BigBattery

Your Source For Power

24V & 48V EAGLE 2
USER MANUAL

VERSION 1.3 | INFORMATION SUBJECT TO CHANGE WITHOUT NOTICE

SCAN QR CODE TO VIEW LATEST VERSION

MODEL SKUS: FEAGL-24016-G2-00H, FEAGL-24016-G2-0CH, FEAGL-48016-G2-0CH

VERSION HISTORY

Version	Date	Chapters	Reason For Change
1.1	12/26/2023	All	Manual development
1.2	3/7/2024	All	Minor adjustments
1.3	3/19/2024	5.6	Revised modes of operation

BigBattery

Table of Contents

1. Definition of Terms

- **AWG** - American Wire Gauge
- **A** - Amp(s)
- **Ah** - Amp-hour(s)
- **AC** - Alternating Current
- **Battery Module** - Single battery
- **Battery System** - Two or more battery modules connected to a control box
- **BMS** - Battery Management System
- **Capacity** - Measure of stored energy, typically in Ah or mAh
- **Control Box** - Master BMS unit
- **Cell Balancing** - Process of ensuring uniform charging among battery cells
- **Cycle Life** - Total charge-discharge cycles before capacity decline
- **C-rating** - Charging/discharging rate relative to battery capacity
- **DC** - Direct Current
- **DOD** - Depth of Discharge
- **ESS** - Energy Storage System
- **kW** - Kilowatt
- **kWh** - Kilowatt-hour
- **LFP** - Lithium Iron Phosphate, or LiFePO4
- **mm** - Millimeter(s)
- **mV** - Millivolt(s)
- **Overcharge** - Charging beyond recommended voltage limits
- **PPE** - Personal Protective Equipment
- **PV** - Photovoltaic
- **Self-Discharge** - Natural battery discharge over time
- **State of Charge (SOC)** - Battery's remaining charge as a percentage
- **State of Health (SOH)** - Overall battery condition and performance
- **Thermal Runaway** - Dangerous overheating with potential battery damage
- **V** - Volt(s)

2. Safety Instructions

Note: Read and follow all safety instructions for handling the battery prior to installation.

Lithium Iron Phosphate (LiFePO4) batteries are an inherently safe chemistry. However, safety measures should always be taken into consideration before, during, and after installation and during ongoing use and maintenance. The following safety notices are crucial for both the installer and end users when operating this product normally.

Improper installation could result in harm to the installer, the operator, or others, as well as damage to the battery or connected equipment.

WARNINGS:

- ⚠ Do not make any connections or disconnections to the system when the batteries are in operation. Working with active batteries can lead to system component damage or pose a risk of electrical shock.
- ⚠ Do not charge with a charge voltage above that specified in Section 5.1.
- ⚠ Do not charge nor discharge battery when ambient temperature is above 55°C (131°F).
- ⚠ Do not install battery where it may contact conductive materials, water, seawater, strong oxidizers, or strong acids.
- ⚠ Do not install battery in a location exposed to direct sun, hot surfaces, or hot locations. Do not install batteries in a tight clearance compartment, as overheating may result.
- ⚠ Keep any flammable/combustible material (e.g. paper, cloth, plastic, etc.) that may be ignited by heat, sparks, flames, or any other heat source at a minimum distance of two feet away from the batteries.
- ⚠ Disconnect batteries immediately if, during operation or charging, they emit an unusual smell, develop heat, or behave abnormally.
- ⚠ Have a Class ABC or Class BC fire extinguisher on the premises.
- ⚠ Never short-circuit DC inputs. This may result in a risk of electric shock or fire.
- ⚠ Do not disassemble the battery. Contact BigBattery for proper handling instructions. Incorrect servicing or re-assembly may result in a risk of electric shock, fire, or voiding of the warranty.

