

12 V 314 Ah LiFePO4

LiFePO4 Battery

High-capacity deep-cycle LiFePO4 battery with integrated battery management

RELEASED TECHNICAL SPECIFICATION



DOCUMENT NUMBER	REVISION	ISSUE DATE	STATUS
AMP-SPEC-BAT-012	C	17 October 2026	Released

1 Product Overview

The Amped 12 V 314 Ah LiFePO4 Battery is designed for RV, marine auxiliary and stationary energy-storage systems. It combines a 12.8 V nominal, 314 Ah (4,019.2 Wh) 4S1P prismatic-cell pack with integrated protection and up to 250 A continuous discharge in an IP67-rated ABS enclosure. Communication and heating options depend on the ordered configuration.

12.8 V NOMINAL VOLTAGE	314 Ah NOMINAL CAPACITY	4,019.2 Wh STORED ENERGY
250 A CONTINUOUS DISCHARGE	27.8 kg PACK WEIGHT	6,000 SPECIFIED CYCLES

KEY FEATURES

- LiFePO4 prismatic cells; 4S1P pack
- Integrated battery management protection
- 250 A maximum continuous discharge
- 250 A maximum charge current
- 6,000 cycles at 80% depth of discharge
- IP67 ABS enclosure with M8 terminals
- UART, RS485, CANBUS and heating by option

TYPICAL APPLICATIONS

- Recreational vehicles and caravans
- Marine auxiliary battery systems
- Solar and off-grid energy storage
- Stationary backup and deep-cycle systems
- Remote equipment and cabin power
- Other applications subject to validation

APPLICATION NOTE

System compatibility, cable sizing, external fusing, isolation devices and charger settings must be checked by a competent installer. Engine cranking, battery series connection and parallel connection require written configuration approval. Sub-zero charging requires verification of an appropriately equipped battery and BMS.

Product identification

Amped 12 V 314 Ah LiFePO4 battery. Optional communication and heating features are available only when specifically included in the ordered configuration. Charging below 0 °C requires verified low-temperature charging safeguards in the supplied battery.

2 Electrical Specification

Parameter	Specification
Cell chemistry	Lithium iron phosphate (LiFePO ₄), prismatic cells
Cell configuration	4S1P
Nominal voltage	12.8 V
Nominal capacity	314 Ah @ 0.5 C discharge rate
Nominal energy	4,019.2 Wh (4.0192 kWh)
Operating voltage range	10.0-14.6 V
Cycle life	6,000 cycles @ 80% DOD (0.2 C charge / 0.5 C discharge)
Standard charge current	62.8 A (0.2 C, CC-CV)
Maximum charge current	250 A
Standard discharge current	157 A (0.5 C)
Maximum continuous discharge	250 A
Peak discharge current	Not specified
Charge temperature	-10 °C to 55 °C

2.1 Battery Management and Protection

Parameter	Specification
Internal BMS	Integrated battery management protection
Safety protection	Overcharge, over-discharge, over-current and temperature protection
Communication	Optional by order: UART / RS485 / CANBUS
Heating system	Optional by order; verify fitment and charging controls before use below 0 °C
Charge upper limit	14.6 V
Discharge lower limit	10.0 V
Short-circuit protection	Provided by the BMS

CHARGING REQUIREMENT

Use a compatible 4S LiFePO₄ CC-CV charger. Maximum charge voltage is 14.6 V, maximum charge current is 250 A, and standard charge current is 62.8 A. Charge-temperature range: -10 °C to 55 °C. Charging below 0 °C is permitted only when the actual battery is equipped with and using approved low-temperature charging controls or heating protection. Verify the delivered configuration before enabling sub-zero charging.

