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

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.

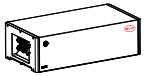
Please do not stack up batteries without protective packages when storing or handling batteries, except for installation.

Be Connect 2.0
Google Play

Be Connect 2.0
APP Store

1. Scope of Delivery

x1



A

BCU

x1



B

Base

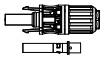
x3



J

M4x14 Countersunk Screw

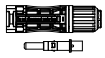
x1



R

Female Power Cable Coupler

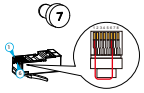
x1



S

Male Power Cable Coupler

x1



T

Terminal Resistor

x2



D

Hanger (BCU Part)

x1



E

Documents

x2



F

Hanger (Wall Part)

x4



G

M5 Screw

x2



H

M6 Bolt and Nut

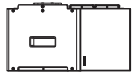
x4



I

Communication Connector

x1

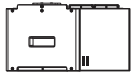


C1

HVS Module

or

x1



C2

HVM Module

x2



J

M4x14 Countersunk Screw

2. Additionally Required Installation Materials

x1



x1



K

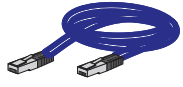
DC Cable
(6-10mm², double insulated)

x2



L

Expansion Anchor Bolt
(M8x40)



M

Cat5 Shield
(Metal Shielded RJ45 of Cat5 or higher)

x1



N

PE-terminal

x1



O

PE*
(10 mm²)

x1

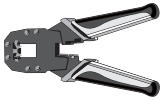


P

Heat Shrink Tubing

* Note: If the maximum current of the connected inverter is no more than 40 A, a grounding cable with a cross-sectional area of 6 mm² is also acceptable.

