

BYD BATTERY-BOX PREMIUM QUICK START GUIDE



Valid for HVS 5.1/ 7.7/ 10.2/ 12.8

HVM 8.3/ 11.0/ 13.8/ 16.6/ 19.2/ 22.1

BCU-V2.0



Please note that this is a Quick Start Guide only, which is a shortened assistance for the installation of the BYD Battery-Box Premium HVS/HVM. It does not replace the Operating Manual, which must be read and understood completely before installation. Please download and view it on this website: www.bydbatterybox.com.

Attention: High Voltage! Improper handling can pose a risk of electric shock and damage.

This guide and procedures described herein are intended for use by skilled workers only.

A skilled worker is defined as a trained and qualified electrician or installer who has all of the following skills and experience:

- Knowledge of the functional principles and operation of on-grid systems.
- Knowledge of the dangers and risks associated with installing and using electrical devices and acceptable mitigation methods.
- Knowledge of the installation of electrical devices.
- Knowledge of and adherence to this guide, the complete installation manual and all safety precautions and best practices.

In order to ensure the normal operation of the BYD Battery System, please download the app Be Connect 2.0 and then finish the configuration in accordance with this document.

If there are errors generated during the commissioning or operation, please read the Service Guideline and Checklist alongside this document, or digital version on the website.

If the battery system doesn't start at all, please contact BYD's local after-sales service team within 48 hours. Otherwise, the battery could be permanently damaged.

Please do not stack up batteries without protective packages when storing or handling batteries, except for installation.

QR Code for the app.

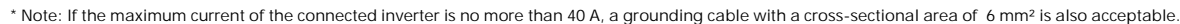
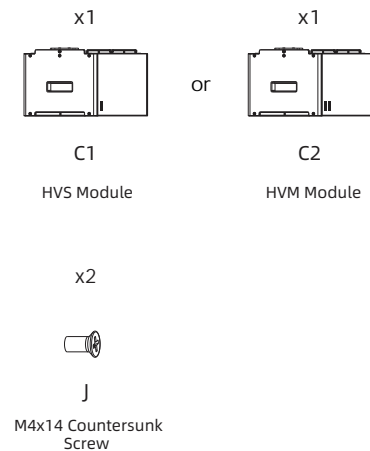


