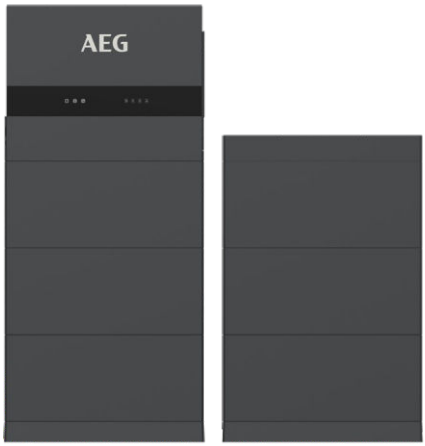
AEG RESIDENTIAL ALL-IN-ONE ENERGY STORAGE SYSTEM

AEG

INSTALLATION MANUAL

VERSION: PD202509 V1,2-25



ALL-IN-ONE:
INVERTER+HIGH VOLTAGE STACKABLE BATTERY SYSTEM

AS-BSH07C-4.0K-2 | AS-BSH07C-5.0K-2 | AS-BSH07C-6.0K-2 I AS-BSH07C-8.0K-2

I AS-BSH07C-10.0K-2 | AS-BSH07C-12.0K-2 I AS-BSH07C-15.0K-2

CONTENT

EN | SAFETY PRECAUTIONS

GENERAL NOTICE

1. Contents may be periodically updated or revised. Solar Solutions AG reserves the right to make improvements or changes in the product(s) and the program(s) described in this manual without the prior notice.
2. The installation, maintenance and grid-related setting can only be performed by qualified personnel who:
   - Are licensed and/or satisfy state and local jurisdiction regulations;
   - Have good knowledge of this manual and other related documents.
3. Before installing the device, carefully read, fully understand and strictly follow the detailed instruction of the user manual and other related regulations. Solar Solutions AG shall not be liable for any consequences caused by the violation of the storage, transportation, installation, and operation regulations specified in this document and the user manual.
4. Use insulated tools when installing the device. Individual protective tools must be worn during installation, electrical connection and maintenance.
5. Please visit the website www.aeg-solar.com for more information.

SAFETY INSTRUCTION

For safety reasons, installers are responsible for familiarizing themselves with the contents of the manual and all warnings before performing installation.

LABEL DESCRIPTION

	Caution, risk of danger		The battery module may explode
	Caution, risk of electric shock		Keep the equipment away from children
	Caution, hot surface		Additional grounding point
	Keep the battery system away from open flames or ignition systems		The battery system must be disposed of at a proper facility for environmentally-safe recycling.
	Read the enclosed documentations		TUV certification
	Do not dispose of the device together with household waste		CE mark of confirmity

	Do not operate this inverter until it is isolated from mains and on-site PV generation suppliers.
	Danger of high voltage. Do not touch live parts for 5 minutes after disconnection from the power sources
	Do not dispose of the battery module together with household waste.

DANGER

Lethal danger from electrical shock due to the inverter

- Only operate the inverter when it is technically faultless. Otherwise, electric shock or fire may occur.
- Do not open the enclosure in any case without authorization from Solar Solutions AG. Unauthorized opening will void the warranty and cause lethal danger or serious injury due to electric shock.

DANGER

Lethal danger from electrical shock due to the PV

- When exposed to sunlight, high DC voltage will be generated by PV modules. Death or lethal injuries will occur due to electric shock.
- Never touch the positive or negative pole of PV connecting device. Touching both of them at the same time is prohibited as well.
- Do not ground the positive or negative pole of the PV modules.
- Only qualified personnel can perform the wiring of the PV panels.

WARNING

Risk of personnel injury or inverter damage

- During operation, do not touch any parts other than DC switch and LCD panel.
- Never connect or disconnect the AC and DC connectors when the inverter is running.
- Turn off the AC and DC power and disconnect them from the inverter, wait for 5 minutes to fully discharge the voltage before attempting any maintenance, cleaning or working on any circuits connected.
- Make sure that the input DC voltage ≤ Maximum DC input voltage of the inverter. Overvoltage may cause permanent damage to the inverter, which is NOT covered by the warranty.

CAUTION

- Keep children away from the inverter.
- Pay attention to the weight of the inverter. Personal injuries may be caused if not handled properly.

NOTICE

- If an external RCD is required by local regulations, check which type of RCD is required for relevant electric codes. It is recommended to use a Type-A RCD with the value of 300 mA.
- All the product labels and nameplate on the inverter shall be maintained clearly visible.

GENERAL SAFETY PRECAUTIONS

1. Overvoltage or wrong wiring may damage the battery module and cause combustion which may be extremely dangerous;
2. Leakage of electrolytes or flammable gas may be occurred due to any type of product breakdown;
3. Do not install the battery module in places where flammable and combustible materials are stored, and in which an explosive atmosphere is present;
4. The battery module wiring must be carried out by qualified personnel;
5. Battery module must be serviced by qualified personal;
6. Ensure that the grounding cable is connected before handling the battery module.

BATTERY HANDLING GUIDE

Do‘s

- DO keep the battery module away from flammables materials, heat sources, and water sources;
- DO keep the battery module out of reach of children and animals;
- DO practice proper battery storage by keeping the battery module in a clean environment, free of dust, dirt and debris;
- DO store the battery module in a cool and dry place;
- DO seal the outer cable connection hole to prevent ingress of foreign objects;
- DO confirm that the wiring of the device must be correct.
- DO install the device according to the local standards and regulations.

Dont's

- DON‘T expose the battery module to an open flame, or the temperature in excess of 140°F/60°C;
- DON‘T install or operate the battery module in places where there is excessive moisture or liquids;
- DON‘T place the battery module in a high-voltage environment;
- DON‘T disconnect, disassemble or repair the device by unqualified personnel. Only a qualified personnel is allowed to handle, install and repair the device;
- DON‘T damage the device by dropping, deforming, impacting, cutting or penetrating with a sharp object. Otherwise, it may cause a fire or leakage of electrolytes;
- DON‘T touch the device if liquid spill on it. There is a risk of electric shock;
- DON‘T step on the packaging or the device may be damaged;

- DON'T place any objects on top of the battery module;
- DON'T charge or discharge a damaged battery module;
- DON'T dispose of the battery module in a fire. It may cause leakage or rupture;
- DON'T mix different types or makes of the battery module. It may cause leakage or rupture, resulting in personal injury or property damage.

RESPONSE TO EMERGENCY SITUATION

In case the battery module leaks electrolyte or any other chemical materials, or gas may be generated due to the leakage of battery module, be sure to avoid contact with the discharge at all times. In case of accidentally coming into contact with them, please do as follows:

- In case of inhalation: Leave the contaminated area immediately, and seek medical attention at once;
- In case of contact with eyes: Rinse eyes with running water for 15 minutes, and seek medical attention;
- In case of contact with skin: Wash the contacted area thoroughly with soap, and seek medical attention;
- In case of ingestion: Induce vomiting, and seek medical attention.

If a fire breaks out where the battery module is installed, please do as follows:

- In case the battery module is charging when the fire breaks out, provide it is safe to do so, disconnect the battery module circuit break to shut off the power charge;
- In case the device is not on fire yet, use a Class ABC fire extinguisher or a carbon dioxide extinguisher to extinguish the fire;
- If the battery module catches fire, do not try to put out the fire, and evacuate immediately.
- The battery module may catch fire when it is heated above 302°F/60°C; and in case of catching fire, it will produce noxious and poisonous gas, DO not approach and keep away.

Effective ways to deal with accidents

- In case of the damaged battery module, place it into a segregated place, and call the local fire department at the place where the user lives or qualified personnel.
- If any part of the battery module, or wiring is submerged, DO stay out of the water and DON'T touch anything; If the battery module gets wet, DON'T touch it.
- If the battery module is damaged, DON'T use it. Otherwise, it may result in both personal injury and property damage.
- DON'T use the submerged battery module again, and contact the qualified personnel for assistance.
- DO contact Solar Solutions AG immediately for assistance if the user suspects that the battery module is damaged.

DK | SIKKERHED

GENEREL MEDDELELSE

1. Indholdet kan blive opdateret eller revideret regelmæssigt. Solar Solutions AG forbeholder sig retten til at foretage forbedringer eller ændringer i produktet/produkterne og programmerne beskrevet i denne manual uden forudgående varsel.
2. Installation, vedligeholdelse og netrelateret indstilling kan kun udføres af kvalificeret personale, som:
   - Er licenseret og/eller opfylder statslige og lokale jurisdiktionsregler
   - Har godt kendskab til denne manual og andre relaterede dokumenter.
3. Før du installerer enheden, skal du omhyggeligt læse, forstå og nøje følge den detaljerede vejledning i brugervejledningen og andre relaterede regler. Solar Solutions AG hæfter ikke for eventuelle konsekvenser forårsaget af overtrædelse af opbevarings-, transport-, installations- og betjeningsreglerne specificeret i dette dokument og brugervejledningen.
4. Brug isoleret værktøj, når du installerer enheden. Individuelt beskyttelsesværktøj skal benyttes under installation, elektrisk tilslutning og vedligeholdelse.
5. Besøg venligst hjemmesiden www.aeg-solar.com for mere information.

SIKKERHEDSINSTRUKTIONER

Af sikkerhedsmæssige årsager er installatører ansvarlige for at gøre sig bekendt med indholdet af manualen og alle advarsler, inden installationen udføres.

MÆRKATBESKRIVELSER

	Forsigtig, risiko for fare		Batterimodulet kan eksplodere
	Forsigtig, risiko for elektrisk stød		Hold batterisystemet væk fra børn
	Forsigtig, varm overflade		Ekstra jordingspunkt
	Hold batterisystemet væk fra åben ild eller tændingssystemer		Batterisystemet skal bortskaffes på et passende anlæg til miljøsikker genanvendelse
	Læs den vedlagte dokumentation		TÜV-certificering
	Bortskaf ikke enheden sammen med husholdningsaffald.		CE-overensstemmelsesmærke

	Betjen ikke denne vekselretter, før den er isoleret fra lysnettet og PV-generende moduler på stedet.
	Højspændingsfare Rør ikke ved spændingsførende dele i 5 minutter efter frakobling fra strømkilderne.
	Bortskaf ikke batterimodulet sammen med husholdningsaffald.

FARE!

Livsfare på grund af elektrisk stød fra vekselretteren

- Vekselretteren må kun betjenes, når den er teknisk fejlfri. I modsat fald kan der opstå elektrisk stød eller brand.
- Kabinettet må under ingen omstændigheder åbnes uden forudgående godkendelse fra Solar Solutions AG. Uautoriseret åbning vil ugyldiggøre garantien og forårsage livsfare eller alvorlig skade på grund af elektrisk stød.

FARE!

Livsfare på grund af elektrisk stød fra PV-modulet

- Når PV-moduler udsættes for sollys, genereres der høj jævnstrømsspænding. Elektrisk stød kan forårsage dødsfald eller livstruende kvæstelser.
- Rør aldrig ved den positive eller negative pol på PV-tilslutningsenheden. Det er også forbudt at berøre dem begge på samme tid.
- Forbind ikke den positive eller negative pol på PV-modulerne til jord.
- Kun kvalificeret personale kan udføre PV-panelernes ledningsføring.

ADVARSEL!

Risiko for personskade eller skade på vekselretteren

- Under drift må du ikke røre ved andre dele end jævnstrømsafbryderen (DC) og LCD-panelet.
- Tilslut eller frakobl aldrig vekselstrøms- (AC) og jævnstrømsstikkene (DC), når vekselretteren kører.
- Sluk for AC- og DC-strømmen, og afbryd dem fra vekselretteren, vent i 5 minutter for at aflade spændingen helt, før du forsøger at udføre vedligeholdelse, rengøring eller arbejde på tilsluttede kredsløb.
- Sørg for, at DC-indgangsspændingen ≤ Maksimal DC-indgangsspænding for vekselretteren, Overspænding kan forårsage permanent skade på vekselretteren, hvilket IKKE er dækket af garantien.

FORSIGTIG!

- Hold børn væk fra vekselretteren.
- Vær opmærksom på vekselretterens vægt. Der kan opstå personskade, hvis den ikke håndteres korrekt.

BEMÆRK!

- Hvis en ekstern fejlstrømsafbryder er påkrævet i henhold til lokale regler, skal du kontrollere, hvilken type fejlstrømsafbryder, der kræves til relevante elforskrifter. Det anbefales at bruge en Type-A-fejlstrømsenhed med en værdi på 300 mA.
- Alle produktetiketter og navneskilt på vekselretteren skal altid være klart synlige.

GENERELLE SIKKERHEDSFORANSTALTNINGER

1. Overspænding eller forkert ledningsføring kan beskadige batterimodulet og forårsage forbrænding, hvilket kan være yderst farligt;
2. Lækage af elektrolytter eller brandfarlig gas kan forekomme på grund af enhver form for produktnedbrydning;
3. Installer ikke batterimodulet på steder, hvor brændbare og brændbare materialer opbevares, og hvor der er en eksplosiv atmosfære;
4. Batterimodulets ledninger skal udføres af kvalificeret personale;
5. Batterimodulet skal serviceres af kvalificeret personlig;
6. Sørg for, at jordforbindelseskablet er tilsluttet, før batterimodulet håndteres.

VEJLEDNING TIL HÅNDTERING AF BATTERI

Ting du skal gøre

- Hold batterimodulet væk fra brændbare materialer, varmekilder og vandkilder;
- Hold batterimodulet utilgængeligt for børn og dyr;
- Opbevar batteriet korrekt ved at lagre batterimodulet i et rent miljø, fri for støv, snavs;
- Opbevar batterimodulet på et køligt og tørt sted;
- Forsegl den ydre kabelforbindelse hul for at forhindre indtrængen af fremmedlegemer;
- Bekræft, at enhedens ledninger skal være korrekte.
- Installer enheden i henhold til de lokale standarder og regler.

Ting du ikke skal gøre

- Udsæt ikke batterimodulet for åben ild eller temperaturen på over 140 °F/60 °C;
- Installer eller betjen ikke batterimodulet på steder, hvor der er for høj fugt eller væsker;
- Placer ikke batterimodulet i et højspændingsmiljø;
- Afbryd ikke, demonter eller reparer enheden af ukvalificeret personale. Kun kvalificeret personale må håndtere, installere og reparere enheden;
- Beskadiger IKKE enheden ved at tabe, deformere, påvirke, skære eller trænge ind i den med en skarp genstand. Dette kan forårsage brand eller lækage af elektrolytter;
- Rør ikke ved enheden, hvis der spildes væske på den. Der er risiko for elektrisk stød;
- Træd IKKE på emballagen, ellers kan enheden blive beskadiget;
- Placer ikke genstande oven på batterimodulet;

- Oplad ikke eller aflad ikke et beskadiget batterimodul;
- Bortskaf ikke batterimodulet i brand. Det kan forårsage lækage eller brud;
- Bland ikke forskellige typer eller mærker af batterimoduler. Det kan forårsage lækage eller brud, hvilket resulterer i personskade eller materielle skader.

REAKTION PÅ NØDSITUATIONER

Hvis batterimodulet lækker elektrolytter eller andre kemiske materialer, eller der kan genereres gas på grund af lækage af batterimodulet, skal du sørge for at undgå kontakt med udladningen til enhver tid. I tilfælde af utilsigtet at komme i kontakt med dem, skal du gøre følgende:

- I tilfælde af indånding: Forlad det forurenede område straks, og søg lægehjælp omgående;
- I tilfælde af kontakt med øjnene: Skyl øjnene med rindende vand i 15 minutter, og søg lægehjælp;
- I tilfælde af hudkontakt: Vask det kontaktede område grundigt med sæbe og søg lægehjælp;
- I tilfælde af indtagelse: Fremkald opkastning, og søg lægehjælp.Har godt kendskab til denne manual og andre relaterede dokumenter.

Hvis en brand bryder ud, hvor batterimodulet er installeret, skal du gøre følgende:

- Hvis batterimodulet oplades, når ilden bryder ud, skal du sørge for, at det er sikkert at gøre det, og dernæst afbryde batterimodulets kredsløbsafbrydelse for at slukke for strømladningen;
- Hvis anordningen endnu ikke er i brand, skal du bruge en klasse ABC-ildslukker eller en kuldioxidslukker til at slukke ilden.
- Hvis batterimodulet brænder, skal du ikke forsøge at slukke ilden og evakuere straks.
- Batterimodulet kan komme i brand, når det opvarmes over 302 °F/150 °C; og i tilfælde af brand, vil det producere skadelig og giftig gas, ikke nærme sig og holde sig væk.

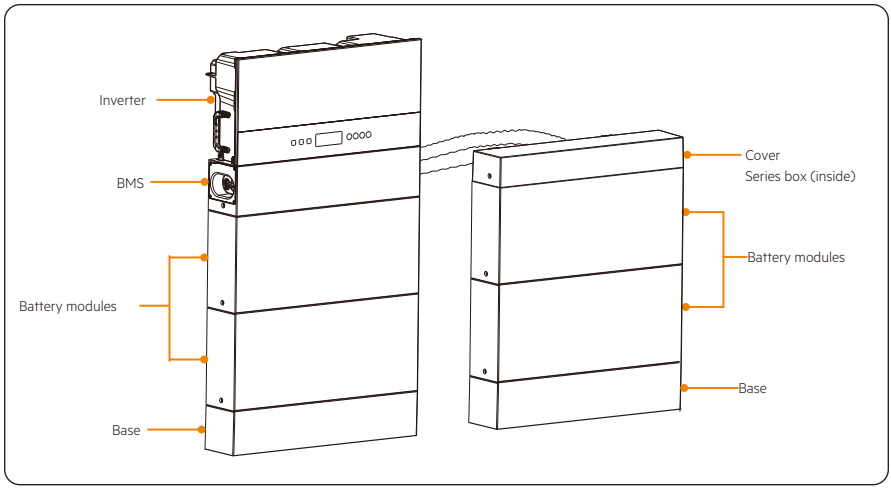
Effektive måder at håndtere ulykker på

- I tilfælde af det beskadigede batterimodul skal du placere det på et adskilt sted og ringe til den lokale brandvæsen på det sted, hvor brugeren bor eller kvalificeret personale.
- Hvis nogen del af batterimodulet, eller ledninger er nedsænket, Bliv ude af vandet og rør ikke ved noget; Hvis batterimodulet bliver vådt, Rør ikke ved det.
- Hvis batterimodulet er beskadiget, MÅ DU IKKE bruge det. Ellers kan det resultere i både personskade og materielle skader.
- Brug IKKE det nedsænkede batterimodul igen, og kontakt det kvalificerede personale for at få hjælp.
- Kontakt Solar Solutions AG straks for at få hjælp, hvis brugeren har mistanke om, at batterimodulet er beskadiget.

INTRODUCTION TO SYSTEM

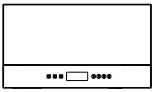
"AS-BSH07C system" is the name of three-phase residential all-in-one energy storage system that consist of:

- Energy storage inverter that supports photovoltaic grid-connected.
- The batterys tem which includes a AS-BMH07-CM, a AS-BMH07-5.1K, a AS-BMH07-BP (Base plate), a cover and a AS-BAC07 (Serial connection box).
- "Control module or BMS" (hereafter referred to as an "AS-BMH07-CM") is an electronic system manages rechargeable battery.
- "Battery power module(s) or battaery module" (hereafter referred to as an "AS-BMH07-5.1K") is a type of electrical batterywhich can charge or discharge loads.
- Base plate is an accsssory of the battery system. It is installed under the battery module (s). (hereafter referred to as an "AS-BMH07-BP")
- "Cover" is an accessory of the battery system. It is installed on the top battery module ofthe expansion battery tower.
- "AS-BAC07" is designed to connect the second tower in series through AS-BMH07-CM wiring.
- "Base support"is an accessory to the battery system. It is used when the wall mounting is selected.

