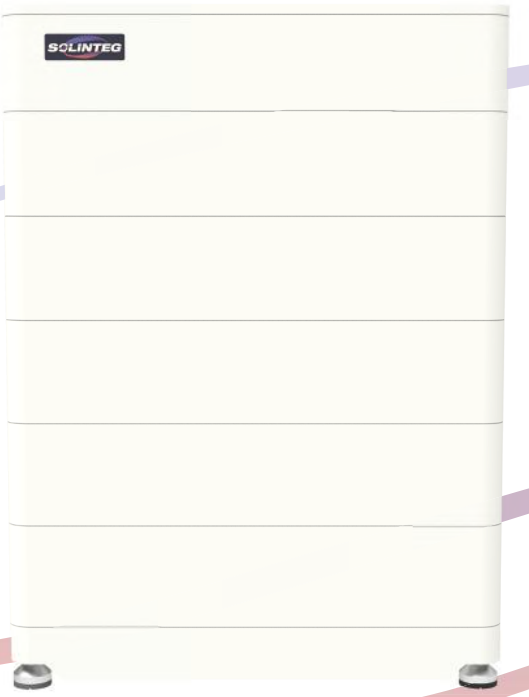
SOLINTEG
INTEGRATE SOLAR INTELLIGENTLY

SOLINTEG EBS-B SERIES HIGH VOLTAGE STORAGE SYSTEM

EBS-S5K1-B, EBS-S7K5-B, EBS-S10K-B
EBS-S12K-B, EBS-S15K-B, EBS-S17K-B
EBS-S20K-B, EBS-S23K-B, EBS-S25K-B

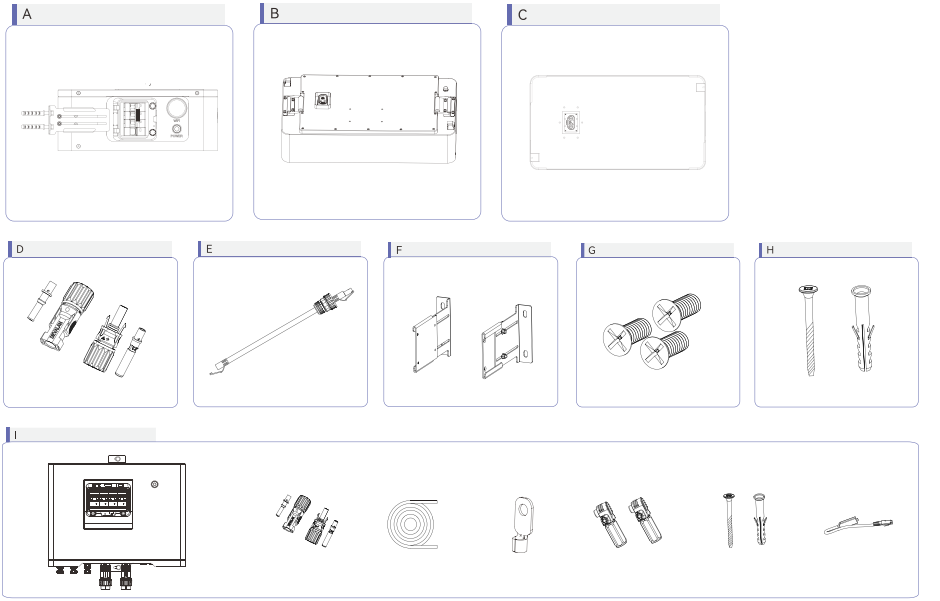


Quick Installation Guide

ENGLISH VERSION

1 Installation

A Packing List



No.	Item	Quantity	Remark
A	Controller Module(EBS-C)	1	/
B	Battery Module(EBS-B2K5-B)	2~10	Based on one battery cluster.
C	Base Module(EBS-A)	1	/
D	Battery Terminal	1 pair	/
E	Inverter communication cable with waterproof male connector	1	/
F	Controller Module Mounts	2	Stabilize controller module.
G	M4*8 Countersunk Screw	6	Fix controller module mounts on controller.
	M4*12 Countersunk Screw	2	Stack controller module on battery module.
	M4*12 Countersunk Screw	2	Fix stacked battery modules. Based on one battery module.
H	M6*60 Expansion Screw	4	Fix controller module mounts to the wall.
I	Paraller and Its Accessories (Optional)	1 pcs	Paraller*1 Battery terminal*3 pcs Controller communication cable 2m*2 Debugging Cable * 1 AC Power Cable * 1 PE terminal*2 M6*60 expansion screw*2