PRECAUTIONS:

- ⚠ Qualified personnel must handle all product work to reduce risk of electric shock.
- ⚠ Follow local and national electrical standards for installation and confirm utility provider and local authority requirements before grid connection.
- ⚠ Maintain visibility of warning labels and nameplates.
- ⚠ Choose battery placement with future user safety in mind.
- ⚠ Keep children away from the battery and systems.
- ⚠ Use team lifting techniques due to battery weight.
- ⚠ Use batteries as directed. Do not open or modify.
- ⚠ Avoid inserting foreign objects into battery terminals.
- ⚠ Handle batteries and/or battery-powered devices cautiously when using metal tools or when around the system. Risk of electrical arcs or short-circuits can cause serious harm, death, and equipment damage.
- ⚠ Do not charge or discharge the battery if ambient temperature is below -20°C (-4°F).
- ⚠ Beware of the battery current. Ensure that the battery is “off” before installing or working on the battery. Use a voltmeter to confirm there is no voltage present.
- ⚠ Always wear protective gear when handling batteries (PPE).
- ⚠ Handle batteries carefully to prevent damage. Avoid pulling, dragging, or mishandling.
- ⚠ Inspect batteries before use. Don’t use damaged or swollen batteries. Contact BigBattery immediately.
- ⚠ Don’t paint any part of the batteries, inside or out.
- ⚠ Make sure all cable connections are properly tightened and secured, in order to prevent any accident caused by improper installation.
- ⚠ Install and remove batteries using the handles provided.
- ⚠ Do not place any objects on top of batteries.
- ⚠ Before storing battery for more than 6 months, fully charge the battery and disconnect batteries from your system.

3. Introduction

Introducing BigBattery's EAGLE 2! These revolutionary lithium battery systems, designed to push the boundaries of efficiency, flexibility, and reliability in energy management, are the best batteries money can buy. The EAGLE 2 represents a leap forward in energy storage technology, offering a compact and scalable solution for mobile, industrial, and off-grid applications. With its cutting-edge features and intelligent design, this advanced lithium battery system promises to empower individuals and organizations to take control of their energy usage like never before. Equipped with one of our EAGLE 2 battery systems from BigBattery, you'll stay powered and prepared!

This User Manual is designed to provide you with an understanding of the specs, features, capabilities, and installation of these batteries. Read and take note of all safety information prior to installing or operating your battery. This document applies to the 24V (FEAGL-24016-G2-00H & FEAGL-24016-G2-0CH) and 48V (FEAGL-48016-G2-0CH) EAGLE 2 battery systems.

3.1 Product Description

The 24V and 48V EAGLE 2 battery systems are ideal for low-voltage applications such as your golf carts, RVs, industrial equipment, off-grid power systems, emergency power supplies, and more. The EAGLE 2 is designed to be a drop-in replacement for traditional lead-acid or lithium batteries. Each single battery module is 1.63kWh and it can be expanded up to 16.3kWh when connecting up to 10 in parallel. These batteries utilize lithium iron phosphate (LiFePO4 or LFP) cells, renowned for their top-notch safety.

They are waterproof and equipped with an intelligent Battery Management System (BMS) that continuously monitors and records cell voltage, along with real-time data on current, voltage, and temperature for the module. The BMS features a passive balancing function and an advanced battery control method, which collectively enhance battery pack performance. It has built-in heating elements so the battery can be charged in freezing temperatures. Furthermore, you can always monitor the batteries' remaining capacity with the LED meter. The battery utilizes a standard M8 bolt connection, which easily and safely secures power to your battery unit. Designed to endure, the EAGLE 2 has a lifespan of over 10 years and is engineered to withstand more than 4000 - 6000 cycles at 80% Depth of Discharge (DOD) at a rate of 0.5C.

3.2 Features & Applications

Applications:

- Golf Carts
- Utility Carts
- 48V UTVs & LSVs
- Tiny Homes
- Family Homes
- Cabins
- Homesteads
- Off-Grid Systems
- Solar Systems
- Emergency Backup
- Class A, B, & C RVs
- Camper Vans
- Tow-Behind Trailers
- Boats
- Scissor Lifts
- Pallet Jacks
- Light Towers & Digital Signs
- Industrial Equipment

Features:

- Advanced BMS with automatic cell balancing
- Lithium-ion chemistry (LiFePO4/LFP)
- Easy connection to a larger power system
- Expandable system with easy parallel connections
- Multiple layers of safety and battery protections
- Built-in self-heating system
- Impact & vibration resistant
- IP-67 protection rating
- Good insulation performance
- Durable ABS construction
- Standardized M8 bolt connectors for cable connections
- Smart controller box
- Parallel communication
- CANBus parallel communications (FEAGL-24016-G2-0CH & FEAGL-48016-G2-0CH only)
- LED SoC meter
- GC2 form factor