Be Connect 2.0
Google Play



Be Connect 2.0
APP Store

2. Additionally Required Installation Materials



3. Tools



Network Wire Clamp



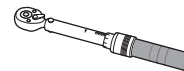
Marker



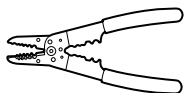
Phillips Screwdriver Bit



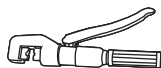
Flat-head Screwdriver



Torque Wrench



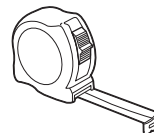
Wire Stripper



Hydraulic Plier
YQK-240



Wrench



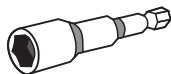
Tape Measure



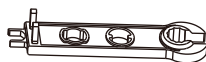
Drill



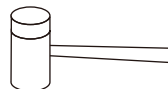
Heat Gun



Cylinder Screwdriver



Connector Wrench



Rubber Mallet



Crimping Pliers

4. Installation Location



Max +50 °C



Min -10 °C

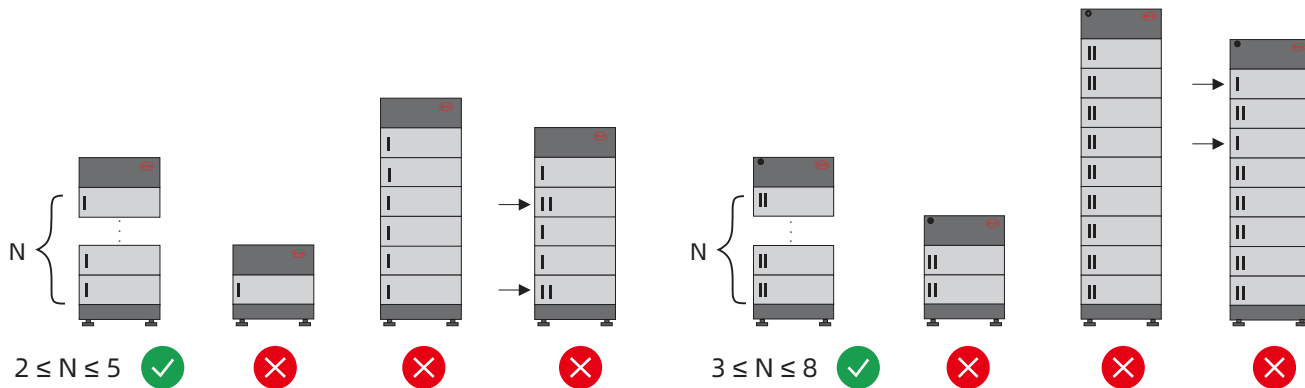


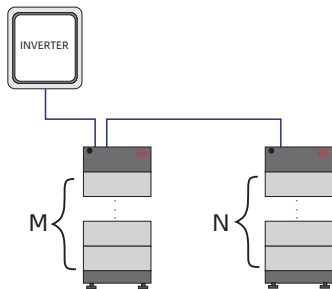
RH. +5 %~ +95 %



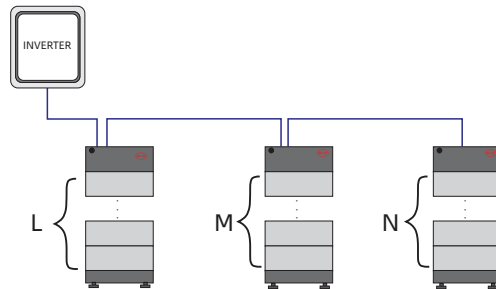


5. Connection Limitation



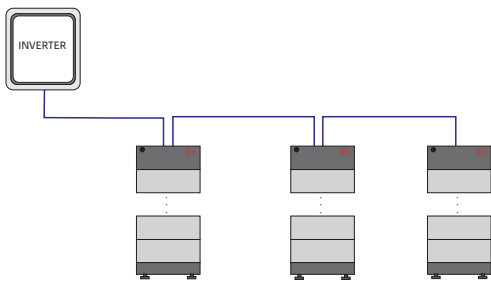


$M = N$ ✓

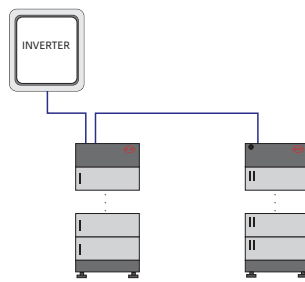


$L = M = N$ ✓

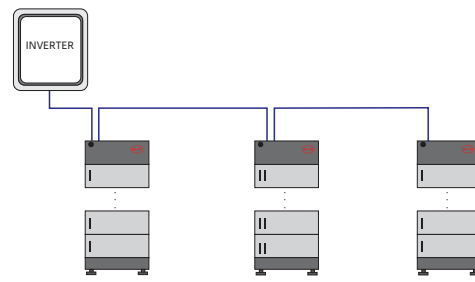
$L \neq M$ or $l \neq N$ or $M \neq N$ ✗



≤ 3 (Towers)

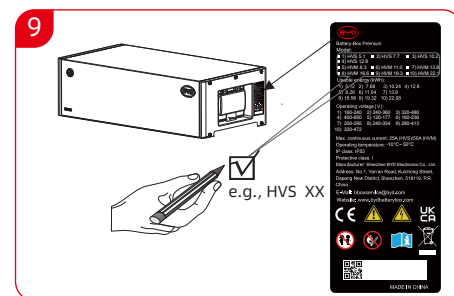
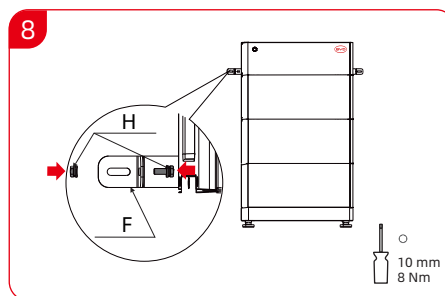
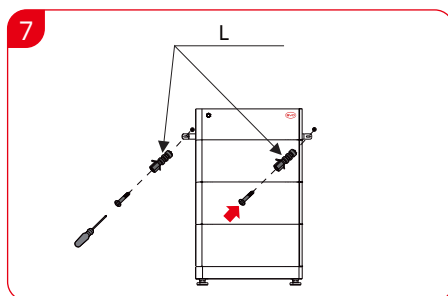
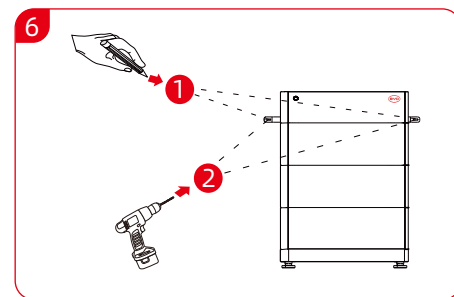
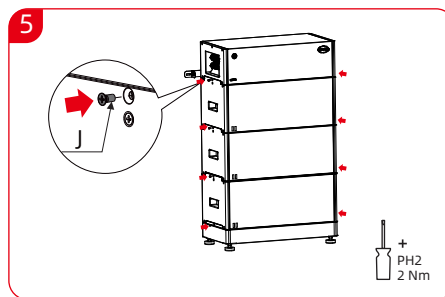
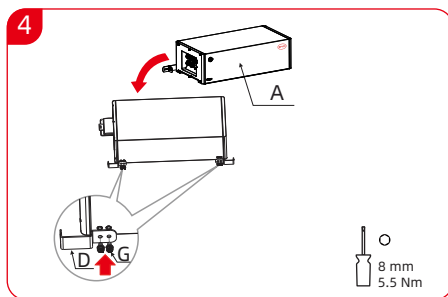
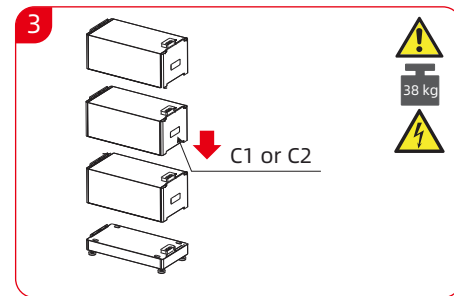
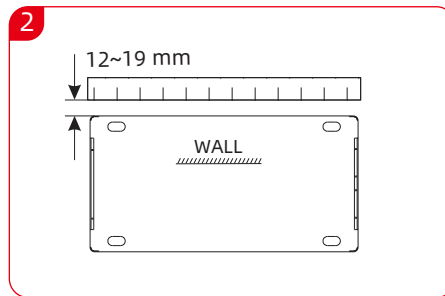
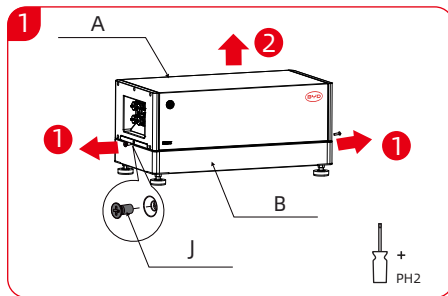


