battery energy
power solutions for tomorrow's world

EnerLIFE

Operation & Installation Guide

SUMMARY: This document is intended to be used with various Battery Energy LFP Battery types.

2 April 2026

BE-GE-MN054-Rev14

Revision Table

Revision	Description	Date	Amended
00	First Release	-	-

.

.

.

11	Added QR code scanning method	21.03.2025	HP
12	Added maintenance guide	11.04.2025	HP
13	Added drawings	25.11.2025	BF
14	Updated Product Numbers	18.01.2026	VY
15	Maintenance Charge	23.03.26	BF

Section 1 - Identification of the Material and Product

Battery Energy Power Solutions Pty Ltd
96 Fairfield Street
Fairfield NSW, 2165, AUSTRALIA

Phone: (02) 9681 3633
Fax: (02) 9632 4622
Email: customer.service@batteryenergy.com.au

Type	Volt	Capacity (Ah)	Height (mm)	Length (mm)	Width (mm)	Weight (kg)	Bolt size	Case material
BE-LFP 48V20Ah	48	28	88	245	442	14	M4	Steel
BE-LFP 48V105Ah	48	105	280	509	222	38	Clip-On	Steel
BE-LFP 48V100Ah Gen 3	48	100	321	558	165	47	M6	Steel
BE-LFP 48V115Ah Gen 4	48	115	133	552	483	46	Clip-On	Steel

Product Use: Lithium iron phosphate batteries for use in energy storage and reserved power.

For any queries, please contact Battery Energy Power Solutions Pty Ltd

Poisons Information Centre: Phone 13 1126 from anywhere in Australia

Section 2 - Introduction

This manual serves as a general introduction to the EnerLIFE LFP Range's Installation and Operation.

This document is intended to be used by qualified individuals with a prior understanding of batteries, electrical safety, and DC power operations. Proper risk assessments, labeling, and maintenance of electrical equipment are essential to minimize risk.

Section 3 - Safety

Avoid contact with any leaking liquid or gas if the battery module is leaking electrolyte. The electrolyte is corrosive and encountering it can result in chemical burns and skin irritation. If you are exposed to the leaking substance, take the following steps.

- **Inhalation:** Evacuate the contaminated area and seek medical help immediately.
- **Eye contact:** Rinse eyes with flowing water for 15 minutes and seek medical help immediately.
- **Skin contact:** Wash the affected area thoroughly with soap and water and seek medical help immediately.
- **Ingestion:** Induce vomiting and seek medical help immediately.

Caution: Risk of fire and explosion. Evacuate safely and call emergency services (000).

The battery modules should not be opened, disassembled, repaired, tampered with, or altered in any way. The user cannot service the battery modules. Never clean the battery modules using cleaning agents.

When handling and transporting the battery modules, care should be taken to prevent damage. Please consider the system's weight when carefully moving and lifting it because its weight poses a risk of injury. If the battery module is broken, seems to be cracked, compromised, or otherwise damaged, or if it stops working, do not operate.

Caution: Surge Protection. Over Voltages (e. g. in the event of a flash of lightning) can be further conducted into the building and to other connected devices in the same network via the network cables or other data cables if there is no surge protection. Touching live parts and cables results in death, or lethal injuries due to electric shock. Ensure that the system is integrated into the existing surge protection.

Refer to the current Material Safety Data Sheet for additional information BE- GE-SDS999.