4. Packed Components

4.1 24V EAGLE 2 - No Comms

Included In Box		
		
	(x1) Battery Handles	(x2) M8 Nuts & Screws
	Add-Ons (Optional)	
		
(x1) 24V 1.63kWh EAGLE 2 (FEAGL-24016-G2-00H)	(x1) Battery Capacity Meter (MTR105)	(x1) 4AWG +/- Ring Terminal Cables [3 ft.] (CBL015)

4.2 24V EAGLE 2 - Comms

Included In Box			
			
	(x1) Battery Handles	(x2) CAN Comm. Cables	(x2) M8 Nuts & Screws
	Add-Ons (Optional)		
			
(x1) 24V 1.63kWh EAGLE 2 (FEAGL-24016-G2-0CH)	(x1) EAGLE 2 SOC Meter (MTR107)		(x1) 4AWG +/- Ring Terminal Cables [3 ft.] (CBL015)

4.3 48V EAGLE 2

Included In Box			
			
	(x1) Battery Handles	(x2) CAN Comm. Cables	(x2) M8 Nuts & Screws
	Add-Ons (Optional)		
			
(x1) 48V 1.63kWh EAGLE 2 (FEAGL-48016-G2-0CH)	(x1) EAGLE 2 SOC Meter (MTR107)	(x1) 4AWG +/- Ring Terminal Cables [3 ft.] (CBL015)	

5. Product Specifications

5.1 Battery Overview

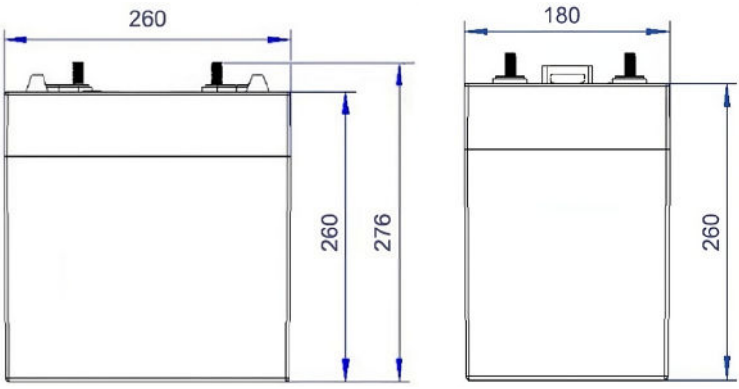


Figure 1: EAGLE 2 Battery Overview

Before handling the battery, always switch it off and verify with a voltmeter that there is no voltage to prevent accidental contact with live terminals. Failure to do so could lead to severe injury or fatality.

5.2 Battery Specs

SKU	FEAGL-24016-G2-00H	FEAGL-24016-G2-0CH	FEAGL-48016-G2-0CH
System Voltage	24V		48V
Nominal Voltage	25.6V		51.2V
Chemistry	LiFePO4		
kWh Capacity	1.63 kWh		
Ah Capacity	64		32
Charging Voltage Range	27.8V - 29V		55.6V - 58.4V
Max Charge Voltage	29.2V		58.8V
Operating Voltage Range	24V - 28.8V		48V - 58V
Suggested Low Voltage Cutoff	24V - 25.4V		48V - 50.8V
BMS Cutoff Range	21V - 23.5V		42V - 47V
Cell Configuration	8S		16S
Max Cont. Discharge Current	100A		60A
Max Continuous Power	2560W		3072W
Max Discharge Peak Current	200A (Max 5 sec.)		200A (Max 3 sec.)
Max Charge Current	64A		30A
Charge Temperature Range	-4°F - 131°F (-20°C - 55°C)		
Discharge Temperature Range	-4°F - 140°F (-20°C - 60°C)		
Optimal Discharge Temp. Range	59°F - 95°F (15°C - 35°C)		
Storage Temp. Range (SOC >50%)	23°F - 95°F (-5°C - 35°C) (Max 3 months) 32°F - 77°F (0°C - 25°C) (Max 12 months)		
Dimensions (DxWxH)	7.1 x 10.2 x 10.8 in (180 x 260 x 274 mm)		
Weight	38 lbs (17.2 kg)		
Max Connections	Up to (10) Parallel		
Protection Rating	IP67		
Communications	No	CANBus	
Heating Function	Yes		

