



BYD Battery-Box LV Installation Guidance

Battery-Box L 3.5/7.0/10.5/14.0

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1 Safety

This section contains safety information that must be observed at all times when working on or with batteries. To prevent personal injury or property damage and to ensure long-term operation of the batteries, read this section carefully and observe all safety information at all times.

For installation, it must be installed in a location complying with IP55 regulation. If the Installation location does not comply with IP55, this may cause product failure and it will not be guaranteed for any related accident or damage.

1.1 Danger

Please cut off the power supply and turn off the battery in emergency. For example, when there is an emergency such as smoke, fire, burning, explosion, etc.

1.2 Warming

- a) When increase battery, power off the battery and other power input first.
- b) Disconnect battery from power and load, then power off battery before installation and maintenance.
- c) Continuous operation on a damaged battery can result in dangerous situation that may cause severe injury due to electrical shock.
- d) Can't use the deformation of the battery.
- e) By checking to verify the installation Settings are correct.

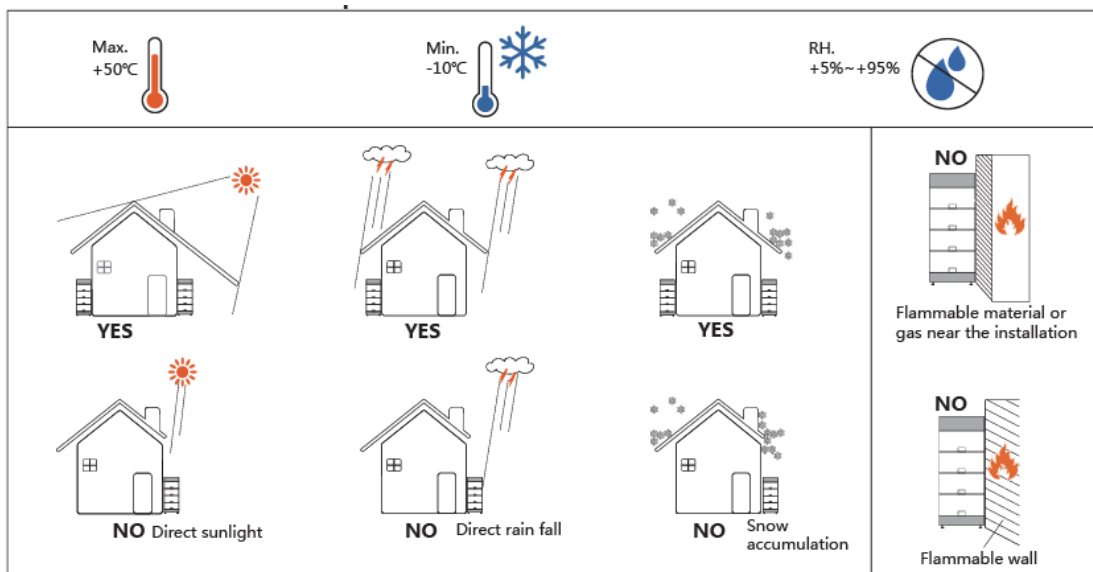
1.3 Caution

- a) Do not disassemble the battery.
- b) Do not touch the battery pack with wet hands.
- c) Do not crush, drop or puncture the battery.
- d) Always dispose according to local safety regulations.
- e) Store and recharge battery according to user manual strictly.
- f) Ensure reliable grounding.
- g) Do not reverse polarity
- h) Do not short circuit the terminals, remove all jewelry items that could product a short circuit.
- i) Do not stack up batteries without package.
- j) The packed batteries are not allowed to be stacked up more than specified layers stipulated on the package.
- k) After installation, if the system cannot work properly, please contact the after-sales service personnel. If it still cannot be solved, make sure to turn off the Battery-Box before you leave the site.

1.4 Environmental and transport requirement

- a) Do not expose the battery to temperature above 50°C.
- b) Do not place the battery near any heat sources and avoid sparks.
- c) Do not expose the battery to moisture or liquids.
- d) Stay away from corrosive gases and liquids, as well as radiation.
- e) Do not expose the battery to direct sunlight.
- f) Place battery in secure location away from children and animals.
- g) Do not allow the battery power terminals to touch conductive objects such as wires.
- h) The installation should be clean、flat、 dry. Not be installed in damp situations ,including:
 - ☛ Baths, showers and other fixed water containers
 - ☛Swimming pools, paddling pools and spa pools or tubs
 - ☛Fountains and water features
 - ☛Saunas
 - ☛Refrigeration rooms
 - ☛Sanitization and general hosing-down operations
- i) The Battery-Box LV system can be installed at altitudes of up to 2000m above Mean Sea Level.
- j) The product installation location should be reserved for 0.9m safe passage distance.
- k) Due to the heavy weight of Battery-Box L 3.5-14.0, please use strong packaging and safety protection equipment during transportation, to ensure safety and avoid accidental damage. Please handle with care.
- l) In the process of transportation and storage, the goods are not allowed to be stacked in layers or at a height greater than specified.

Temperature and humidity



1.5 Notice

Skilled personnel recognized

This manual and the tasks and procedures described herein are intended 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:

- a) Knowledge of the function principles and operation of on-grid systems.
- b) Knowledge of the dangers and risks associated with installing and using electrical devices and acceptable mitigation methods.
- c) Knowledge of the installation of electrical devices
- d) Knowledge of and adherence to this manual and all safety precautions and best practices.

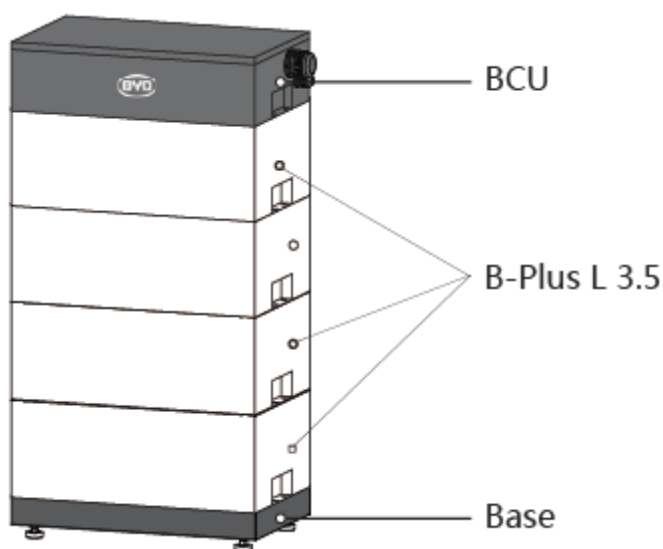
2. Information

2.1 Product profile

This user manual introduces the BYD Battery-Box LV product information, using guidance, safety, common issues and actions.

