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.

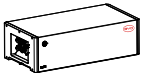
Please do not stack up batteries without protective packages when storing or handling batteries, except for installation.

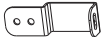
QR Code for the app.

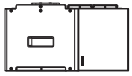
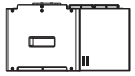
Be Connect 2.0 Google Play

Be Connect 2.0 APP Store

1. Scope of Delivery

x1	x1	x3	x1	x1	x1	x4
						
A	B	J	R	T1	T2	I
BCU	Base	M4x14 Countersunk Screw	Power Cable Coupler	6 mm² Terminal	10 mm² Terminal	Communication Connector

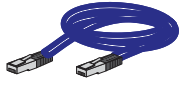
x2	x1	x2	x4	x2	x1	x1
						
D	E	F	G	H	Q	T
Hanger (BCU Part)	Documents	Hanger (Wall Part)	M5 Screw	M6 Bolt and Nut	Waterproof plug	Terminal Resistor

x1		x1
	or	
C1		C2
HVS Module		HVM Module

x2

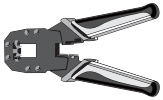
J
M4x14 Countersunk Screw

2. Additionally Required Installation Materials

x1	x1	x2	x1	x1	x1
						
K	L	M	N	O	P
DC Cable (6 or 10 mm², double insulated External diameter: 6.3-7.6 mm)	Expansion Anchor Bolt (M8x40)	Cat5e Shield (Metal Shielded RJ45 of Cat5e or higher)	PE-terminal	PE Cable* (10 mm²)	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