5.3 Battery Diagram

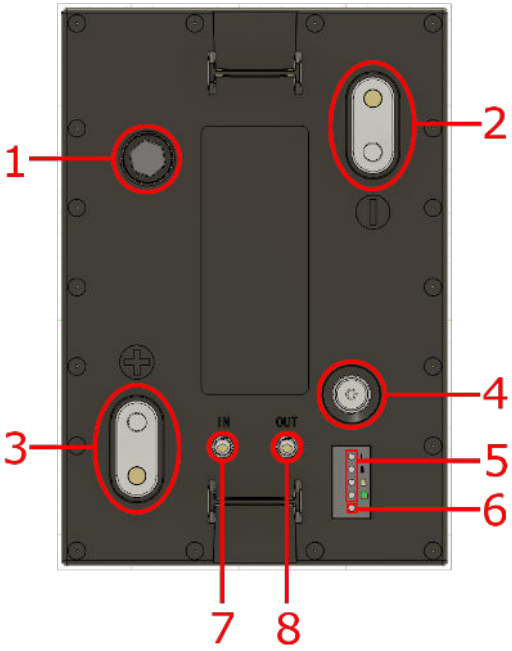
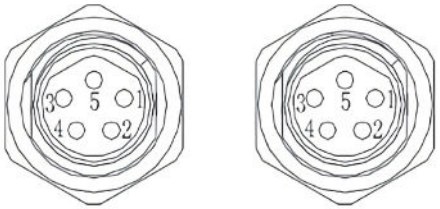


Figure 2: EAGLE 2 Battery Diagram

Item	Name	Description	Details
1	Vent		
2	BAT-	Negative battery terminal	M8 screw
3	BAT+	Positive battery terminal	M8 screw
4	On/Off Button	Switches BMS on/off	
5	SOC	LED state of charge indicators	
6	Alarm	LED alarm indicator	4 LEDs on = 90% - 100% 3 LEDs on = 70% - 89% 2 LEDs on = 25% - 69% 1 LEDs on = 0% - 24%
7	CANBus In	Input communication port	M6-5P
8	CANBus Out	Output communication port	M6-5P

5.4 Battery Communication Ports



Pin	CAN Input	CAN Output
1	CAN-L	CAN-L
2	ACC	ACC
3	CH	CH
4	IN	OUT
5	CAN-H	CAN-H

5.5 Battery LED Indicators

5.5.1 Display During Discharging or Idle

SOC	LED 1	LED 2	LED 3	LED 4	LED 5
90% - 100%	On	On	On	On	Off
70% - 89%	On	On	On	Off	Off
25% - 69%	On	On	Off	Off	Off
0% - 24%	On	Off	Off	Off	Off

5.5.1 Display During Charging

SOC	LED 1	LED 2	LED 3	LED 4	LED 5
90% - 100%	On	On	On	Flashing 2	Off
70% - 89%	On	On	Flashing 2	Off	Off
25% - 69%	On	Flashing 2	Off	Off	Off
0% - 24%	Flashing 2	Off	Off	Off	Off

5.5.3 Display During Error or Protection State

Error or Protection	LED 1	LED 2	LED 3	LED 4	LED 5
Address Error in Parallel	/	/	/	/	Red On & Orange On
Short Circuit Protection	/	/	/	/	Red On
Over Current (Discharge) Protection	/	/	/	/	Red Flashing 1
Over Current (Charge) Protection	/	/	/	/	Red Flashing 3
Temperature Protection	/	/	/	/	Orange On
Under Voltage Protection	Flashing 4	Off	Off	Off	Off
Failure Protection	/	/	/	/	Orange Flashing 3

5.5.4 LED Flashing Modes

Item	On	Off
Flashing 1	0.25 seconds	3.75 seconds
Flashing 2	0.5 seconds	0.5 seconds
Flashing 3	0.5 seconds	1.5 seconds
Flashing 4	0.25 seconds	0.25 seconds

5.6 Battery Functions & Modes of Operation

5.6.1 FEAGL-24016-G2-0CH & FEAGL-48016-G2-0CH

Function	Description
Power On*	Hold the power button for 1 sec. until the LEDs start to light up sequentially (from LED1 - LED5). The LEDs will then display the current SOC.
Power Off**	Hold the power button for 3 sec. until the LEDs start to turn off sequentially (from LED5 - LED1).
Reset	Hold the power button for 8 sec. until all LEDs flash 5 times and then they turn off (battery is off).