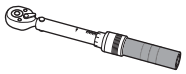
3. Tools

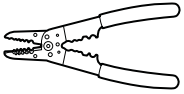

Network Wire Clamp

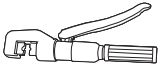

Marker


Phillips Screwdriver Bit

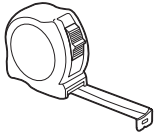

Flat-head Screwdriver


Torque Wrench


Wire Stripper

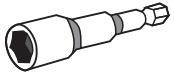

Hydraulic Plier

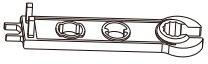

Wrench

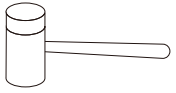

Tape Measure

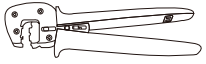

Drill


Heat Gun


Cylinder Screwdriver


Connector Wrench


Rubber Mallet


Crimping Pliers

4. Installation Location

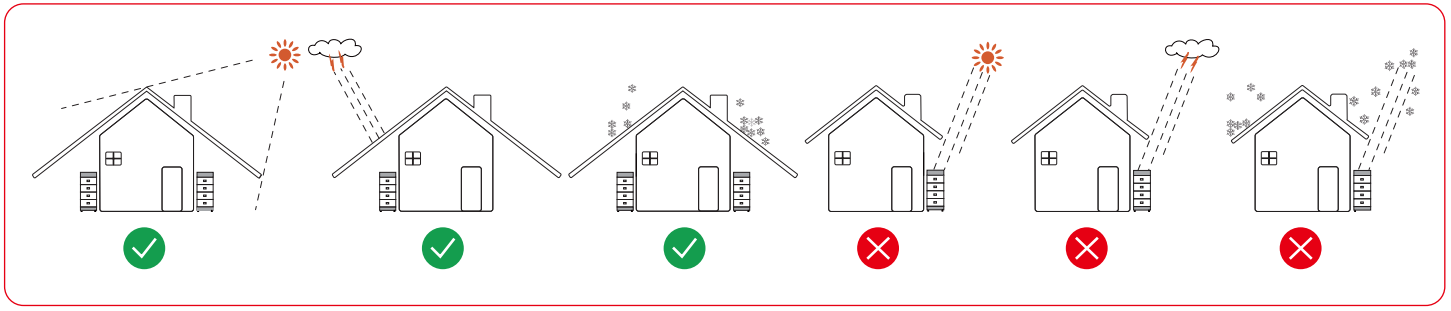

Max +50 °C


Min -10 °C

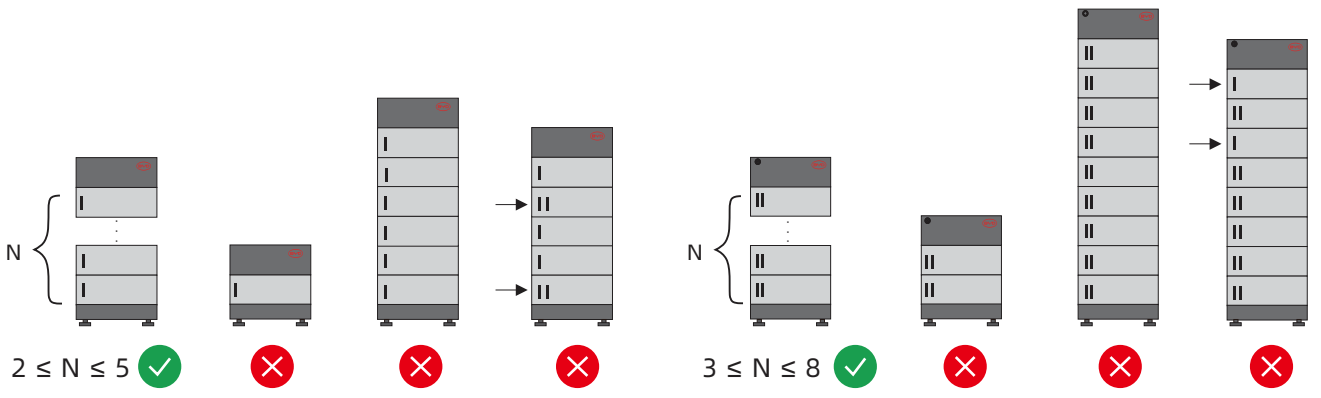

RH. +5 %~ +95 %

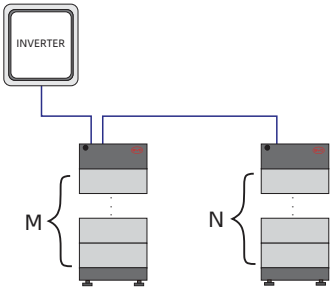




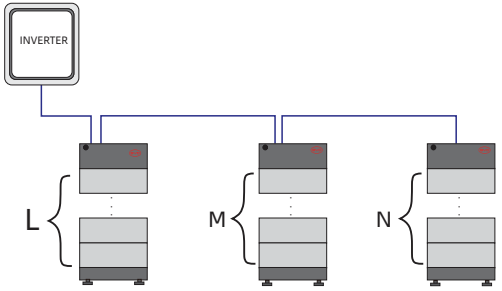


5. Connection Limitation



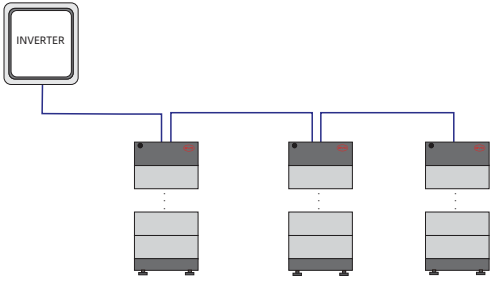


M = N

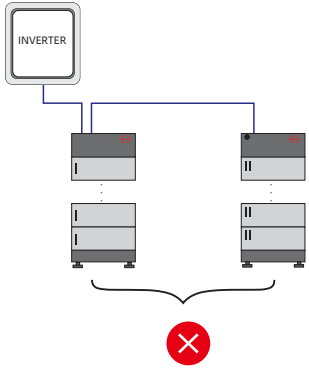


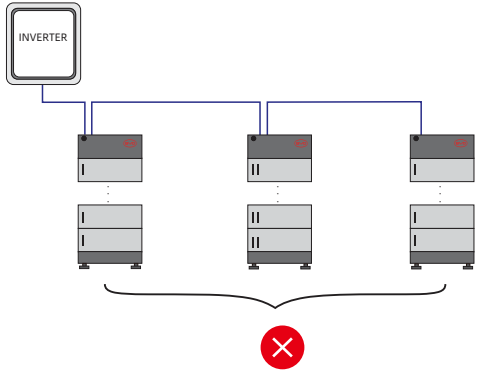
L = M = N

L ≠ M or l ≠ N or M ≠ N

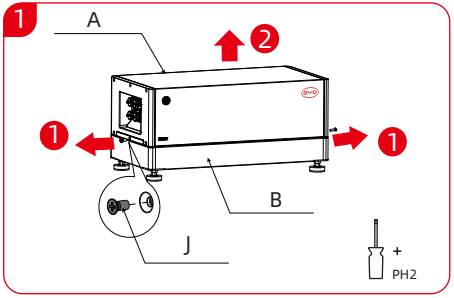


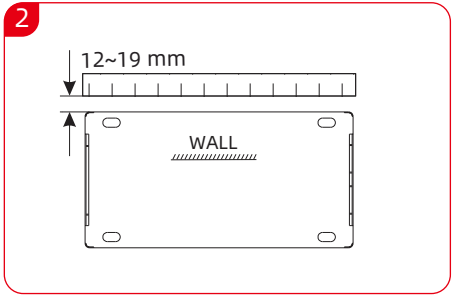
≤ 3 (Towers)