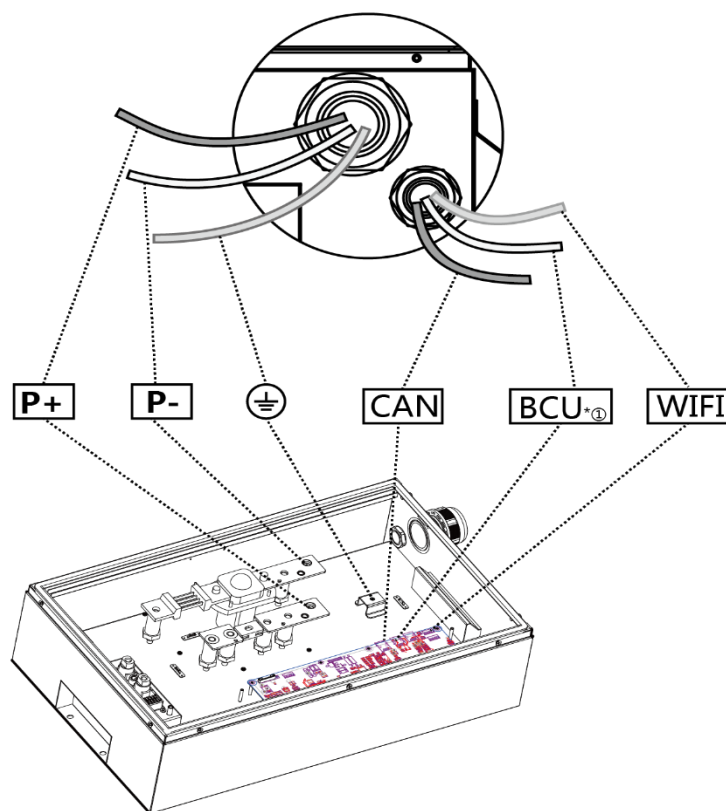
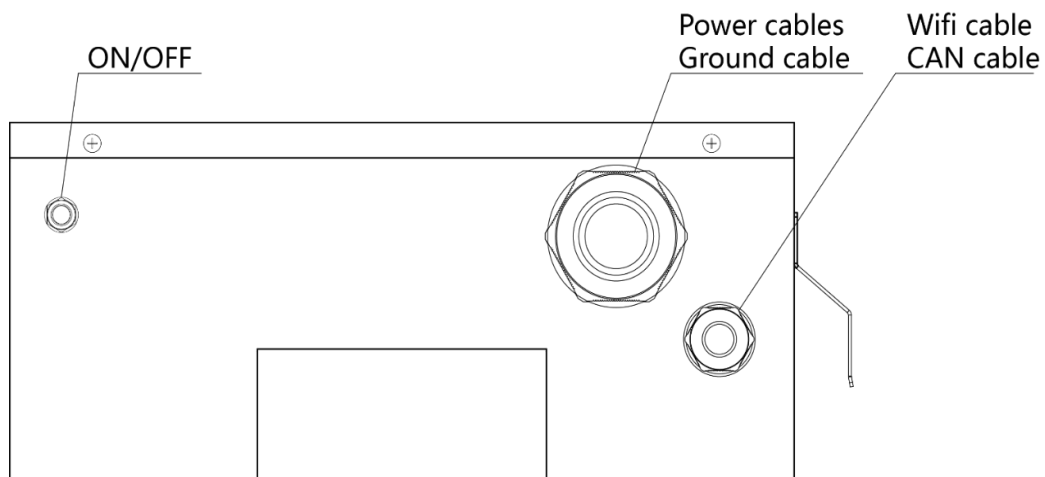
The BYD Battery-Box LV is an energy storage unit that can be used in On-grid system for commercial & residential application.

2.2 Appearance dimension



2.2.1 BCU Introduction

The battery management and control part, which contains BCU and charge-discharge relay, and connected to the battery modules underneath and to inverter or BMU above.

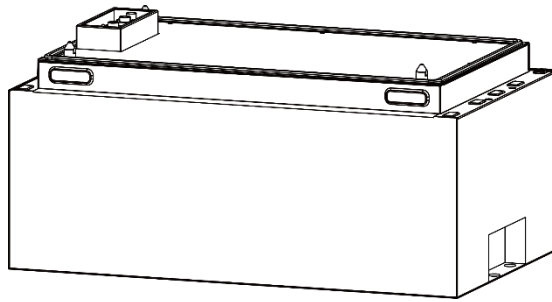


*^①Used in parallel with BCU

Definition of BCU Functional Interfaces

2.2.2 Description of B-Plus L 3.5 Interface and Terminal

The battery module provides energy and sends the information about the cell voltage and cell temperature in the battery module to the upper-layer BCU.



3. Installation

- a) Wear appropriate labor protection products before installation.
- b) The connecting cables for installing batteries shall be as short as possible, to prevent excessive voltage drop.
- c) Batteries of different capacity, different P/N or from different manufacturers cannot be connected.
- d) After installation, make sure power cables and communication cables, grounding cables, etc. are properly connected according to the installation manual.
- e) The installation place shall be on a flat ground, without accumulated water.

3.1 Preparation

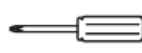
3.1.1 Tools



Wire clamp



socket spanner



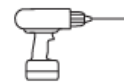
Phillips screwdriver



levelling instrument



wrench



churn drill

3.1.2 Personal protective equipment



Insulated gloves



Safety shoes

3.2 Delivery contents

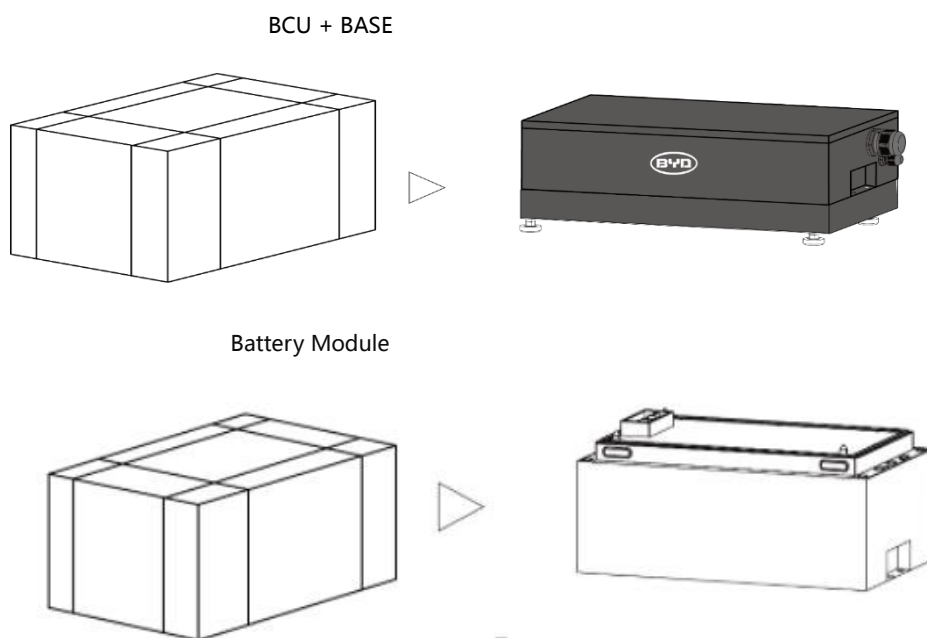
Type	3.5KWh	7.0 KWh	10.5 KWh	14.0KWh
BCU + Base	1	1	1	1
B-Plus L3.5	1	2	3	4
User manual	1	1	1	1
QUICK REFERENCE GUIDE	1	1	1	1

Packing of BCU + Base						
cross screw			pylons	expansion bolt	PG connector	WIFI module
M6*6	M8*3	M10*3	1	5	2	1

