B2-5.0-(HV1, HV5)-S Quick Guide

This quick guide provides installation instructions. For safety precautions and detailed product information, refer to the *User Manual*. You can scan the below QR code or go to the SAJ Website www.saj-electric.com to access all the product documentation.

NOTICE

- Before installation, operation, and maintenance, read the product documentation carefully.
- ONLY qualified and trained electricians who have read and fully understood all safety regulations contained in this manual can install, maintain, and repair the equipment. The operation personnel should understand the system, its working principles, and relevant national and regional standards.
- During operations, wear protective equipment and use dedicated tools.

☐ 1. Checking the Outer Packing

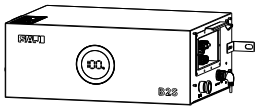
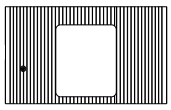
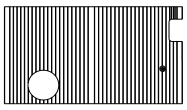
1. Check the outer packing package for any damage, such as holes and cracks.
2. Check the equipment model.

If any serious damage is found or the model is not what you requested, do not unpack the product, and contact your dealer as soon as possible.

☐ 2. Checking the Product Packages

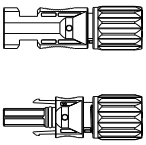
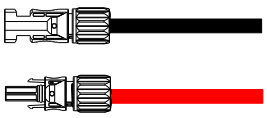
Place the connectors separately after unpacking to avoid confusion for connection of cables.

Battery Control Unit

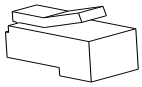




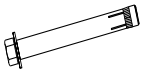
Battery control unit*1	Left-side cover (left)*1	Right-side cover *1	Grounding cable *1	Communication cable *1



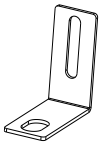




Power cable (1.45m) *1	Power cable (150 mm) *1	Positive battery cable (1.5m) *1 Negative battery cable (1.5m) *1 (Europe only)	Positive PV connector *1 Negative PV connector *1 (Australia only)	Positive battery cable (1.5m) *1 Negative battery cable (1.5m) *1 (Australia only)




Waterproof cover *1	RJ45 plug *2	Communication cable (1.5m) *1	M10*80 screw *2	M5*12 screw *2

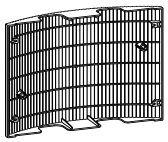




M4*10 screw *1	Locking bracket *2	Documents

Note: The documents include a warranty card, a Quick Guide, and a Configuration Instructions.

Battery Module


Battery module *1


Side cover *2


Communication cable *1


Power cable *1

Grounding cable *1


M4*25 screw *4


M4*10 screw *3

Base for Ground Mounting (Optional)

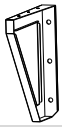

Base *1


Base foot *4


M4*10 screw *2

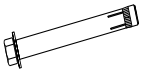
Bracket for Wall Mounting (Optional)


Top plate *1


Left foot *1


Right foot *1


M6*12 screw *6

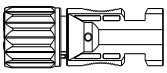

M10*80 expansion bolt *6


M4*10 screw *1

Accessory Package for Multi-cluster Battery Connection (Optional)


Power cable (4000 mm) *1
(Europe only)

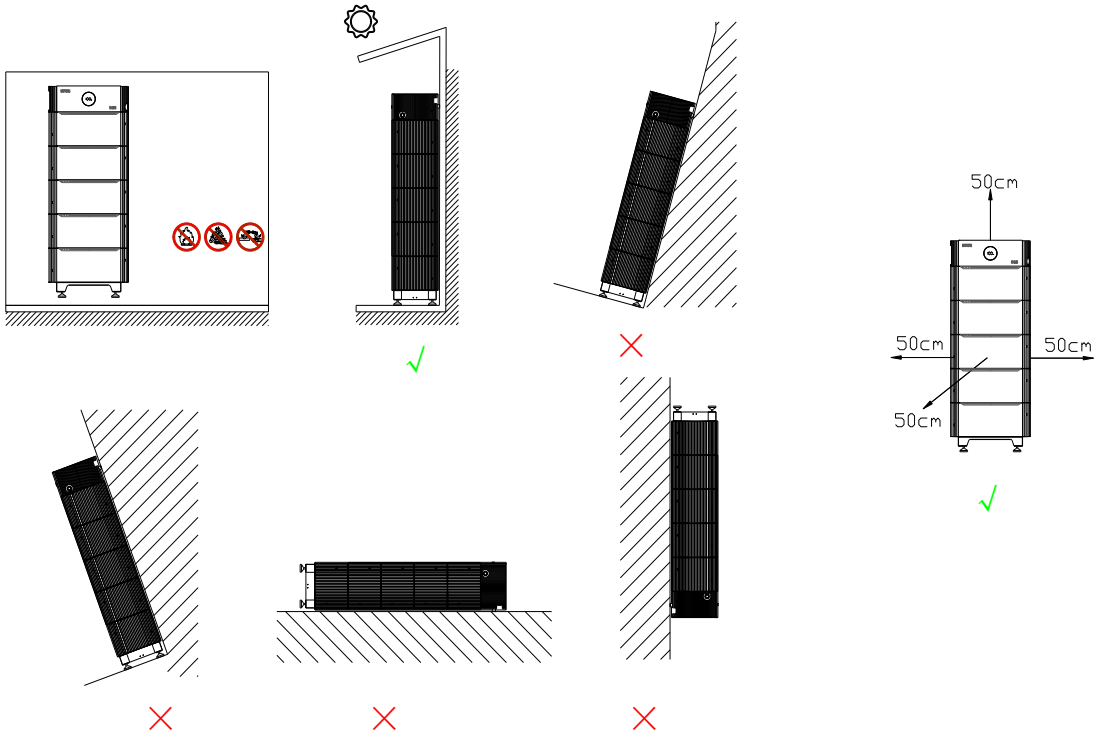

Power cable (4000 mm) *1
(Australia only)


PV connector*1
(Australia only)

This product can be either ground-mounted or wall-mounted.

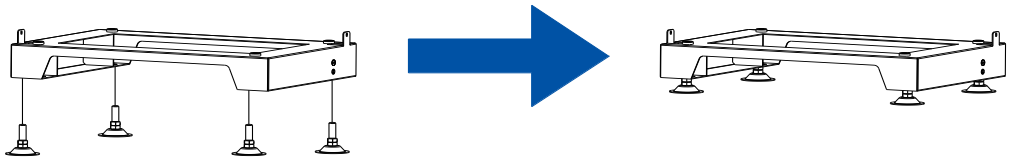
- For the ground-mounting manner, refer to step 4.
- For the wall-mounting manner, refer to step 5.