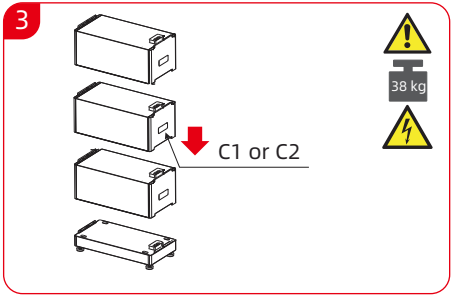


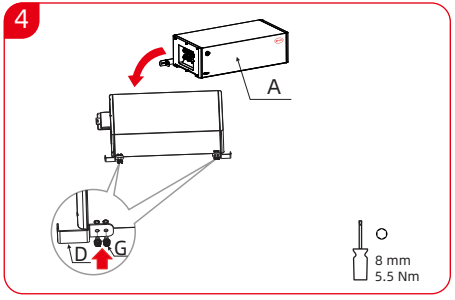


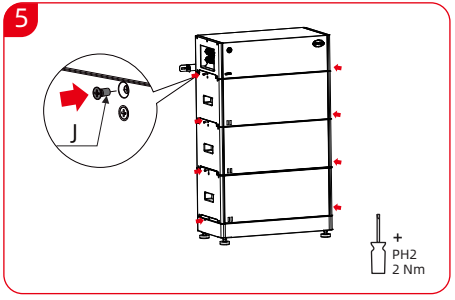
6. Installation

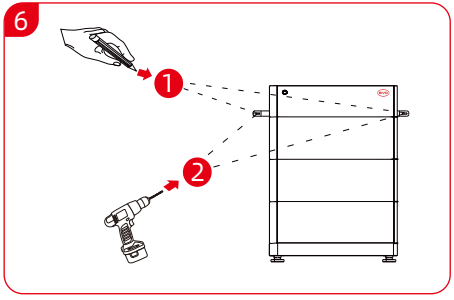


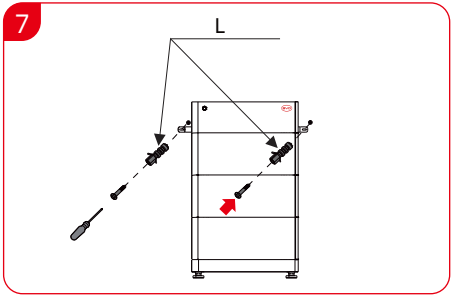


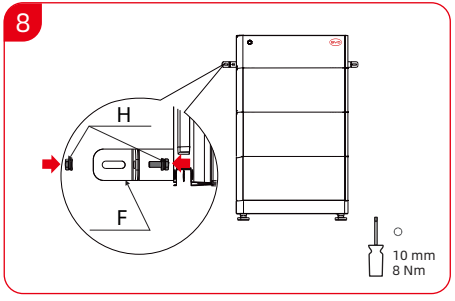


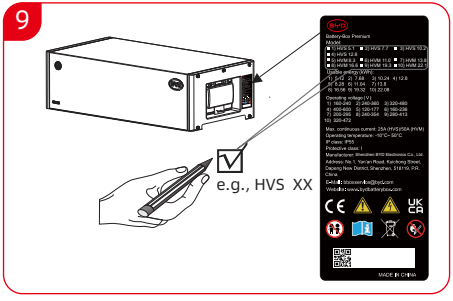






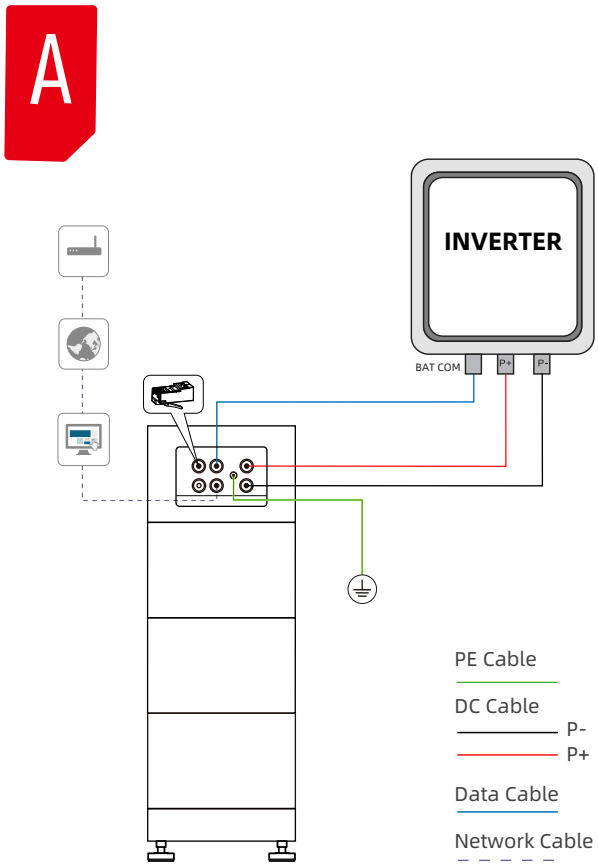


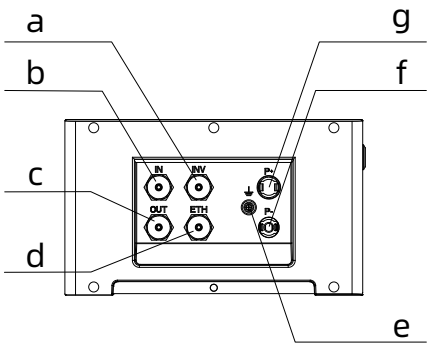




7. Connection Diagram

Single Tower

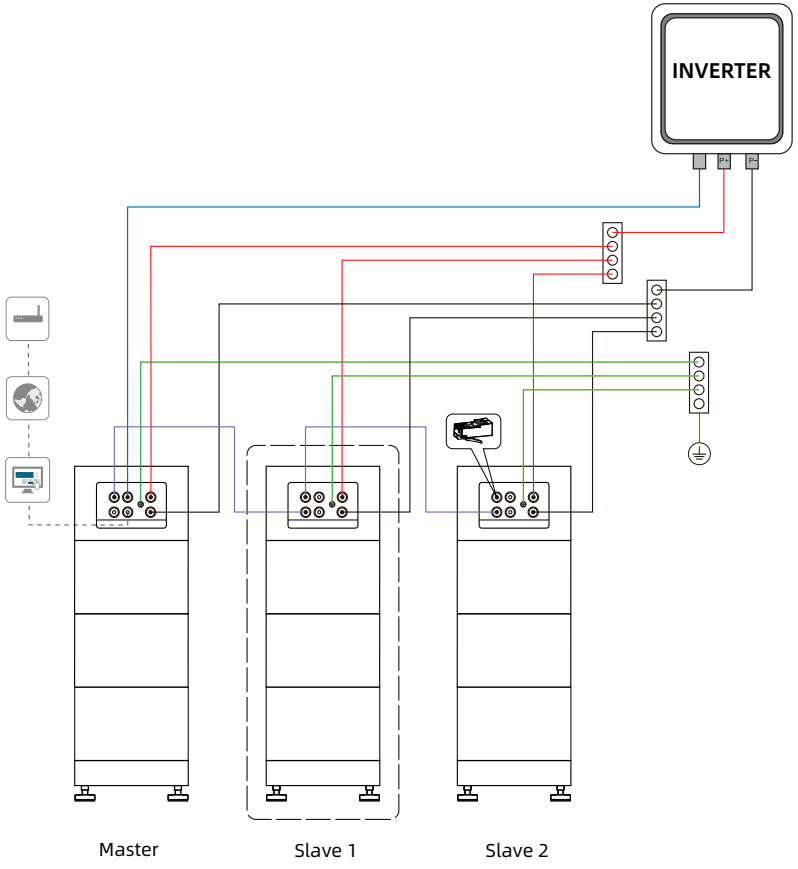




a	INV	Port for an inverter data cable
b	IN	IN port for parallel tower connection
c	OUT	OUT port for parallel tower connection
d	ETH	Network port for connecting a router or network switch
e	PE	Grounding cable connecting point
f	P-	DC- to inverter
g	P+	DC+ to inverter