Packing of B-plus L 3.5	
cross screw	6

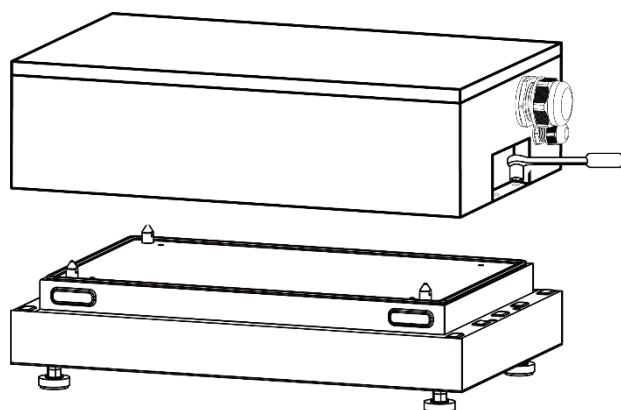
3.3 Installation steps

3.3.1 Unpacking



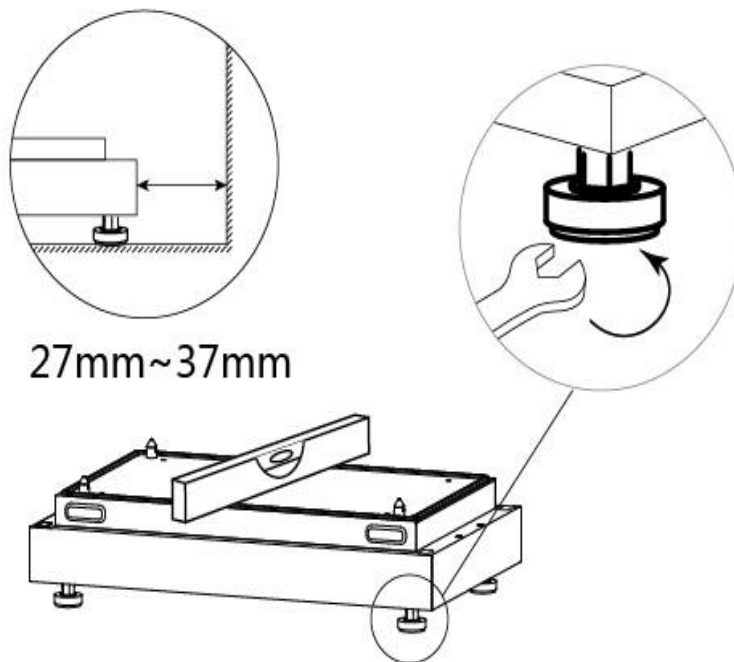
3.3.2 Level

- a) Separate BCU and base



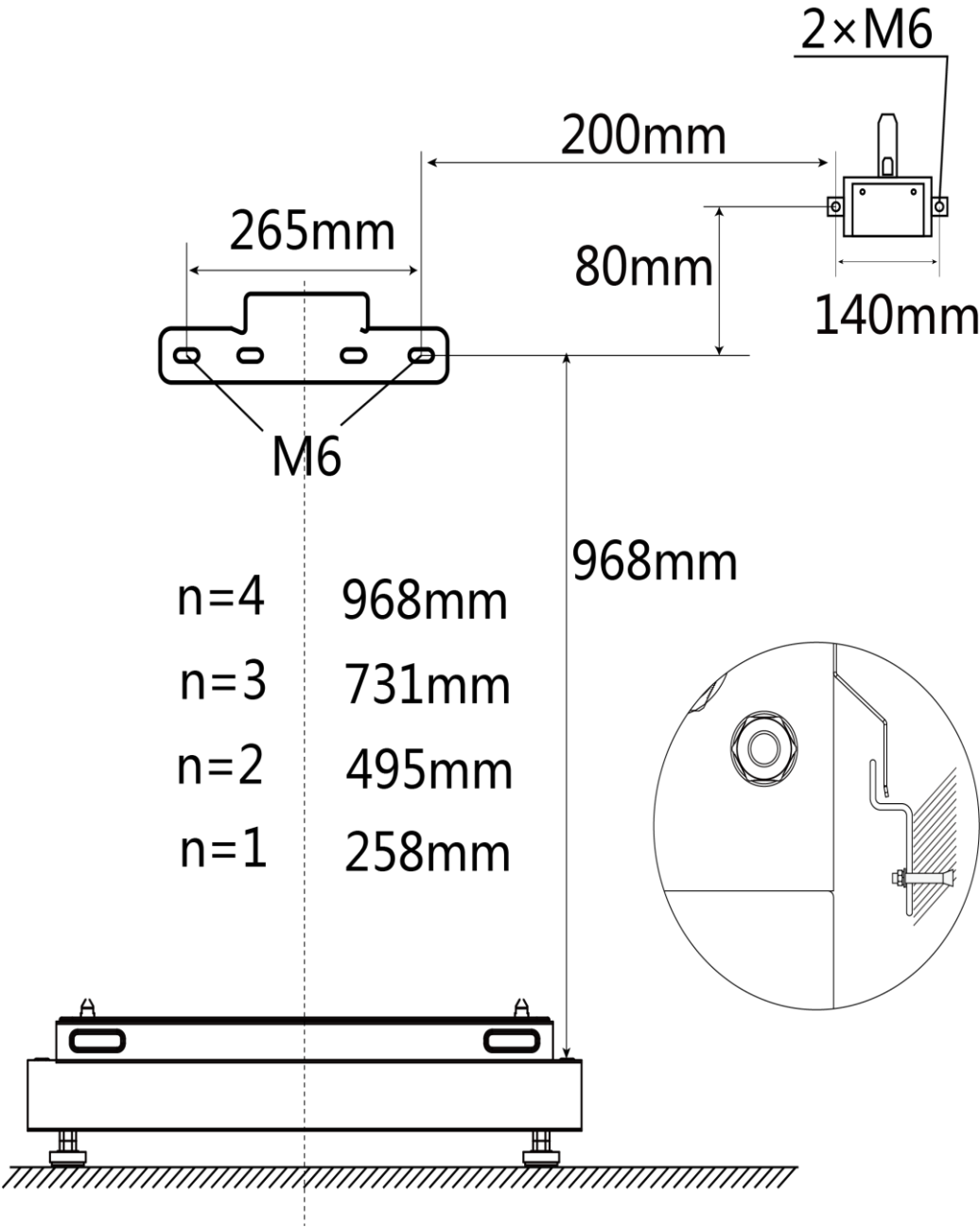
- b) Adjust the level of the base

The base is placed against the wall, and the distance between the base and the wall is 27-37mm.

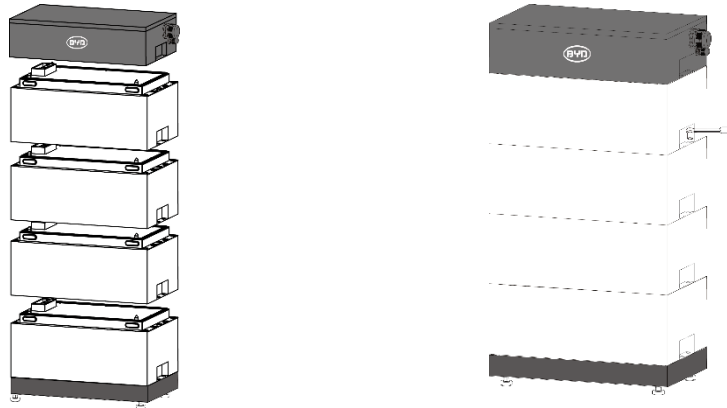


3.3.3 Mounting Rack

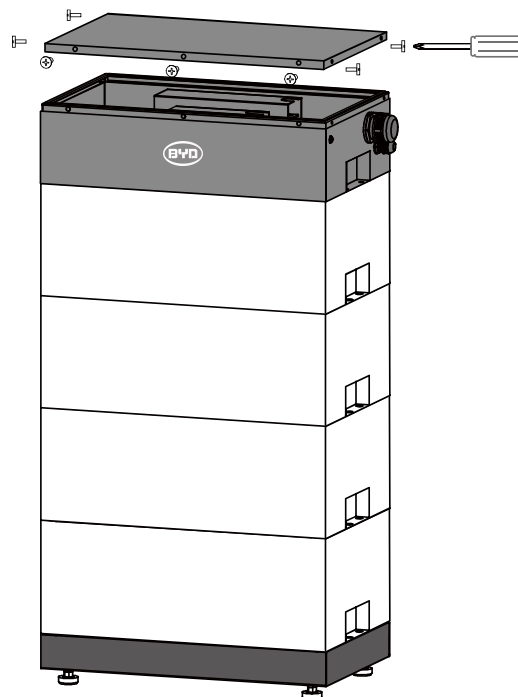
Install the hanger in the middle of the top of the base. The installation location is as shown in the figure.