Mode of Operation	Description
Standby Mode	The battery is on and the LEDs display the current SOC. There is voltage in the terminals. The battery is waiting to be discharged or charged. If the battery detects a discharge current >0.8A, or a charge current >0.5A, the battery enters Operation Mode. If currents above these values are not detected for 120 hr., the battery enters Sleep Mode.
Operation Mode	Normal operation while the battery is discharging or charging. The discharge current is >0.8A, or the charge current is >0.5A. The LEDs display the current SOC.
Sleep Mode	All LEDs will be off. The battery will allow voltage to the terminals for 1 min. every 10 min., or when the power button is tapped. If a discharge current >0.8A, or a charge current >0.5A, is detected when turned on, the battery will enter Operation Mode. Turning the battery off & on will put it into Standby Mode and reset the 120 hr. countdown.
Protection Mode	See Section 5.5.3 for details on the LEDs. If the battery is in an Under Voltage Protection Mode, the battery will allow voltage to the terminals for 1 min. every 10 min., or when the power button is tapped twice. If a charge current >0.5A is detected during the turn-on time period, the battery will enter Operation Mode.

*To turn on a 1st generation EAGLE 2, hold the power button for 10 seconds.

**To turn off a 1st generation EAGLE 2, tap the power button, then immediately (<0.2 seconds) hold it for 10 seconds.

5.6.2 FEAGL-24016-G2-00H

Function	Description
Power On	Hold the power button for 1 sec. until the LEDs start to light up sequentially (from LED1 - LED5). The LEDs will then display the current SOC.
Power Off	Hold the power button for 3 sec. until the red alarm LEDs start to turn off sequentially (from LED5 - LED1).
Reset	Hold the power button for 8 sec. until all LEDs flash 5 times and then they turn off (battery is off).
SOC Display	Battery must be on. Press the power button once. The LEDs will display the SOC for 6 sec. and then the LEDs will turn off.
Mode of Operation	**Description**
Standby Mode	The battery is waiting to be discharged or charged. There is voltage in the terminals. If the battery does not detect a discharge current >0.8A, or a charge current >0.5A, the SOC LEDs will be off. If currents above these values are detected, the battery enters Operation Mode and the SOC LEDs will be on.

Operation Mode	Normal operation while the battery is discharging or charging. The discharge current is >0.8A, or the charge current is >0.5A. The LEDs display the current SOC.
Protection Mode	See Section 5.5.3 for details on the LEDs. If the battery is in an Under Voltage Protection Mode, the battery will allow voltage to the terminals for 1 min. every 10 min., or when the power button is tapped twice. If a charge current >0.5A is detected during the turn-on time period, the battery will enter Operation Mode.

6. Installation

⚠ WARNING: Before installing, make sure to review all warnings and precautions in Section 2, as well as the installation safety guidelines in Section 6.1 below.

6.1 Installation Safety Guidelines

- Inspect batteries upon receipt for any signs of damage before use. In case of battery damage, reach out to BigBattery for repair or replacement. Avoid using a defective battery as it may result in incorrect battery voltage that could potentially ruin your appliances. Damaged batteries have the potential to cause fire hazards.
- Check to ensure that all cables are in good condition.
- Be sure your battery packs are powered "**OFF**" before making/removing any connections.
- It is crucial to never create a short circuit on the external battery terminals. When installing the battery, ensure that each cable is properly connected to the correct terminal. There should be no conductive material between the terminals that could cause a short circuit.
- Use a screwdriver with a rubber coated handle.
- **Do not put the EAGLE 2 batteries in series.** The BMS and internal components are not designed to handle this setup, which could cause the modules to fail. Always choose a battery voltage that matches the voltage range of your system.
- Always mount the battery in an upright position.

6.2 Battery Installation

1. Place the battery on a flat floor or shelf. Make sure the battery is off.
2. Connect the communications ports of all the batteries in a daisy chain using the provided communication cables as shown in Figure 3 on the following page. The first or final battery in the daisy chain will be connected to the meter.

