AL1240BT

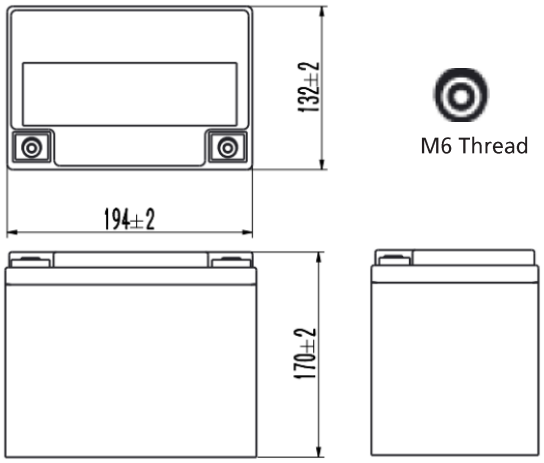
Product Data Sheet

Issue Date: 30/10/2026

Issued By: R&J Batteries PTY LTD

Technical Information

The ALLiON AL1240BT Lithium Iron Phosphate battery is a high performing 12V Deep Cycle battery with Bluetooth technology. Suitable for RV, leisure, industrial & solar applications, the ALLiON range of Lithium batteries are much lighter than comparable lead acid batteries and can last up to 4 times as long. They are also safe thanks to the integrated Battery Management System.



Features and Benefits

- Up to 4x longer life compared to lead acid batteries
- More usable capacity & greater efficiency
- Lightweight
- Faster recharging
- IP54 rated case

Applications
RV, Caravan & Leisure
Industrial Equipment
Solar

Characteristic		Specification
Nominal Capacity		40Ah
Nominal Energy		512 Wh
Nominal Voltage		12.8V ($LiFePO_4$ 4S)
Internal Resistance		≤ 40mΩ @ 1kHz AC
Nominal Charge Voltage		14.4 ± 0.2V
Float Charge Voltage (for Standby use)		13.7 ± 0.1V
Maximum allowed charge current		30A
Recommended charge current		20A
Maximum allowed discharge current		30A continuous, 60A for 3s
Discharge cut-off voltage		10V
Dimensions (L x W x H), ±2mm		194mm x 132mm x 170mm
Nominal Weight		5.5 kg
Bluetooth Connectivity		Yes, via ALLiON App
Operation Temperature	Charge	0°C to +45°C
	Discharge	-20°C to +60°C
Self-discharge	Residual Capacity	≤ 3% /month, ≤ 15% /year
	Recover Capacity	≤ 1.5% /month, ≤ 8% /year
Storage Environment	≤ 1 month	-10°C to +40°C, 5% to 75% RH
	≤ 3 months	0°C to +30°C, 55% to 75% RH
	Recommended	+15°C to +35°C, 5% to 75% RH

Parallel connection of up to 4 batteries is supported by the BMS. For series connection, up to 4 batteries can also be connected but CAUTION must be taken. Individual battery voltages must all be kept within a 0.2V range, and the minimum voltage must be limited to 11.5V. Combinations of parallel and series connection are not supported. Failure to comply may void warranty.

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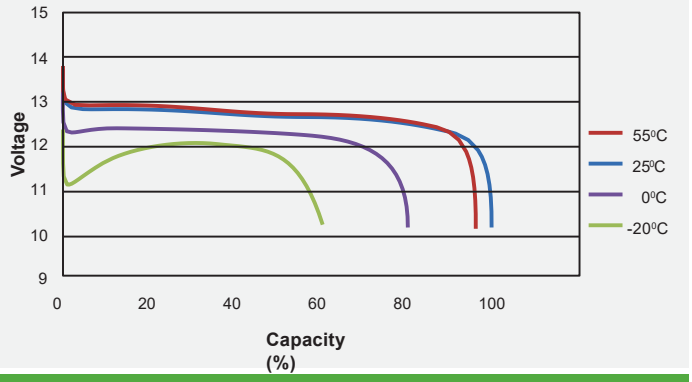
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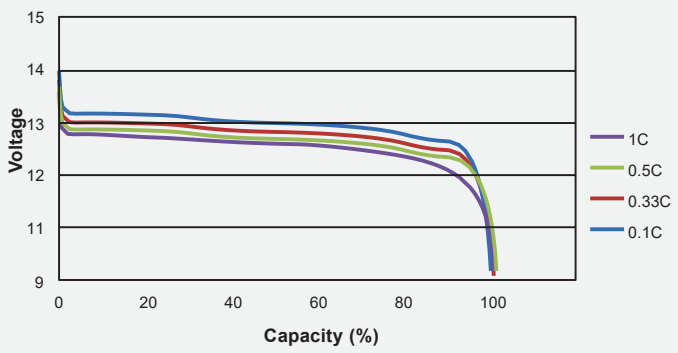
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Characteristic		Specification
High Voltage (V_{max})	High voltage protection	3.75V ±0.05V
	Reset voltage	3.60V ±0.05V
	Reset trigger	Below reset voltage
Low Voltage (V_{min})	Low voltage protection	2.50V ±0.05V
	Reset voltage	2.80V ±0.05V
	Reset trigger	Begin charging
Over-current (I_{max})	Maximum charge current protection	35A for 15s, 60A for 3S
	Charge current protection reset	Discharge or auto rest after 30S
	Maximum discharge current protection	35A for 15s, 60A for 3S
	Discharge current protection reset	Charge or auto rest after 30S
	Short circuit protection	Do not short circuit
Temperature	Over temperature protection	Protect 65 ±5°C, Reset 50 ±5°C
	Under temperature protection	Protect 0 ±5°C, Reset 3 ±5°C