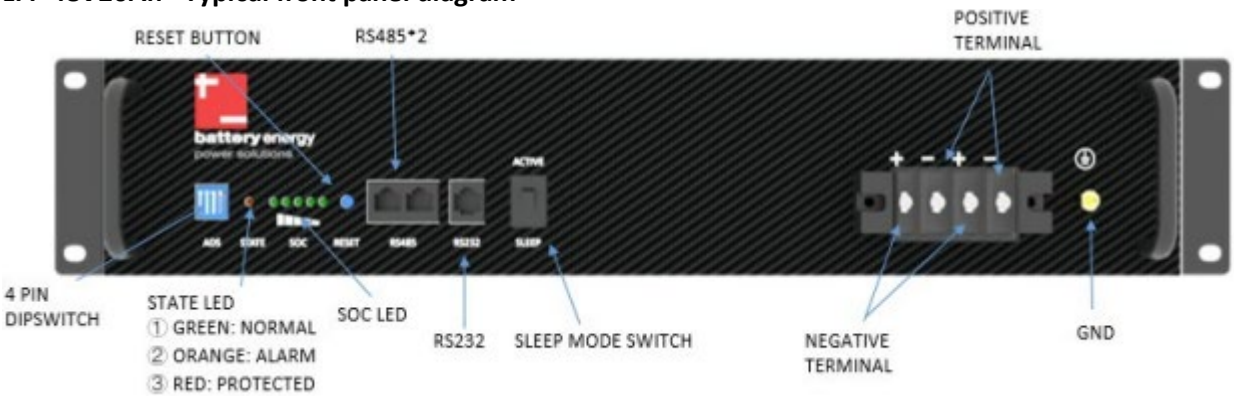
Section 4 - Installation

4.1. Charging Batteries before use

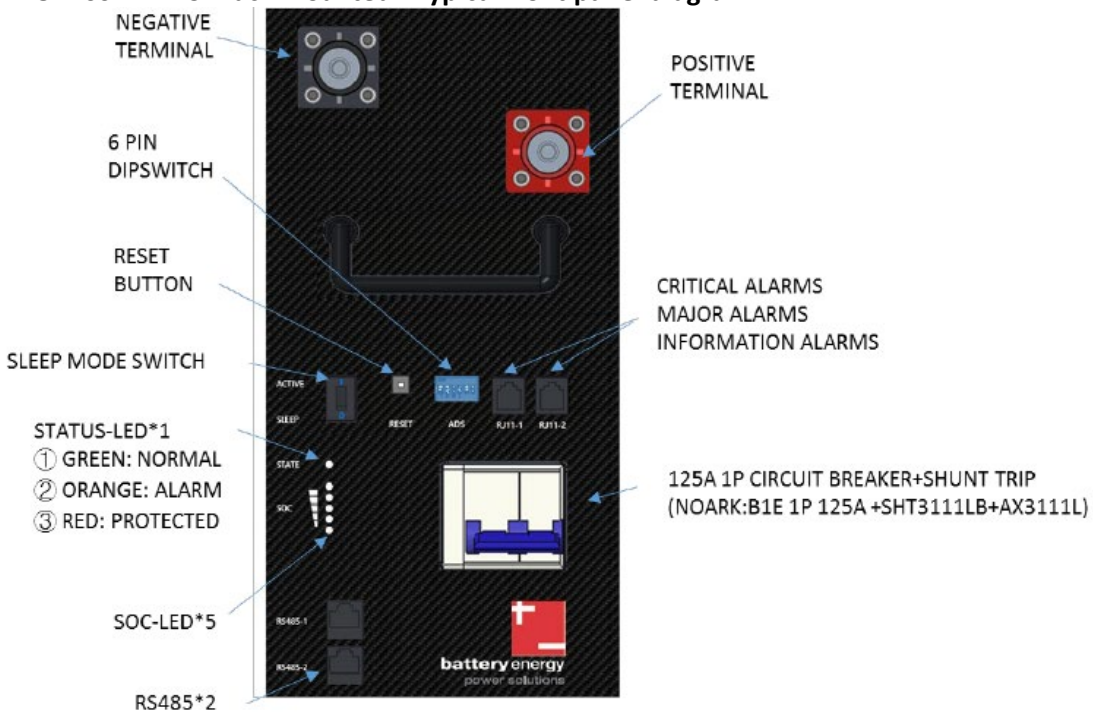
Battery Energy EnerLIFE battery packs are dispatched at 30% state-of-charge (SoC) to meet shipping and safety standards. The battery must be charged to 100% SoC before use.