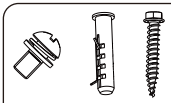


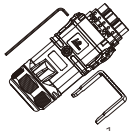
PACKING LIST/ PAKKELISTE

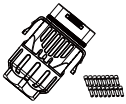
- Inverter


Inverter × 1


Bracket × 1

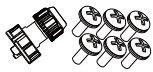

M5*10 screw × 1
Expansion tube × 1
Self-tapping screw × 1


AC connector × 1[1]

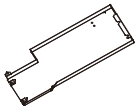

Communication connector × 1
Communication ferrules × 16

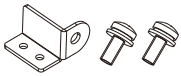

Positive PV conenctors & PV pin contacts × 2/3[2]


Negative PV conenctors & PV pin contacts × 2/3[2]


Waterproof connector with a RJ45 × 1
M5*14 screws × 6


RJ45 terminals × 3
RJ45 connector × 1


Cable shielding board × 1

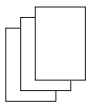

Anti-tamper bracket × 1
M4*10 screws × 2


6 mm² AC ferrules × 10

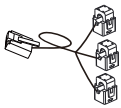

4 mm² AC ferrules × 10
(only for 4.0 ~ 8.0 kW inverter)

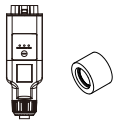

Positive PV dustproof buckles[3]

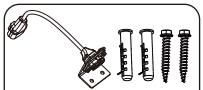

Negative PV dustproof buckles[3]


Document

Positioning cardboard × 1
PV disassembling tool × 1


CT × 1 (optional)


Dongle × 1 (optional)
Water-proof ring × 1


WiFi connecting cable (220mm) × 1
Expansion tubes × 2
Self-tapping screws × 2

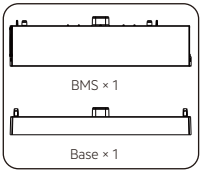
Note:

1 A disassembling tool and an Allen wrench are included in package of AC connector.
2 2 pairs for 4.0 ~ 6.0 kW inverter; 3 pairs for 8.0 ~ 15.0 kW inverter.
3 2 pcs for 4.0 ~ 6.0kW inverter; 3 pcs for 8.0 ~ 15.0kW inverter.

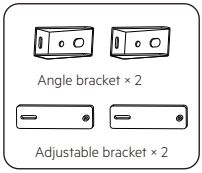
- Refer to the actual delivery for the optional accessories.

Battery

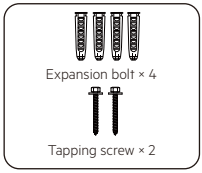
AS-BMH07-CM


BMS × 1

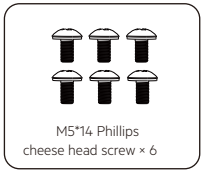
Base × 1

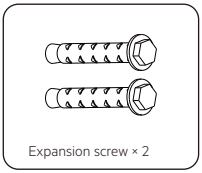

Angle bracket × 2

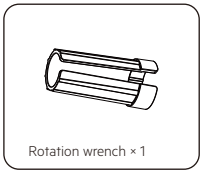
Adjustable bracket × 2

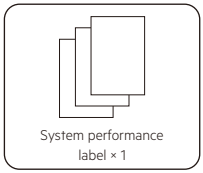

Expansion bolt × 4

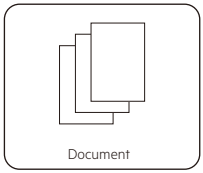
Tapping screw × 2


M5*14 Phillips cheese head screw × 6

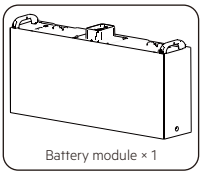

Expansion screw × 2

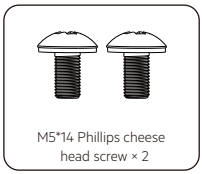

Rotation wrench × 1


System performance label × 1

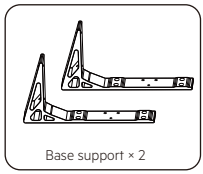

Document

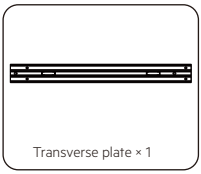
AS-BMH07-5.1K

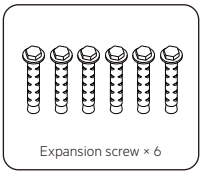

Battery module × 1

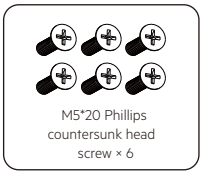

M5*14 Phillips cheese head screw × 2

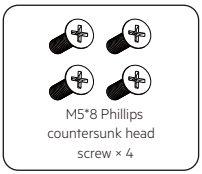
Base Support (For wall mounting only)


Base support × 2

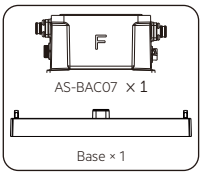

Transverse plate × 1

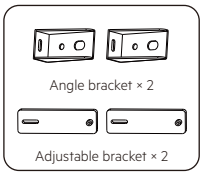

Expansion screw × 6

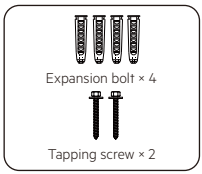

M5*20 Phillips countersunk head screw × 6

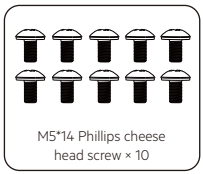

M5*8 Phillips countersunk head screw × 4

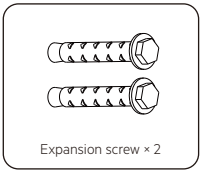
AS-BAC07 (for two towers only)

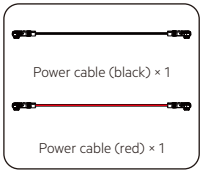


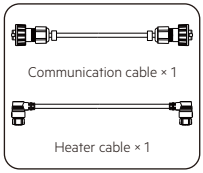


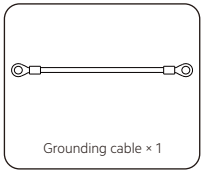


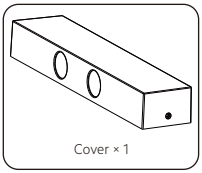




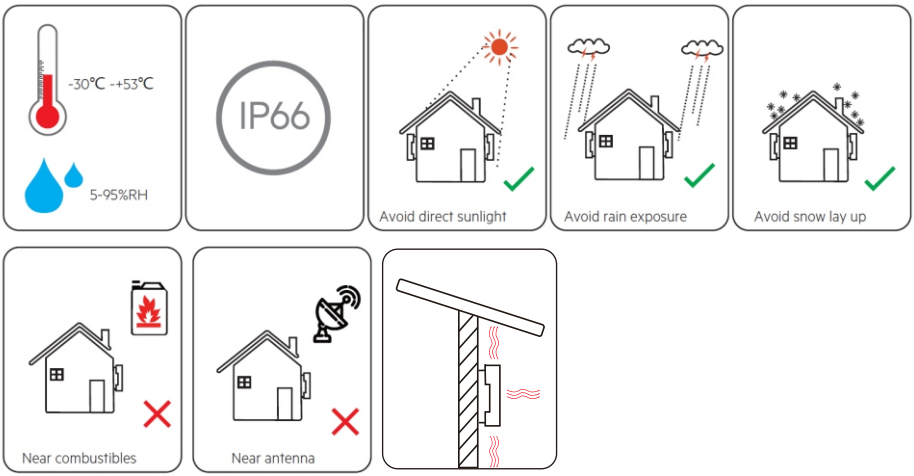






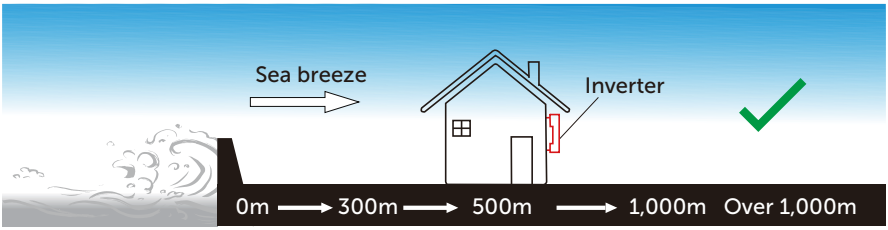


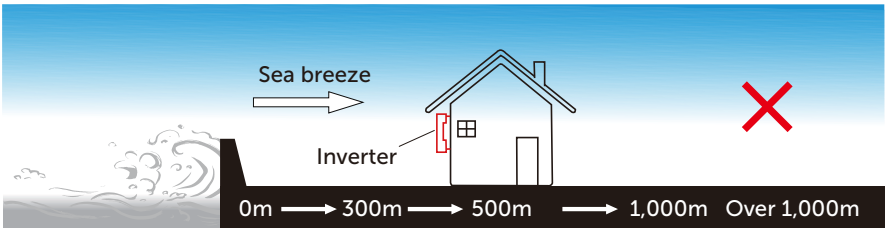
INSTALLATION SITE/ MONTERINGSSTED



NOTICE

- For outdoor installation, precautions against direct sunlight, rain exposure and snow accumulation are recommended.
- Exposure to direct sunlight raises the temperature inside the device. This temperature rise poses no safety risks, but may impact the device performance.





INSTALLATION OPTIONS/ INSTALLATIONSMULIGHEDER

Information on weight and dimensions

Specifications	Inverter	AS-BMH07-CM	AS-BMH07-5.1K	AS-BMH07-BP	AS-BAC07	Cover
Length (mm)	717	730	730	730	167	730
Width (mm)	209.5	150	150	150	121	150
Height (mm)	405	165	318	75	91.5	98
Net weight (kg)	/	9.3	47	3.9	1.3	1.3

Net weight of inverters

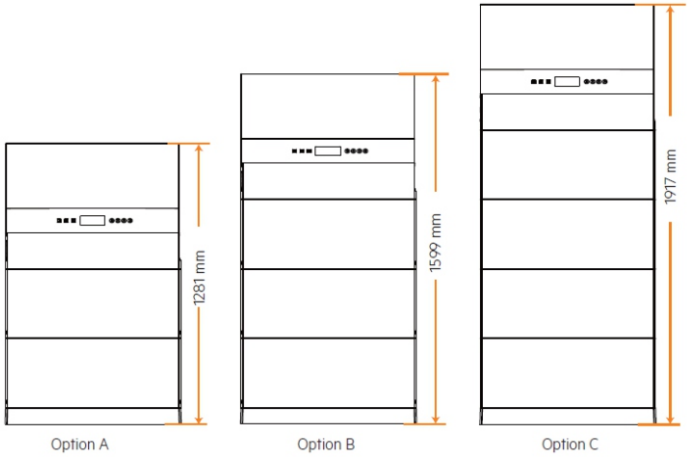
Model	Weight [kg]
AS-BSH07C-4K-2	35
AS-BSH07C-5K-2	35
AS-BSH07C-6K-2	35
AS-BSH07C-8K-2	35
AS-BSH07C-10K-2	35
AS-BSH07C-12K-2	37
AS-BSH07C-15K-2	37

Inverters match 2~6 battery modules. There are 7 installation options available for batteries, with details as follows::

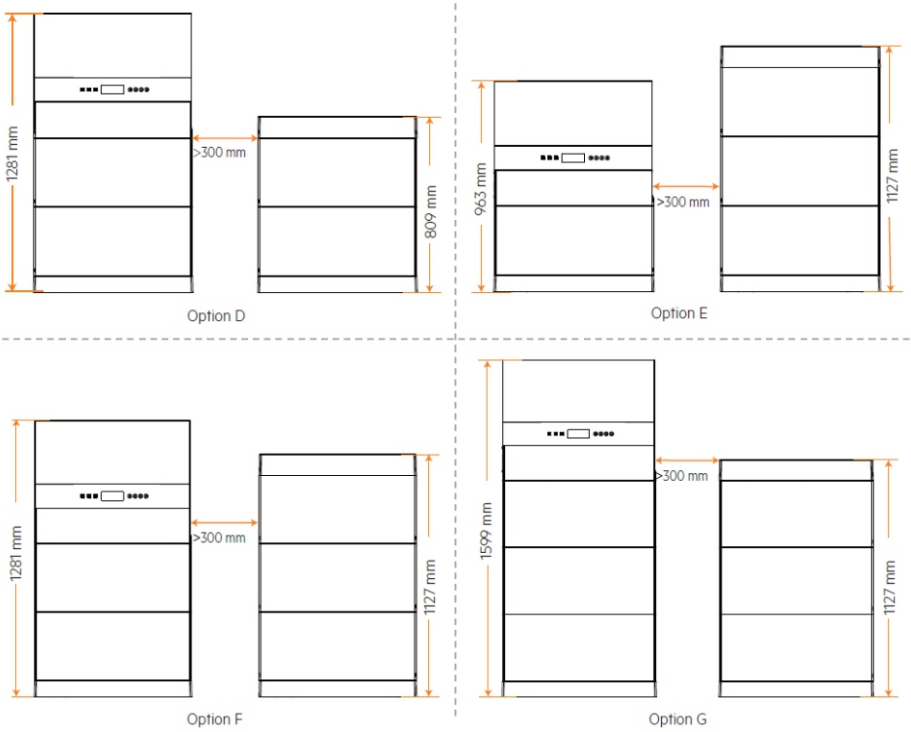
Note:

1. Four battery modules in one tower are recommended when installation space is limited;
2. Generally, up to three battery modules in one tower are recommended;
3. The following installation options apply to the modes of floor mounting and wall mounting.

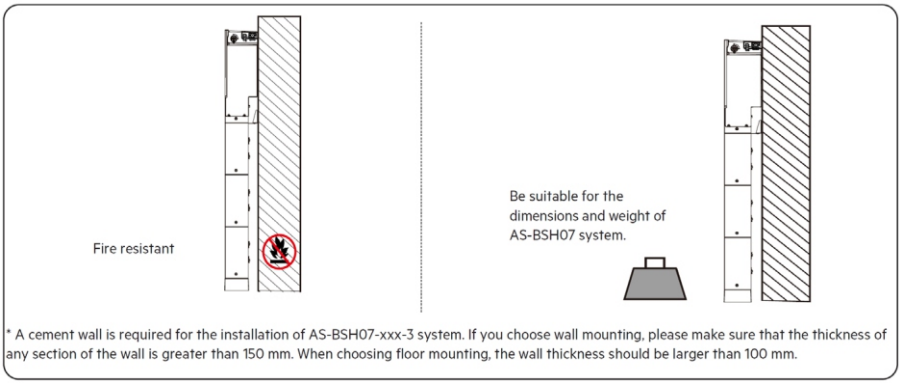
One Tower



Two Towers



INSTALLATION CARRIER/ MONTERINGSHOLDER



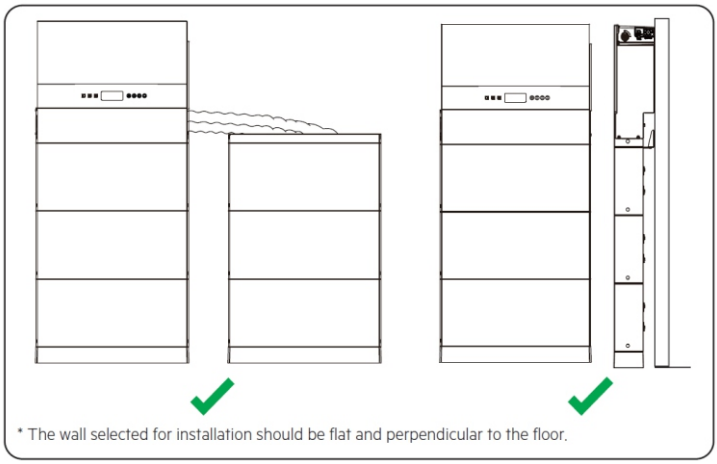
* A cement wall is required for the installation of AS-BSH07-xxx-3 system. If you choose wall mounting, please make sure that the thickness of any section of the wall is greater than 150 mm. When choosing floor mounting, the wall thickness should be larger than 100 mm.

One tower				
	Option A	Option B	Option C	
Net weight [kg]	144.2	191.2	238.2	
Dimensions [mm]	730x1281x209.5	730x1599x209.5	730x1917x209.5	
Two towers				
	Option D		Option E	
	Left tower	Right tower	Left tower	Right tower
Net weight [kg]	144.2	99.2	97.2	146.2
Dimensions [mm]	730x1281x209.5	730x809x150	730x963x209.5	730x1127x150
	Option F		Option G	
	Left tower	Right tower	Left tower	Right tower
Net weight [kg]	144.2	146.2	191.2	146.2
Dimensions [mm]	730x1281x209.5	730x1127x150	730x1599x209.5	730x1127x150

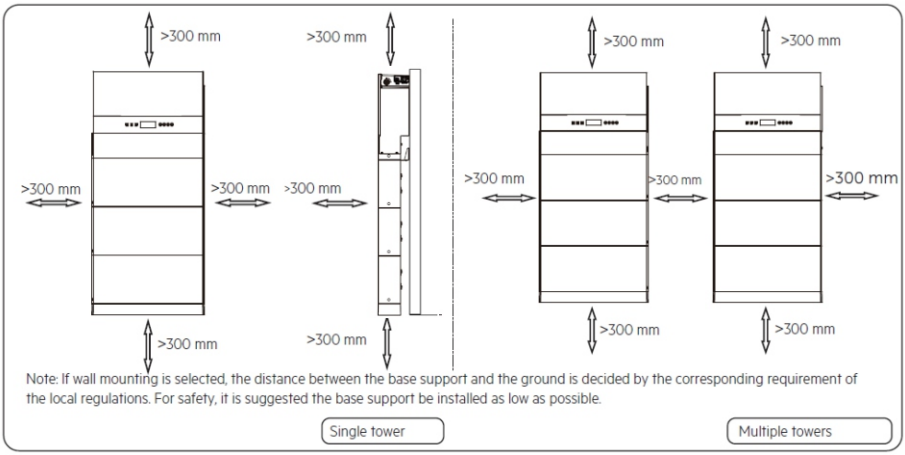
Note:

1. The maximum net weight (40kg) of an inverter is taken as an example. Please refer to the specific weight of inverters of different powers when considering the weight of the left tower.
2. Please consider the distance between the left and right tower under limited installation space.