☐3. Checking Installation Ways and Gaps

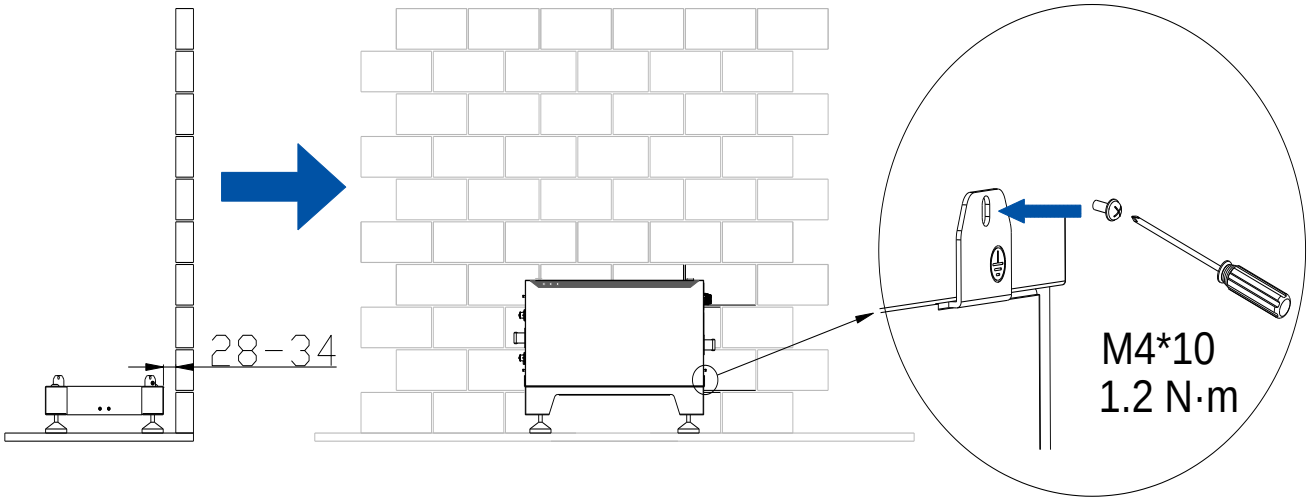


☐4. Ground Mounting

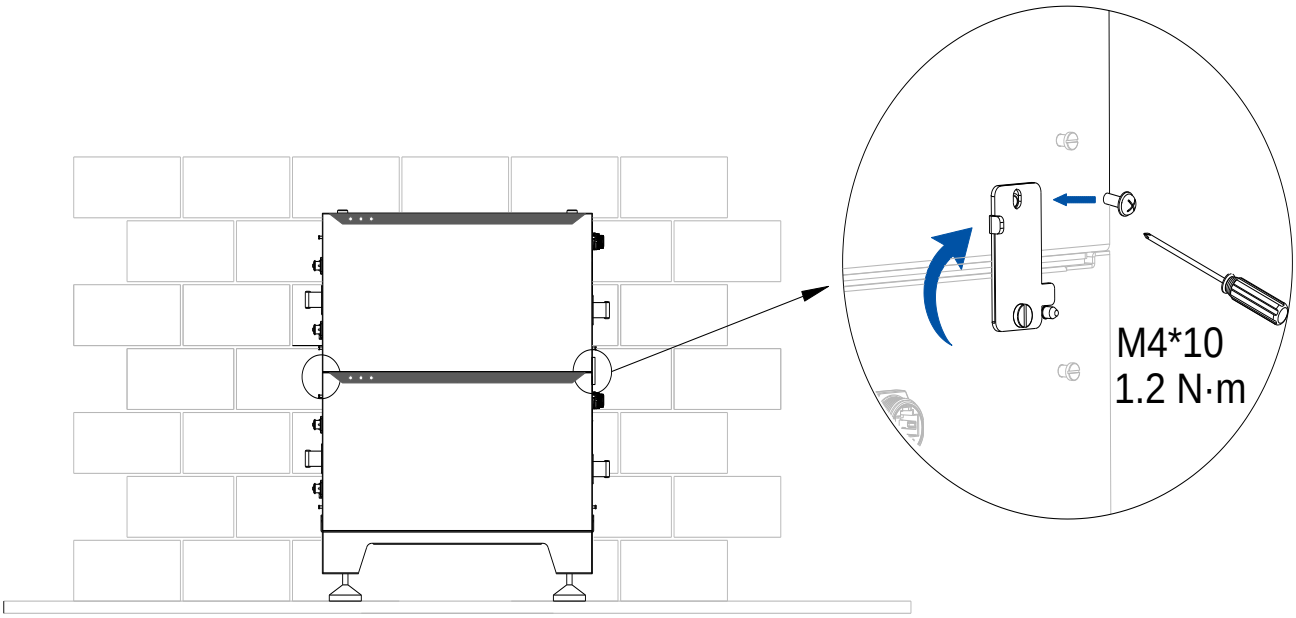
1. Assemble the base. Adjust the height of the base feet and use the gradient to make sure that the base is placed on the ground horizontally.



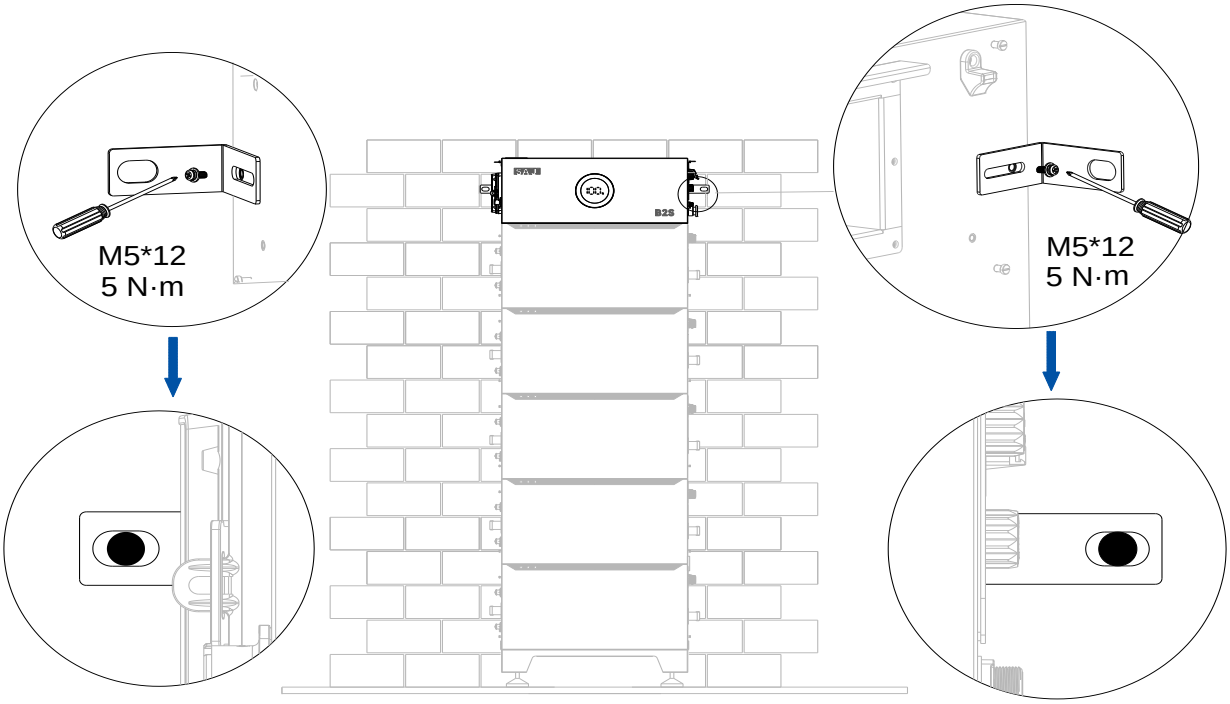
2. Place the base on the ground. Make sure the distance between the base and the wall is 28-34mm. Place the battery module onto the base and secure it with screws (M4*10).



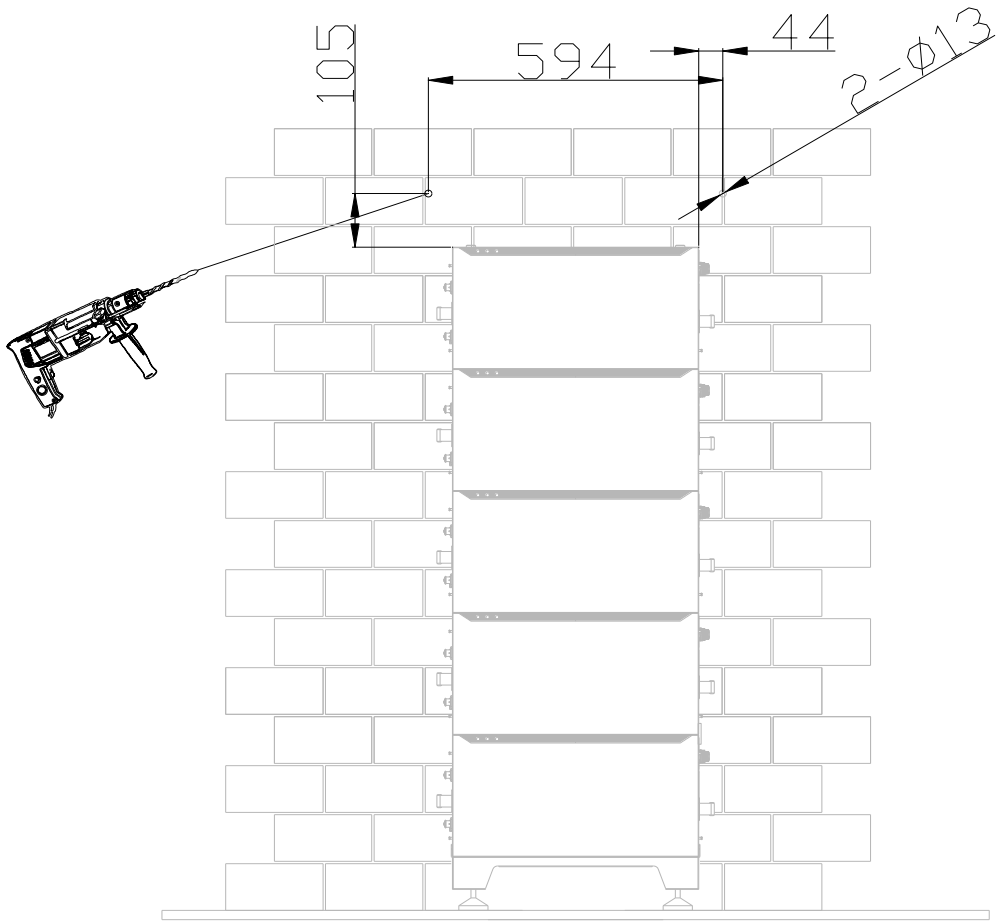
3. Place the second battery module onto the first battery module. On each side of the battery, rotate the locking bracket clockwise and secure it. Repeat the same operations until all required battery modules are installed.