Multiple Towers (Ignore the Slave 1 in the drawing below to get the diagram of two towers)

B



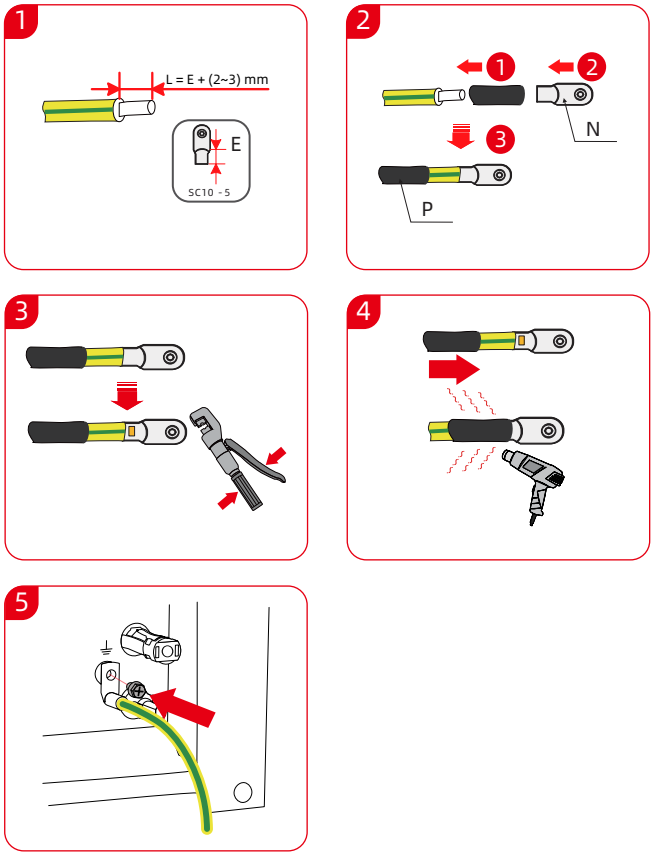
NOTICE

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.

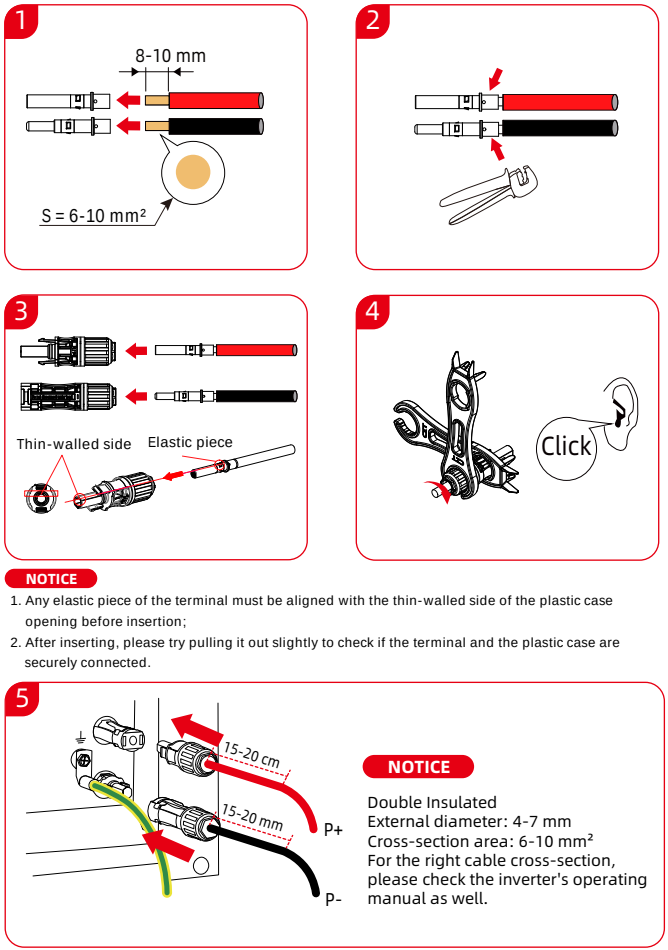
8. Electrical Connections

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

8.1 PE Connection



8.2 DC Connection



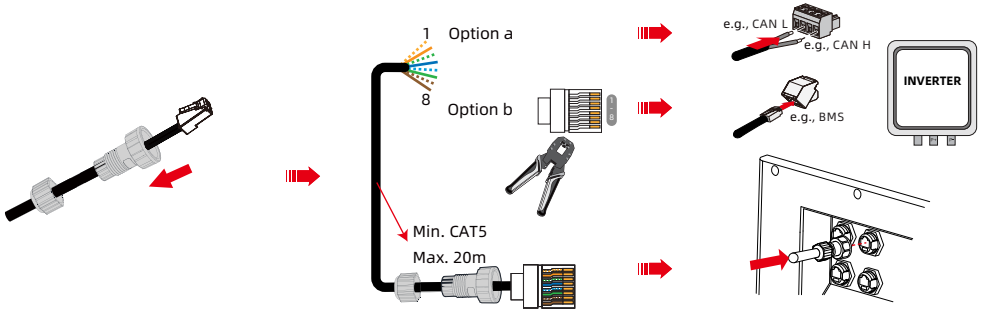
NOTICE

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 slightly to check if the terminal and the plastic case are securely connected.

