EPOCH BATTERIES

USER MANUAL

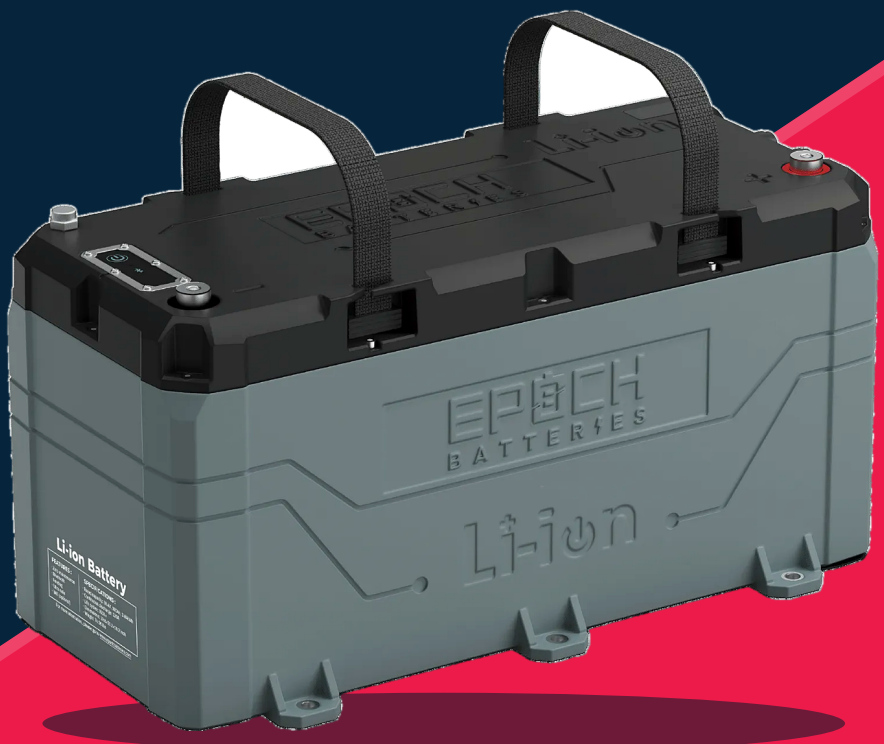
MARINE TROLLING MOTOR BATTERY

36V 100Ah

HEATED BLUETOOTH LiFePO4 BATTERY

MODEL B36100A-A

36 V DEEP CYCLE · BLUETOOTH · INTERNAL HEATING · IP67 · BATTERY METER INCLUDED



38.4 V	100 Ah	3.84 kWh	120 A	200 A
NOMINAL VOLTAGE	CAPACITY	STORED ENERGY	CONTINUOUS DISCHARGE	PEAK (≤ 60 s)

! Read this manual completely before installing, charging, operating, storing or servicing the battery.

Revision V02 · October 2026
EpochBatteries.com

ABOUT THIS MANUAL

IMPORTANT NOTICES AND SAFETY SYMBOLS

Purpose

This manual provides instructions for safe handling, installation, charging, operation, storage, maintenance, troubleshooting and warranty support for the Epoch B36100A-A. It helps users and installers reduce risk, protect connected equipment and get reliable performance.

Qualified installation

Battery systems can deliver very high current. Installation and service should be performed by people who understand DC electrical systems, lithium battery charging, overcurrent protection, conductor sizing, terminal torque and safe work practices. When the battery is part of a boat, RV, vehicle, trailer, cabin or building system, follow all applicable codes and equipment manufacturer requirements.

Product changes

Specifications, accessories, firmware, labels and documentation may change without notice. Use the latest Epoch Batteries documentation and product labeling, and confirm that the model on your battery label matches this manual.

Warranty and compliance

Failure to follow this manual, using incompatible chargers or accessories, modifying the battery, improper installation, abuse, water intrusion beyond the product rating, incorrect polarity, overcurrent events or operation outside specified limits may void warranty coverage and may create safety hazards.

⚠ WARNING

Incorrect installation or use can cause fire, electric shock, severe injury, death, or damage to the battery and connected equipment. Stop and contact Epoch Batteries support if any instruction is unclear.

Safety signal words

⚠ DANGER	Indicates a hazardous situation that, if not avoided, **will** result in death or serious injury.
⚠ WARNING	Indicates a hazardous situation that, if not avoided, **could** result in death or serious injury.
⚠ CAUTION	Indicates a hazardous situation that, if not avoided, could result in minor or moderate injury.
NOTICE	Indicates practices that can damage the battery, connected equipment or property.

How to read the figures

CONCEPTUAL DIAGRAM	Explains a principle or a typical layout. It is simplified, not to scale and not a substitute for a system design reviewed against applicable codes.
MODEL-SPECIFIC DATA	Shows published ratings or dimensions for model B36100A-A.

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36V 100Ah · MODEL B36100A-A

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QUICK REFERENCE

Nominal voltage · capacity	**38.4 V · 100 Ah**
Stored energy (nominal)	**3.84 kWh**
Max continuous discharge	**120 A**
Peak discharge	**200 A for ≤ 60 s**
Max continuous charge	**100 A**
Recommended charge current	**50 A**
Bulk / absorption	**42.6–43.2 V**
Float	**Off (preferred) or 40.0–40.8 V**
Maximum charge voltage	**43.8 V**
Charge temperature	**–20 °C to 55 °C with heating**
Battery banks	**Parallel only · max 4P**

1-888-501-1846
Monday–Friday, 9 AM–4 PM Eastern

01
INTRODUCTION

ABOUT YOUR BATTERY AND THIS MANUAL

Thank you for choosing Epoch Batteries. The B36100A-A is a 38.4 V, 100 Ah, 3.84 kWh heated Bluetooth LiFePO4 battery designed for high-capacity 36 V deep-cycle energy systems.

This manual explains how to install, charge, operate, store and maintain the battery safely in 36 V trolling-motor, marine house-power, solar, off-grid and backup applications where the system requirements match the battery specifications.

KEEP THIS MANUAL

Store it with the battery or with your vehicle or vessel documents. The latest version is available at epochbatteries.com/resources.

Who should use this manual

- **End users** who need safety, charging, Bluetooth and storage guidance.
- **Installers** who need model-specific electrical limits, terminal information and battery-bank requirements.
- **Dealers, support teams and service technicians** who need a consistent troubleshooting and warranty reference.

Check your battery label first

Confirm that the model number on the battery label is **B36100A-A**. Similar-sized Epoch batteries can use different BMS current limits, apps, heaters and bank configurations, and earlier production may carry different ratings. If your label does not match this manual, contact Epoch support before installing the battery or changing charger settings.

Is this battery right for your system?

The B36100A-A is a large-format lithium deep-cycle battery. It is not a drop-in replacement for every lead-acid or AGM installation. Before installation, verify tray fitment, terminal clearance, cable size, overcurrent protection, charger profile, charging-source compatibility and load requirements.

NOTICE

Deep-cycle battery. This model is not designed for engine cranking, outboard starting or golf carts. For engine starting, use a cranking-rated battery.

Product page and downloads
Scan for the latest user manual, technical data sheet and Safety Data Sheet (SDS).

