

# Technical Training Course Force – H series

May 2020



Reliable and balanced electricity

# C O N T E N T

**01** Product Introduction

**02** Configuration

**03** Installation

**04** Power on/off

**05** Trouble-shooting

**06** Replacement

Reliable and balanced electricity

A large, stylized number "01" in a bold, black sans-serif font. The "0" is partially enclosed by a grey, rounded rectangular shape, and the "1" is partially enclosed by a yellow, rounded rectangular shape.

# Product Introduction



## Technical Specification



| Basic Parameters                                    | FORCE H1<br>(336V74AH)                      | FORCE H2<br>(384V37AH)                      |
|---|---|---|
| Battery Module                                      | FH48074                                     | FH9637M                                     |
| Battery Module Voltage(Vdc)                         | 48  | 96  |
| Battery Module Capacity(Ah)                         | 74  | 37  |
| Battery Module Qty.(Optional)                       | 3~7 Pcs                                     | 2~4 Pcs                                     |
| Battery System Capacity(kWh)                        | 24.86                                       | 14.21                                       |
| Battery System Voltage (V)                          | 336   | 384   |
| Dimension(W*D*H cm)                                 | 600*380*1380                                | 450*296*1415                                |
| Weight(kg)  | 259   | 155   |
| Depth of Discharge                                  | 90%   | 90%   |
| Charge&Discharge Current<br>(continuous/max., amps) | 37/40                                       | 18.5/40                                     |
| Communication                                       | CAN,Modbus                                  | CAN,Modbus                                  |
| Protection Class                                    | IP55  | IP55  |
| Working Temperature( C )                            | 0-50  | 0-50  |
| Storage Temperature( C )                            | -20-60                                      | -20-60                                      |
| Design Life   | 15 <sup>+</sup> Years(25 C /77 F)           | 15 <sup>+</sup> Years(25 C /77 F)           |
| Authentication Level                                | UL/IEC62619/IEC62477/<br>IEC62040/CE/UN38.3 | UL/IEC62619/IEC62477/<br>IEC62040/CE/UN38.3 |

- Capacity choice from **7.10 – 24.86kWh**  
Force H1 - typical RESS & light commercial  
Force H2 - 3-Phase small RESS
- Modular design, flexible on expansion
- **35kG** per module, light on weight  
stackable mounting, installation cost save
- **0.5C** continuous running, **40Amps** max.
- Intelligent communication
- Available for **outdoor** installation
- Long life cycle, **10yrs** standard warranty
- Most rigorous safety test



# 02

## Application & Configuration

# Application



**Back Up**



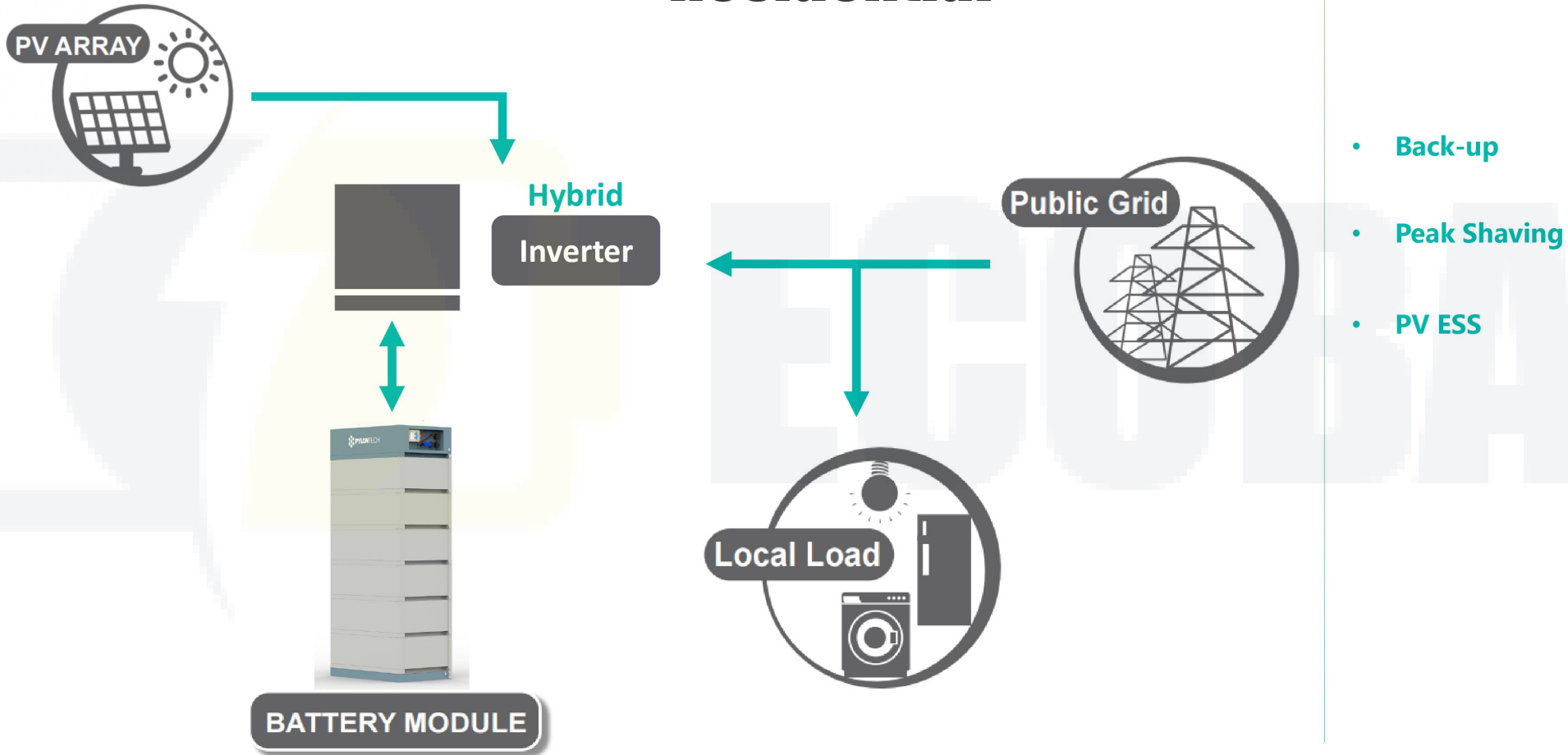
**Residential**



**Commercial**

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# Residential



- Back-up
- Peak Shaving
- PV ESS

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# Configuration

| Item       | Amount | Min. Voltage(Vdc) | Max. Voltage(Vdc) | Nominal Capacity(kWh) | Usable Capacity(kWh) | Rated Power(kW)(1) | Peak Power (kW, 15S)(1) | Min. Back-up time(2) |
|------------|--------|-------------------|-------------------|-----------------------|----------------------|--------------------|-------------------------|----------------------|
| Force - H1 | 3      | 130.5             | 162               | 10.7                  | 9.6                  | 5.3                | 5.8                     | 1.8hrs               |
|            | 4      | 174               | 216               | 14.2                  | 12.8                 | 7.1                | 7.7                     | 1.8hrs               |
|            | 5      | 217.5             | 270               | 17.8                  | 16.0                 | 8.9                | 9.6                     | 1.8hrs               |
|            | 6      | 261               | 324               | 21.3                  | 19.2                 | 10.7               | 11.5                    | 1.8hrs               |
|            | 7      | 304.5             | 378               | 24.9                  | 22.4                 | 12.4               | 13.4                    | 1.8hrs               |
| Force - H2 | 2      | 174               | 216               | 7.1                   | 6.4                  | 3.6                | 7.7                     | 1.8hrs               |
|            | 3      | 261               | 324               | 10.7                  | 9.6                  | 5.3                | 11.5                    | 1.8hrs               |
|            | 4      | 348               | 432               | 14.2                  | 12.8                 | 7.1                | 15.4                    | 1.8hrs               |

(1)Rated/Peak Power is base on ideal operation temperature(10 - 40°C), during charging the power will leveling decrease when reaching full capacity.

(2) Min. Back-up time is base on rated power and related condition during beginning of life, in real application please consider the load.

## Quotation Item:

1. Battery Module(FH48074/FH9637M) – varying amount depends on application.
2. BMS(FC0500-40S/FC0500M-40S) – 1pcs per system, include external cables.

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# 03

## Installation



# Installation Checking List

## 1) For battery module package:

1\*battery module.

