

NITRO[®]

LiFePO₄

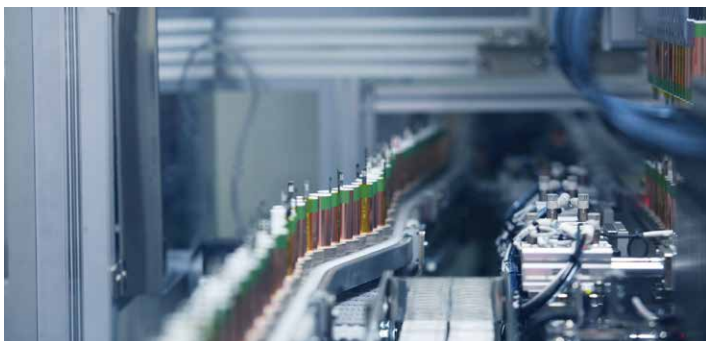


Batteries
LiFePO₄

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1. Research and Development



2. Lithium Cells

Take safety as the core. To improve energy density, extend cycle life and create superior performance at high & low temperature by all-round control on materials, mechanical structure, technology, equipment, process, etc.

- High Safety
- Longer cycle life
- Strict control on cost
- Excellent rate-discharge & charge performance
- Superior low & high temperature performance

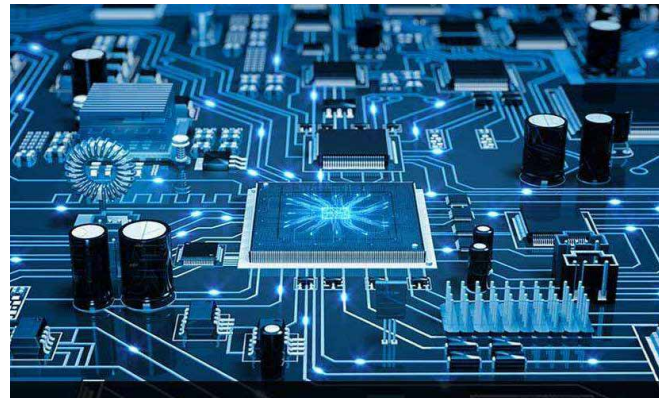


3. BMS Management

NITRO is committed to the R&D of BMS with own patent.

- **Safety management:** Overcharge/overdischarge; Overcurrent / overtemp. low temp. Multi-level fault diagnosis
- **SOC/SOH detection:** Residual capacity estimation; Battery health estimation
- **Battery parameter detection:** Detection and analysis of battery voltage, current, temperature.
- **Balance management:** Balance based on voltage mode, based on time mode; based on SOC; Active/passive balance.

Optional low cost, low power management.



4. Cells Assembly

According to the actual applications of the customers, the battery modules and battery packs are customized with high consistency cells and super reliable BMS to ensure the safety, reliability and stability of the battery system. NITRO is committed to providing customers with highly safe, customized, long cycle-life and ultra-high cost-effective battery pack solutions.

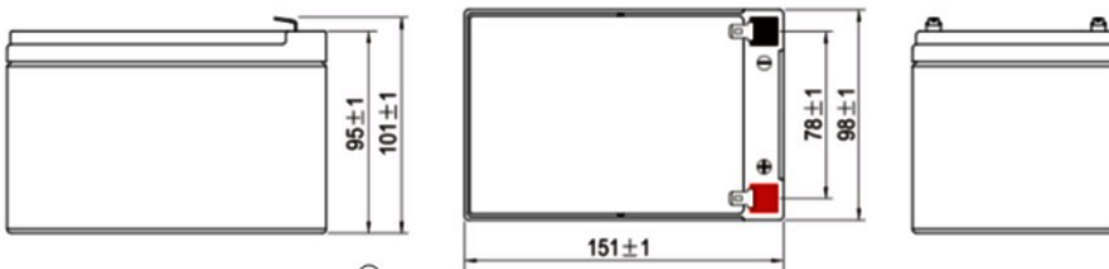
- Safety
- Customization
- Long cycle life
- Super cost-effective solutions