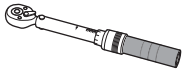


Network Wire Clamp

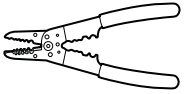
Marker

Phillips Screwdriver Bit

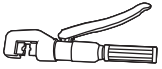
Flat-head Screwdriver



Torque Wrench

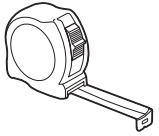


Wire Stripper



Hydraulic Plier
YQK-70

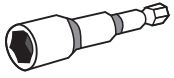
Wrench



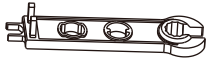
Tape Measure

Drill

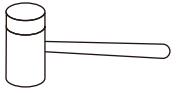
Heat Gun



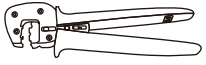
Cylinder Screwdriver



Connector Wrench



Rubber Mallet



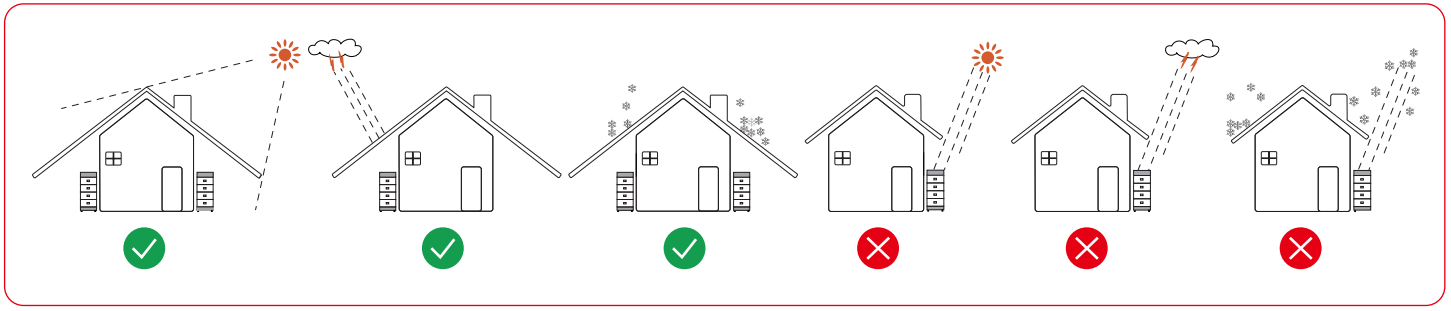
Crimping Pliers

4. Installation Location

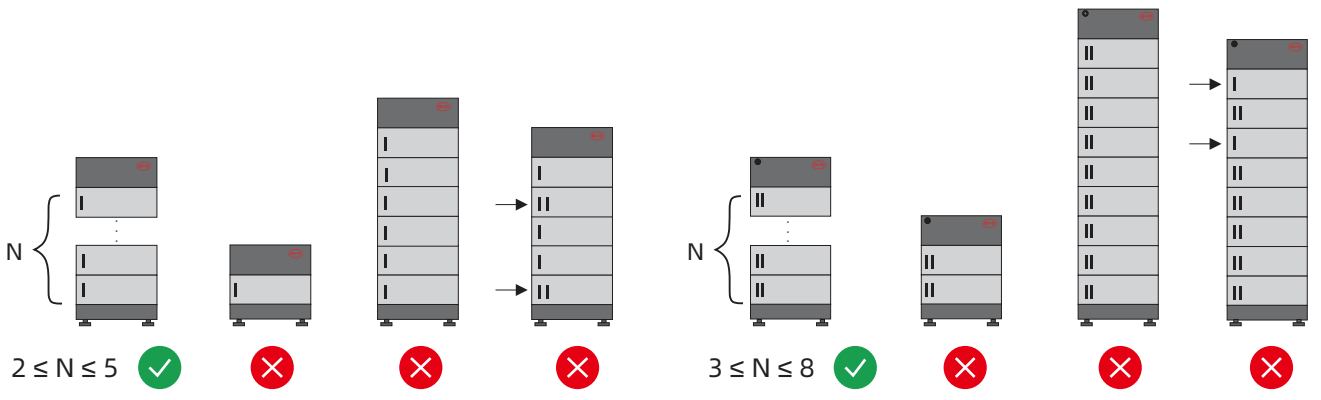
Max +50 °C

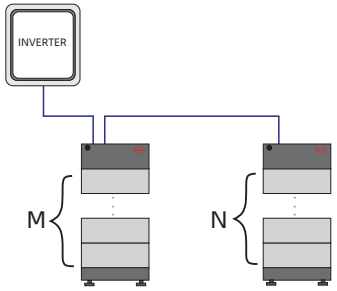
Min -10 °C

RH. +5 %~ +95 %

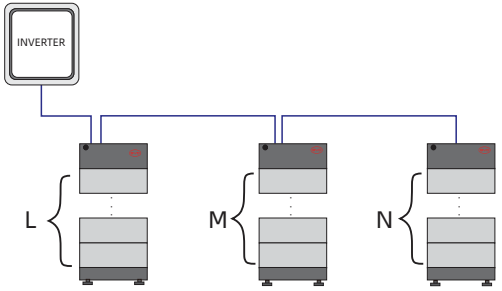


5. Connection Limitation



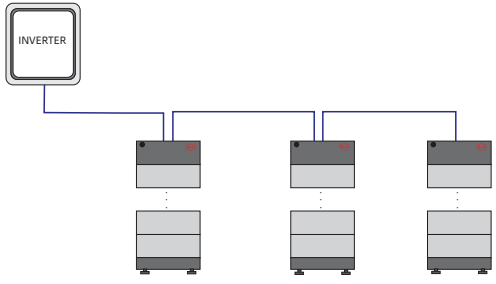


M = N

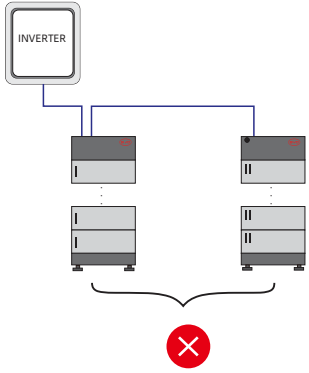


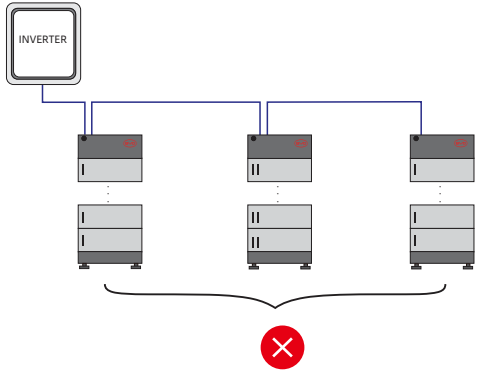
L = M = N

L ≠ M or l ≠ N or M ≠ N



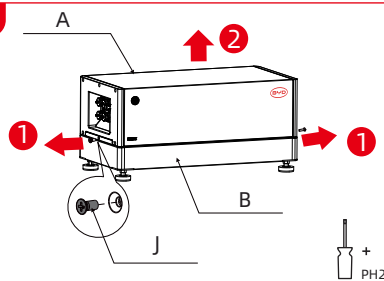
≤ 3 (Towers)





6. Installation

1



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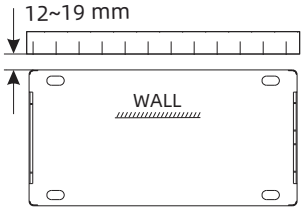

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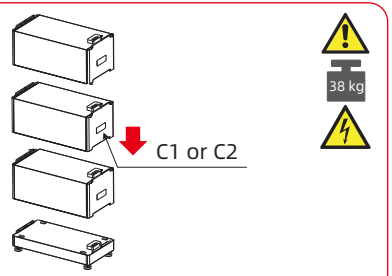

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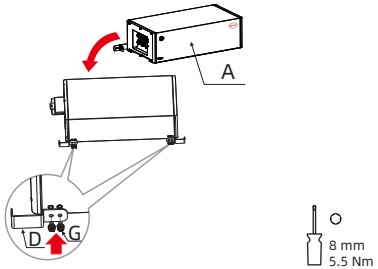

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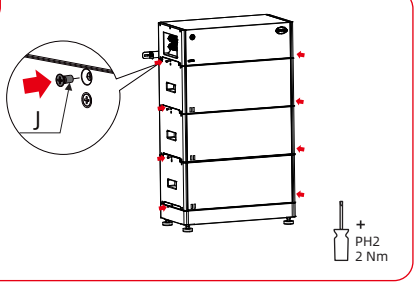

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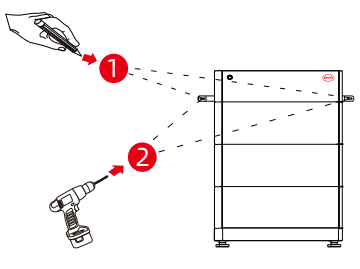

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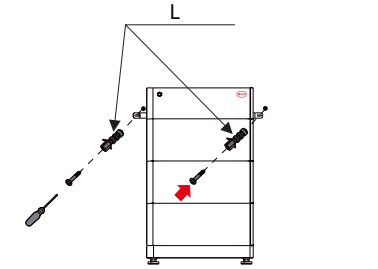