> ***NOTE:** Battery Energy EnerLIFE Batteries MUST be fully charged before initial discharge. Failing to do so will void warranty.*

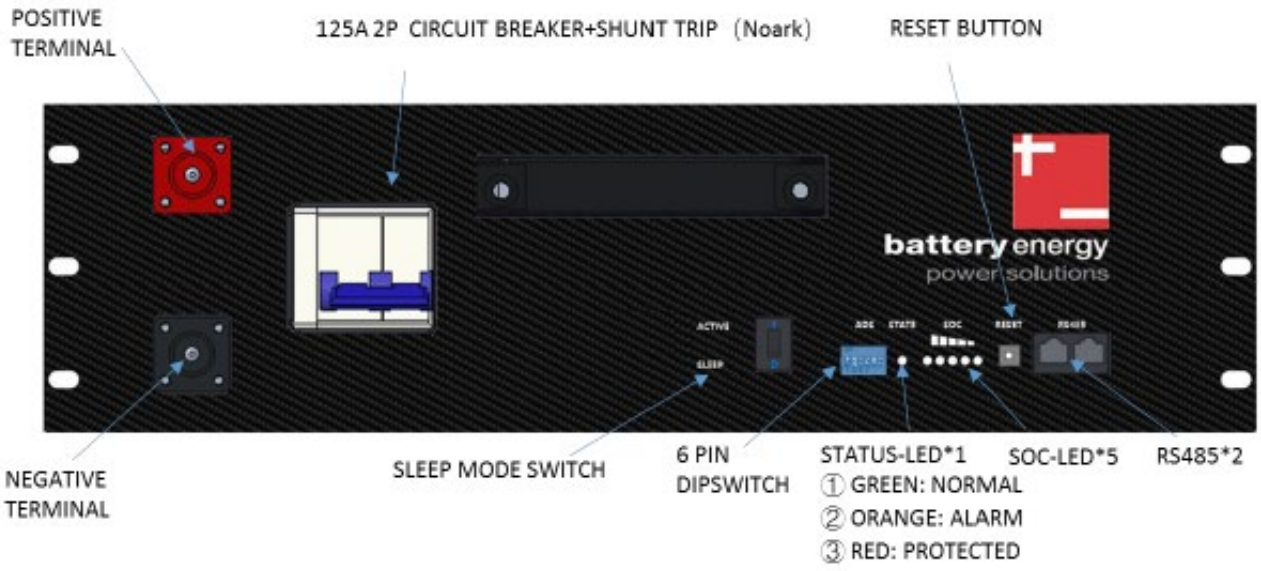
LFP 48V20Ah - Typical front panel diagram