NOTICE

Double Insulated
External diameter: 4-7 mm
Cross-section area: 6-10 mm²
For the right cable cross-section, please check the inverter's operating manual as well.

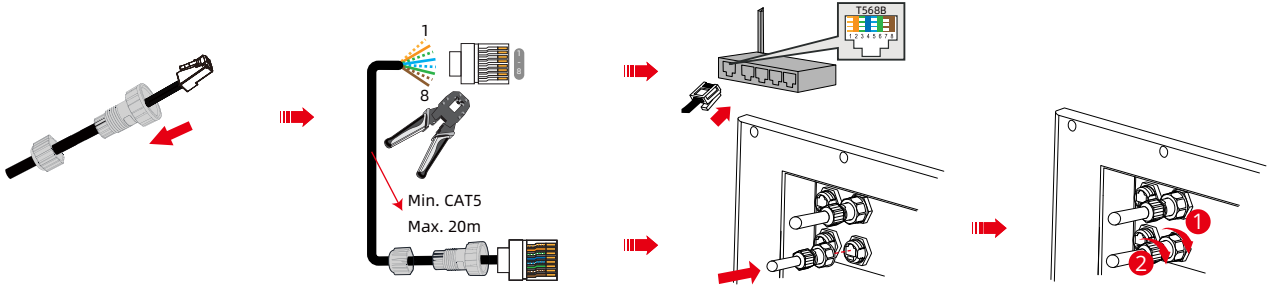
8.3 Connecting the Data Cable to an Inverter



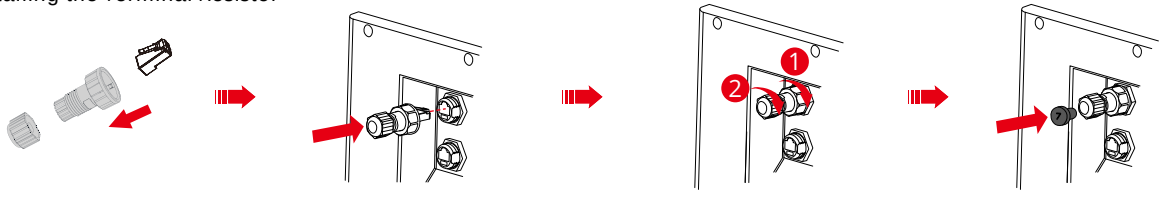
NOTICE

The connection diagram with different inverters could be read in the section 13.

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



8.5 Installing the Terminal Resistor



NOTICE

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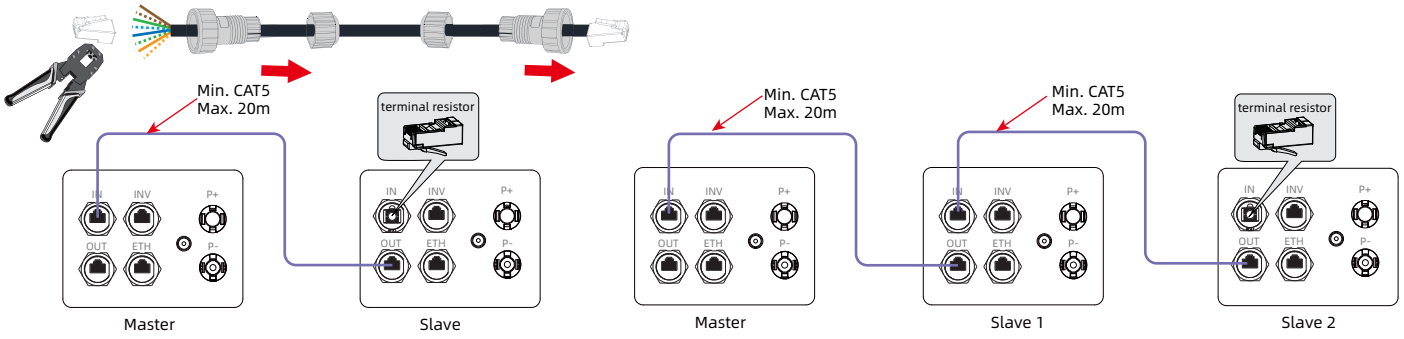
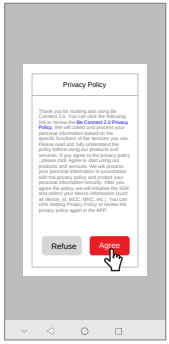
Please check the inverter Operating Manual on how to connect up to three battery systems