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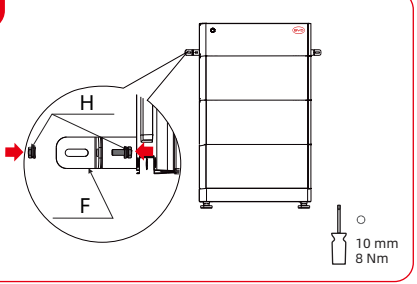

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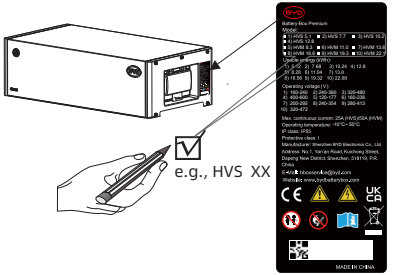
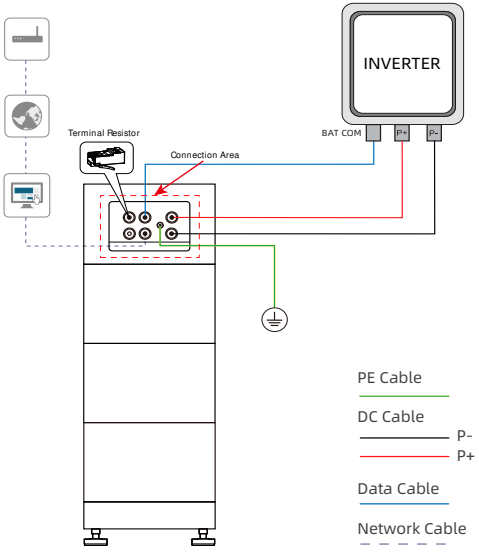


7. Connection Diagram

Single Tower

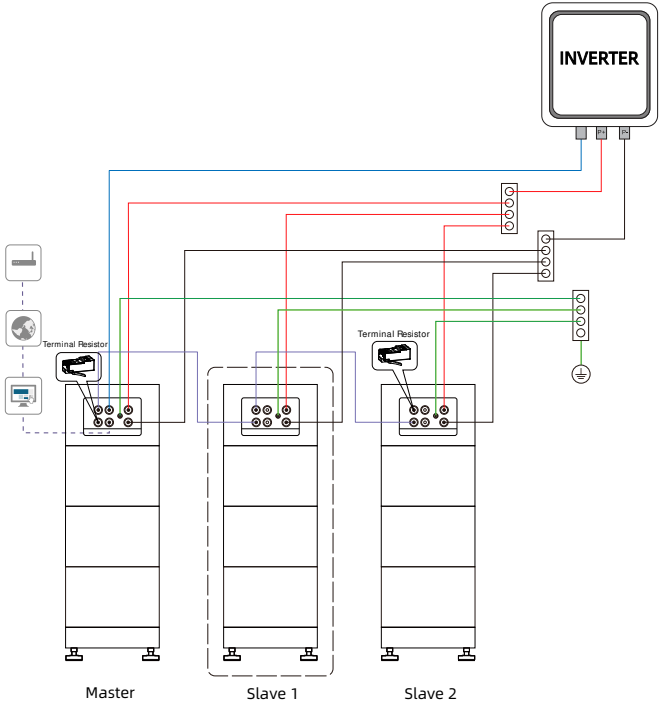


Designation of the connection Area

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

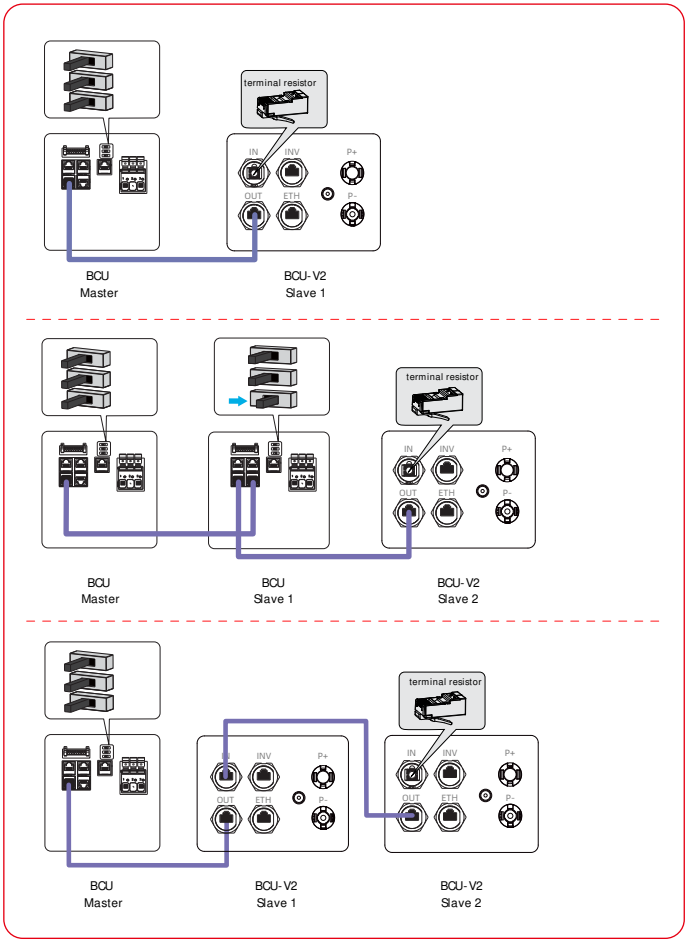
Ignore the Slave 1 in the drawing below to get the diagram of two towers



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.