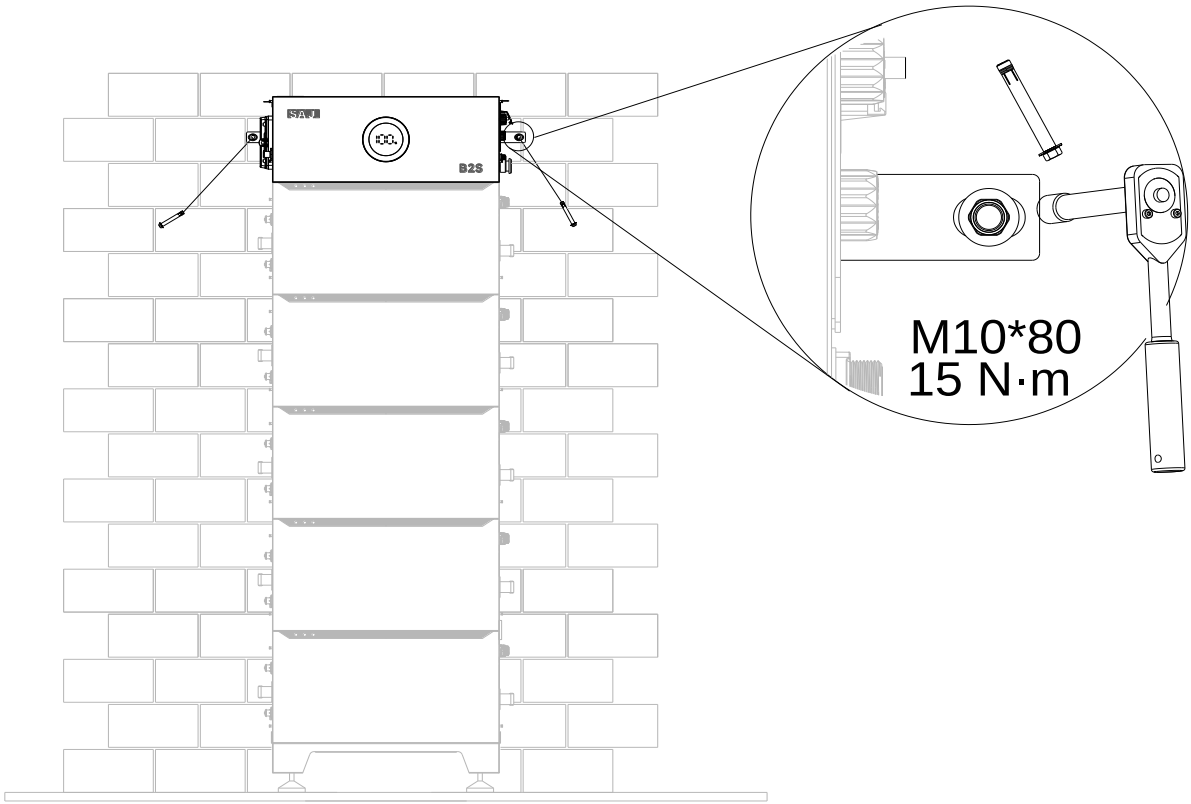
4. Place the battery control unit onto the top of the battery pack. Install the locking brackets on each side of the battery control unit and mark the U-shaped hole of the locking brackets on the wall. Then, remove the battery control unit.



5. Drill holes (13mm in diameter, 65mm in depth) at the positions marked in step 4.

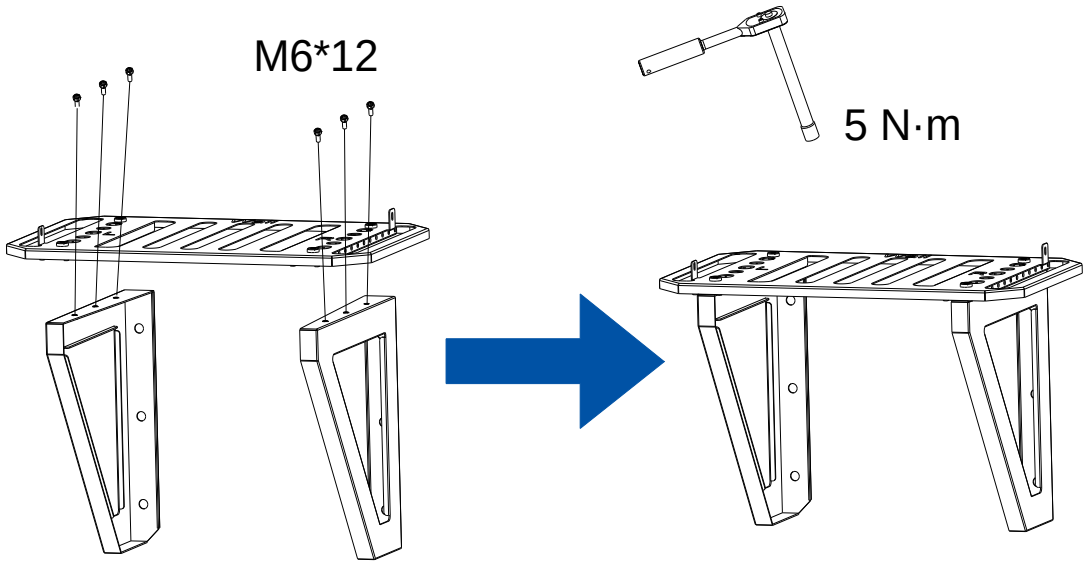


6. Place the battery control unit back to the top of the battery pack. To secure the battery control unit to the wall, use a rubber hammer to drive the M10*80 screws into the drilled holes and then use the wrench to tighten the screws.

