

# Battery-Box Premium Quick Start Guide

HVS 5.1, 7.7, 10.2, 12.8 HVM 8.3, 11.0,13.8, 16.6, 19.3, 22.1 A High Voltage Battery System













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#### **Limited Warranty**

You can download the current Limited Warranty from the Internet at websites:

BYD Global Service, www.bydbatterybox.com,

BYD service partner in Europe, www.eft-systems.de,

BYD service partner in Australia, www.alpspower.com.au.

#### BYD Europe B.V.

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#### 1. Information on this Document

#### 1.1. Validity

This document is valid for the Battery-Box Premium HVS 5.1, 7.7, 10.2, 12.8, and HVM 8.3, 11.0, 13.8, 16.6, 19.3, 22.1 from firmware version 3.3.

#### 1.2. Target Group

The instructions in this document may only be performed by qualified persons who must have the following skills:

- Knowledge of how batteries work and are operated
- · Knowledge of how an inverter works and is operated
- Knowledge of, and adherence to the locally applicable connection requirements, standards, and directives\*

<sup>\*</sup> The local standard for Australia is AS/NZS 5139:2019

2 Safety BYD Europe B.V.

• Knowledge of, and adherence to this document and the associated system documentation, including all safety instructions

- Training in dealing with the hazards associated with the installation and operation of electrical equipment and batteries
- Training in the installation and commissioning of electrical equipment

Failure to do so will make any manufacturer's warranty, guarantee or liability null, and void unless you can prove that the damage was not due to non-compliance.

#### 1.3. Content and Structure of this Document

This document contains safety information and instructions on installing, connecting, and commissioning. Please finish reading this document before taking any actions on the battery system.

The latest version of this document and the manual for installation, commissioning, and operation are to be found in PDF format at our websites.

This document only contains brief information and may deviate from the real system.

#### 2. Safety

#### 2.1. Intended Use

The battery system is for residential-and works with a photovoltaic system. It is a high voltage Li-ion battery storage system, with the control module on itself.

The system could be connected with the Internet through network cable for maintenance and software updates.

The system must only be used as stationary equipment.

The system is suitable for indoor and outdoor use.

The system must only be operated in connection with a compatible inverter. The list (BYD Battery-Box Premium HVS & HVM Compatible Inverter List) of these inverters could be read at our websites.

The system is not suitable for supplying life-sustaining medical devices. Please ensure that no personal injury would lead due to the power outage of the system.

Alterations to the BYD system, e.g., changes or modifications are not allowed unless the written permission of BYD is achieved.

Please download **Be Connect** from Google Play or App Store to accomplish the commissioning of the system.

The enclosed document is an integral part of this system. Keep the documentation in a convenient, dry place for future reference and observe all instructions contained therein.

The type label should always be attached to the system.

#### 2.2. IMPORTANT SAFETY INSTRUCTIONS

The system has been designed and tested under international safety requirements. However, to prevent personal injury and property damage and ensure long-term operation of the system, please

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do read this section carefully and observe all safety information at all times.

#### 2.2.1. Battery module leakage

If the battery modules leak electrolytes, contact with the leaking liquid or gas should be avoided. The electrolyte is corrosive, and the contact may cause skin irritation and chemical burns. If one is exposed to the leaked substance, do these actions:

Inhalation: Evacuate the contaminated area and seek medical help immediately.

**Eye contact:** Rinse eyes with flowing water for 15 minutes and seek medical help immediately.

**Skin contact:** Wash the affected area thoroughly with soap and water and seek medical help immediately.

**Ingestion:** Induce vomiting and seek medical help immediately.

#### 2.2.2. Firefighting measures

The battery modules may catch fire when it is put into the fire. In case of a fire, please make sure that an ABC or carbon dioxide extinguisher is nearby. Water cannot be used to extinguish the fire.

Full protective clothing and self-contained breathing apparatus are required for the firefighters to extinguish the fire.

#### 2.2.3. Battery modules handling and storage guide

- The battery modules and its components should be protected from damage when transporting and handling.
- The weight of the system may cause injury risk. Please take the weight of the system into account while the system is transported and lifted carefully.
- Do not impact, pull, drag, or step on the battery modules.
- Do not insert unrelated objects into any part of the battery modules.
- · Do not throw the battery module into a fire.
- Do not soak the battery modules in water or seawater.
- Do not expose to strong oxidizers.
- · Do not short circuit the battery modules.
- The battery modules cannot be stored at high temperatures (more than 60 °C).
- The battery modules cannot be stored directly under the sun.
- The battery modules cannot be stored in a high humidity environment.
- Use the battery modules only as directed.
- Do not use the battery modules if it is defective, or appears cracked, broken or otherwise damaged, or fails to operate.
- Do not attempt to open, disassemble, repair, tamper with, or modify the battery modules. The battery modules are not user-serviceable.
- Do not use cleaning solvents to clean the battery modules.

#### 2.2.4. Warning of electric shock

It is a danger to life due to electric shock when live components or DC cables are touched.

The DC cables connected to the system may be live. Touching live DC cables results in death or serious injury due to electric shock.

- Disconnect the battery from a voltage source and make sure it can not be reconnected before working on the device.
- Do not touch non-insulated parts or cables.
- Do not remove the terminal block with the connected DC conductors from the slot under load.
- Wear suitable personal protective equipment for all work on the system.

#### 2.2.5. Notice of property damage

If the battery system doesn't start at all, please contact BYD authorized service partner within 48 hours. Otherwise, the battery could be permanently damaged.

When the system is installed, it needs to be able to charge and discharge to avoid a deep discharge condition. After the installation, this needs to be checked once a month. If the battery system is not working normally, please get in contact with your local service partner.

During the storage of the battery system, please mind the maximum storage time.

#### 2.2.6. Surge protection

Overvoltages (e. g. in the event of a flash of lightning) can be further conducted into the building and to other connected devices in the same network via the network cables or other data cables if there is no surge protection.

Ensure that the system is integrated into the existing surge protection.

#### 2.2.7. Safety Information of the inverter manufacturer

Please read and observe all safety information of the inverter manufacturer.

### 3. Symbols on the Battery System

Symbol	Explanation		
i	Observe the documents Observe all documents supplied with the system.		
	Grounding conductor  This symbol indicates the position for connecting a grounding conductor.		
	WEEE designation  Do not dispose of the system together with the household waste but in accordance with the disposal regulations for electronic waste applicable at the installation site.		
C€	CE marking The system complies with the requirements of the applicable EU directives.		
<u> </u>	Place it straight up, without inclination or upside down.		



Handle with care



Keep it dry



Keep the battery modules away from open flame or ignition sources.



Beware of electrical voltage.



Beware of a danger zone

This symbol indicates that the system must be additionally grounded if additional grounding or equipotential bonding is required at the installation site.



Keep the battery modules away from children.



RCM (Regulatory Compliance Mark), a brief guide to electrical equipment approvals in Australia



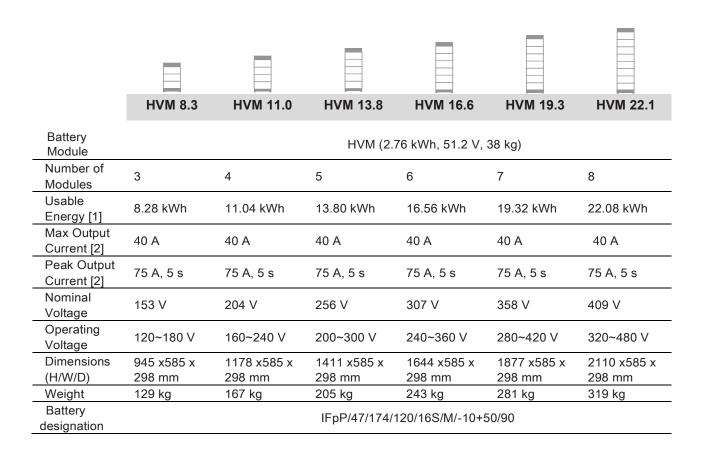
Do not short circuit.

## 4. EU Declaration of Conformity

The battery system described in this document complies with the applicable European directives. The certificate is available in the download area of our websites.

