the **CAN port** of the Pytes E-BOX battery and plug in the inverter end into Sol-Ark Battery **CANBus** Port as shown in the Figure 2.4.

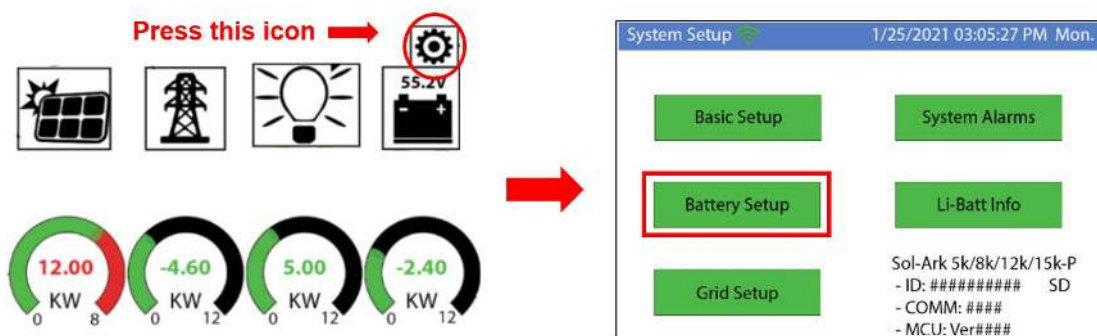
Figure 2.4 Sol-Ark inverter comm cable connection



Program the inverter

Press the gear icon on the top right of the screen and then press battery set up menu.

Figure 2.5 Sol-Ark Batt Setup

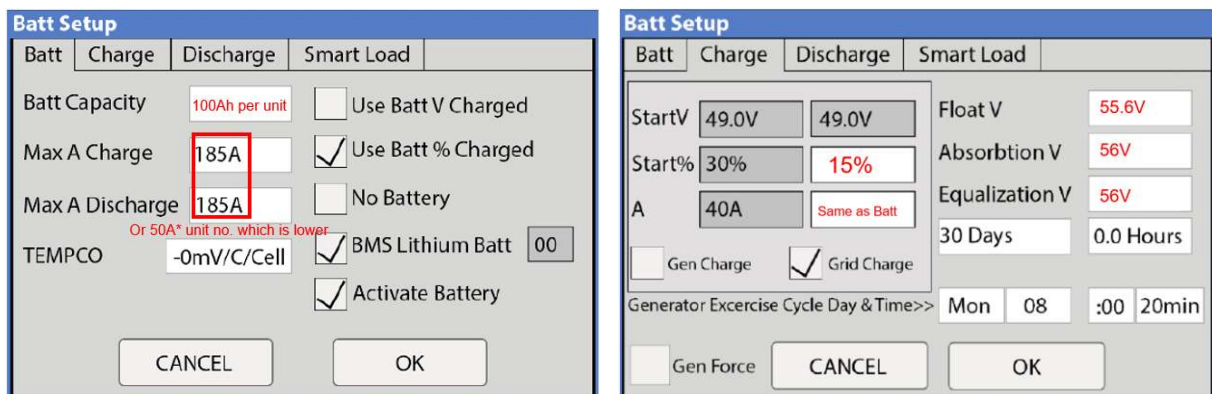


Set the battery parameters

- Batt Capacity: 100Ah per unit
- Max A Charge/Discharge: 185A is the max amps that Sol-Ark 8K/12K mode supports and the corresponding number is 275A for 15K mode. Fill in the max amps or (50A*unit numbers) which is lower. (For example, there are three Pytes E-BOX batteries and one 12K Sol-Ark inverter in a system. The max amps of 12K is 185A and three batteries can support 150A(50*3). So the number should fill in is 150A.)
- Select “Use Batt% Charged”.
- Enable “BMS Lithium Batt” and set its value to “00”.
- Turn on “Activate Battery”.

Note that enabling BMS Lithium Batt 00 will adjust some values and make other values unadjustable (like the temperature coefficient above). Just ignore those values - the BMS is in control.

Figure 2.6 Batt Setup



Program the Charge tab in Batt Setup

See the right picture in Figure 2.6.

- Start%: 15%
- A: Same as the Max A Charge in Batt Setting
- Float V: 55.6V
- Absorption V: 56V
- Equalization V: 56V

Program the Discharge tab in Batt Setup

- Shutdown: 10%
- Low Batt: 20%

➤ Batt Empty: 47.5V

Figure 2.7 Batt Discharge Setup

Batt Setup			
Batt	Charge	Discharge	Smart Load Wind
Shutdown	51V	10%	Batt Resistance 5 mOhms
Low Batt	51.4V	20%	Batt Charge Efficiency 98%
Restart	51.8V	25%	BMS_Err_Stop <input type="checkbox"/>
Batt Empty V	47.5V		

Please refer to the [Sol-Ark inverter manual](#) for more setting such as Grid Setup, PV Setting, Time-of-Use, etc.

Confirm Inverter-Battery Communication

Figure 2.8 communication confirm

The screenshot shows the inverter's system setup interface. On the left, there is a 'Click Here for Setup Menus' button with a gear icon. Below it are four icons representing different system components: PV, Grid, Load, and Battery. Below the icons are four circular gauges showing power levels: 12.00 KW, -4.60 KW, 5.00 KW, and -2.40 KW. The main display area is titled 'System Setup' and shows a date and time: '1/25/2021 03:05:27 PM Mon.'. There are several menu options: 'Basic Setup', 'System Alarms', 'Battery Setup', 'Lithium Batt Info', and 'Grid Setup'. The 'Lithium Batt Info' option is highlighted with a red arrow. To the right of the 'Lithium Batt Info' option, there is a text box containing the following information: 'Sol-Ark 8k/12k-P', '- ID: #####', '- COMM: ####', and '- MCU: Ver####'. Below this text box is a list of data points: 'Header data appears here 56V 185A etc....', '1: 0000000000000000', '2: Battery Data appears here when successful', '3: 0000000000000000', '4: 0000000000000000', '.....', and '16. 0000000000000000'. A red arrow points from the 'Lithium Batt Info' option to the data list.