3 Mechanical and Environmental Specification



MECHANICAL DATA
 Dimensions: 384 × 194 × 255 mm
 Weight: 27.8 ±1 kg
 Enclosure: ABS, IP67
 Power terminals: M8

AMPED 12.8 V 314 Ah LiFePO4 - ANGLED VIEW

3.1 Environmental Limits

Parameter	Specification
Dimensions (L × W × H)	384 × 194 × 255 mm
Weight	27.8 ±1 kg
Enclosure	ABS case, IP67
Power terminals	M8
Charging temperature	-10 °C to 55 °C
Discharge temperature	-10 °C to 60 °C
Storage: -20 °C to 25 °C	Up to 3 months at approximately 50% SOC
Storage: -20 °C to 45 °C	Up to 1 month at approximately 50% SOC

INSPECTION REQUIREMENT

Before installation, confirm that the enclosure, terminals and identification label are free from visible damage, contamination, swelling, deformation or corrosion.

ADDITIONAL PRODUCT VIEWS



End profile / enclosure



Top view / M8 terminals

4 Safety, Installation and Storage

WARNING

Lithium batteries can deliver very high fault current. Incorrect installation, charging, short-circuiting, physical damage or operation outside the stated limits may cause fire, equipment damage, serious injury or death.

ESSENTIAL SAFETY PRECAUTIONS

- Never connect the positive and negative terminals together.
- Do not immerse the battery in water or expose it to uncontrolled moisture.
- Do not pierce, puncture, crush, distort or modify the battery pack.
- Do not expose the battery to open flame, excessive heat or temperatures outside the stated limits.
- Immediately isolate the battery if it emits an unusual smell, excessive heat, smoke, swelling, deformation or discolouration.
- Do not use a visibly damaged battery.

INSTALLATION AND USE

- Installation must be completed by a competent person using correctly rated cables, terminals, fuses and isolation devices.
- Confirm polarity before connection. Reverse-polarity protection is not stated in this specification.
- Use only compatible LiFePO4 charging equipment and settings.
- Do not use this model for engine cranking unless Amped confirms suitability in writing.
- Do not connect batteries in series or parallel until the permitted configuration and balancing requirements are confirmed.
- Provide adequate ventilation and protect the battery from impact and abrasion.

4.1 Storage and Handling

Topic	Requirement
State of charge	Store at approximately 50% SOC.
Temperature	Prefer a clean, dry, ventilated area between 0 °C and 35 °C for long-term storage.
Maintenance	Service at intervals not exceeding three months; fully charge, then return to approximately 50% SOC for storage.
Terminals	Protect terminals from short circuit and contamination during handling and transport.
Location	Keep away from corrosive substances, fire and heat sources.
Abnormal condition	Do not use a damaged, deformed, leaking or abnormally hot battery; isolate it and contact Amped.

COMMUNICATION AND HEATING NOTE

UART, RS485 and CANBUS communication and battery heating are optional features, not standard for every pack. Confirm the interfaces, heating system and BMS charge-temperature protection installed in the actual battery before use.

5 Warranty, Compliance and Document Control

WARRANTY

Applicable product warranty coverage is governed by the warranty terms provided by Amped at the time of sale. This engineering specification does not independently establish or extend warranty obligations.

Damage from misuse, incorrect charging, unauthorized modification or physical damage may be excluded under the applicable terms.

COMPLIANCE AND TRANSPORT

Obtain the applicable UN 38.3 test summary and any required safety, regulatory and shipping documentation for the supplied production batch. This engineering specification is not a UN 38.3 test report, transport approval or regulatory certificate. Follow carrier and national requirements.

5.1 Ordering and Identification

Parameter	Specification
Product description	Amped 12 V 314 Ah LiFePO4 Battery
Amped product / model code	Amped 12 V 314 Ah LiFePO4
Document number	AMP-SPEC-BAT-012
Document revision	C - Released
Power terminals	M8
Recommended charger	4S LiFePO4-compatible CC-CV charger; charge voltage not above 14.6 V

CONTROLLED SPECIFICATION

This specification describes the Amped 12 V 314 Ah LiFePO4 battery. Heating and communication interfaces depend on the ordered configuration. The -10 °C charge-temperature minimum is conditional on validated low-temperature charging protection: do not charge below 0 °C without confirming that the installed unit and its charge controls support this operation.

TECHNICAL SUPPORT

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