**Step 1. Instructions for quick installation**

**Installation space**
- Upward: 300mm
- Downward: 500mm
- Front: 300mm
- Left and right side: 200mm

**Dimensions for drilling holes**
- 228.5mm (Horizontal)
- 228.5mm (Vertical)
- 117.5mm (Height)
- 104.5mm (Depth)
- 400mm (Width)

**Fix the wall bracket**
- Wall bracket
- Expansion Pipe
- Self-tapping Screws

**Installation**
- Inverter could be locked for anti-theft, if it is needed.
- Ground cable is needed connecting to ground plate on grid side.

**Battery wiring assembly and connection**

**Grade | Description | Value**
--- | --- | ---
A | Outside Diameter Isolation | 10-14 mm
B | Insulation Section | NA
C | Conductor Core Section | 20-35 mm²

**DC Cable assembly and connection**
- DC cable should be dedicated PV cable (suggest using 4mm² PV1-F cable)
- Positive connector
- Negative connector
- Positive terminal (red)
- Negative terminal (black)
- 2.5-4mm²
- Special tools are used to winding

**AC cable assembly and connection**
- Cable
- Single Hole Seal Ring
- Connection Terminal
- AC Cover
- Screw Cap
- The Insulator

- Make sure the cables (L/N/PE) are connected to right position.
- DC Breaker 125A
- Warning: Reversal polarity will damage the inverter
- Fastening torque: 6-8N.m
- Pan Head Screw
**H DRED cable assembly**

- **DRED connection** is only available for Australia and New Zealand.

<table>
<thead>
<tr>
<th>NO</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Function</td>
<td>DIMIL5</td>
<td>DIMIL4</td>
<td>DIMIL3</td>
<td>DIMIL2</td>
<td>REGEN</td>
<td>COM/DMRO</td>
</tr>
</tbody>
</table>

1. Plug out the 6-pin terminal and dismantle the resistor on it.
2. Plug the resistor out, leave the 6-pin terminal for next step.

**Note:** The 6-pin terminal in the inverter has the same function of DRED device. Please leave it in the inverter if no external device connected.

**I Remote shutdown cable assembly**

- **Remote shutdown connection** is only available for Europe.

<table>
<thead>
<tr>
<th>NO</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Function</td>
<td>REGEN</td>
<td>COM/DMRO</td>
</tr>
</tbody>
</table>

**Wiring system for ES series hybrid inverter**

**Note:** This diagram indicates wiring structure of ES series hybrid inverter, not the electric wiring standard.

1. Please select Breaker according to the specification below.

2. Only for lithium battery which has BMS communication. House use CT (L1, L2, L3) direction to do the connection. Otherwise there will be an error reminded by PV Master App.
Step 2. SOP of battery connection with EM inverter

Note: This manual only tells connection methods between battery and GoodWe inverters. Other operations on battery, please refer to battery user manual. This manual only includes some battery models, not all of them. Battery models are subject to change without prior notice.

1. BYD
For BYD B-BOX series with hybrid inverter.

A. Make sure that the inverter and the battery pack is turned off before connecting the battery pack to the inverter.

Note: ADDR setting of battery is required if there are more than one battery banks connected to the inverter. Please refer to battery user manual for detailed instruction.

B. To connect the cables coming from the inverter to the BYD battery pack, take the following steps.
1. Connect the power cables to the terminal block of BYD battery pack.
2. Connect the negative cable to “P-” and the positive cable to “P+”.

C. 1. Cut off the plastic skin of the cable.
2. Put the cable through the terminal cover plate.
3. Plug the metal part into the battery K-type terminal (25-4) which in the accessories box, the crimp the terminal tightly.
4. Connect the power cable to the terminal block of the hybrid inverter and restore the inverter terminal cover plate.

D. To communication cable for battery is attached on the inverter.
Please use this cable as battery communication cable.

E. The other side of “To Battery” cable should be connected to CAN port of BYD BCU.

F. On PV Master, should choose the right battery type used in your system by “Battery Model” selection or battery communication will fail.

2. BYD
For BYD LV series with hybrid inverter.

A. Make sure that the inverter and the battery pack is turned off before connecting the battery pack to the inverter.

B. To connect the cables coming from the inverter to the BYD battery pack, take the following steps.
1. Connect the power cables to the terminal block of BYD battery pack.
2. Connect the negative cable to “P-” and the positive cable to “P+”.