5. Product Specification - NLI-1216F2

Product Model	NLI-1216F2
Normal Voltage	12.8 V
Rated Capacity	16 ± 0.2 Ah (C5)
Energy	0.2 kWh
Weight	About 1.8 kg ± 0.2 kg
Size	151±2mm x 99±2mm x 96±2mm
Internal Resistance (AC)	≤ 50 mΩ
Charge Voltage	14.6 ± 0.2 V
Standard Cutoff Voltage	About 10 V
Charge Current	8A
Discharge Current	16A
Max Discharge Current	≤150A
Passive Protection Function	Over charge protection, Over discharge protection, Temperature protection, Balanced function
Charging Terminal	M8
Discharge Terminal	M8
Cycle Life	≥3,000@0.5C/1C (100%DOD)
	≥6,000@0.5C/1C (80%DOD)

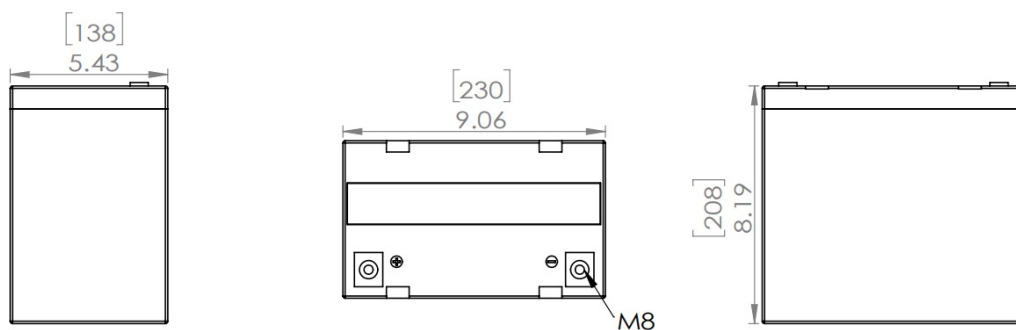
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Product Specification - NLI-12V22I

Product Model	NLI-12V22I
Normal Voltage	12.8V
Rated Capacity	72 ± 0.2Ah (C ₅)
Energy	0.92 KWh
Weight	About 7 kg ± 0,2 kg
Size	230±2mm * 138±2mm * 208±2mm
Internal Resistance (AC)	≤30 mΩ
Charge Voltage	14.6 ± 0.2V
Standard Cutoff Voltage	About 10V
Charge Current	36A
Discharge Current	60A
Passive Protection Function	Over charge protection, Over discharge protection, Temperature protection, Balanced function
Charging Terminal	M8
Discharge Terminal	M8
Cycle Life	≥3,000@0.2C/1C (100%DOD) ≥6,000@0.2C/1C (80%DOD)

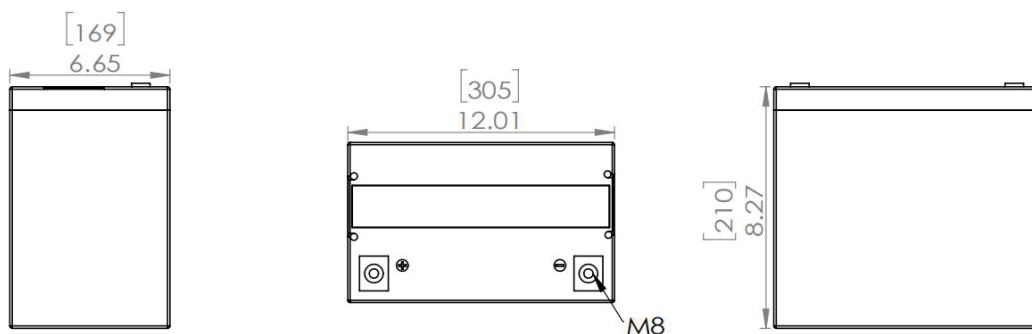
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Product Specification - NLI-12V27I