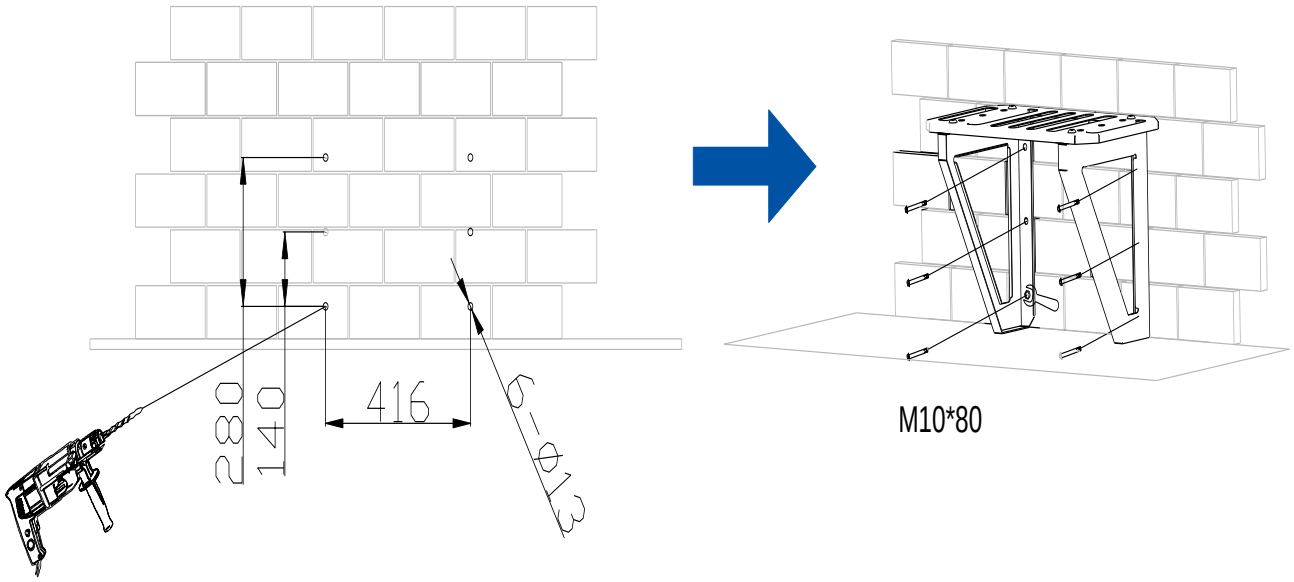


5. Wall Mounting

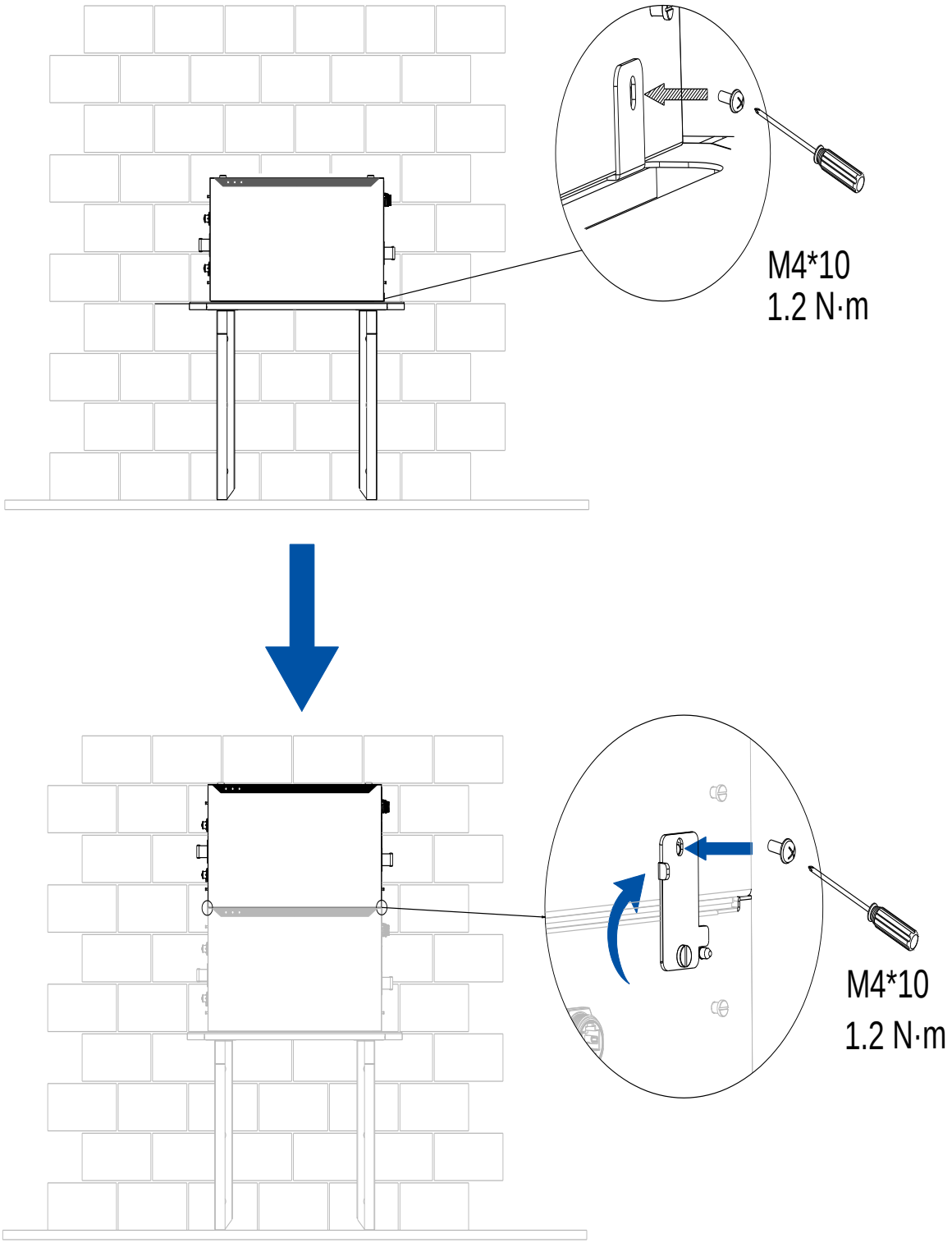
1. Assemble the bracket.



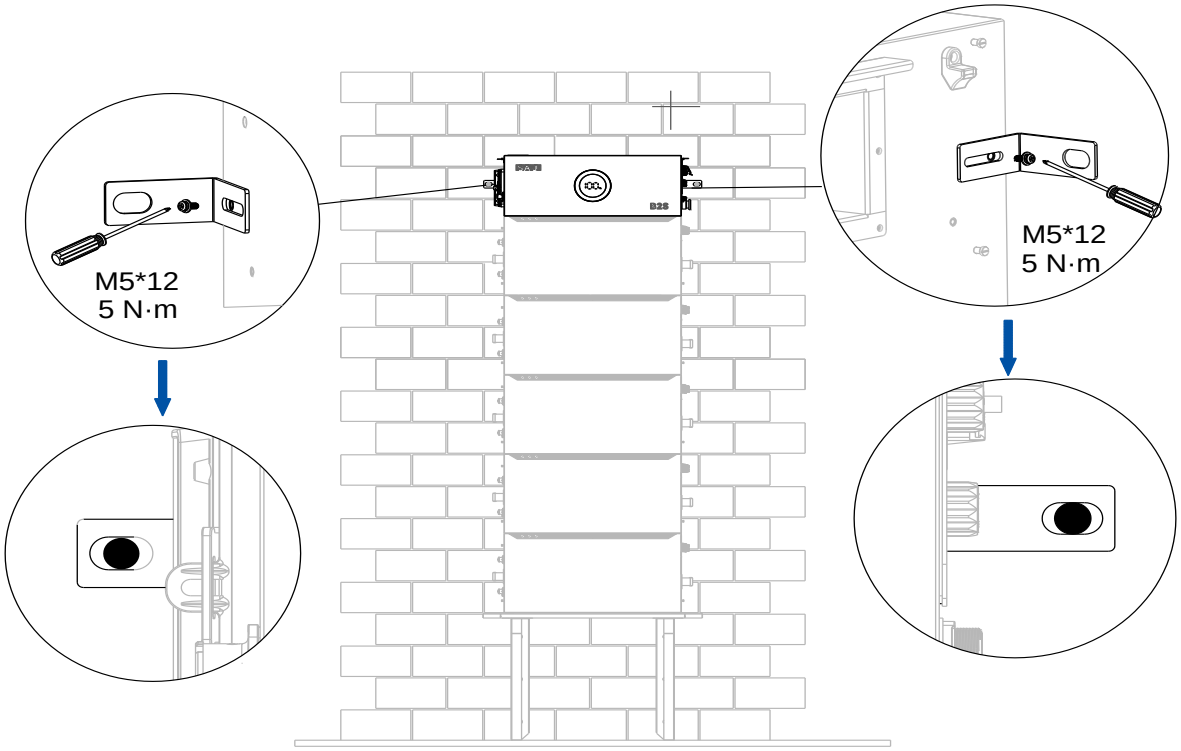
2. Place the Mark the proper positions of locking bracket and drill holes on those positions (13mm in diameter, 65mm in depth) by using the locking bracket as a template, and then use a rubber hammer to drive the screw fixing seat into the holes to fix the bracket.