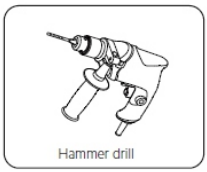
INSTALLATION ANGLE / MONTERINGSVINKEL

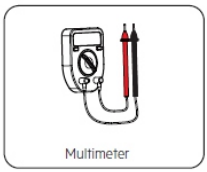


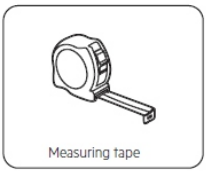
INSTALLATION SPACE / MONTERINGSPLADS

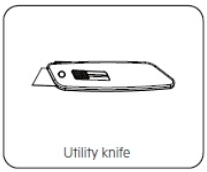


INSTALLATION TOOLS/ MONTERINGSVÆRKTØJER

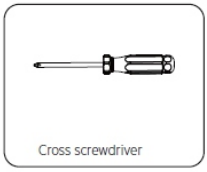

Hammer drill

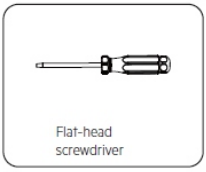

Multimeter

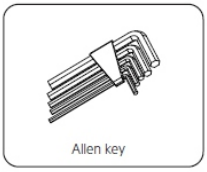

Measuring tape

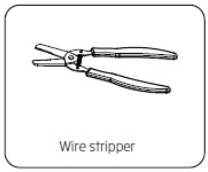

Utility knife

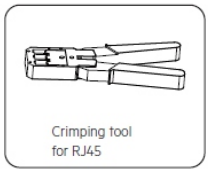

Marker

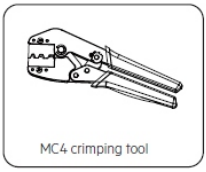

Cross screwdriver

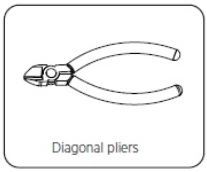

Flat-head screwdriver

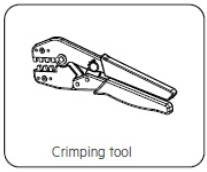

Allen key

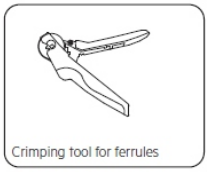

Wire stripper

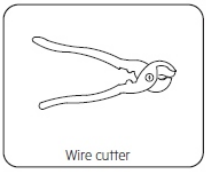

Crimping tool for RJ45

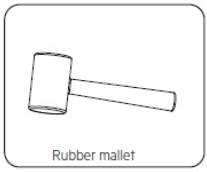

MC4 crimping tool

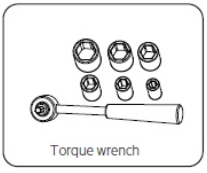

Diagonal pliers

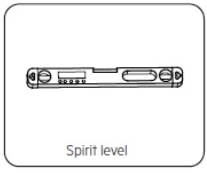

Crimping tool


Crimping tool for ferrules


Wire cutter


Rubber mallet

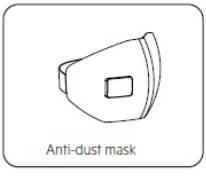

Torque wrench

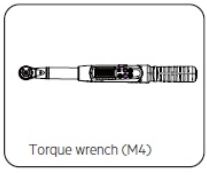

Spirit level


Safety gloves


Safety boots


Safety goggles


Anti-dust mask


Torque wrench (M4)

ADDITIONALLY REQUIRED MATERIALS/ YDERLIGERE NØDVENDIGE MATERIALER

- Battery

Number	Required material	Type	Diameter
1	Protective pipe	Corrugated pipe	External diameter: over 67.2mm

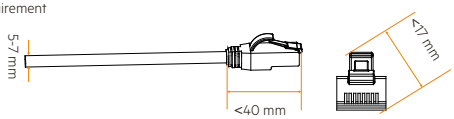
- Inverter

Number	Required material	Type	Conductor cross-section
1	PV wire	6 mm² dedicated PV wire with a voltage rating of 1000 V, a temperature resistance of 105°C, a fire resistance grade of VW-1	6 mm²
2	Communication wire	Network cable CAT5E wire	0.2 mm²
4	Protective pipe	White corrugated pipe	External diameter: over 67.2 mm

- Dongle

Number	Installation scenarios	Material	Requirements
1*	LAN mode (without water-proof ring)	Communication cable with RJ45 terminal	RJ45 terminal is installed on the communication cable and has been crimped. *The requirement as shown in the following diagram.
2	LAN mode (with water-proof ring)	Corrugated pipe	Outer diameter: 13mm; Inner diameter: 10mm; Matching with water-proof ring.
4	LAN mode (with water-proof ring)	Communication cable	The diameter of the communication cable shall be 5-7 mm.
4	LAN mode (with water-proof ring)	RJ45 terminal	Standard

*Communication cable requirement



- Grid wire and breaker recommended

Model	Five-core wire (copper) [mm^2]	Breaker [A]
AS-BSH07C-4K-2	4-6	20
AS-BSH07C-5K-2	4-6	20
AS-BSH07C-6K-2	4-6	20
AS-BSH07C-8K-2	4-6	32
AS-BSH07C-10K-2	6	40
AS-BSH07C-12K-2	6	40
AS-BSH07C-15K-2	6	40

- EPS (off-grid) wire and breaker recommended

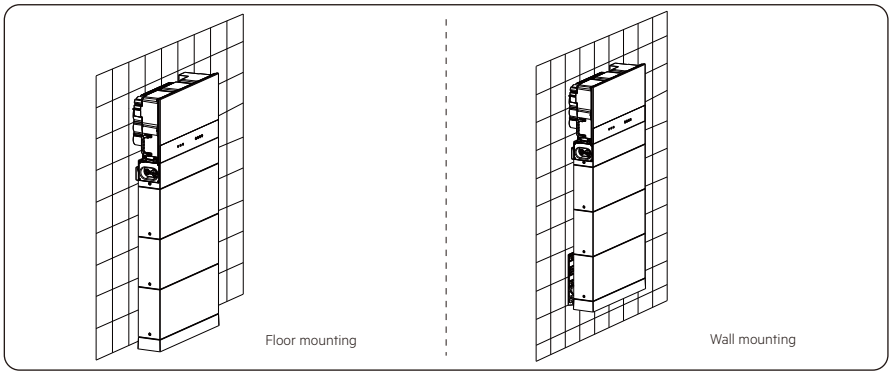
Model	Five-core wire (copper) [mm^2]	Breaker [A]
AS-BSH07C-4K-2	4-6	16
AS-BSH07C-5K-2	4-6	16
AS-BSH07C-6K-2	4-6	16
AS-BSH07C-8K-2	4-6	20
AS-BSH07C-10K-2	6	25
AS-BSH07C-12K-2	6	32
AS-BSH07C-15K-2	6	32

Note:

- It is recommended that the outer diameter of Grid and EPS cables be 17.5~18.5 mm or 19~21 mm. The electrical connection method of Grid and EPS cables with different outer diameters differ.
- Note: For a 4.0 ~ 8.0 kW inverter, please select suitable AC ferrules from the inverter accessory pack in accordance with the diameter of the Grid and EPS cables actually used.
- The parameters have some differences because of different environment and material. Please choose appropriate cable and micro-breaker according to the local conditions.

MECHANICAL INSTALLATION/ MEKANISK INSTALLATION

The mechanical installation of the AS-BSH07C system supports floor mounting and wall mounting. The two installation methods are illustrated below. Option B with three battery modules is taken as an example.



Here below are the components of different options for the floor mounting. Base support(s) is (are) needed if the wall mounting is selected.

	Option A	Option B	Option C	Option D		Option E		Option F		Option G	
				Left tower	Right tower	Left tower	Right tower	Left tower	Right tower	Left tower	Right tower
Inverter	1	1	1	1	/	1	/	1	/	1	/
AS-BMH07-CM	1	1	1	1	/	1	/	1	/	1	/
AS-BMH07-5.1K	2	3	4	2	2	1	3	2	3	3	3
AS-BMH07-BP	1	1	1	1	1	1	1	1	1	1	1
AS-BAC07	/	/	/	/	1	/	1	/	1	/	1
Cover	/	/	/	/	1	/	1	/	1	/	1

Note:

1. In the case of no more than 3 (including 3) battery modules in a tower, please ensure that the bearing capacity of the supporting surface for the system must be over 946 kg.
2. In the case of 4 battery modules in a tower, please ensure the bearing capacity of the supporting surface for the system must be over 1096 kg.
3. The devices must not be installed on the wood wall.
4. Please ensure that the thickness of any part of the wall should not be less than 150 mm if the wall mounting is selected.

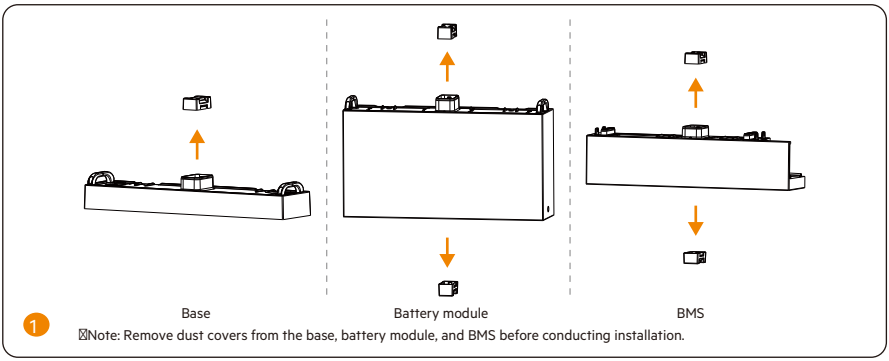
5. At least two persons are required to move the devices of AS-BSH07C system.
6. Please reserve enough distance from the device to the ceiling (or the grounding) for capacity expansion.
7. The connector of the BMS is completely insulated through insulating head.
8. No circuit presents on male terminals until female terminals or another module connected.
9. Access to directly touch female terminals by fingers is not available as they are IP2X rated.
10. In case of measuring the battery's voltage, the battery must be placed on the base, ensuring male and female terminals are in contact before they present circuit.

- Floor mounting/ Gulvmontering

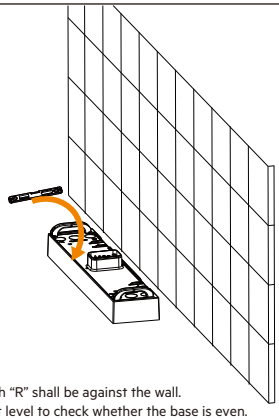
The mode of floor mounting is given priority for installation. Option B (three battery modules in one tower) is taken as an example.

One tower

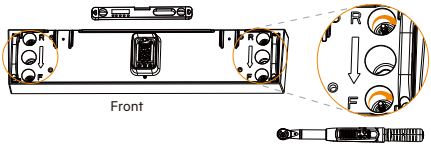
Step 1 Prepare and install the battery base and battery modules.



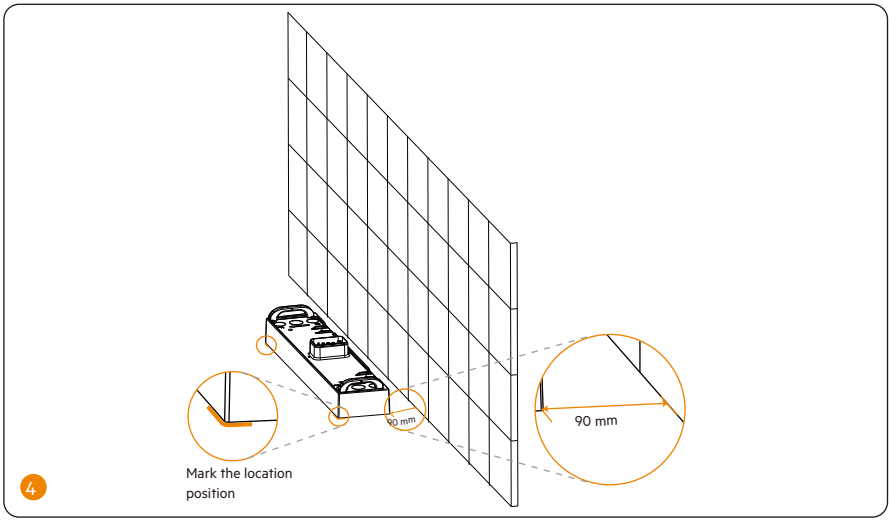
1 ☒Note: Remove dust covers from the base, battery module, and BMS before conducting installation.



2 The side with "R" shall be against the wall.
Place a spirit level to check whether the base is even.
If yes, refer to the step 4.
If no, refer to the step 3.

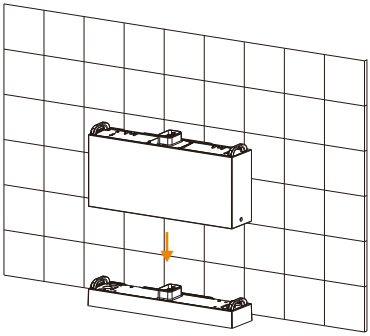


3 Rotate the adjustment screws to ensure the base is even.
Turn clockwise, lower the base.
Turn anticlockwise, raise the base.



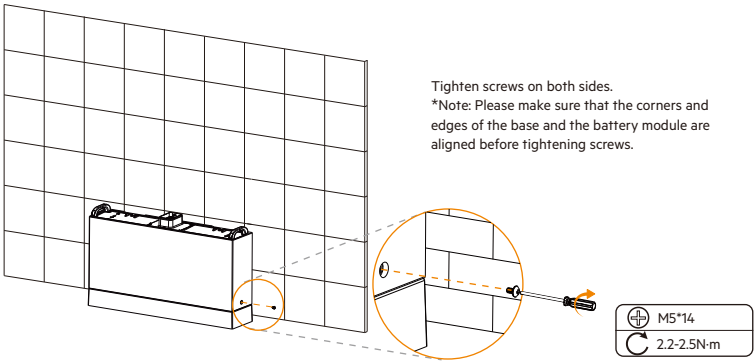
4

Mark the location position



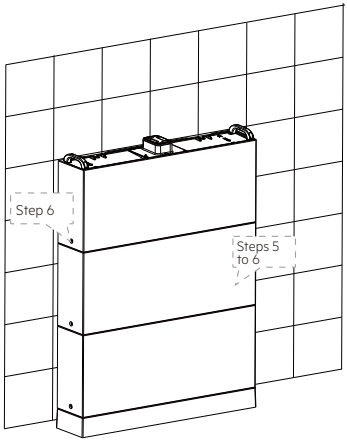
*Note: The side with "R" shall be against the wall.

5



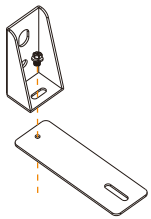
Tighten screws on both sides.
*Note: Please make sure that the corners and edges of the base and the battery module are aligned before tightening screws.

6

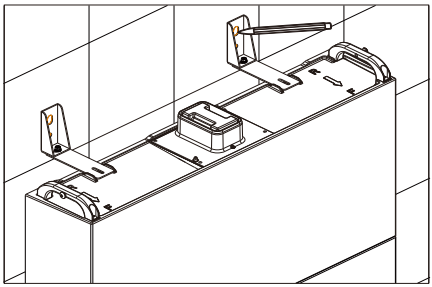


7

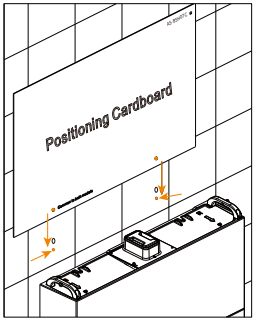
Step 2: Install the AS-BMH07-CM.



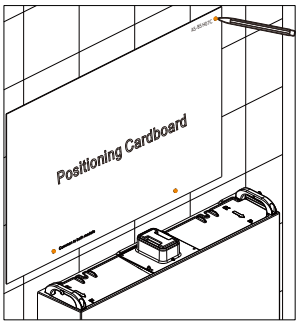
8 Attach the two brackets with a screw, but do not tighten it for a while.



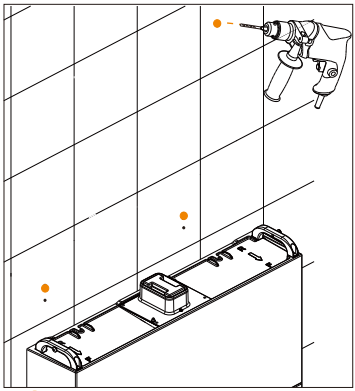
9 Align the brackets with the holes on the battery module. Mark four dots through the brackets on the wall.

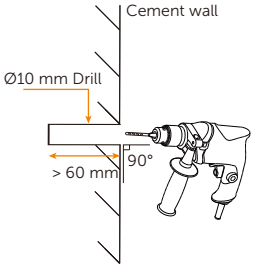


10 Align the holes on the positioning cardboard with the dots close to the battery on the wall.



11 Mark dots where "AS-BSH07C" is noted on the positioning cardboard.

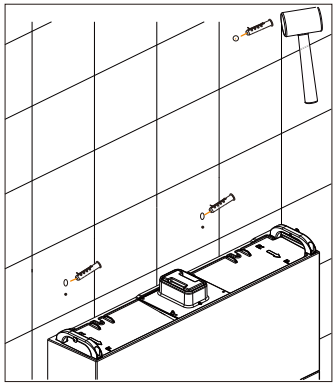


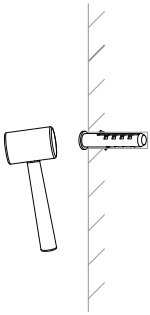


Ø10 drill
Depth: >60 mm

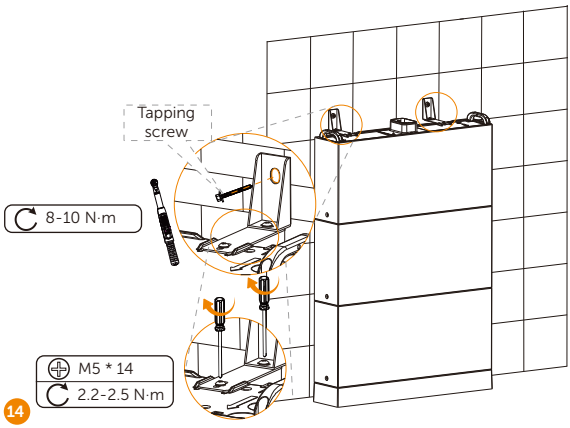
*Note:
1. An electric drill dust collector is recommended to prevent dust from being released into the hot plug when drilling holes.
2. To prevent dust from being released into the hot plug when drilling holes, users may use the package bag of the device or other materials to fully cover the battery module.

12



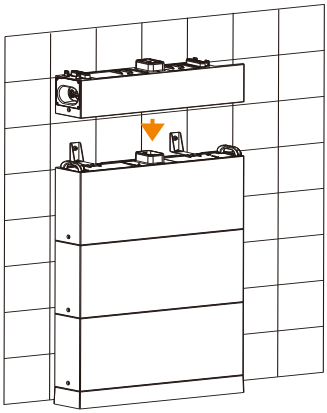


13 Knock expansion tubes into the wall with a rubber hammer.



14

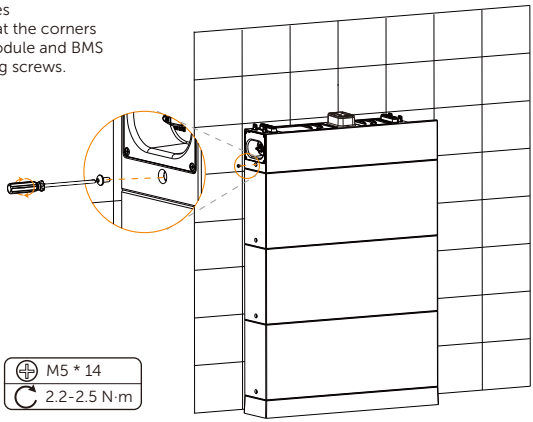
*Note:
1. If the base is shifted before securing the assembled bracket, move it to its original location according to the mark previously drawn.
2. Please make sure that the corners and edges of the battery modules are aligned before tightening screws.



Install the BMS on the battery module.

15

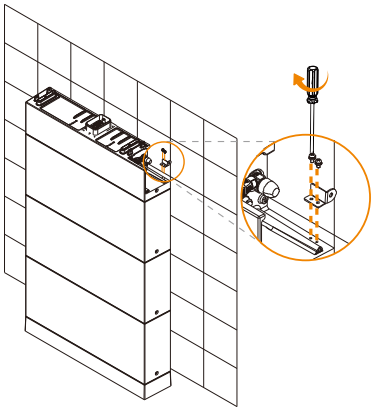
Tighten screws on both sides
*Note: Please make sure that the corners and edges of the battery module and BMS are aligned before tightening screws.



M5 * 14
2.2-2.5 N·m

16

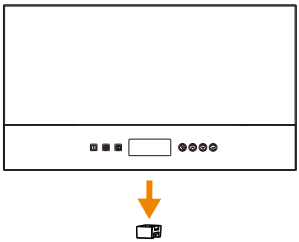
Install the anti-tamper bracket.



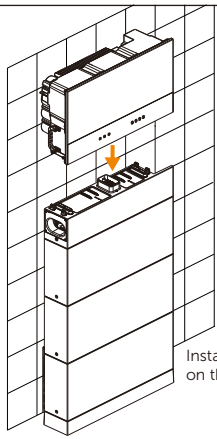
M4 * 10
1.2±0.1 N·m

17

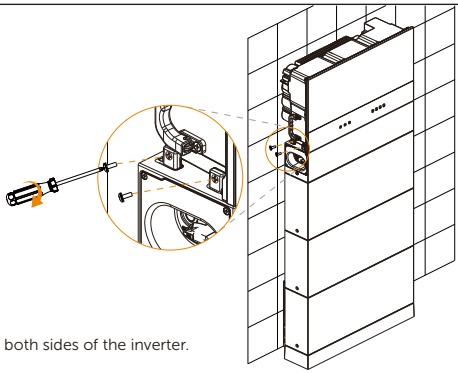
Step 3: Install the Inverter.



18 Remove the dustproof cover from the bottom of the inverter.

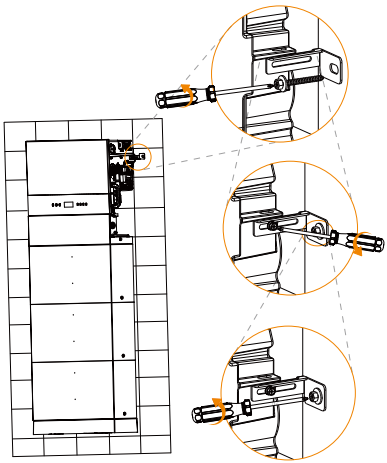


19 Install the inverter on the BMS.



20 Lock screws on both sides of the inverter.

M5 * 14
2±0.1 N·m



21

Lock inverter brackets on both sides.

Step1 Tighten but not lock the self-tapping screws (ST 6.3) into the wall.

Step2 Lock screws (M5*10) on the inverter.

Step3 Lock screws (ST 6.3) into the wall.