Product Model	NLI-12V27I
Normal Voltage	12.8V
Rated Capacity	105 ± 1Ah (C ₅)
Energy	1.344 KWh
Weight	About 11 kg ± 1 kg
Size	305mm * 169mm * 210mm
Internal Resistance (AC)	≤20 mΩ
Charge Voltage	14.6 ± 0.2V
Standard Cutoff Voltage	About 10V
Charge Current	100A
Discharge Current	100A
Passive Protection Function	Over charge protection, Over discharge protection, Temperature protection, Balanced function
Charging Terminal	M8
Discharge Terminal	M8
Cycle Life	≥3,000@0.2C (100%DOD) ≥6,000@0.2C (80%DOD)

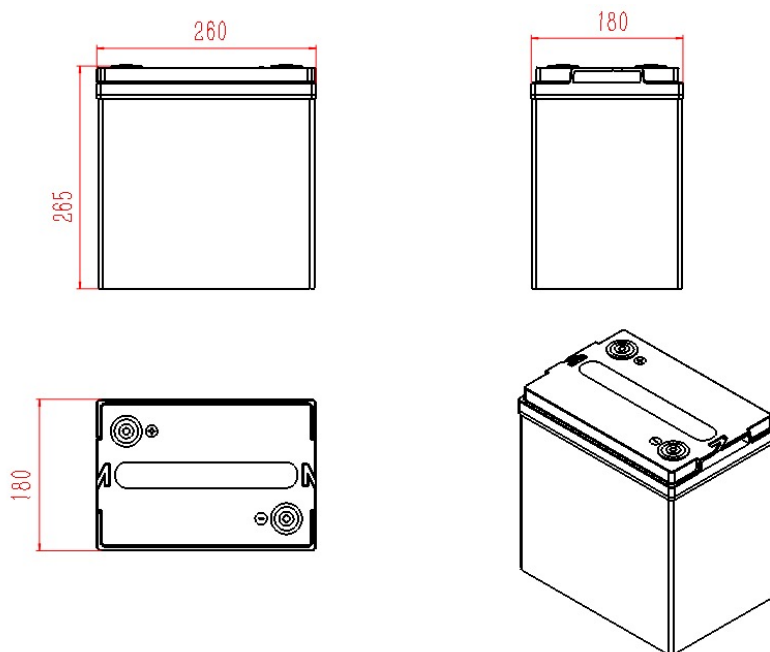
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Product Specification - NLI-12VGC2

Product Model	NLI-12VGC2I
Normal Voltage	12.8V
Rated Capacity	112Ah (C ₅)
Energy	1.43KWh
Weight	About 12.5kg±0.5kg
Size	≤260 mm * 180 mm * 265 mm
Internal Resistance (AC)	≤25mΩ
Charge Voltage	14.4±0.2V
Standard Cutoff Voltage	About 10V
Charge Current	≤56A
Discharge Current	≤56A
Max Discharge Current	≤150A
Passive Protection Function	Over charge protection, Over discharge protection, Temperature protection, Balanced function
Charging Terminal	M8
Discharge Terminal	M8
Cycle Life	≥3,000@0.5C (100%DOD) ≥6,000@0.5C (80%DOD)