2 General Safety Instruction

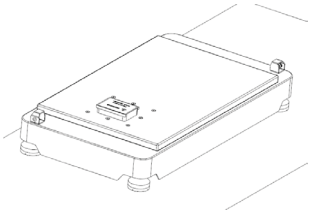
• Only can be installed and operated by authorized and qualified personnel.
• Please carefully check the products before installation. Please contact manufacturer immediately if any abnormal damage or deformation, especially stab, hit, trample or strike.
• Protective equipment must be used during installation, disassembly and operation, such as protective clothing, insulated shoes, goggles, safety helmets, insulated gloves, etc.
• Please do not mix use batteries from different manufacturers, different types and models, as well as old and new together.
• Installation area is completely water proof. The floor is flat and level.
• Environment Requirements:
- Temperature: -10~55° C.
- Storage temperature: 0~45° C.
- Relative humidity: 5% ~ 95%RH.
- Ground shall be flat and level.
- With no direct-sun exposure, metal scurf, dust or corrosive gas.
- With suitable ventilation.
- With no liquid, flammable or explosive material in the installation area.
- Out of reach of children or pets.
- Must equipped with fire-extinguisher system.
- The distance from heat source is more than 2 meters.

3 Mechanical Installation

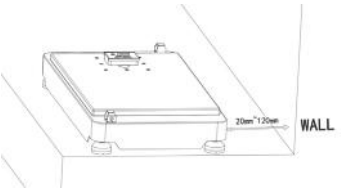
A Place the base

Note: Please reserve enough distance from the equipment to the ceiling/ground for capacity expansion.

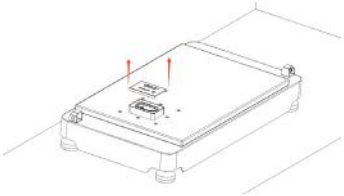
Step 1:Check the installation environment to ensure ground level. Place the base on the ground, and make sure it is level and stable by adjusting foot cups.



Step 2: Distance between base and wall is 20mm~120mm.

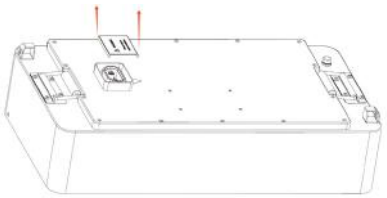


Step 3:Remove dust-proof label on power supply terminal.

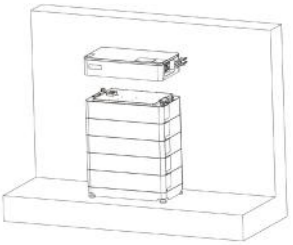


B Mounting the controller and battery module

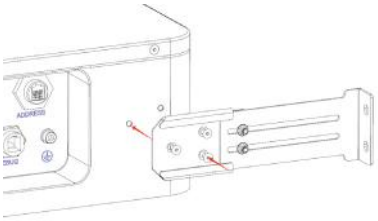
Step 1:Remove dust-proof label on power supply terminal.



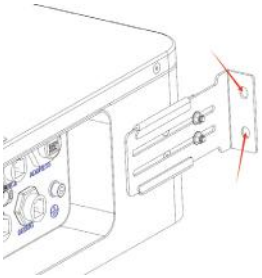
Step 2: Place the battery modules on the base one by one slightly, and please note that the power supply terminals of all battery modules and base should be at the same side.



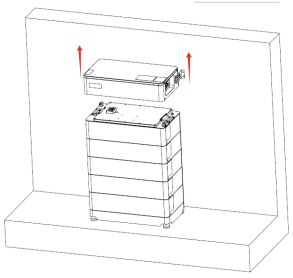
Step 3: Install controller module mounts on both sides of controller module.



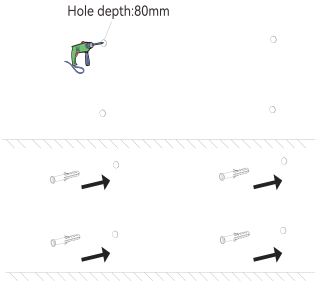
Step 4: Mark the position of 4 holes to be drilled on the wall.



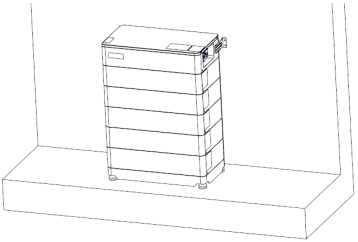
Step 5: Remove controller module.