C. 1. Cut off the plastic skin of the cable.
2. Put the cable through the terminal cover plate.
3. Plug the metal part into the battery K-type terminal (25-4) which in the accessories box, the crimp the terminal tightly.
4. Connect the power cable to the terminal block of the hybrid inverter and restore the inverter terminal cover plate.

D. To communication cable for battery is attached on the inverter.
Please use this cable as battery communication cable.

E. The other side of “To Battery” cable should be connected to CAN port of BYD BCU.

F. On PV Master, should choose the right battery type used in your system by “Battery Model” selection or battery communication will fail.

G. After all connection and setting done, please check if battery communication is OK on PV Master→Param→BMS Status, which should be “Normal”.

H. After all connection and setting done, please check if battery communication is OK on PV Master→Param→BMS Status, which should be “Normal”.
3. GCL
For GCL E-KwBe series with hybrid inverter.

A
Make sure that the inverter and the battery pack is turned off before connecting the battery pack to the inverter.

Note: If connect multi batteries (max 4 pieces), please refer to battery user manual to do configuration on batteries.

B
To connect the cables coming from the inverter to the GCL battery pack, take the following steps:
- Connect the power cables to the terminal block of GCL battery pack.
- Connect the negative cable to “-” and the positive cable to “+”.

C
1. Cut off the plastic skin of the cable.
2. Put the cable through the terminal cover plate.
3. Plug the metal part into the battery R-type terminal (23-4) which is in the accessories box, the crimp the terminal tightly.
4. Connect the power cable to the terminal block of the hybrid inverter and restore the inverter terminal cover plate.

D
To communication cable for battery is attached on the inverter.
Please use this cable as battery communication cable.

E
The other side of “To Battery” cable should be connected to CAN port of BYD BMU box.

F
On PV Master, should choose the right battery type used in your system by “Battery Model” selection or battery communication will fail.

4. LG
For LG RESU series hybrid inverter.

A
Make sure that the inverter and the battery pack is turned off before connecting the battery pack to the inverter.

B
Remove the top cover. Hold both sides of the top cover and pull it upwards.

C
Connect the power cables to the terminal block through the grommet.
1. Remove the terminal cover plate, which is placed over the terminal block.
2. Plug the metal part into the battery R-type terminal (23-4) which is in the accessories box, the crimp the terminal tightly.
3. Restore the battery terminal cover plate.

D
1. Cut off the plastic skin of the cable.
2. Put the cable through the terminal cover plate.
3. Plug the metal part into the battery R-type terminal (23-4) which is in the accessories box, the crimp the terminal tightly.
4. Connect the power cable to the terminal block of the hybrid inverter and restore the inverter terminal cover plate.

E
The communication cable for battery is attached on the inverter.
Please use this cable as battery communication cable.

F
The other side of “To Battery” cable should be connected to CAN port on the top side of LG battery.

G
There are three DIP switches and three rotary switches on battery, which should be set as below.

H
On PV Master, should choose the right battery type used in your system by “Battery Mode” selection or battery communication will fail.

I
After all connection and setting done, please check if battery communication is OK on PV Master→Param→BMS Status, which should be “Normal”.

Note: RESU 4CX has no DIP switches, you can ignore this part.
5. Pylon

A. Make sure that the inverter and the battery pack is turned off before connecting the battery pack to the inverter.

B. To connect the cables coming from the inverter to the OCL battery pack, take the following steps: Connect the negative cable to the black terminal and the positive cable to the orange terminal.

C. 1. Cut off the plastic skin of the cable.
2. Put the cable through the terminal cover plate.
3. Plug the metal part into the battery Rkype terminal (20-4) which in Goodwe accessories box, then crimp the terminal tightly.
4. Connect the power cable to the terminal block of the hybrid inverter and restore the inverter terminal cover plate.

D. The communication cable for battery is attached on the inverter. Please use this cable as battery communication cable.

E. The other side of "To Battery" cable should be connected CAN port of Pylon battery.

F. On PV Master, should choose the right battery type used in your system by "Battery Type" selection or battery communication will fail.

G. After all connections and settings are done, please check if battery communication is OK on PV Master → Param → BMS Status, which should be “Normal”.

6. Dyness
For Dyness B4850 series hybrid inverter.

A. Make sure that the inverter and the battery pack is turned off before connecting the battery pack to the inverter.

B. To connect the cables coming from the inverter to the Dyness battery pack, take the following steps: Connect the negative cable to the black terminal and the positive cable to the red terminal.