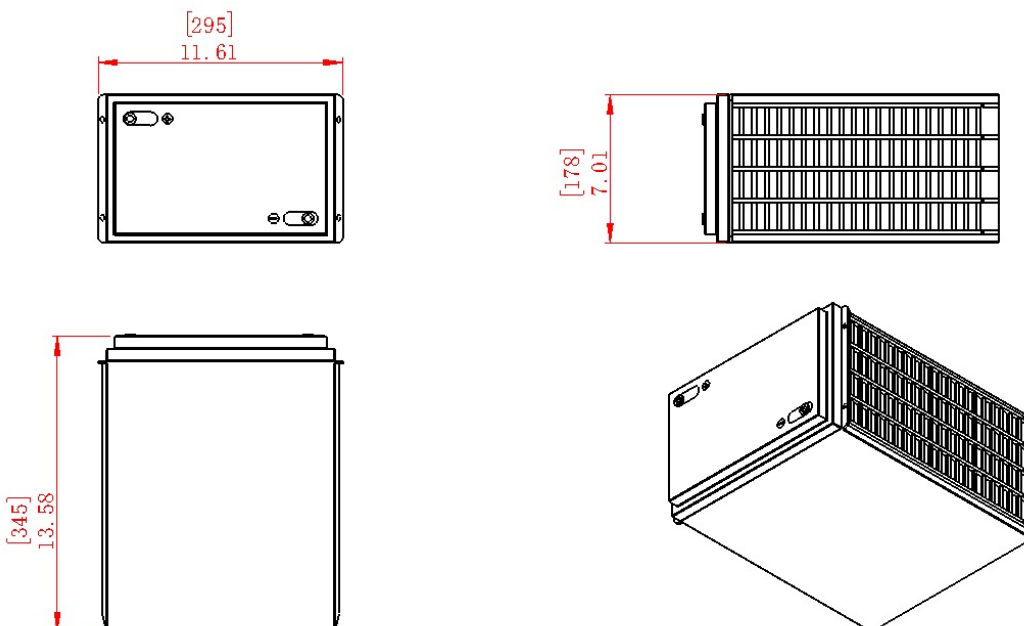
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Product Specification - NLI-12V305I

Product Model	NLI-12V305I
Normal Voltage	12.8V
Rated Capacity	200Ah (C ₅)
Energy	2.56KWh
Weight	About 21kg±0.5kg
Size	≤295 mm * 178 mm * 345 mm
Internal Resistance (AC)	≤25mΩ
Charge Voltage	14.4±0.2V
Standard C _u toff Voltage	About 10V
Charge Current	≤100A
Discharge Current	≤100A
Max Discharge Current	≤150A
Passive Protection Function	Over charge protection, Over discharge protection, Temperature protection, Balanced function
Charging Terminal	M8
Discharge Terminal	M8
Cycle Life	≥3,000@0.5C (100%DOD) ≥6,000@0.5C (80%DOD)

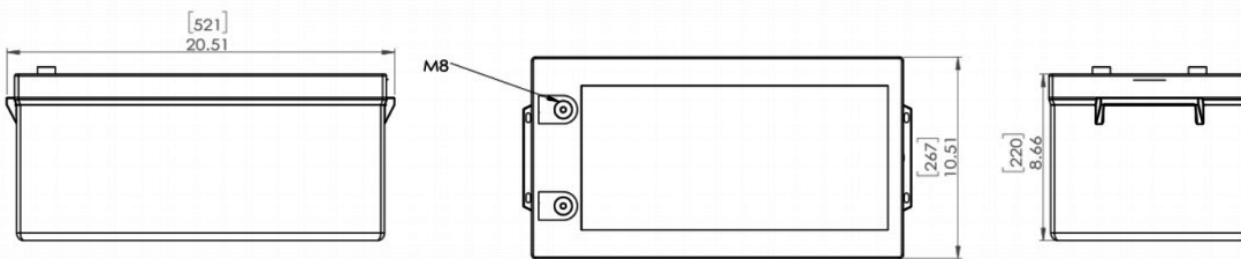
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Product Specification - NLI-12V8DI

Product Model	NLI-12V8DI
Normal Voltage	12.8V
Rated Capacity	300Ah (C ₅)
Energy	3.84KWh
Weight	About 33kg±0.5kg
Size	≤520 mm * 267 mm * 220 mm
Internal Resistance (AC)	≤25mΩ
Charge Voltage	14.4±0.2V
Standard Cutoff Voltage	About 10V
Charge Current	≤150A
Discharge Current	≤150A
Max Discharge Current	≤150A
Passive Protection Function	Over charge protection, Over discharge protection, Temperature protection, Balanced function
Charging Terminal	M8
Discharge Terminal	M8
Cycle Life	≥3,000@0.5C/1C (100%DOD)
	≥6,000@0.5C/1C (80%DOD)