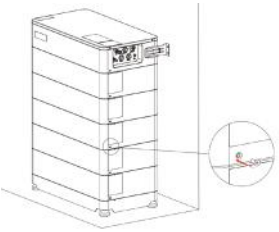
Step 6: Use a Φ8 drill bit for the wall hole 80mm deep, and put expansion tubes into them.



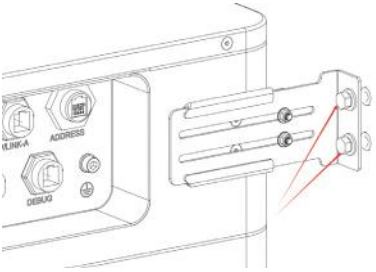
Step 7: Place controller module on battery modules.



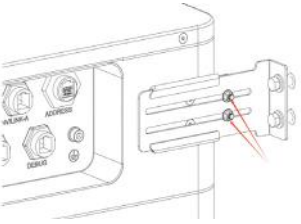
Step 8: Tighten all M4*12 countersunk screws at both side of all battery modules and controller module.



Step 9: Insert the expansion screws into the tubes, then fix the mounts onto the wall with expansion screws by using a cross screwdriver.

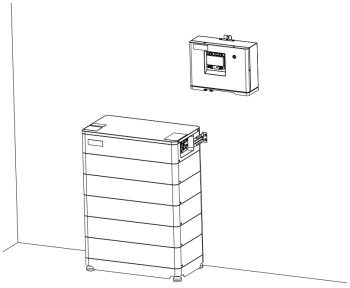


Step 10: Turn the adjusting screws to fix the battery onto the wall by using a wrench.

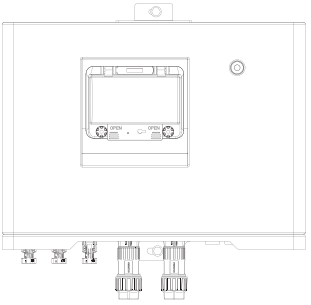


C Mounting the paraller box

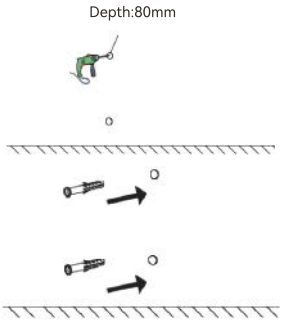
Step 1:According to the location of battery cluster, select a proper location for paraller.



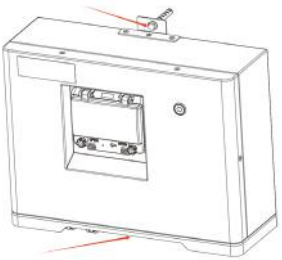
Step 2: Mark the position of 2 holes to be drilled on the wall.



Step 3: Use a Φ8 drill bit for the wall hole 80mm deep, and put expansion tubes into them.



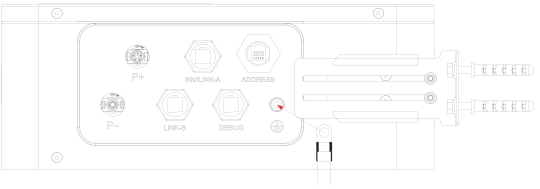
Step 4: Insert the expansion screws into the tubes, then fix the Paraller onto the wall with expansion screws by using a cross screwdriver.



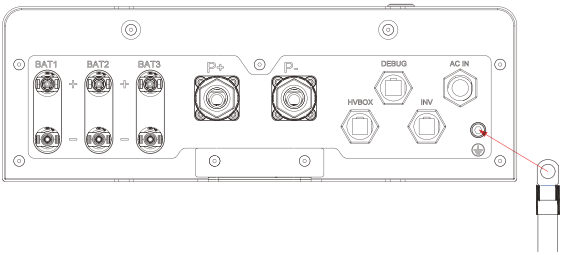
D Grounding

Note:Proper grounding is good for resisting surge voltage shock and improving EMI performance. Battery must be well-grounded. For a system with only one battery cluster, the PE cable needs to be grounded. For a multi-battery paralleling system, the PE cables and all battery clusters need to be connected to the same grounding copper bar to ensure equipotential bonding.

Step 1:Controller grounding. The cross-sectional area of the external grounding cable is 6mm^2.