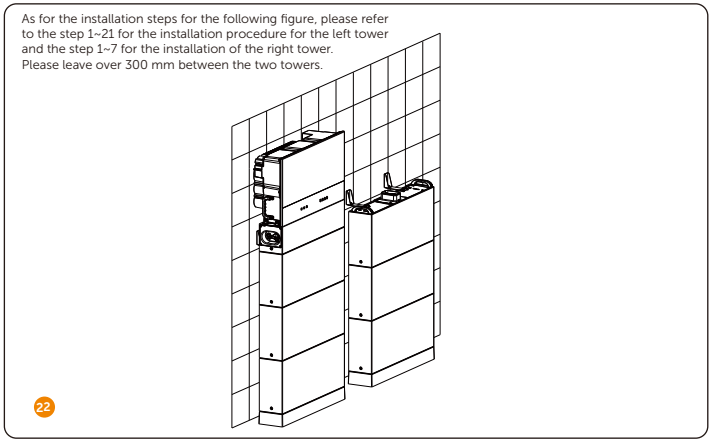
M5 * 10
2±0.1 N·m

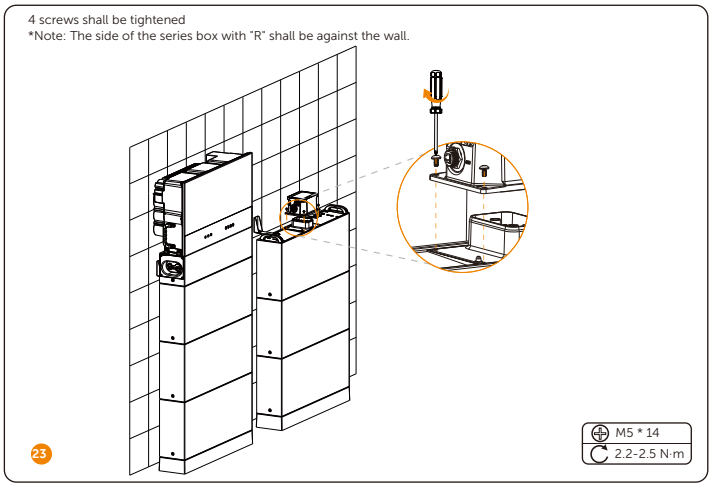
ST 6.3
2±0.1 N·m

Step 4 (Optional): Lock the inverter as needed. (The lock's diameter doesn't exceed 5 mm)

Two Towers

Take the installation procedure for six battery modules AS-BMH07-5.1K as an example.





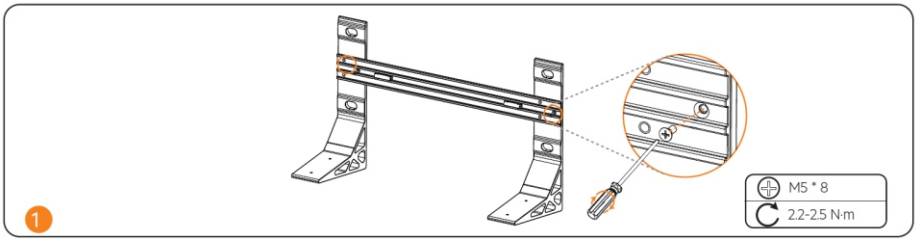
Note: The cover that covers the AS-BAC07 shall be installed after finishing wiring. As for the installation procedure of the cover. please refer to the section of "Installation of Cover".

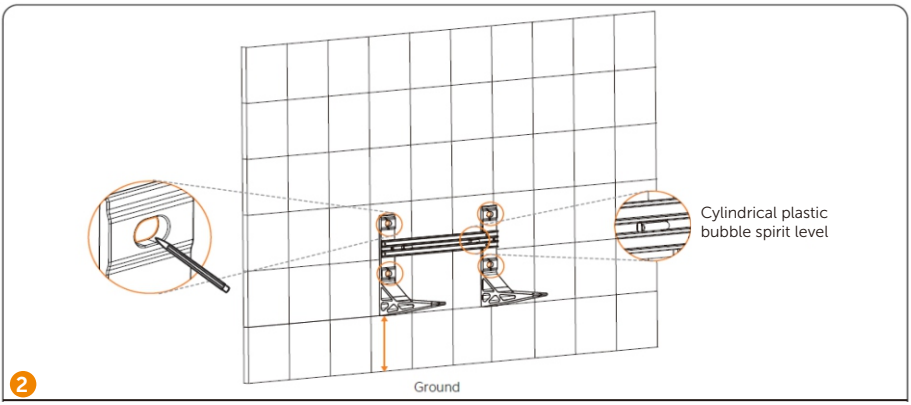
- Wall mounting/ Vægmontering

The installation option B with three AS-BMH07-5.1K is taken as an example.

Step 1: Prepare and install AS-BMH07-BP and AS-BMH07-5.1K.

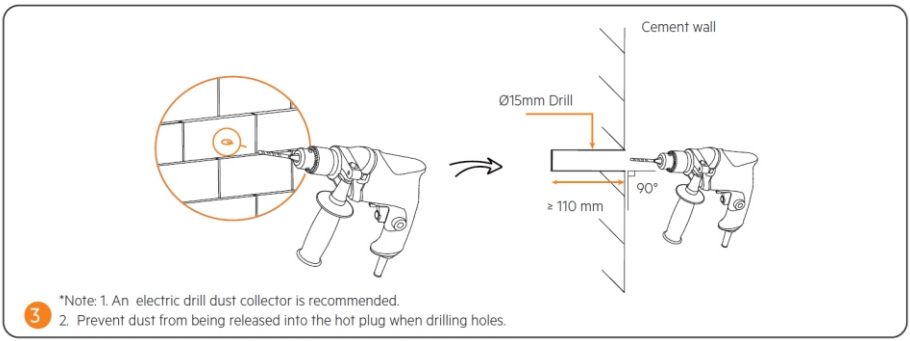
Before installing, please refer to the Step 1 of the Floor Mounting to remove the dust covers. Tighten screws on both sides.

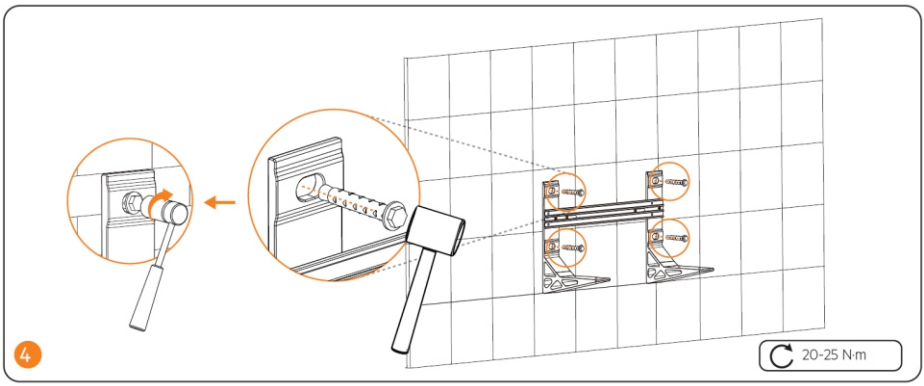


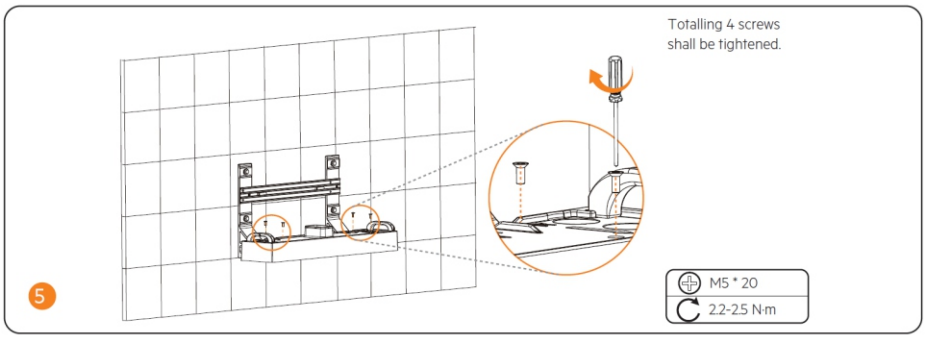


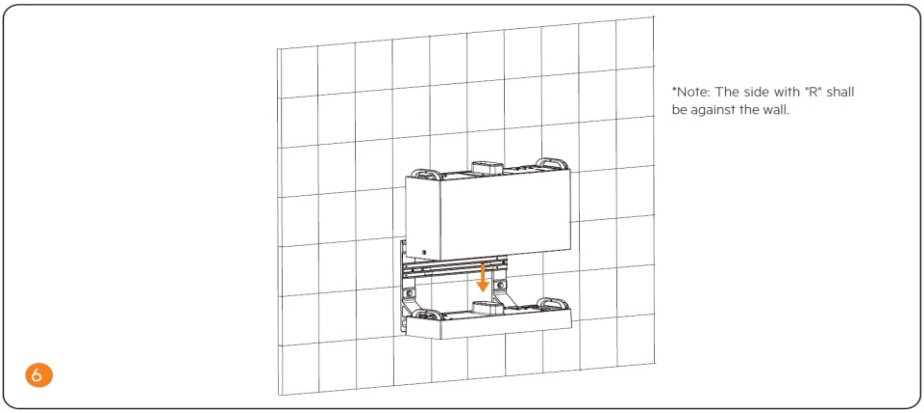
Note:

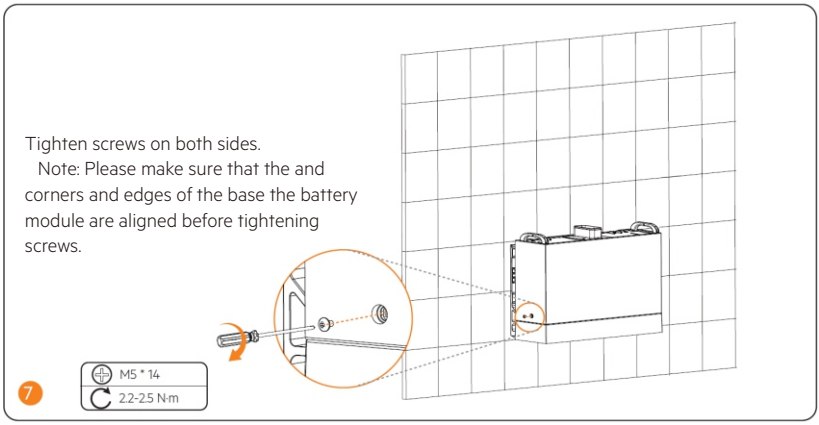
1. The distance from the base support to the ground is decided according to the local regulations. And it is also the distance from the base to the ground. For the safety concerns, it is suggested that the height from the ground not be too high.
2. Leave enough distance to the ceiling to install the inverter.
3. Check whether the bubble is in the centre, if not, slightly bow it to the horizontal.

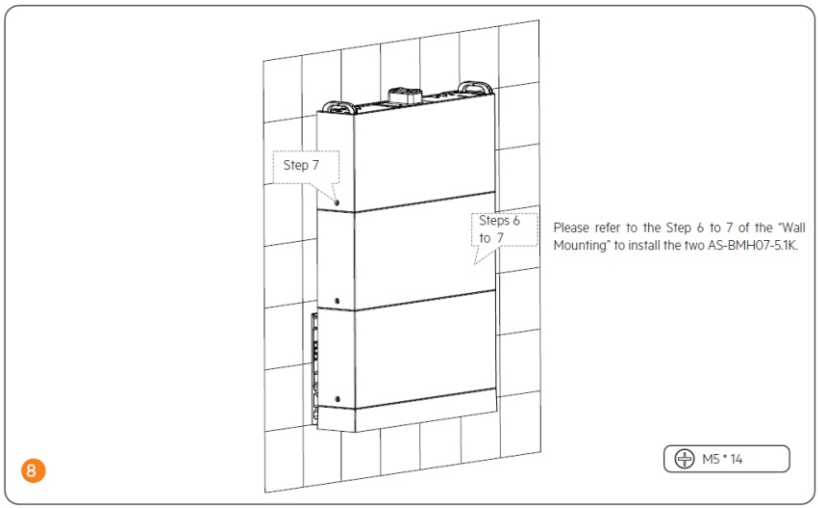



4
20-25 N·m

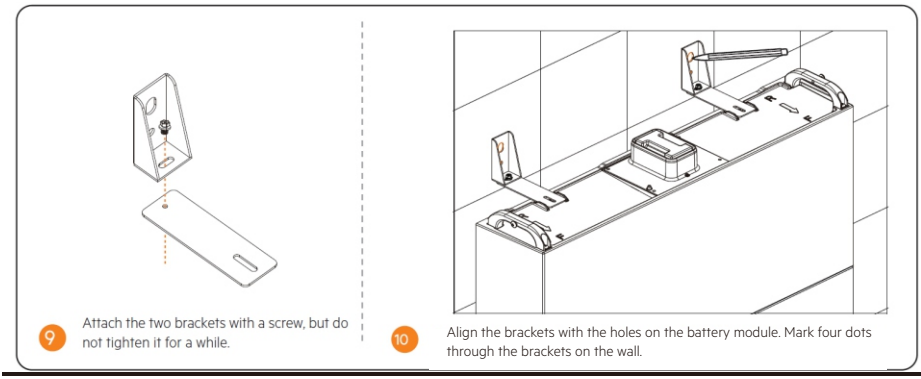

Totalling 4 screws
shall be tightened.
5
M5 * 20
2.2-2.5 N·m

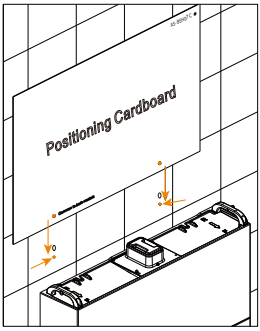

*Note: The side with "R" shall
be against the wall.
6



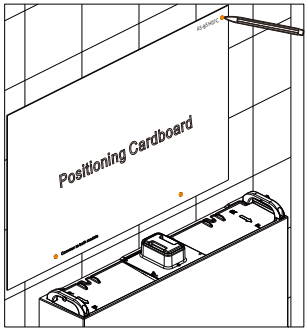


Step 2: Install AS-BMH07-CM.

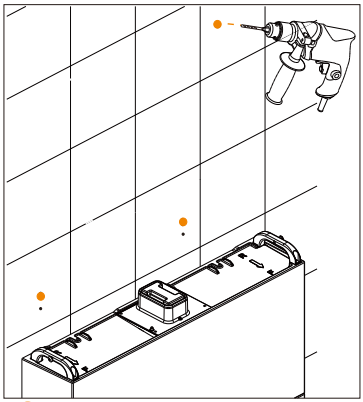




11 Align the holes on the positioning cardboard with the dots close to the battery on the wall.

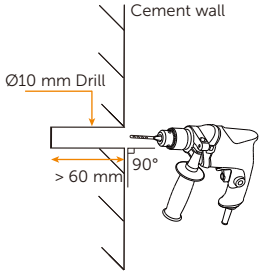


12 Mark dots where "AS-BSH07C" is noted on the positioning cardboard.



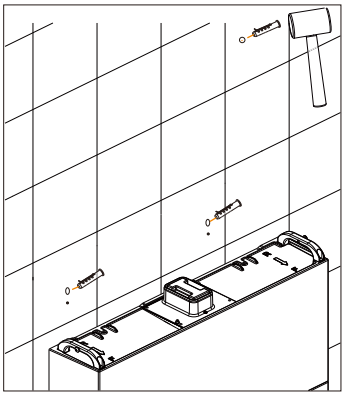
13

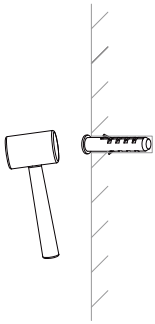
Ø10 drill
Depth: >60 mm



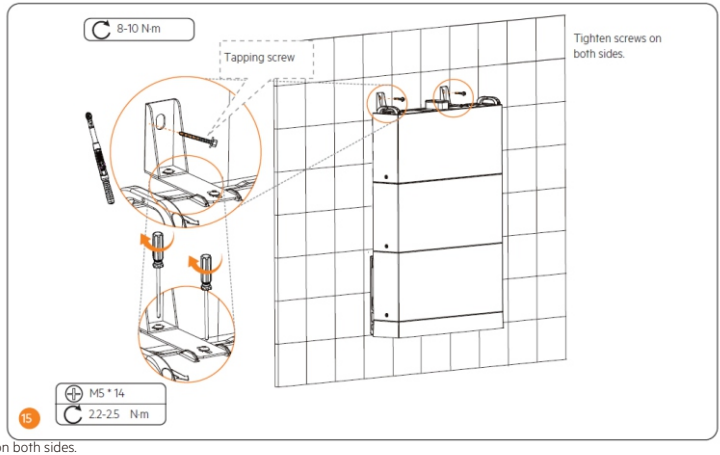
Drill holes at the depth of more than 60 mm with a Ø10 drill.

*Note: An electric drill dust collector is recommended to prevent dust from being released into the hot plug when drilling holes.





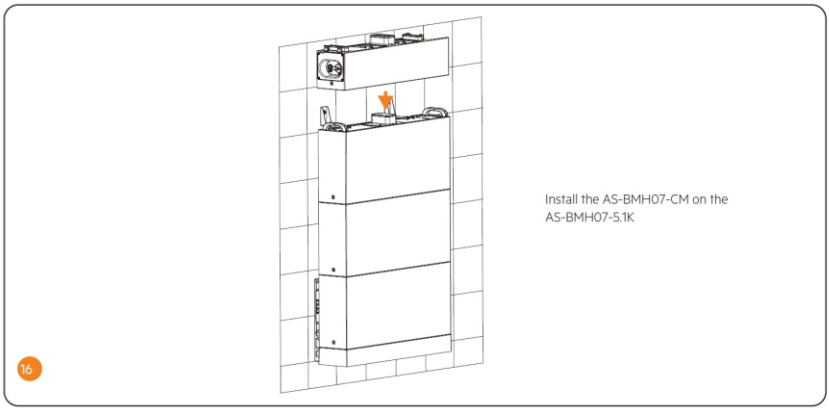
14 Knock expansion tubes into the wall with a rubber hammer.

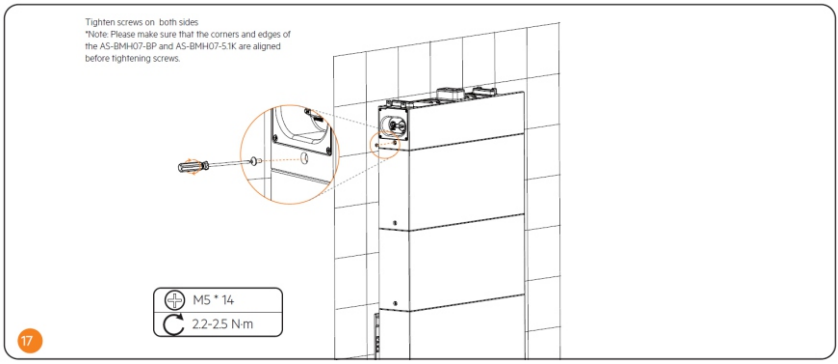


Tighten screws on both sides.

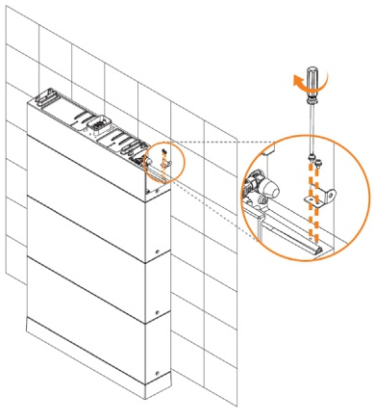
Note:1. If the base is shifted before securing the assembled bracket, move it to its original location according to the mark previously drawn.

2. To prevent dust from being released into the hot plug when drilling holes, users may use the package bag of the device or other materials to fully cover the battery module.

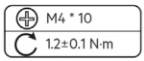




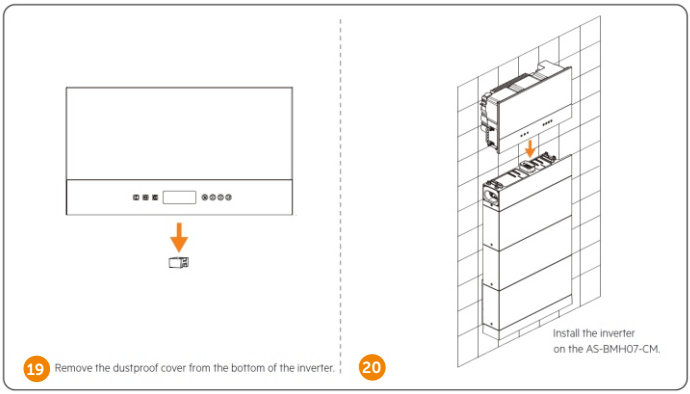
Install the anti-tamper bracket.

