HOPETREK

Installation guide

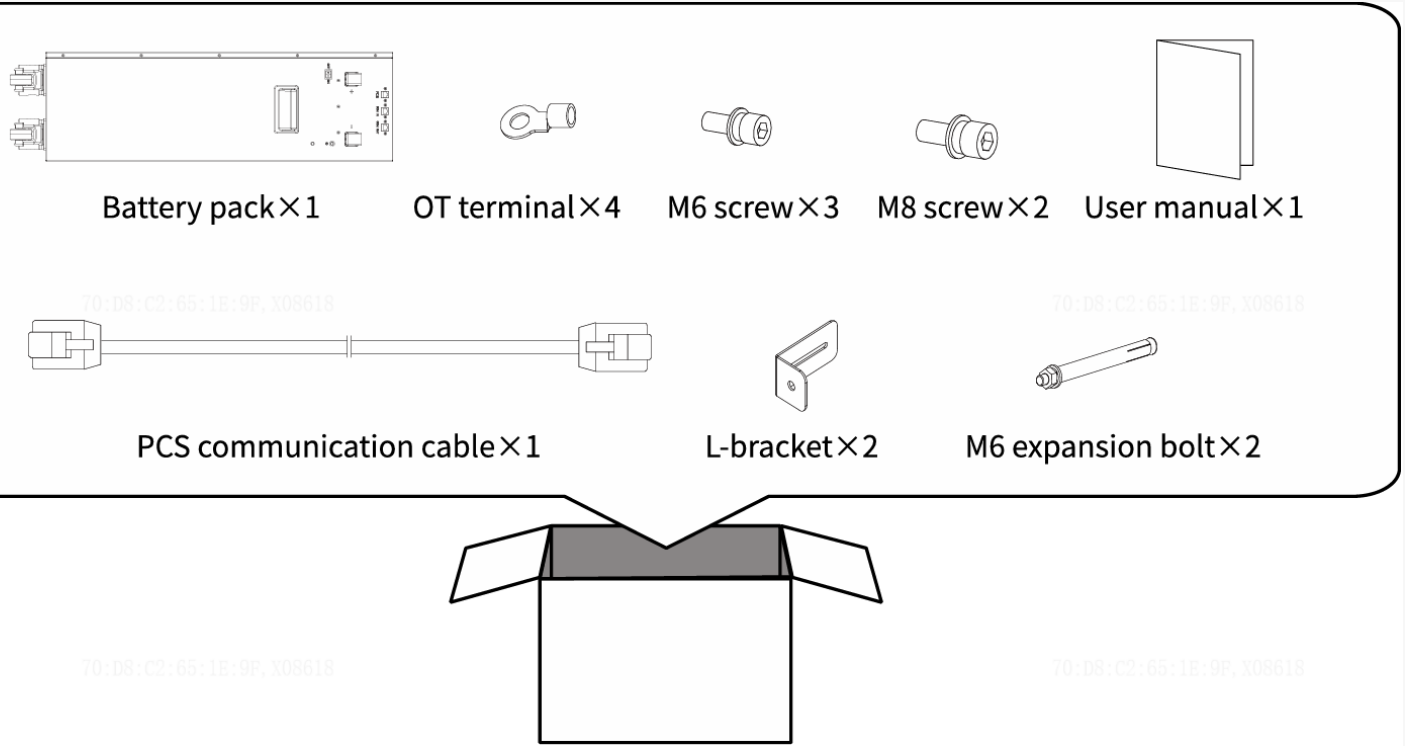
Product Model：ESS-LB16-W01

CONTENTS

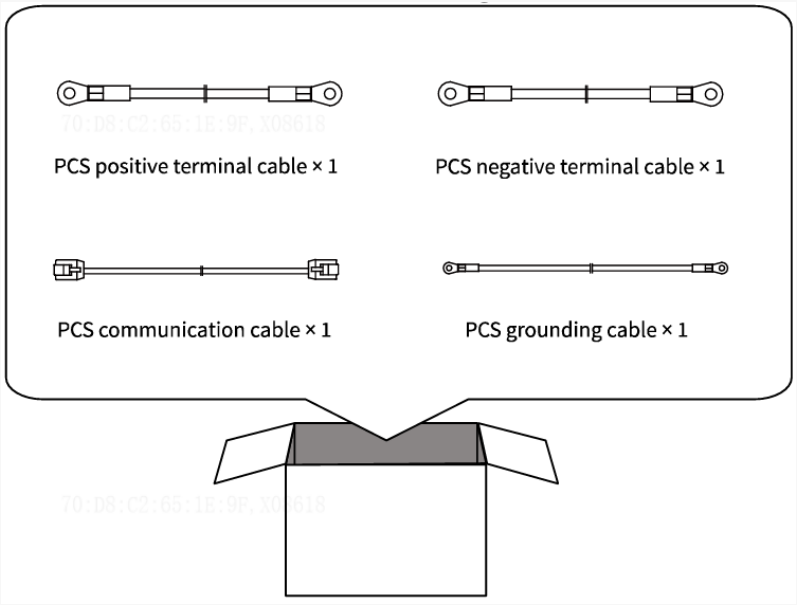
PART 01

Preparation & Requirement

1.1 Packing List



1.2 Packing List



Battery-Inverter Cable Package
(Sold separately)

Cable	Length	Color	Standard	Core Diameter
PCS positive terminal cable	1.5m	Orange	UL10269	1AWG
PCS negative terminal cable	1.5m	Black	UL10269	1AWG
PCS communication cable	1.5m	White	CAT 5e	26AWG
PCS grounding cable	1.5m	Yellow/green	UL10269	10AWG

ESA-CA-SLP-A

1.3 Environment Requirements

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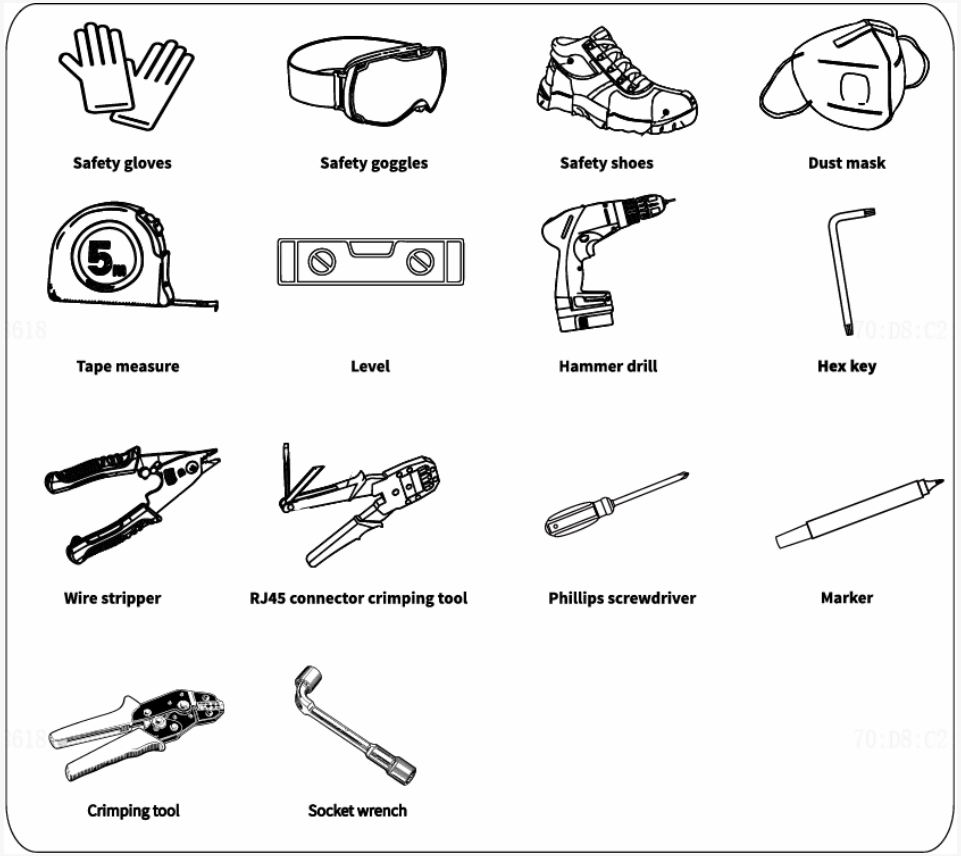
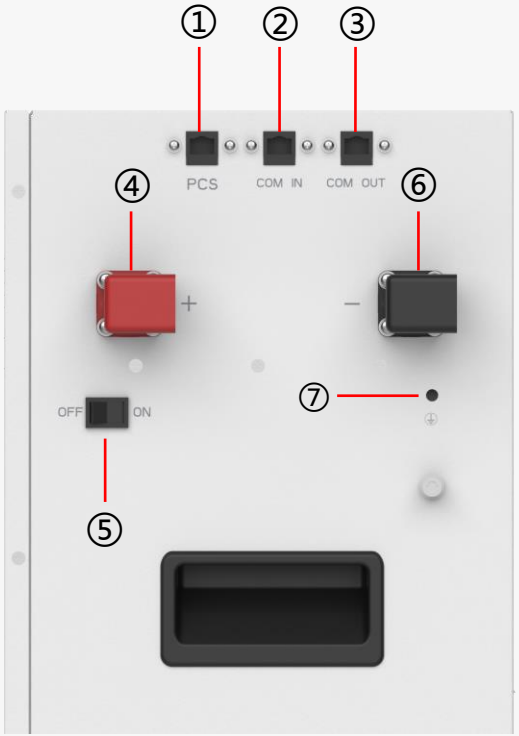
- Do not install the device in easily accessible areas or near children's activity zones.
- Flammables and explosives must be kept away from the device; independent fire alarm devices must be provided.
- Do not expose the battery pack to sunlight or near any heat sources.
- Do not install the device in areas prone to water accumulation. Do not expose the device to rain.
- The device should be installed in a place with sufficient load-bearing capacity and levelness, and should not be tilted, laid down, or placed upside down.
- The optimal operating condition of the device is at an ambient temperature of around 25° C. Operation in high temperatures should be avoided.
- The installation altitude of the device should not exceed 2000m.
- Sufficient space should be kept around the device for efficient ventilation and heat dissipation.