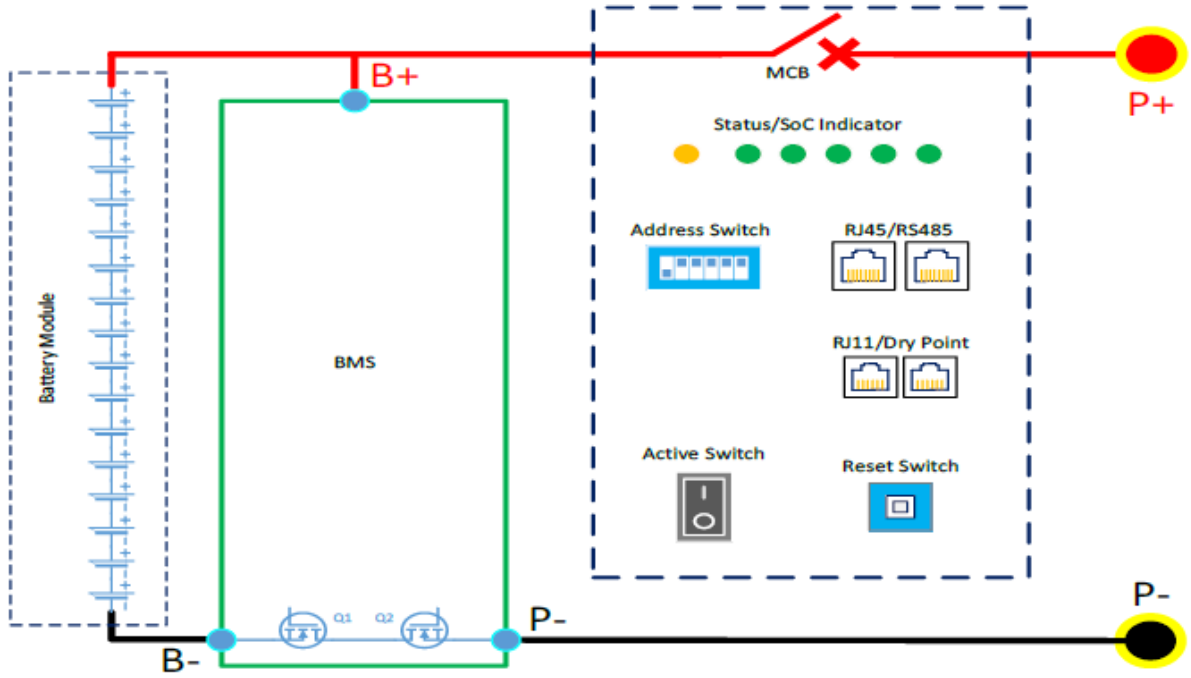
LFP 48V100Ah – 19" rack mounted - Typical front panel diagram



LFP 48V115Ah - Typical front panel diagram



How to make DC/AC connections: LFP battery system diagram for DC connection as shown (AC connection not applicable)



Section 4 - Installation

4.2. Installation Process

Lithium iron phosphate battery system installation, operation, and maintenance must be conducted by trained and qualified professionals. Follow the underlying safety guidelines and local safety laws strictly. Failing to do so could result in property damage or personal injury.

Installation location requirements:

Indoor, dry and ventilated. Clearance: minimum 10 mm all sides. Do not stack battery on top of each other. Check grounding/earthing is done properly.

How to mount battery:

Battery is recommended to be rack mounted.

Pre-Installation:

1. Verify that the equipment to be plugged into the battery system is in good condition and free of defects.
2. Verify that all battery connections have the proper polarity, and that all system breakers are in the "off" position.
3. Before installation, confirm that the battery and power supply systems are shut down.
4. Ensure that there are no exposed conductors (bare wires). Check for electrical faults to avoid arc flashes.
5. Verify that the power system and batteries are properly grounded (earthed).

Installation Steps, Setup Monitoring and Connect Comms to Inverter or Controller:

1. Ensure that the battery is turned off and that all connected equipment is turned off at the same time.
2. Check installation location and clearances requirements against the safety cards BE-GE-SC1801.
3. Using the included clip-on connector, connect the battery terminals directly to the power supply terminal. A black connecting wire should be connected to the negative terminal, and a red connecting wire should be connected to the positive terminal.
4. Attach the necessary equipment or load to this setup. To make sure there are no connection issues, check the polarity of each battery connection.
5. Connect the RS485 communication interface to the PC monitor or the inverter controller directly to communicate with the battery. Make sure both ends are on the same baud rate (battery default is 38,400 bps).

Section 4 – Installation for Multiple Batteries

1. For multiple batteries in parallel, please assign different addresses for each battery using DIP switch settings and ensure there is no duplication of addresses. *See table below for Assigning Battery ID address.*

Battery Management System (BMS) Module ID

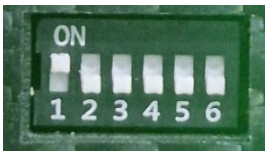


Figure 1:BMS DIP Switch

Note: Set the BMS ID by modifying DIP switch position as per the table shown below.