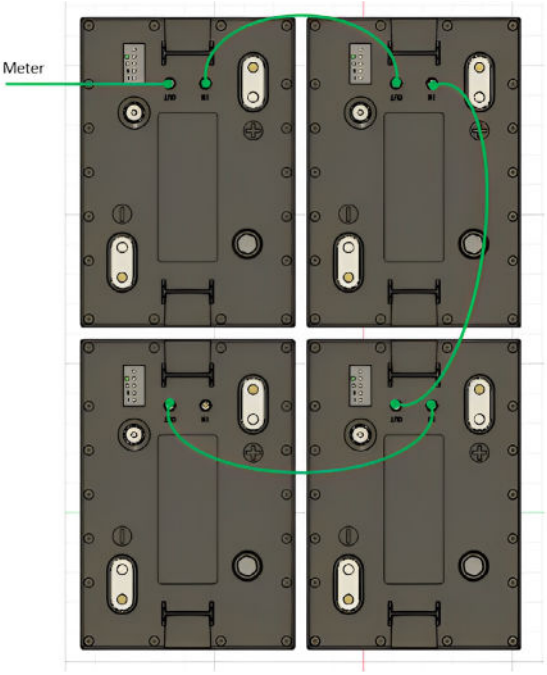
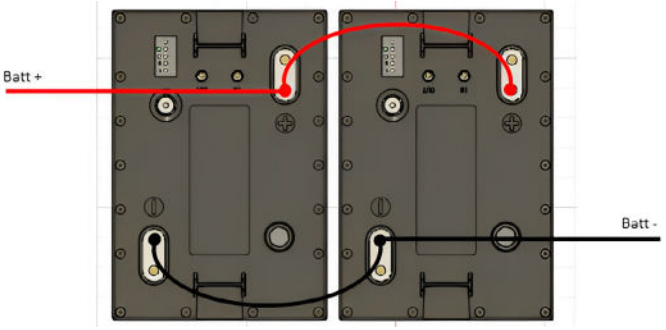
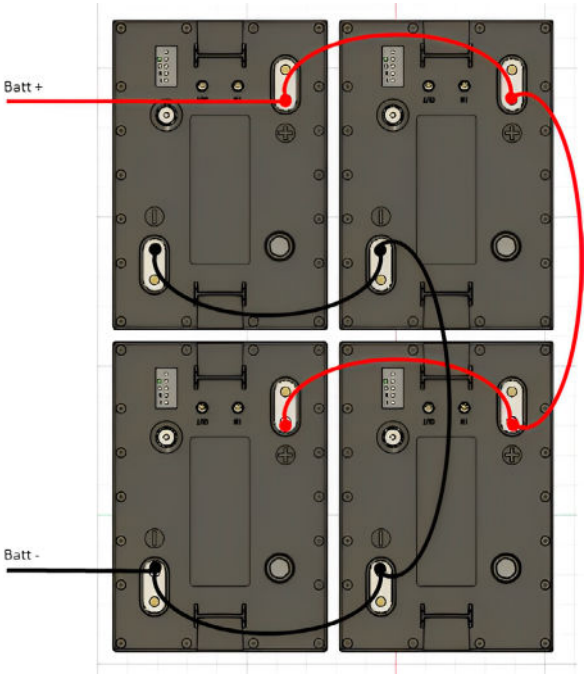


Figure 3: EAGLE 2 Communication Cable Connection Diagram

3. Connect the power cables in parallel. In other words, using the battery power ring terminal cables, connect all the positive terminals to each other and all the negative terminals to each other. Connect the final battery positive and negative terminal to your system. (Golf cart, EV, etc.) When charging the battery system use these same terminals for the positive and negative leads on the charger as shown in Figure 4.



2 Battery System



4 Battery System

Figure 4: EAGLE 2 Power Cable Connection Diagram

4. Turn on the battery by holding the power button on each battery for 5 seconds until all the LEDs turn on.

7. Battery Operation Guide

⚠ WARNING: Before installing, be sure to review all parameters listed in Section 5.2.