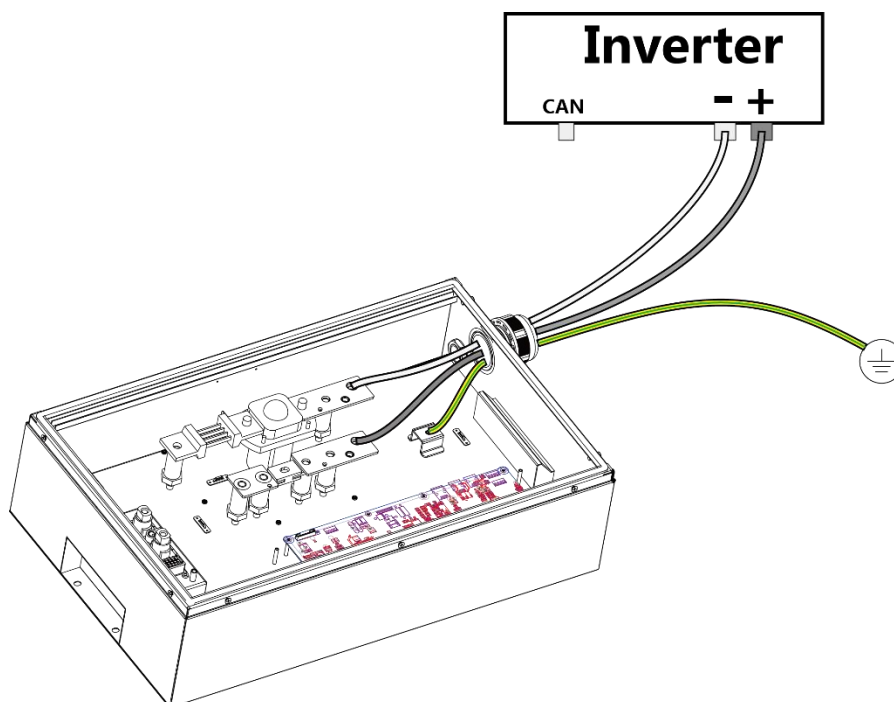
3.3.4 Battery Module Installation



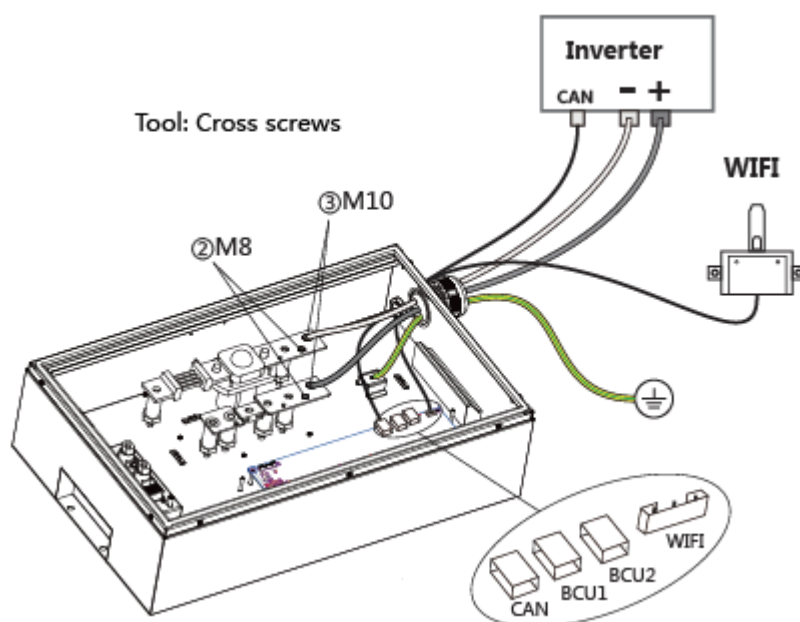
3.3.5 Open the BCU Cover



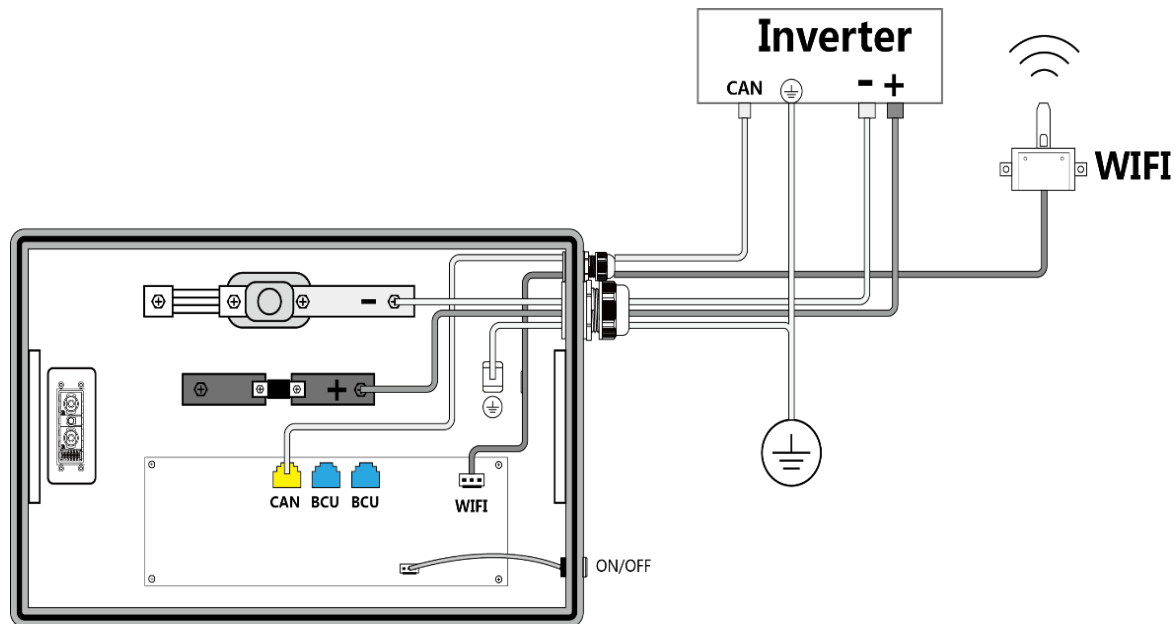
3.3.6 Power Cables & Ground Cable Connection



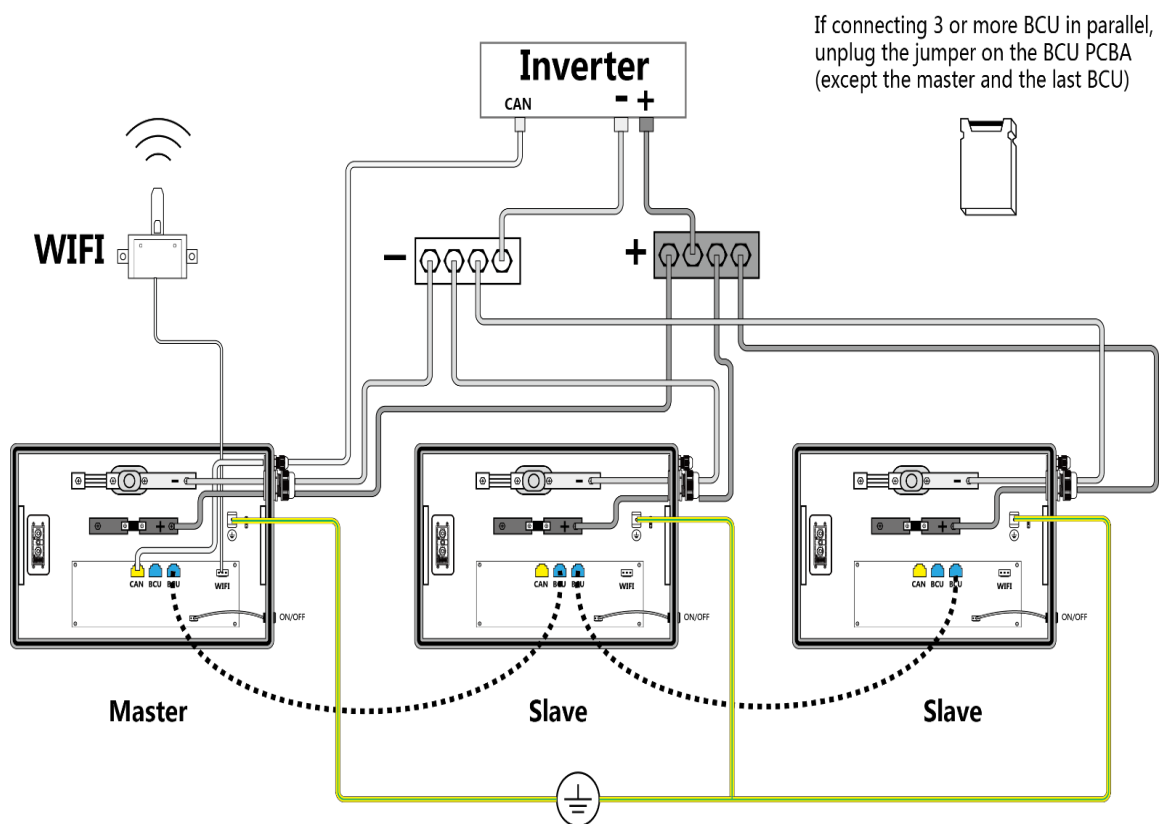
3.3.7 Communication Cable & WIFI Cable Connection