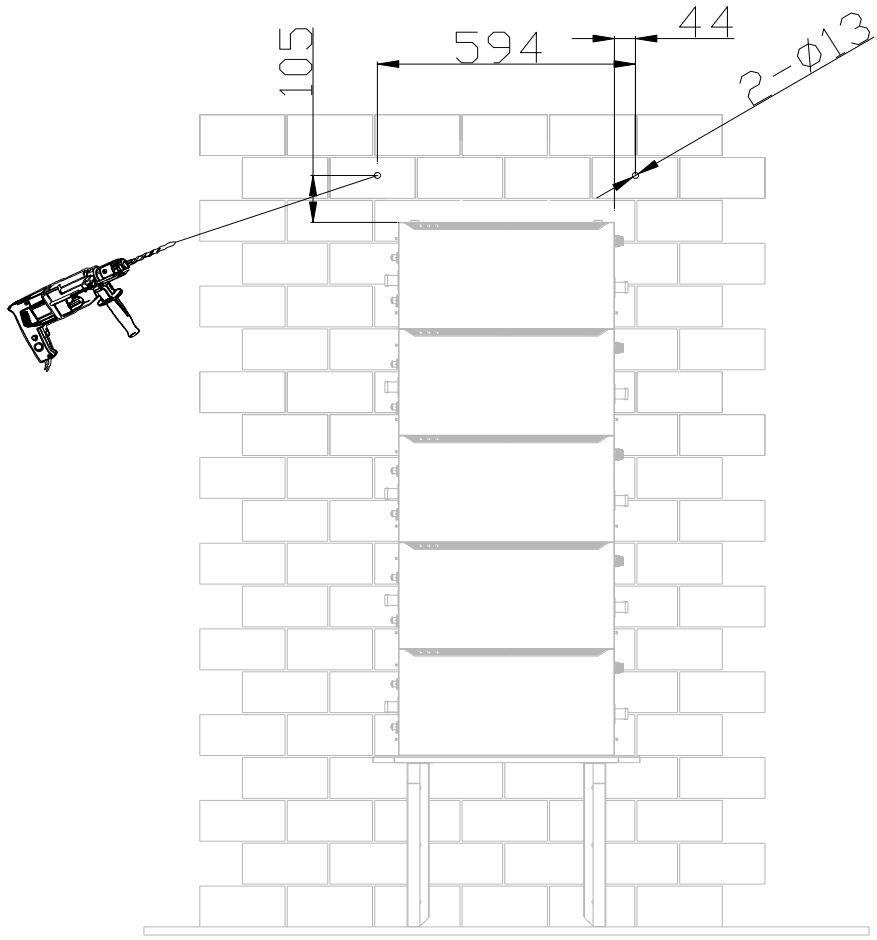
3. Place the battery module on the bracket and tighten the screws to secure it to the wall. Place the second battery module onto the first battery module. On each side of the battery, rotate the locking bracket clockwise and secure it. Repeat the same operations until all required battery modules are installed.



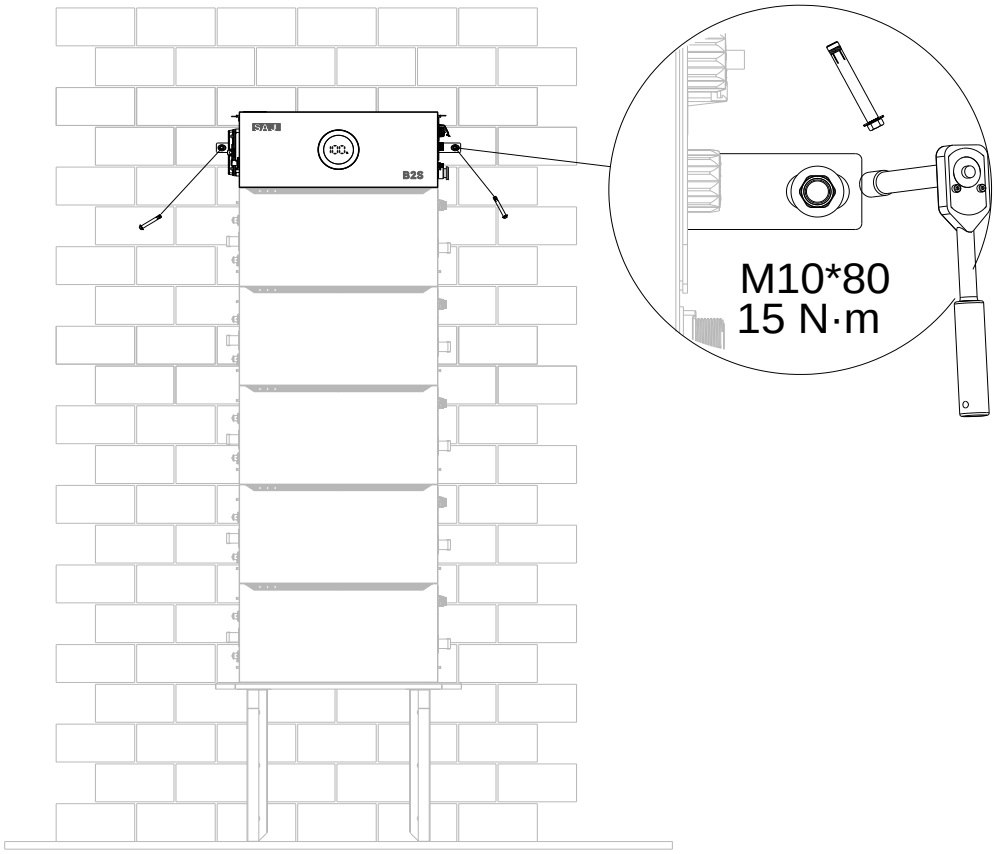
4. Place the battery control unit onto the top of the battery pack. Install the locking brackets on each side of the battery control unit and mark the U-shaped hole of the locking brackets on the wall. Then, remove the battery control unit.



5. Drill holes (13mm in diameter, 65mm in depth) at the positions marked in step 4.



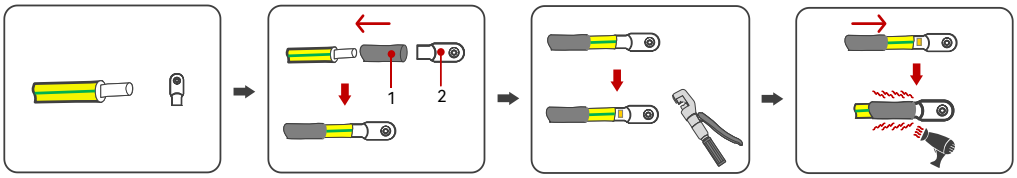
6. Place the battery control unit back to the top of the battery pack. To secure the battery control unit to the wall, use a rubber hammer to drive the M10*80 screws into the drilled holes and then use the wrench to tighten the screws.



6. Connecting the Grounding Cable

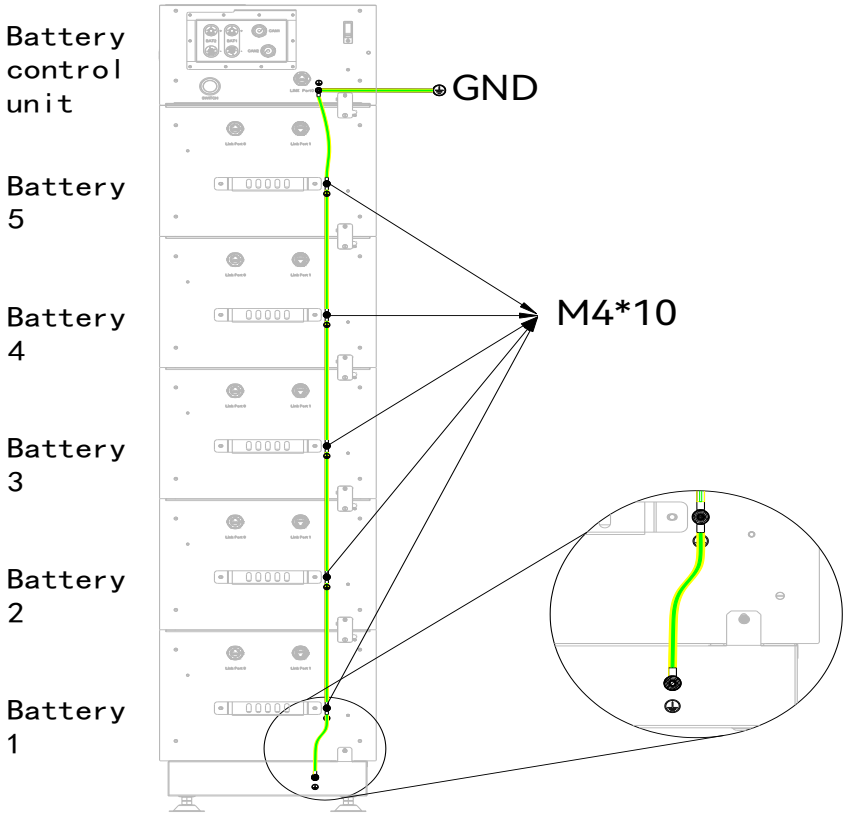
The cable and the OT/DT terminals need to be prepared by the user. It is recommended that a 6-mm2 conductor cross-sectional area of cable be used.