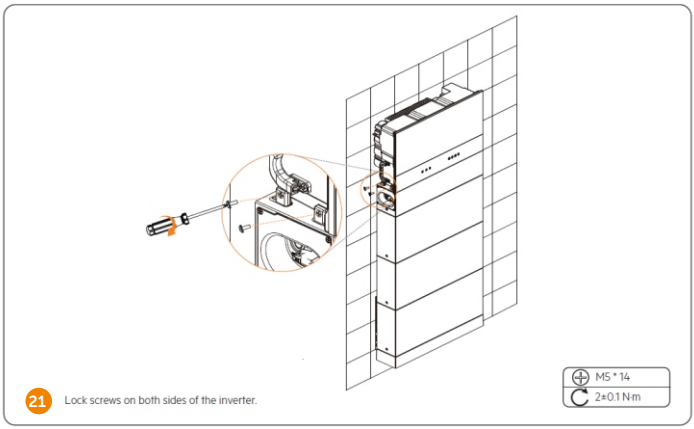


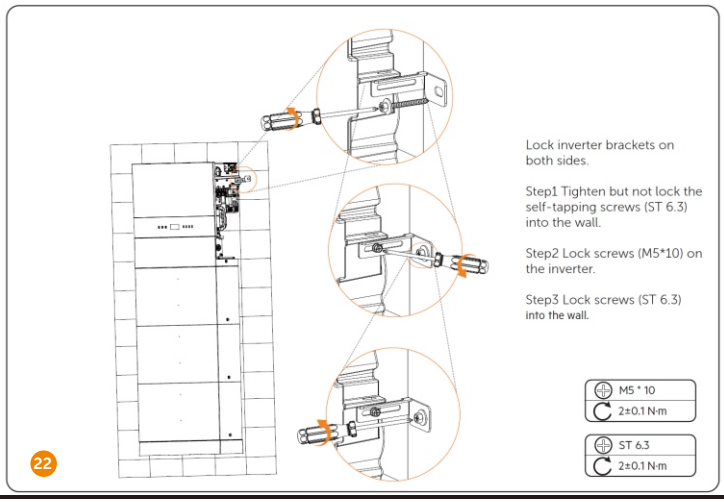
18



Step 3: Install the Inverter





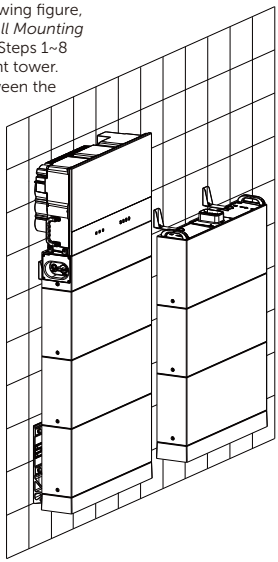


Step 4: (Optional) Lock the inverter as needed. (The lock's diameter doesn't exceed 5mm.)

Two Towers

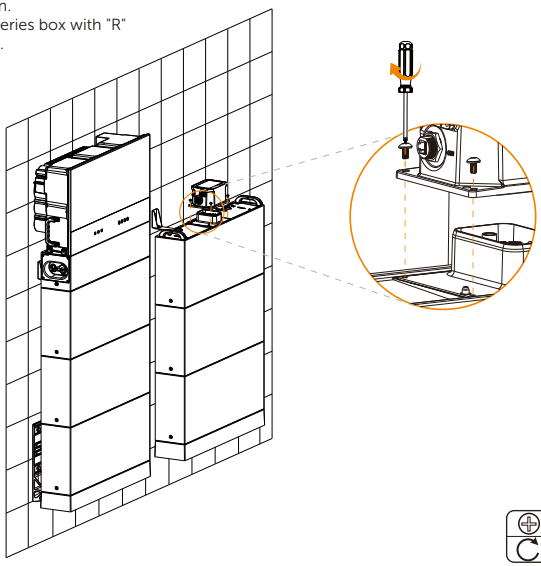
Take the installation procedure for six AS-BMH07-5.1K as an example.

As for the installation steps for the following figure, please refer to the Steps 1~22 of the *Wall Mounting* to install the left tower and refer to the Steps 1~8 for the installation procedure of the right tower. Please leave at least 250~300 mm between the two towers.



23

4 screws shall be tighten.
*Note: The side of the series box with "R" shall be against the wall.



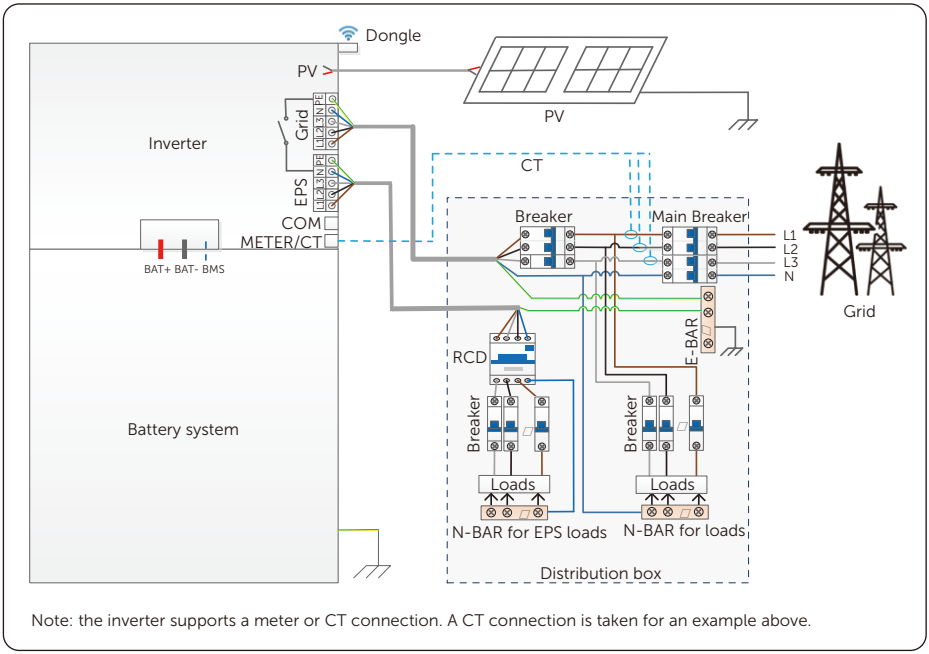
24

Note:

The cover that covers on the AS-BAC07 shall be installed after finishing wiring. As for the installation procedure of the cover, please refer to the section of "Installation of Cover"

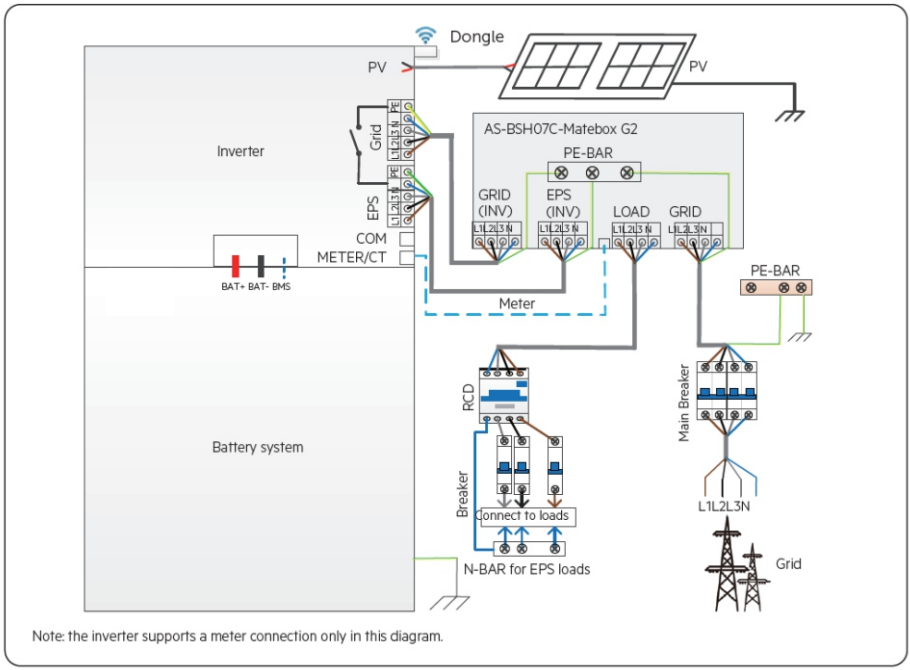
- System Diagram/ Systeemidiagram

System diagram without Matebox G2.



Note: the inverter supports a meter or CT connection. A CT connection is taken for an example above.

System diagram with Matebox G2.



Wiring Connection on the Battery/ Batteriledninger

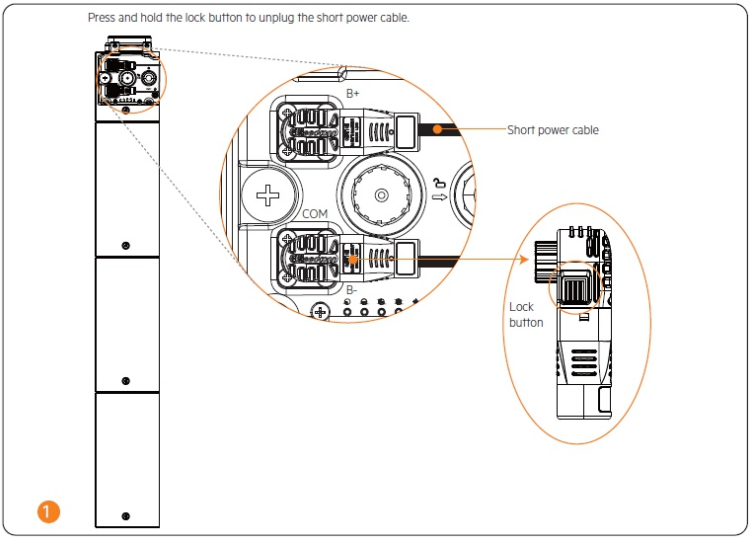
- Wiring/ Ledningsføring

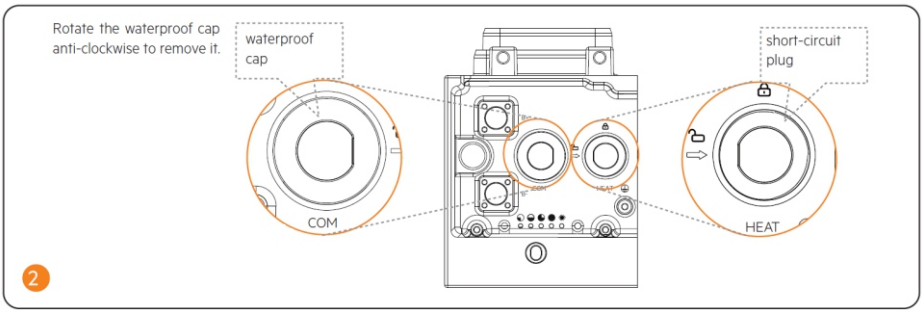
Note:

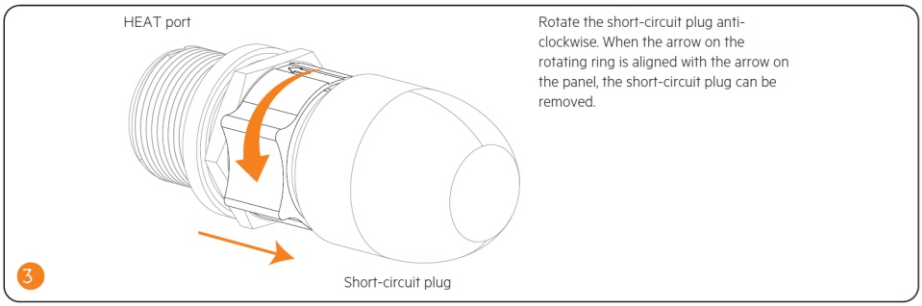
In the case of one tower, the AS-BMH07-CM does not need to conduct wiring. The short power cable, short-circuit plug, and waterproof cap will be connected before delivery. And in that case, please don't remove the short power cable, short-circuit plug, or waterproof cap.

Wiring procedure for two towers

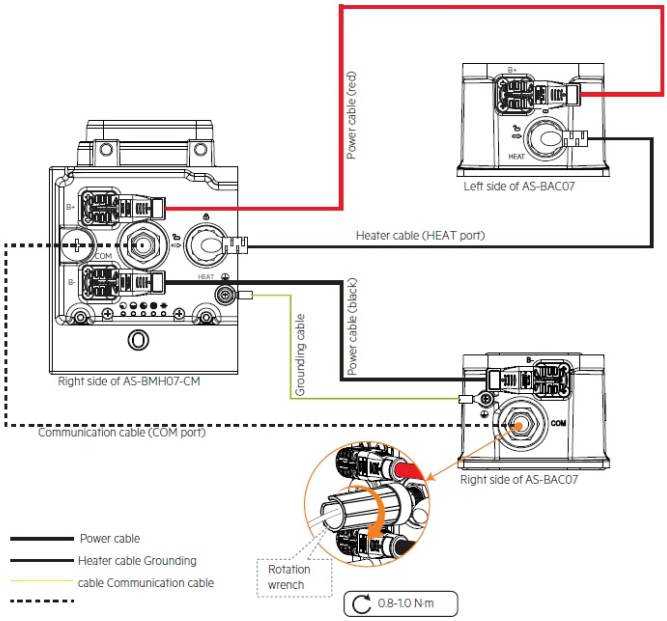
Before conducting wiring between the AS-BMH07-CM and AS-BAC07, the short power cable, short-circuit plug, and waterproof cap shall be removed.


Press and hold the lock button to unplug the short power cable.
B+
COM
B-
Short power cable
Lock button
1

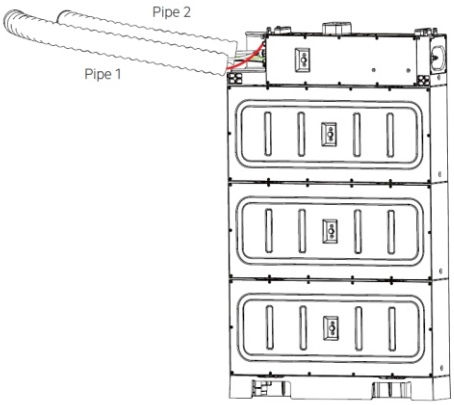

Rotate the waterproof cap anti-clockwise to remove it.
waterproof cap
short-circuit plug
COM
HEAT
2


HEAT port
Rotate the short-circuit plug anti-clockwise. When the arrow on the rotating ring is aligned with the arrow on the panel, the short-circuit plug can be removed.
Short-circuit plug
3

Connect B+ of the AS-BMH07-CM to B+ of the AS-BAC07;
Connect B- of the AS-BMH07-CM to B- of the AS-BAC07;
Connect COM port of the AS-BMH07-CM to COM port of the AS-BAC07;
Connect HEAT port of the AS-BMH07-CM to HEAT port of the AS-BAC07;
Connect the grounding of the AS-BMH07-CM to the grounding terminal of the AS-BAC07



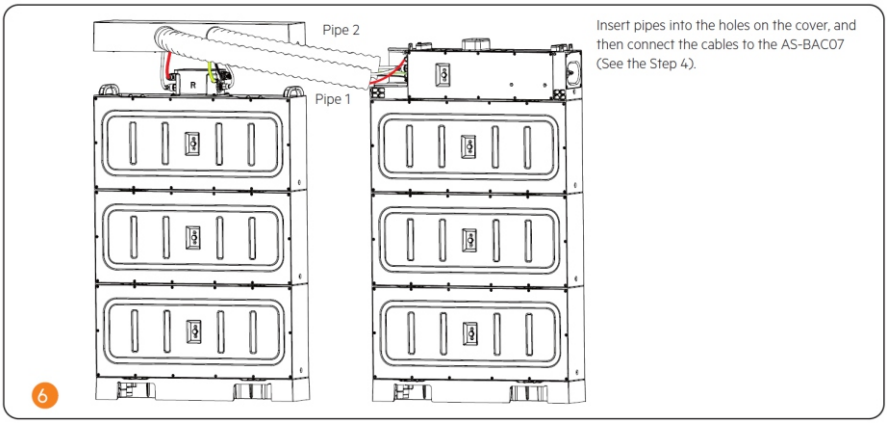
4 *Note: 1. There are two terminals on both ends of the power cables.
2. Both ends of the communication cable shall be closed using a rotation wrench.

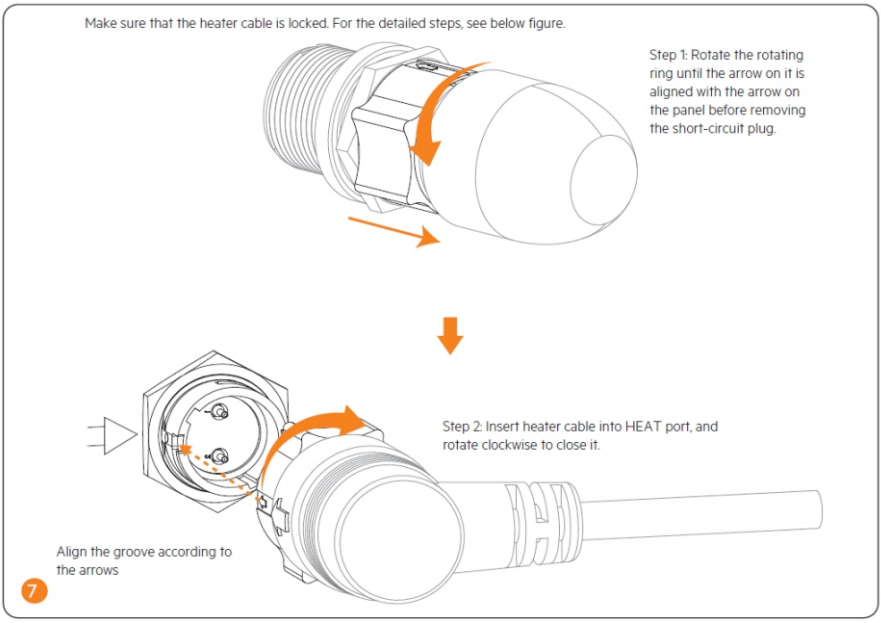


Firstly, connect cables to the AS-BMH07-CM; Secondly, pull cables through pipes.
Pull the power cable (red) and heater cable through pipe 1; pull the power cable (black), communication cable and grounding cable through pipe 2.

*Note: A corrugated pipe should be prepared by the users themselves.

5



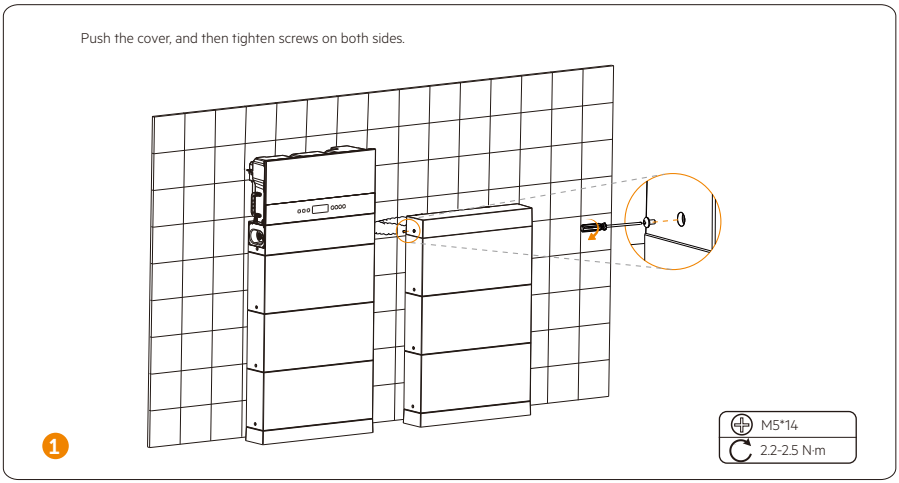


Note:

1. Tighten both ends of the communication cable with a rotation wrench. After tightening,remove the rotation wrench.
2. Don't violently remove the cable when it is locked.
3. A corrugated pipe with an external diameter of 67.2 mm is recommended for use tokeep cable insulation in place and avoid potential damages.