3.3.8 Installation Complete for Single System



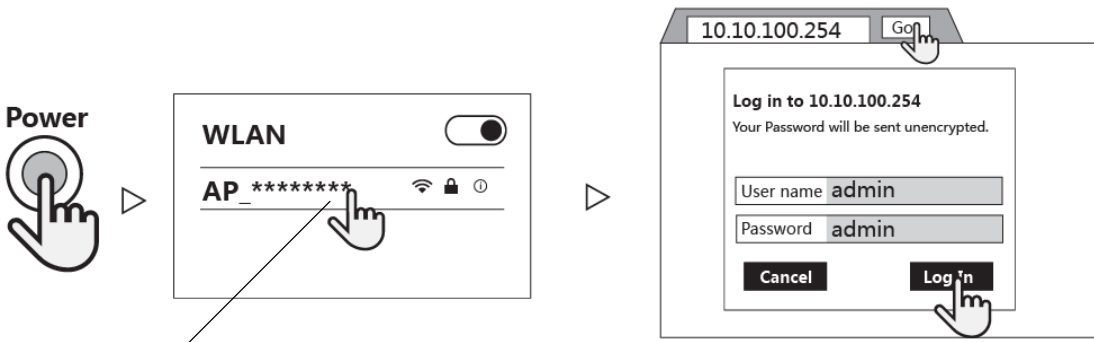
3.3.9 Installation Complete For Parallel System Connection



3.3.10 WIFI Setting

3.3.10.1 Login

You can use a computer, mobile phone or IPAD to set up and configure;

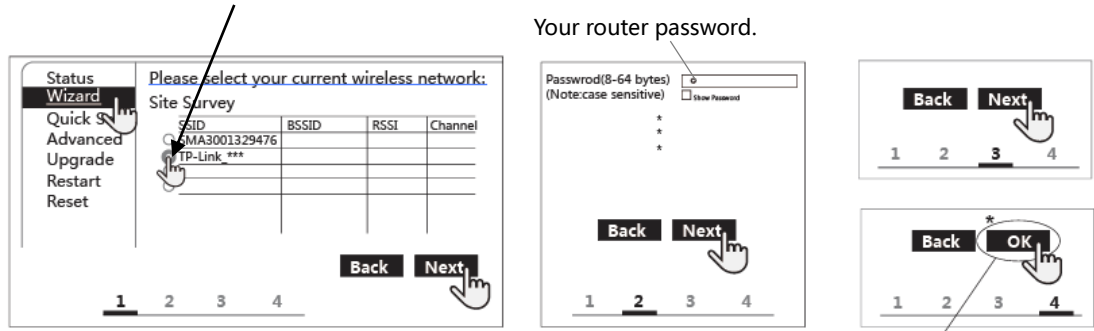


This number is the same as the S/N on the WIFI nameplate. No password is needed here.

3.3.10.2 Configure the Network

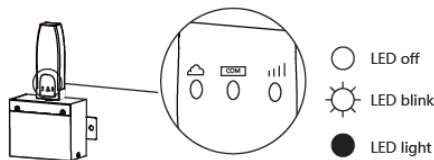
Steps: Login>Wizard

Please select your current wireless network:



*After clicking "OK", you need to wait for 15 seconds to close the webpage. Otherwise, the configuration is unsuccessful. Need to reconfigure.

3.3.10.3 WIFI Status indicator



LED Status	Meaning	Disposal measures
	Successful network configuration.	
	Network configuration is unsuccessful.	Reconfigure the network. Confirm network password
	Normal communication between antenna and BCU.	
	Communication between antenna and BCU is abnormal.	Check the connection of WIFI and BCU Replace WIFI components.
	WIFI antenna is working properly.	
	WIFI antenna failure.	Replace WIFI components.

4 Checking list

4.1 Check the Battery-Box

Task	Check
Positive cable	<input type="checkbox"/>
Negative cable	<input type="checkbox"/>
Ground cable	<input type="checkbox"/>
CAN cable	<input type="checkbox"/>
WIFI cable	<input type="checkbox"/>
Jumper(*Check this in parallel with three sets)	<input type="checkbox"/>
Screw(Battery Module; BCU, Positive, Negative and Ground cable)	<input type="checkbox"/>
Process the WIFI connection, and the WIFI LED light is steady ON	<input type="checkbox"/>
The BCU LED light is working normally	<input type="checkbox"/>

4.2 Check the inverter

Task	Check
Positive cable	<input type="checkbox"/>
Negative cable	<input type="checkbox"/>
Ground cable	<input type="checkbox"/>

CAN cable	<input type="checkbox"/>
Battery related parameter Settings	<input type="checkbox"/>

*The above inspection is only related to battery. For other inspection, please refer to the inverter related manual

5 RUN

5.1 Turn on the Battery-Box system

Press the switch with your finger for about one second.

5.2 Turn off the Battery-Box system

Press the switch with your finger for about 3 to 5 seconds.

5.3 System and WIFI Status indicator

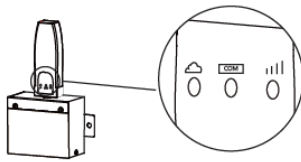
5.3.1 System status indicator

ON/OFF



	Diagram	Status	Meaning
1		White blink slow	Charging
2		White blink fast	Discharging
3		White always ON	Idle
4		White blink very slow	Idle
5		Orange blink 2 times	System WIFI is lost
6		Orange blink 3 times	Loss of inverter communication
7		Orange blink 4 times	Lost slave CAN communication
8		White blink 5 times	Uncalibrated

5.3.2 WIFI status indicator



- LED off
- ◐ LED blink
- LED light

LED Status	Meaning	Disposal measures
	Successful network configuration.	
	Network configuration is unsuccessful.	Reconfigure the network. Confirm network password
	Normal communication between antenna and BCU.	
	Communication between antenna and BCU is abnormal.	Check the connection of WIFI and BCU. Replace WIFI components.
	WIFI antenna is working properly.	
	WIFI antenna failure.	Replace WIFI components.

*If the WIFI doesn't work properly, the system won't work properly

6 Update the firmware

6.1 Down load the firmware

- a) www.eft-systems.de (Support->Downloads)
- b) <http://alpspower.com.au/download>

6.2 Update

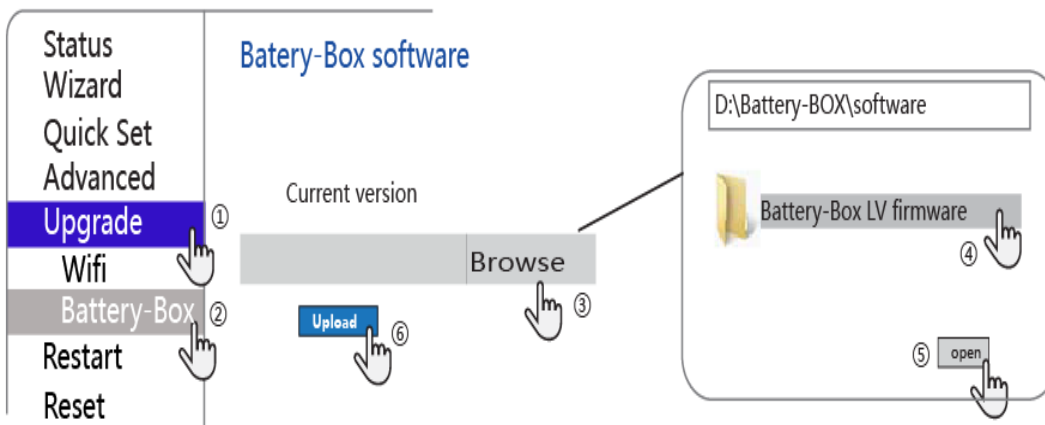
6.2.1 Update methods

- a) WIFI local connection update : (The installer is advised to use this method)
- b) Update through the upper computer software: (After - sales service providers are advised to use this method)
- c) BYD remote update: (WIFI needs to be configured successfully)

6.2.2 Update

Method 1: WIFI local connection update

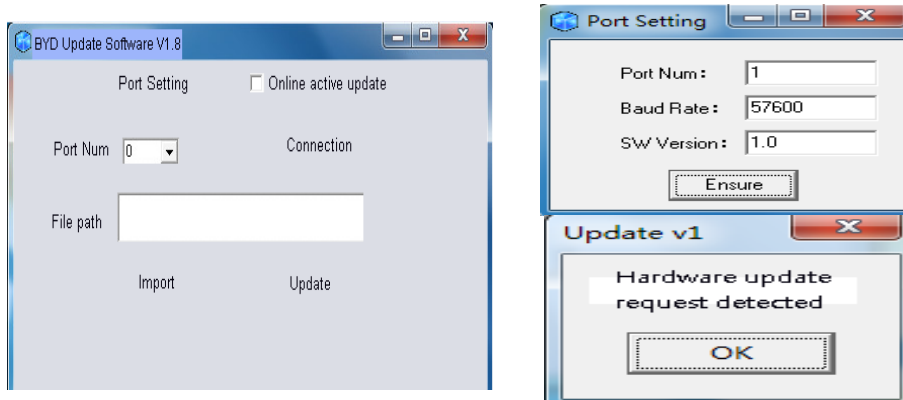
Steps: Search AP*****>Enter IP (10.10.100.254)>Login>Upgrade>Battery-Box.