02

PRODUCT OVERVIEW

FEATURES, USES AND KEY TERMS

A 38.4 V, 100 Ah, 3.84 kWh lithium iron phosphate battery for 36 V trolling motors and deep-cycle systems. It combines internal heating for cold-weather charging, Bluetooth monitoring and an advanced battery management system in an IP67 enclosure, and comes with a 10-segment battery meter.

LiFePO4 chemistry

Lithium iron phosphate cells for thermal stability, long cycle life and dependable deep-cycle operation.

100 Ah · 3.84 kWh

About 3.84 kWh of nominal stored energy at 38.4 V in one battery weighing about 75 lb.

Internal heating

Warms the cells before charging in freezing weather. The BMS adds low-temperature charge protection.

Bluetooth monitoring

The Epoch Li-Ion app shows state of charge, voltage, current, temperature and battery status on your phone.

IP67 enclosure

Dust-tight and protected against temporary immersion to 1 m for 30 minutes. Not for water jets or pressure washing.

Battery meter included

The 10-segment meter shows the remaining charge in 10% steps and sounds an alarm when the charge reaches 10%.

Advanced BMS

Protection against overcharge, over-discharge, over-current, short circuit and temperature extremes.

Native 36 V

One 38.4 V battery can replace a three-battery 12 V lead-acid trolling-motor bank, with far less weight.

Primary uses

- 36 V trolling motor systems where voltage and current requirements match
- Bass boats, fishing boats, pontoons, skiffs, aluminum boats and bay boats
- Replacing a three-battery 12 V lead-acid trolling-motor bank
- Marine house power and electronics in compatible 36 V systems, with suitable conversion for 12 V devices
- Solar, off-grid, cabin and backup systems built around compatible 36 V charging and inverter equipment
- Parallel banks of up to four matched batteries for longer runtime

Key terms used in this manual

LiFePO4 (lithium iron phosphate)
A lithium-ion chemistry valued for thermal stability and long cycle life. This battery uses a 12S arrangement — 12 cells in series — to reach 38.4 V nominal.

Nominal voltage
The typical voltage during discharge — 38.4 V for this battery. Actual voltage varies with state of charge, load and temperature within the 30.0–43.8 V operating range.

Amp-hour (Ah)
A measure of charge capacity. The rated capacity of this battery is 100 Ah.

Watt-hour (Wh) and kilowatt-hour (kWh)
A measure of energy: volts × amp-hours. 38.4 V × 100 Ah = 3,840 Wh ≈ 3.84 kWh. This is nominal energy, not a guaranteed usable-energy figure.

C-rate
Current expressed relative to capacity. For this battery 1C = 100 A, 0.5C = 50 A, 0.2C = 20 A and C/20 = 5 A.

Continuous and peak current
Continuous current can be sustained; peak current is a short-duration rating. This battery allows 120 A continuous and 200 A for up to 60 seconds.

State of charge (SOC)
Remaining charge as a percentage of full. The app's SOC is a calculated estimate; resting voltage alone is not a precise SOC indicator for LiFePO4.

Battery management system (BMS)
Electronics inside the battery that monitor voltage, current and temperature and switch off charging or discharging to protect the cells.

Depth of discharge (DoD)
How much of the capacity has been used. At 70% DoD, 30% state of charge remains.

Low-voltage disconnect (LVD)
The BMS switches off the output at its low-voltage limit to prevent over-discharge.

Bulk, absorption and float
Charger stages: constant-current bulk, then constant-voltage absorption at 42.6–43.2 V, then an optional low-voltage float. Float disabled is preferred for this battery.

Equalization
A lead-acid maintenance mode that applies elevated voltage. It must be disabled for LiFePO4 batteries.

Temperature compensation
A charger feature that adjusts voltage with temperature for lead-acid batteries. Set it to 0 mV/°C (off) for this battery.

Series and parallel
Series connections add voltage while capacity stays at 100 Ah; parallel connections add capacity while voltage stays at 38.4 V.

Overcurrent protection device
A fuse or DC-rated circuit breaker that protects wiring from overloads and short circuits.

IP67
An IEC 60529 enclosure rating: 6 = dust-tight, 7 = protected against temporary immersion in water up to 1 m for 30 minutes. Not rated for water jets or pressure washing.

Parasitic load
A small, continuous draw from connected equipment that discharges the battery even when the system appears to be off.

Cycle life
The number of charge–discharge cycles a battery can deliver before its capacity falls to a stated end-of-life level. This battery is rated for 3,500+ cycles.

What's in the box

- 36V 100Ah heated Bluetooth LiFePO4 battery (B36100A-A)
- 10-segment battery meter

Check the contents when you unpack the battery. If anything is missing or the battery is damaged, contact Epoch support before installation.

Power button and battery meter

The power button on the battery's lid turns the battery on and off; a blue LED lights while the battery is on. The 10-segment battery meter shows the remaining charge at a glance. The Operation and storage section explains how to use both.

03
SPECIFICATIONS

MODEL B36100A-A RATINGS AT 25 °C UNLESS NOTED

GENERAL	
Brand	Epoch Batteries
Model / SKU	B36100A-A
Battery type	Heated Bluetooth deep-cycle LiFePO4
System voltage class	36 V (38.4 V nominal)
Chemistry	LiFePO4 (lithium iron phosphate)
Cell type	Prismatic LiFePO4
Cell configuration	12S
Bluetooth	Yes — Epoch Li-Ion app (iOS and Android)
Internal heating	Yes — for cold-weather charging
Low-temperature charge protection	Yes
On/off control	Power button on the lid; blue LED when on
Battery meter	10-segment meter, included
Cycle life	3,500+ cycles
Warranty	11-year limited manufacturer warranty

ELECTRICAL	
Nominal voltage	38.4 V
Nominal capacity	100 Ah
Stored energy (nominal)	3.84 kWh (3,840 Wh)
Operating voltage range	30.0–43.8 V
Maximum charge voltage	43.8 V

CURRENT RATINGS	
Max continuous discharge	120 A
Recommended discharge current	50 A (0.5C)
Peak discharge	200 A for up to 60 s
Max continuous charge	100 A
Peak charge	150 A for up to 10 s
Recommended charge current	50 A (0.5C)

BATTERY BANKS	
Series connection	Max 1 — do not connect in series
Parallel connection	Max 4 batteries, plug and play (up to 400 Ah)

TEMPERATURE AND ENVIRONMENT	
Charge temperature (with heating)	–20 °C to 55 °C (–4 °F to 131 °F)
Cell charge temperature	0 °C to 55 °C (32 °F to 131 °F)
Discharge temperature	–20 °C to 60 °C (–4 °F to 140 °F)
Storage temperature (recommended)	0 °C to 35 °C (32 °F to 95 °F); max 12 months
Reconnect temperature	50 °C (122 °F)
Enclosure rating	IP67 — dust-tight; temporary immersion to 1 m for 30 min

MECHANICAL	
Dimensions (L × W × H)	20 × 10.25 × 11 in (508 × 260.4 × 279.4 mm)
Weight	75 lb (34.0 kg)
Case material	ABS / PC blend, UL94-V0 flame rating
Terminal type	M8 female

BMS PROTECTION	
Overcharge	Disconnects or limits operation to protect the cells
Over-discharge	Disconnects or limits operation to protect the cells
Over-current	Protects against sustained loads above ratings
Short circuit	Rapid BMS cutoff
High temperature	Disconnects outside the operating range
Low temperature	Low-temperature charge protection; heater warms the cells before charging

COMPLIANCE AND LISTINGS	
Cell-level certifications	UL 1642; IEC 62619:2022
Product	CE; RoHS
Transport	UN 38.3; Class 9 lithium battery shipping classification
Enclosure	IP67 per IEC 60529

Ratings at 25 °C unless otherwise noted. Recommended charger settings are in Section 9, page 19. Verify charger programming, cable ampacity, fuse ratings and environmental limits before final installation. UL 1642 and IEC 62619 certifications apply at the cell level (the cells used in this battery), not to the complete battery assembly.