✗



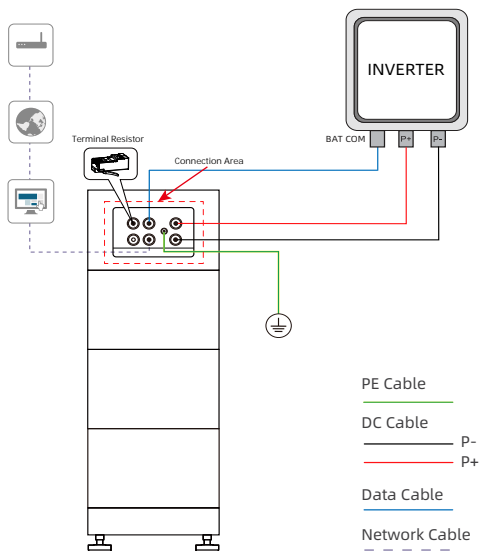
✗

6. Installation



7. Connection Diagram

Single Tower

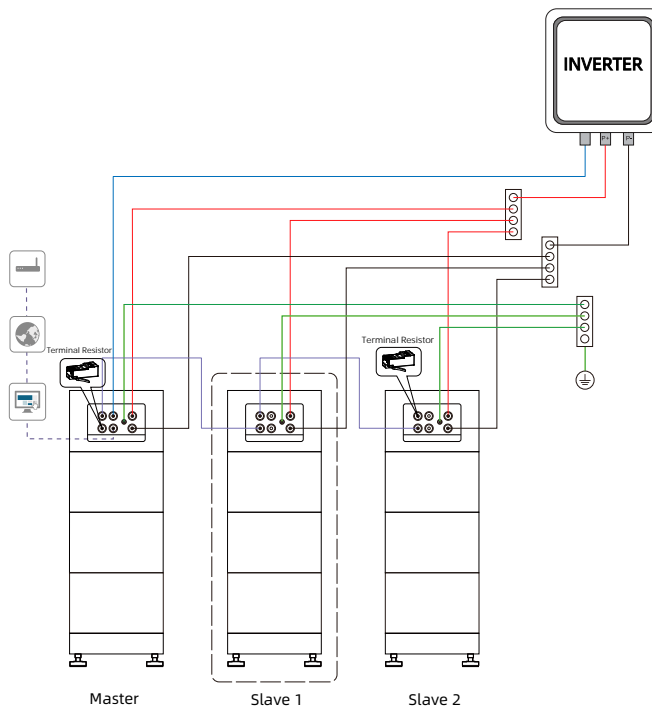


Designation of the connection Area

INV	Port for an inverter data cable
IN	IN port for parallel tower connection
OUT	OUT port for parallel tower connection
ETH	Network port for connecting a router or network switch
PE	Grounding cable connecting point
P-	DC- to inverter
P+	DC+ to inverter

Multiple Towers

Ignore the Slave 1 in the drawing below to get the diagram of two towers



NOTICE

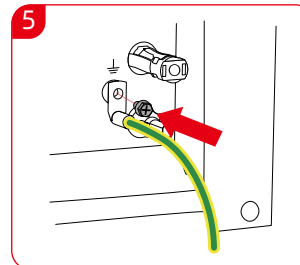
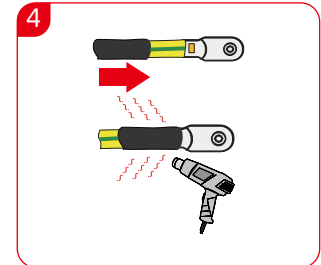
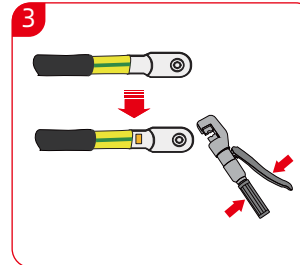
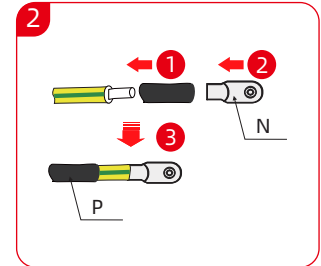
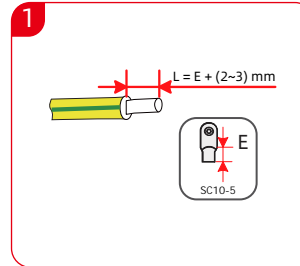
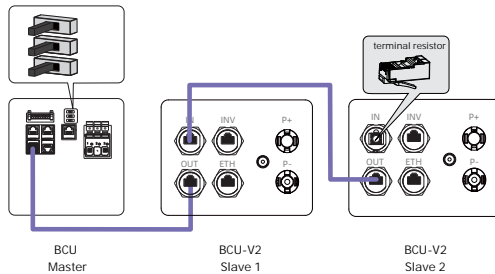
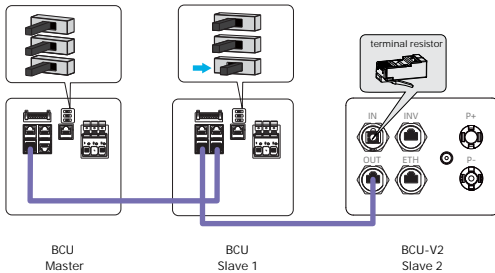
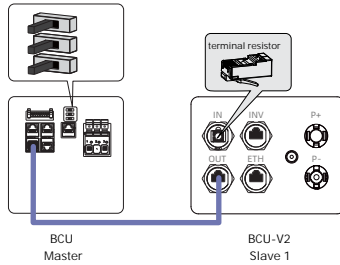
1. Parallel connection is not applicable to SMA Sunny Boy Storage 3.7-6.0. Please check the inverter's operating manual on how to connect up to three battery systems.
2. The length of the power cables from each tower to the combiner box should be the same.
3. The length of the power cable between each battery tower and the inverter should be less than 20 m.