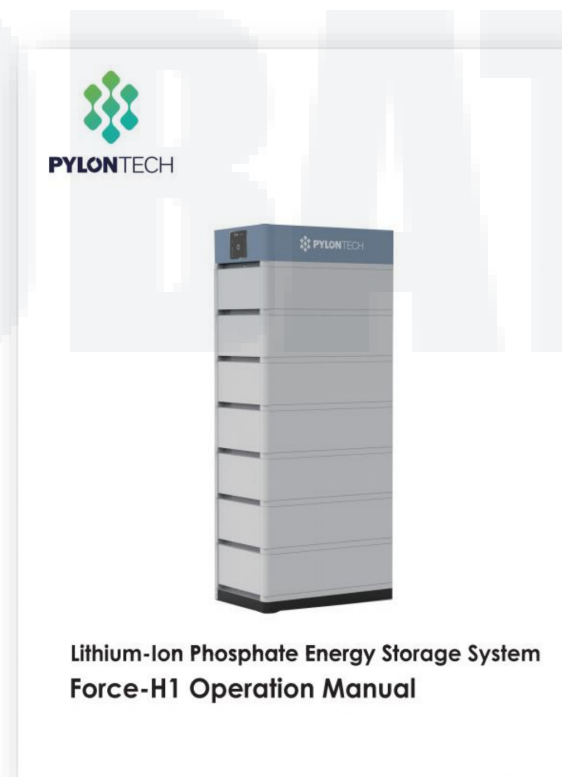
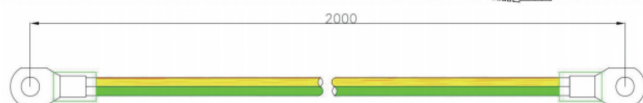
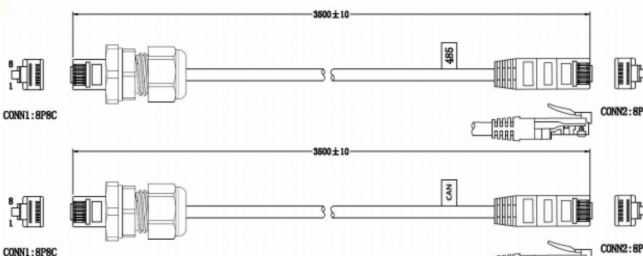
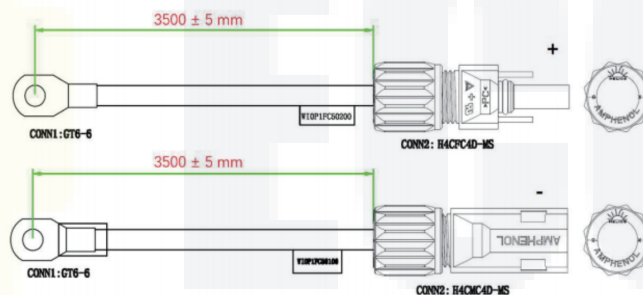
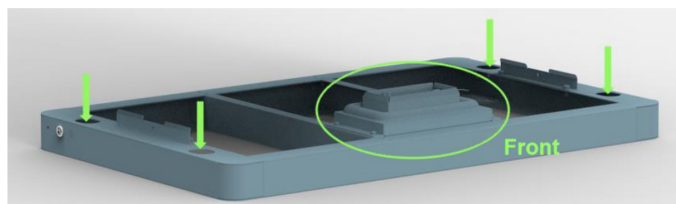


# Installation Checking List

## 2) For BMS package:

1\*BMS, 2\*long metal bracket, 2\*short metal bracket, 1\*base, 2\*power cable(3.5M),

2\*communication cable(3.5M), 1\*grounding cable(2M), screws, manual and warranty card.



## **BEFORE YOU START**

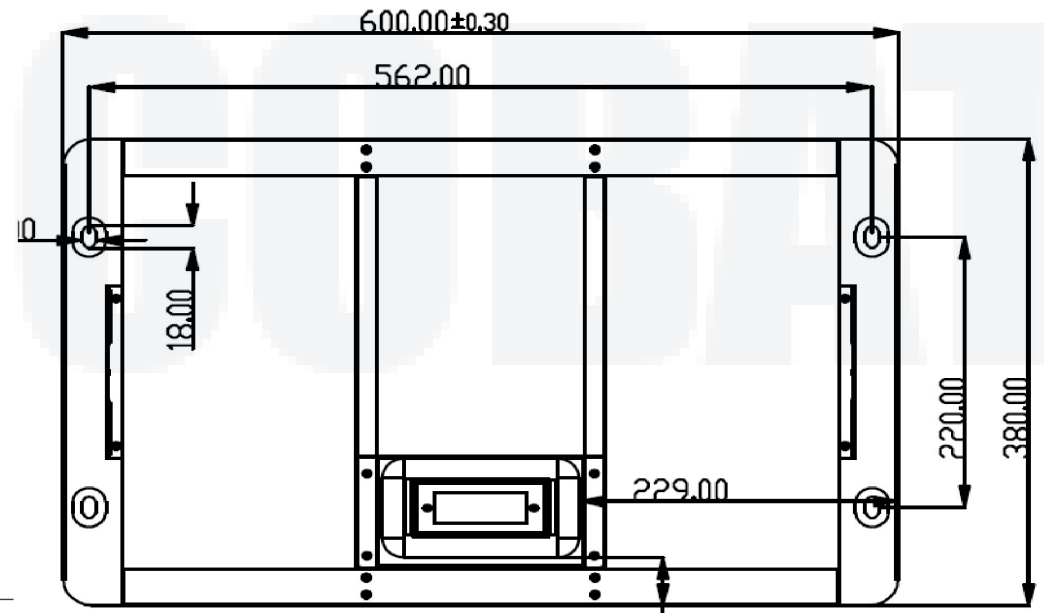
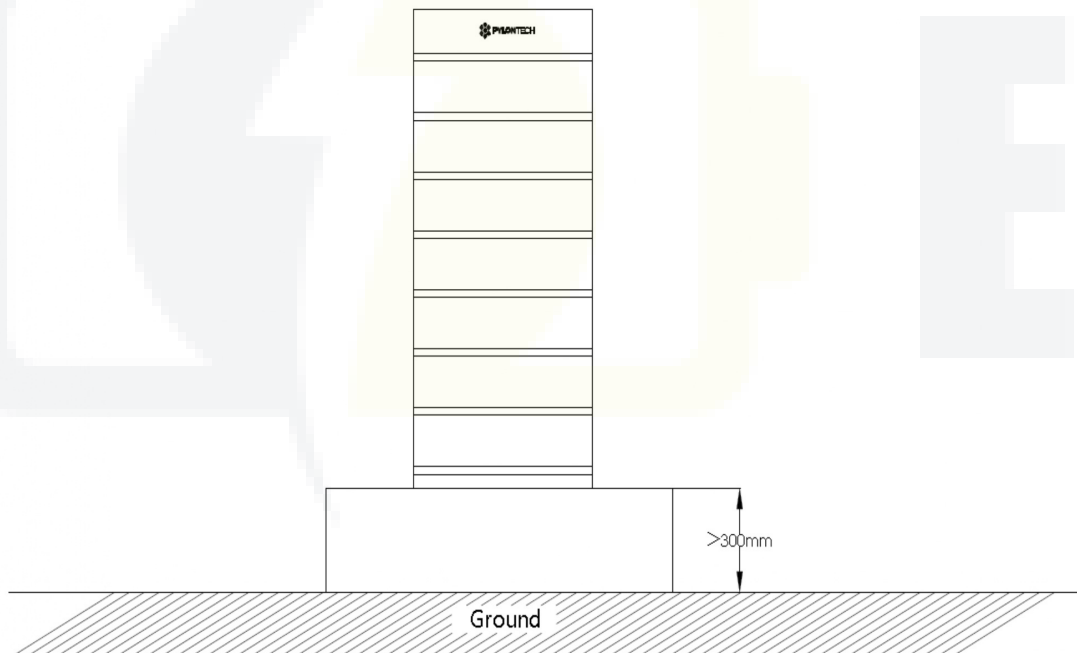
- Installation Manual
- Location & Environment
- Tools & Accessories
- Compatible Inverter

**ECOBAT**

# INSTALLATION

## 1) Installation of the base:

>300mm above ground, support of 130 ~ 300kG, fixed with 4\*M8\*80 foundation bolts.