7.1 Charging

- Only use the battery charger provided by BigBattery, or the inverter charging settings listed in Section 5.2. Using non-recommended chargers may cause improper charging and damage the battery's capacity.
- The battery can be charged in freezing temperatures (-20°C / -4°F) thanks to an automatic self-heating function. When charging is detected, heating will start until the battery temperature is above 0°C (32°F) and then charging will start.

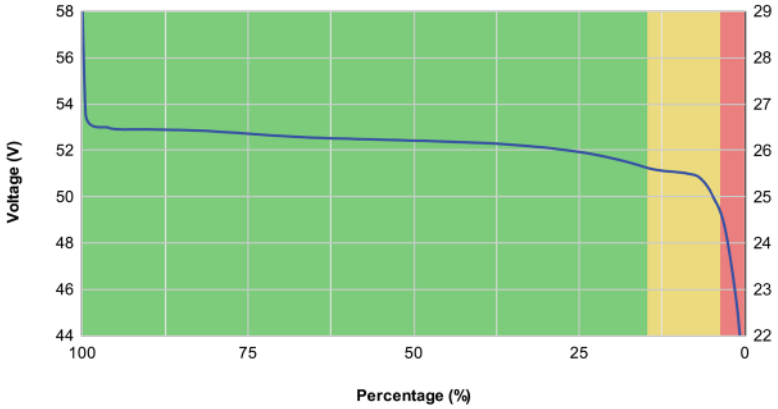
- Use LiFePO4 batteries for "opportunity charging." Charge them whenever you can but do it with small amounts of energy. It's better to do this than using fast chargers. Fast charging can make the battery's life shorter.
- It is suggested to charge the battery when it has a minimum of 10% - 20% SOC. Deep dischargng won't harm the battery's health, but the BMS requires some voltage to function properly.
- The bulk/absorb voltage of an LFP battery is the same as the charging voltage. BigBattery products do not need float voltage, equalize voltage, or absorption time.

7.2 Discharging

- The battery can be fully discharged. Unlike lead-acid batteries, the voltage of a lithium battery stays very constant during discharge, delivering the same amount of power and energy from 100% to 0% SOC.
- LFP batteries handle discharging to 0% safely, but shallower cycles offer benefits. Staying above 20% SOC extends the battery's lifespan to more than 6000 cycles.
- Do not discharge if the temperature is above 55°C (131°F).
- You will see an apparent loss of capacity when discharging at below-freezing temperatures that reverses when the battery temperature rises above freezing.
- The BMS will automatically shut down when the battery reaches a low voltage, so there's no need for manual intervention. Avoid over discharging by removing the load when the battery's discharge is done.

7.3 State of Charge

This is the Depth of Discharge curve of the EAGLE 2 batteries.



	Cycling in this zone will ensure a reasonable life expectancy.
	Occasionally this zone is okay.
	Dropping into this zone can reduce lifespan.

7.4 Storage

- LFP batteries have an extremely low self-discharge rate, which makes long-term storage convenient. Storing a lithium battery for up to a year is not an issue, as long as it has some charge remaining before being placed in storage.
- Before storing lithium-ion batteries, charge them to at least 50% SOC. Do not store batteries that are fully discharged. In the case of a fully charged battery, it should be discharged to 80% SOC before it is stored.
- If you need to store batteries for longer periods, be sure to disconnect all wires from them. That way there can not be any stray loads that slowly discharge the batteries.
- Make sure that you store the battery within the temperatures listed in Section 5.2. Storing them at lower temperatures is better than storage at higher temperatures. The electrolyte in LiFePO4 cells does not contain any water, so even when it freezes it does not expand, and does not damage the cells. Be sure to let the battery warm up before you start discharging it again, which is acceptable at -20°C (-4°F).

The table on the following page provides the storage temperature that the batteries should be stored at, as well as the charging intervals and methods to do so.

Storage Temperature	Charging Interval	Charging Method	Model
≤20°C	Once / 9M	28V 50A CC/CV Charging to 28V Cut-Off Current: 5A	24V EAGLE 2
20°C ~ 30°C	Once / 6M		
30°C ~ 40°C	Once / 3M		
≤20°C	Once / 9M	56V 30A CC/CV Charging to 56V Cut-Off Current: 5A	48V EAGLE 2
20°C ~ 30°C	Once / 6M		
30°C ~ 40°C	Once / 3M		

7.5 Extending Battery Life

The EAGLE 2 battery is designed for a lifespan of 10 years or more when used correctly. To ensure proper operation, follow the previously listed instructions and battery parameters. In order to extend the lifespan of the battery, follow the recommendations below.