- Installation of cover/ Montering af dæksel

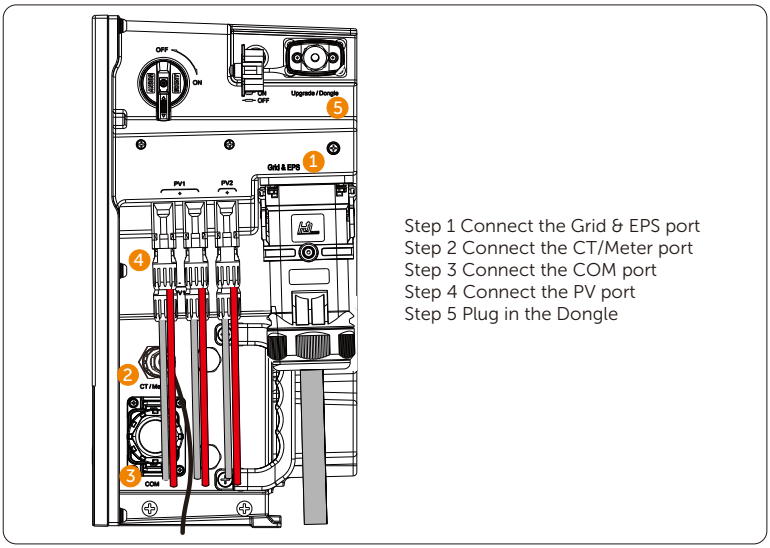
After finishing wiring, please install the cover according to the following steps.



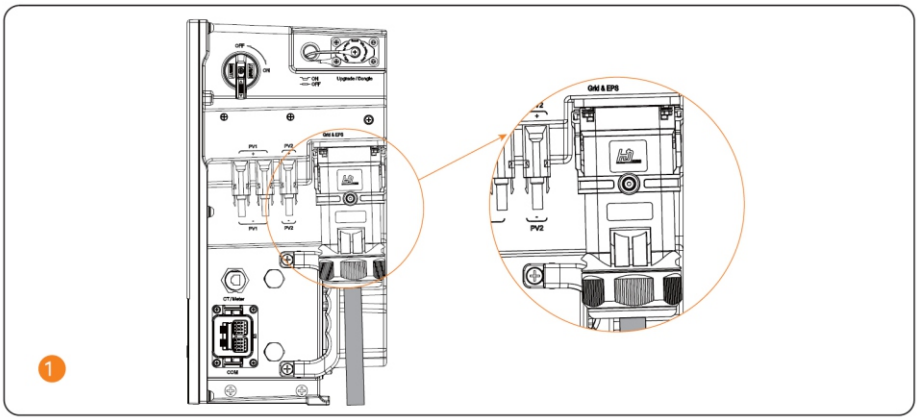
Note:The above step for installing the cover also applies to the mode of wall mounting.

WIRING CONNECTION ON THE INVERTER/ INVERTER LEDNINGER

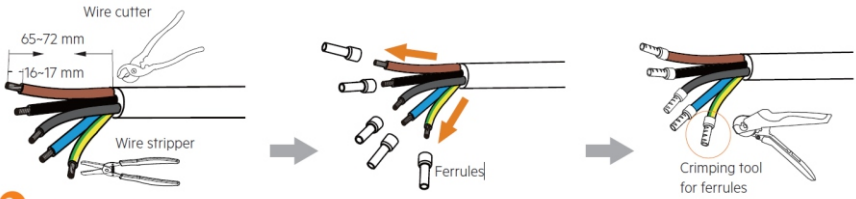
- Wiring sequence/ Ledningsrækkefølge



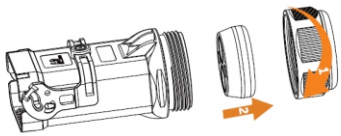
- Grid and EPS (off-grid) connection/ Elnet- og EPS-tilslutning (uden for elnettet)



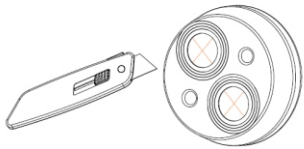
1



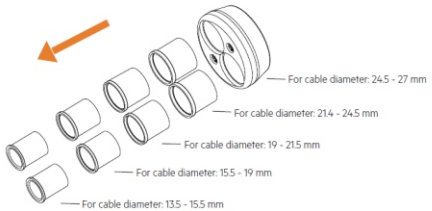
2 Wire Grid and EPS cables.
*Note: For a 5.0~8.0 kW inverter, please select suitable Grid and EPS ferrules from theinverter accessory pack in accordance with the diameter of the Grid and EPS cables actually used.



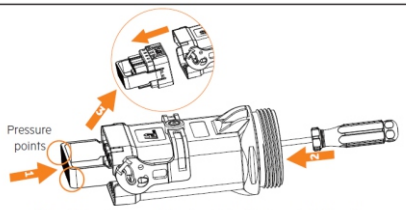
3 Loosen the swivel nut, pull out the rubber stopper out of the AC connector.



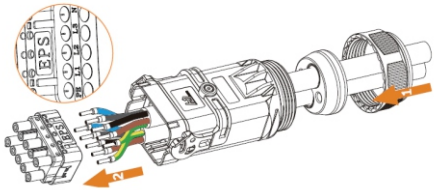
4 Cut the innermost round membrane with a utility knife.



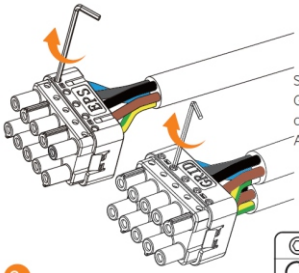
5 According to the outer diameters of the cable, take out the corresponding sealing plug.



6 Insert the disassembling tool into the terminal block, press and hold the double arc edges of the tool, and poke the terminal block out.



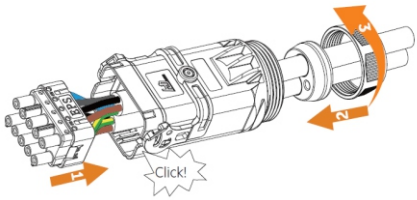
7 Plug L1/ L2/ L3/ N/ PE cables into the corresponding ports of the terminal block.



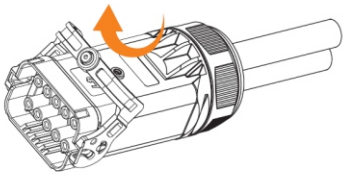
Screw to tighten Grid and EPS cables with an Allen key.

Allen key
2.5±0.1 N·m

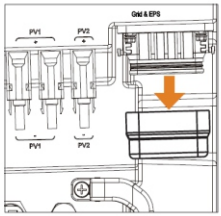
8



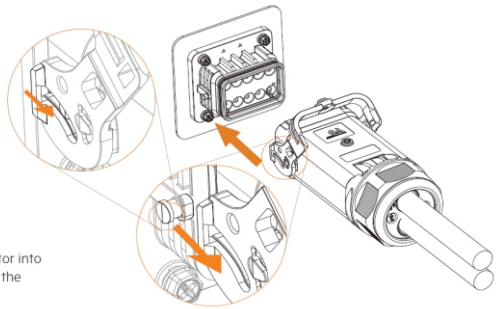
9 Insert the terminal block and rubber stopper back to the AC connector and tighten the swivel nut.



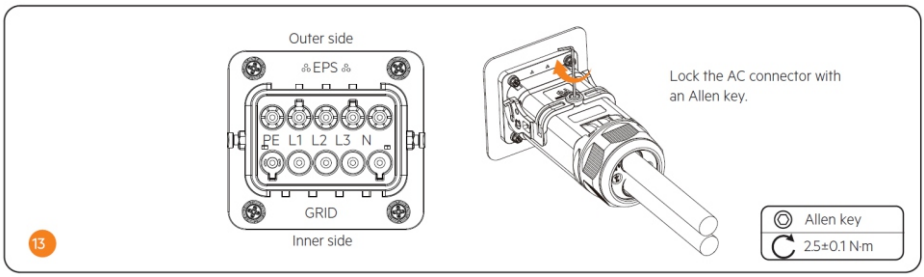
10 Pull up the latch.



11 Remove the dustpro of cover from the Grid&EPS port.



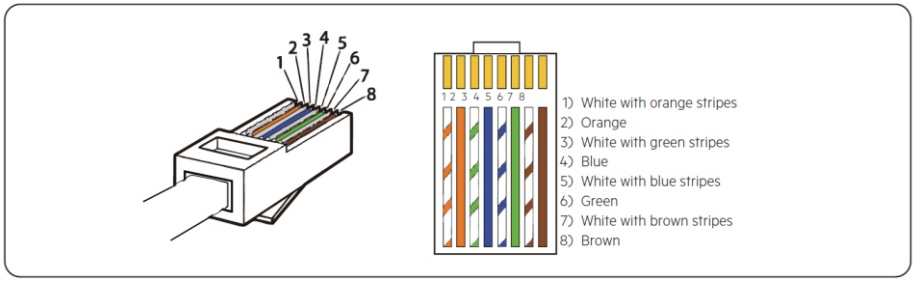
12 Insert the AC connector into the Grid&EPS port of the inverter.



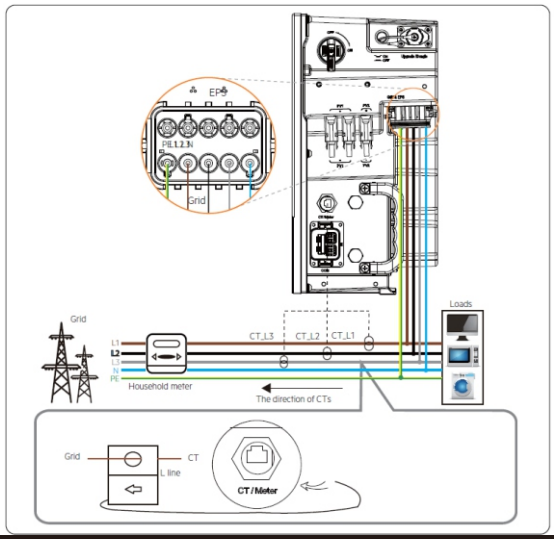
- Communication Connection/ Kommunikationsforbindelse

1. Pin definition for CT/meter

Item	CT			Meter			CT	
PIN	1	2	3	4	5	6	7	8
PIN definition	CT_L1-1	CT_L2-1	CT_L3-1	METER485A	METER485B	CT_L1-2	CT_L2-2	CT_L3-2



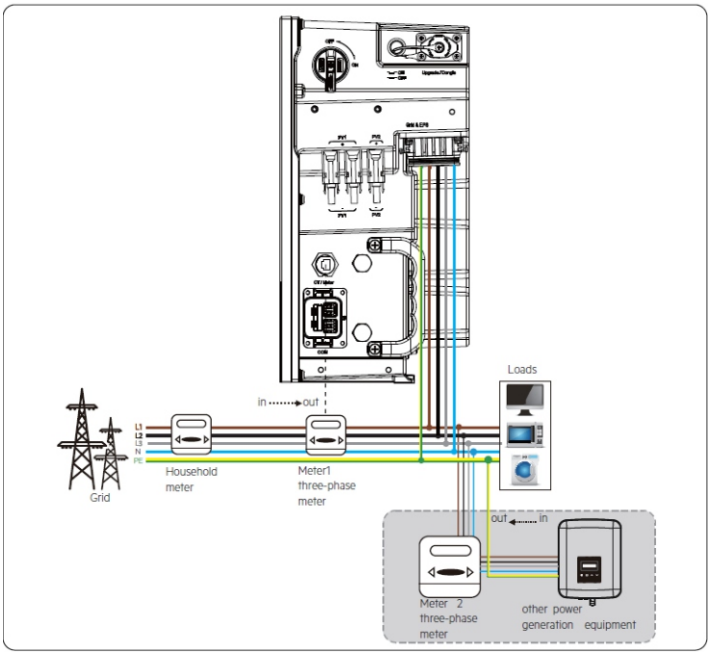
2. CT connection diagram



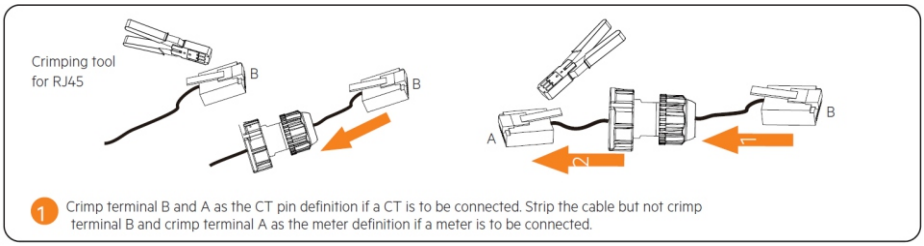
- The arrow on the CT must point at the grid.
- Markings on the CTs might be R, S and T or L1, L2 and L3. Make sure to clip CT-R/CT-L1to the L1 wire, CT-S/CT-L2 to the L2 wire, and CT-T/CT-L3 to the L3 wire.

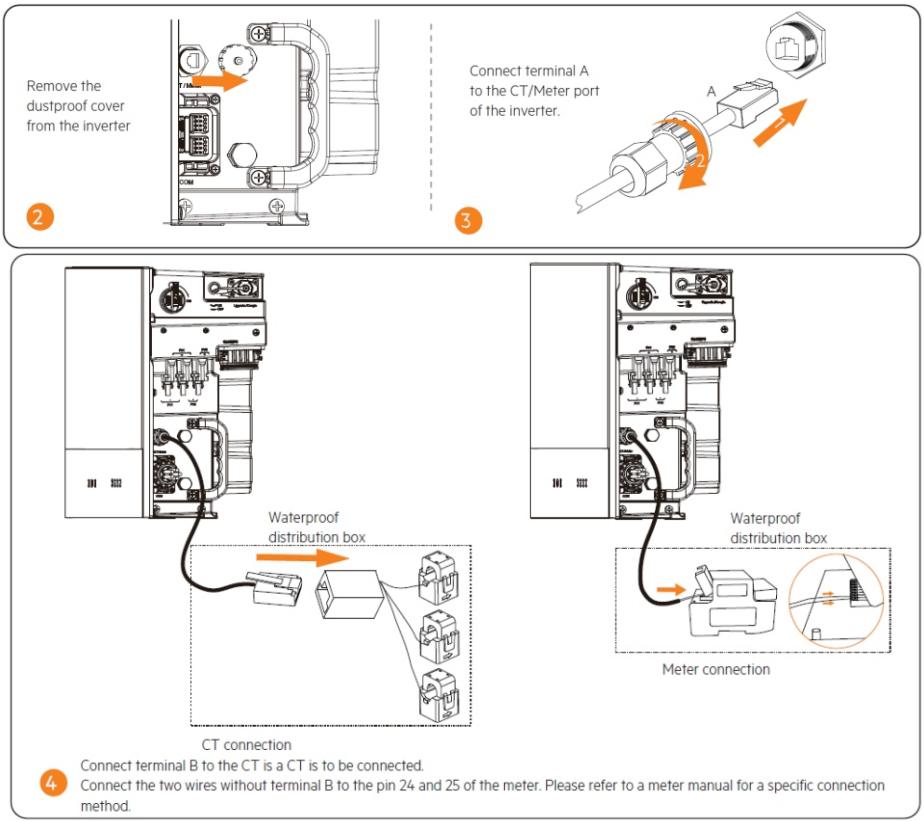
3. Meter connection diagram

If the user has other power generation equipment (such as an inverter) at home and wants to monitor both devices, our inverter provides a meter 2 commnication function to achieve power monitoring.



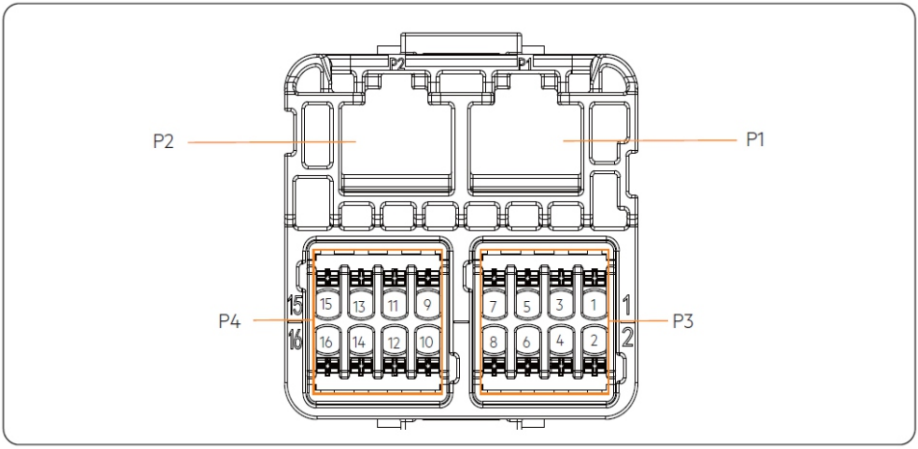
4. CT/ Meter cable connection steps





COM Port Connection

1. COM port introduction



Icon	PIN	Definition	Function	Comment
P1	1	PARALLE_SYNC1	Parallel signal output	Parallel signal port (RJ45)
	2	PARALLE_SYNC2		
	3	EPSBOX_RELAY_VCC		
	4	PARALLE485A		
	5	PARALLE485B		
	6	GND_COM		
	7	CAN_L		
	8	CAN_H		
P2	1	PARALLE_SYNC1	Parallel signal input	
	2	PARALLE_SYNC2		
	3	N/A		
	4	PARALLE485A		
	5	PARALLE485B		
	6	GND_COM		
	7	CAN_L		
	8	CAN_H		

Icon	PIN	Definition	Function	Comment
P3	1	DRM1/5	Logic interface signal	Logical interface is for other standards
	2	DRM2/6		
	3	DRM3/7		
	4	DRM4/8		
	5	REF GEN/0		
	6	COM/DRM0		
	7	Remote 485A	RS485 differential signal-A	Communication with AS-BSH07C datahub, EV-Charger and other internal devices
	8	Remote 485B	RS485 differential signal-B	

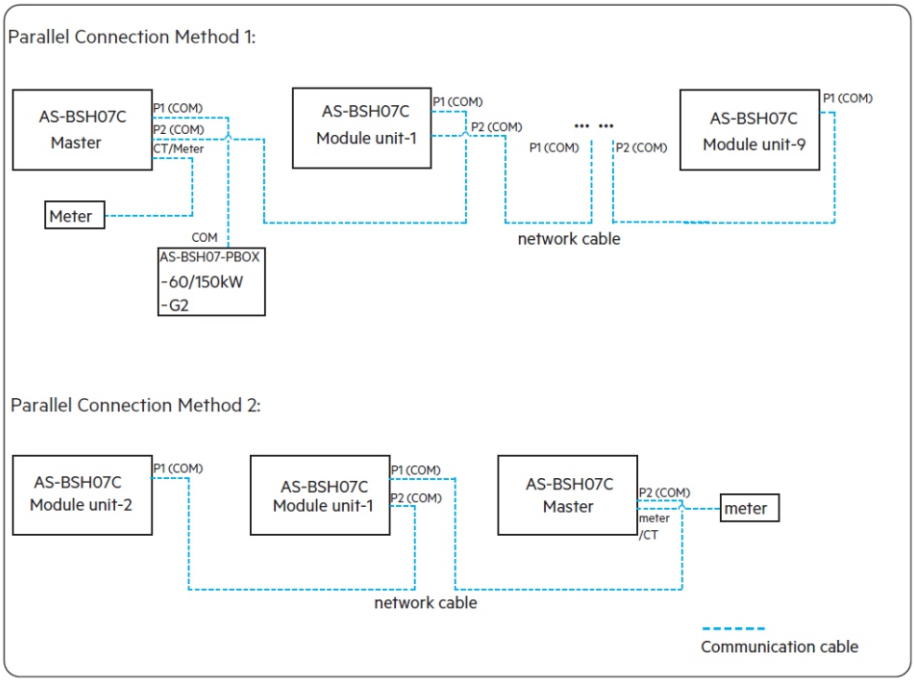
Icon	PIN	Definition	Function	Comment
P4	9	12V_COM	Energy supply	Energy supply
	10	GND	GND	Ground connection
	11	Modbus 485A	Modbus 485A	485 port for communication with other external devices
	12	Modbus 485B		
	13	DO_1	Output drycontact	Output drycontact
	14	DO_2		
	15	DI_1	Input drycontact	Input drycontact
	16	DI_2		

Note:

1. Professional personnel can use pins 11 and 12 to realize data acquisition and external control functions. The communication protocol is Modbus RTU. For details, please contact us.
2. If customers want to use the inverter dry contact to control external equipment (such asa heat pump), it can be used with our adapter box.
3. Only DRM 0/1/5 are available, others are under development.
4. The inverter can be shutdown through DRM0.

2. Parallel connection

AS-BSH07C supports parallel function. There are two parallel connection methods.



2.1 Master inverter and module inverter connection

P2 (COM) port of the master inverter		P1 (COM) port of the module inverter	
PIN	Pin definition	PIN	Pin definition
1	PARALLE_SYNC1	1	PARALLE_SYNC1
2	PARALLE_SYNC2	2	PARALLE_SYNC2
4	PARALLE485A	4	PARALLE485A
5	PARALLE485B	5	PARALLE485B
6	GND_COM	6	GND_COM
7	CAN_L	7	CAN_L
8	CAN_H	8	CAN_H

2.2 Module 1 and module 2 inverter connection

Other module inverters connects in the same way.