"Upgrade>WIFI" It is for Update WIFI, You don't have to do it.

Method 2: The adapter is connected and updated with bit machine software

*Tools: Computer、RS485 converter(USB transfer 485)



*At present, the upper computer software for the Chinese interface. *This is the upper computer interface after translation.

*Adjust serial port number according to client computer.

*Baud rate please enter 57600.

Software update operation procedures:

1*Online active update Steps: Battery on> Port Setting> Online active update> connection> OK> Import> update

2.*Passive update Steps: Battery off>Port Setting>OK>Import>update

Method 3: BYD remote update

After a successful network configuration, BYD can update it remotely if necessary.

7 Compatible Inverter List

To make sure that the system can works normally, please use BYD compatible inverter and select battery quantity correctly based on the "Minimum Configuration with Different Brands of Inverters" in Appendix 2 in this user manual.

8 Common Issues and Solutions

8.1 Common Issues of BYD Battery-Box LV and Solutions

Issue Description	Possible causes	Solution
Contactor disconnected	<ol style="list-style-type: none"> 1. Battery voltage is too low 2. Battery voltage is too high 3. Battery temperature is too high 4. Battery current is too high 5. Other hardware failures. 	Please contact our after-service provider immediately.

User also can monitor the running status of battery, warning and alarm information from App or LED display of inverter.

8.2 Emergency

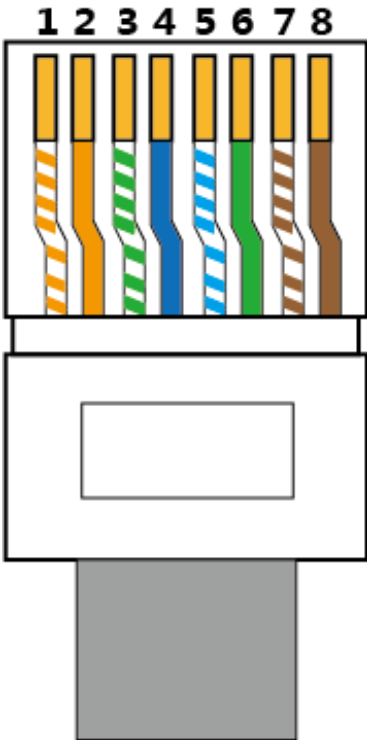
Please cut off the power supply and turn off the battery in emergency. Contact our after-service provider immediately

Appendix

1. CAN interface definition of BMU & inverter

RJ45 PIN define

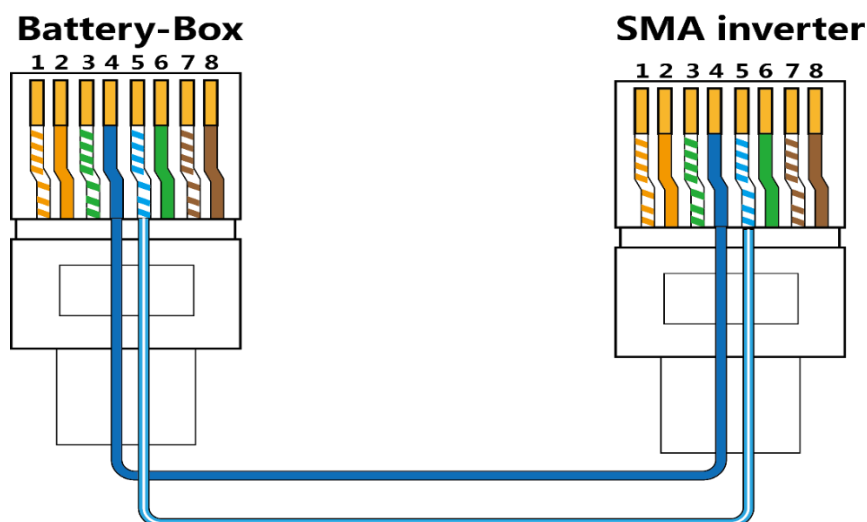
	Battery-Box	SMA	GOODWE	VICTRON	SUNGROW
CAN H	4	4	4	7	5
CAN L	5	5	5	8	4



2. Minimum configuration table and List of matched inverters

2.1 SMA

2.1.1 Connection with SMA



2.1.2 Minimum configuration with SMA Sunny Island inverter

Inverter Firmware version: minimum required firmware version for SI is V1.73.

BYD Battery-Box LV firmware version: minimum required firmware version for BCU is V1.0.

1 Phase on Grid (Self consumption)

Inverter Type	B-Plus L 3.5	BCU
SI 3.0M	≥1	≥1
SI 4.4M	≥1	≥1
SI 6.0H	≥1	≥1
SI 8.0H	≥1	≥1

3 Phase on Grid (Self consumption)

Inverter Type	B-Plus L 3.5	BCU
SI 3.0M	≥2	≥1
SI 4.4M	≥3	≥1
SI 6.0H	≥3	≥1
SI 8.0H	≥3	≥1

1 Phase on grid(Self consumption + back up)

Inverter Type	B-Plus L 3.5	BCU
SI 3.0M	≥2	≥1
SI 4.4M	≥3	≥1
SI 6.0H	≥4	≥1
SI 8.0H	≥4	≥1

3 Phase on grid(Self consumption + back up)

Inverter Type	B-Plus L 3.5	BCU
SI 3.0M	≥5	≥2
SI 4.4M	≥6	≥2
SI 6.0H	≥10	≥3

SI 8.0H

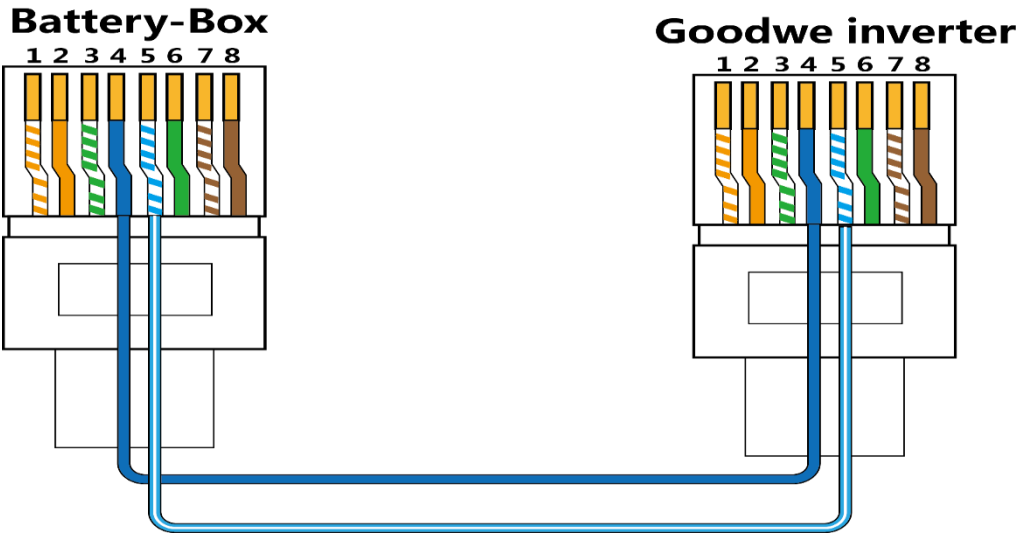
≥11

≥3

Remark: Maximum quantity of B-Plus L 3.5 is 12, BCU quantity is 3.

2.2 GOODWE

2.2.1 Connection with GOODWE



2.2.2 Minimum Configuration with GOODWE Inverter

2.2.2.1 Minimum Configuration with ES

Inverter Firmware version: minimum required firmware version for ARM is 03.

BYD Battery-Box LV firmware version: minimum required firmware version for BCU is V1.0.