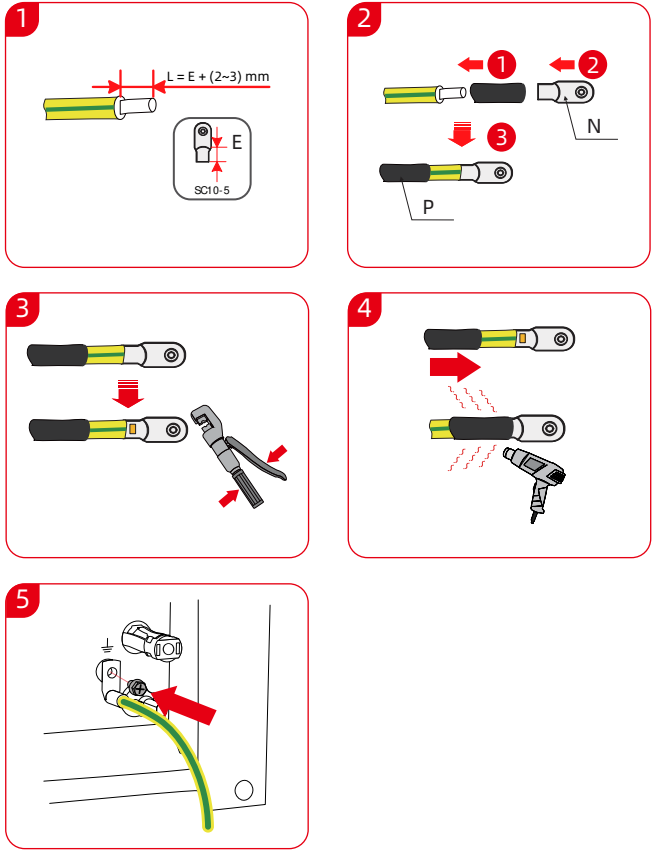
Parallel Connection - BCU and BCU-V2



8. Electrical Connections

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

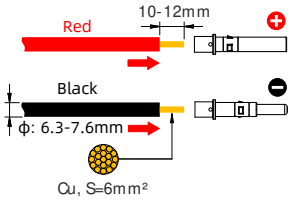
8.1 PE Connection



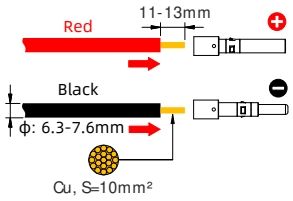
8. Electrical Connections

8.2 DC Connection

1 For 6mm² terminal



2 For 10mm² terminal



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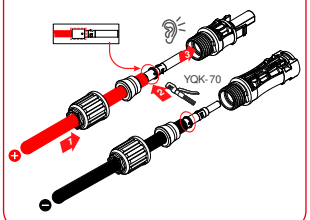

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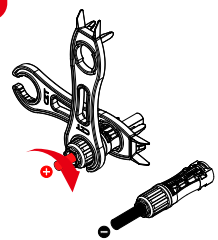

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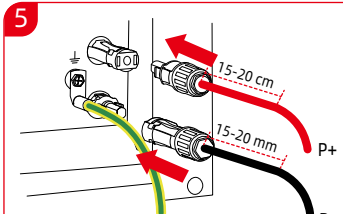
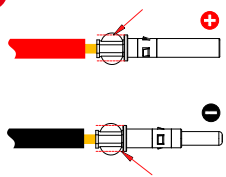


NOTICE

- 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.

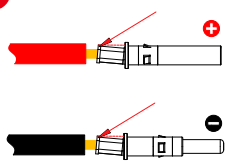
6



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.

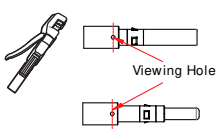
7



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.

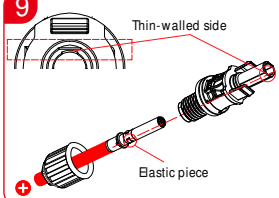
8



NOTICE

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

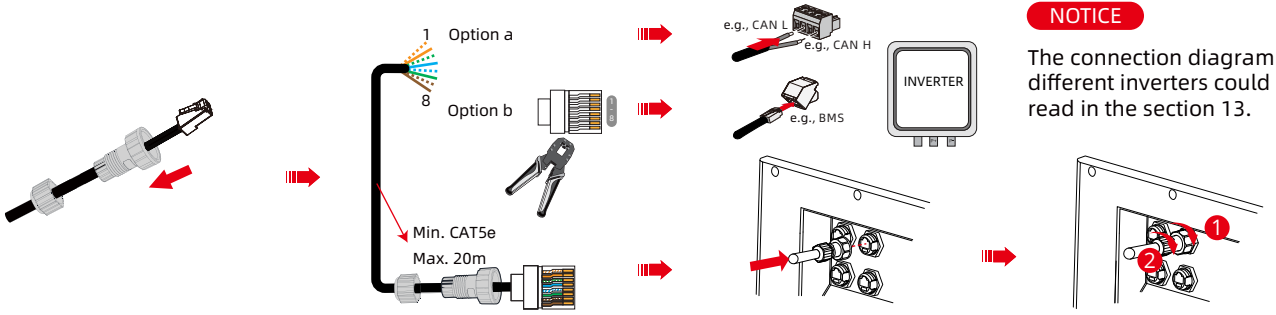
9



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.