1.4 Tools Preparation



1.5 Battery Interface



Side Interface

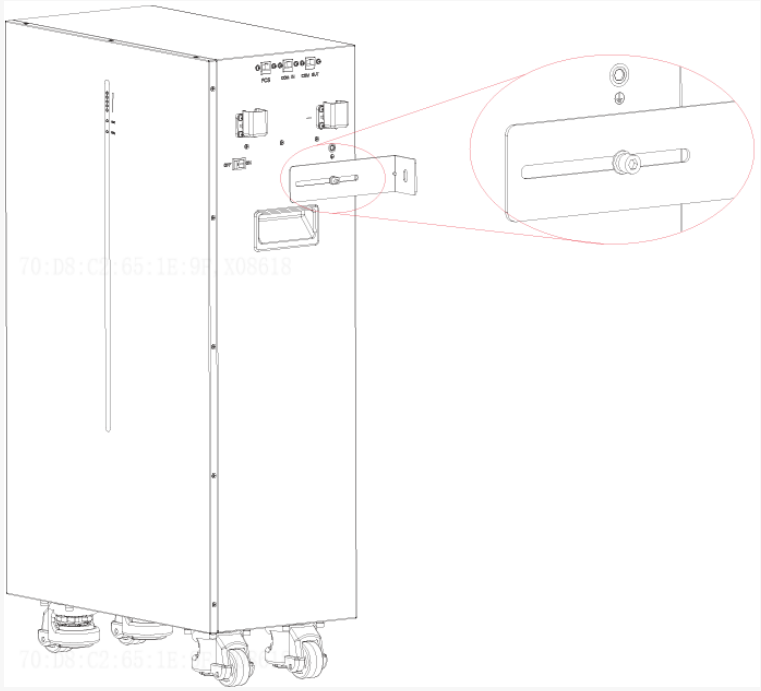
No.	Interface	Description
①	PCS	Connects to the BMS communication interface on the inverter.
②	COM IN	Connects to the COM OUT interface on the previous battery pack for communication
③	COM OUT	Connects to the COM IN interface on the next battery pack for communication
④	BAT+	Battery positive terminal
⑤	Power button	On/off switch of the battery system
⑥	BAT-	Battery negative terminal
⑦	Grounding	For grounding