04
SAFETY

READ BEFORE INSTALLING, CHARGING OR SERVICING

Safe use depends on correct equipment, proper wiring, clean connections, compatible chargers, correct terminal torque and operation within the temperature and current limits in this manual.

⚠ DANGER

Short-circuit hazard. Never connect the positive and negative terminals together, and never let tools, jewelry or other conductive objects bridge them. A short circuit can release extremely high current and cause arcing, burns, fire or equipment damage.

General safety rules

- Read all instructions before use and keep this manual for reference.
- Keep the battery away from children and pets.
- Do not open, drill, crush, puncture, drop, burn or modify the battery.
- Remove jewelry, use insulated tools and wear appropriate personal protective equipment.
- Confirm polarity before connecting chargers, loads, DC-to-DC chargers, solar controllers, inverters or series/parallel wiring.
- Stop using the battery immediately if it becomes unusually hot, emits odor or smoke, leaks, swells, makes unusual sounds or is physically damaged.

Do not

- Mix this battery with lead-acid batteries in the same bank.
- Mix different battery models, capacities, ages or chemistries in a series or parallel bank.
- Connect it to a charger, alternator system, converter, inverter charger, solar controller or DC-to-DC charger that cannot be configured for LiFePO4.
- Use lead-acid equalization, desulfation or repair modes.
- Exceed 100 A continuous charge current or 120 A continuous discharge current.
- Exceed 200 A peak discharge current, or draw more than 120 A for longer than 60 seconds.
- Install the battery without properly sized DC overcurrent protection.
- Submerge, pressure-wash or expose the battery to standing water.
- Continue use after a severe impact, fire, water intrusion or visible case damage.

⚠ WARNING

External protection is required. The internal BMS protects the cells. It does not replace a correctly rated external fuse or DC circuit breaker for your wiring.

If something goes wrong

If the battery smokes, becomes unusually hot, emits odor, leaks, swells or behaves abnormally, stop use immediately. If it is safe to do so, disconnect chargers and loads. Move people away from the battery and contact emergency services when fire, smoke, chemical exposure or injury is possible. Follow the product Safety Data Sheet (SDS) and emergency responder instructions.

⚠ WARNING

Do not use water directly on a damaged or burning lithium battery unless directed by emergency responders. Use an appropriate extinguisher and follow local emergency procedures.

SAFETY DATA SHEET

The SDS for this battery is listed under Downloadable resources on the product page. Keep a copy with your emergency information.

05
INSTALLATION

PREPARE, LOCATE AND SECURE THE BATTERY

Pre-installation checklist

Most installation problems can be prevented before the first cable is attached.

- [ ] The battery case is undamaged and the terminals are clean.
- [ ] The label shows model B36100A-A, and voltage, capacity and application requirements have been confirmed.
- [ ] The tray or mounting location fits the 20 × 10.25 × 11 in case with cable clearance.
- [ ] The charger, inverter charger, converter, solar controller or DC-to-DC charger is configured for LiFePO4.
- [ ] All batteries in a bank are the same model, age and capacity, and are at the same state of charge.
- [ ] The main fuse or circuit breaker is selected for the wire, load and system voltage.
- [ ] Cables and lugs are sized for current, length, voltage drop and installation environment.
- [ ] Polarity has been verified with a multimeter before making final connections.
- [ ] Terminal hardware and a torque wrench are available.
- [ ] The Epoch Li-Ion app is installed if you will monitor the battery during commissioning.
- [ ] The battery will be registered within 90 days of purchase for full warranty coverage (Section 14).

WARRANTY TIP

Damage caused by an unsecured or improperly secured battery is excluded from warranty coverage. Use a tray, strap or bracket rated for the application.

Choose the location

- Install in a clean, dry, accessible location protected from accidental impact.
- Allow airflow around the battery and connected equipment.
- Keep away from heat sources, sparks, open flames, fuel and flammable materials.
- Avoid prolonged direct sunlight and locations that exceed the temperature limits.
- Do not install where standing water can collect around the case or terminals.

Mounting and orientation

Secure the battery so it cannot slide, tip or strike nearby equipment during operation, vehicle or trailer motion, vessel motion or transport. Use a tray, strap, bracket or enclosure appropriate for the application. Choose mounting hardware rated for the battery's weight of 75 lb (34.0 kg). Install the battery upright unless

Epoch documentation for this exact model allows another orientation, and keep the top terminals and wiring protected from accidental contact.

Environmental protection

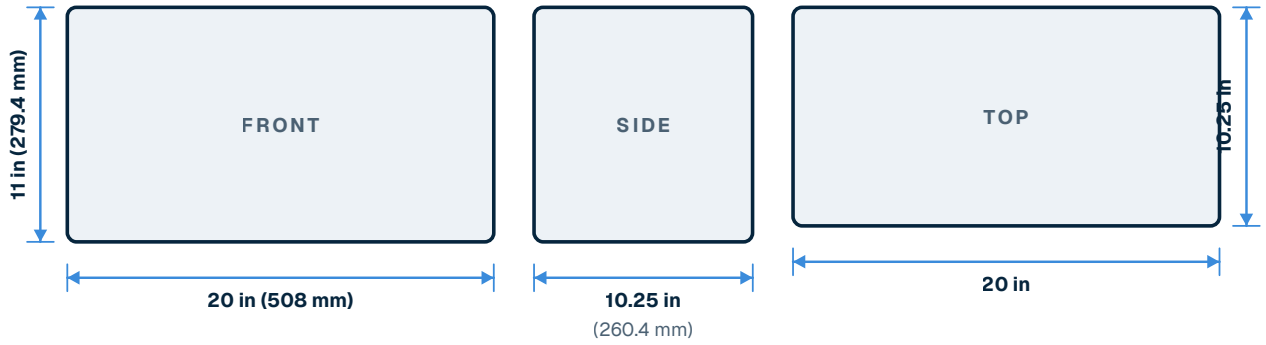
The IP67 enclosure is dust-tight and protected against temporary immersion up to 1 m for 30 minutes, which suits trolling-motor compartments, fishing boats and other wet marine locations. It is not rated for water jets, pressure washing or long-term submersion: mount the battery securely, keep the terminals clean and protected, and do not mount it where water can pool around the battery.

NOTICE

Leave enough clearance above the terminals for cable bend radius, terminal boots and inspection. Do not force cables to bend sharply at the terminal posts.

MODEL-SPECIFIC DATA

Simplified case outline. All three views share one scale; drawing is not full size.



Overall case dimensions of the B36100A-A. Allow additional space for terminal hardware, cable bend radius, ventilation access and service removal.