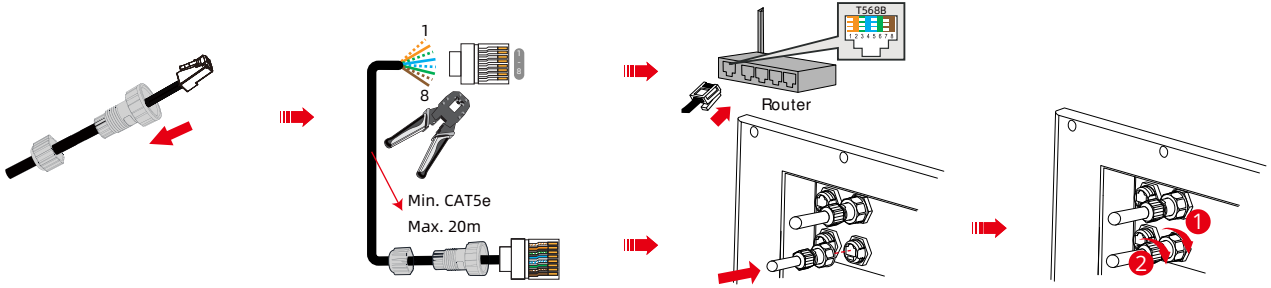
8.3 Connecting the Data Cable to an Inverter



NOTICE

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

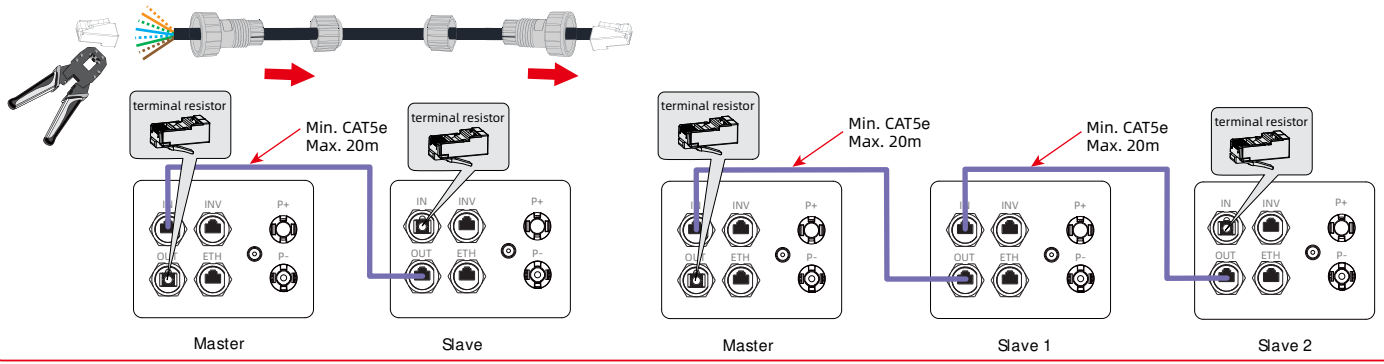
8.4 Connecting the Data Cable to a Router (It's not mandatory, but recommended)



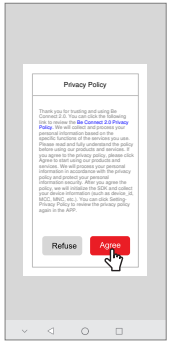
8.5 Installing the Terminal Resistor

NOTICE The unused RJ45 port needs to be covered with the built-in waterproof cover and tightened.

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.