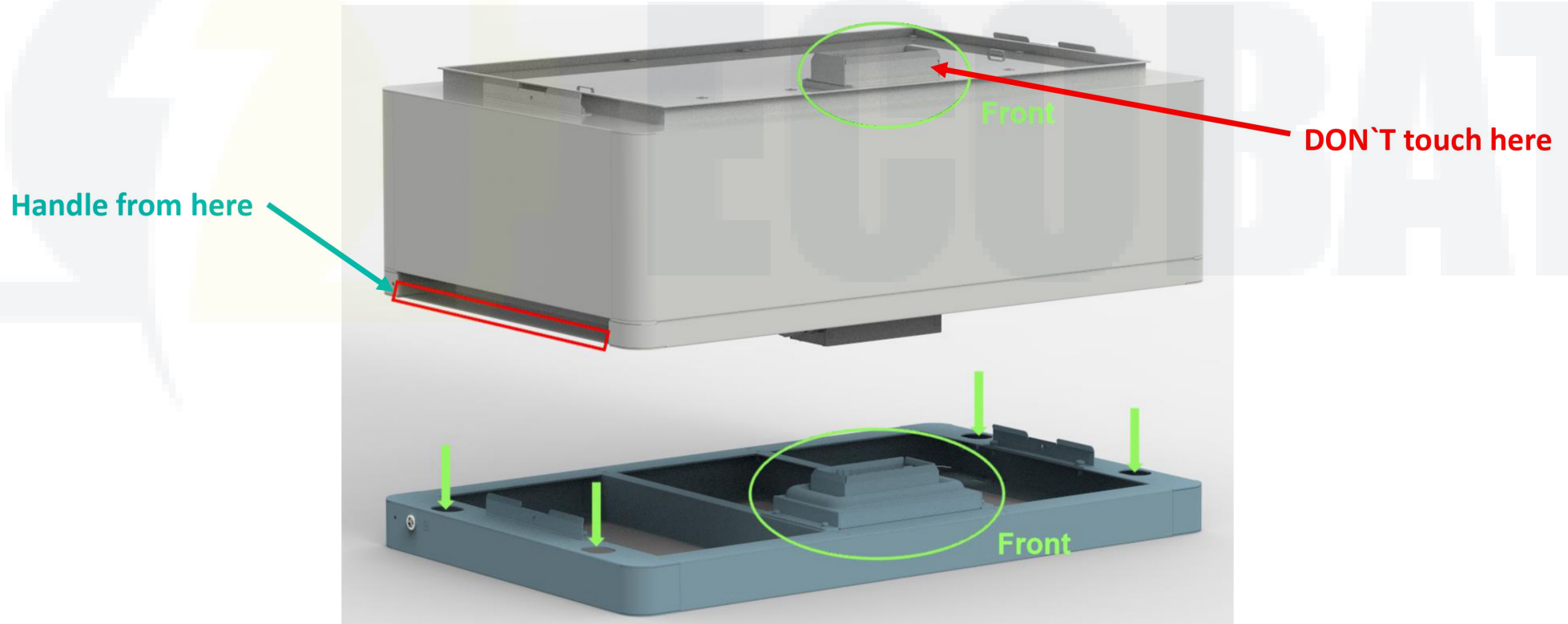


# INSTALLATION

## 2) Mounting battery module and BMS:

Handle the red marked edgings of the both side of these battery modules and control module (BMS).

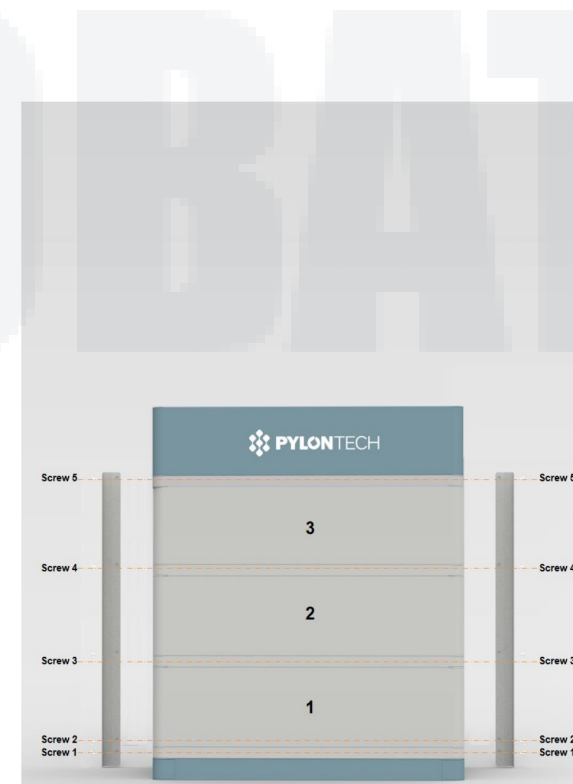
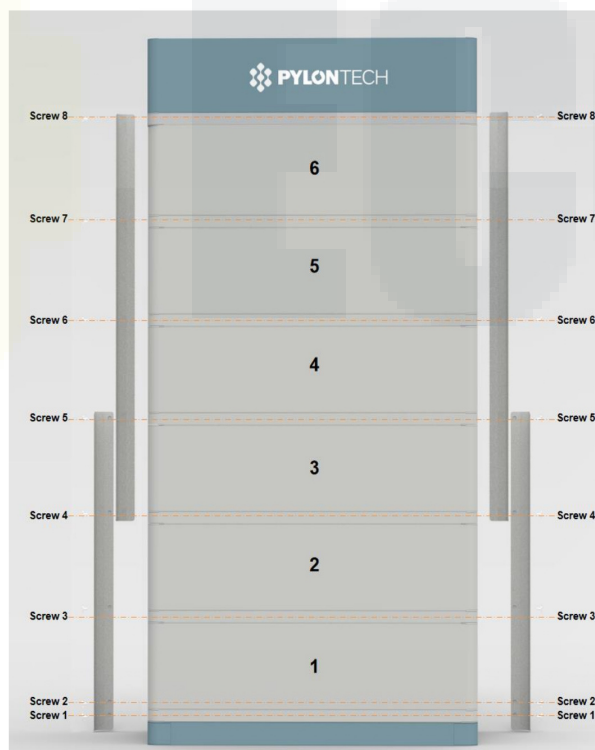
**Do not** touch the connector on front.



# INSTALLATION

## 3) Fix the metal bracket:

Long bracket – for connecting max. 4 modules; Short bracket – for connecting max. 3 modules.  
Bracket can be overlap together; Make sure the bracket is fixed from the base with screws.



# INSTALLATION

## 4) Lock the BMS with screws:

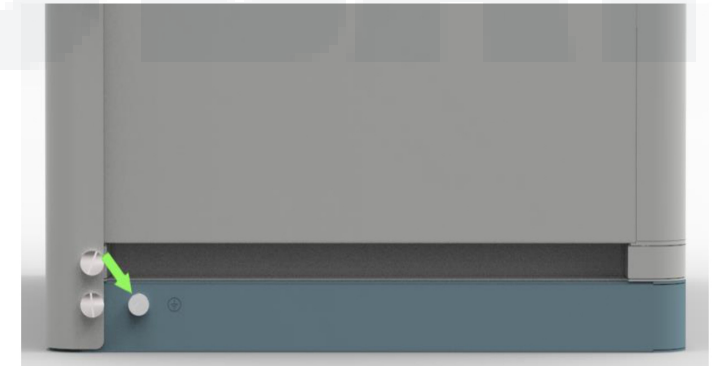
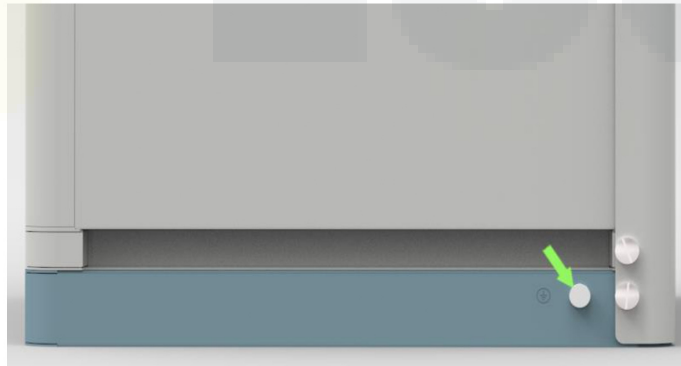
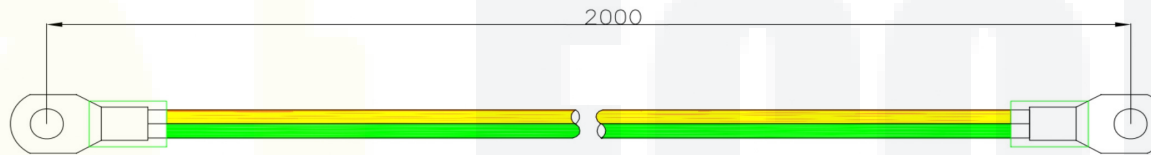