Installing the battery meter

1. Choose a dry, visible location for the 10-segment battery meter, for example at the console or near the trolling-motor controls.
2. Connect the included battery meter, then route its cable away from sharp edges, moving parts, heat sources and standing water.
3. Switch the battery on and confirm that the meter shows the state of charge.

06
ELECTRICAL CONNECTIONS

POLARITY, TERMINALS AND PROTECTION

Polarity

Connect positive (+) to positive and negative (–) to negative. Reverse polarity can damage the battery, charger, inverter, electronics or connected loads, and reverse-polarity damage is excluded from warranty coverage.

⚠ DANGER

Before tightening the final connection, use a multimeter to confirm system polarity and voltage. Never rely only on cable color or assumptions.

KEY TERM: AMPACITY

The current a conductor can carry continuously without exceeding its temperature rating. It depends on wire size, insulation rating, bundling and ambient temperature.

WHY FUSE NEAR THE BATTERY?

A fault on an unprotected cable can draw very high current from the battery. A main fuse close to the positive terminal protects the entire cable run.

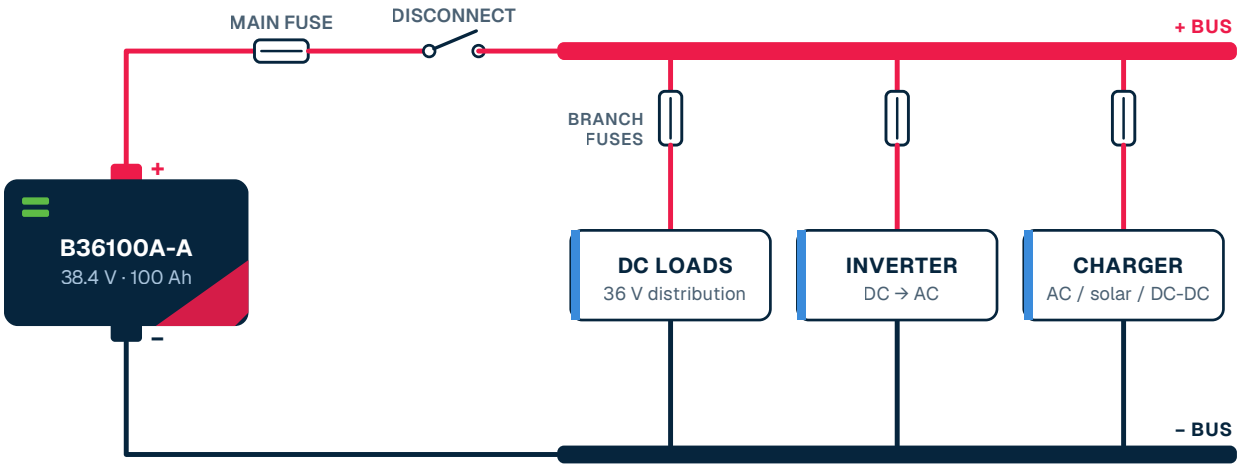
Terminal connection procedure

1. Turn off chargers, inverters, loads and DC disconnects, and switch the battery off with its power button, before wiring.
2. Remove jewelry and use insulated tools.
3. Keep terminal caps or covers in place until each terminal is being wired.
4. Use clean, properly crimped lugs with flat contact surfaces.
5. Connect and tighten the positive terminal, then connect and tighten the negative terminal.
6. Tighten the M8 terminal hardware firmly, without over-tightening. Contact Epoch support for the terminal torque for this model.
7. Install terminal boots or protective covers after final torque is confirmed.

Cable and protection requirements

ITEM	REQUIREMENT
Cable size	Size conductors for maximum current, circuit length, voltage drop, ambient temperature and applicable code requirements.
Main protection	Install a fuse or DC-rated circuit breaker as close as practical to the battery positive terminal.
Voltage rating	Protection devices and switches must be rated for the maximum system voltage — especially in series banks.
Wire ampacity	The fuse or breaker must protect the smallest conductor in the circuit.
Lug stack	Keep the terminal stack flat and secure. Use a busbar if several conductors must connect to one battery terminal.
Cable routing	Route cables away from sharp edges, heat sources, moving parts and wet areas.

CONCEPTUAL DIAGRAM



Single-battery 36 V system. Place the main fuse as close as practical to the battery positive terminal; busbars simplify protected distribution and service disconnects. Terminal positions are simplified — both terminals are on the battery lid. Final designs must be reviewed for cable ampacity, fuse coordination, voltage drop, environmental conditions and applicable electrical or marine codes.

Disconnecting the battery

1. Turn off all chargers and loads, then switch the battery off with its power button.
2. Open the DC disconnect or breaker.
3. Remove the negative cable, then the positive cable.
4. Cap or cover the terminals immediately.

NOTICE

Charge or discharge switches in the app, where available, are operating controls. They do not provide safe electrical isolation for service — open the DC disconnect and remove the cables.

07
BATTERY BANKS

PARALLEL BANKS

Parallel wiring increases capacity and runtime while the system stays at 38.4 V nominal. The B36100A-A supports up to 4 batteries in parallel. Use only matched B36100A-A batteries of similar age, condition and firmware, all at the same state of charge.

⚠ WARNING

Do not connect B36100A-A batteries in series. This model is limited to one battery in series and up to 4 in parallel.

Parallel connections — more capacity

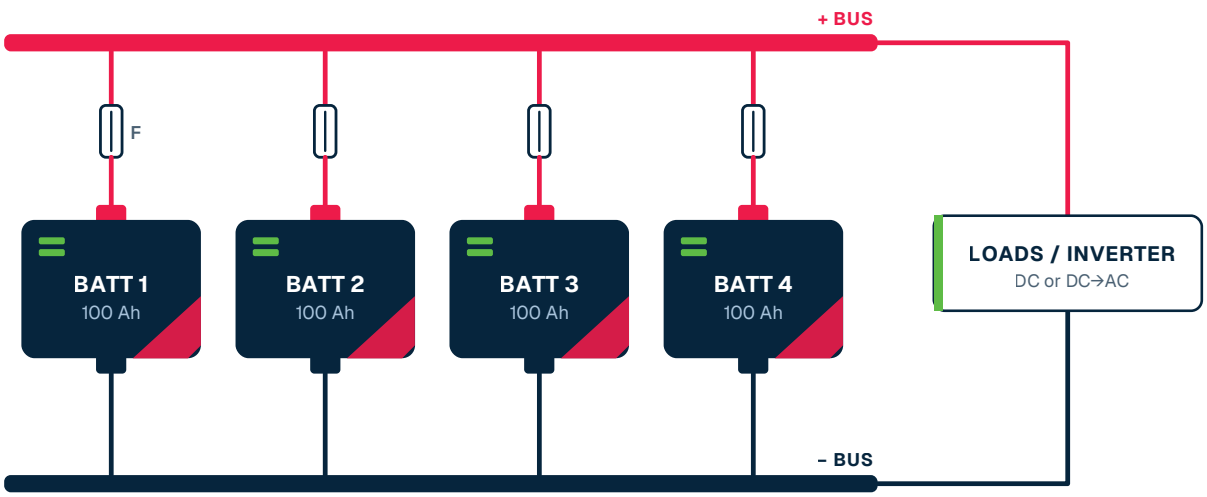
Parallel wiring connects positive to positive and negative to negative. Capacity and runtime add up while voltage stays at 38.4 V nominal. Use balanced wiring so each battery sees similar resistance during charging and discharging.