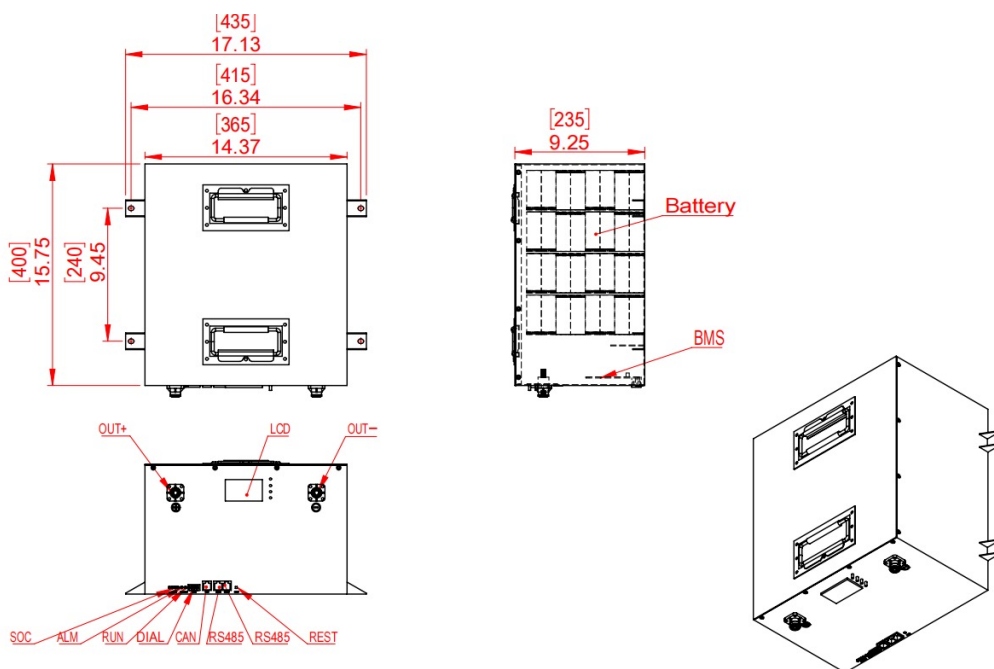
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Product Specification - NLI-25.6-200

Product Model	NLI-25.6-200
Normal Voltage	25.6V
Rated Capacity	200Ah (C ₅)
Energy	5.12KWh
Weight	About 50kg±0.5kg
Size	≤435 mm * 400 mm * 235 mm
Internal Resistance (AC)	≤25mΩ
Charge Voltage	28.8±0.2V
Standard Cutoff Voltage	About 20V
Charge Current	≤100A
Discharge Current	≤100A
Max Discharge Current	≤200A
Passive Protection Function	Over charge protection, Over discharge protection, Temperature protection, Balanced function, CAN+RS485, LCD
Charging Terminal	M6
Discharge Terminal	M6
Cycle Life	≥3,000@0.5C/1C (100%DOD) ≥6,000@0.5C/1C (80%DOD)

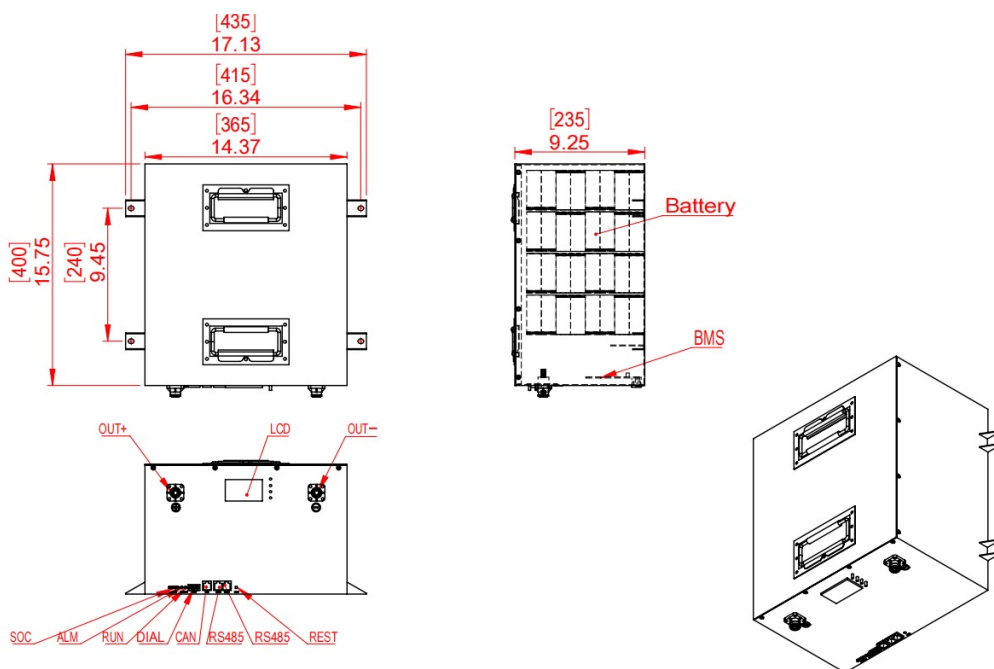
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Product Specification - NLI-51.2-100