# INSTALLATION

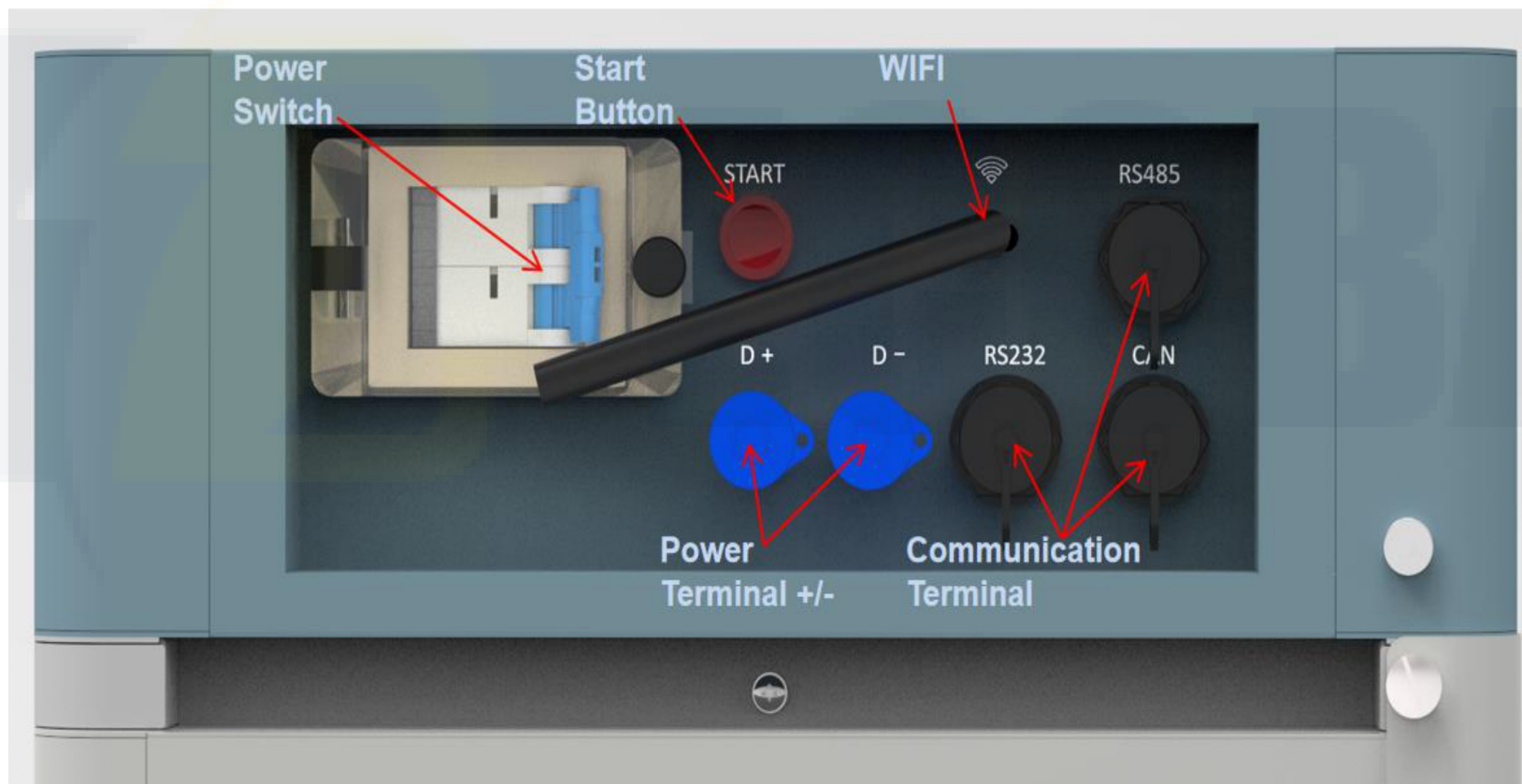
## 5) Grounding cable connection:

Grounding cable must  $\geq 10\text{AWG}$ ; Resistance must be less than  $100\text{m}\Omega$ .



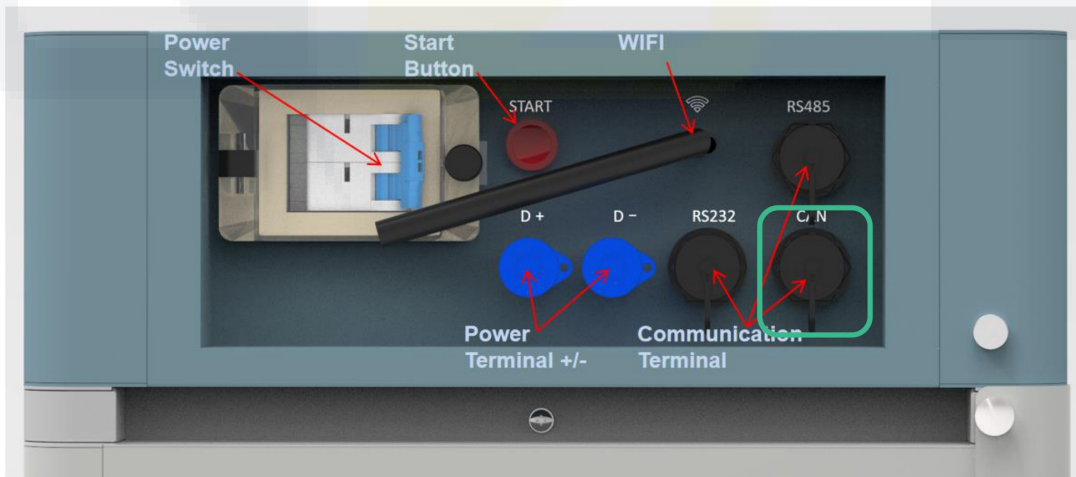
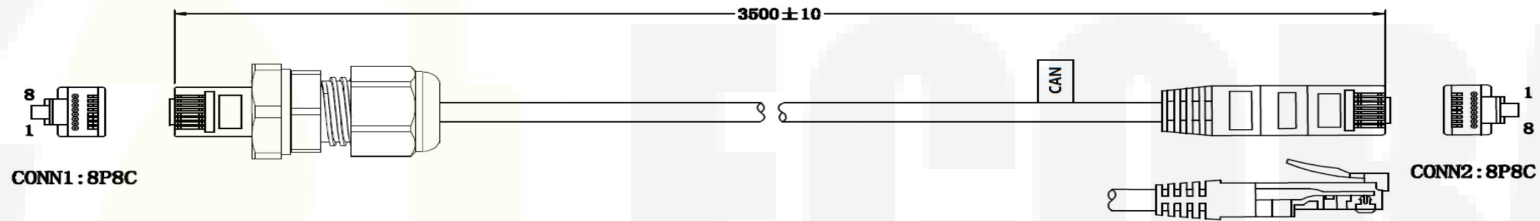
# INSTALLATION

## 6) Connection Panel Interface:



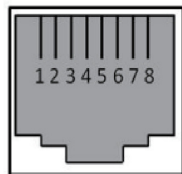
# INSTALLATION

## 7) Communication cable connection:



Definition of RJ45 Port Pin

| No. | CAN  | RS485  | RS232 |
|-----|------|--------|-------|
| 1   | ---  | ---    | ---   |
| 2   | GND  | ---    | ---   |
| 3   | ---  | ---    | TX    |
| 4   | CANH | ---    | ---   |
| 5   | CANL | ---    | ---   |
| 6   | ---  | ---    | RX    |
| 7   | ---  | RS485A | ---   |
| 8   | ---  | RS485B | ---   |



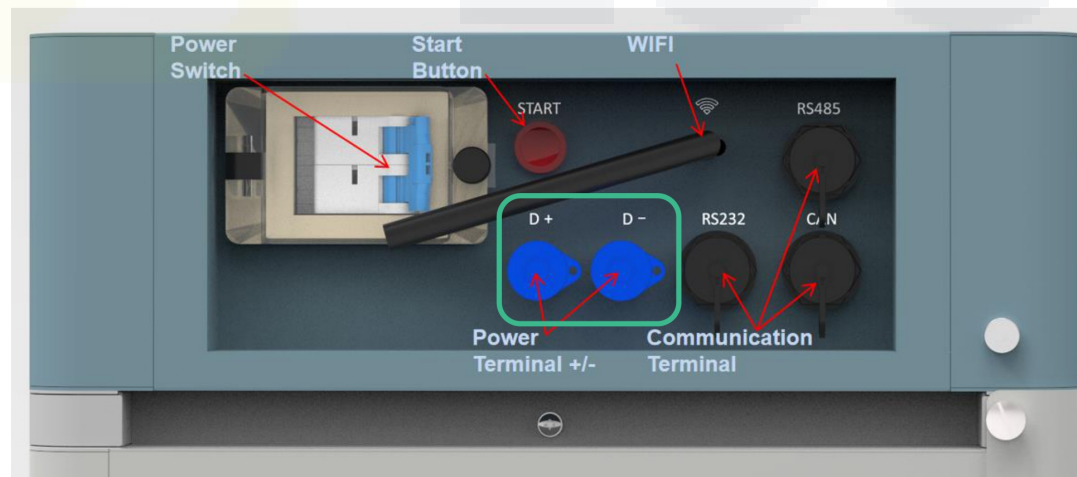
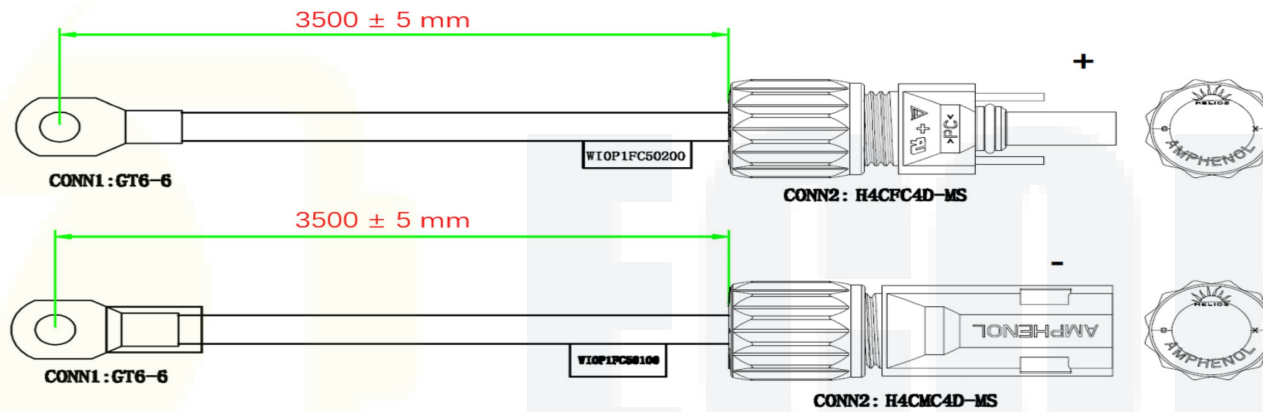
RJ45 Port