#### **Technical Parameters**

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	HVS 5.1	HVS 7.7	HVS 10.2	HVS 12.8
Battery Module		Н	VS (2.56 kWh, 102.4	l V, 38 kg)
Number of Modules	2	3	4	5
Usable Energy [1]	5.12 kWh	7.68 kWh	10.24 kWh	12.8 kWh
Max Output Current [2]	25 A	25 A	25 A	25 A
Peak Output Current [2]	50 A, 5 s	50 A, 5 s	50 A, 5 s	50 A, 5 s
Nominal Voltage	204 V	307 V	409 V	512 V
Operating Voltage	160~240 V	240~360 V	320~480 V	400~600 V
Dimensions (H/M/D)	712x585x298	945x585x298 mm	1178x585x298	1411x585x298
Dimensions (H/W/D)	mm		mm	mm
Weight	91 kg	129 kg	167 kg	205 kg
Battery designation		IFpP/21/173/	/120/32S/M/-10+50/9	90



HVS & HVM				
Operating Temperature	-10 °C to +50°C			
Battery Cell Technology	Lithium Iron Phosphate (cobalt-free)			
Communication	CAN/RS485			
Enclosure Protection Rating	IP55			
Round-trip Efficiency	≥96%			
Certification	VDE2510-50 / IEC62619 / CEC / CE / UN38.3			
Applications	ON Grid / ON Grid + Backup / OFF Grid			
Warranty [3]	10 Years			
Compatible Inverters	Refer to BYD Battery-Box Premium Inverter Compatible List			

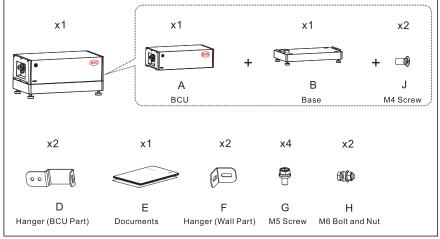
<sup>[1]</sup> DC Usable Energy, Test conditions: 100% DOD, 0.2C charge & discharge at  $\pm 25^{\circ}$ C. System Usable Energy may vary with different inverter brands.

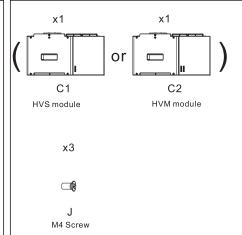
- [2] Charge derating will occur when the temperature between -10  $^{\circ}\text{C}$  and +5  $^{\circ}\text{C}$ .
- [3] Refer to BYD Battery-Box Premium Limited Warranty.

## Instructions

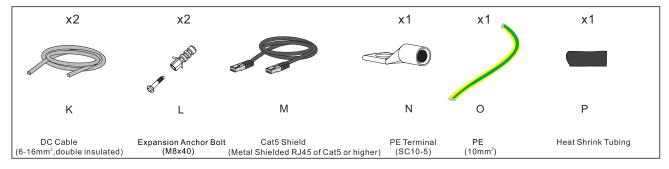


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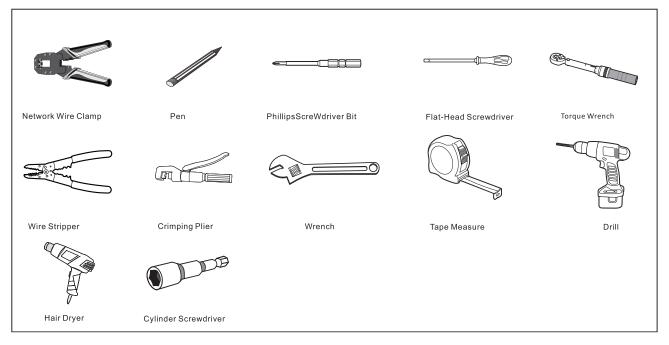




- 2. en Additionally Required Installation Material
  - de Zusätzlich benötigtes Installationsmaterial
  - es Material de instalación adicional requerido
  - fr Matériel d'installation supplémentaire requis
  - it Materiale aggiuntivo richiesto per l'installazione

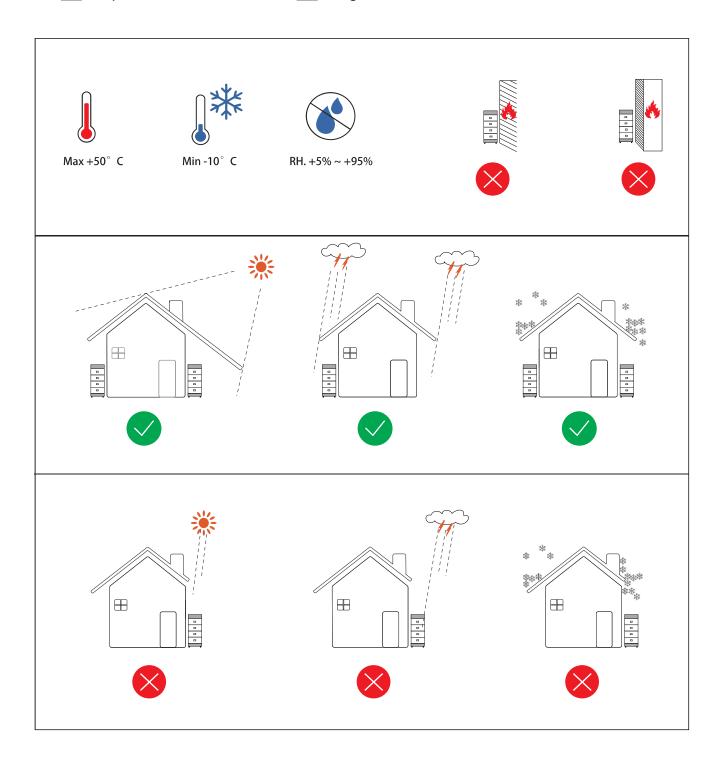


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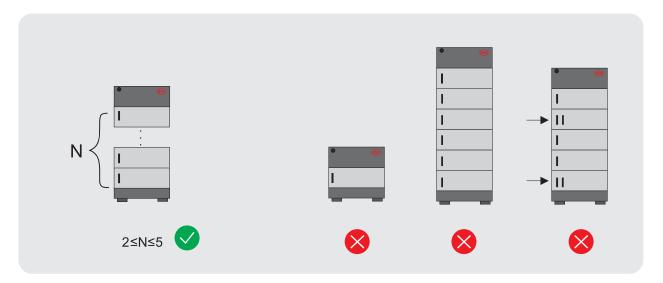


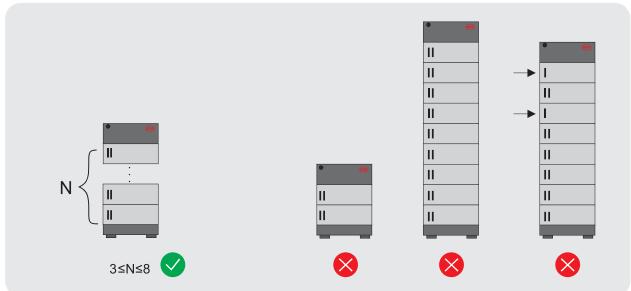
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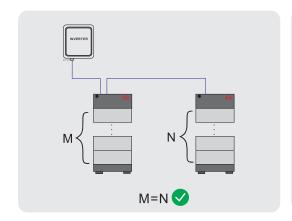


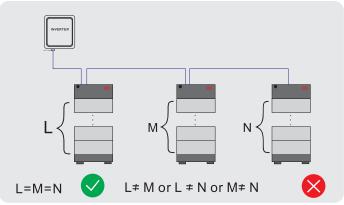


- 5. en Connection Limitation
  - de Verbindungsbeschränkung
  - es Limitación de conexión
  - fr Limitation de connexion
  - it Limitazione della connessione