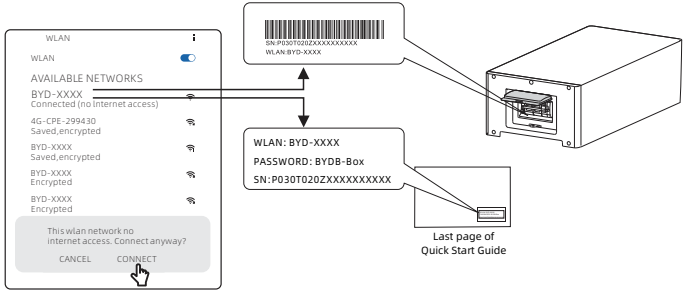


9. Configuration

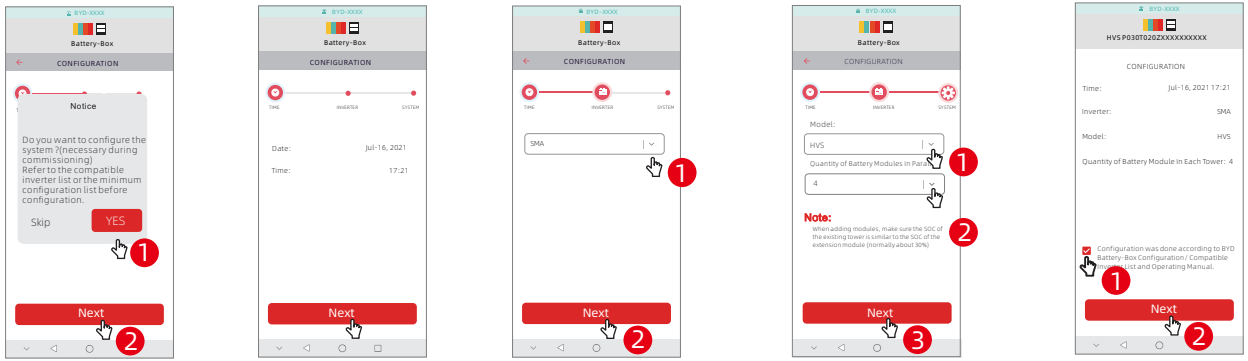


1 ▶

2 ▶

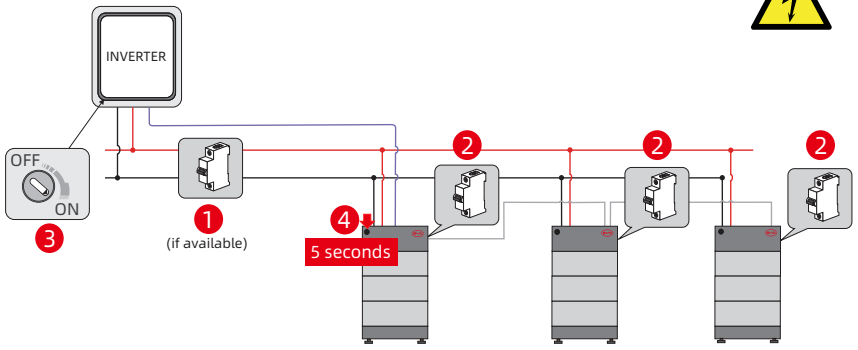


3 ▶

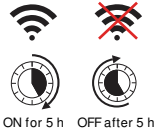


10. Switch ON/OFF Procedure

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.

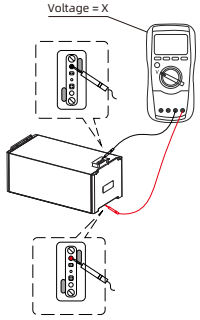


Switch On 1 → 2 → 3

Switch Off 3 → 4 → 1

11. Extension

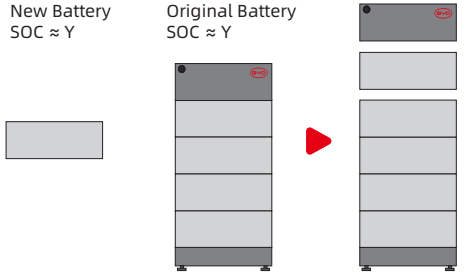
Note: Within 5 days before extension, it is recommended to fully charge the original system to SOC 100% at least once.



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

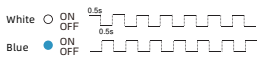
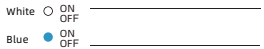
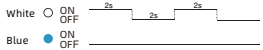
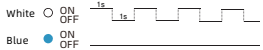
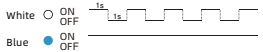
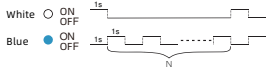
	Voltage (X)/ V	SOC (Y)
HVS	X<100.80	0~5%
	100.80≤X<103.20	5~10%
	103.20≤X<103.68	10~15%
	103.68≤X<104.54	15~20%
	104.54≤X<105.41	20~25%
	105.41≤X	25~30%
HVM	X<50.32	0~5%
	50.32≤X<51.52	5~10%
	51.52≤X<51.74	10~15%
	51.74≤X<52.24	15~20%
	52.24≤X<52.64	20~25%
	52.64≤X	25~30%

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

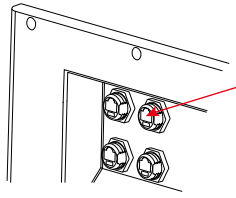


③ Charge or discharge the original battery system until the SOC is almost equal to Y, and then add the new battery module. Do not forget to do the configuration after that.

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

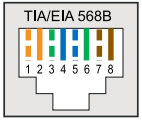


NOTICE

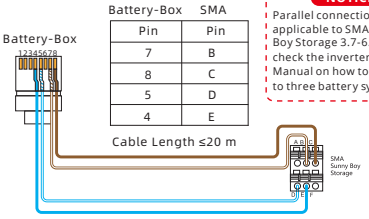
Do not crimp the unused pins when making the communication cable between the battery and the inverter.

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



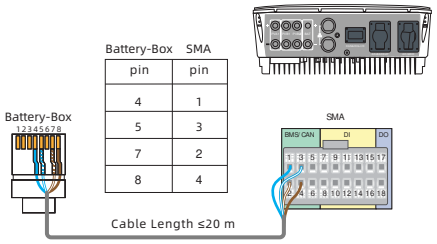
1 SMA SBS 2.5/ 3.7/ 5.0/ 6.0



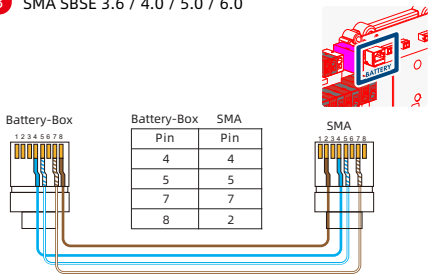
NOTICE

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.