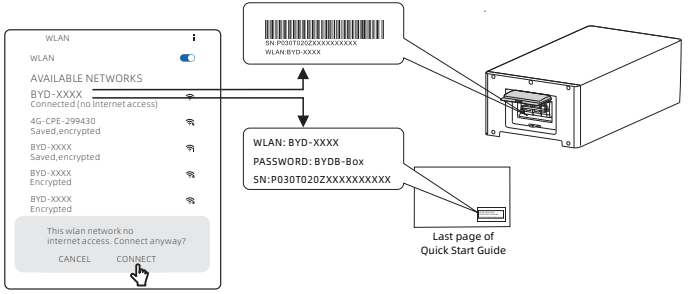
9. Configuration



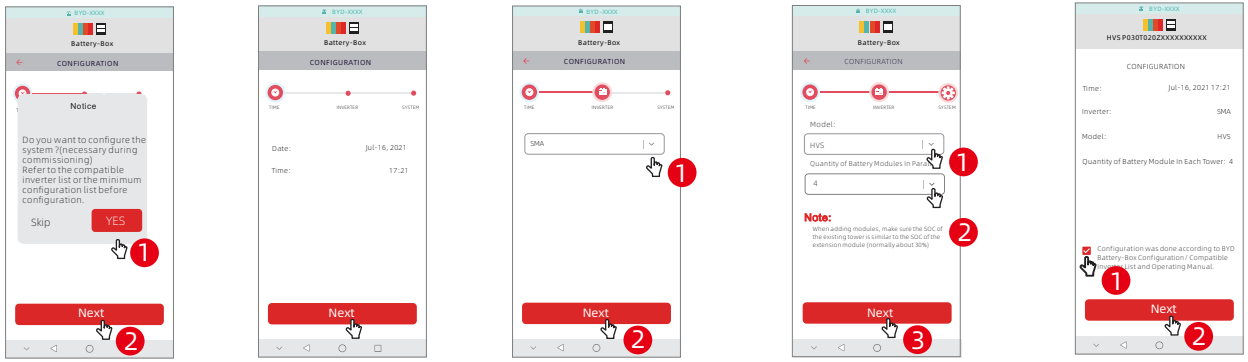
1



2

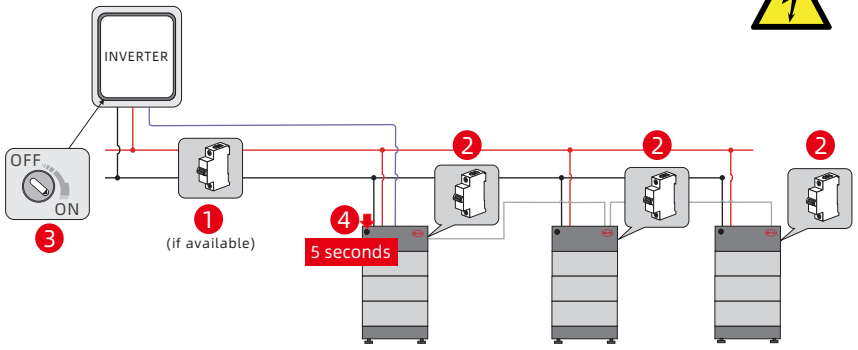


3

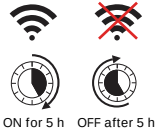


10. Switch ON/OFF Procedure

Switch ON/OFF Procedure



Battery WiFi will automatically shut off after five hours. Press the LED button once around one second or restart the system to activate it.

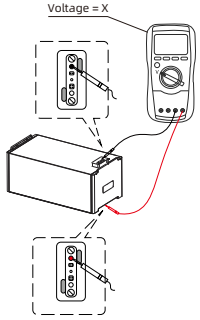


Switch On 1 → 2 → 3

Switch Off 3 → 4 → 1

11. Extension

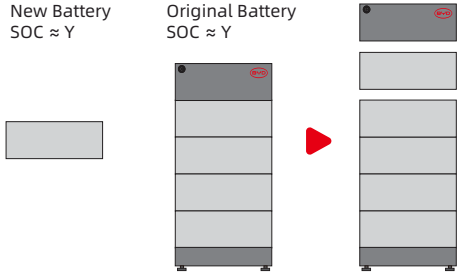
Note: Within 5 days before extension, it is recommended to fully charge the original system to SOC 100% at least once.



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

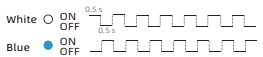
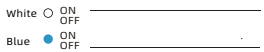
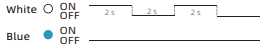
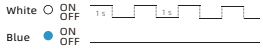
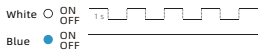
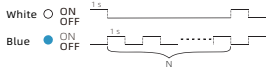
	Voltage (X)/ V	SOC (Y)
HVS	X<100.80	0~5%
	100.80≤X<103.20	5~10%
	103.20≤X<103.68	10~15%
	103.68≤X<104.54	15~20%
	104.54≤X<105.41	20~25%
	105.41≤X	25~30%
HVM	X<50.32	0~5%
	50.32≤X<51.52	5~10%
	51.52≤X<51.74	10~15%
	51.74≤X<52.24	15~20%
	52.24≤X<52.64	20~25%
	52.64≤X	25~30%

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

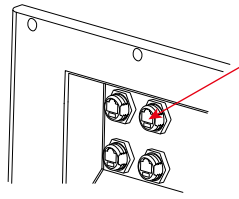


③ Charge or discharge the original battery system until the SOC is almost equal to Y, and then add the new battery module. Do not forget to do the configuration after that.

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

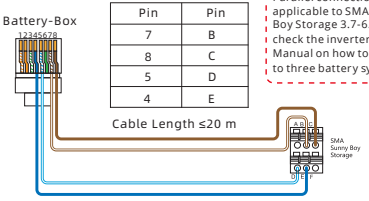
13. Communication Options with Inverters



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

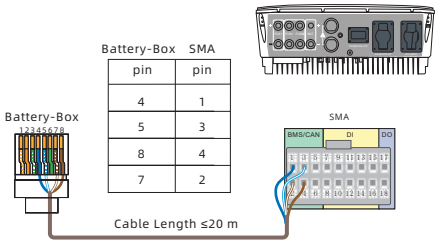


Battery-Box Pin	SMA Pin
7	B
8	C
5	D
4	E

NOTICE

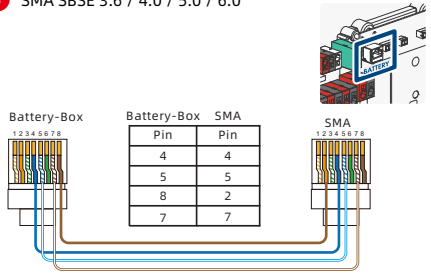
Parallel connection is not applicable to SMA Sunny Boy Storage 3.7-6.0. Please check the inverter Operating Manual on how to connect up to three battery systems.