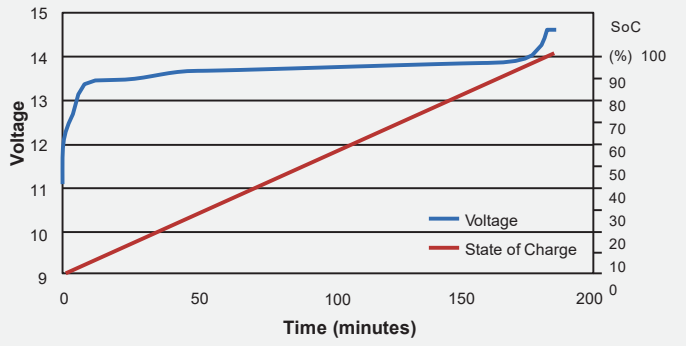
Discharge voltage at various temperatures @ 0.2C



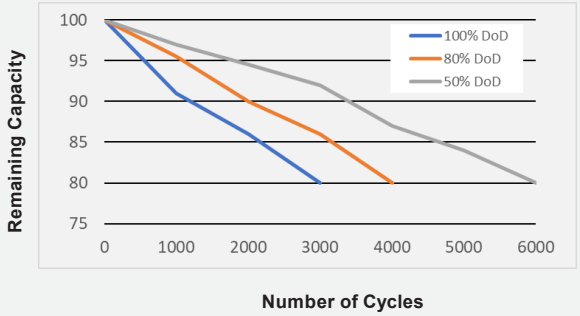
Discharge voltage at different rates



Voltage & State of Charge (SoC) @ 0.33C charge rate



Cycle Life vs Depth of Discharge (DoD) @ 0.2C discharge



Discharge Test Expected Runtime:

Tester	Astratec 12V 20A	Lester 48V 56A	Lester 12/24/36V 75A
Minutes	120	N/A	N/A

Parallel & Series Connection:

- Parallel connection of up to 4 batteries is supported.
- For series connection, up to 4 batteries can also be connected but CAUTION must be taken. Individual battery voltages must all be kept within a 0.2V range (a battery balancer is recommended)
- Combinations of Parallel and Series are not supported. Failure to comply may void warranty.

Product Safety

1. Storage & Transport

The battery must be charged using the Standard Charge Process every 6 months if not in use.
Do not drop the battery.
Maximum stacking quantity (height) is 6 batteries.
The battery must be kept upright at all times.

2. Product Warnings

Please read and follow the handling instructions before use. Improper use may cause heat, fire, rupture, damage or capacity deterioration of the battery. The manufacturer is not responsible for any accidents caused by misuse or poor maintenance.

- Do not store or use battery near heat source.
- Do not install in vehicle engine bay.
- Do not expose battery to direct sunlight for extended periods.
- Do not connect battery to high voltage.
- Do not place battery in water or fire.
- Always check polarity before connecting the battery.
- Do not short circuit battery.
- Do not expose the battery to impact or crushing force.
- Do not install or connect this battery with different battery types.
- Protect battery from high temperatures. High temperatures may result in fire or loss of battery function and service life.
- Do not allow the battery to remain discharged. Re-charge battery when discharged.
- Use the correct battery charger for this battery.
- If battery emits an unusual odor, becomes hot or the case has distorted, stop using the battery immediately
- If eyes or skin are exposed to liquid leaking from the battery, rinse it with clean water and seek medical advice immediately.
- Do not disassemble the battery.