(Example: Dip switch Close-up Picture Repreasents BMS Module ID 1)

BATTERY POSITION	DIP SWITCH ADDRESS LEFT →RIGHT					
	1	2	3	4	5	6
1	ON	OFF	OFF	OFF	OFF	OFF
2	OFF	ON	OFF	OFF	OFF	OFF
3	ON	ON	OFF	OFF	OFF	OFF
4	OFF	OFF	ON	OFF	OFF	OFF
5	ON	OFF	ON	OFF	OFF	OFF
6	OFF	ON	ON	OFF	OFF	OFF
7	ON	ON	ON	OFF	OFF	OFF
8	OFF	OFF	OFF	ON	OFF	OFF
9	ON	OFF	OFF	ON	OFF	OFF
10	OFF	ON	OFF	ON	OFF	OFF
11	ON	ON	OFF	ON	OFF	OFF
12	OFF	OFF	ON	ON	OFF	OFF
13	ON	OFF	ON	ON	OFF	OFF
14	OFF	ON	ON	ON	OFF	OFF
15	ON	ON	ON	ON	OFF	OFF
16	OFF	OFF	OFF	OFF	ON	OFF

Note: *In the table above, code bits are in accordance with the control panel ID code corresponding to the binary digit, dial up stands for "ON ", dial down stand for "OFF", the left dial is low digit, the right dial is high digit, encoding between 0-16.*

2. Connect the RS485 communication interface to the PC monitor in a daisy chain arrangement between each battery, to communicate to all batteries simultaneously.

3. Switch battery breaker to ‘on’ position.
4. Charge battery to active battery BMS, this enables communication between the battery pack(s) and PC.

CAUTION: *If the battery pack does not start, please turn isolation breaker off then on. If you have any question about the installation, please stop and contact Battery Energy technical support immediately.*

NOTE: When changing the DIP switch address, the battery breaker must be at ‘OFF’ position.

Section 5 – Operation & Maintenance

1.1. Startup Procedures and Charging / Discharging

1. Make sure Electrostatic Discharge (ESD) is cleaned. Protection involves using antistatic materials and grounding. Before beginning the charging and discharging process, peruse "Section 4 - Installation Process."
2. Switch the Sleep Mode Switch to ACTIVE position. Switch the main breaker to the ON position.
3. Safely connect positive and negative terminals to charge or discharge.
4. A green LED "RUN" flashes up during the charge-discharge process to signal that the battery is operating.
5. The suggested operational parameters must be followed to maximise the longevity of the battery asset (refer to CHARGING PARAMETERS TABLE).

1.2. Shutdown Procedures

1. Safely disconnect positive and negative terminals.
2. Switch all breakers to the OFF position.
3. Switch the Sleep Mode Switch to SLEEP position.
4. All LEDs will be off, which indicates the BMS is in sleep mode. Then store the battery with caution.

1.3. Safe Handling, Storage and Maintenance Charging

To ensure the longevity and optimal performance of EnerLIFE batteries in storage, follow these safe handling, storage and maintenance charging instructions.

1. **Turn off the BMS before storing batteries. To do this, set the sleep mode switch to OFF position. This reduces static power consumption, which is essential for long term storage. Operations must comply with AS/NZS 3000 Electrical installations Wiring Rules. (For Gen 3 and Gen 4, switch off battery breaker on the front panel as well)**
2. **While in storage batteries must be maintenance charged once every 6 months.**
3. Prior to maintenance charging, measure voltage. The battery pack must be above 2.5 Vpc; i.e., 37.5 V and 40.0 V for 15S and 16S, respectively. If below this threshold, then charge immediately.
4. Next, connect the batteries to a suitable charger (CHARGING PARAMETERS TABLE in Page 11), and initiate the charging process.
5. Charge the batteries according to the Maintenance Charging table (i.e. for Gen 4, maintenance charge with 10 A charge current for 31 minutes every 9 months) and monitor the charging progress closely to prevent overcharging.