PART 02

Battery Installation & Wiring

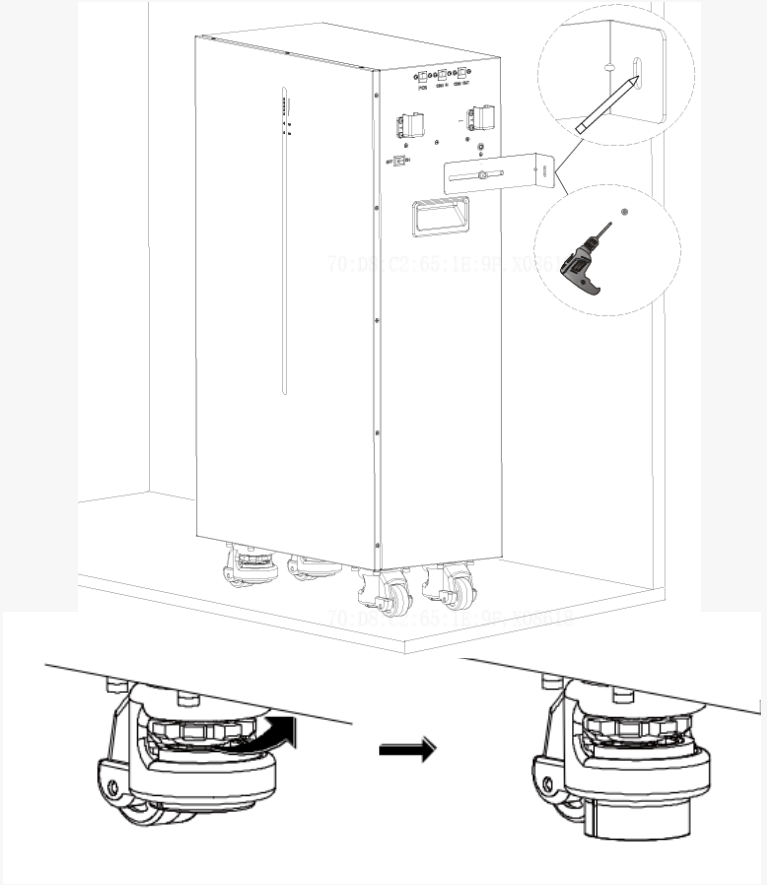
2.1 Mounting the battery

Step 1：Use flat washers, spring washers, and M6 screws to install the brackets on both sides of the battery pack.



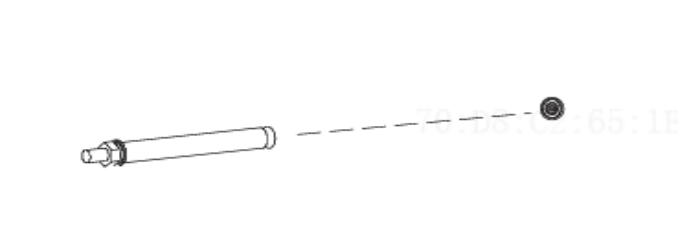
2.1 Mounting the battery

Step 2: Move the battery pack with brackets close to the wall to determine the distance from the wall. Rotate the thumbwheel of the wheel to lower the support feet until they touch the ground (the wheels will now be off the ground), then mark the positions of the two mounting holes on the brackets. Rotate the thumbwheel again to lower the wheels and retract the support feet. Move the battery pack away and drill two holes in the wall at the marked positions.

