

## LFP12.8-8

Lithium iron phosphate battery



## LITHIUM SERIES

### Characteristics

| Electrical                               |              |                                                                                                                             |
|------------------------------------------|--------------|-----------------------------------------------------------------------------------------------------------------------------|
| Nominal voltage                          |              | 12.8V                                                                                                                       |
| Nominal capacity at 5 hours rate (25°C)  |              | 8Ah                                                                                                                         |
| Energy                                   |              | 102Wh                                                                                                                       |
| Charge Efficiency at 0.2C (25°C)         |              | 99.5%                                                                                                                       |
| Discharge Efficiency at 1C (25°C)        |              | 96-99%                                                                                                                      |
| Approx. internal resistance (25°C)       |              | ≤150 mΩ                                                                                                                     |
| Cycle life / 0.2C 100% D.O.D             |              | >3000 cycles                                                                                                                |
| Capacity affected by temperature         | 40°C         | 101%                                                                                                                        |
|                                          | 25°C         | 100%                                                                                                                        |
|                                          | 0°C          | 90%                                                                                                                         |
|                                          | -10°C        | 75%                                                                                                                         |
| Mechanical                               |              |                                                                                                                             |
| Dimensions                               | Length       | 151±1.5mm (5.94inch)                                                                                                        |
|                                          | Width        | 65±1mm (2.56inch)                                                                                                           |
|                                          | Height       | 97±1mm (3.82inch)                                                                                                           |
|                                          | Total height | 100±1mm (3.94inch)                                                                                                          |
| Terminal type                            |              | T2                                                                                                                          |
| Torque                                   |              | N/A                                                                                                                         |
| Weight                                   |              | 1.05kg (2.31lbs)±4%                                                                                                         |
| Water & Dust resistance                  |              | IP64                                                                                                                        |
| Battery container ABS UL94-HB            |              | V-0 optional                                                                                                                |
| Cell strings                             |              | 4 strings                                                                                                                   |
| Temperature                              |              |                                                                                                                             |
| Nominal operating temperature            |              | 25°C±3 (77±5°F)                                                                                                             |
| Operating temperature range              | Discharge    | -20°C~60°C (-4°F~140°F)                                                                                                     |
|                                          | Charge       | 0°C~45°C (32°F~113°F)                                                                                                       |
|                                          | Storage      | 0°C~40°C (32°F~104°F)                                                                                                       |
| Charging                                 |              |                                                                                                                             |
| Charging voltage at 25°C                 |              | 14.6V                                                                                                                       |
| Standard charge mode (25°C±2°C, <75%RH)  |              | 0.2CA Constant Current to 14.6V, then Constant Voltage 14.6V until the current drops to 0.02CA. Rest 30 minutes before use. |
| Nominal charging current                 |              | 2A                                                                                                                          |
| Maximum charging current                 |              | 4A                                                                                                                          |
| Charging cut-off voltage                 |              | 14.6V                                                                                                                       |
| Discharging                              |              |                                                                                                                             |
| Continuous discharge current             |              | 20A                                                                                                                         |
| Maximum pulse discharge current (<100ms) |              | 24A                                                                                                                         |
| Discharge cut-off voltage                |              | 11.2V                                                                                                                       |
| Self discharge rate (25°C)               |              | ≤3%/month                                                                                                                   |
| Communication & connection               |              |                                                                                                                             |
| Communication protocol (optional)        |              | N/A                                                                                                                         |
| SOC (optional)                           |              | N/A                                                                                                                         |
| Maximum modules in paralel or series     |              | 4 string 6 parallel                                                                                                         |