8. Electrical Connections

NOTE: Before making all electrical connections, please make sure the air switch on the BCU is off.

8.1 PE Connection

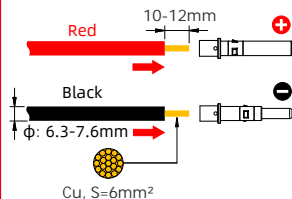
Parallel Connection - BCU and BCU-V2



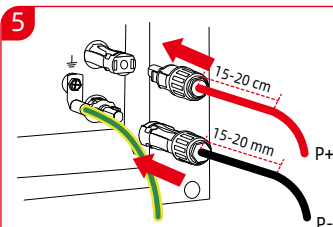
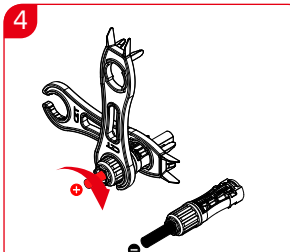
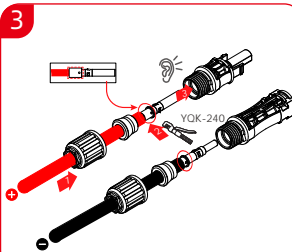
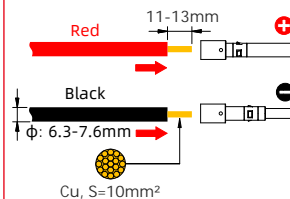
8. Electrical Connections

8.2 DC Connection

1 For 6mm² terminal

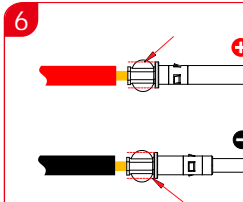


2 For 10mm² terminal



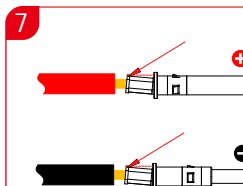
NOTICE

- Double Insulated
- External diameter: 6.3-7.6 mm
- Cross-section area: 6 or 10 mm²
- For the right cable cross-section, please check the inverter's operating manual as well.
- Ensure 15-20 cm of the cable coming out of the power cable coupler is kept horizontal as shown on the left drawing, which can reduce the cable stress.



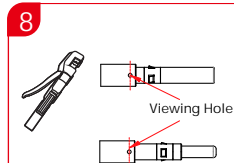
NOTICE

The burrs need to be trimmed. After trimming, they should not be higher than the right flange, and there should be no broken edges or wire core leakage.



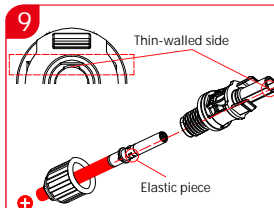
NOTICE

If there is any skew after pressing, it should not be higher than the right flange. And the crimping location should be no damage or cracking.



NOTICE

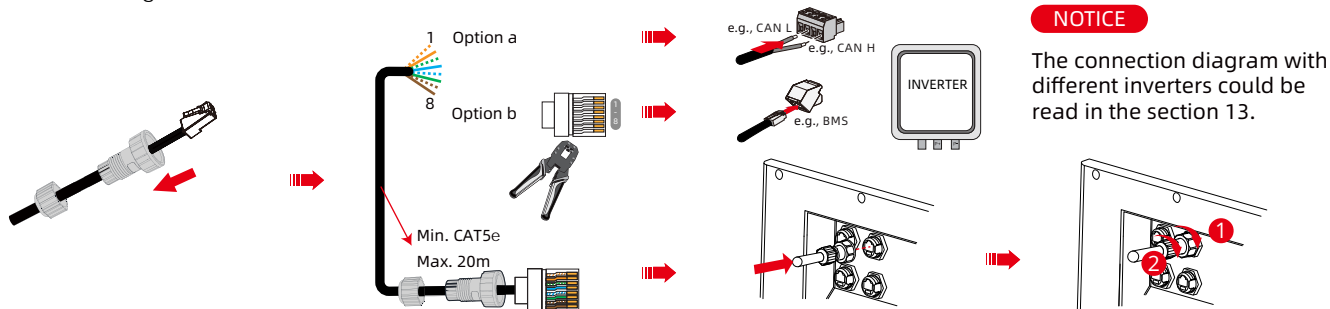
When crimping 10 mm² terminals, the crimping pliers die must not completely cover the viewing hole.