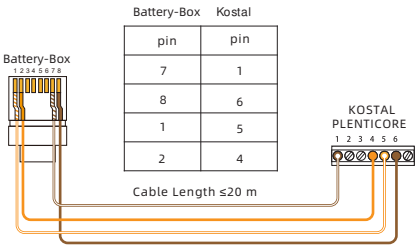
2 SMA STP 5.0-10.0 SE



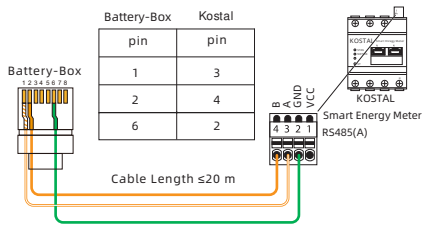
3 SMA SBSE 3.6 / 4.0 / 5.0 / 6.0



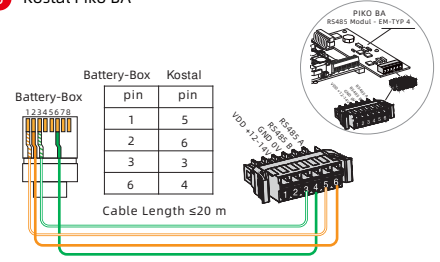
4 Kostal Plenticore Plus (G2)/ Plenticore Bl (G2)/ Plenticore G3



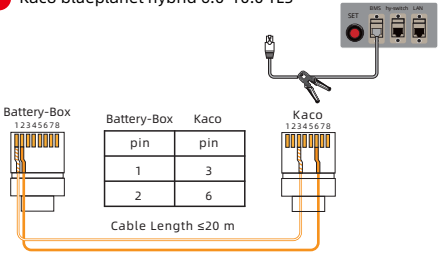
5 Kostal Piko MP Plus



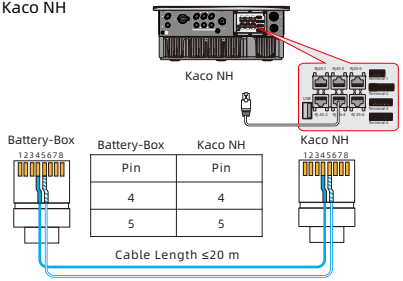
6 Kostal Piko BA



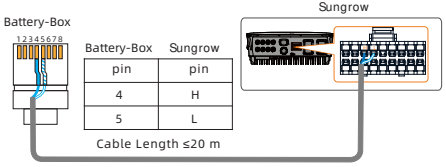
7 Kaco blueplanet hybrid 6.0-10.0 TL3



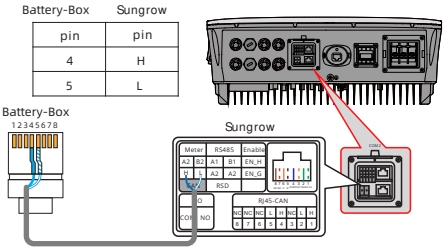
8 Kaco NH



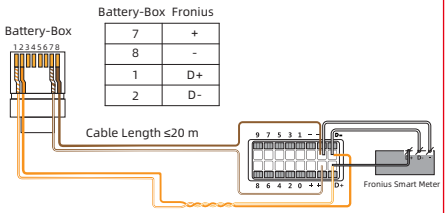
9 Sungrow SH5.0_6.0_8.0_10RT



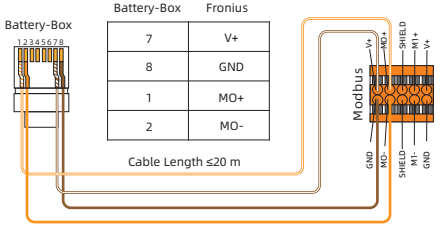
10 Sungrow SH3.0/ 3.6/ 4.0/ 5.0/ 6.0 RS



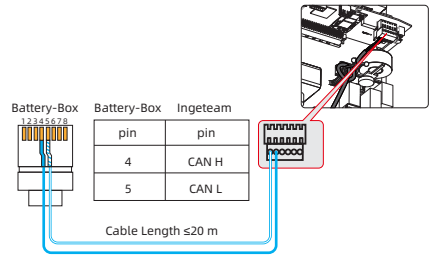
11 Fronius Symo Hybrid



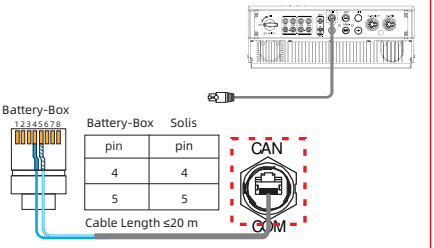
12 Fronius Primo Gen24 Plus/ Symo Gen24 Plus



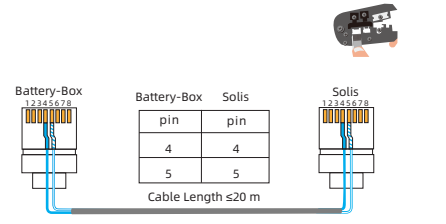
13 Ingeteam



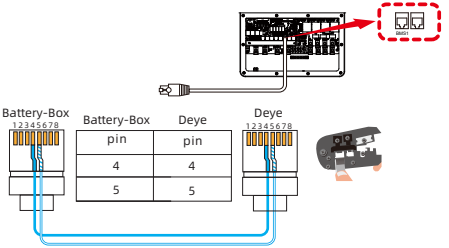
14 Solis RHI-3P(5-10)K-HVES-5G



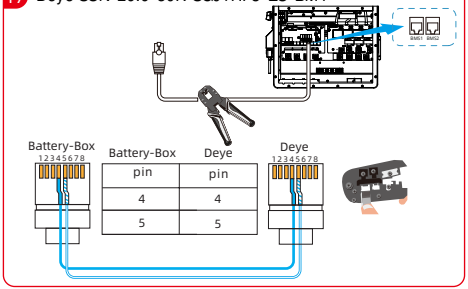
15 Solis S6-EH3P(3-10)K2-H/ S6-EH3P(3-10)K-H-EU S6-EH3P(12-20)K-H/ S6-EH3P(29.9-50)K-H