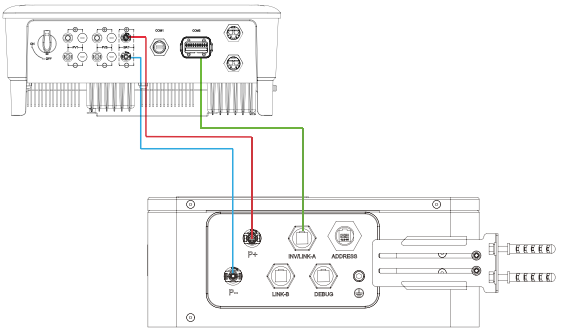
Step 2:Paraller grounding. The cross-sectional area of the external grounding cable is 6mm^2.



4 Electrical wiring

A Single Battery Wiring

Electrical Wiring Diagram (take Solinteg MHT-4-20K inverter as example):



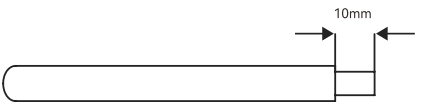
Caution: Before starting connecting the power cable, please:
① Turn the AC breaker off on the grid side.
② Turn the battery breaker off.
③ Switch the inverter DC switch to the "OFF" position.

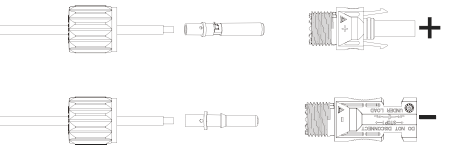
DC Cable Wiring(between MHT-4-20K inverter and controller module)

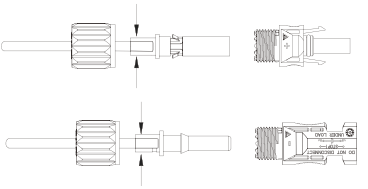
Step 1: Select an appropriate DC cable.

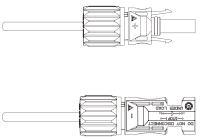
Cable requirements		Cable stripping length
Outside diameter	Conductor core section	
5. 0-8. 0 mm	10 mm^2	10 mm

Step 2: Make DC cables.





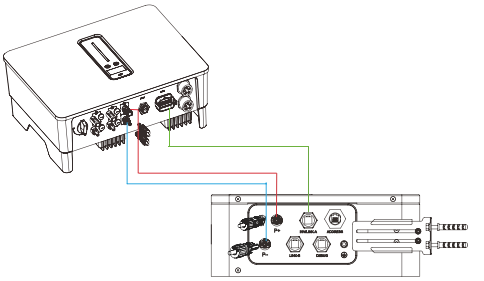




Open-end Wrench

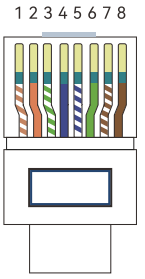
Caution: ① Before connecting to the inverter, please make sure the polarity of the cable is correct.
② Use a multi-meter to measure the voltage of the battery pack and make sure that the voltage is within the inverter limitation and the polarity is correct.

Step 3: Insert the positive and negative connector into the battery power terminals at both inverter side and battery side respectively. When you hear a “click” sound, it means that the connection is well and proper.



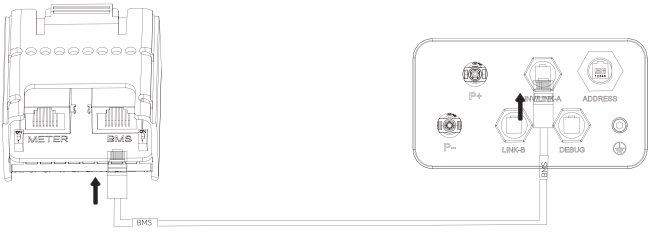
Communication Cable Wiring

RJ45 terminal definition:



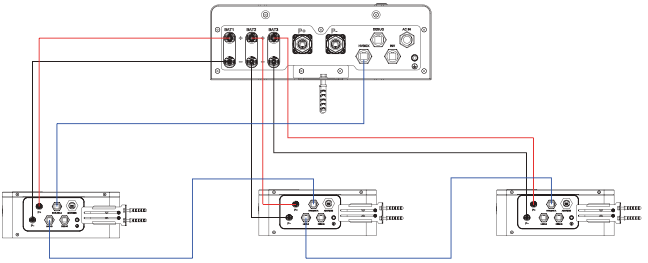
No.	Color	Definition
1	Orange & White	/
2	Orange	/
3	Green & White	/
4	Blue	CANH_B
5	Blue & White	CANL_B
6	Green	/
7	Brown & White	/
8	Brown	/

Please insert one side of the communication cable to the "INV/LINK-A" port in the controller module, and the other side is connected to “BMS” port in Multi-com Connector at the inverter side.