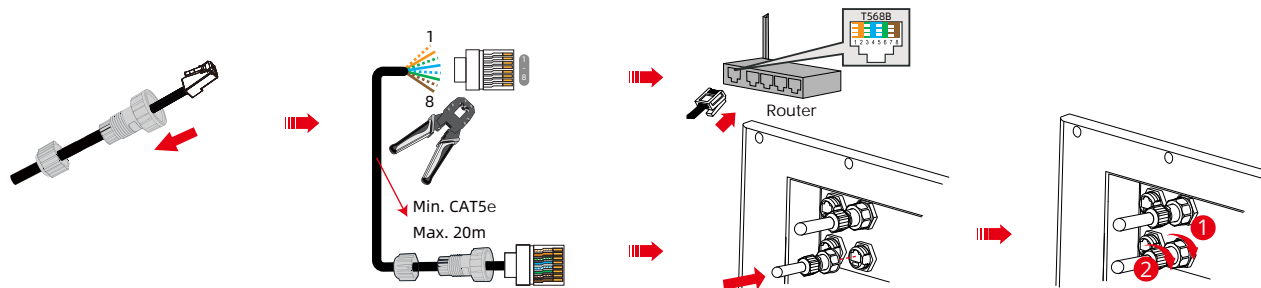
NOTICE

1. Any elastic piece of the terminal must be aligned with the thin-walled side of the plastic case opening before insertion.
2. After inserting, please try pulling it out to check if the terminal and the plastic case are securely connected.

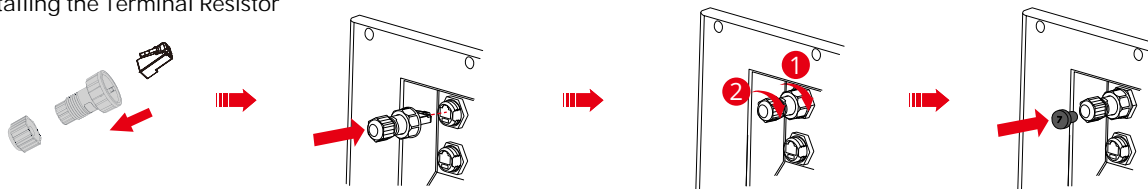
8.3 Connecting the Data Cable to an Inverter



8.4 Connecting the Data Cable to a Router (It's not mandatory, but recommended)

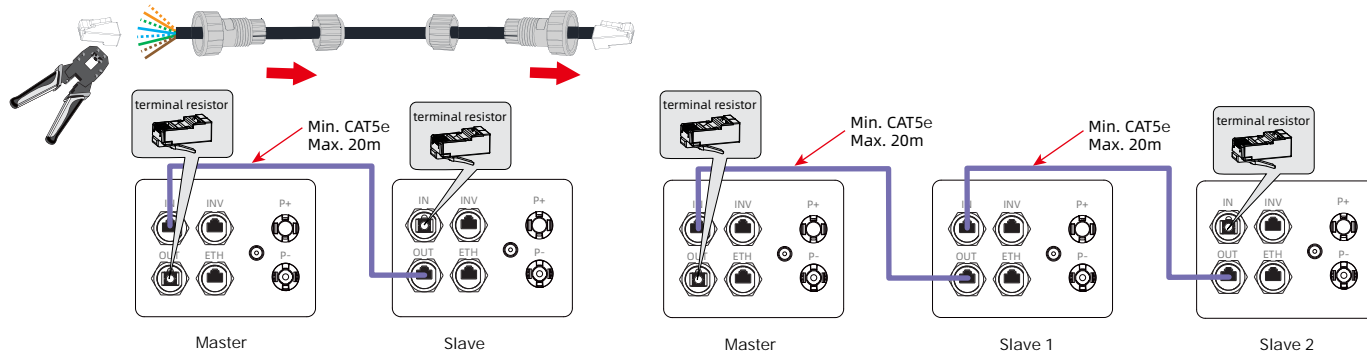


8.5 Installing the Terminal Resistor

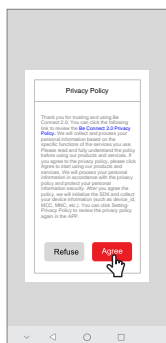


NOTICE

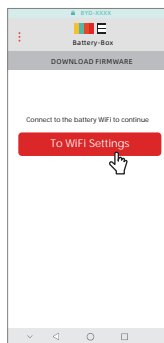
Parallel connection is not applicable to SMA Sunny Boy Storage 3.7-6.0.
Please check the inverter Operating Manual on how to connect up to three battery systems.