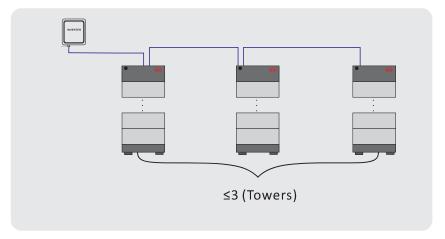


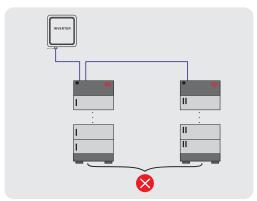


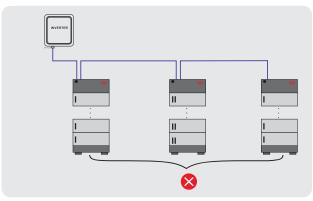




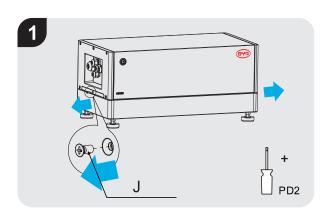


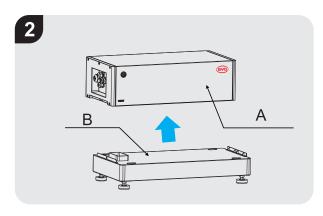


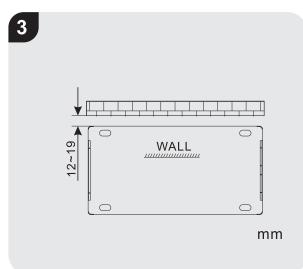


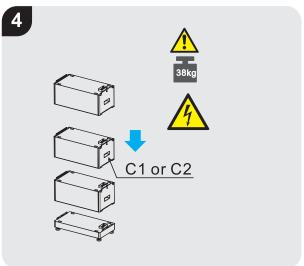


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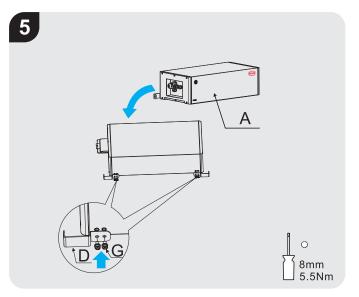


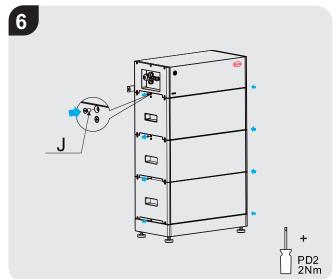


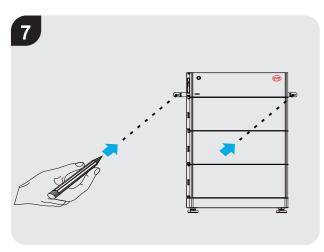


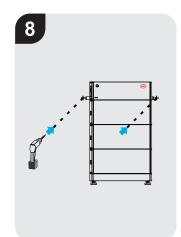


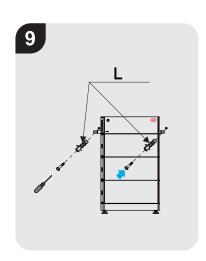


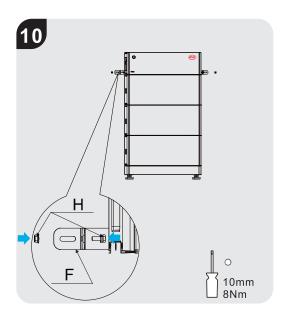








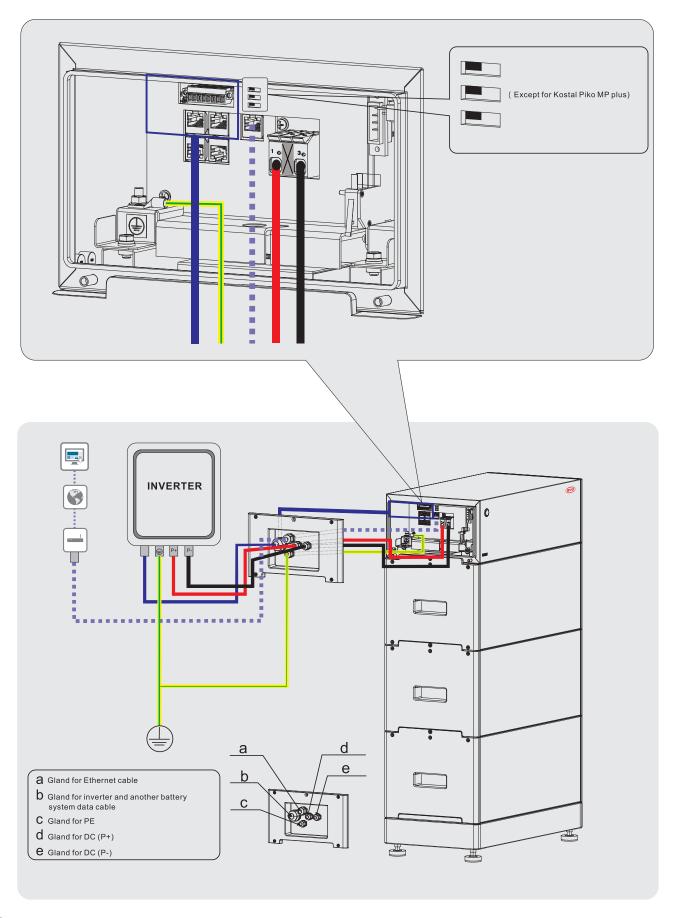




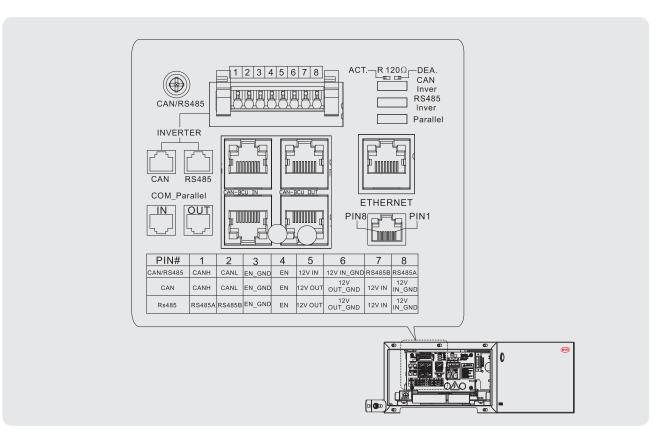


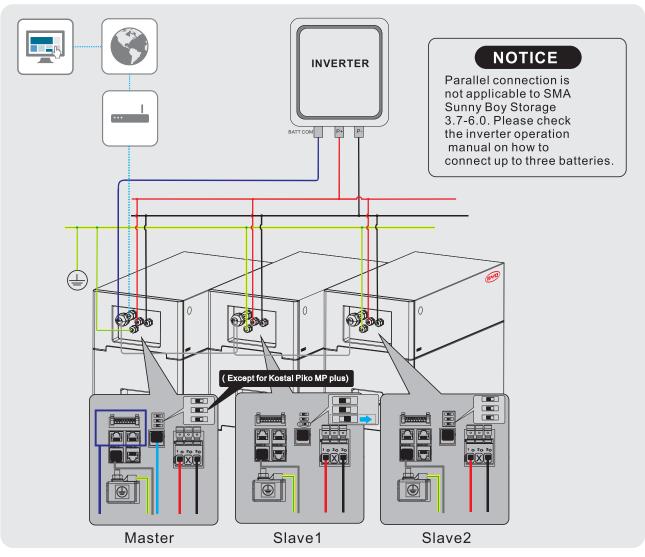


- 7. en Connection Diagram de Anschlussplan es Plan de conexión
  - fr Diagramme de connexion it Schema dei collegament