2 SMA STP 5.0-10.0 SE



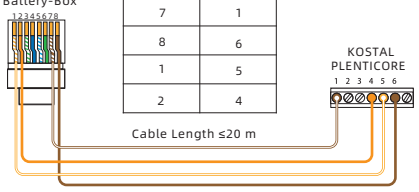
Battery-Box pin	SMA pin
4	1
5	3
8	4
7	2

3 SMA SBSE 3.6 / 4.0 / 5.0 / 6.0



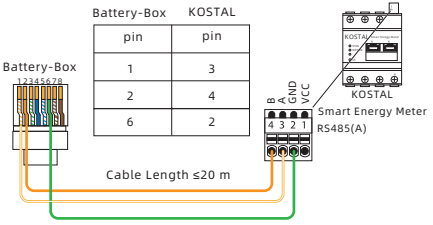
Battery-Box Pin	SMA Pin
4	4
5	5
8	2
7	7

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



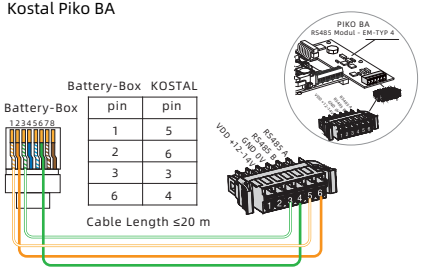
Battery-Box pin	KOSTAL pin
7	1
8	6
1	5
2	4

5 Kostal Piko MP Plus



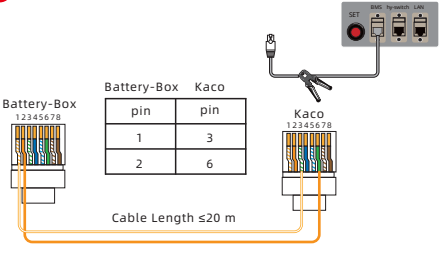
Battery-Box pin	KOSTAL pin
1	3
2	4
6	2

6 Kostal Piko BA



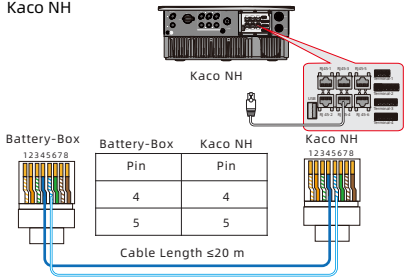
Battery-Box pin	KOSTAL pin
1	5
2	6
3	3
6	4

7 Kaco blueplanet hybrid 6.0-10.0 TL3

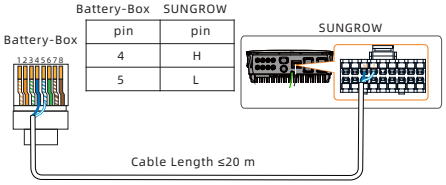


Battery-Box pin	Kaco pin
1	3
2	6

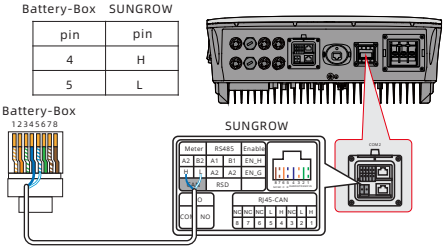
8 Kaco NH



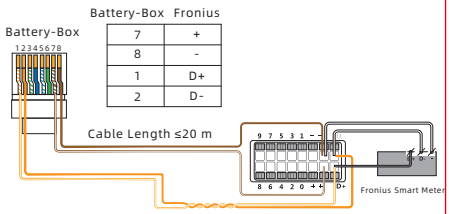
9 SUNGROW SH5.0_6.0_8.0_10RT



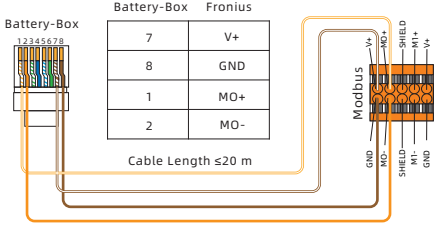
10 SUNGROW SH3.0/ 3.6/ 4.0/ 5.0/ 6.0 RS



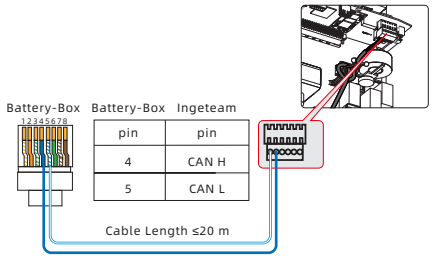
11 Fronius Symo Hybrid



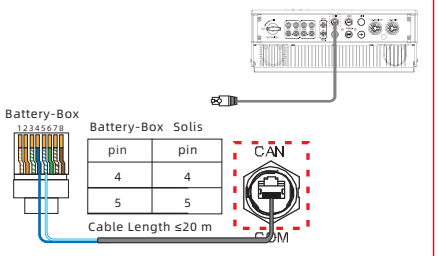
12 Fronius Primo Gen24 Plus/ Symo Gen24 Plus