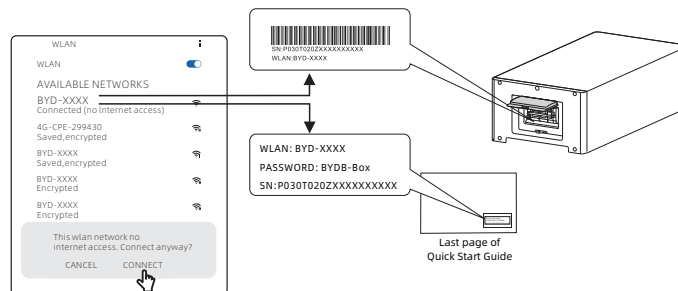
9. Configuration



1

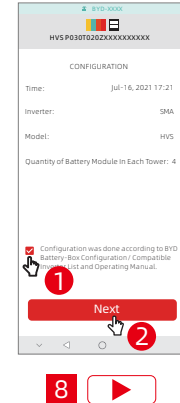
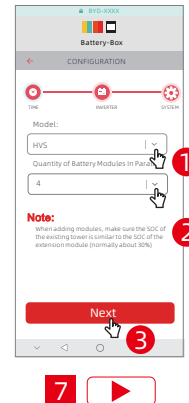
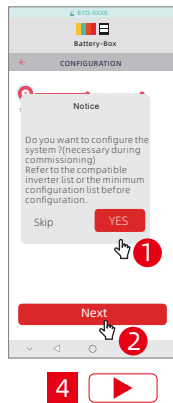


2



3

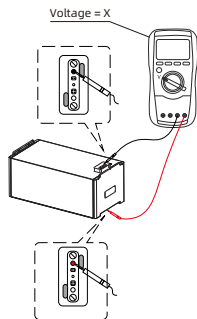




Switch Off 3 → 4 → 1

11. Extension

Note: Within 5 days before extension, it is recommended to fully charge the original system to SOC 100% at least once.



- ① Measure the voltage of the new battery module, get a value (X).

	Voltage (X)/ V	SOC (Y)
HVS	$X < 100.80$	0~5%
	$100.80 \leq X < 103.20$	5~10%
	$103.20 \leq X < 103.68$	10~15%
	$103.68 \leq X < 104.54$	15~20%
	$104.54 \leq X < 105.41$	20~25%
	$105.41 \leq X$	25~30%
HVM	$X < 50.32$	0~5%
	$50.32 \leq X < 51.52$	5~10%
	$51.52 \leq X < 51.74$	10~15%
	$51.74 \leq X < 52.24$	15~20%
	$52.24 \leq X < 52.64$	20~25%
	$52.64 \leq X$	25~30%

- ② Refer to the above table to find out the SOC (Y) corresponding to the X.

New Battery
SOC \approx Y



Original Battery
SOC \approx Y



- ③ Charge or discharge the original battery system until the SOC is almost equal to Y, and then add the new battery module. Do not forget to do the configuration after that.

12. LED Status

Blinking white and blue
alternatively



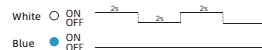
The battery system is initiating

Solid white



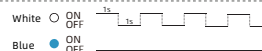
Idle (the battery system is neither
charging nor discharging)

Blinking white slowly



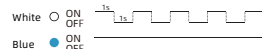
The battery system is charging.

Blinking white quickly



The battery system is discharging

Blinking white and
solid blue



The battery system is discharging,
and the SOC is below 15%.

Blinking white and blue



An error has occurred (refer to service
guideline and checklist for further
details.

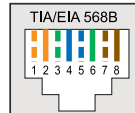
13. Communication Options with Inverters

NOTICE

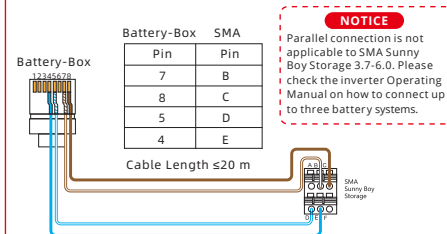
Do not crimp the unused pins when making the communication cable between the battery and the inverter.

Designation of "INV" port

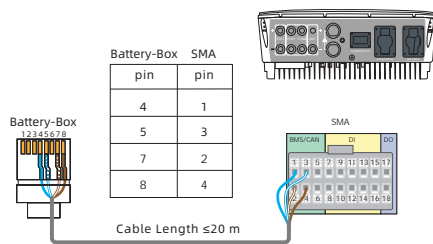
Pin	1	2	3	4
CAN/RS485	RS485A	RS485B	12V OUT	CAN H
Pin	5	6	7	8
CAN/RS485	CAN L	12V_OUT_GND	EN	EN_GND