1. Assemble the cable and OT/DT terminal.



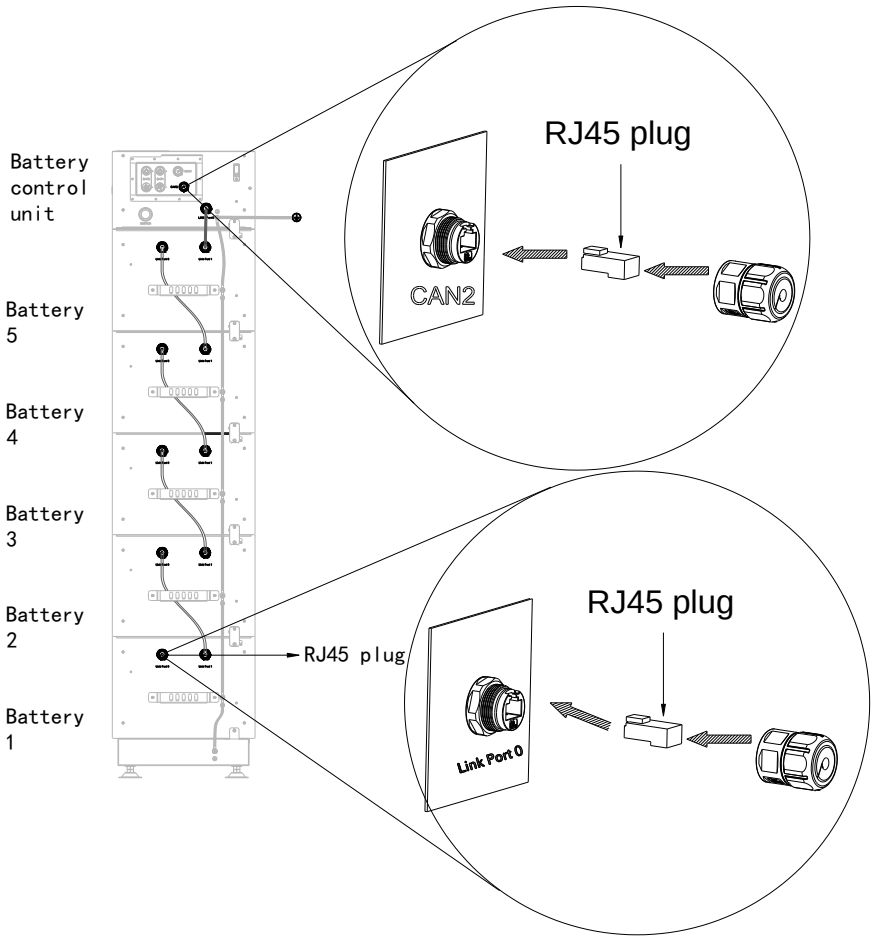
1	Heat shrink tube	2	OT/DT terminal

2. Connect the grounding cable on the battery control unit and the battery modules.
   a. Remove the M4*10 screw from the grounding port on the battery control unit. Connect and secure the grounding cable.
   b. Use M4*10 screws to connect and secure the grounding cables on the battery modules.



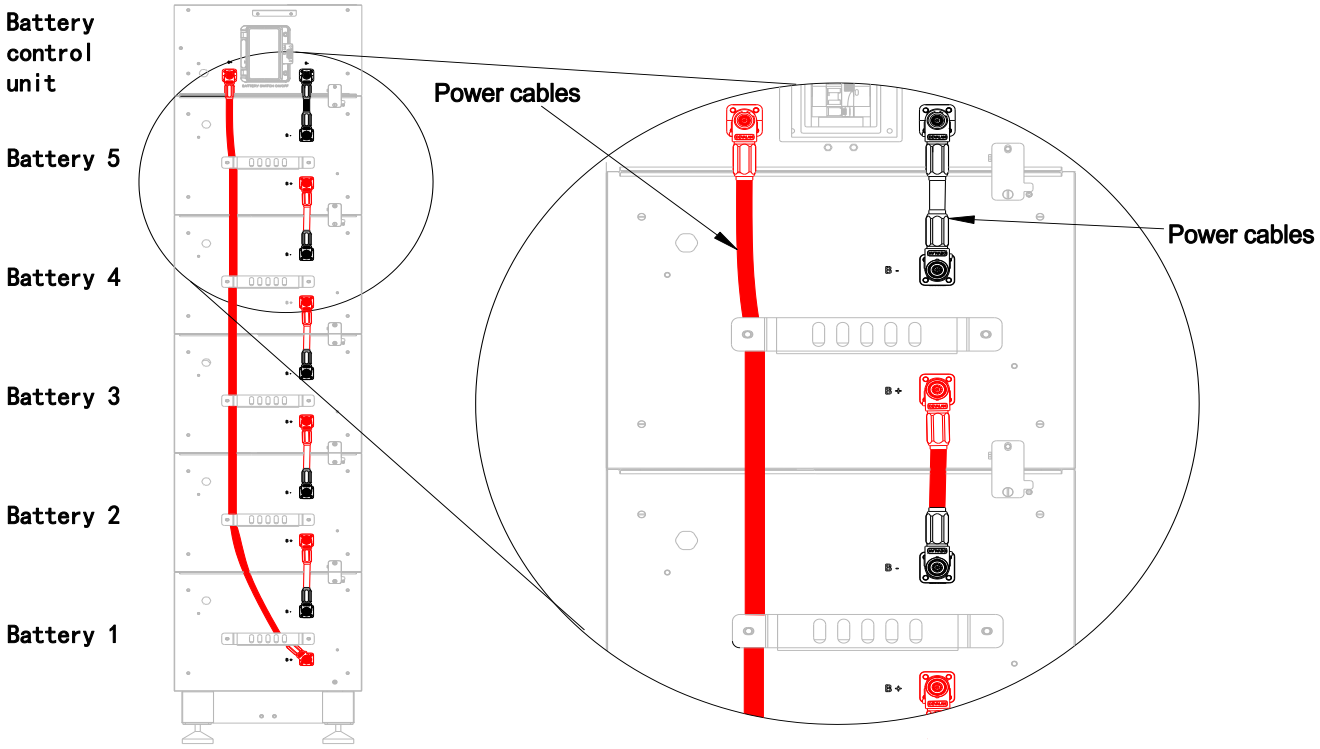
☐7. Connecting Communication Cables among Batteries

1. Connect LINK Port0 on the battery control unit to Link Port 1 on battery 5.
2. Connect Link Port 0 on Battery 5 to Link Port 1 of Battery 4. Repeat the same operations on Batteries 3, 2, and 1 until all five batteries are connected.
3. Insert RJ45 plugs to Link Port 0 of Battery 1 and the CAN2 port of the battery control unit. Then, use the waterproof covers to secure the plugs.



☐8. Connecting Power Cables among Batteries

1. Connect the power cable from the B- port of the battery control unit to the B- port on Battery 5.
2. Connect the power cable from the B+ port of Battery 5 to the B- port of Battery 4. Repeat the same operations on Battery 3, 2, and 1 until all five batteries are connected.
3. Connect the B+ port on the battery control unit to the B+ port of Battery 1.



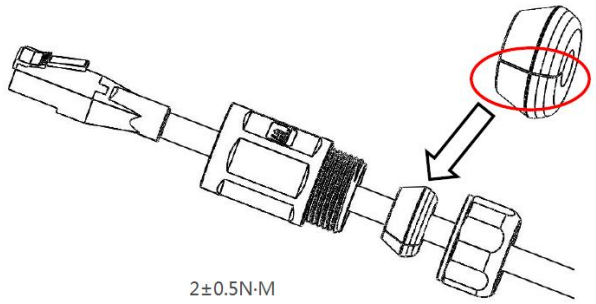
☐9. Connecting the Battery to the Inverter

Make sure that the vertical height between the inverter and the battery control unit is less than 0.7m.

- **Single-Cluster Battery Connection**

Make sure that the vertical height between the inverter and the battery control unit is less than 0.7m.

