

12 V 100 Ah Lithium Iron Phosphate (LiFePO4) Li-ion Battery

PN: Li100

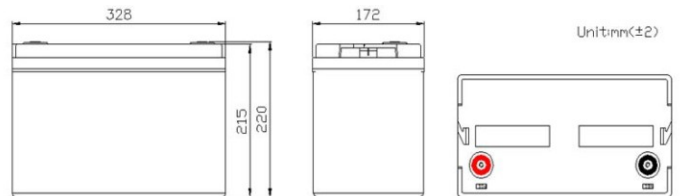
Features

- ◆ Drop-in compatible for 12 V lead acid battery, maintenance Free
- ◆ About 40% – 70% of the weight of a comparable lead acid battery
- ◆ 100 A discharge; charges in 2 hours
- ◆ Safe: Lithium Iron Phosphate cells, no hazardous gases
- ◆ Thousands of cycles, to 100% DOD, under normal conditions
- ◆ Built-in protector BMS with cell balancing: over-charge, over-discharge, over-current and over-temperature
- ◆ Wide temperature range:-20 °C– 60 °C
- ◆ Supports up to 4 batteries in Series (51.2V)
- ◆ 6 year limited warranty
- ◆ Some battery components may be recycled or repurposed



Applications

- ◆ UPS
- ◆ Solar & Wind Power System
- ◆ Mobility
- ◆ Electric Vehicle, E-bike, E-Rickshaw etc.
- ◆ Lighting
- ◆ Leisure and Marine

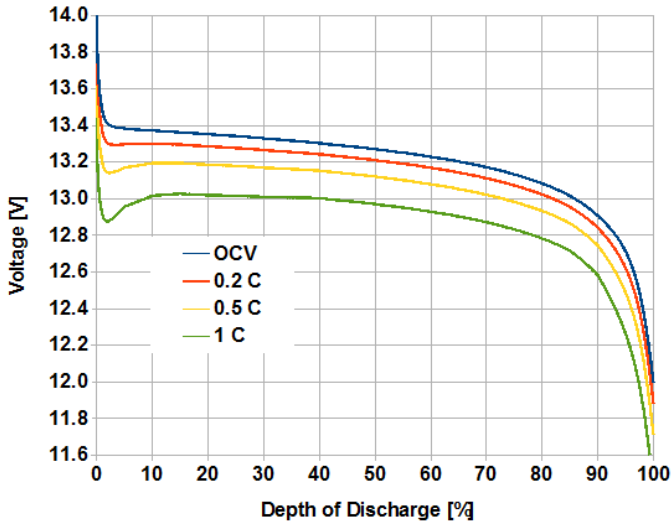


| Specifications | | | Min | Nom | Max | |
|----------------------|---------------------|--|-----------------|------|------|-----------|
| Electrical | Voltage | Open circuit, 2 hour relaxation | 12.0 | 13.3 | 14.4 | V |
| | Capacity | 1/20 C | | 100 | | Ah |
| | Energy | 1/20 C | | 1280 | | Wh |
| | Internal resistance | 25 °C | | 23 | | mΩ |
| | Cycle life | 0.5C charging/discharging, 25 °C, to 90% of nominal capacity | | 2000 | | Cycles |
| | Self discharge | 25 °C | | | 3.5 | % / month |
| Mechanical | Dimension | Including terminals | 328 x 172 x 220 | | | mm |
| | Connection | | M8 bolts | | | - |
| | Mass | | | 13.1 | | Kg |
| | Ingress protection | Thermoplastic enclosure | IP55 | | | - |
| Operating conditions | | | Min | Nom | Max | |
| CCCV charging | Constant current | CC stage ("bulk") | | | 50 | A |
| | Peak current | 10 s max ("regen") | | | 75 | A |
| | Constant voltage | CV stage ("absorption"), until current drops below 5 A, 2 hr max | 13.7 | 13.8 | 14.4 | V |
| | Float voltage | | | 13.4 | 13.5 | V |
| | Temperature | | 0 | | 45 | °C |
| Discharging | Continuous current | | | | 100 | A |
| | Peak current | 10 s max | | | 150 | A |
| | Cut-off voltage | | | 11.2 | | V |
| | Temperature | | -20 | | 60 | °C |
| Environmental | Temperature | | 0 | | 45 | °C |
| | Humidity | | 35 | | 75 | % |