RJ45 Plug

# INSTALLATION

## 8) Power cable connection:



# 04


Power on/off



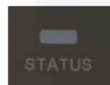
# Display Panel

## 1) Display panel:

### LED Button

|   |                                   |   |
|---|-----------------------------------|---|
|  | Short Press                       | Display the LED panel for 20sec.  |
|   | Long Press<br>(more than<br>5sec) | When status LED fast flashes blue ●, loss the button, then it is 115200 baud rate of RS485. |
|   |                                   | When status LED fast flashes orange ●, loss the button, then it is 9600 baud rate of RS485. |

### Status



2 colors, Blue and orange  
Refer to [LED Indicators Instructions]

### Battery Module Status

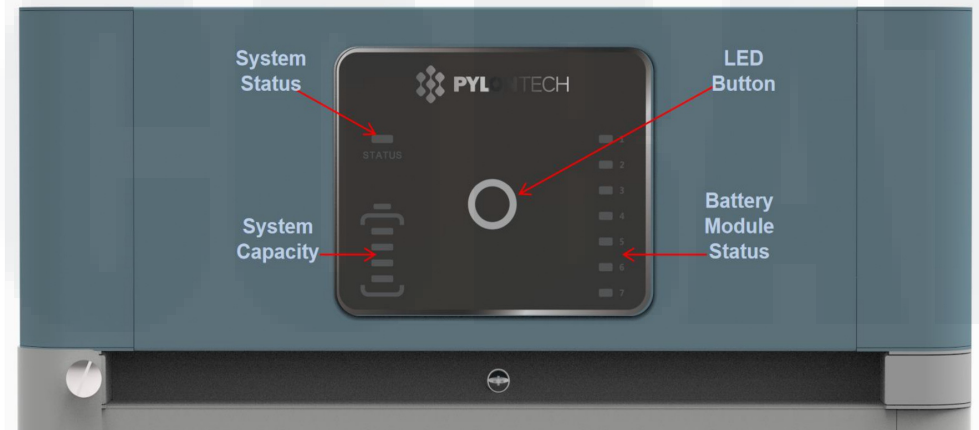
|  |              |  |
|--|--------------|--|
|  | Blue solid   | Normal   |
|  | Orange solid | Individual module alarm or protection. See trouble shooting steps in section 5.1 |

### System Capacity



System SOC  
Each LED indicate 25%SOC


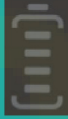
Indicate the system SOC.

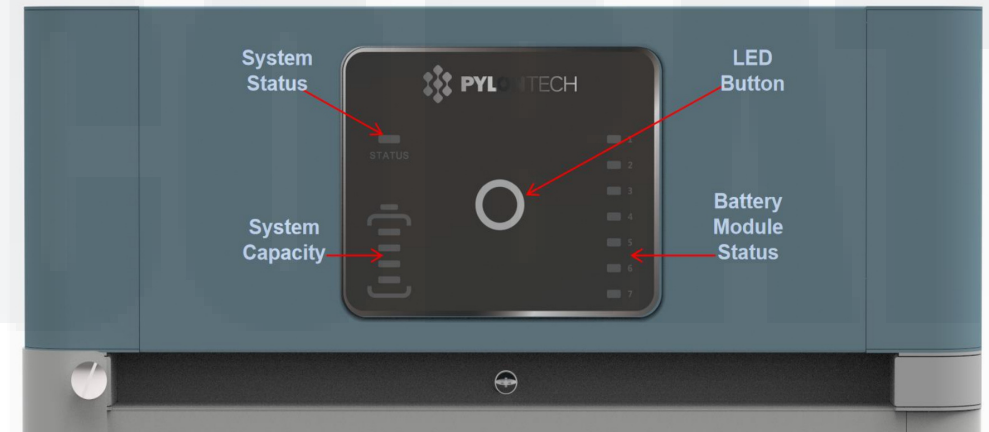


# Display Panel

## 1) Display panel:

### LED Indicators Instructions

| Condition                       |  |  | Note   |
|---------------------------------|---|---|--|
| Self-checking                   | Blue, Flashing  | All flashing  |  |
| Self-checking failure           | Orange, flashing<br>Slow  | Off   | Battery Module Status off. See trouble shooting steps in section 5.1 |
| Black start success             | Blue, fast flashing   | Off   |  |
| Black start failure             | Orange, flashing<br>Fast  | Off   | See trouble shooting steps in section 5.1                            |
| Communication Lost or BMS error | Orange, solid   | Indicate SOC, blue, solid   | See trouble shooting steps in section 5.1                            |
| Idle                            | Blue, slow flashing   | Indicate SOC, blue, solid   |  |
| Charge                          | Blue, solid   | Indicate SOC, blue, solid   |  |
| Floating charge                 | Blue, solid   | All flashing, horse race lamp   |  |
| Discharge                       | Blue, flashing  | Indicate SOC, blue, solid   |  |
| System sleep                    | Blue, flashing  | Off   | Battery module status off  |

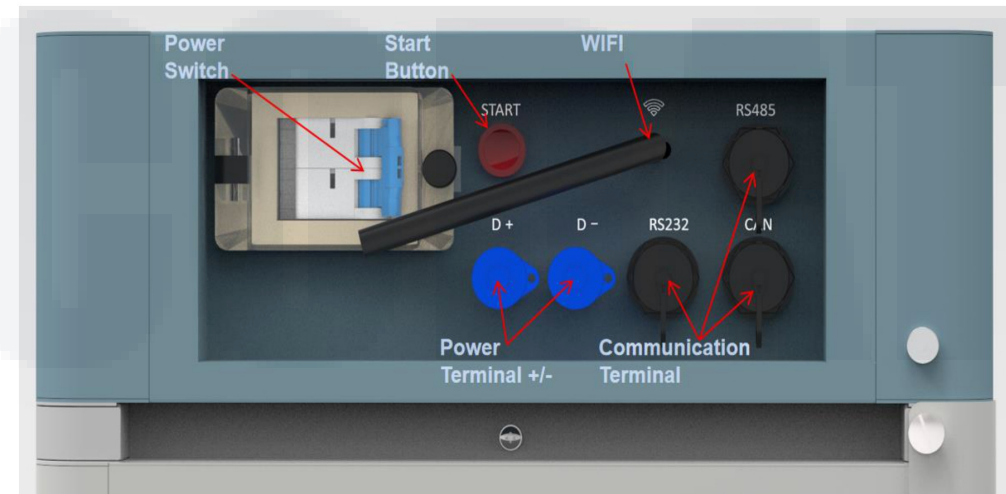


# POWER ON

## 2) Power on:

Double check all the previous installation procedures.

1. Switch ON Power Switch.
2. Press Start Button for  $\geq 5S$ , or till buzzer rings.
3. BMS need  $\sim 30S$  for self-checking.



\*Make sure there is communication between inverter and BMS, otherwise will report external communication lost and no power output.

\*When the breaker is tripped off because of over current or short circuit, must wait after 10min to turn on it again, otherwise may cause the breaker damage.

\*During first time power on, the system will require to do fully charge progress for SOC calibration purpose.

\*It's also suggest to follow the BMS full charge flag to fully charged the system every 90days for better performance.



# POWER ON

## 3) Black start:

Double check all the previous installation procedures.

1. Switch ON Power Switch.
2. Press Start Button for  $\geq 5S$ , or till buzzer rings.
3. BMS need  $\sim 30S$  for self-checking.

Status: Orange, solid

SOC: blue, solid

4. Press the Start button again for  $\geq 10S$ , till the **Status** lighting

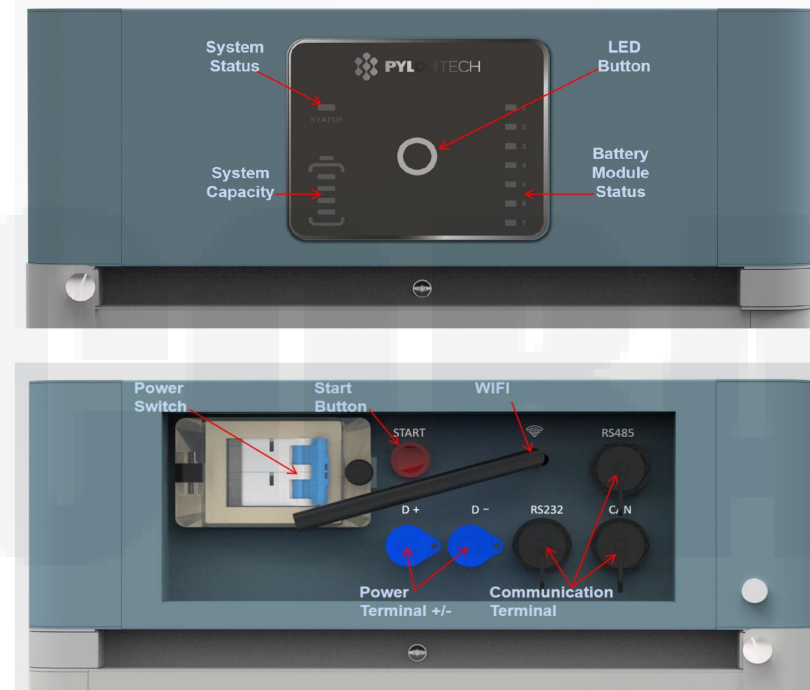
**Blue** and fast flashing, then battery will black start to support inverter for 10mins to establish communication.