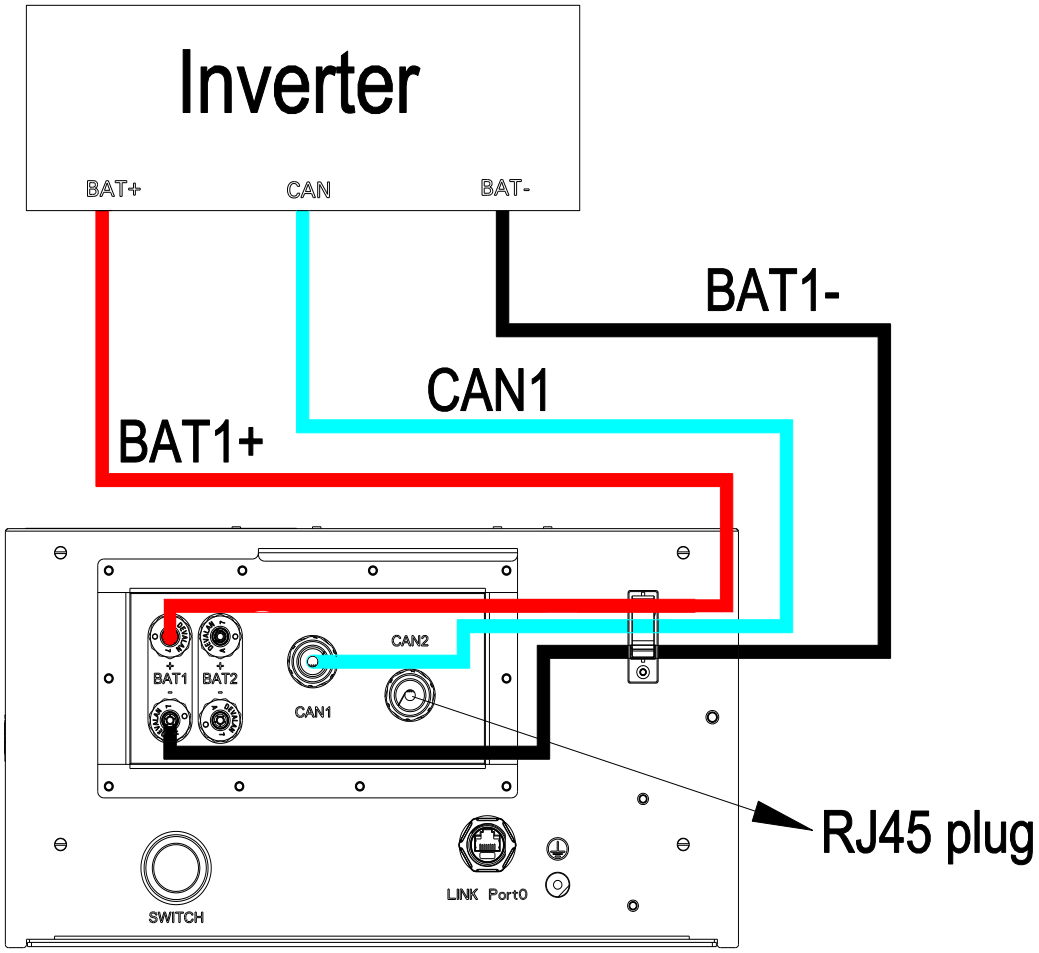
1. Pass the communication cable through the lock nut, the seal, and the connector body, as shown below:



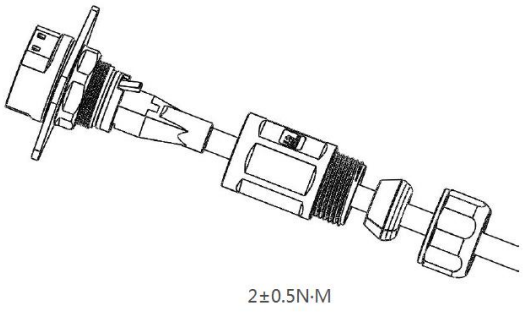
2. Connect the communication and power cables between the inverter and the battery control unit.

From the battery control unit	To the inverter
BAT1+	BAT+
BAT1-	BAT-
CAN1	CAN

Note: Do not intertwine the communication cable and power cables.

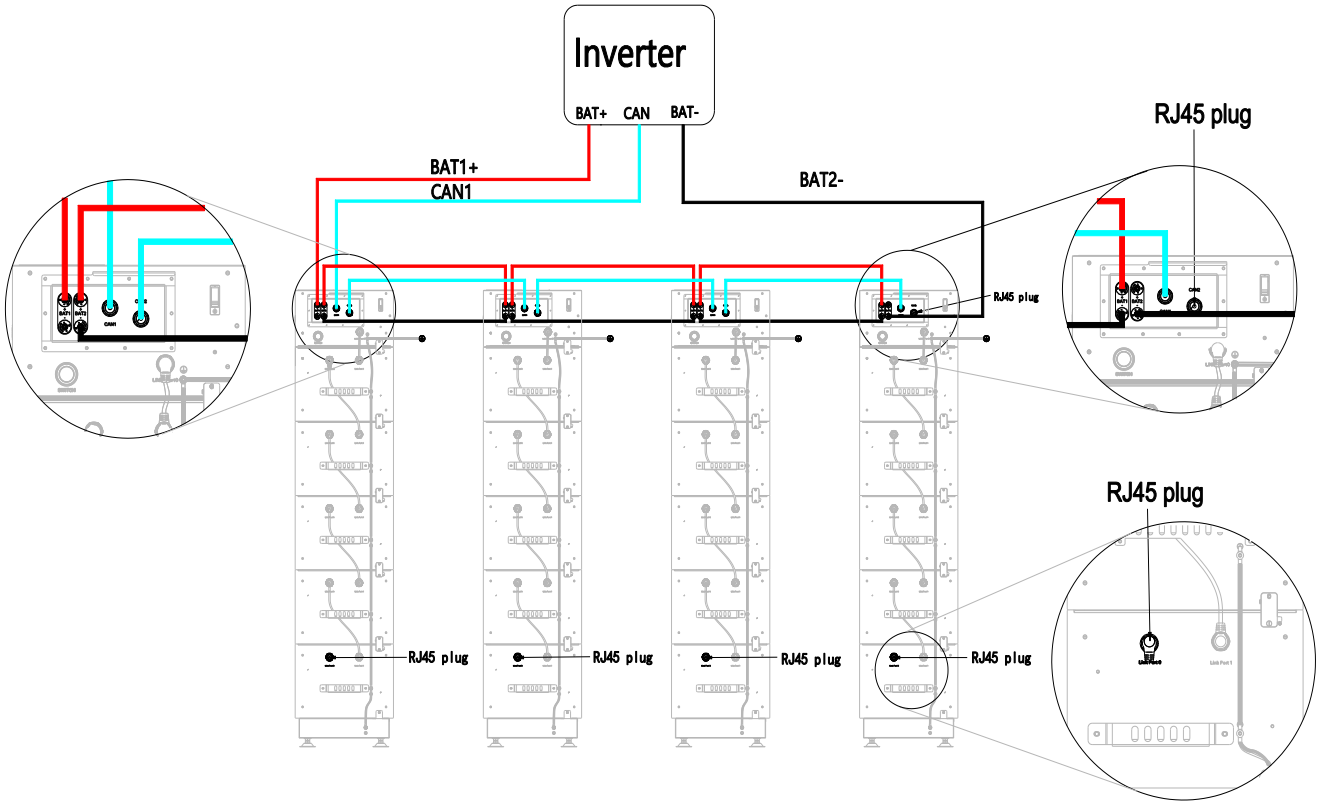


3. For the communication cable, use an open-ended wrench to secure the RJ45 connector to the CAN1 port on the inverter. Tighten the seal and the sealing nut to the connector body.