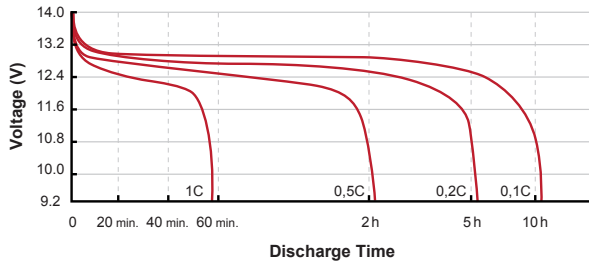
Product Model	NLI-51.2-100
Normal Voltage	51.2V
Rated Capacity	100Ah (C ₅)
Energy	5.12KWh
Weight	About 50kg±0.5kg
Size	≤435 mm * 400 mm * 235 mm
Internal Resistance (AC)	≤25mΩ
Charge Voltage	57.6±0.2V
Standard Cutoff Voltage	About 40V
Charge Current	≤50A
Discharge Current	≤50A
Max Discharge Current	≤100A
Passive Protection Function	Over charge protection, Over discharge protection, Temperature protection, Balanced function, CAN+RS485, LCD
Charging Terminal	M6
Discharge Terminal	M6
Cycle Life	≥3,000@0.5C/1C (100%DOD) ≥6,000@0.5C/1C (80%DOD)

Drawing

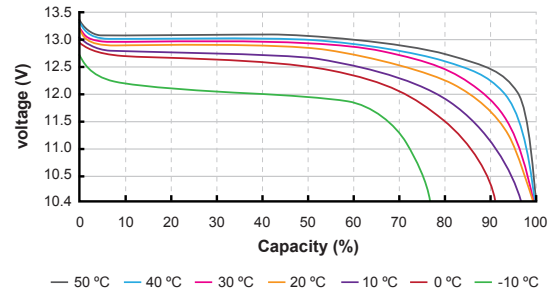


6. Characteristics Curve

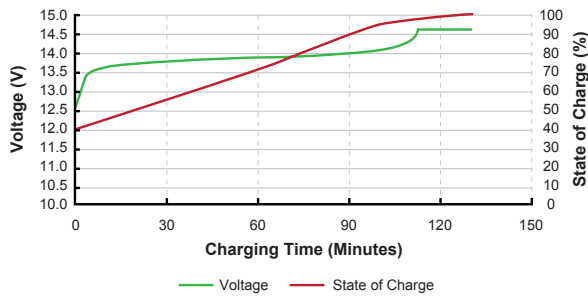
Different Rate Discharge Curve (25 °C)



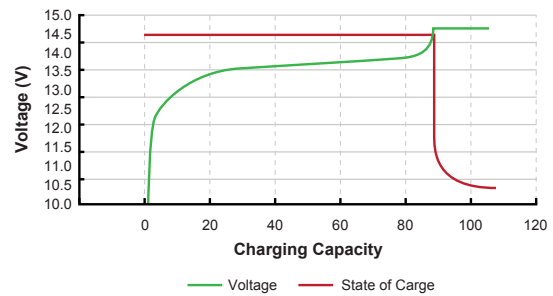
Different Temperature Discharge Curve (0.5 °C)