\*Make sure there is communication between inverter and BMS, otherwise will report external communication lost and no power output.

\*When the breaker is tripped off because of over current or short circuit, must wait after 10min to turn on it again, otherwise may cause the breaker damage.

\*During first time power on, the system will require to do fully charge progress for SOC calibration purpose.

\*It's also suggest to follow the BMS full charge flag to fully charged the system every 90days for better performance.

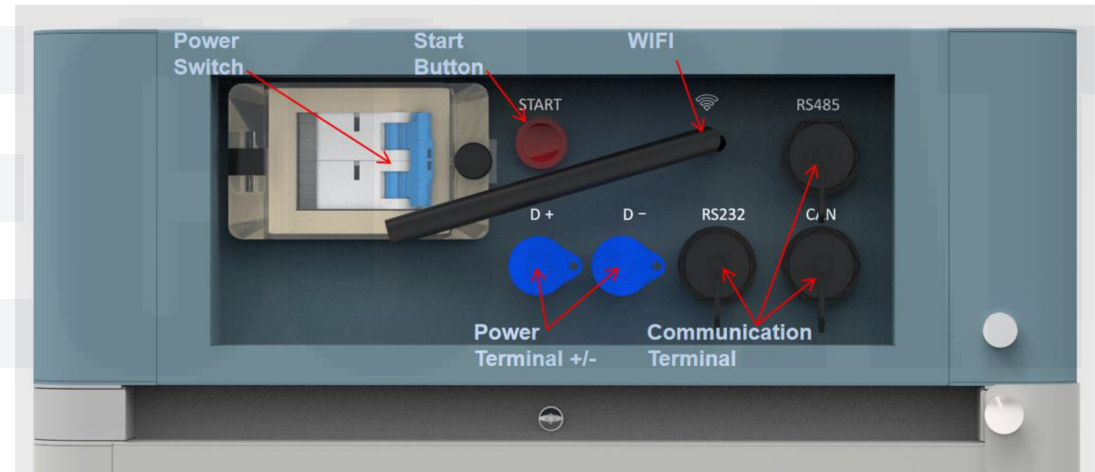


# POWER OFF

## 4) Power off:

Double check all the previous installation procedures.

1. Turn off inverter or power supply on DC side.
2. Turn off the switch between PCS and battery system.
3. Turn off the “Power Switch” of the BMS.



A large, stylized number "05" in a bold, black, sans-serif font. The number is set against a background of a light gray and yellow abstract shape that resembles a stylized "E" or a similar character.

Trouble shooting



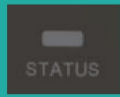
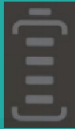
# Check List

- Environment
- Power cable connection
- Communication pinout & baud-rate
- Display panel
- Trouble shooting table
- Maintenance tool / Upper controller

# Trouble shooting

- Display panel

## LED Indicators Instructions

| Condition                       |  |  | Note   |
|---------------------------------|--|---|--|
| Self-checking                   | Blue, Flashing   | All flashing  |  |
| Self-checking failure           | Orange, flashing<br>Slow   | Off   | Battery Module Status off. See trouble shooting steps in section 5.1 |
| Black start success             | Blue, fast flashing  | Off   |  |
| Black start failure             | Orange, flashing<br>Fast   | Off   | See trouble shooting steps in section 5.1                            |
| Communication Lost or BMS error | Orange, solid  | Indicate SOC, blue, solid   | See trouble shooting steps in section 5.1                            |
| Idle                            | Blue, slow flashing  | Indicate SOC, blue, solid   |  |
| Charge                          | Blue, solid  | Indicate SOC, blue, solid   |  |
| Floating charge                 | Blue, solid  | All flashing, horse race lamp   |  |
| Discharge                       | Blue, flashing   | Indicate SOC, blue, solid   |  |
| System sleep                    | Blue, flashing   | Off   | Battery module status off  |

# Trouble shooting

## ● Trouble shooting table

Check the environment first

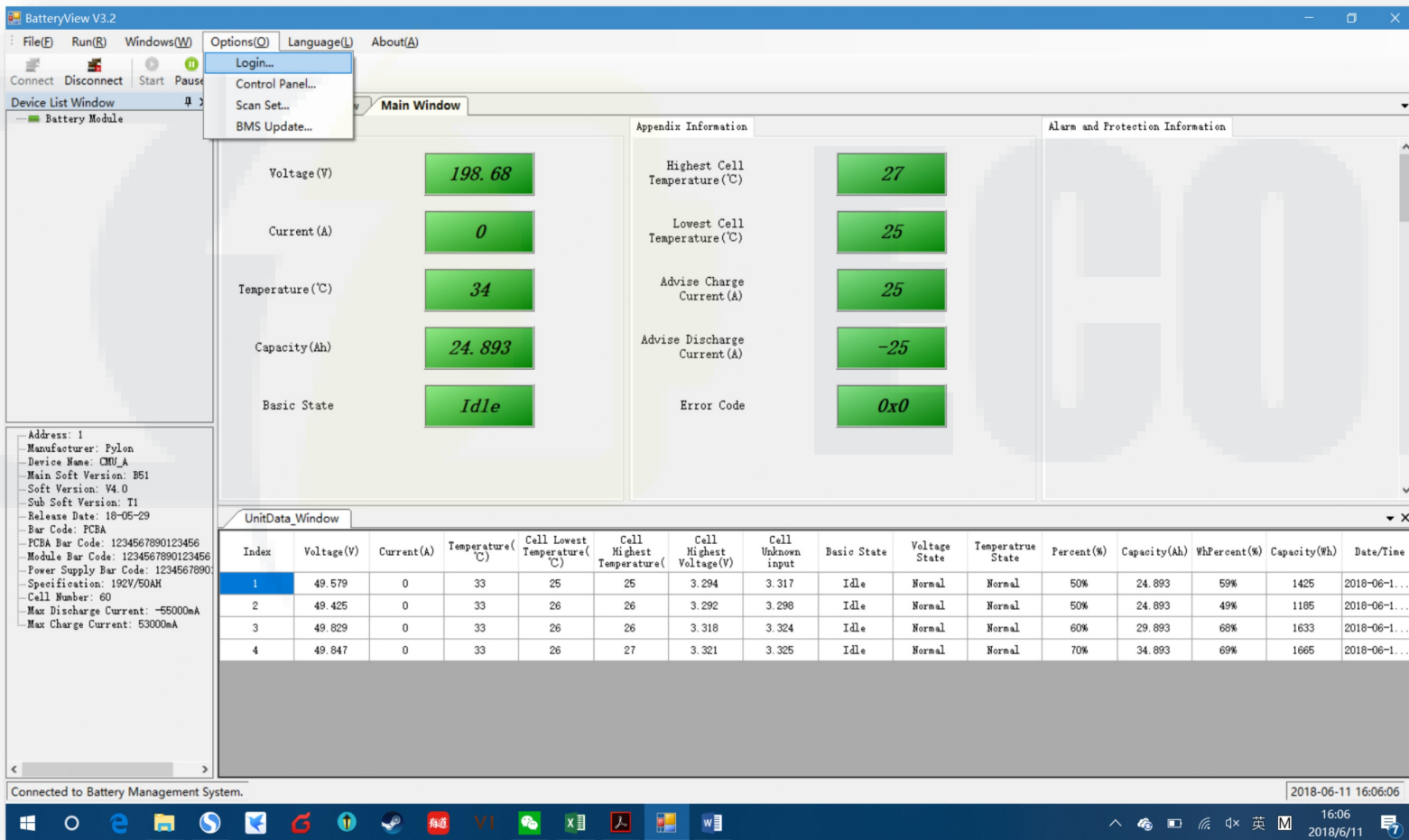
| No | Problem   | Possible Reason   | Solution   |
|----|---|---|--|
| 1  | No power output, no led on.                                   | Press start button too short.   | To turn on, at least 5s<br>To black start, at least 10s.   |
|    |   | The button battery in controller is missing or failure.<br>The power supply in controller is failure                                  | Change the controller module.  |
|    |   | The battery voltage is too low.   | Make sure at least 3 battery modules.  |
|    |   | The connector of base is failure  | The base is not connected or change the base   |
| 2  | After turned on, status LED slow flashing orange. Others off. | Self-checking failure.<br>DC side has a voltage, but voltage difference with the battery system is higher than 20V.                   | Make sure no DC voltage or set correct DC voltage before press start button.<br>Then follow turn on process.                 |
|    |   | BMS internal failure.   | Use debug tool to further analysis or change the controller module.  |
| 3  | Status LED fast flashing orange, others off.                  | The time interval after last time black start is too short.   | Wait more than 5 minutes and try black start again.  |
|    |   | The battery system under error condition such as: temperature or current protection or other error, thus do not response black start. | Make sure no other protection factor. Or use debug tool to further analysis.   |
| 4  | Buzzer rings continue   | Relay adhesion or failure.  | Completely disconnect battery system with any DC source then make a restart.<br>If problem remain, then swap the controller. |
| 5  | Status LED solid orange. Battery module LED blue solid.       | Communication lost with inverter  | Check the communication cable PIN and wiring whether is correctly.   |

|   |  |   |  |
|---|--|---|--|
|   |  | Over current protection.  | Check DC side. And wait until BMS release protection.                                      |
|   |  | Controller failure.   | Use debug tool to further analysis or change the controller module. Or use debug tool.     |
| 6 | Status LED solid orange. Battery module exists LED in orange solid | Over/ under temperature protection.   | Check environment temperature. And wait BMS release.                                       |
|   |  | Over voltage protection.  | Check DC charge voltage setting or wait BMS release.                                       |
|   |  | Under voltage protection.   | Use black start function, and then charge the system.                                      |
|   |  | Battery module BMS failure  | Use debug tool to further analysis or change the battery module.                           |
| 7 | All LED blue but no output.  | Fuse fusing   | Change the controller module   |
| 8 | Other failure  | Cell failure or electrical board failure. Or failure need debug tool for further debug. | Can't find out failure point or can't check. Please contact with distributor or Pylontech. |

Once a certain failure detected following the trouble shooting steps, shut down the battery string first before replacement to avoid further over discharge to the system due to the self-consumption.