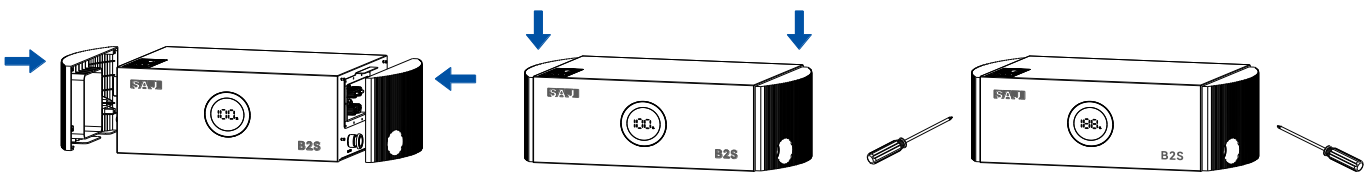
- **Multi-cluster Battery Connection**

From		To	
Battery control unit on the 1st battery cluster	CAN1	Inverter	CAN
	BAT1+		BAT+
	CAN2	Battery control unit on the 2nd battery cluster	CAN1
	BAT2+		BAT1+
	BAT2-		BAT1-
Battery control unit on the 2nd battery cluster	CAN2	Battery control unit on the 3rd battery cluster	CAN1
	BAT2+		BAT1+
	BAT2-		BAT1-
Battery control unit on the 3rd battery cluster	CAN2	Battery control unit on the 4th battery cluster	CAN1
	BAT2+		BAT1+
	BAT2-		BAT1-
Battery control unit on the 4th battery cluster	CAN2	RJ45 plug	
	BAT2+	/	
	BAT2-	Inverter	BAT-

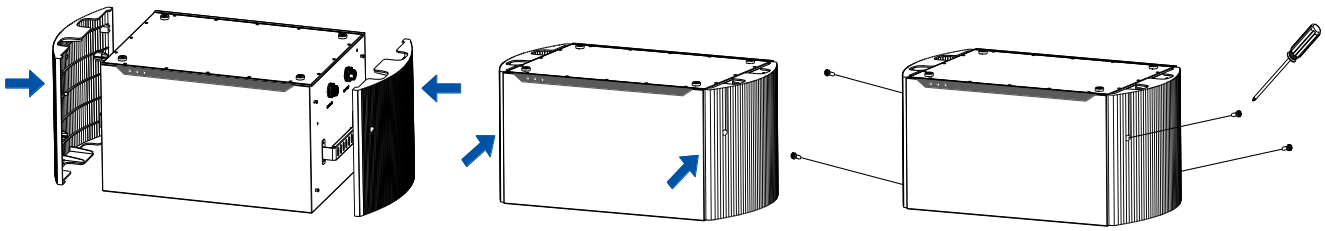


10. Installing Side Covers

1. Battery control unit: Push the side covers inwards. Press the cover downwards. Tighten the screws on the cover.

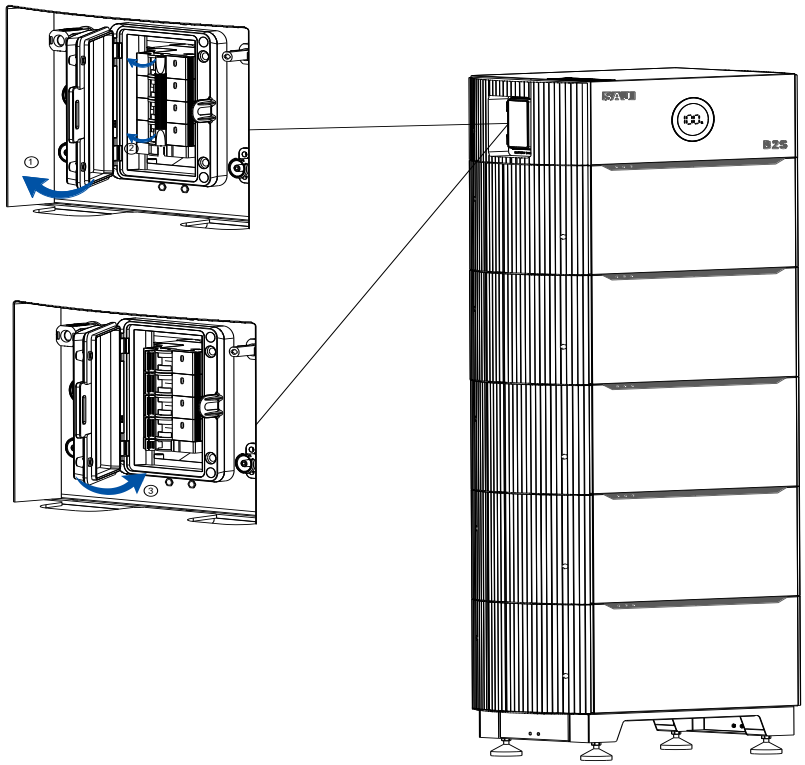


2. Battery module: Push the side covers inwards. Push the side covers forwards. Secure it with screws (M4*25).



11. Starting the Battery System

1. Turn on the circuit breaker.
2. Press and hold the main switch for two to three seconds, until the LED indicator on the battery control unit is on ○.



3. Check the LED indicator status on the inverter panel to ensure that the battery system is running properly.

LED indicator	Status	Description
○	Solid on	The battery is working properly.
	Breathing 6s	The battery is in initialization or standby state.
○	Solid on	An error occurs.
	Breathing 6s	The battery is upgrading.
○	OFF	The battery is powered off.
100%	*Integer* (example, 50)	Battery average SOC (for example, 50%)

4. Configure the system on the SAJ App named Elekeeper. For details, refer to the inverter user manual.
5. If any error occurs, check the error code displayed on the App. For detailed error messages, refer to the section “Troubleshooting” in the *User Manual*.

---End

Datasheets

B2-5.0-HV1-S

Battery Module	**BU2-5.0-HV1-S (1P32S 102.4V 50Ah)**				
Number of Battery Modules	**1**	**2**	**3**	**4**	**5**
Rated Energy [kWh]	5.0	10.0	15.0	20.0	25.0
Usable Energy [kWh]	4.5	9.0	13.5	18.0	22.5
Rated Power (W)	5000	10000	15000	20000	25000
Dimension (H*W*D) [mm]	261*626*365	522*626*365	783*626*365	1044*626*365	1305*626*365
Weight [kg]	50.5	101	151.5	202	252.5
Nominal Voltage [V]	102.4	204.8	307.2	409.6	512
Operating Voltage [V]	89.6—115.2	179.2—230.4	268.8—345.6	358.4—460.8	448—576.0
Max. Charge Current [A]	50				
Max. Discharge Current [A]	50				
Control Module	**BC2-HV-S**				
Max. Fault Current [A]	100				
Dimension (H*W*D) [mm]	200*626*365				
Weight [kg]	11				
General Data					
Battery Type	Lithium battery				
Ingress Protection	IP65				
Dimension (H*W*D) [mm] (Battery control unit + Battery module)	461*626*365	722*626*365	983*626*365	1244*626*365	1505*626*365
Weight [kg] (Battery control unit + Battery unit)	61.5	112	162.5	213	263.5
Mounting	● Wall-mounted ● Ground-Mounted				
Operating Temperature Range	-10℃ to +50℃				
Ambient Humidity	0-95% non-condensing				
Cooling Method	Natural convection				
Communication	CAN				
Warranty [Year]	Refer to the warranty policy				
Applicable Standard	IEC62619 (Cell&Pack)/EN62477-1/EN61000-6-1/2/3/4/UN38.3				

B2-5.0-HV5-S

Battery Module	**BU2-5.0-HV5-S (1P32S 102.4V 50Ah)**				
Number of Battery Modules	**1**	**2**	**3**	**4**	**5**
Rated Energy [kWh]	5.0	10.0	15.0	20.0	25.0
Usable Energy [kWh]	4.5	9.0	13.5	18.0	22.5
Rated Power (W)	5000	10000	15000	20000	25000
Dimension (H*W*D) [mm]	261*626*365	522*626*365	783*626*365	1044*626*365	1305*626*365
Weight [kg]	52.5	105	157.5	210	262.5
Nominal Voltage [V]	102.4	204.8	307.2	409.6	512
Operating Voltage [V]	89.6—115.2	179.2—230.4	268.8—345.6	358.4—460.8	448—576.0
Max. Charge Current [A]	50				
Max. Discharge Current [A]	50				
Control Module	**BC2-HV-S**				
Max. Fault Current [A]	100				
Dimension (H*W*D)[mm]	200*626*365				
Weight [kg]	11				
General Data					
Battery Type	Lithium battery				
Ingress Protection	IP65				
Dimension (H*W*D) [mm] (Battery Control Unit + Battery Unit)	461*626*365	722*626*365	983*626*365	1244*626*365	1505*626*365
Weight [kg] (Battery Control Unit + Battery Unit)	63.5	116	168.5	221	273.5
Mounting	● Wall-mounted ● Ground-Mounted				
Operating Temperature Range	-10℃ to +50℃				
Ambient Humidity	0–95% non-condensing				
Cooling Method	Natural convection				
Communication	CAN				
Warranty [Year]	Refer to the warranty policy.				
Applicable Standard	IEC62619 (Cell&Pack)/EN62477-1/EN61000-6-1/2/3/4/UN38.3				

Installer: _____