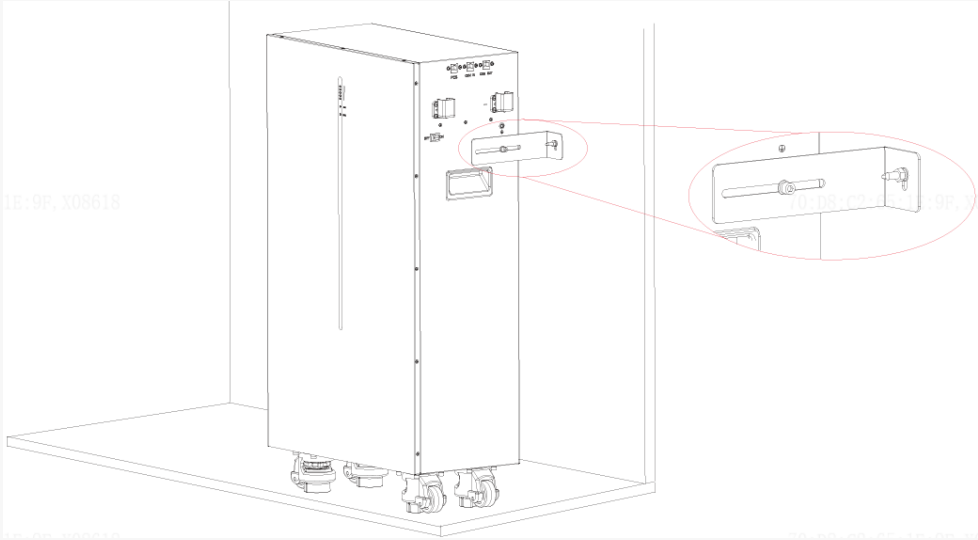


2.1 Mounting the battery

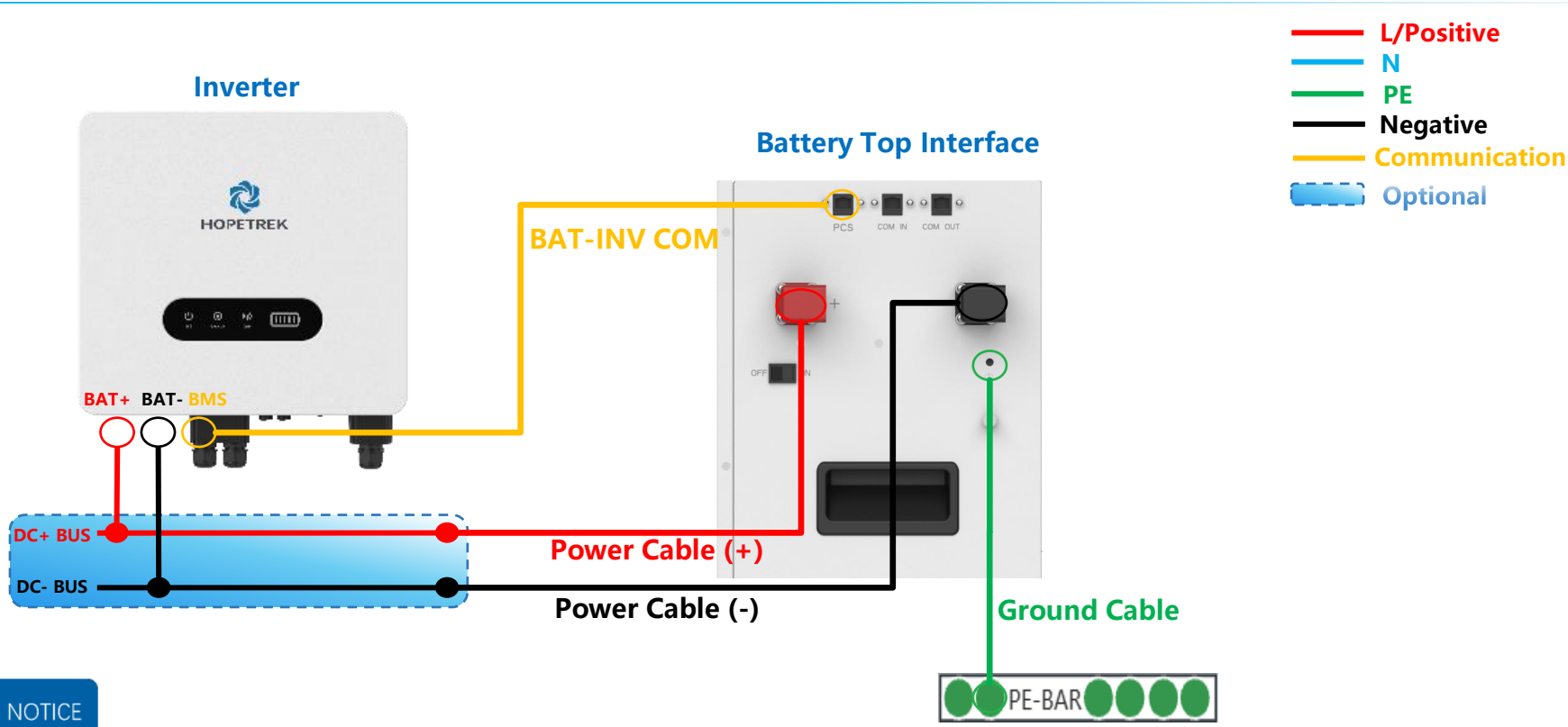
Step 3: Insert the M6 expansion bolts into the holes in the wall. Then remove the nut, spring washer, and flat washer from each bolt.