P2 (COM) port of the master inverter		P1 (COM) port of the module inverter	
PIN	Pin definition	PIN	Pin definition
1	PARALLE_SYNC1	1	PARALLE_SYNC1
2	PARALLE_SYNC2	2	PARALLE_SYNC2
4	PARALLE485A	4	PARALLE485A
5	PARALLE485B	5	PARALLE485B
6	GND_COM	6	GND_COM
7	CAN_L	7	CAN_L
8	CAN_H	8	CAN_H

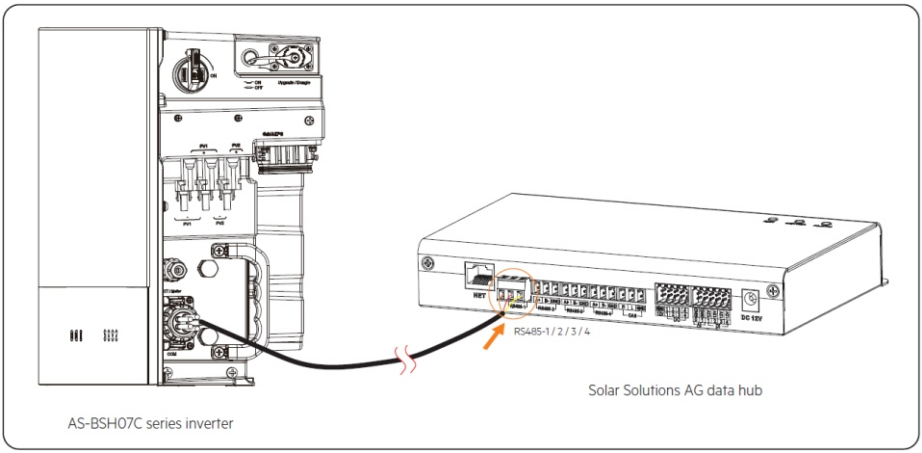
2.3 Master inverter and AS-BSH07-PBOX-60/150kW-G2 connection

P1 (COM) port of the master inverter		COM port AS-BSH07-PBOX-60/150kW-G2	
PIN	Pin definition	PIN	Pin definition
3	EPSBOX_RELAY_VCC	A3	DRIVER+13V
6	GND_COM	A6	GND_COM

3. External devices connection

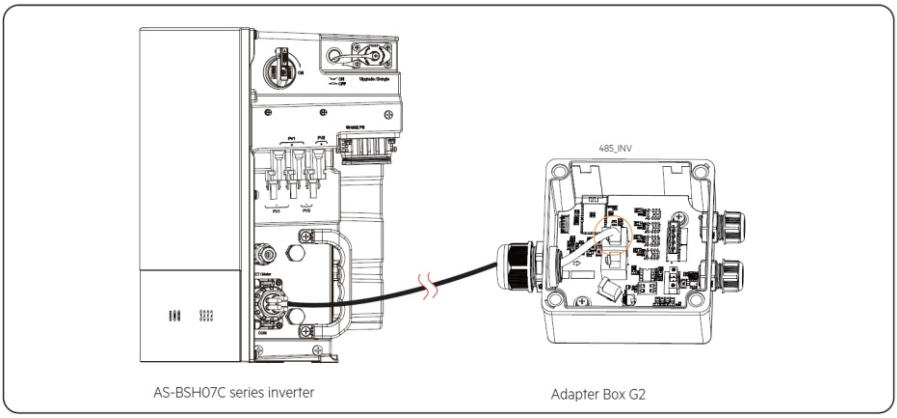
3.1 Connection with a Solar Solutions AG data hub

COM port of AS-BSH07C series inverter		RS485-1/-2/-3/-4 port of Solar Solutions AG datahub
PIN	Pin definition	Pin definition
7 (P3)	remote 485A	RS485A
8 (P3)	remote 485B	RS485B
10 (P4)	GND	GND

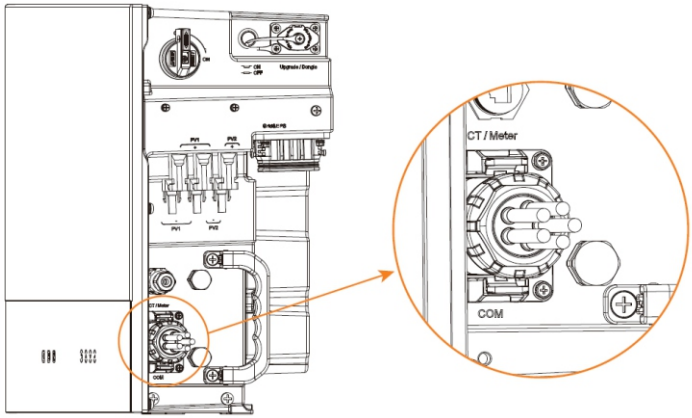


3.2 Connection with a Adapter Box G2

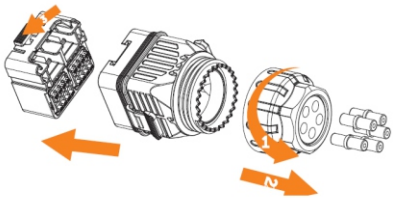
COM port of AS-BSH07C series inverter		485_INV port of Adapter Box G2	
PIN	Pin definition	Pin	Pin definition
7 (P3)	remote 485A	4	RS485A
8 (P3)	remote 485B	5	RS485B
9 (P4)	12V_COM	3	+13V
10 (P4)	GND	6	GND



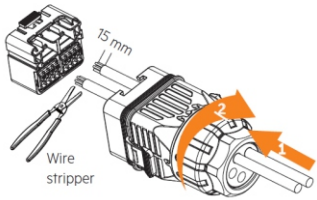
4. COM port cable connection procedure



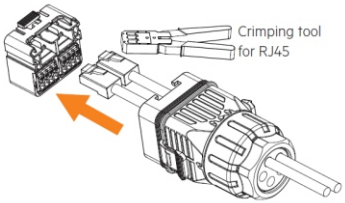
1



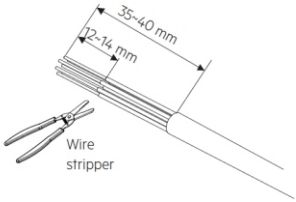
2 Disassemble the communication connector.



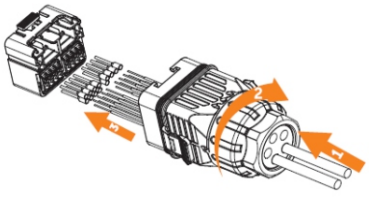
3 Insert cables into the connector, strip cables and then slightly tighten the waterproof connector but not lock it in case of its falling down.



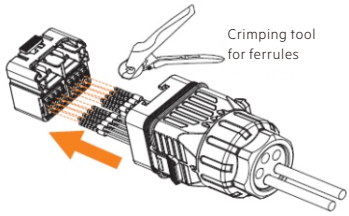
4 Crimp the cables and insert them into the terminal block.



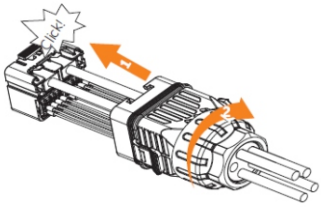
5 Strip cables.



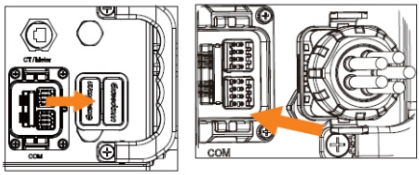
6 Insert cables into the communication terminal and plug the cables into the ferrules. Slightly tighten the swivel nut in case of its falling down.



7 Crimp the ferrules and insert the cables into the terminal block.

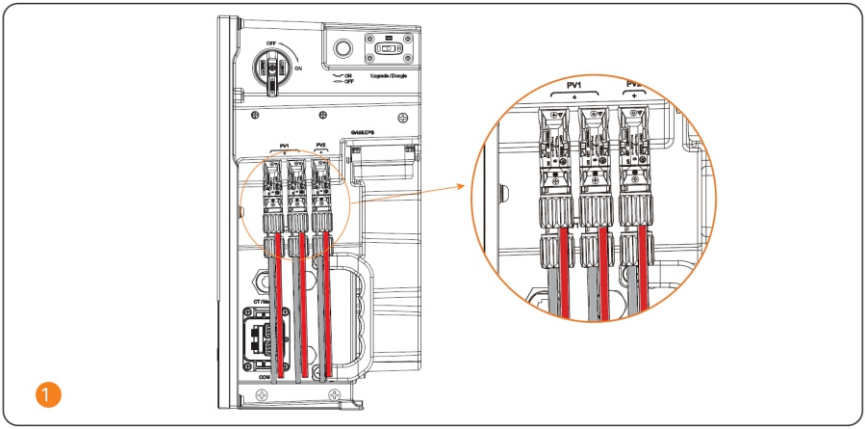


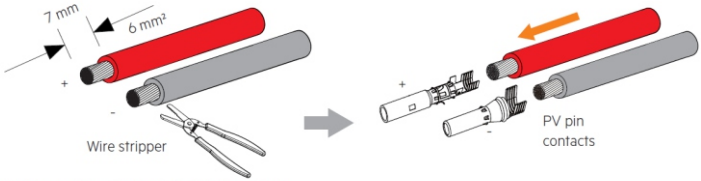
8 Plug the terminal block back to the communication connector and screw the swivel nut tightly.



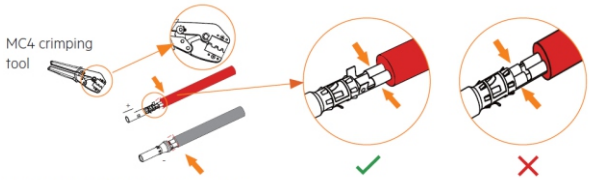
9 Remove the dustproof cover from the COM port and insert the connector into the port.

- PV Connection/ PV-tilslutning

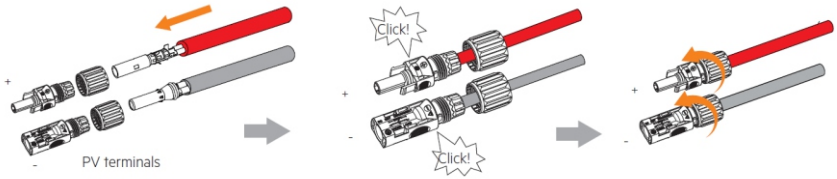




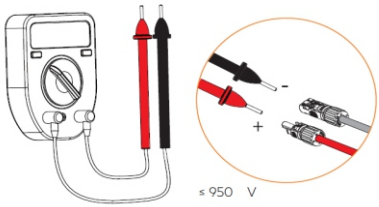
2 Strip PV cables and insert cables into PV pin contacts.



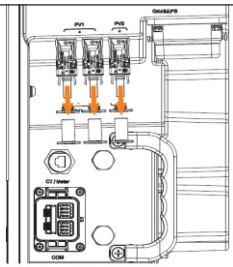
3 Crimp PV pin contacts with a MC4 crimping tool.



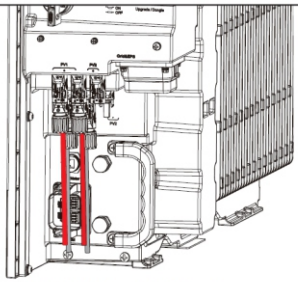
4 Connect cables with PV terminals.



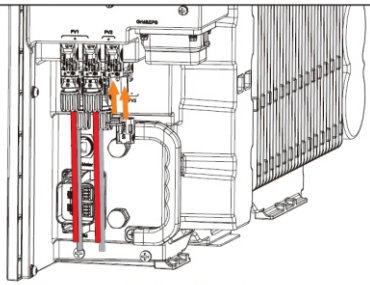
5 Test the voltage of positive and negative poles of the PV cables.



6 Remove PV caps from the PV port.



7 Insert assembled PV cables into the PV port.

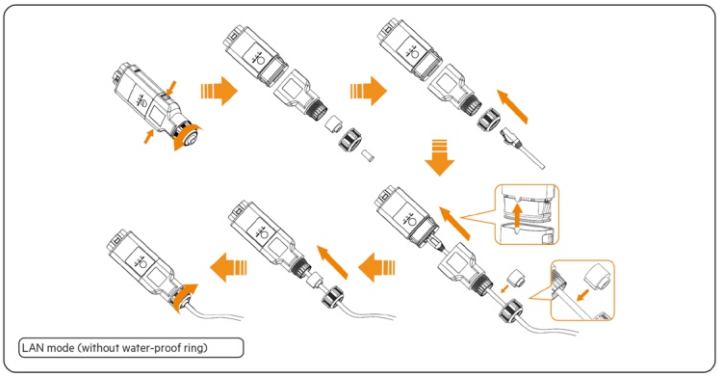


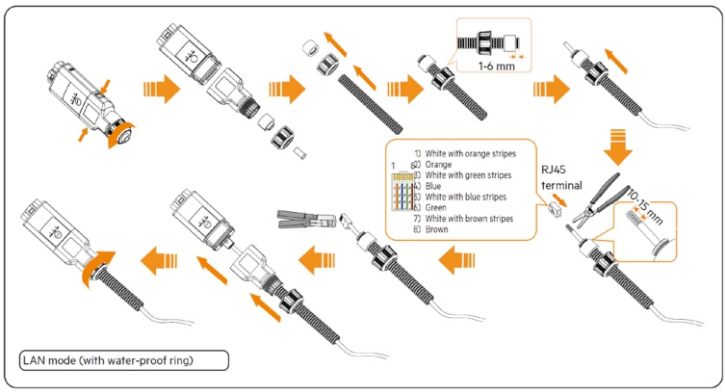
8 Insert PV dustproof buckles into the unsealed PV port.

- Monitoring Connection/ Overvågningsforbindelse

NOTICE

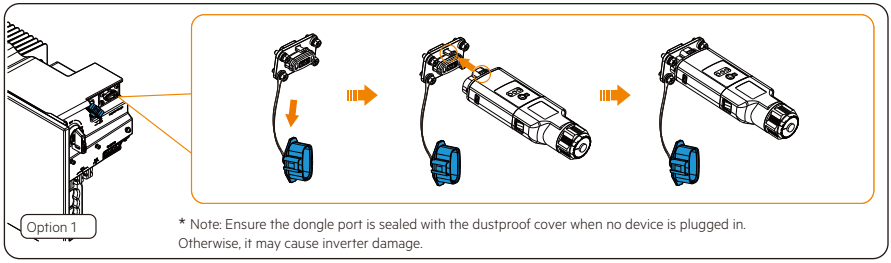
- The dongle is equipped with two kinds of communication modes (Wi-Fi or LAN). Users can choose based on actual needs.
- When choosing Wi-Fi mode, you can install Dongle directly on the inverter, when choosing LAN mode, please do following procedure to connect the network cable.



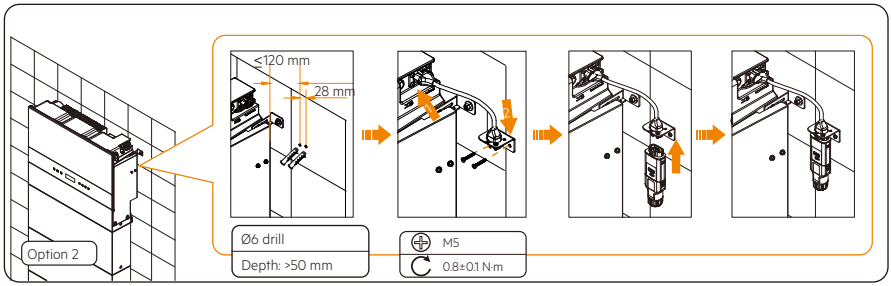


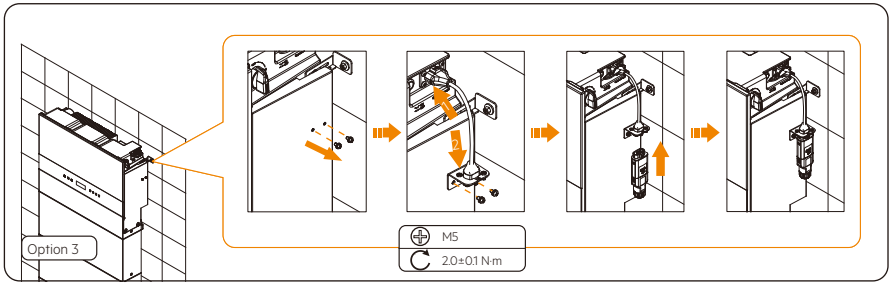
NOTICE

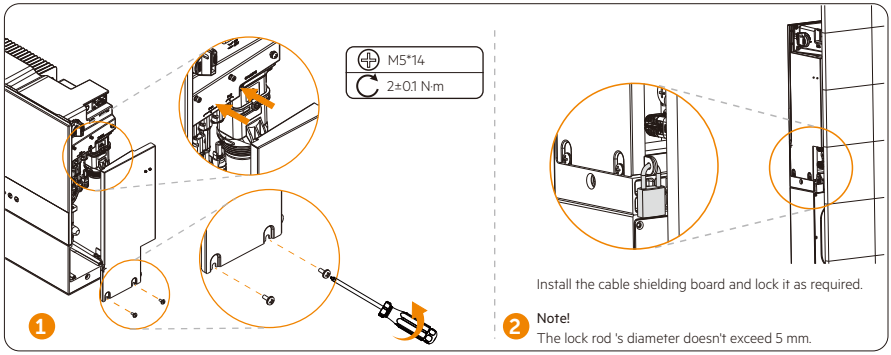
- There are three ways to install dongle. Please choose according to actual needs.
- The dongle in the following connection diagrams is taken as an example with Wi-Fi mode.



* Note: Ensure the dongle port is sealed with the dustproof cover when no device is plugged in. Otherwise, it may cause inverter damage.







Install the cable shielding board and lock it as required.

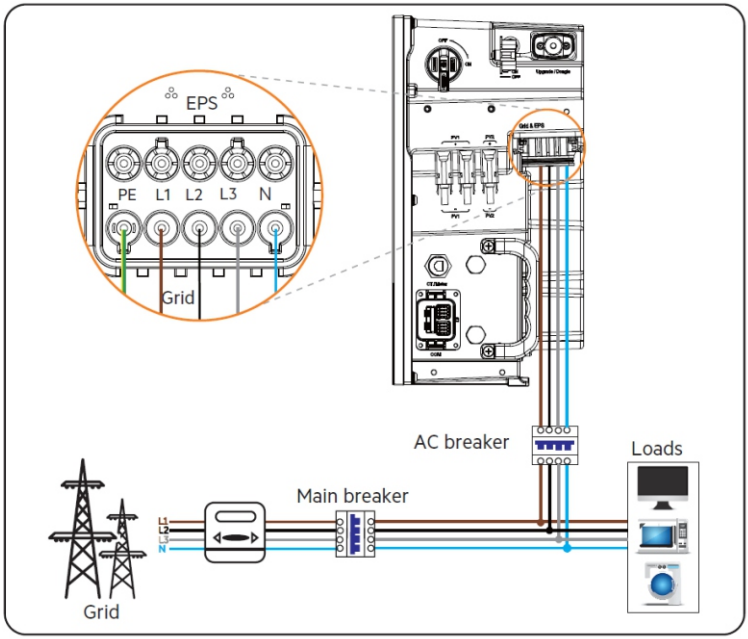
Note!
The lock rod 's diameter doesn't exceed 5 mm.

POWER ON THE SYSTEM/ TÆND FOR SYSTEMET

Step 1: This step differs with or without Matebox G2.

Without Matebox G2

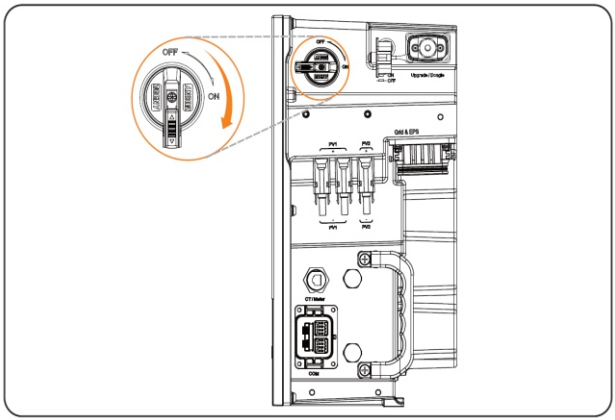
- Turn on the AC breaker and check whether the LCD screen lights on. If the LCD screen is not on, turn off the AC breaker and check whether the Grid cable is conected correctly and securely.