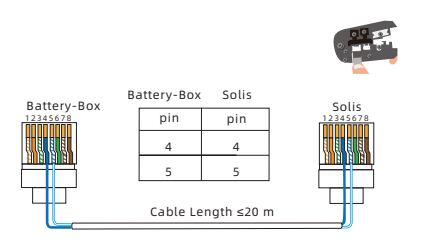
13 Ingeteam



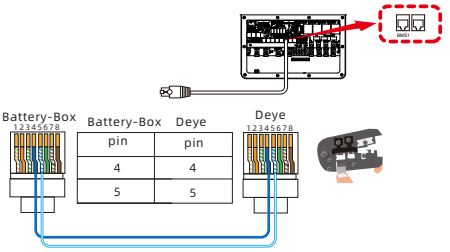
14 Solis RHI-3P(5-10)K-HVES-5G



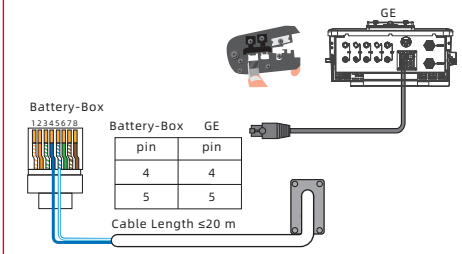
15 Solis S6-EH3P(3-10)K-H-EU/ S6-EH3P(3-10)K2-H



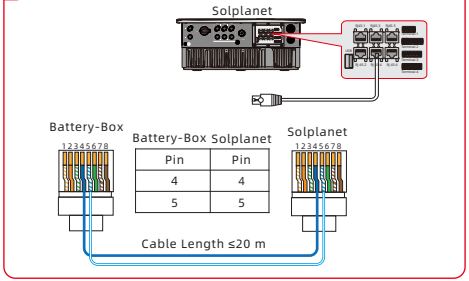
16 Deye SUN-(5-20)K-SG01HP3-EU-AM2



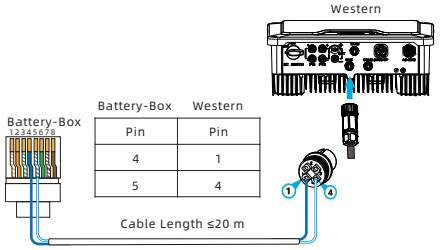
17 GE GEH 5.0/ 8.6/ 10-1U-10



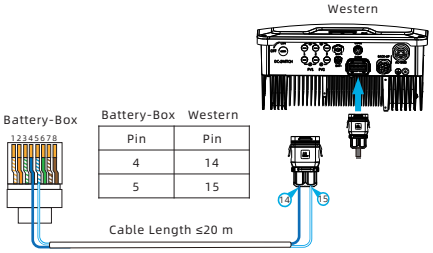
18 Solplanet



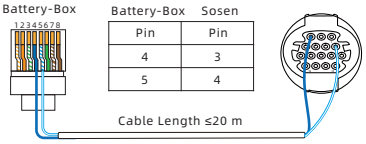
19 Western CO HHS 3000-6000/ HBS 3000-6000



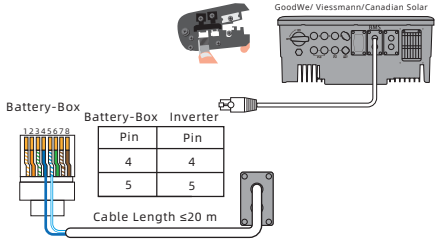
20 Western CO HHT 5000-12000/ HBT 5000-12000



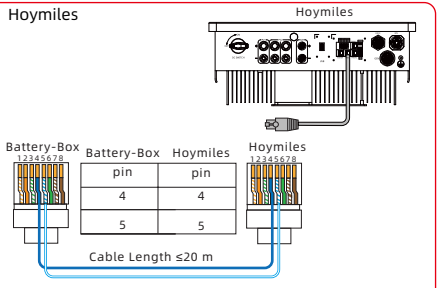
21 Sosen HI 3K-6K



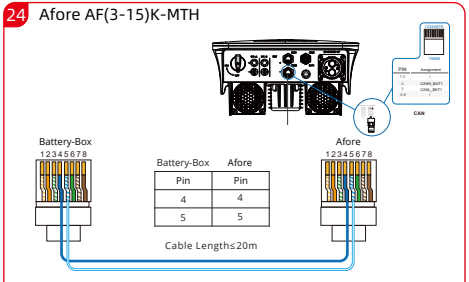
22 GoodWe/ Viessmann/ Canadian Solar



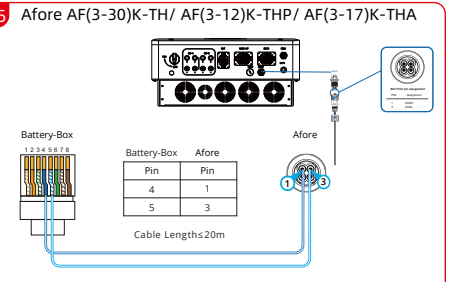
23 Hoymiles



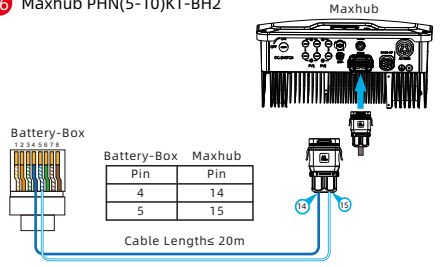
24 Afore AF(3-15)K-MTH



25 Afore AF(3-30)K-TH/ AF(3-12)K-THP/ AF(3-17)K-THA



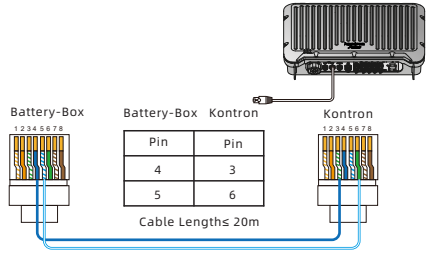
26 Maxhub PHN(5-10)KT-BH2



Battery-Box Pin	Maxhub Pin
4	14
5	15

Cable Length≤ 20m

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



Battery-Box Pin	Kontron Pin
4	3
5	6

Cable Length≤ 20m

WLAN name, password and serial number.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