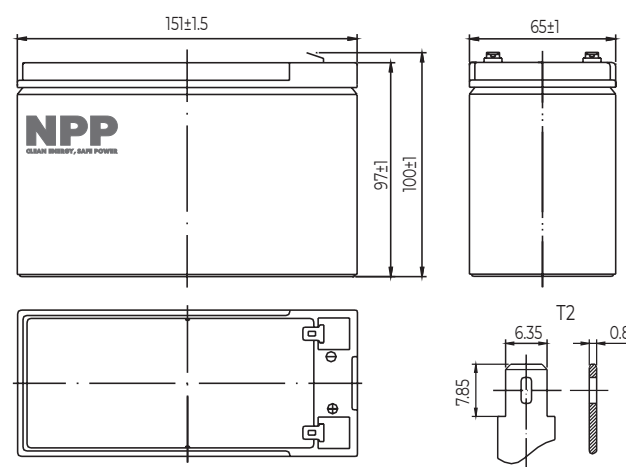
### Overview

NPP Power Lithium-Iron Phosphate batteries offer superb improvement in characteristics compared to lead-acid technology. Due to the extreme cycle and calendar life, LiFePO<sub>4</sub> batteries are an excellent long-term investment for your applications. Powerful, lightweight, safe, and smart, the Lithium-Iron Phosphate batteries are the future of the energy storage you can have right now.

### Features

- Longer cycle life** - Up to 15 times longer cycle life and 5 times longer float/calendar life than lead-acid batteries.
- More capacity** - Provides up to 100% of usable energy.
- Lightweight** - 60% lighter than lead-acid batteries.
- High discharge rate** - Ability to fully discharge the battery at a high rate of discharge.
- Fast charging** - Charges much faster than conventional sealed lead-acid batteries.
- Long cycle life** - More than 3000 cycles at 100% depth of discharge.
- Intelligent BMS** - The battery management system monitors and adapts to battery conditions to maximize performance and safety.

### Dimensions & Terminal Type (mm)



### Certification & Compliances



Compliant to: IEC 62133-2

The data in this document is subject to change without notice and become contractual only after written confirmation. Please contact NPP Power for the latest available version.

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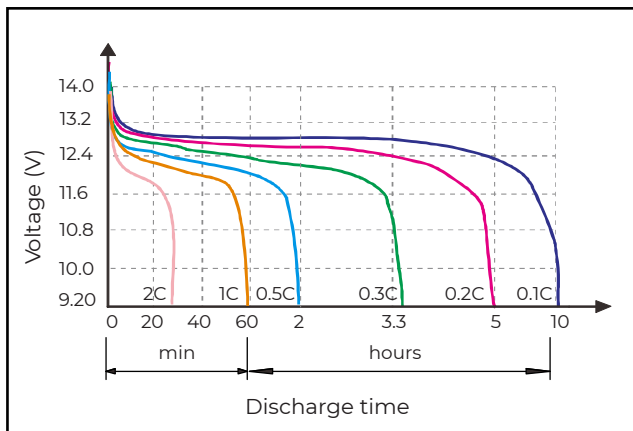
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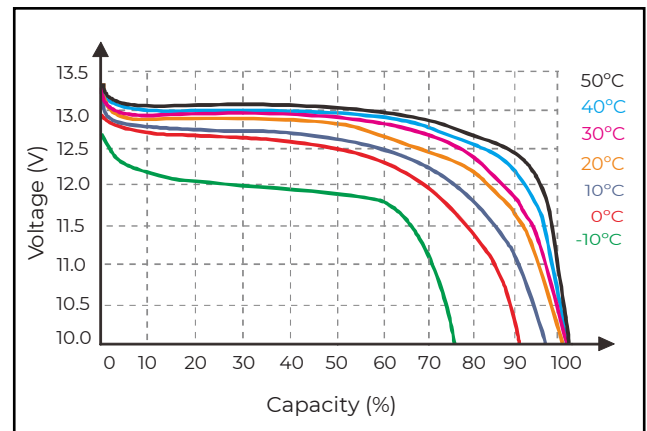
Lithium iron phosphate battery