1 Phase on Grid (Self consumption)

Inverter Type	B-Plus L 3.5	BCU
GW3648D-ES	≥1	≥1
GW5048D-ES	≥1	≥1

1 Phase back up(Self consumption + back up)

Inverter Type	B-Plus L 3.5	BCU
GW3648D-ES	≥2	≥1
GW5048D-ES	≥3	≥1

Remark: Maximum quantity of B-Plus L 3.5 is 12, BCU quantity is 3.

2.2.2.2 Minimum Configuration with EM

Inverter Firmware version: minimum required firmware version for ARM is 03.

BYD Battery-Box LV firmware version: minimum required firmware version for BCU is V1.0.

1 Phase on Grid(Self consumption)

Inverter Type	B-Plus L 3.5	BCU
GW3048-EM	≥1	≥1
GW3648-EM	≥1	≥1
GW5048-EM	≥1	≥1

1 Phase on grid(Self consumption + back up)

Inverter Type	B-Plus L 3.5	BCU
GW3048-EM	≥1	≥1
GW3648-EM	≥1	≥1
GW5048-EM	≥1	≥1

Remark: Maximum quantity of B-Plus L 3.5 is 12, BCU quantity is 3.

2.2.2.3 Minimum Configuration with SBP

Inverter Firmware version: minimum required firmware version for ARM is 03.

BYD Battery Box LV firmware version: minimum required firmware version for BCU is V1.0.

1 Phase on Grid(Self consumption)

Inverter Type	B-Plus L 3.5	BCU
GW3600S-BP	≥1	≥1
GW5000S-BP	≥1	≥1

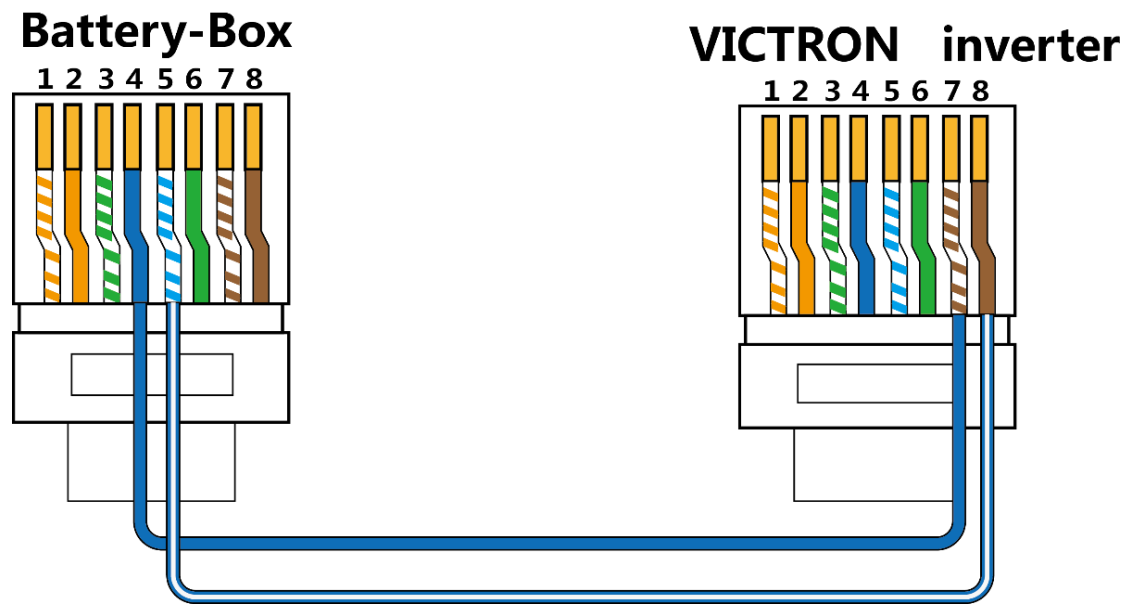
Back-up mode(Self consumption + Backup)

Inverter Type	B-Plus L 3.5	BCU
GW3600S-BP	≥2	≥1
GW5000S-BP	≥3	≥1

Remark: Maximum quantity of B-Plus L 3.5 is 12, BCU quantity is 3.

2.3 VICTRON

2.3.1 Connection with VICTRON



2.3.2 Minimum Configuration with Victron Inverter

2.3.2.1 Minimum Configuration with Multiplus

Inverter Firmware version: minimum required firmware version for CCGX is V2.01, which applies to ESS mode.

BYD Battery-Box LV firmware version: minimum required firmware version for BCU is V1.0, which applies to ESS mode.

1 Phase on Grid(Self consumption)

Inverter Type	B-Plus L 3.5	BCU
48/3000/35	≥1	≥1
48/5000/70	≥1	≥1

3 Phase on Grid(Self consumption)

Inverter Type	B-Plus L 3.5	BCU
48/3000/35	≥2	≥1
48/5000/70	≥2	≥1

1 Phase on grid (Self consumption+ **backup**)

Inverter Type	B-Plus L 3.5	BCU
48/3000/35	≥2	≥1
48/5000/70	≥4	≥1

3 Phase on grid ((Self consumption+ **backup**)

Inverter Type	B-Plus L 3.5	BCU
48/3000/35	≥6	≥2

48/5000/70	≥10	≥3
Remark: Maximum quantity of B-Plus L 3.5 is 12, BCU quantity is 3.		

2.3.2.2 Minimum Configuration with Multigrid

Inverter Firmware version: minimum required firmware version for CCGX is V2.01, which applies to ESS mode.

BYD Battery- Box LV firmware version: minimum required firmware version for BCU is V1.0, which applies to ESS mode.

1 Phase on Grid(Self consumption)		
Inverter Type	B-Plus L 3.5	BCU
48/3000/35	≥1	≥1
3 Phase on Grid(Self consumption)		
Inverter Type	B-Plus L 3.5	BCU
48/3000/35	≥2	≥1
1 Phase on grid ((Self consumption + backup)		
Inverter Type	B-Plus L 3.5	BCU
48/3000/35	≥2	≥1
3 Phase on grid((Self consumption + backup)		
Inverter Type	B-Plus L 3.5	BCU
48/3000/35	≥6	≥2
Remark: Maximum quantity of B-Plus L 3.5 is 12, BCU quantity is 3.		

2.3.2.3 Minimum Configuration with Quattro

Inverter Firmware version: minimum required firmware version for CCGX is V2.01, which applies to ESS mode.

BYD Battery- Box LV firmware version: minimum required firmware version for BCU is V1.0, which applies to ESS mode.

1 Phase on Grid(Self consumption)		
Inverter Type	B-Plus L 3.5	BCU
48/5000/70-100/100	≥1	≥1
48/8000/110-100/100	≥1	≥1
48/10000/140- 100/100	≥1	≥1
48/15000/200- 100/100	≥1	≥1
3 Phase on Grid(Self consumption)		
Inverter Type	B-Plus L 3.5	BCU
48/5000/70-100/100	≥2	≥1
48/8000/110-100/100	≥3	≥1
48/10000/140- 100/100	≥4	≥2
48/15000/200- 100/100	≥5	≥2
1 Phase on grid((Self consumption + backup)		
Inverter Type	B-Plus L 3.5	BCU

48/5000/70-100/100	≥4	≥1
48/8000/110-100/100	≥5	≥2
48/10000/140- 100/100	≥7	≥2
48/15000/200- 100/100	≥10	≥3
3 Phase on grid(Self consumption + backup)		
Inverter Type	B-Plus L 3.5	BCU
48/5000/70-100/100	≥10	≥3
48/8000/110-100/100 ¹	/	/
48/10000/140- 100/100	/	/
48/15000/200- 100/100	/	/
Remark: Maximum quantity of B-Plus L 3.5 is 12, BCU quantity is 3.		