Maintenance Charging

Type	Maintenance Charging Capacity (Ah)
BE-LFP 48V20Ah	maintenance charge with 10 A charge current for 8 minutes every 9 months
BE-LFP 48V105Ah	maintenance charge with 10 A charge current for 16 minutes every 9 months
BE-LFP 48V100Ah Gen 3	maintenance charge with 10 A charge current for 16 minutes every 9 months
BE-LFP 48V115Ah Gen 4	maintenance charge with 10 A charge current for 31 minutes every 9 months

6. Once charged, disconnect the batteries, and conduct a final inspection before storing in a cool, dry place. Keep records of maintenance procedures and schedule regular checks **every 9 months**.

Charging Parameters

Type	Charging Voltage		Charging Current Limitation
	Minimum	Recommend	Max Recommended
BE-LFP 48V20Ah	51.2 V	54.5 V	15 A
BE-LFP 48V105Ah	54.5 V	57.6 V	20 A
BE-LFP 48V100Ah Gen 3	54.5 V	57.6 V	20 A
BE-LFP 48V115Ah Gen 4	54.5 V	57.6 V	23 A

Discharging Parameters

Type	Cut-off Voltage	Maximum Current
BE-LFP 48V20Ah	43.2 V	25 A
BE-LFP 48V105Ah	43.2 V	100 A
BE-LFP 48V100Ah Gen 3	43.2 V	90 A
BE-LFP 48V115Ah Gen 4	43.2 V	115 A

Minimum Throughput Energy

Type	Usable Energy (kWh)	10-year Minimum Throughput Energy (MWh)	7-year Minimum Throughput Energy (MWh)
BE-LFP 48V20Ah	1.34	8	5.6
BE-LFP 48V105Ah	5.12	30	21
BE-LFP 48V100Ah Gen 3	5.12	30	21
BE-LFP 48V115Ah Gen 4	6	35	24

Section 6 – QR Scanning for model numbers

Detailed information of the batteries can be accessed by scanning the QR code – located on the top side of the battery as shown in the pictures below.

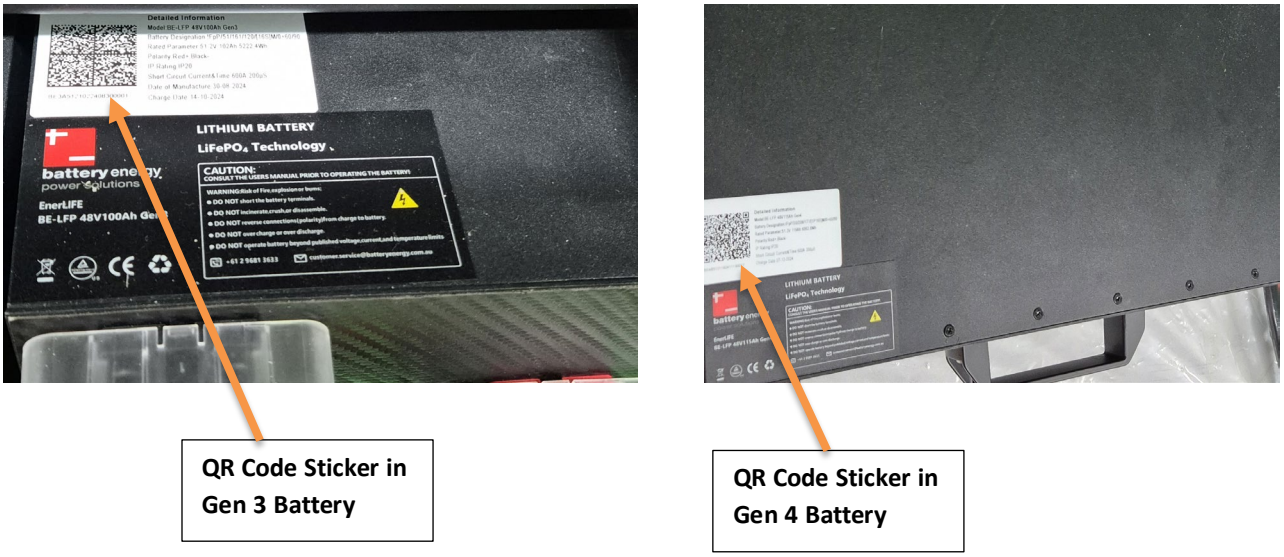


Figure 2: QR Code Sticker

For Android:

- Android devices can use the default camera app to scan this QR code.
- Scan the QR and click on the link to obtain the and the detailed information of the battery pack.