# Maintenance tool / Upper controller

## ● Battery View



The screenshot shows the BatteryView V3.2 software interface. The main window displays several key metrics:

- Voltage (V): 198.68
- Current (A): 0
- Temperature (°C): 34
- Capacity (Ah): 24.893
- Basic State: Idle

Appendix Information includes:

- Highest Cell Temperature (°C): 27
- Lowest Cell Temperature (°C): 25
- Advise Charge Current (A): 25
- Advise Discharge Current (A): -25
- Error Code: 0x0

The UnitData\_Window at the bottom shows a table of battery cell data:

| Index | Voltage(V) | Current(A) | Temperature(°C) | Cell Lowest Temperature(°C) | Cell Highest Temperature(°C) | Cell Highest Voltage(V) | Cell Unknown input | Basic State | Voltage State | Temperature State | Percent(%) | Capacity(Ah) | WhPercent(%) | Capacity(Wh) | Date/Time           |
|-------|------------|------------|-----------------|-----------------------------|------------------------------|-------------------------|--------------------|-------------|---------------|-------------------|------------|--------------|--------------|--------------|---------------------|
| 1     | 49.579     | 0          | 33              | 25                          | 25                           | 3.294                   | 3.317              | Idle        | Normal        | Normal            | 50%        | 24.893       | 59%          | 1425         | 2018-06-11 16:06:06 |
| 2     | 49.425     | 0          | 33              | 26                          | 26                           | 3.292                   | 3.298              | Idle        | Normal        | Normal            | 50%        | 24.893       | 49%          | 1185         | 2018-06-11 16:06:06 |
| 3     | 49.829     | 0          | 33              | 26                          | 26                           | 3.318                   | 3.324              | Idle        | Normal        | Normal            | 60%        | 29.893       | 68%          | 1633         | 2018-06-11 16:06:06 |
| 4     | 49.847     | 0          | 33              | 26                          | 27                           | 3.321                   | 3.325              | Idle        | Normal        | Normal            | 70%        | 34.893       | 69%          | 1665         | 2018-06-11 16:06:06 |

Additional information in the bottom left includes device details like Manufacturer (Pylon), Device Name (CMU\_A), and various codes.

Connecting through BMS

RS232 Port to Laptop

- Monitoring
- Firmware Upgrade
- Acquire Historical Log
- Setting Change
- [Error Code](#)

# Firmware Upgrade

The screenshot shows the BatteryView V3.2 application with several windows open:

- Device List Window:** Shows a 'Battery Module' connected.
- History Data Window:** Displays a table of historical data with columns: Item, Time, Vo (mV), Cu (mA), Temp. The data shows a sequence of readings from 11:01:22 to 16:01:28.
- UnitData\_Window:** Displays a table of unit data with columns: Index, Voltage (V), Current (A), Temp. The data shows four units with voltages ranging from 49.422V to 49.839V.
- Update Window:** The active window for the firmware upgrade. It shows the file path 'C:\Users\Spens\Desktop\debug\PowerCube\_CMU\_A\_V4.0.bin' and a 'Program' button. Below it, there is an 'Updating Progress' section with a progress bar.
- Main Window:** Shows a terminal window with the following commands and output:
 

```

pylon_debug>
pylon_debug>
pylon_debug>
pylon_debug>
pylon_debug>datalist history 0
datalist history 0#
Save data every 1800 S
Item Time Vo (mV) Cu (mA) Temp
0 18-06-11 11:01:22 198891 0 3300
1 18-06-11 11:31:29 198844 0 3300
2 18-06-11 12:01:29 198816 0 3400
3 18-06-11 12:31:29 198792 0 3400
4 18-06-11 13:01:28 198763 0 3400
5 18-06-11 13:31:28 198753 0 3400
6 18-06-11 14:01:28 198729 0 3400
7 18-06-11 14:31:28 198718 0 3400
8 18-06-11 15:01:28 198700 0 3400
9 18-06-11 15:31:28 198690 0 3400
10 18-06-11 16:01:28 198682 0 3400
Command completed successfully
$$
pylon_debug>datalist event
      
```
- Bottom Panel:** Shows a table of battery status with columns: Temperature State, Percent (%), Capacity (Ah), WhPercent (%), Capacity (Wh), Date/Time. The data shows four units with temperatures ranging from 50% to 70% and capacities from 1185 Wh to 1665 Wh.

Connect to Battery View → Option → BMS Update → Browse firmware → Program till 100%



# Sample Log File

| no. | TIME            | VOLTAGE (V) | CURRENT (A) | TEMP (°C) | Single cell<br>Lowest Temp(°C) | Single cell<br>Highest Temp(°C) | Single cell<br>Lowest voltage(V) | Single cell<br>Highest voltage(V) | Basic<br>Status | Voltage<br>Status | Current<br>Status | Temp.<br>Status | SOC(%) |
|-----|-----------------|-------------|-------------|-----------|--------------------------------|---------------------------------|----------------------------------|-----------------------------------|-----------------|-------------------|-------------------|-----------------|--------|
| 0   | 2017/7/17 17:20 | 49.294      | -0.05       | 19        | 16                             | 17                              | 3.284                            | 3.287                             | Dischg          | Normal            | Normal            | Normal          | 58.00% |
| 1   | 2017/7/17 17:50 | 49.282      | 0           | 19        | 16                             | 17                              | 3.284                            | 3.287                             | Idle            | Normal            | Normal            | Normal          | 58.00% |
| 2   | 2017/7/17 18:20 | 49.28       | -0.05       | 19        | 16                             | 16                              | 3.284                            | 3.287                             | Dischg          | Normal            | Normal            | Normal          | 58.00% |
| 3   | 2017/7/17 18:50 | 49.28       | 0           | 19        | 16                             | 16                              | 3.284                            | 3.287                             | Idle            | Normal            | Normal            | Normal          | 58.00% |
| 4   | 2017/7/17 19:20 | 49.282      | -0.025      | 19        | 16                             | 16                              | 3.284                            | 3.287                             | Dischg          | Normal            | Normal            | Normal          | 58.00% |
| 5   | 2017/7/17 19:50 | 49.277      | -0.05       | 19        | 16                             | 16                              | 3.284                            | 3.286                             | Dischg          | Normal            | Normal            | Normal          | 58.00% |
| 6   | 2017/7/17 20:20 | 49.277      | -0.05       | 19        | 15                             | 16                              | 3.284                            | 3.286                             | Dischg          | Normal            | Normal            | Normal          | 57.00% |
| 7   | 2017/7/17 20:50 | 49.271      | 0           | 19        | 15                             | 16                              | 3.283                            | 3.286                             | Idle            | Normal            | Normal            | Normal          | 57.00% |
| 8   | 2017/7/17 21:20 | 49.268      | 0           | 19        | 15                             | 16                              | 3.284                            | 3.286                             | Idle            | Normal            | Normal            | Normal          | 57.00% |
| 9   | 2017/7/17 21:50 | 49.268      | 0           | 18        | 15                             | 16                              | 3.284                            | 3.286                             | Idle            | Normal            | Normal            | Normal          | 57.00% |
| 10  | 2017/7/17 22:20 | 49.265      | -0.05       | 18        | 15                             | 15                              | 3.283                            | 3.285                             | Dischg          | Normal            | Normal            | Normal          | 57.00% |
| 11  | 2017/7/17 22:50 | 49.263      | 0           | 19        | 15                             | 15                              | 3.283                            | 3.285                             | Idle            | Normal            | Normal            | Normal          | 57.00% |
| 12  | 2017/7/17 23:20 | 49.264      | -0.05       | 21        | 15                             | 16                              | 3.283                            | 3.286                             | Dischg          | Normal            | Normal            | Normal          | 57.00% |
| 13  | 2017/7/17 23:50 | 49.264      | -0.1        | 22        | 16                             | 16                              | 3.283                            | 3.286                             | Dischg          | Normal            | Normal            | Normal          | 57.00% |
| 14  | 2017/7/18 0:20  | 49.27       | -0.104      | 23        | 16                             | 17                              | 3.283                            | 3.286                             | Dischg          | Normal            | Normal            | Normal          | 57.00% |
| 15  | 2017/7/18 0:50  | 49.266      | -0.104      | 24        | 17                             | 18                              | 3.283                            | 3.286                             | Dischg          | Normal            | Normal            | Normal          | 57.00% |
| 16  | 2017/7/18 1:20  | 49.274      | -0.108      | 24        | 18                             | 18                              | 3.284                            | 3.286                             | Dischg          | Normal            | Normal            | Normal          | 56.00% |
| 17  | 2017/7/18 1:50  | 49.283      | -0.108      | 25        | 18                             | 19                              | 3.284                            | 3.287                             | Dischg          | Normal            | Normal            | Normal          | 56.00% |
| 18  | 2017/7/18 2:20  | 49.285      | -0.108      | 25        | 19                             | 20                              | 3.284                            | 3.288                             | Dischg          | Normal            | Normal            | Normal          | 56.00% |
| 19  | 2017/7/18 2:50  | 49.285      | -0.108      | 26        | 20                             | 20                              | 3.284                            | 3.288                             | Dischg          | Normal            | Normal            | Normal          | 56.00% |
| 20  | 2017/7/18 3:20  | 49.287      | -0.108      | 26        | 20                             | 21                              | 3.284                            | 3.288                             | Dischg          | Normal            | Normal            | Normal          | 56.00% |