2.3.2.4 Minimum Configuration with CCGX of Easysolar

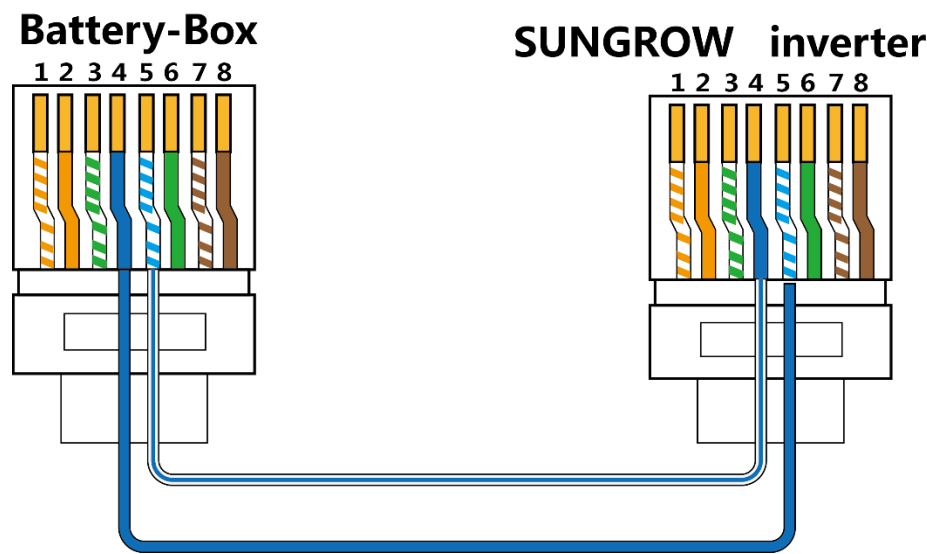
Inverter Firmware version: minimum required firmware version for CCGX is V2.01, which applies to ESS mode.

BYD Battery-Box LV firmware version: minimum required firmware version for BCU is V1.0, which applies to ESS mode.

1 Phase on Grid(Self consumption)		
Inverter Type	B-Plus L 3.5	BCU
48/3000/35-50 MPPT150/70	≥1	≥1
48/5000/70-100 MPPT150/100	≥1	≥1
3 Phase on Grid(Self consumption)		
Inverter Type	B-Plus L 3.5	BCU
48/3000/35-50 MPPT150/70	≥2	≥1
48/5000/70-100 MPPT150/100	≥2	≥1
1 Phase (Self consumption + backup)		
Inverter Type	B-Plus L 3.5	BCU
48/3000/35-50 MPPT150/70	≥2	≥1
48/5000/70-100 MPPT150/100	≥4	≥1
3 Phase(Self consumption + backup)		
Inverter Type	B-Plus L 3.5	BCU
48/3000/35-50 MPPT150/70	≥6	≥2
48/5000/70-100 MPPT150/100	≥10	≥3
Remark: Maximum quantity of B-Plus L 3.5 is 12, BCU quantity is 3.		

2.4 SUNGROW

2.4.1 Connection with SUNGROW



2.4.2 Minimum Configuration with SUNGROW

2.4.2.1 Minimum Configuration with SH5K

Inverter Firmware version: minimum required firmware version is V13.

BYD Battery Box LV firmware version: minimum required firmware version for BCU is V1.0. Identification label on package is V1.0.

1 Phase on Grid(Self consumption)		
Inverter Type	B-Plus L 3.5	BCU
SH5K	≥1	≥1
1 Phase on grid(Self consumption + backup)		
Inverter Type	B-Plus L 3.5	BCU
SH5K	≥3	≥1
Remark: Maximum quantity of B-Plus L 3.5 is 12, BCU quantity is 3.		

3. Parameter settings of inverter

3.1 SMA Charger Min Capacity(The version of the inverter to which this parameter applies is equal to or greater than 12)

Charging the battery usage through system for increased self-consumption without a battery backup grid				
	Battery-BOX L 3.5	Battery-BOX L 7.0	Battery-BOX L 10.5	Battery-BOX L 14.0
Edit Parameters >Battery>Areas of application	Setup value	Setup value	Setup value	Setup value
Battery Type	Lithium-Ion(Li-Ion)	Lithium-Ion(Li-Ion)	Lithium-Ion(Li-Ion)	Lithium-Ion(Li-Ion)
nominal capacity	70	140	210	280
Season operation active	Yes	Yes	Yes	Yes
Low lmt deep disch. protect area prior shut down	3	3	3	3
minimum width of deep discharge protection area	2	2	2	2
minimum width of backup power area	0	0	0	0
area width for conserving battery state of charge	10	5	5	5
Charging the battery usage through battery backup system with increased self-consumption				
	Battery-BOX L 3.5	Battery-BOX L 7.0	Battery-BOX L 10.5	Battery-BOX L 14.0
Edit Parameters >Battery>Areas of application	Setup value	Setup value	Setup value	Setup value
Battery Type	Lithium-Ion(Li-Ion)	Lithium-Ion(Li-Ion)	Lithium-Ion(Li-Ion)	Lithium-Ion(Li-Ion)
nominal capacity	70	140	210	280
Season operation active	Yes	Yes	Yes	Yes
Low lmt deep disch. protect area prior shut down	3	3	3	3

minimum width of deep discharge protection area	2	2	2	2
minimum width of backup power area	5	10	10	10
area width for conserving battery state of charge	10	5	5	5

3.2 GOODWE Charger Min Capacity

When setting parameters on the inverter, please select the battery type correctly.

Select Battery Model: Battery-Box L 3.5 or Battery-Box 7.5+

	Battery-Box L 3.5	Battery-Box L 7.0	Battery-Box L 10.5	Battery-Box L 14.0
Depth of discharge	85%	90%	90%	90%

3.3 VICTRON Charger Min Capacity

Parameters	Battery-Box L 3.5	Battery-Box L 7.0	Battery-Box L 10.5	Battery-Box L 14.0
Minimum discharge SOC	12%	10%	10%	10%

3.4 SUNGROW Charger Min Capacity

When setting parameters on the inverter, please select the battery type and capacity correctly.

Battery type---Li-ion BYD; Tot Cap[KWh]: Actual battery capacity

	Battery-Box L 3.5	Battery-Box L 7.0	Battery-Box L 10.5	Battery-Box L 14.0
Reserved SOC	This parameter can be set by the user on the inverter according to actual needs.			

4. Troubleshooting and maintenance

4.1 Battery-Box troubleshooting and maintenance

The battery operation data, alarm information, historical alarm information and historical data of the b-box system can be viewed through the software of the upper computer.

Issue Description	Possible causes	Solution
Contactor disconnected	Battery voltage is too low	Please contact our after-service provider immediately.
	Battery voltage is too high	

Battery temperature is too high

Battery current is too high

Other hardware failures.

4.2 Inverter troubleshooting and maintenance

4.2.1 Alarm Code Displayed On the SRC of SMA Sunny Island and Solution

SMA SRC	Possible causes	Solution
F221	External Alarm-Invalid Bat Type	Reset battery type to "Li" on SRC.
F920(XA01General)	1.AnyB-Plus L3.5 has failed to communicate with the BCU;	1. Check if the modules are connected correctly and all screws are fixed tightly. 2.Replace BCU ;
F921(XA02DcHiVolt)	External Alarm - Battery High Voltage	If the red led of the BCU is on, please contact the service provider to change the battery. If not, check the system setting according to the guidelines.
F922(XA03DcLoVolt)	External Alarm - Battery Low Voltage	
F923(XA04DcHiTmp)	External Alarm - Battery High Temp	
F924(XA05DcLoTmp)	External Alarm - Battery Low Temp	
F925(XA06DcHiTmpC)	External Alarm - Battery High Temp Charge	
F926(XA07DcLoTmpC)	External Alarm - Battery Low Temp Charge	
F927(XA08DcHiCur)	External Alarm - Battery High Current Discharge	
F928(XA09DcHiChgCur)	External Alarm - Battery High Current Charge	
F930(XA11Short)	External Alarm - Short circuit	1.Power off; 2.Check if there is short connection of cable between P+&P-; 3.If short connection is confirmed, please reconnect

		cable correctly; 4.restart battery;
F931(XA12Bms)	External Alarm - BCU internal	If the red led of the BCU is lit, please contact the service provider to change the battery. If not, check the system settings according to the guidelines.
F932(XA13CellBal)	External Alarm - Cell imbalance	
F952	External Alarm -Ext BCU Timeout	1.Check whether the CAN communication cables are connected correctly and tightly ; 2.Replace BCU ;

4.2.2 Alarm Displayed On the APP of GOODWE and the Solution

APP of GOODWE	Possible causes	Solution
BMS status: Battery communication fail	Inverter and BCU communication failure	1.check whether the CAN communication cable has been connected correctly and tightly ; 2.Change BCU ;

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