For IOS:

- IOS devices needs to use the Code Scanner App instead of the default phone camera app.

Section 7 – Troubleshooting

No.	FAULT	ANALYSIS	SOLUTION
1.	LED "RUN" does not light after START.	Battery management system is still in sleep mode.	Press and hold the reset button for 3 seconds to wake up the BMS to reboot the system.
2.	No DC output.	Low voltage protection.	Charge the battery pack and try again.
4.	Battery cannot be fully charged.	Power system DC output voltage falls below the minimum charge voltage required to charge the battery.	Adjust DC output voltage of the power supply to suitable battery charging voltage.
5.	Battery not communicating with controller and/or PC.	Communications fault.	Flip battery braker 'off 'then 'on'.
6.	Communication lost or software shows data fault.	No communications.	Check the communication settings and correct it. Check all the communication cables and connections.

6.1 Main alarms and protection statuses

State	Type	Action
Charging	Over voltage protection	Stop charge, check battery and charger voltage
	Over current protection	Stop charge, check the settings and limitation
	Over or Under Temperature protection	Stop charge, wait for the temperature recovery
Discharging	Low voltage protection	Stop discharge, switch to charging mode
	Over current protection	Stop discharge, check if there is an overload
	Over temperature protection	Stop discharge, wait for the temperature recovery

CAUTION: *If you experience technical problems that are not mentioned above, please contact Battery Energy's Technical Team.*

6.2 Battery Energy Onsite Troubleshooting Guide

License and knowledge requirement

1. Licensed electrician required.
2. Familiar with AS/NZS 5139 Electrical installations and AS/NZS 4777.2 Inverter Requirements standard. Operations must comply with AS/NZS 3000 Electrical installations Wiring Rules.

Tools and equipment requirement

1. Personal protective equipment (PPE).
2. Laptop with the latest GUI installed, and the corresponding USB to RS485 cable, to set up monitoring.
3. Digital multimeter.
4. Portable charger with Amphenol connectors.
5. Cable with Amphenol connectors and Anderson plug on the other end for easy voltage measurement.

Method

1. Switch off the battery breakers and isolate all battery packs, following the startup and shutdown procedures. Check for any hazardous situations and only proceed if it is safe to do so. **Do not approach the battery if there is a latching critical dry contact alarm indicating cell overtemperature (≥80°C).**
2. Switch the battery breaker on and the sleep mode switch to active. Plug in the RS485 cable and connect to the laptop's GUI.
3. On the GUI page, select the 38,400 baud rate, add packs according to the physical setup and press Start button. Look for any unusual pack / cell voltage and alarm / protection status.
4. If the pack failed to turn on or failed to report to the GUI, use the multimeter and the cable to measure the voltage across the battery terminals.
5. Try charge the battery with the portable charger with 10A and 57V.
6. Take screenshots of the GUI, photos of multimeter readings, portable charger status and report to Battery Energy.

Section 8 – Contact Information

For further information please contact Battery Energy's Technical Team at:

Head Office	
Address	**96 Fairfield St Fairfield NSW 2165 Australia**
Mailing Address	**PO Box 369 Guildford NSW 2161 Australia**
Phone Number	**(02) 9681 3633**
Email	**technical@batteryenergy.com.au**
Office hours	**Monday - Friday: 9.00 am - 5.00 pm**
Emergency contact	**000**

Content in this manual may be updated from time to time without notice when necessary. Please check with Battery Energy Power Solutions to ensure that you have the latest copy.