Connect to Battery View  Window  History Data Window  Select cycle/event data  Download and Save



**06**

Replacement



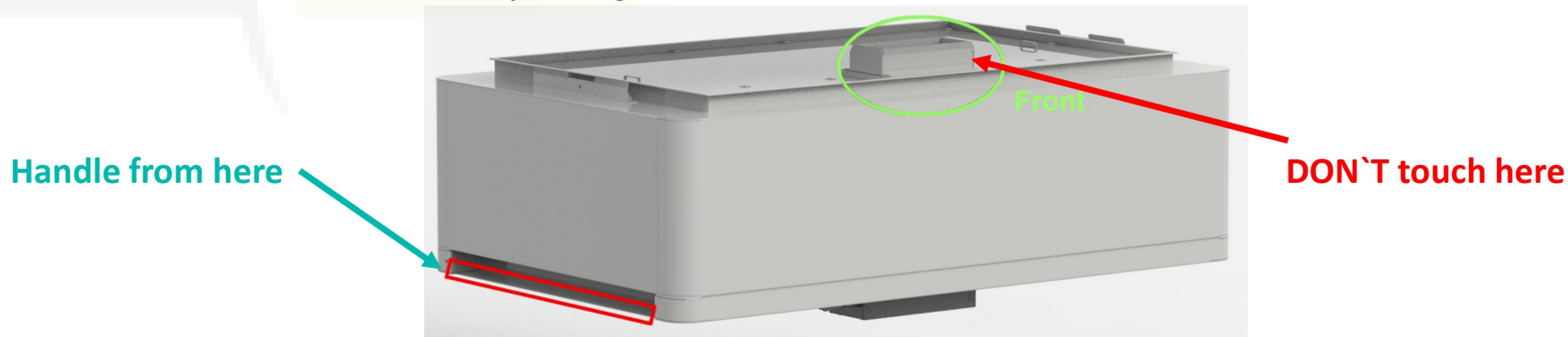
## BEFORE YOU START

- Problem is located follow above trouble shooting steps.
- Switch off / cut off external power from inverter or DC side.
- Switch off the BMS follow the Power OFF process.
- Double-confirm **D+** and **D-** terminal are without power.

# Replacement

## 1) Replace battery module:

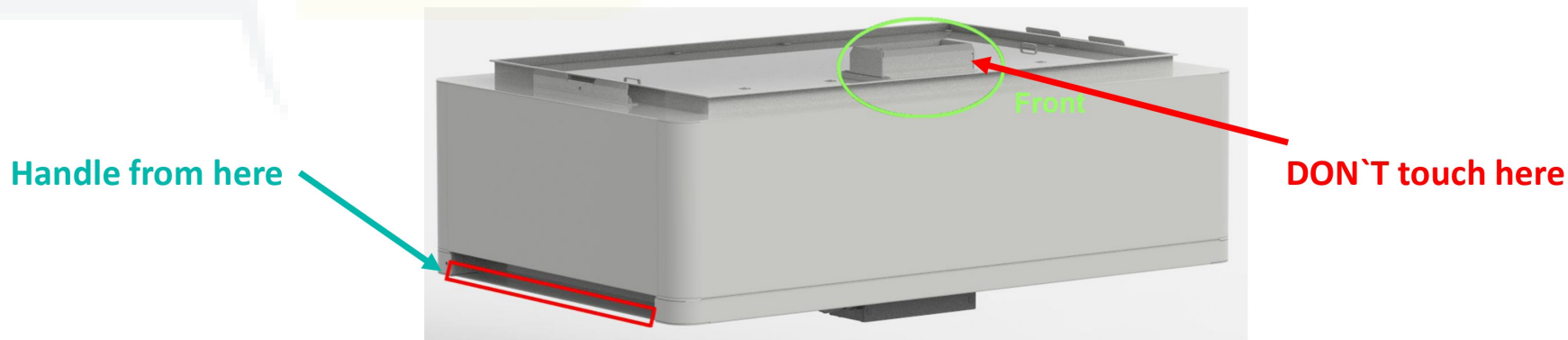
- Charge existing module to full(100%SOC), make sure the new battery module is 100%SOC as well.
- Dismantle D+ and D- Power Cable, Communication Cable and Grounding Cable.
- Dismantle the BMS`s fix screw of left and right side. And dismantle the fix metal brackets.
- Remove the BMS, be careful there still has DC voltage on the front connector.
- Remove the battery module till the defective one, be careful there still has DC voltage on the front connector.
- Mount up the new battery module, connect back the BMS and fix the bracket and screws.
- Double check the installation, then connect back the power and communication cable.
- Restart the BMS, make a fully charge.



# Replacement

## 2) Replace BMS:

- Dismantle D+ and D- Power Cable, Communication Cable and Grounding Cable.
- Dismantle the BMS`'s fix screw of left and right side. And dismantle the fix metal brackets.
- Remove the BMS, be careful there still has DC voltage on the front connector.
- Mount up the new BMS, fix back the brackets and screws.
- Double check the installation, then connect back the power and communication cable.
- Restart the BMS, make a fully charge for SOC calibration.



# AVANTAJE EXCLUSIVISTE INSTALATORI & REVÂNZĂTORI B2B



**Preturi  
dedicate**  
**Pentru Instalatori  
& Revânzători**



**Stoc  
permanent  
în România**



**Termene  
de plată**  
**Până la 90 zile**



**Livrare  
imediată**  
**24 - 48 ore**

## Prețuri dedicate

01

Pentru **Instalatori**  
& **Revânzători**



Punem accent pe parteneriatele noastre și recunoaștem rolul vital pe care îl jucați în industria energiei solare.

De aceea, oferim prețuri dedicate și competitive pentru instalatori și revânzători.

Aveți avantajul de a obține produsele noastre la costuri atractive, ceea ce vă permite să maximizați profitabilitatea și să oferiți prețuri competitive clienților dumneavoastră.

**Suntem aici să creștem împreună.**

**02** **Stoc permanent**  
Stoc permanent în România 

The section header is enclosed in a white rounded rectangle with a black border. On the left, the number "02" is inside a yellow hexagon. A black ribbon banner at the top contains the text "Stoc permanent". To the right of the main text is a yellow square containing a white icon of a folder with a shield.

Avem un stoc amplu de echipamente fotovoltaice în depozitul nostru din România.

Acest lucru ne permite să vă oferim posibilitatea de a ridica produsele imediat după comandă.

Nu trebuie să vă faceți griji cu privire la disponibilitatea sau întârzierile în livrare.

Suntem aici pentru a vă asigura că aveți acces rapid la echipamentele necesare pentru proiectele dvs.



## Termene de plată

03

Termene de plată  
De până la **90 de zile**



Înțelegem că gestionarea fluxului de numerar este esențială în afacerea dumneavoastră.

Prin parteneriatul cu Ecobat Energy, puteți beneficia de **termene de plată extinse de până la 90 de zile**.

Aceasta vă oferă flexibilitate financiară și vă permite să vă gestionați resursele într-un mod eficient.

Lucrând cu **Ecobat Energy**, veți avea un partener de încredere, **importator direct**, care vă oferă toate facilitățile necesare pentru a vă dezvolta afacerea în domeniul energiei solare.

## Livrare imediată

04

Livrare în 24-48 de ore  
oriunde în România



Înțelegem importanța unei livrări rapide și eficiente, într-o piață din ce în ce mai concurențială.

Cunoaștem urgența cu care utilizatorul final își dorește să finalizeze proiectul.

Colaborând cu Ecobat Energy, beneficiați de livrarea comenzilor dvs. în termen de 24-48 de ore, indiferent de locația din România.

Ne angajăm să vă furnizăm produsele la timp, astfel încât să puteți continua proiectele în mod eficient.



**Ești instalator sau revânzător de echipamente fotovoltaice?**

**Devino partener B2B **EcobatEnergy** și beneficiază acum de toate avantajele exclusive.**

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