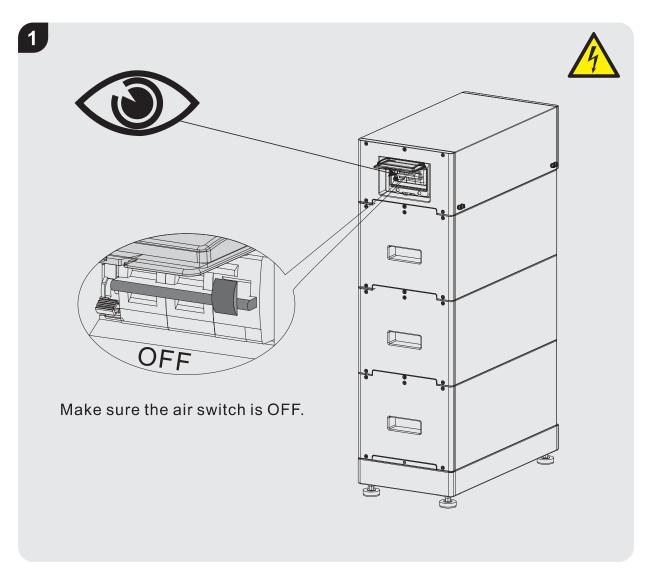


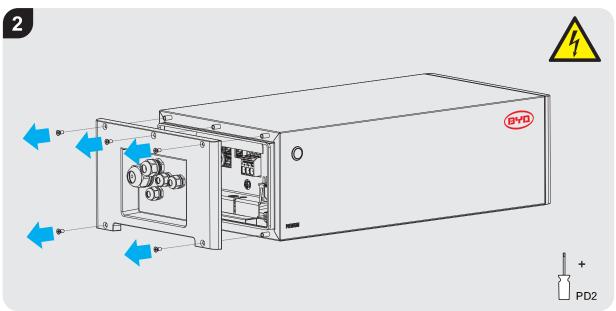


8. en Connecting the Grounding Conductor de Anschließen des Erdungsleiters

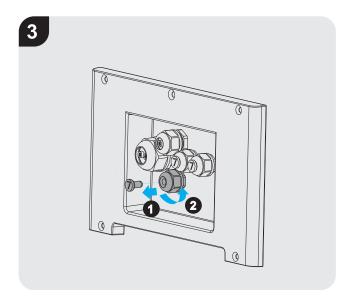
es Conexión del conductor de tierra fr Connexion du conducteur de mise à la terre

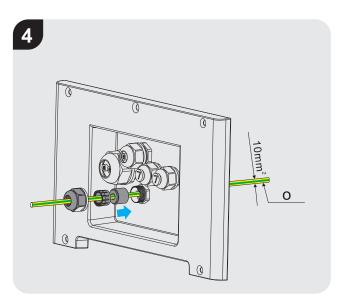
it Collegamento del conduttore di terra

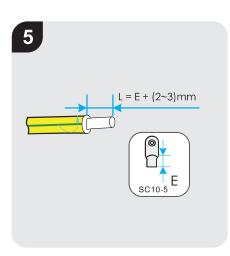


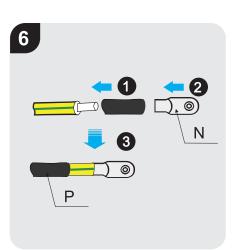


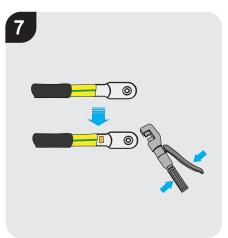


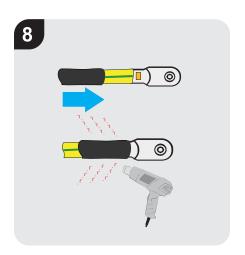


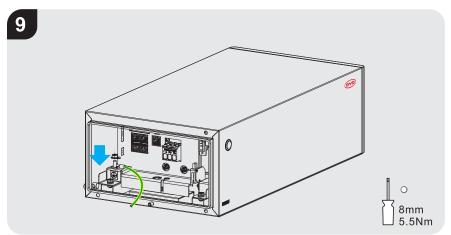










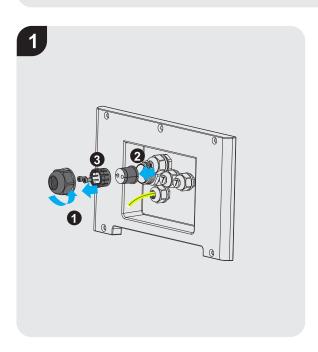


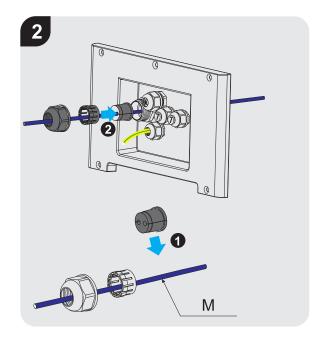


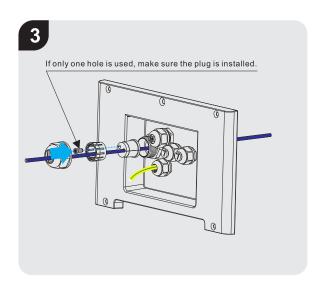
- 9. en Communication Cable Connection to Inverter
  - de Kommunikationskabelverbindung zum Wechselrichter
  - es Conexión del cable de comunicación al inversor
  - fr Connexion du câble de communication à l'onduleur
  - it Collegamento del cavo di comunicazione all'inverter

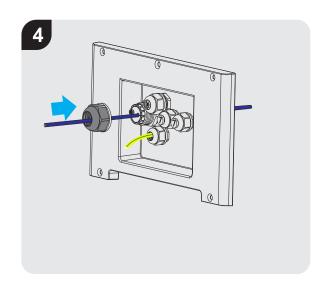
Read the BYD Battery-Box Premium HV Compatible Inverter List before connecting the data cable.