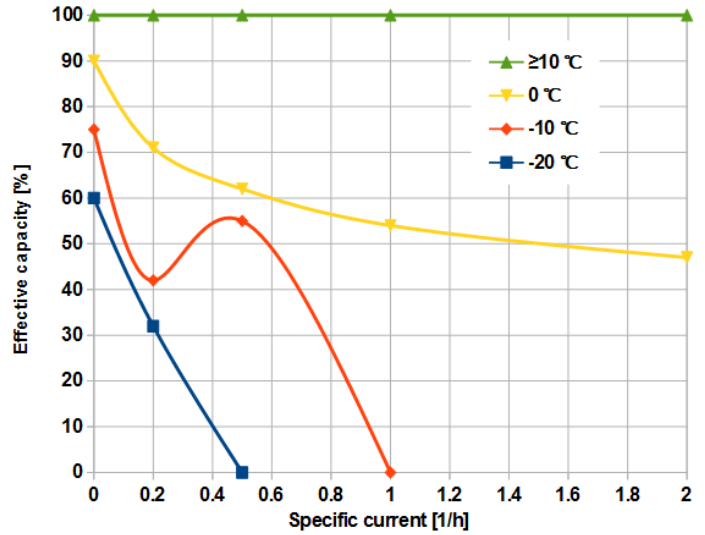
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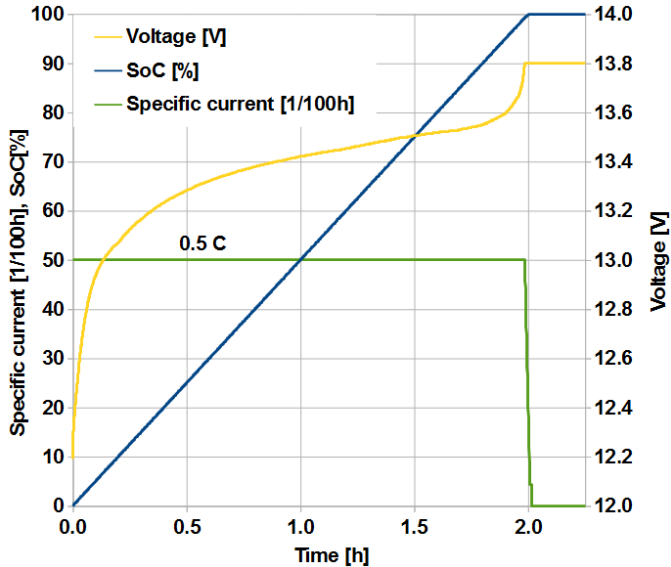
Discharge curves at various currents, 25 °C



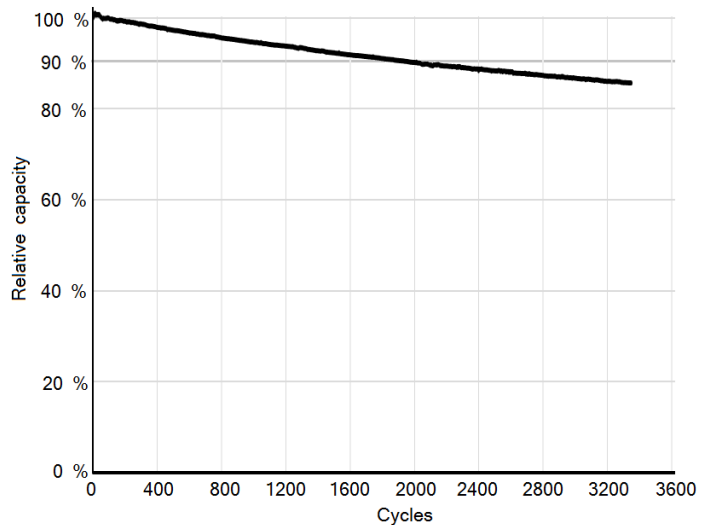
Effective capacity at various temperatures, currents



CCCV charge curve, @ recommended settings, 25 °C



Cycle life, 25 °C, 0.5 C



Battery care

- ◆ Storage:
 - ◆ Bring to ~50 % charge, then store in a cool, dry place
 - ◆ Do not drop
- ◆ Charging:
 - ◆ A CV stage that lasts too long degrades the battery rapidly
 - ◆ Stand-by applications: exceeding 13.4 V degrades the battery
 - ◆ Charging is disabled below freezing; warm the battery first
 - ◆ Maximize capacity by regularly charging to the specified voltage
- ◆ Discharging:
 - ◆ If no voltage, the battery is off; charge it to wake it up

System design

- ◆ Though it may oriented in any direction, upright use is preferable
- ◆ DO NOT connect in parallel with other batteries, of any type
- ◆ Connect at most 4 in series, same type, same State of Charge

Refer to user manual for complete information.