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

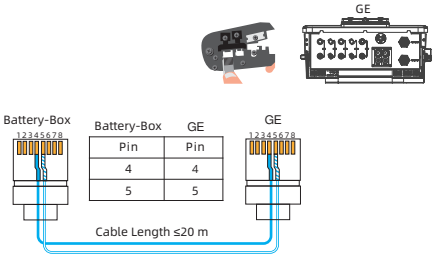


17 Deye SUN-29.9-50K-SG01HP3-EU-BM4



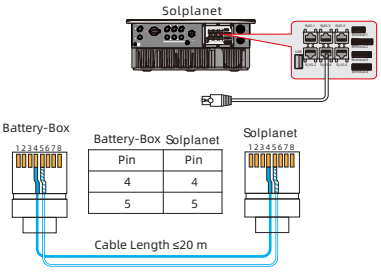
Battery-Box pin	Deye pin
4	4
5	5

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



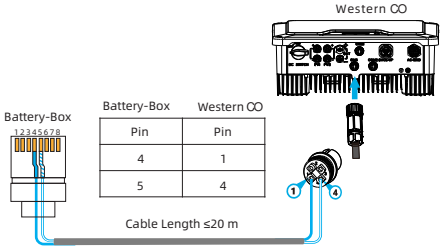
Battery-Box Pin	GE Pin
4	4
5	5

19 Solplanet



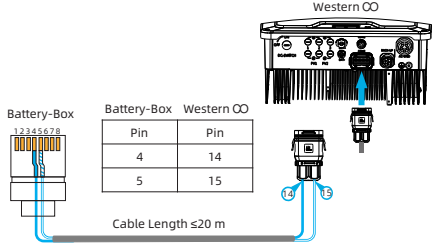
Battery-Box Pin	Solplanet Pin
4	4
5	5

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



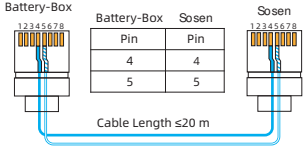
Battery-Box Pin	Western CO Pin
4	1
5	4

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



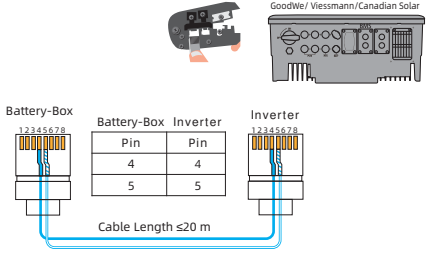
Battery-Box Pin	Western CO Pin
4	14
5	15

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



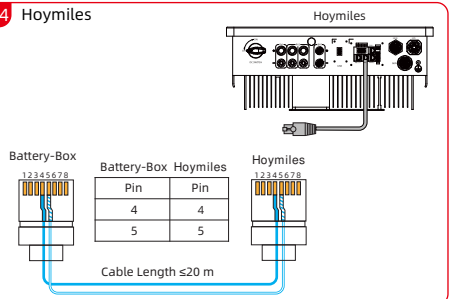
Battery-Box Pin	Sosen Pin
4	4
5	5

23 GoodWe/ Viessmann/ Canadian Solar



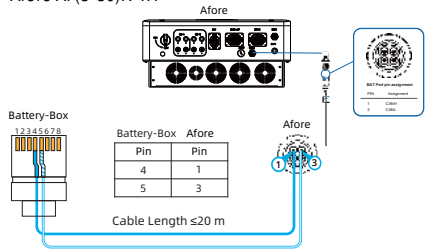
Battery-Box Pin	Inverter Pin
4	4
5	5

24 Hoymiles



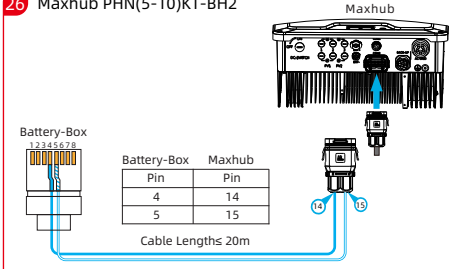
Battery-Box Pin	Hoymiles Pin
4	4
5	5

25 Afore AF(3-30)K-TH



Battery-Box Pin	Afore Pin
4	1
5	3

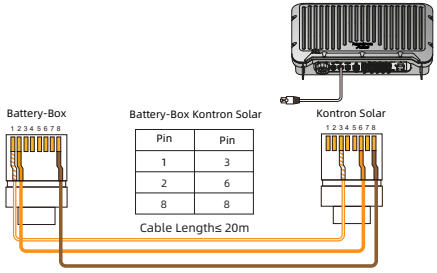
26 Maxhub PHN(5-10)KT-BH2



Battery-Box	Maxhub
Pin	Pin
4	14
5	15

Cable Length≤ 20m

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



Battery-Box Kontron Solar

Pin	Pin
1	3
2	6
8	8

Cable Length≤ 20m

WLAN name, password and serial number.

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18436134-00

Global Service BYD Company limited

bboxservice@byd.com

+ 86 755 89888888-47175

No.3009, BYD Road, Pingshan, Shenzhen, 518118, P. R. China

www.bydbatterybox.com

Europe EFT-Systems GmbH

service@eft-systems.de

+ 49 9352 8523999 / +44 (0) 2037695998(UK)
+34 91 060 22 67(ES) / +39 02 87368364(IT)

Bruchtannenstr. 28, 63801 Kleinostheim, Germany

www.eft-systems.de

Australia Alps Power Pty Ltd

service@alpspower.com.au

+ 61 2 8005 6688

2/62 Belmore Road, Riverwood, NSW 2210

www.alpspower.com.au