IF ONE BATTERY GOES OFFLINE

If one battery in a parallel bank disconnects — for example, because its BMS has switched off — the remaining batteries carry the whole load and the bank's current capability drops. Reduce the load; do not rely on the original bank limit.

BATTERIES IN PARALLEL	SYSTEM CLASS	NOMINAL VOLTAGE	CAPACITY	ENERGY
1P	36V	38.4 V	100 Ah	3.84 kWh
2P	36V	38.4 V	200 Ah	7.68 kWh
3P	36V	38.4 V	300 Ah	11.52 kWh
4P	36V	38.4 V	400 Ah	15.36 kWh

CONCEPTUAL DIAGRAM



Parallel bank, up to 4 batteries. Fuse each battery branch, keep branch cables equal in length and gauge, and connect the system through common busbars.

Balanced wiring practices

- Charge each battery fully before connecting batteries into a bank.
- Use identical cable lengths and gauges for each battery whenever practical.
- Connect loads and chargers through properly rated positive and negative busbars for larger banks.
- Fuse each battery or string when required by the system design and applicable standards.
- Do not daisy-chain large banks where unequal cable resistance could cause uneven charging or discharging.

Before energizing a bank

- Do not hot-connect batteries. Make all bank connections with chargers, loads and disconnects off and every battery switched off with its power button.
- Pre-charge large inverters where required.
- Confirm full-bank charger voltage, inverter low-voltage settings, conductor insulation rating, enclosure clearance and overcurrent protection.

08
APPLICATIONS

PLANNING DEEP-CYCLE SYSTEMS

The B36100A-A is designed for systems that need efficient 36 V energy storage with Bluetooth monitoring and cold-weather charging support. Confirm alternator, charger, inverter and load requirements before energizing.

Marine house power

Use the battery for onboard electronics and accessory loads where continuous and peak current demands are within specification. Protect it from bilge water, salt spray, unsecured tools and direct terminal exposure.

Trolling motors

The battery can power 36 V trolling motors where the motor's current requirements stay within the battery ratings.

Solar and off-grid systems

Program solar charge controllers for LiFePO4. Disable equalization and set temperature compensation to 0 mV/°C (off). Confirm that the solar array's open-circuit voltage and the controller output are appropriate for the battery bank voltage.

Alternator charging

When charging from a vehicle alternator, a DC-to-DC charger is highly recommended to protect both the alternator and the battery. Program it with the LiFePO4 settings in Section 9.

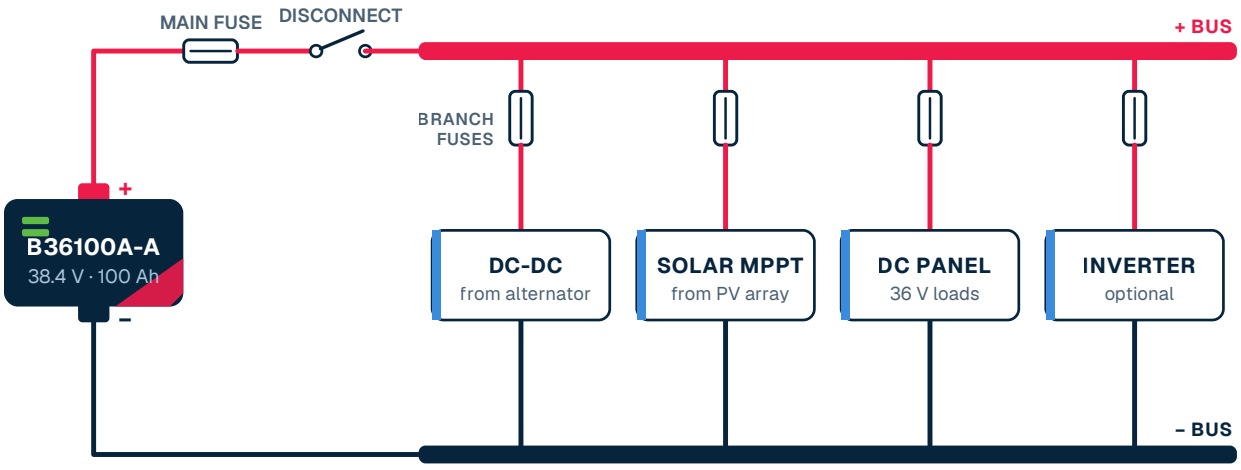
Backup and standby systems

For standby use, test the system periodically under load and confirm that the charger keeps the battery within the recommended voltage range. Do not leave parasitic loads connected for long periods without a maintenance-charge schedule.

NOTICE

Not intended uses. This model is not designed for engine cranking, outboard starting or golf carts. Use a cranking-rated battery for engine starting.

CONCEPTUAL DIAGRAM



Conceptual marine / solar layout. Use it as a planning reference, not as installation instructions. Verify charger settings, cable size, fuse ratings and system voltage before installation.

08

Estimating runtime

Runtime depends on how much energy you plan to use and how fast your loads draw it. For planning, this manual uses 80% of nominal energy — about 3,072 Wh (80 Ah) per battery. This is a conservative planning assumption, not a rating.

Runtime (h) ≈ usable Wh ÷ load (W) or **usable Ah ÷ load (A)**

PLANNING NOTE

For a parallel bank, multiply usable energy by the number of batteries. Inverter efficiency and idle draw, cabling, temperature, battery age, BMS limits and duty cycle change real-world results.

EXAMPLE (ONE BATTERY)	CALCULATION	ESTIMATED RUNTIME
100 W DC load	3,072 Wh ÷ 100 W	≈ 30.7 h
250 W DC load	3,072 Wh ÷ 250 W	≈ 12.3 h
500 W DC load	3,072 Wh ÷ 500 W	≈ 6.1 h
10 A DC load	80 Ah ÷ 10 A	≈ 8.0 h

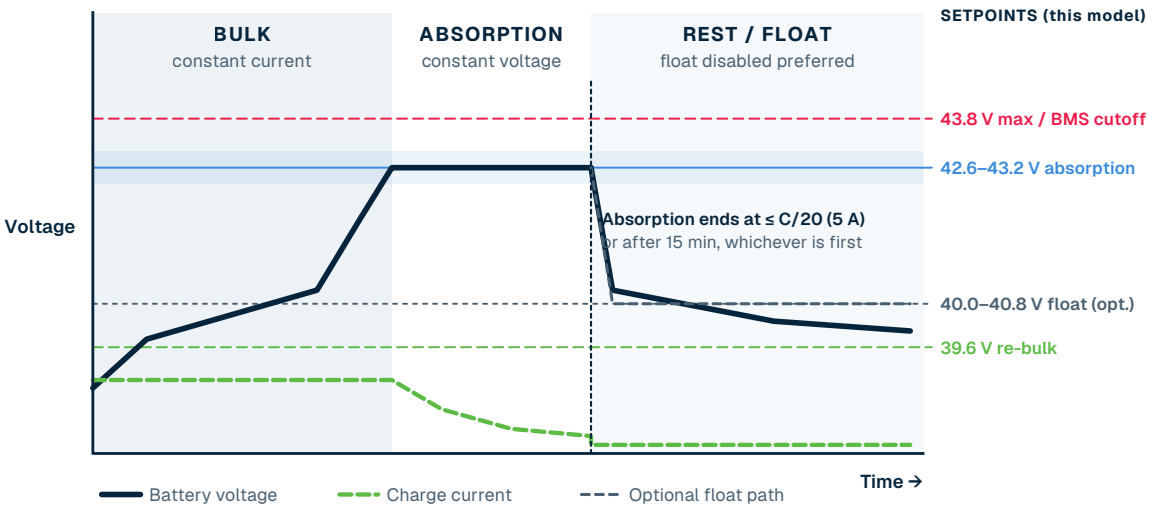
09
CHARGING

SETTINGS, SOURCES AND COLD-WEATHER CHARGING

Use lithium-compatible charging equipment programmed for LiFePO4 — an AC charger, converter, inverter charger, solar charge controller or DC-to-DC charger. Disable lead-acid features such as equalization and temperature compensation.