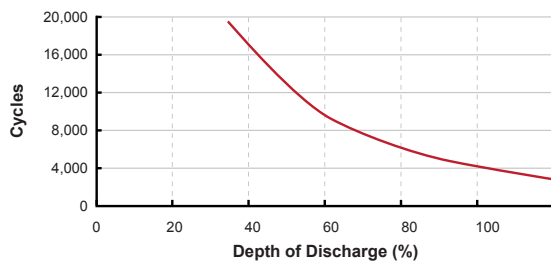
State of Charge Curve (0.5 °C, 25 °C)



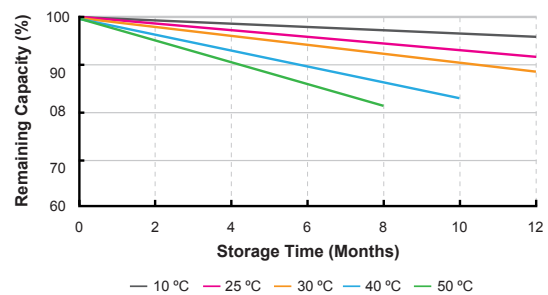
Charging Characteristics (0.5 °C)



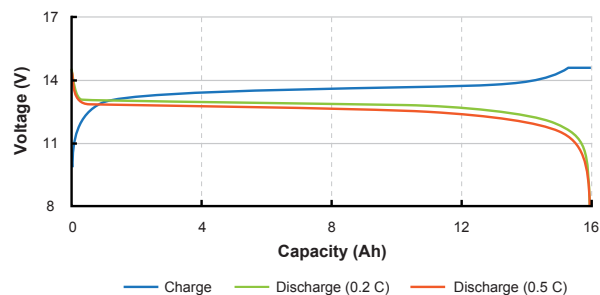
Different DOD Discharge Cycle Life Curve



Different Temperature Self Discharge Curve



Charge-Discharge Curve (25°C)



7. Solar Application



NLI-25.6-200



NLI-51.2-100



8. Performance Warranty

Nitro guarantees that the actual storing capacity of the original battery pack included in the Covered Product ("Battery Pack") will be not less than 80% of the labeled storing capacity.