C. 1. Cut off the plastic skin of the cable.
2. Put the cable through the terminal cover plate.
3. Plug the metal part into the battery Rkype terminal (20-4) which in Goodwe accessories box, then crimp the terminal tightly.
4. Connect the power cable to the terminal block of the hybrid inverter and restore the inverter terminal cover plate.

D. The communication cable for battery is attached on the inverter. Please use this cable as battery communication cable.

E. The other side of "To Battery" cable should be connected CAN port of Dyness battery.

F. On PV Master, should choose the right battery type used in your system by "Battery Model" selection or battery communication will fail.

G. After all connections and settings are done, please check if battery communication is OK on PV Master → Param → BMS Status, which should be “Normal”.
7. Alpha
For Alpha SmileS-Bat series hybrid inverter.

A. Make sure that the inverter and the battery pack is turned off before connecting the battery pack to the inverter.

B. To connect the cables coming from the inverter to the SMILES battery pack, take the following steps:
   1. Connect the negative cable to the black terminal and the positive cable to the red terminal.
   2. The communication cable for battery is attached on the inverter. Please use this cable as battery communication cable.
   3. On PV Master, should choose the right battery type used in your system by Battery type used in your system by "Battery Model selection" or battery communication will fail.
   4. After all connections and settings are done, please check if battery communication is OK on PV Master ➔ Piyam ➔ BMS Status, which should be "Normal".

C. Preparation
1. Power Wi-Fi inverter (or Power on inverter) on.
2. Power router on.

D. Connect to "Solar-WiFi"
- Enter User name: admin, Password: admin, click OK.
- Connect to "Solar-WiFi".
- Please select your wireless network.
- Connect to Wi-Fi by selecting the network, please go to PV Master ➔ BMS Status ➔ Wi-Fi connect, fill in password and click OK.

E. Note:
   - If the Wi-Fi module refers to "Device information" column, it refers to "Device information" column.
   - If the router is not in the site list, please refer to No 4 in "Troubleshooting".

F. Connect to "Solar-WiFi"
- Fill in router password and click "Next".
- Please make sure all parameters of wireless network are matched with the router’s, including password.
- The Wi-Fi module fail to connect to network after enter the right password, it’s possible that there is a special characters not supported by module in the hotspot passwords.

G. Preparation
1. Click "Complete", the correct configuration will save all your settings.
2. Go to PV Master ➔ BMS Status ➔ Wi-Fi connect. Check all parameters and click "Save".
3. If Wi-Fi module fail to connect to network after enter the right password, it’s possible that there is a special characters not supported by module in the hotspot passwords.
## Troubleshooting

<table>
<thead>
<tr>
<th>No.</th>
<th>Problem</th>
<th>Checking items</th>
</tr>
</thead>
</table>
| 1   | Cannot find Solar-WIFI Signal | 1. Make sure Inverter is powered on;  
2. Move your smart device closer to inverter;  
3. Restart Inverter;  
4. Do "WiFi Reload" operation refer to user manual. |
| 2   | Cannot connect to Solar-WIFI Signal | 1. Try password: 12345678;  
2. Restart Inverter;  
3. Make sure there is no other device connected to Solar-WIFI;  
4. Do "WiFi Reload" operation and try again. |
| 3   | Cannot login website 10.10.100.253 | 1. Make sure user name and password you use are both admin;  
2. Do "WiFi Reload" operation and try again;  
3. Try another browser (suggest use Google, Firefox, IE, Safari etc.);  
4. Make sure website you login in is 10.10.100.253 |
| 4   | Cannot find router SSID | 1. Move router closer to Inverter or use a Wi-Fi repeater device;  
2. Connect to router and login the setting page to check the channel it uses. Please make sure the channel is not bigger than 13. Otherwise, modify it. |
| 5   | Cannot find Solar-WIFI Signal | 1. Restart Inverter;  
2. Connect to Solar-WIFI and login again, check the "SSID", "Security Mode", "Encryption Type" and "Pass Phrase" is matching with that of router or not;  
3. Connect to router and login to check if the connection reaches the maximum amount or not, and to check the channel it uses. Please make sure the channel is not bigger than 13. Otherwise, modify it;  
4. Restart router;  
5. Move router closer to inverter or use a Wi-Fi repeater device. |
| 6   | After configuration, WIFI Led on Inverter blink four times repeatedly | 1. Connect to the router and visit the portal: [www.sensisportal.com](http://www.sensisportal.com), check the portal is available or not;  
2. Restart router and Inverter; |