B Multiple Battery Paralleling Wiring

Electrical Wiring Diagram (take Solinteg MHT-4-20K inverter as example):

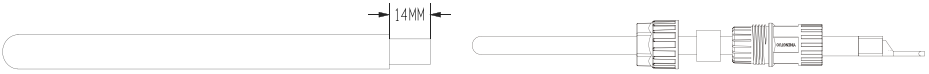


DC cable(between MHT-25-50K inverter and paraller box)

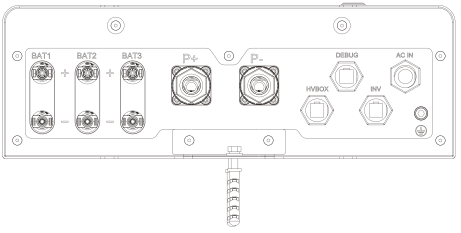
Step 1: Select an appropriate DC cable.

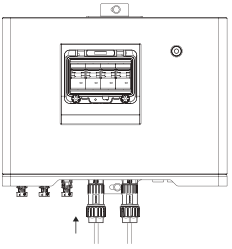
Cable requirements		Cable stripping length
Outside diameter	Conductor core section	
9.7-11.7 mm	35 mm^2	14 mm

Step 2:Make DC cable.



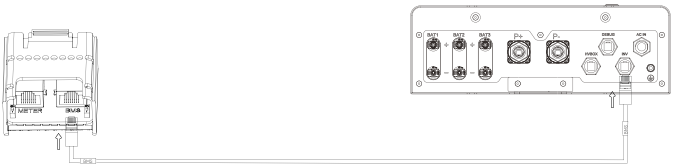
Step 3: Insert the positive and negative connector into the battery power terminals at both inverter side and paraller side respectively. When you hear a “click” sound, it means that the connection is well and proper.





Communication Cable Wiring

Step 1： Please insert one side of the communication cable to the "INV" port at EBS-P, and the other side is connected to “BMS” port in Multi-com Connector at the inverter side.

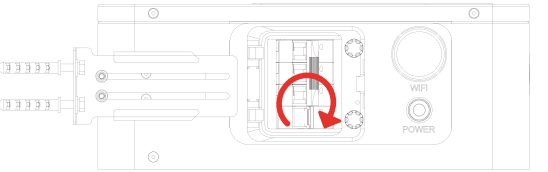


No.	DIP1	DIP2	DIP3	DIP4	DIP5	Diagram
1st battery cluster	OFF	OFF	OFF	OFF	OFF	
2nd battery cluster	ON	OFF	OFF	OFF	OFF	
3rd battery cluster (If the 3rd battery cluster is connected to EBS-P, Turn DIP5 to “ON” position.)	OFF	ON	OFF	OFF	ON	

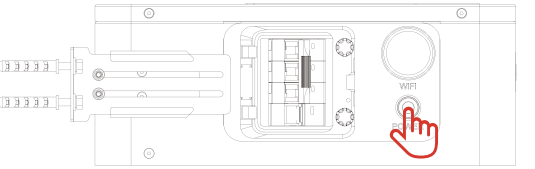
5 Commisioning

A Switch Battery On

Step 1. Turn the breaker on at the left side of controller module.



Step 2. Hold on “POWER” button for 3 seconds until the indicator becomes green and flashing, which means that the battery enters self-checking.



Step 3. Wait for a while and check whether the indicator turns to be green and on or not.

Note:Please hold on “POWER” button for 3 seconds after turning on the DC breaker to start the battery.

B Switch Battery Off

Step 1. Turn the inverter off (Refer to the inverter user manual for detailed procedure).

Step 2. Hold on “POWER” button for 3 seconds until the indicator flashes green and red lights alternately.

Step 3. Turn the breaker off at the left side of controller module.

C Indicator

No.	Indicator Status	Description
1	Off	The battery is powered off.
2	Flash green and red lights alternately	The breaker is switched on, and the battery is waiting for entering self-checking.
3	Green color is always on.	Working normally or under debugging.
4	Green color is flashing.	Under self-checking.
5	Red color is always on.	The battery is under alarm or protection. *Under parallel system, when the breaker of one battery cluster trips, and the rest are running normally or under debugging, the indicator of EBS-P will be on and red.
6	Red color is flashing.	The battery is under fault, which needs human intervention.

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