RECOMMENDED CHARGING SETTINGS — MODEL B36100A-A	
Bulk / absorption voltage	**42.6–43.2 V**
Absorption end	Charge current ≤ C/20 (5 A) or 15 min, whichever comes first
Float voltage	Disabled (preferred) or 40.0–40.8 V
Re-bulk voltage	39.6 V
Maximum continuous charge current	100 A
Peak charge current	150 A for up to 10 s
Recommended charge current	**50 A (0.5C)**
Temperature compensation	0 mV/°C (off)
Equalization	Disabled
BMS high-voltage cutoff	43.8 V
SOC recalibration voltage	43.8 V

CONCEPTUAL DIAGRAM



Charging stages with this model's setpoints. The curve shape illustrates the stages only; it is not measured data and not to scale.

How the charging stages work

- **Bulk.** The charger delivers steady current — up to 100 A, 50 A recommended — while battery voltage rises.
- **Absorption.** The charger holds 42.6–43.2 V while current tapers. End absorption when current falls to C/20 (5 A) or after 15 min, whichever comes first.
- **Rest or float.** Float disabled is preferred; if your charger requires float, set 40.0–40.8 V. The charger restarts bulk when voltage falls to the 39.6 V re-bulk setting.

WHY IS FLOAT DISABLED?

LiFePO4 batteries do not need a float charge to stay full, and prolonged high-voltage holds are unnecessary. That is why float disabled is the preferred setting for this battery.

Setting up your charging sources

- **AC chargers, converters and inverter chargers:** select a LiFePO4 profile or program the settings above. Do not use lead-acid, AGM or gel profiles.
- **Solar charge controllers:** program the settings above and confirm the array's open-circuit voltage suits the controller and bank voltage.
- **Alternators:** use a DC-to-DC charger programmed for LiFePO4.
- **Several sources at once:** when solar, shore power and alternator charging can run together, keep their combined current within the 100 A continuous charge limit and your wiring limits.
- **Existing chargers:** confirm the ratings on your battery label before raising a charger's current limit; earlier production may carry different ratings.

First charge

Before first use, fully charge the battery with a compatible LiFePO4 charger unless it is already at the state of charge your application requires. Confirm charger voltage, current and polarity before connecting.

Cold-weather charging and internal heating

Charging lithium cells below freezing can damage them. In cold weather, the internal heater warms the cells before charging begins, and the BMS's low-temperature charge protection allows charging only within the cells' 0 °C to 55 °C (32 °F to 131 °F) charge range.

1 · Charger connected
A LiFePO4 charge profile within Epoch voltage and current limits is applied.

2 · BMS checks temperature
The BMS monitors cell temperature and blocks charging outside the allowed range.

3 · Cells are warmed
The internal heater warms the cells before charging begins.

4 · Charging proceeds
Normal charging resumes within the allowed temperature range and BMS limits.

- While the cells warm, the app may show little or no charge current. This can be normal — allow time for heating before assuming a fault.
- Leave the charger connected and switched on while the cells warm. Warm-up takes longer in colder conditions.
- The –20 °C to 55 °C charge rating applies with internal heating: the heater warms the cells first, and the cells themselves charge only from 0 °C to 55 °C (32 °F to 131 °F).

⚠ WARNING

Never bypass the BMS, force-charge a protected battery or defeat a low-temperature lockout. Let the BMS and heater manage cold-charge protection.

Charging environment

- Charge in a ventilated area away from flammable materials.
- Keep terminals clean and protected from accidental short circuits.
- Do not charge a battery that is swollen, leaking, smoking, unusually hot or physically damaged.
- Stop charging and disconnect if the charger, cables, fuse or battery behaves abnormally.

NOTICE

Do not use lead-acid equalization, desulfation or repair modes. They are designed for lead-acid batteries and can exceed the 43.8 V maximum charge voltage.

Epoch 36V 15A charger

Epoch's 36V 15A LiFePO4 charger (CHG-36V15A) is the recommended charger for this battery. At its 15 A output, a fully discharged B36100A-A takes roughly 6.7–7 hours to charge, plus taper and balancing time. Use only 36 V LiFePO4 charging equipment: a 12 V charger, or a lead-acid, AGM or gel charger, cannot charge this battery correctly.

10
BLUETOOTH MONITORING

EPOCH LI-ION APP FOR iOS AND ANDROID

The built-in Bluetooth module connects to the free Epoch Li-Ion app for iOS and Android, so you can view state of charge, voltage, current, temperature, cycle data and battery status on your phone. App screens and available data may vary by app version and battery firmware.

App Store
Search “Epoch Li-Ion” or scan the code with your iPhone camera.

Google Play
Search “Epoch Li-Ion” or scan the code with your Android phone.

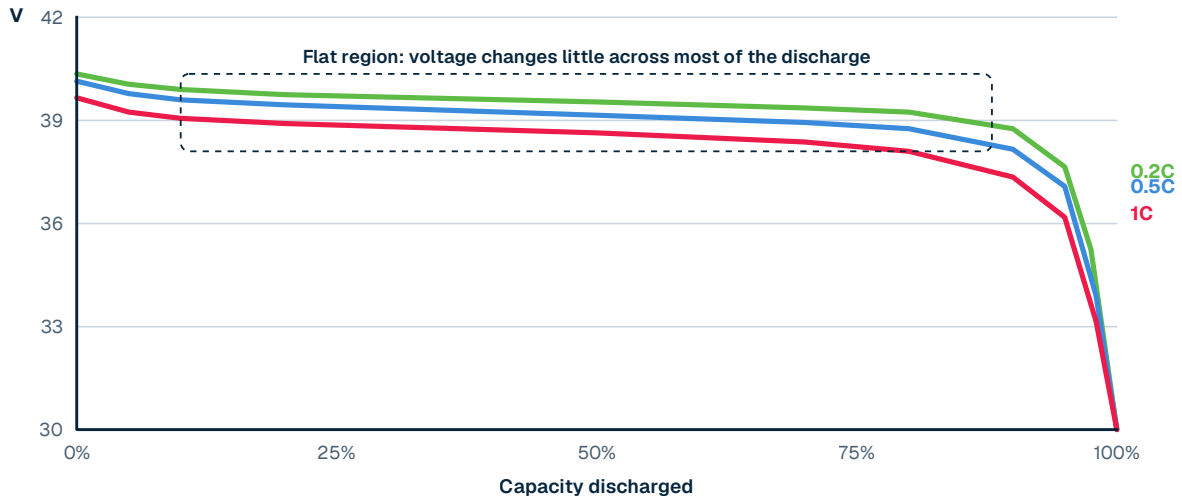
Set up the app

1. Install the Epoch Li-Ion app from the Apple App Store or Google Play.
2. Turn on Bluetooth on your phone.
3. Allow Bluetooth (nearby devices) permissions when prompted.
4. On Android, turn on location services if the operating system requires them for Bluetooth scanning.
5. Turn the battery on: press and hold the power button for a few seconds until the blue LED lights.
6. Open the app near the battery and select it from the device list. If several batteries are nearby, match the serial number.