Step 4: Move the battery pack back. Align the bracket holes horizontally with the bolts. Rotate the thumbwheel to lower the support feet until they touch the ground. Adjust the brackets so the bolts pass through the bracket holes. Then install the flat washer, spring washer, and nut onto each bolt in sequence, and tighten them.



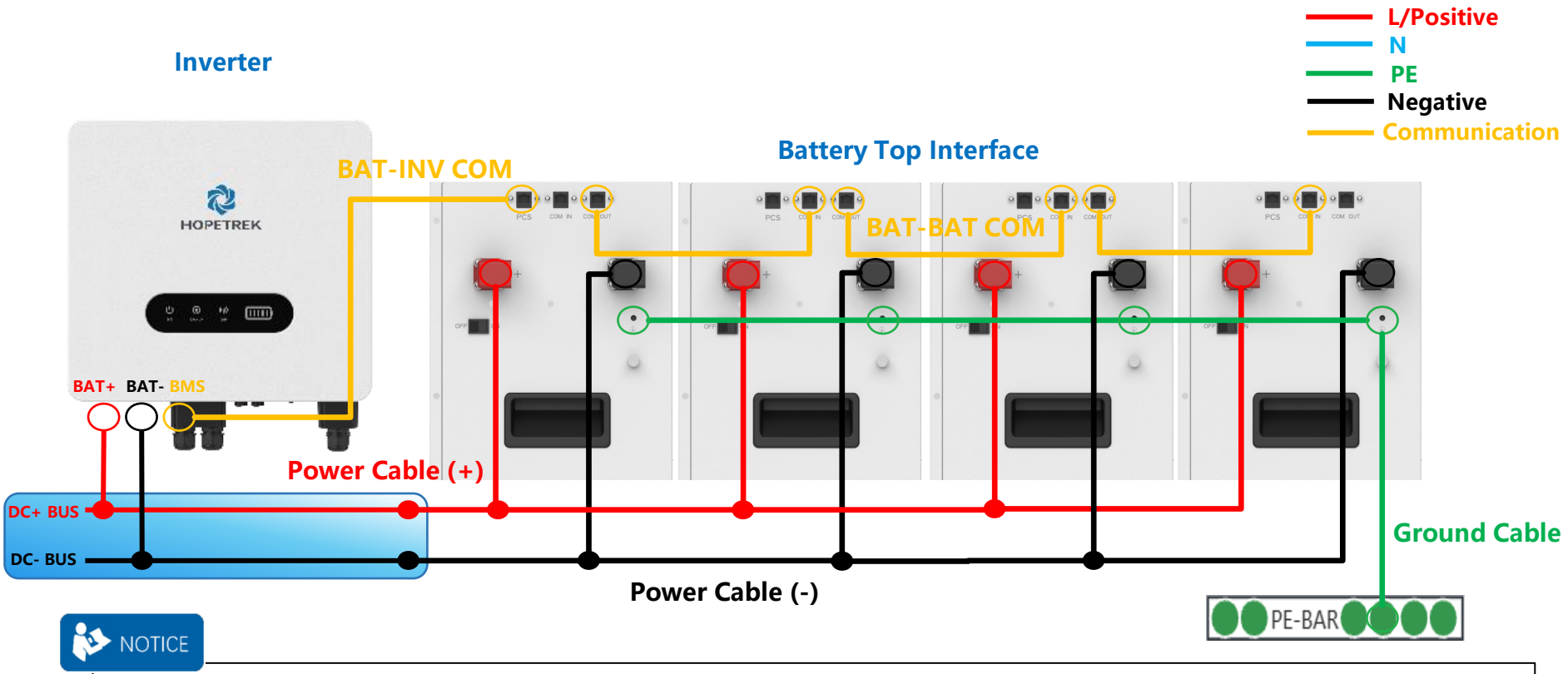
2.2 Battery Wiring (1 Battery)



NOTICE

The specification of the battery combiner box shall be greater than the inverter's maximum operating current.

2.2 Battery Wiring (4 Batteries)



NOTICE

The specification of the battery combiner box shall be greater than the inverter's maximum operating current.