- Avoid discharging the battery beyond an 80% Depth of Discharge (DOD) unless it is truly necessary.
- Keep the battery temperature under 35°C (95°F) and above 15°C (59°F).
- Keep battery charge and discharge current at a 0.5 C-rating.
- Never disassemble the battery, unless BigBattery Tech Support guides you. If the battery has any problems, contact BigBattery for assistance.
- Keep the battery away from excessive physical shocks or vibration. These can damage the battery's internal structure and hamper its operation.
- Dirty battery terminals can lead to improper flow of current during operation. It is recommended that you clean the terminals while installing the battery pack.

8. Service

8.1 Troubleshooting

No.	Error	Description	Solution
1	No DC output	Battery is off or low voltage	Turn on or charge the battery
2	Power supply time is too short	Battery capacity is reduced or not fully charged	Fully charge the battery; Maintenance or replacement
3	Battery can't be charged fully	Power system DC output voltage falls below the minimum charge voltage	Regulate DC output voltage of power supply to suitable battery charging voltage

4	Alarm LED is always ON	Power line connection short circuit	Disconnect the power cable and check all cables
5	Battery output voltage is unstable	BMS does not operate normally	Press the switch to restart the battery
6	Charge and discharge capacity is insufficient	Unbalanced cell voltages	Examine/balance the cells
7	Unable to charge and discharge	BMS or cell/temperature sensor is damaged	Maintenance or replacement
8	Different SOC values of batteries in parallel	Normal occurence	No action needed
9	Alarm LED is ON	Over Current protection	Charging or discharging current is too high and needs to be reduced
10	Alarm LED is ON	Over Temperature protection	Turn off the battery and cool down the location however possible
11	Alarm LED is ON	End-Off voltage	Double tap power button to charge the battery

8.2 Maintenance

Item	Maintenance	Maintenance Intervals
Power Cables	Check whether there is mechanical damage to the power cables and whether the terminal insulation sleeve has fallen off. If there is such an occurence, please turn off the battery and carry out maintenance or replacement.	Once every 6 months
	Check whether the power cable is loose. If there is any sign of looseness, please use a standard torque wrench to tighten it.	
	Check the system for loose screws or discoloration of the copper bus bar. If the screws are loose, tighten them with a standard torque wrench. If the copper bus bar is discolored, contact the manufacturer for replacement.	
Communication Cables	Check whether the parallel communication cable terminal is loose. If it is loose, tighten it.	Once a year
	Check whether the color of the communication cable has obvious discoloration. If discolored, shut down the battery and replace the communication cable.	

Cabinet	Check the cleanliness of the front door, back door, and battery module inside the cabinet. If there is obvious dust, clean up in a timely manner.	Once every 6 - 12 months
System Running Status	Check if all parameters are normal when the system is running (voltage, current, temperature, etc.).	Once every 6 months
	Check whether the primary components of the system are normal, including system switches, contactors, etc.	
	Check whether the system air inlet and outlet and air ducts are normal. If there is blockage and congestion, clean up in a timely manner.	
Charge & Discharge Maintenance	Use a light load and shallow charging/discharging to check whether the SOC and SOH status of the battery is normal (using the upper computer software to read). It is recommended that the depth of discharge and charge/discharge power should not exceed 20% of the rated value.	Once every 6 months

9. Recycling

Lithium iron phosphate batteries are potentially dangerous and shouldn't be tossed in the trash. Many websites and organizations can recycle them for free. If you're in the U.S. or anywhere globally, search for "Lithium Battery Disposal Near Me" online. Numerous places can safely dispose of these batteries. Make sure to call first to confirm they're open.

If you can't find a safe disposal option, contact the BigBattery Customer Service team instead of improperly disposing of the battery. BigBattery can take care of recycling your batteries for you.

10. Warranty & Returns

In the unlikely event you are having an issue with one of our batteries we have developed a straightforward Warranty & Return Policy which is detailed in the following link: https://bigbattery.com/policies/

For more information and support, please visit our website or reach us at:

BigBattery, Inc.
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Support@BigBattery.com
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