Reading the app

Check voltage, current, temperature and any active alarms together, not state of charge alone. SOC is a calculated estimate. LiFePO4 voltage stays nearly flat across most of the discharge (see the figure below), so resting voltage alone cannot give a precise SOC. The app's estimate may occasionally correct itself in a sudden step; that is a recalculation, not a sudden loss of stored energy.

CONCEPTUAL DIAGRAM



Typical LiFePO4 terminal voltage versus capacity discharged at 25 °C. A conceptual illustration of the chemistry's flat voltage profile — not measured data for this model. Actual values vary with temperature, age, load and test method.

Recommended monitoring checks

WHEN	WHAT TO CHECK
Before installation	Resting voltage, state of charge and absence of active faults.
During first charge	Voltage, current, temperature and charge status.
During heavy loads	Current draw stays within the continuous and peak limits.
During storage	State of charge at least every 3 months; recharge as needed.
After a fault	Record app data and fault messages before contacting support.

If the app cannot find the battery

- Make sure the battery is switched on with its power button.
- Move closer to the battery and refresh the device list.
- Close the app on other phones or tablets that may already be connected to the battery.
- Confirm Bluetooth, nearby-device and — on some Android versions — location permissions.
- Update the app. If the battery may be asleep, cycling the charger or load can wake it.

MONITORING AID

Bluetooth data is a monitoring aid. It does not replace proper wiring, overcurrent protection, compatible charging equipment or safe installation practices.

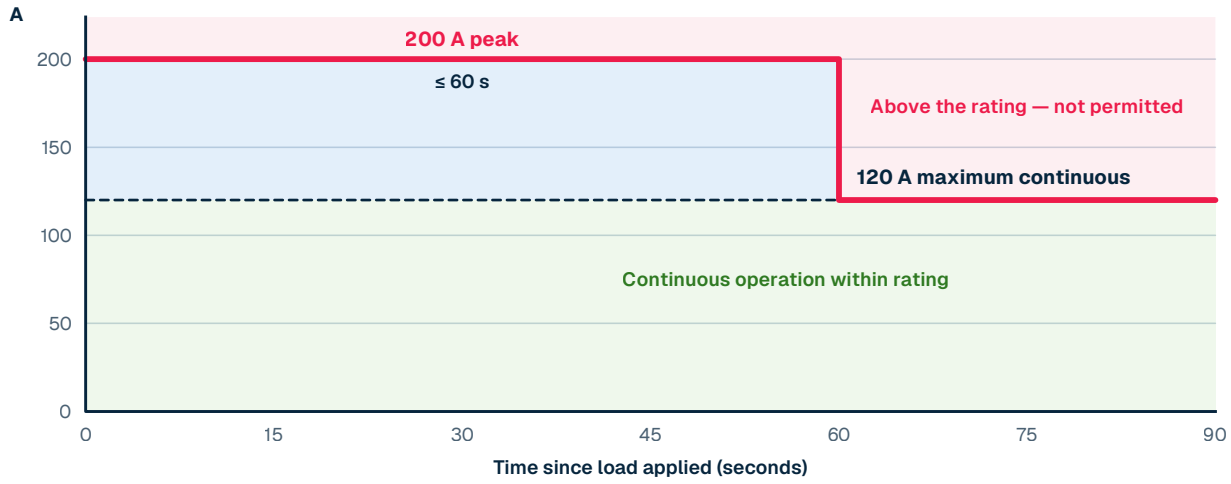
11

OPERATION AND STORAGE

LIMITS, DAILY USE AND LONG-TERM STORAGE

OPERATING LIMIT	VALUE
Continuous discharge limit	120 A
Peak discharge limit	200 A for up to 60 seconds
Continuous charge limit	100 A
Operating voltage range	30.0–43.8 V
Discharge temperature	–20 °C to 60 °C (–4 °F to 140 °F)
Charge temperature	–20 °C to 55 °C (–4 °F to 131 °F), with heating

MODEL-SPECIFIC DATA



Allowable discharge current over time for one B36100A-A. The 200 A rating is a short-duration peak only: do not size continuous loads, busbars, switches, conductors or overcurrent protection around it. Use the continuous load current, surge profile, voltage drop and applicable standards.

Depth of discharge

LiFePO4 batteries can deliver more usable energy than lead-acid batteries, and routine operation at a moderate depth of discharge can improve long-term service life. Avoid leaving the battery fully depleted — recharge promptly after deep use. Routine full discharges are not needed as maintenance.

WARRANTY AND STORAGE

The limited warranty excludes storage above 60 °C (140 °F) or below –40 °C (–40 °F), prolonged storage in a fully discharged state, and batteries left uncharged for more than three months.

Storage

- Store in a clean, dry location at 0 °C to 35 °C (32 °F to 95 °F) whenever practical.

- Charge the battery before long-term storage, then switch it off with the power button.
- Disconnect loads and chargers during storage unless the system is designed for standby maintenance.
- Check the state of charge at least every 3 months and recharge as needed.
- Protect the terminals from accidental short circuits during storage and transport.

NOTICE

A battery stored at a very low state of charge can enter low-voltage protection and may not be recoverable if left discharged for an extended period.

Turning the battery on and off

- On: press and hold the power button for a few seconds. The blue LED lights when the battery is on.
- Off: press and hold the power button for a few seconds. The blue LED goes out when the battery is off.

IF THE BATTERY WILL NOT SWITCH OFF

The battery balances its cells automatically, and while it is balancing the BMS may keep it on to protect the cells. Wait 10–15 minutes after disconnecting the charger before switching the battery off.

Reading the battery meter

The included 10-segment battery meter shows the remaining charge in steps of 10%. When the charge reaches 10%, the meter sounds an alarm and flashes: recharge the battery as soon as possible. Like the app's state of charge, the meter reading is an estimate.

12
MAINTENANCE

INSPECTION SCHEDULE AND TERMINAL CARE

The B36100A-A is maintenance-free compared with lead-acid batteries: it needs no watering or acid service. Routine inspections keep it operating safely.

INTERVAL	ACTION
Before each trip or use	Inspect the case, terminals, cables, fuses, disconnects and mounting hardware.
Monthly during active use	Check terminal tightness, cable condition, app status and resting voltage.
At least every 3 months in storage	Check state of charge and recharge as needed.
Annually	Inspect torque, wiring layout, protection devices, battery tray, ventilation and charger settings.
After any fault or impact	Stop use, inspect for damage, record app data and contact support as needed.