2.3 Electrical Connection

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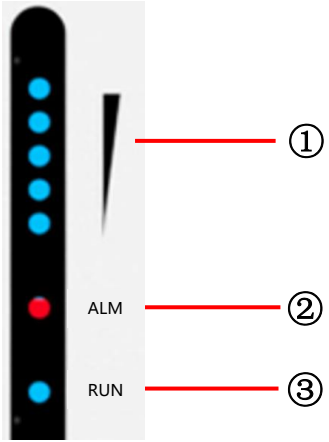
➢ Definitions of Communication Interfaces

No.	PCS	COM IN	COM OUT
1	485_B_PCS	ADD_IN_COM	ADD_OUT_COM
2	485_A_PCS	AGND	AGND
3	-	232_TX	-
4	CAN_H	AGND	-
5	CAN_L	-	-
6	-	232_RX	-
7	485_A_PCS	485_A_COM	485_A_COM
8	485_B_PCS	485_B_COM	485_B_COM

2.4 Battery Indicators



Indicator Light	Description
①SOC	Battery indicator light
②ALM	Alarm indicator light
③RUN	Status indicator light

2.5 Indicator Light Status

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Usage	System Status	Indicator Light Status
Status display	Standby	RUN indicator off, ALM indicator off, SOC indicator on
Status display	Charging	RUN indicator on, ALM indicator off, last SOC indicator blinking
Status display	Discharging	RUN indicator on, ALM indicator off, SOC indicator on
Status display	Protection	RUN indicator off, ALM indicator on, SOC indicator on
Status display	Low battery	RUN indicator blinking, other indicators follow standby, charging, discharging, or protection states
Battery level display	Charging	SOC indicator: 1 blinking: 0% ≤ SOC ≤ 20% battery 1 steady on, 1 blinking: 20% < SOC ≤ 40% 2 steady on, 1 blinking: 40% < SOC ≤ 60% 3 steady on, 1 blinking: 60% < SOC ≤ 80% 4 steady on, 1 blinking: 80% < SOC ≤ 100% 5 steady on: 100% battery
Battery level display	Discharging, standby, alarm	SOC indicator: Off: 0% battery1 steady on: 0% < SOC ≤ 20% 2 steady on: 20% < SOC ≤ 40% 3 steady on: 40% < SOC ≤ 60% 4 steady on: 60% < SOC ≤ 80% 5 steady on: 80% < SOC ≤ 100%
Battery level display	Sleep	The light board stops supplying power, and the five SOC indicators are off.

2.6 Troubleshooting

The fault information can be viewed via the SOC indicator sequence. During a fault, the ALM and SOC indicators will be steady on. If multiple faults exist simultaneously, the SOC indicator will cycle through them.

Fault	● Low battery voltage ○○○○●	● Abnormal cell voltage difference ○○○●○	● Low system voltage ○○○●●
	● High charge current ○●○○●	● High discharge current ○●○●○	● Internal communication error ○●○●●
	● Pre-charge error ○●●○○	● AFE fault ○●●●○	● Cell voltage fault ○●●●●
	● BMS and PCS communication fault ●○○○●	● Charging MOS fault ●○○●○	● Discharging MOS fault ●○○●●
	● Voltage sampling line disconnection ●○●○●	● Overcurrent lockout ●●○○●	● Battery deeply discharged ●●○●○
Solution	1. Turn off the system power and wait for 5-10 minutes. 2. Check the battery pack and cables for any damage. 3. Check that the system wiring is correct. 4. After the above items are checked correct, turn on the system power. 5. If the alarm persists, please contact technical support.		

Fault	● High battery discharge temperature ○○●○○	● Low battery discharge temperature ○○●○●	● High battery charge temperature ○○●●○
	● Low battery charge temperature ○○●●●	● Abnormal cell temperature difference ○●○○○	● Cell temperature fault ○●●○●
	● High MOS temperature ●○●○○	● MOS temperature fault ●○●●●	
Solution	1. Check whether the ambient temperature at the installation site is within the permissible operating temperature range for the device. 2. If there is no ventilation or the ambient temperature is too high, enhance ventilation and cooling; if the ambient temperature is too low, increase the ambient temperature or change the installation location. 3. If the ambient temperature is normal, please contact technical support.		

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THANKS