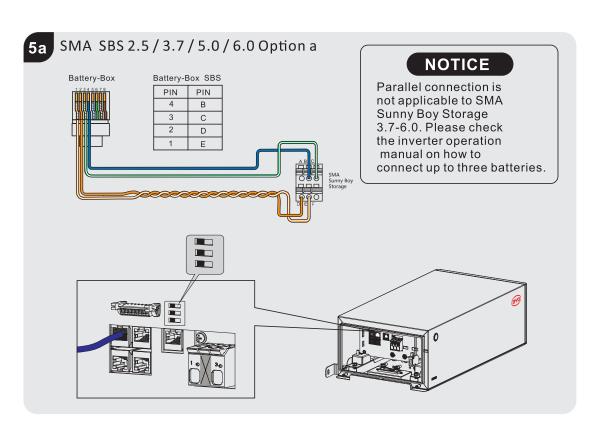


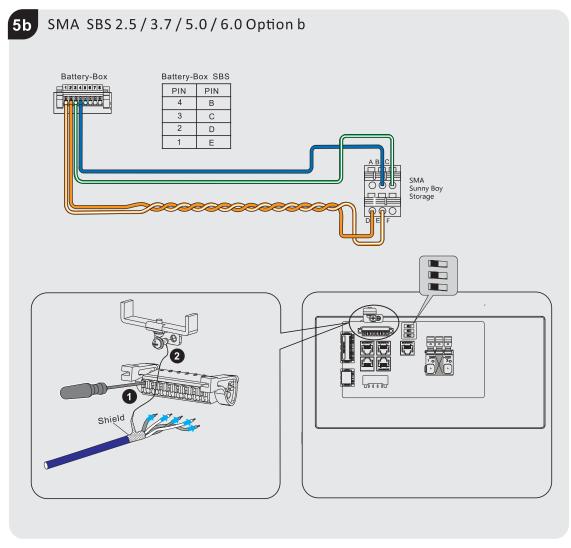




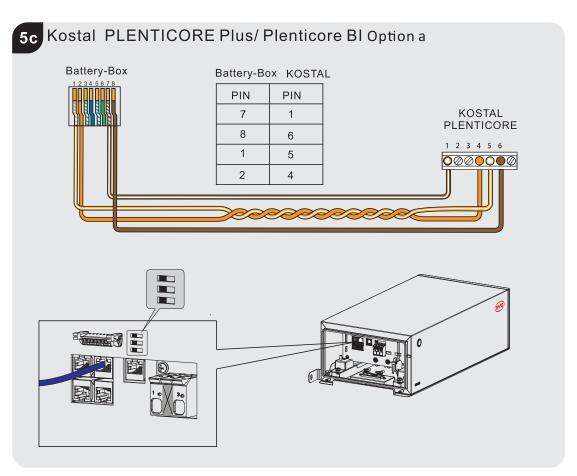


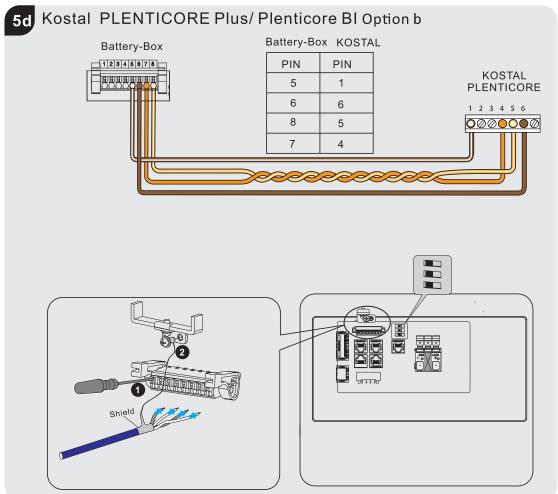




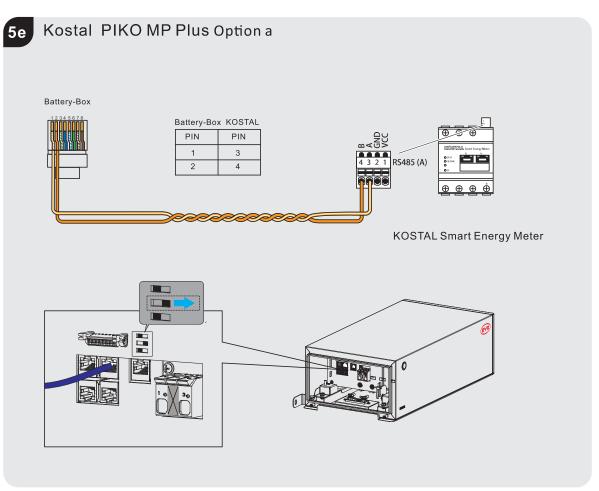


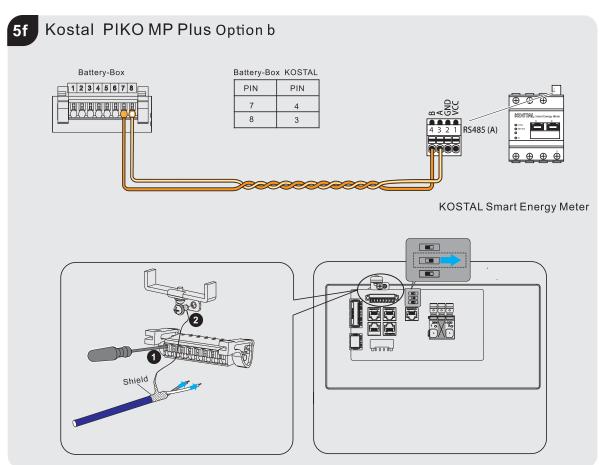




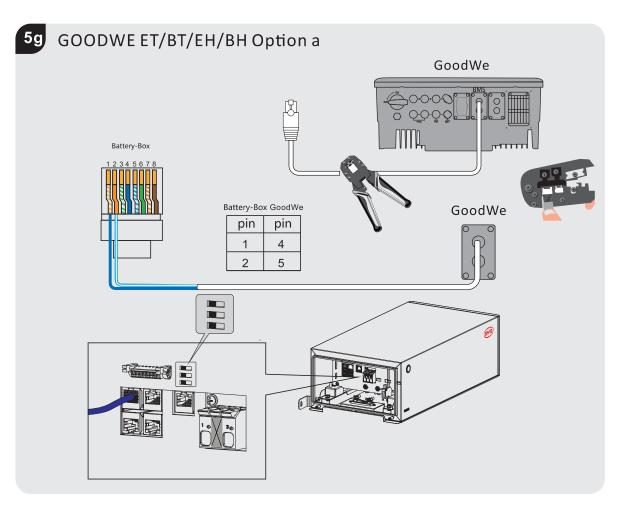


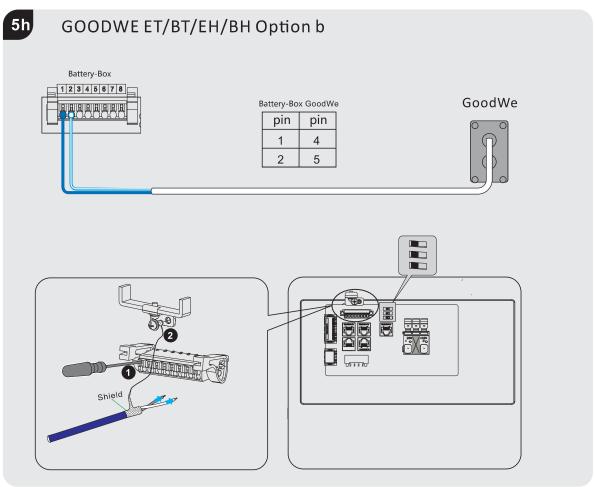




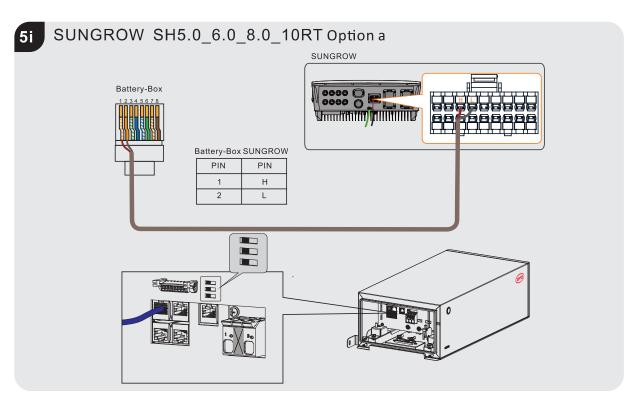


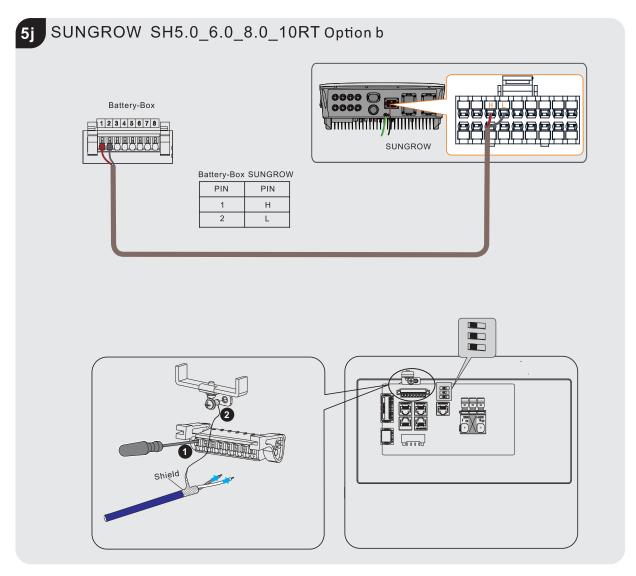




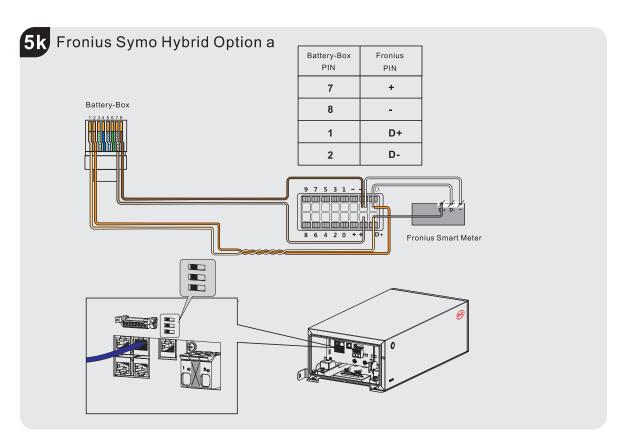


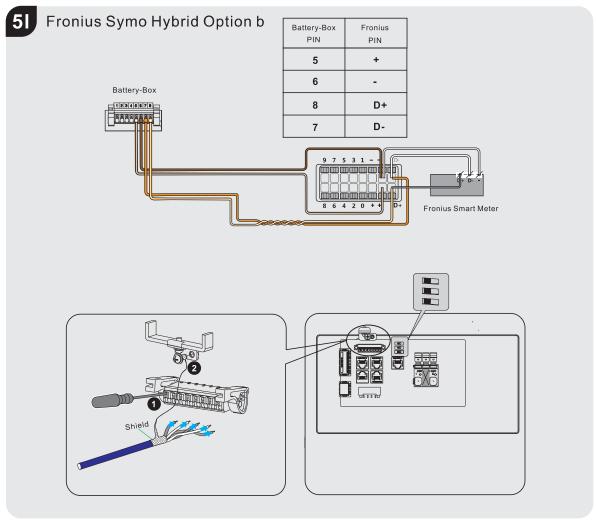




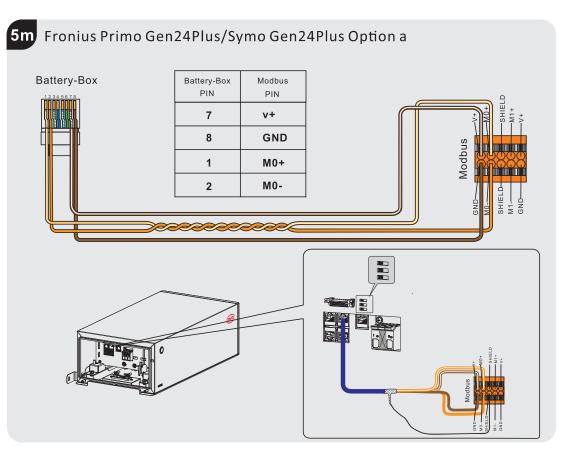


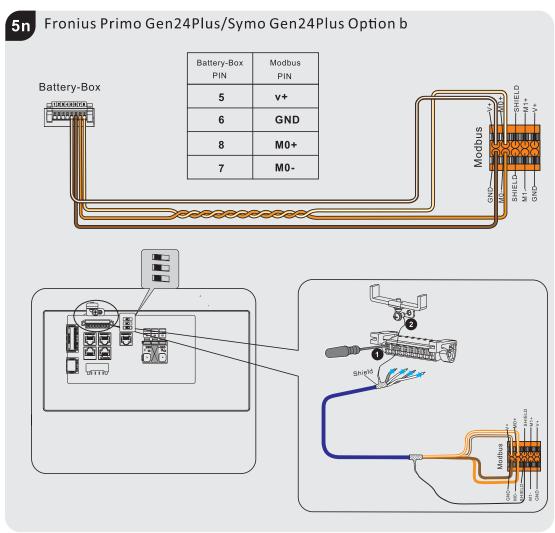




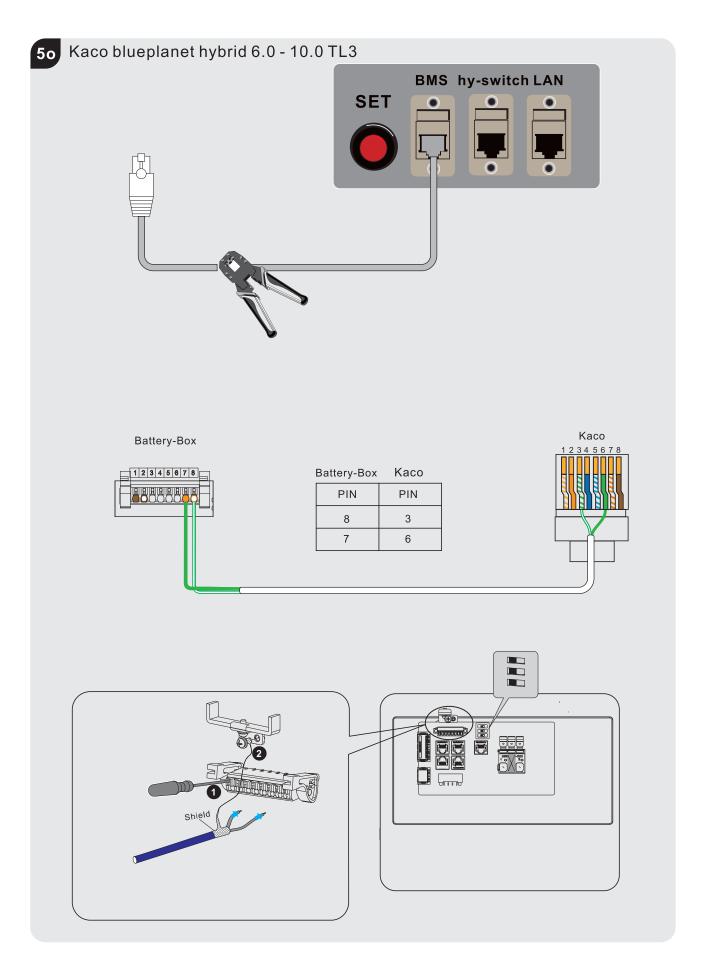






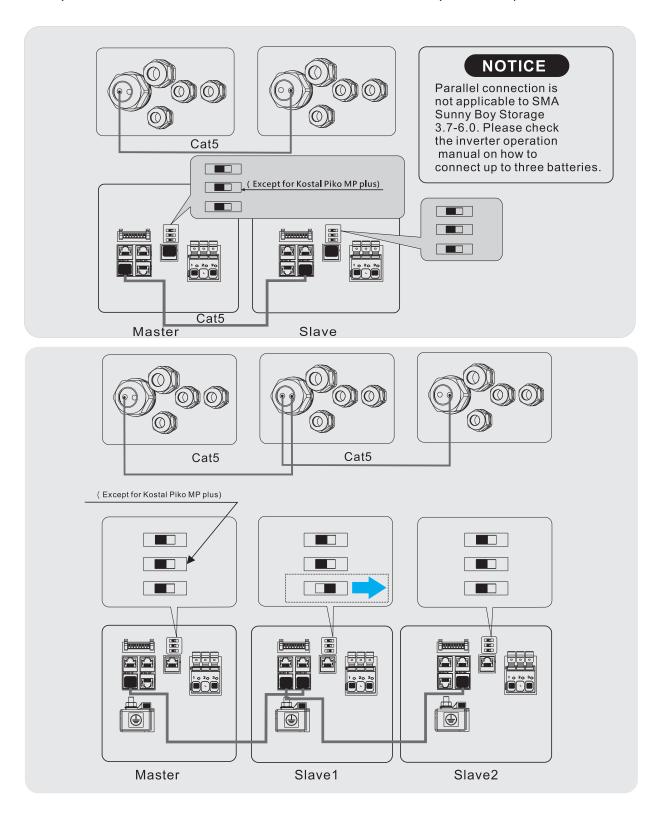






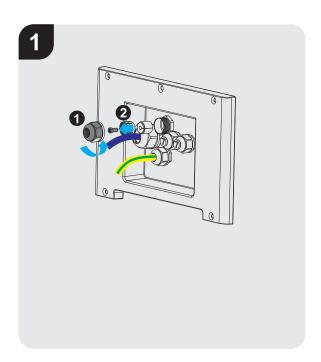


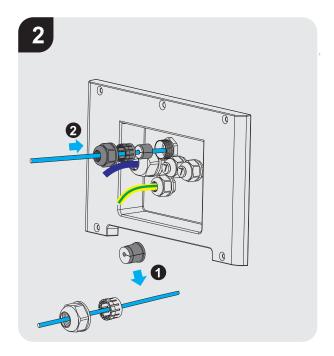
- 10. en Connecting the Data Cable for the Internal Communication (Only needed when two or three battery systems are operated in parallel.)
  - de Anschließen des Datenkabels für die interne Kommunikation (Wird nur benötigt, wenn zwei oder drei Batteriesysteme parallel betrieben werden.)
  - es Conexión del cable de datos para la comunicación interna (Solo es necesario cuando dos o tres sistemas de baterías funcionan en paralelo.)
  - fr Connexion du câble de données pour la communication interne (Uniquement nécessaire lorsque deux ou trois systèmes de batteries fonctionnent en parallèle.)
  - it Collegamento del cavo dati per la comunicazione interna (Necessario solo quando due o tre sistemi di batterie funzionano in parallelo.)