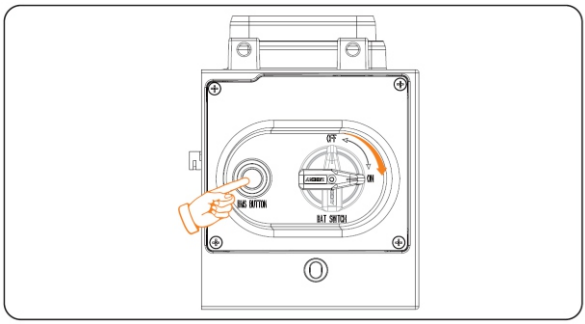
With Matebox G2

- Ensure that the inverter DC switch, the inverter system button and themain breaker between Matebox G2 and the power grid are turned off.
- Turn on the Grid(INV) breaker, the EPS(INV) breaker, the Grid breaker and theload breaker in the matebox.
- Turn on the main breaker. Check whether the inverter LCD screen lights on.If the LCD screen is not on, turn off the main breaker and check whether theGrid cable between the inverter and the matebox and between the mateboxand the power grid are conected correctly and securely.
- Lock the enclosure of Matebox G2.

Step 2: Turn on the inverter DC switch and check the PV voltage through the path: Menu> System Status > PV1/ PV2. If the PV voltage is 0, turn off the DC switch, pull out the PV connetors, and then measure the voltage of the positive and negative PV port (in MPPT voltage range 110-950 V) or check whether the positive and negative poles of PV cables are reversed.



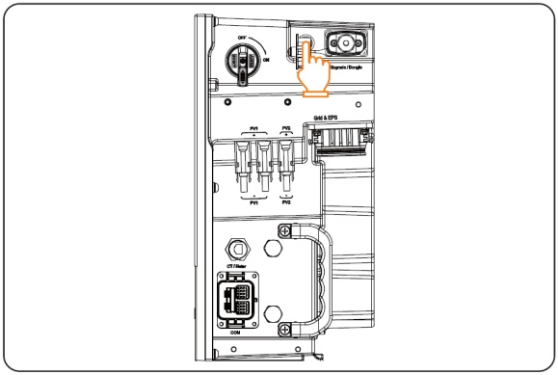
Step 3: Switch the BAT switch to the "ON" position. Press and hold the BMS button for 1-2 seconds (at the point, the SoC indicators will rapidly flash yellow lights and then turn to flash green lights).



NOTICE

- The button is in OFF status by default.
- A system problem may be encountered while pressing the button frequently. The user may need to wait at least 10 seconds and then try again.

Step 4: Turn on the inverter system button.



NOTICE

- The button is in OFF status by default.
- A system problem may be encountered while pressing the button frequently. The user may need to wait at least 10 seconds and then try again.

Step 5: Check that the current Safety Code (path: Menu > Settings > Advance setting > Safety code) complys with the local grid-tied regulations. Normally, the factory setting is set with the local regulations.

Step 6: Set System ON/OFF (path: Menu > System ON/OFF) as ON status on the inverter LCD screen, and the LCD displays waiting status..

Step 7: When the photovoltaic panels generate enough power, the inverter will start automatically. The inverter will go Waiting, Checking and Normal status in sequence.

NOTICE

- Waiting: When the DC output voltage of the photovoltaic panel is higher than 110V (lowest starting voltage) and lower than 140V (lowest working voltage), the inverter waits for checking.
- Checking: The inverter will automatically detect the DC input. When the DC input voltage of the photovoltaic panel is higher than 140V and the photovoltaic panel has enough energy to start the inverter, the inverter will enter the checking state.
- Normal: When the inverter is working normally, the blue light is always on. At the same time, the LCD displays the output power.

Step 8: Check whether the CT/Meter is correctly connected.

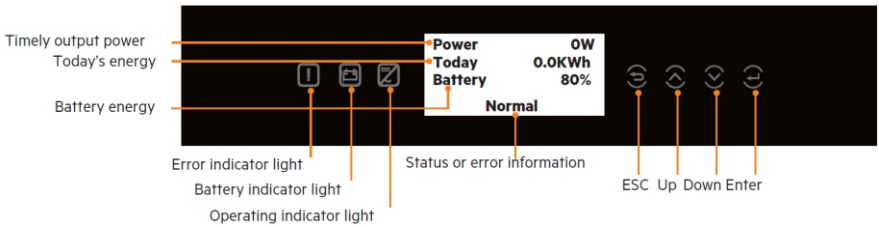
- If CT is connected, please perform the CT/Meter Check on the inverter LCD screen to check the correct connection through the setting path: Menu > Setting > Advanced Setting >CT/Meter settings > CT/Meter Check.
- If meter is connected, please set the connection of meter on the inverter LCD through the setting path: Menu > Setting > Advanced Setting >CT/Meter settings..

NOTICE

- When the meter or CT is correctly connected, the CT/Meter power displays on the CT/Meter check interface; when the connection method is wrong, "Meter Fault" displays on this interface.

LCD-PANEL

- Inverter

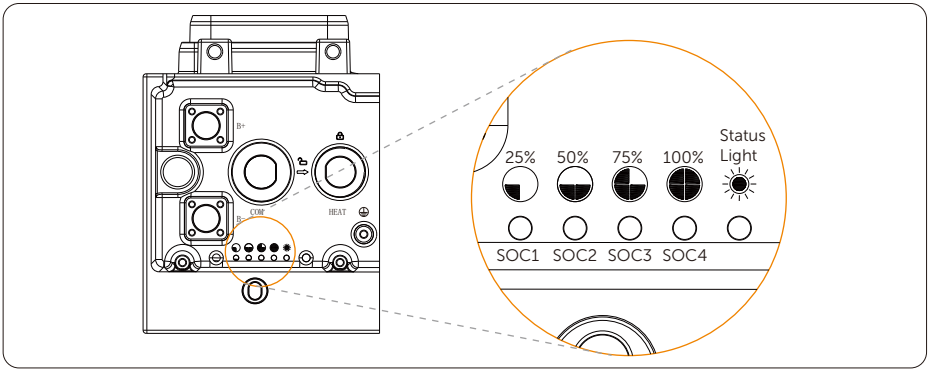


- In a normal state, the „Power“, „Today“ and „Battery“ information will be displayed. You can press the keys to switch information.
- In an error state, the fault message and error code will be displayed, please refer to corresponding solutions in the user manual.

LED Indicator		Status	Definition
Operating		Solid blue	The inverter is in a normal status mode.
		Blue blinking	The inverter is in a waiting, checking status or the system switch is off.
		Light off	The inverter is in a fault status.
Error		Solid red	The inverter is in a fault status.
		Light off	The inverter is in a normal status.
Battery		Solid green	The battery communication is in a normal state and working normally.
		Green blinking	The battery communication is in a normal state and in an idle status.
		Light off	The inverter is in a fault status.

Key	Definition
ESC	Exit from the current interface or function
Up	Move the cursor to the upper part or increase the value
Down	Move the cursor to the lower part or decrease the value
Enter	Confirm the selection

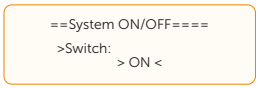
- Battery



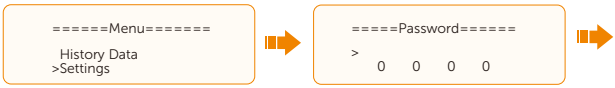
No.	Mode	Description
1	Startup	Press and hold the BMS BUTTON for about 1 to 2 seconds to activate the system, at this point, the status light flashes a yellow light every 0.1 seconds until finishing self test, of which the period lasts about 3 to 4 seconds. Then the status light flashes green light every 0.5 seconds after finishing self test. During the whole period, all the SoC power indicators were off. After successful communication to the inverter, the status light turns solid green light, and SoC power indicators come on solid green light based on the actual remaining capacity.
2	Shutdown	After pressing and holding the BMS BUTTON for more than 1 second, the status light comes on solid green light, and the SOC power indicators flash blue in turn. Then all lights are off within 2.4 seconds after releasing the button.
3	Standby	The status light flashes green for 1 second and turns off for 4 seconds. The SOC power indicators are off.
4	Charging	The status light comes on solid green light, and the state of SOC power indicators depends on the actual situation. For details, please refer to the User Manual.
5	Discharging	The status light comes on solid green light, and the state of SOC power indicators depends on the actual situation. For details, please refer to the User Manual.
6	Fault	In case of failure, the status light will remain on solid red light for 10 minutes, and then such red light will flash for 1 second and then turn off for 4 seconds.
7	Warning	In case of warning, the status light will flash yellow light for 1 second, and then turn off for 4 seconds.

GENERAL SETTING/ GENEREL INDSTILLING

1 Set the System ON/OFF to ON state

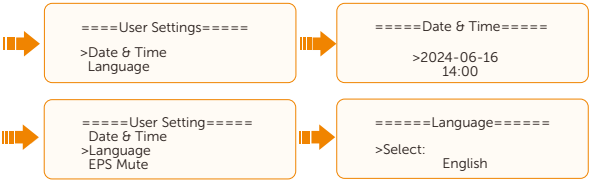


2 User settings

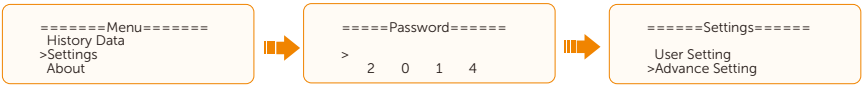


The initial password of user setting is 0 0 0 0 which should be changed for the consideration of account security.

- Data & Time and Language

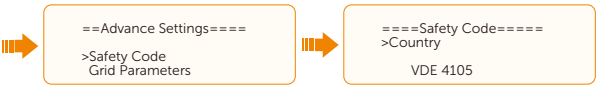


3 Advanced settings



The initial password of advanced setting is 2 0 1 4 which should be changed for the consideration of account security.

- Safety Code



Set the corresponding safety standards according to different countries

- Export Control

==Advance Settings====

>Export Control

====Export Control====

User Value

0W

Set the **Export Control** to 0 for the countries with zero export control limit

- Meter / CT Setting-if CT is connected

====Meter/CT Settings====

>Installation Check

Enable

====Meter/CTCheck====

>CT Status

Success

- Meter / CT Setting-if Meter is connected

====Meter/CT Settings===

>Select

Meter

====Meter/CT Settings===

>Select

Enable

====Meter/CT Settings===

>Meter1Addr

1

====Meter/CT Settings===

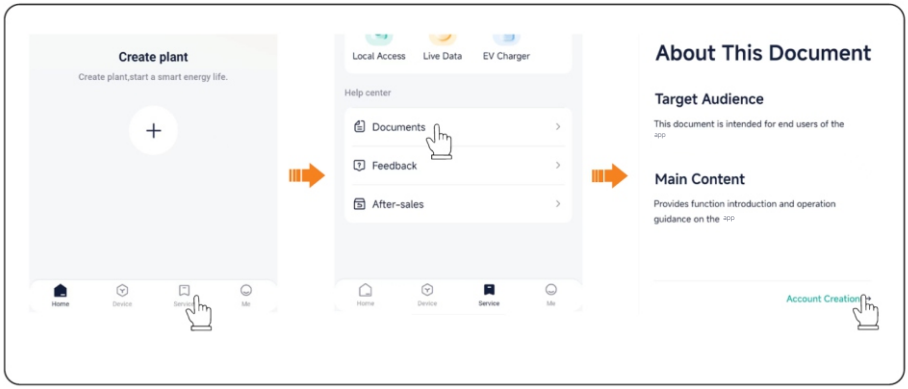
>Meter1 Direction

Positive

APPLICATION DOWNLOAD/ DOWNLOAD AF APPLIKATION

Download the cloud app in your mobile phone

- Register an account and log in



- Inverter (DC Input)

Model [AS-BSH07C-X-2]	x=4K	x=5K	x=6K	x=8K	x=10K	x=12K	x=15K
Max. recommended PV array power [W]	8000	10000	12000	16000	20000	24000	30000
Max. input power [W]	8000	10000	12000	16000	20000	24000	30000
Max. PV voltage [d.c. V]	1000						
Nominal DC operating voltage [d.c. V]	600						
MPPT voltage range [d.c. V]	110-950						
Max. PV current [d.c. A]	20/20			32*/20			
Isc PV array short circuit current [d.c. A]	25/25			40/ 25			
Max. inverter backfeed current to the array	0						
Start output voltage [d.c. V]	140						
No. of MPPT trackers	2						
Strings per MPPT tracker	A:1 / B:1			A:2 / B:1			
DC connection switch	YES						

*The maximum input current of a single PV string is 16A when both PV strings are connected to a single MPPT, and the maximum input current of a single PV string is 20A when only one PV string is connected to a single MPPT.

- Inverter (AC Output/ Input)

Model [AS-BSH07C-X-2]	x=4K	x=5K	x=6K	x=8K	x=10K	x=12K	x=15K
Rated AC output apparent power[VA]	4000	5000	6000	8000	10000	12000	15000
Rated AC input apparent power [VA]	10000	10000	12000	16000	20000	20000	20000
Max. AC output apparent power [VA]	4000	5500	6600	8800	10000	13200	16500
Max. singlephase AC power [VA]	2000	2500	3000	4000	5500		
Nominal AC voltage [a.c. V]	380/ 400						
Nominal AC frequency [Hz]	50/ 60						
Max. AC output continuous current [a.c. A]	5.8	8.0	9.6	12.8	14.5	19.2	24.0
Rated AC output current [a.c. A]	5.8	7.3	8.7	11.6	14.5	17.4	21.8
Max. AC input current [a.c. A]	16.1		19.3	25.8	32.0		
Current (inrush) (at 50μs) [a.c.A]	15						
Maximum output fault current (at 5ms) [a.c. A]	80						
Maximum output overcurrent protection [a.c. A]	80						
Power factor range	1 (0.8 leading ... 0.8 leading)						
Total harmonic distortion (THDi, rated power)	<3% (rated power)						
Load control	YES						

- Battery

Model [AS-BSH07C-X-2]	x=4K	x=5K	x=6K	x=8K	x=10K	x=12K	x=15K
Battery type	Lithium-ion						
Battery voltage range [d.c. V]	160-800						
Recommended battery voltage [V]	600						
Max. charge/ discharge current [d.c. A]	50						
Battery connection	1						
Communication interface	CAN/RS485						

- EPS Output

Model [AS-BSH07C-X-2]	x=4K	x=5K	x=6K	x=8K	x=10K	x=12K	x=15K
EPS peak power [VA]	≤ 1.1 Pn continuous operation; 1.1 Pn-2 Pn 10s; >2 Pn report error immediately						
EPS max. single-phase power [VA]	2000	2500	3000	4000	5500		
Rated EPS apparent power [VA]	4000	5000	6000	8000	10000	12000	12000
Nominal EPS voltage [V]	380/ 400						
Nominal EPS frequency [Hz]	50/ 60						
EPS rated current [A]	5.8	7.3	8.7	11.6	14.5	17.4	21.8
Switching time [ms]	<10						
Total harmonic distortion (THDv, linear load)	< 3%						
Parallel operation	YES (supporting 10 parallel inverters)						
Half wave loads [kW]	<2						

- Efficiency, Power Consumption, Protection and Standard

Model [AS-BSH07C-X-2]	x=4K	x=5K	x=6K	x=8K	x=10K	x=12K	x=15K
MPPT efficiency [%]	99.9						
Euro efficiency [%]	97.7						
Max. efficiency [%]	98.0						
Max. battery charge efficiency (PV to BAT) (@ full load) [%]	98.5						
Max. battery discharge efficiency (BAT to AC)(@ full load)[%]	97.0						
Rated battery charge/ discharge efficiency [%]	98.5/ 97.0						
Cold standby consumption [W]	<5						
Idle mode	YES						
Arc-fault circuit interrupter (AFCI)	Optional (AFCI type: F-I-AFPE-1-3-1)*						
SPD	Type II, DC and AC						
Safety	IEC 62109-1/-2						
EMC	EN 61000-6-1/-2/-3						
Grid monitoring	VDE 0126-1-1 a1:2012/ VDE-AR-N 4105/ G98/ G99/ EN50549/ CEI 0-21						

*F-I-AFPE-1-3-1:
- Full coverage
- Intergrated
- AFPE
- 1 monitored string per input port,
- 3 input port per monitored channel,
- 1 monitored channel.

- General data

Model [AS-BSH07C-X-2]	x=4K	x=5K	x=6K	x=8K	x=10K	x=12K	x=15K
Dimensions (W/H/D) [mm]	717*405*209.5						
Net weight [kg]	35						37
Cooling concept	Natural cooling						
Inverter topology	Non-isolated						
Communication	RS485 (Meter), Dongle, USB, RS485 (Modbus, EV charger, Datahub), Parallel (CAN+RS485), DO (SG ready controlled by Adapter Box), DI (OFF signal input)						
LCD display	LCD						
Ingress Protection	IP66						
Protective class	I						
Pollution degree	III						
Installation mode	Stacked installation						
Operating Ambient Temperature Range [°C]	-35 to 60 (derating at +45°C)						
Humidity [%]	0%-100% (condensing)						
Altitude [m]	≤ 3000						
Storage temperature [°C]	-40 to 65						
Noise emission (typical) [dB]	<33						
Overvoltage category	III (electrical supply side), II (PV side)						

The specific gross weight is subject to the actual situation of the whole machine.

- Battery (Configuration list)

Model [AS-BSH07-X]	X=5.1K	x=10.2K	x=15.3K	x=20.4K	x=25.6K	x=30.7K
Battery control module	AS-BMH07-CM					
Battery power module	AS-BMH07-5.1 x 1	AS-BMH07-5.1 x 2	AS-BMH07-5.1 x 3	AS-BMH07-5.1 x 4	AS-BMH07-5.1 x 5	AS-BMH07-5.1 x 6
Nominal energy [kWh]	5.1	10.2	15.3	20.4	25.6	30.7
Operating volatge[Vdc]	90-116	180-232	270-348	360-464	450-580	540-696

- Performance

Model [AS-BSH07-X]	x=5.1K	x=10.2K	x=15.3K	x=20.4K	x=25.6K	x=30.7K
Nominal Voltage [Vdc]	102.4	204.8	307.2	409.6	512	614.4
Operating Voltage [Vdc]	90-116	180-232	270-348	360-464	450-580	540-696
Nominal Capacity [Ah][1]	50					
Nominal Energy [kWh][1]	5.1	10.2	15.3	20.4	25.6	30.7
Usable Energy 90% DOD [kWh][2]	4.6	9.2	13.8	18.4	23.0	27.6
Max. Charge/ Discharge Current [A][3]	50					
Recommend Charge/ Discharge Current [A][4]	30					
Standard Power [kW]	3	6.1	9.2	12.2	15.3	18.4
Max. Power [kW]	5.1	10.2	15.3	20.4	25.6	30.7
Short-circuit current [kA]	3.57kA (0.333 ms)					
Battery Round-trip Efficiency (0.2 C, 25°C)[5]	95%					

Model [AS-BSH07-X]	x=5.1K	x=10.2K	x=15.3K	x=20.4K	x=25.6K	x=30.7K
Expected Lifetime (25°C)	10 years					
Cycle Life 90% DOD (25°C)	6000 cycles					
Charge Temperature	0°C ~ 53°C (Off heating function)[3] -30°C ~ 53°C (In heating function)[3]					
Discharge Temperature	-20°C ~ 53°C (Off heating function)[3] -30°C ~ 53°C (In heating function)[3]					
Storage Temperature	30°C ~ 50°C (6 months), -20°C ~ 30°C (12 months)					
Ingress Protection	IP66					
Protection Class	I					

NOTICE

1. Test conditions: 25°C, 100%, depth of discharge (DoD), 0.2C charge & discharge.
2. System usable energy may vary with inverter different setting.
3. Discharge: In case of battery cell's temperature range of -20°C ~ 10°C and 45°C ~ 53°C, the discharge current will be reduced; Charge: In case of battery cell's temperature range of 0°C ~ 25°C and 45°C ~ 53°C, the charge current will be reduced. Product charge or discharge power depends on the actual temperature of the battery pack.
4. The battery can only be discharged and can not be charged when the battery cell's temperature range is between -20°C and 0°C.
5. Test conditions: 25°C, 100%, depth of discharge (DoD), 0.2C charge & discharge.

- Fuse Parameter

Component Type	Assembled fuse
Fuse type	EV / HEV
Rated voltage (Vdc & Vac)	750
Rated current (A)	80

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