Terminal maintenance

- Turn off and disconnect chargers and loads before maintenance.
- Keep terminals clean and dry. Use a soft brush or dry cloth to remove dust and debris.
- Do not use solvents, abrasive cleaners or pressure washing on the battery.
- Confirm the terminal hardware is tight and the terminal covers are installed.
- Replace damaged lugs, cables, boots or hardware before returning the battery to service.

Voltage and current checks

Use a reliable multimeter to compare terminal voltage with the app reading. Resting voltage changes slowly on LiFePO4 batteries, so use the app's state of charge and a load test when you need a more complete health check.

⚠ WARNING

Never place a multimeter's current (amps) input across the battery terminals — it creates a short circuit. Measure current with a DC clamp meter or a correctly rated shunt.

13
TROUBLESHOOTING

SYMPTOMS, CAUSES AND CORRECTIVE ACTIONS

Use the table below to identify common causes and corrective actions. Stop testing and contact support if there is smoke, heat, odor, swelling, leaking liquid, arcing or visible damage.

Before you start

- Note the model, serial number, charger model and settings, how the system is wired and what changed before the problem began.
- Record the app's voltage, current, temperature, state of charge and exact alarm text, with photos or screenshots.
- Measure voltage directly at the battery terminals, not only at the inverter or charger.

SYMPTOM	LIKELY CAUSES	CORRECTIVE ACTIONS
Battery will not charge	Charger off or faulted; reverse polarity; incompatible profile; BMS protection; cells warming in cold weather; blown fuse; battery already nearly full.	Confirm charger settings and polarity. Check fuses and disconnects. Measure voltage at the battery while charging. In cold weather, allow the heater time to warm the cells. Review app alarms. A nearly full battery accepts little current.
No output or low voltage	Battery discharged; parasitic load; BMS low-voltage protection; open fuse or disconnect.	Disconnect loads and measure at the battery terminals. Charge with a compatible LiFePO4 charger. Check for parasitic draws before storage. Do not connect another battery across the terminals to force a wake-up.
Shuts down when a load starts	Surge above the 200 A / 60 s peak rating; sustained load above 120 A; inverter inrush; loose or undersized connections causing voltage drop.	Compare the load's surge and running current with the ratings. Check connections and cable size. Use the inverter's pre-charge or soft-start provisions where required. Try a smaller load to confirm normal output.
Bluetooth not found	Phone Bluetooth off; permissions not granted; out of range; another device connected; battery switched off or asleep; app version.	Make sure the battery is switched on with its power button. Enable Bluetooth and permissions. Move closer and refresh. Close the app on other devices. Update the app. Cycle the charger or load to wake the battery.
Low runtime	Load higher than expected, including inverter idle draw; battery not fully charged; cold temperature; imbalance in a bank; parasitic loads.	Fully charge with the recommended profile. Measure the load current. Check bank wiring balance. Test batteries one at a time in a bank.
Fuse or breaker trips	Short circuit; overload; inrush current; undersized protection; damaged cable.	Disconnect loads. Inspect wiring. Confirm load current and protection rating. Replace damaged parts.
Battery becomes hot	High ambient temperature; excessive current; poor ventilation; charger fault.	Reduce load or charge current. Improve ventilation. Confirm charger settings. Stop use if heating is abnormal.
App shows a fault	The BMS detected a voltage, current, temperature or short-circuit protection condition.	Record the fault. Remove the load or charger. Allow protection to reset when conditions return to normal.

⚠ WARNING

Do not repeatedly reset a fuse, breaker, charger or BMS fault without identifying the cause. Repeated faults can indicate unsafe wiring or an equipment mismatch.

When to contact Epoch support

Stop using the battery if the case is cracked or separated, or if you see swelling, leakage, unexplained heat, odor or water intrusion. Do not open or reseal the battery. For repeated shutdowns, failed charging or implausible readings, contact support with the model, serial number, order information, installation photos, charger settings and alarm screenshots.

14

WARRANTY AND SUPPORT

11-YEAR LIMITED MANUFACTURER WARRANTY

The B36100A-A is backed by an 11-year limited manufacturer warranty covering qualifying defects in materials and workmanship under normal use, subject to Epoch Batteries' warranty terms, model-specific remedy schedule and claim procedures.

Register your battery

Registration within 90 days of purchase is required for full warranty coverage. If the battery is not registered within that time, the warranty period begins from the battery's original manufacturing date. Proof of ownership is required for any claim, and coverage is non-transferable: it applies only to the original purchaser.

Register online
epochbatteries.com/pages/product-registration
Have your order number and serial number ready.

What is not covered

- Misuse, abuse, neglect, or improper handling, installation, maintenance or service.
- Damage from an unsecured or improperly secured battery.
- Loose, corroded or improperly connected terminals.
- Reverse polarity, short circuits and overcurrent.
- Series or parallel connections beyond the limits for this model, or mixing models, capacities, ages or chemistries in a bank.
- Use with incompatible chargers, accessories or third-party products.
- Use outside the specified voltage, current, temperature or environmental limits.
- Storage above 60 °C (140 °F) or below –40 °C (–40 °F), prolonged storage fully discharged, or batteries left uncharged for more than three months.
- Excessive resistance from poor crimps, undersized cables or damaged wiring, and faults in the external electrical system.
- Impact, dropping, collision, fire, flood, water submersion or pressure washing.
- Opening, modification, disassembly, unauthorized repair or tampering.
- Applications the battery was not designed for, including repeated engine starting or current draw above the rated discharge capacity.

How to make a warranty claim

1. Gather your proof of purchase, model number, serial number, installation date and a description of the issue and when it began.
2. Record photos or videos of the installation, cables, fuses, charger settings and any damage, plus app screenshots or fault messages.
3. Contact Epoch support for troubleshooting, then submit your claim through the Warranty Portal at warranty.epochbatteries.com.

4. Wait for approval and an RMA number with packing and shipping instructions. Do not ship a battery without a valid RMA — shipments without one may be refused.
5. Package the battery safely and in compliance with lithium battery shipping regulations, using a UN-approved lithium battery shipping box where required. The customer arranges and pays for shipment to Epoch.

This summary does not replace the full warranty terms at epochbatteries.com/pages/11-year-warranty, which govern coverage, remedies and exclusions.

Contact Epoch Batteries

1-888-501-1846
Monday–Friday, 9 AM–4 PM Eastern

support@epochbatteries.com
Photos, invoices and app screenshots

epochbatteries.com/support
Messages, FAQs and scheduled calls

warranty.epochbatteries.com
Warranty claims, returns and repairs

3075 Chastain Meadows Pkwy, Marietta, GA 30066, USA

954 Ponce de Leon Ave, Suite 401, San Juan, PR 00907, USA

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RECORDS

COMMISSIONING AND MAINTENANCE LOG

Commissioning record

Battery model / SKU	B36100A-A
Serial number	
Purchase date	
Warranty registration date	
Installation date	
Installer / owner	
Application	
System voltage	
Number of batteries and configuration	
Initial resting voltage	
Initial state of charge	
Charger model and settings	
Main fuse / breaker rating	
Cable gauge and length	
Terminal torque confirmed	
Battery meter connected and reading	
Bluetooth app connected	

Maintenance log

DATE	VOLTAGE / SOC	INSPECTION NOTES	ACTION TAKEN	INITIALS

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Manuals, data sheet and SDS for B36100A-A

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