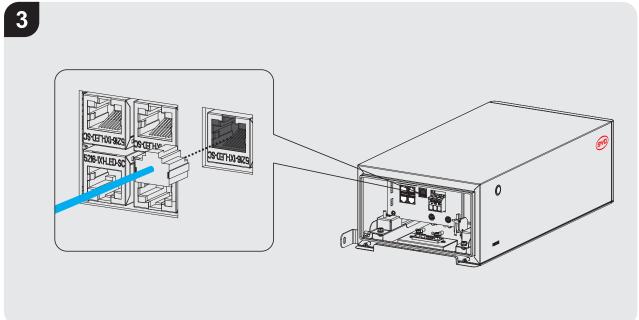




11. en Connecting the Network de Netzwerk anschließen es Conexión de la red fr Connexion au réseau it Collegamento di rete

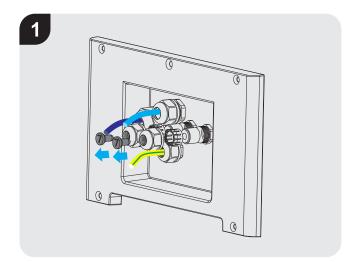


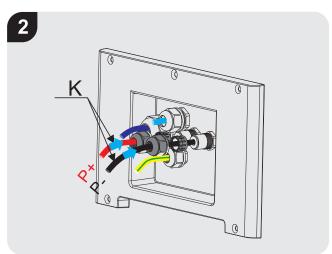


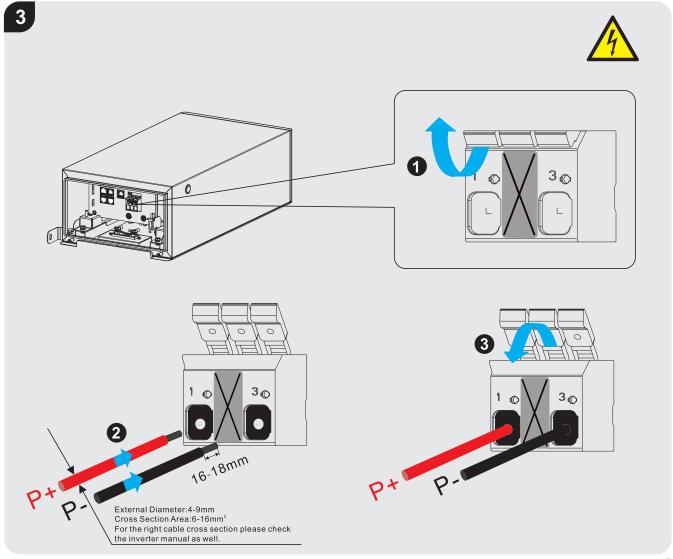




- 12. en DC Connection de DC-Anschluss es Conexión de CC
  - fr Raccordement DC it Collegamento CC

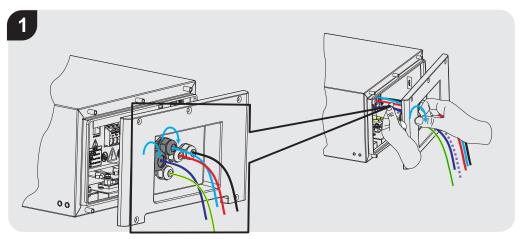


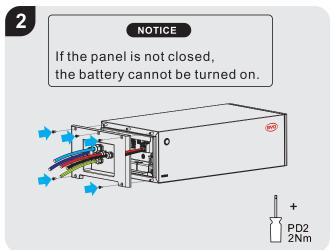


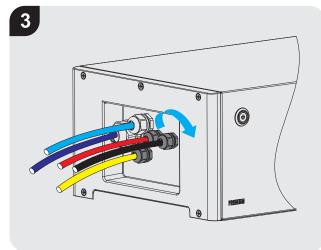




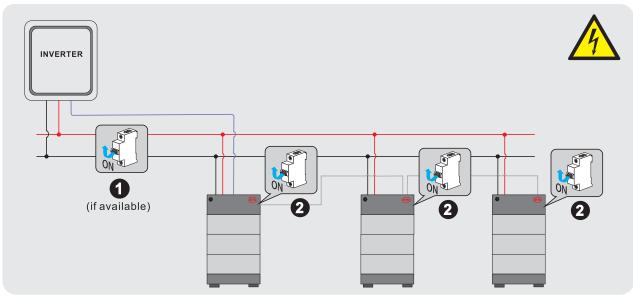
13. en Close up de Schließen es Cubrir fr Fermer it Coprire







- 14. en Commissioning de Kommission es comisión fr commission it commissione
- 14.1 en Switch on the Battery System
  - de Batteriesystem einschalten
  - es Encienda el sistema de batería
  - fr Allumez le système de batterie
  - it Accendere il sistema batteria





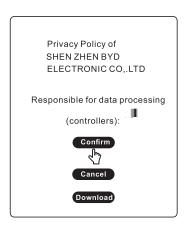
- 14.2 en Configuration de Konfiguration es Configuración
  - fr Configuration it Configurazione

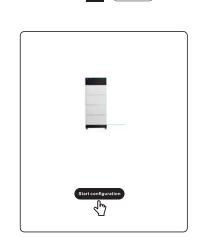


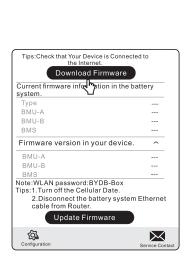


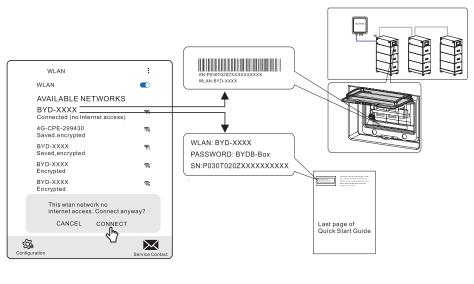








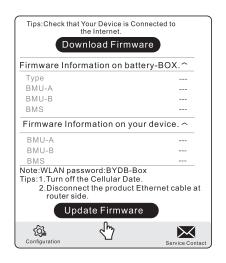


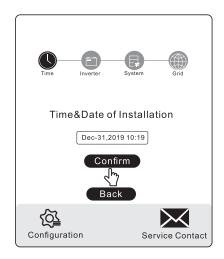


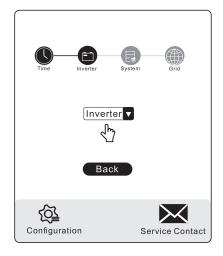








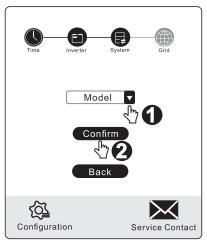


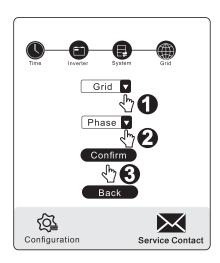


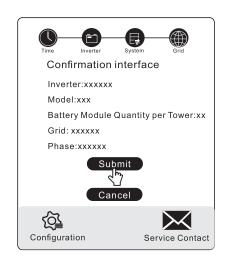








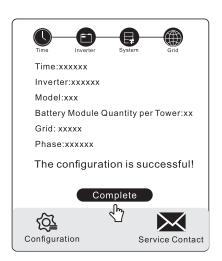








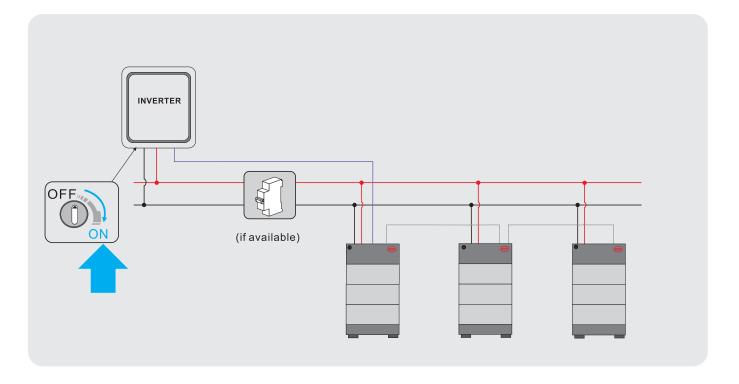




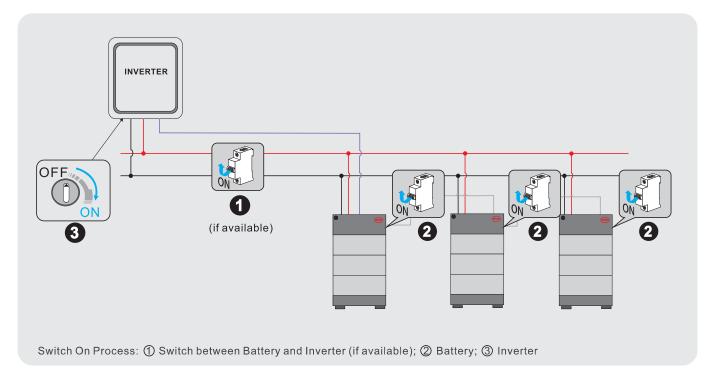




14.3 en Switch on the Inverter de Schalten Sie den Wechselrichter ein es Encienda el inversor fr Allumez l'onduleur it Accendere l'inverter