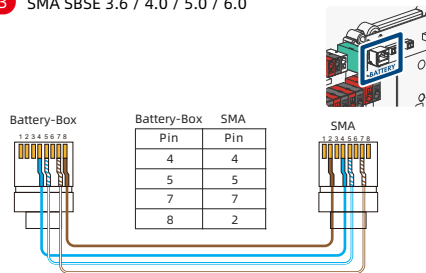
1 SMA SBS 2.5/ 3.7/ 5.0/ 6.0



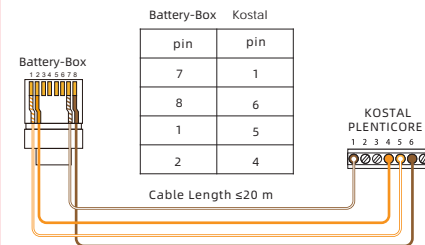
2 SMA STP 5.0-10.0 SE



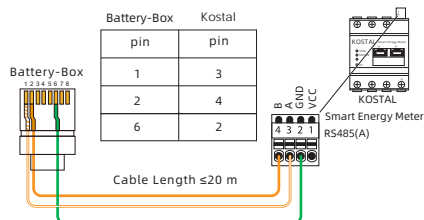
3 SMA SBSE 3.6 / 4.0 / 5.0 / 6.0



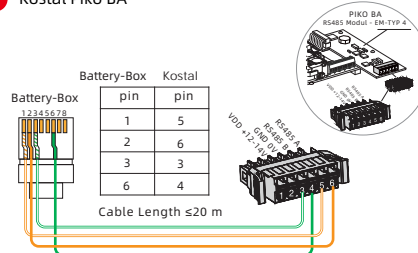
4 Kostal Plenticore Plus (G2)/ Plenticore BI (G2)/ Plenticore G3



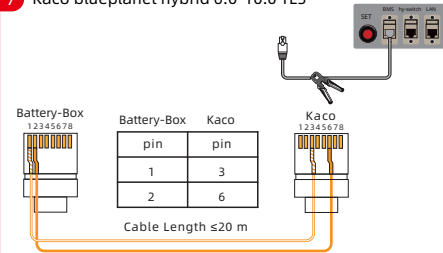
5 Kostal Piko MP Plus



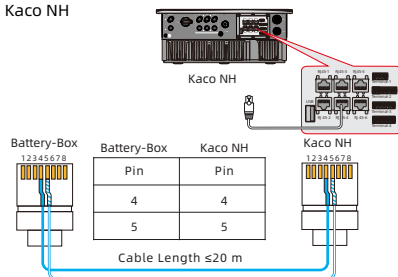
6 Kostal Piko BA



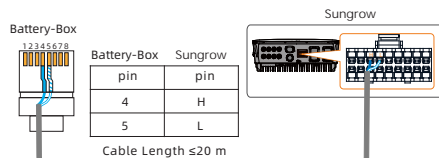
7 Kaco blueplanet hybrid 6.0-10.0 TL3



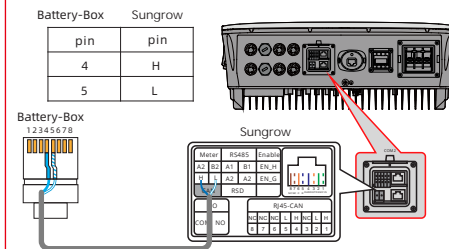
8 Kaco NH



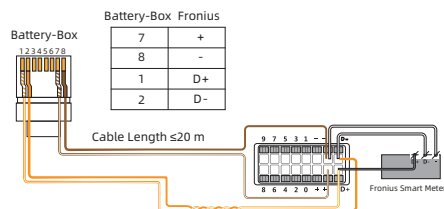
9 Sungrow SH5.0_6.0_8.0_10RT



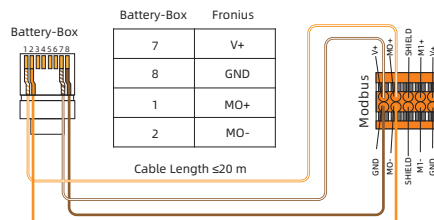
10 Sungrow SH3.0/ 3.6/ 4.0/ 5.0/ 6.0 RS



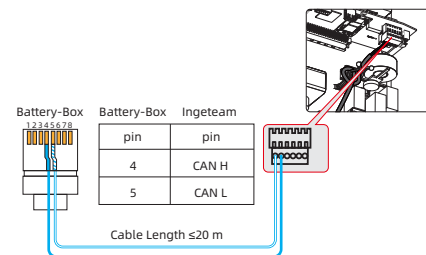
11 Fronius Symo Hybrid



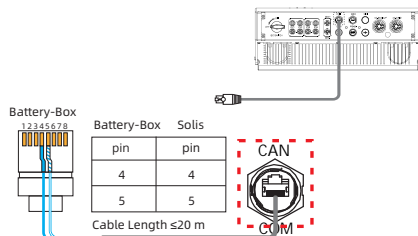
12 Fronius Primo Gen24 Plus/ Symo Gen24 Plus



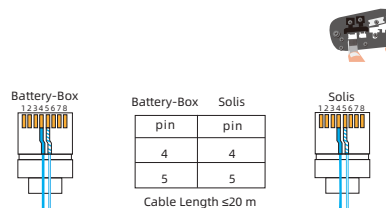
13 Ingeteam



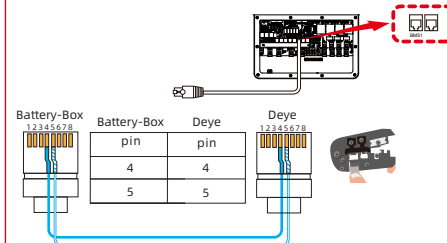
14 Solis RHI-3P(5-10)K-HVES-5G



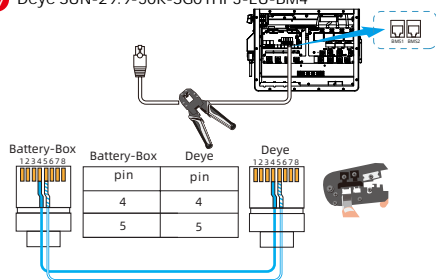
15 Solis S6-EH3P(3-10)K2-H/S6-EH3P(3-10)K-H-EU S6-EH3P(12-20)K-H/S6-EH3P(29.9-50)K-H