9. Warranty Obligations

- (a) During the Warranty Period, Nitro will, at its option, repair the defective parts (if economically feasible) or replace the defective part free of charge, provided that you properly notify Nitro of the product defect within the Warranty Period, and provided that Nitro, through inspection, establishes the existence of a defect covered by this Limited Warranty.
- (b) Nitro will, at its option, use new and/or reconditioned parts in building replacement parts. Nitro reserves the right to use parts or products of original or improved design in the repair or replacement of your product. If Nitro repairs or replaces a product part, its warranty continues for the remaining portion of the Warranty Period or 90 days from the date of the repair or replacement, whichever is greater.
- (c) This Factory Warranty covers Nitro costs for materials necessary to reestablish trouble free operation of the Covered Product. This Factory Warranty does NOT cover, however, costs of installation, cost of removal, cost of labor for repair, cost of shipping or cost of reinstallation of a Covered Product or parts thereof.
- (d) In the event of a defect of products or services supplied by Nitro, Customer's sole remedy shall be, at Nitro's cost and expense up to 100% of the cost of the equipment, (a) repair or replacement of defective product at Nitro's discretion, or (b) re-performance of defective services.
- (e) Except for visible defects of products and services for which Customer shall provide notice to his Nitro retailer immediately, Customer shall provide written notice of any defect to Nitro within 10 days after discovery of such defect.
- (f) Should Nitro be unable to repair or replace defective products or re- perform defective services to the agreed-upon standard within 30 days after written notice from Customer of such defect, Customer shall grant Nitro a 10 day cure period in writing. Should Nitro fail to replace defective products or re-perform defective services to the agreed-upon standard within such 10 day cure period after written notice from Customer, Customer shall have the right to rescind the contract and Nitro shall promptly reimburse Customer for all invoices paid to Nitro on account of such defective product(s) or service(s).
- (g) Nitro's liability with respect to any product, including without limitation Nitro's obligation to repair or replace defective products or to re-perform defective services, shall be excluded if (a) Customer fails to inspect products or services as required under Section 6.4 of Nitro's Terms & Conditions or elsewhere in those Terms, (b) Customer fails to inform Nitro about defects or section (e) or (f) above or elsewhere in this Warranty document, (c) Customer fails to observe specification provided by Nitro, (d) any product or product part has been opened, modified, repaired, processed, replaced or installed, or any other work has been performed in relation to or that affects any product, by a non-certified or otherwise unauthorized person, (e) any other act or omission has occurred that otherwise has resulted in a loss of product warranty.
- (h) In the event Nitro determines that an alleged product or services defect did not exist or, if existed, was excluded from Nitro's liability by Nitro's Terms & Conditions, Customer shall reimburse Nitro for all costs and expenses incurred by Nitro as a result of Nitro's attempt to repair, replace or re-perform.
- (i) Nitro is not liable for product(s) damaged through installer error or installation error regardless of the installer's status of having attended or not attended the Nitro provided Certified Installer Training. Determination of warranty coverage is as set out in this Warranty document, and at the discretion of the Nitro Service team.
- (j) EXCEPT AS OTHERWISE PROVIDED BY APPLICABLE LAW, THE FOREGOING REMEDIES STATE NITRO'S SOLE AND EXCLUSIVE OBLIGATION AND YOUR SOLE AND EXCLUSIVE REMEDY FOR A BREACH OF THE FOREGOING LIMITED WARRANTY.

10. Warranty Term

- (a) The warranty period ("Warranty Period") for the Covered Product commences upon the initial purchase from Nitro or from an Authorized Dealer (as evidenced by the purchase invoice date).
- (b) The Warranty Period for the Product Warranty (Section 3) terminates upon the earlier of (i) 52 months after purchase of the Covered Product, or (ii) 48 months after installation of the Covered Products.
- (c) The Warranty Period for the Performance Warranty (Section 4) terminates upon the earlier of (i) 52 months after purchase of the Covered Product, or (ii) 48 months after installation of the Covered Products.

11. Claim Notice

- (a) If you believe that you have a justified claim covered by this Factory Warranty, you must submit the claim in writing ("Claim Notice") to Nitro within the applicable Warranty Period to Nitro's address set forth above, or such future address as Nitro may provide from time to time. Any Claim Notice must include the following information:
 - a copy of the dated purchase receipt for the Covered Product;
 - information about the use of the Covered Product in reasonable details;
 - information about the defect in reasonable detail.
- (b) Upon receipt of your Claim Notice Nitro may ask for further information or claim verification from you, receipt of which will be required prior to processing the claim.

12. Warranty Limitations

Excluded Warranty Claims:

- (a) Nitro makes no warranties, either expressed or implied, orally, or in writing, with respect to any other warranty coverage except those expressly stated in this limited Factory Warranty.
- (b) The Factory Warranty does not cover damages that occur due to:
 - Transport damage;
 - Installation or commissioning through any person which is not an Authorized, Certified Dealer;
 - Failure to observe the specifications;
 - Modifications, changes, or attempted repairs, except as conducted by an Authorized Dealer;
 - Incorrect use or inappropriate operation;
 - Failure to observe the applicable safety regulations;
 - Force majeure.
- (c) This factory warranty does not cover cosmetic defects which do not directly influence energy production, or degrade form, fit, and function.
- (d) Claims that go beyond the scope of this limited Factory Warranty, in particular claims for compensation for direct or indirect damages arising from the defective device, for compensation for costs arising from disassembly and installation, or loss of profits, are expressly NOT covered by this Factory Warranty.
- (e) In no event will Nitro be held responsible or liable for any personal injuries resulting from the use of the system, or for any other damages, whether direct, indirect, incidental, or consequential; even if Nitro has been advised of such damages.