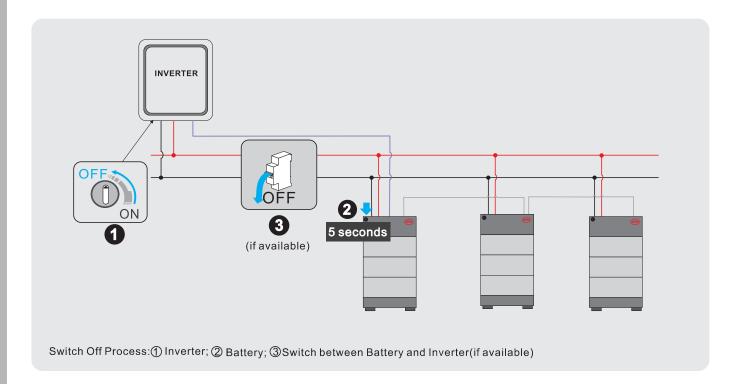


- 15. en Operation de Betrieb es Operación fr Opération it Operazione
- 15.1 en Start Procedure de Einschaltreihenfolge es Procedimiento de inicio fr Procédure de démarrage it Avviare la procedura

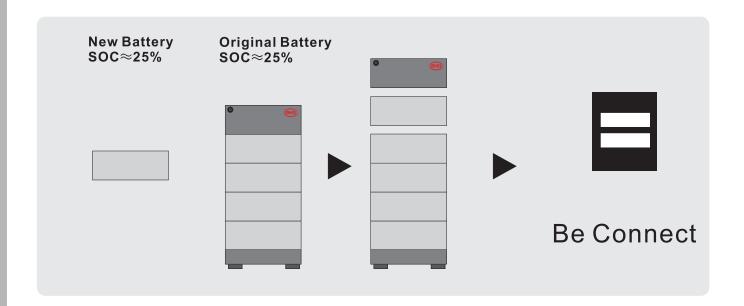




- 15.2 en Switch off Order de Ausschaltreihenfolge es Desactivar orden
  - fr Désactiver la commande it Spegni Ordine

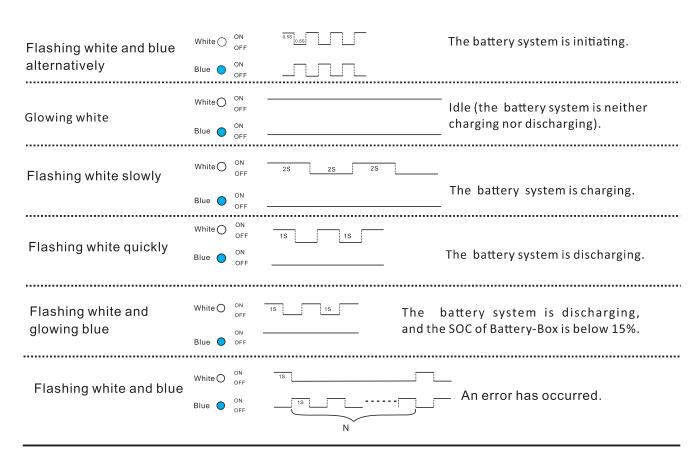


16. en Extension de Erweiterung es Extensión fr Extension it Estensione

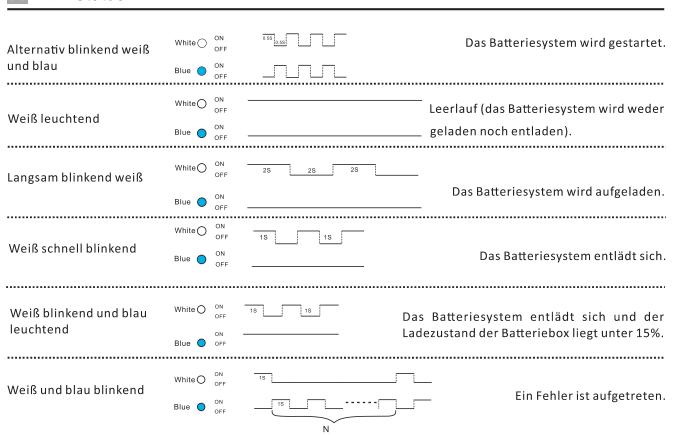




#### 17. en LED Status

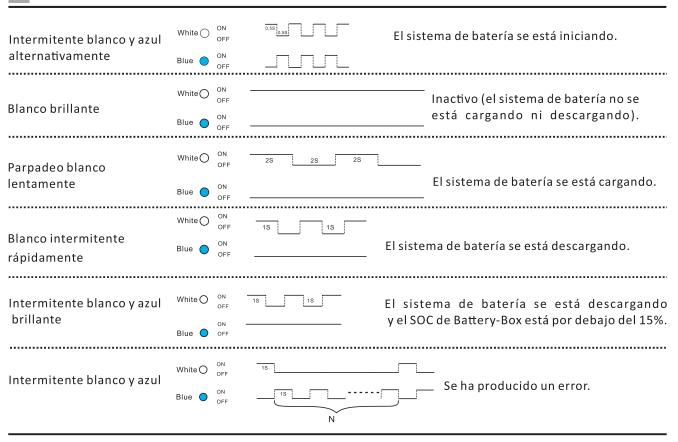


#### de LED-Status

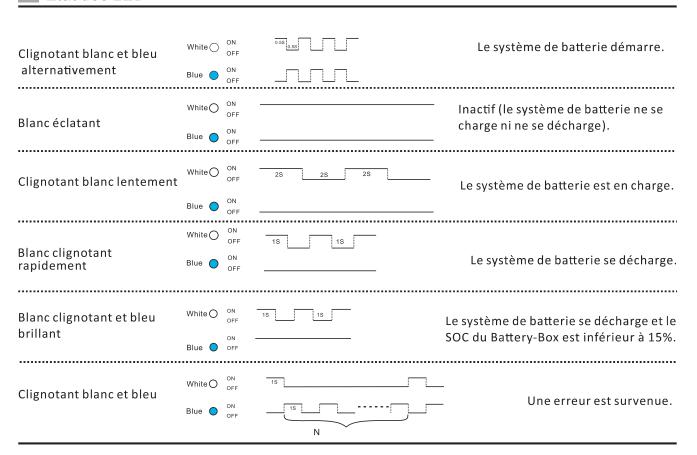




#### es Estado del LED

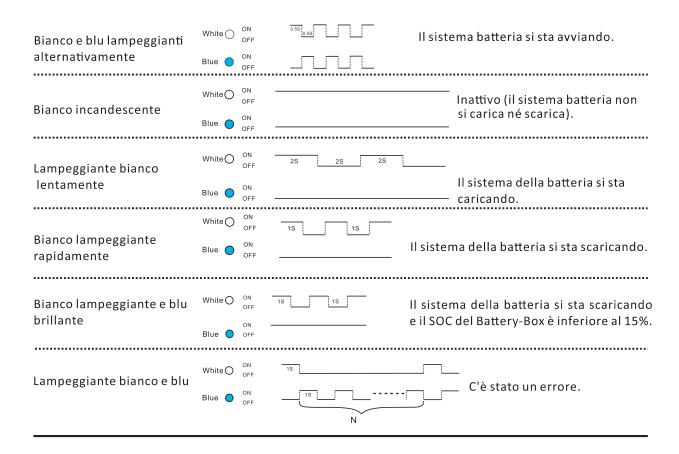


## fr État des LED



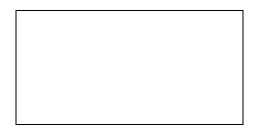


#### it Stato del LED



## en Contact de Kontakt es Contacto fr Contact it Contatto

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	Telephone: +86 755 89888888-47175		https://www.facebook.com/BatteryBoxBYD/		
	Address: No.3009,BYD Road, Pingshan,Shenzhen,5118118, P.R.China		https://twitter.com/BYD_BatteryBox https://www.linkedin.com/company/byd-battey -box		
	Website: www.bydbatterybox.com				
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WIFI name, password and serial number/
WIFI Name, Passwort und Seriennummer/
Nombre de WIFI, contraseña y número de serie/
Nom, mot de passe et numéro de série WIFI/
Nome WIFI, password e numero di serie