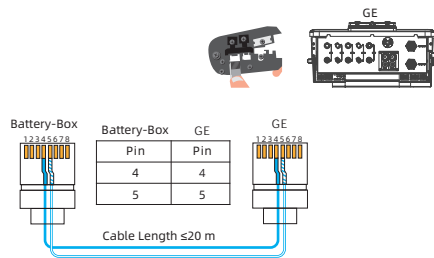
16 Deye SUN-(5-20)K-SG01HP3-EU-AM2



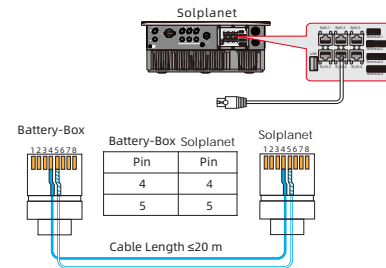
17 Deye SUN-29.9-50K-SG01HP3-EU-BM4



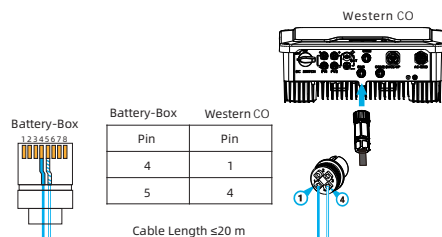
18 GE GEH 5.0/ 8.6/ 10-1U-10



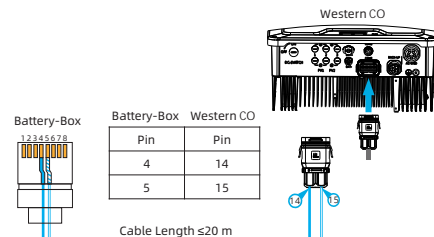
19 Solplanet



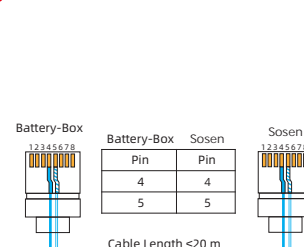
20 Western CO HHS 3000-6000/ HBS 3000-6000



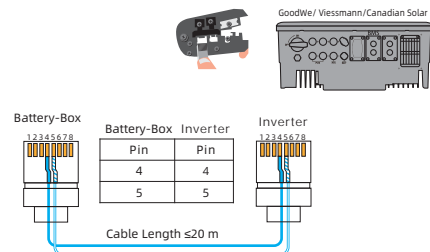
21 Western CO HHT 5000-12000/ HBT 5000-12000



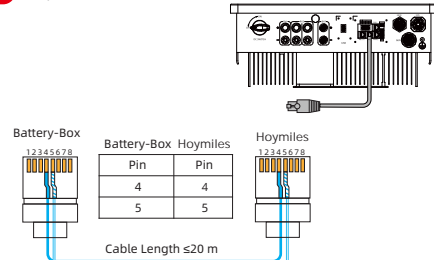
22 Sosen SSE-HH3K-6K-P1-EU



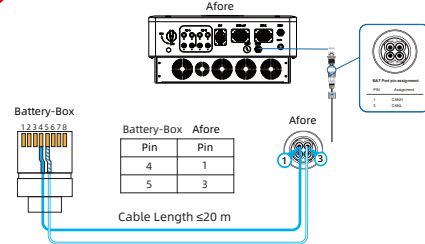
23 GoodWe/ Viessmann/ Canadian Solar



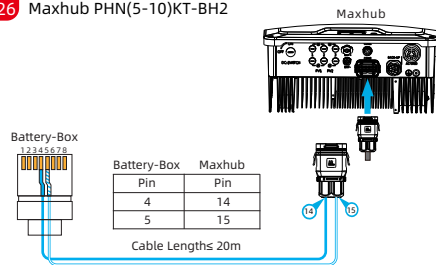
24 Hoymiles



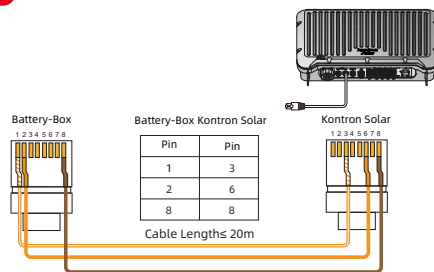
25 Afore AF(3-30)K-TH



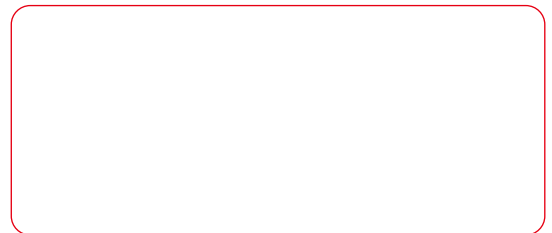
26 Maxhub PHN(5-10)KT-BH2



27 Kontron Solar SolBrid 10-3-2/10-3-4



WLAN name, password and serial number.

A large, empty rectangular box with rounded corners and a thin red border, intended for input.



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