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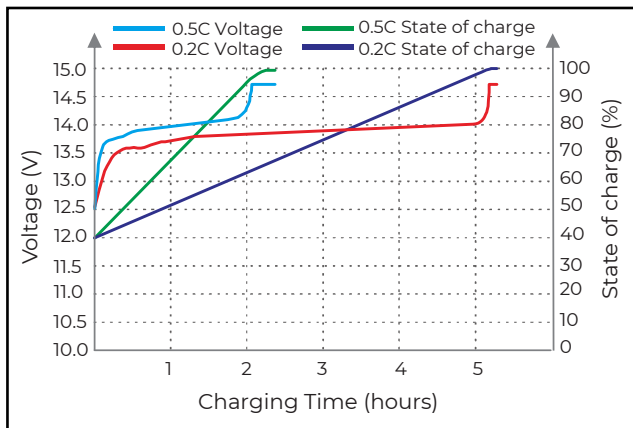
Discharge characteristics (25°C)



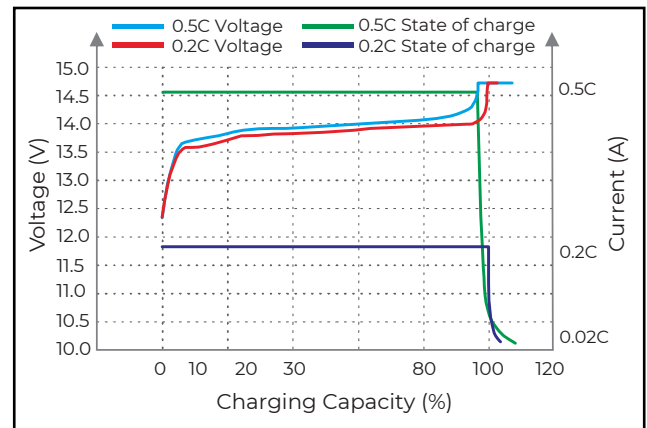
Temperature effects on discharge (0.5C)



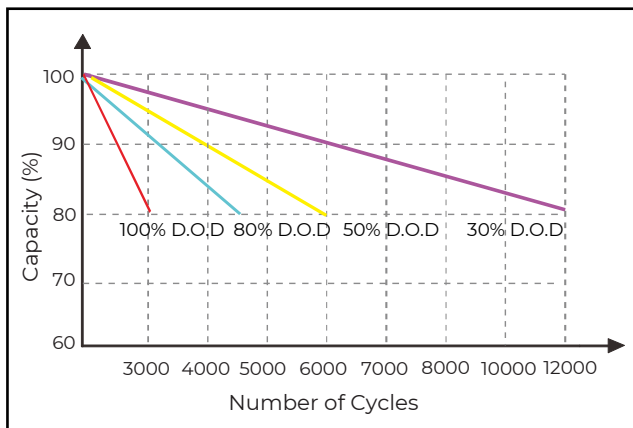
Charging Time on S.O.C. (25°C)



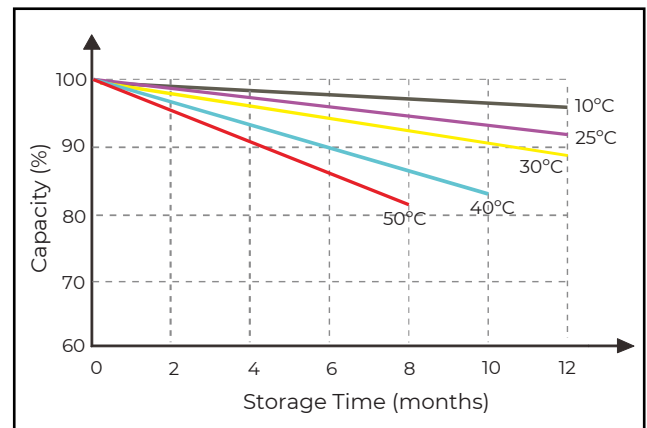
Charge characteristics (25°C)



Cycle life on D.O.D. (25°C)



Self discharge characteristics



D.O.D. - depth of discharge  
S.O.C. - state of charge