

# S-12V40-U1

U1LiFePRO™ Series | Data Sheet

**inVENTUS**  
POWER



**Automotive Grade Cells**  
from top tier manufacturers



**Fast charging**  
within 2 hours



**Long shelf life performance**  
with shutdown mode



**Scalable to increase runtime**



Designed &  
Engineered in  
the **USA**

- **Plug & Play**  
**Lead Acid Replacement**
- **Surge protection** for Regenerative braking
- **Soft Start Control**  
(System Pre-charge)
- **Patented Virtual BMS**  
with Advanced Module Balancing Technology
- **UL2054** Shock & Vibration + Thermal Propagation Mitigation
- **Compatible with many off-the-shelf chargers**

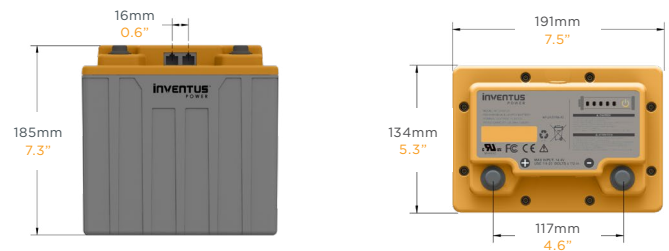
## Electrical Specifications

|                         |                           |
|-------------------------|---------------------------|
| Cell Chemistry          | LiFePO4                   |
| Pack Voltage (Nom/Max)  | 12.8V / 14.4V             |
| Pack Energy             | 512Wh (40Ah)              |
| Specific Energy         | 79Wh/kg                   |
| Continuous Power        | 0.51kW / 40A              |
| Recommended Charge CCCV | 20A / 14V                 |
| Peak Power (<10sec)     | 1.02kW (80A)              |
| Cycle Life (@ 25°C)     | 3,000 @ 80% DoD           |
| Scalability             | Up to 6 packs in parallel |

## Operational Specifications

|                      |               |
|----------------------|---------------|
| Charge Temp          | 0°C to 55°C   |
| Discharge Temp       | -20°C to 60°C |
| Storage Temp         | -20°C to 60°C |
| Humidity (Operating) | 5% to 95%     |
| Humidity (Storage)   | <70%          |

## Mechanical Specifications



|                           |                          |
|---------------------------|--------------------------|
| BCI Size                  | U1                       |
| Terminal Type (ISO)       | M6                       |
| Terminal Torque (Nm)      | 3.4 ± 0.5 Nm             |
| Weight                    | 5.7kg (12.6lbs)          |
| Installation Orientation  | Horizontal / Vertical    |
| Ingress Protection Rating | IP56                     |
| Case Flammability Rating  | Flame Retardant UL94 V-0 |

## Certifications

- UL1642 (Cell)
- UL2054 (Pack)
- IEC62133 (Cell/Pack)
- FCC Class B
- CE
- UN38.3

NOTE: Please contact [info@inventuspower.com](mailto:info@inventuspower.com) to obtain the U1LiFePRO™ User Guide for proper installation and handling.

## Market Applications



Professional  
Cleaning



Medical Carts



E-Mobility



Emergency  
Lighting



Robotics



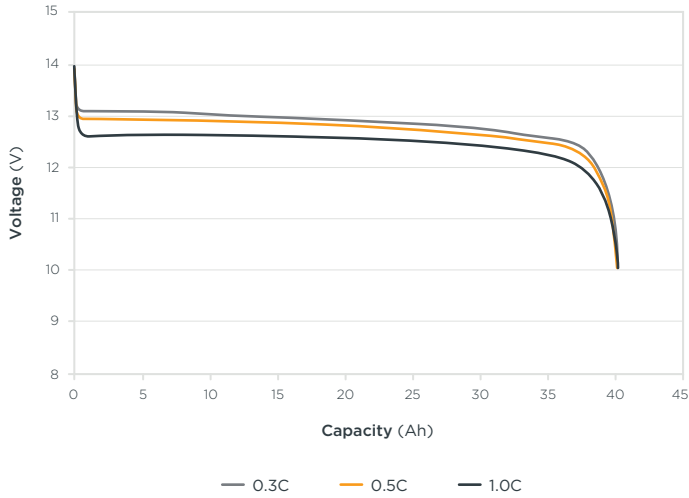
Renewables &  
Energy Storage

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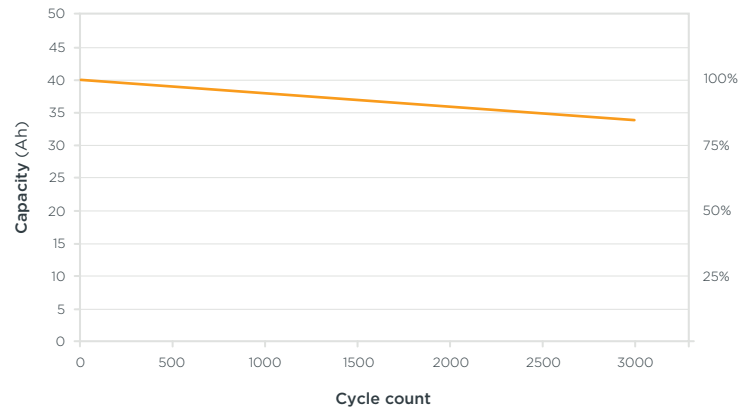
## Capacity vs. Discharge Rate

Test condition: Ambient Temperature



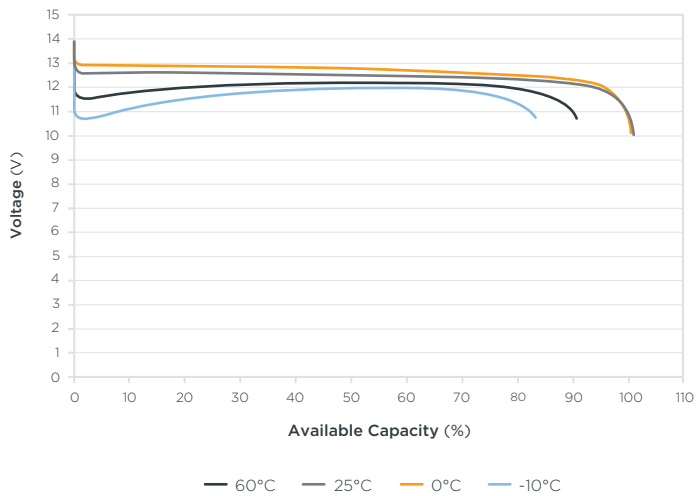
## Cycle Life @ 80% DoD

Charge 0.5C, discharge 1C at 25°C



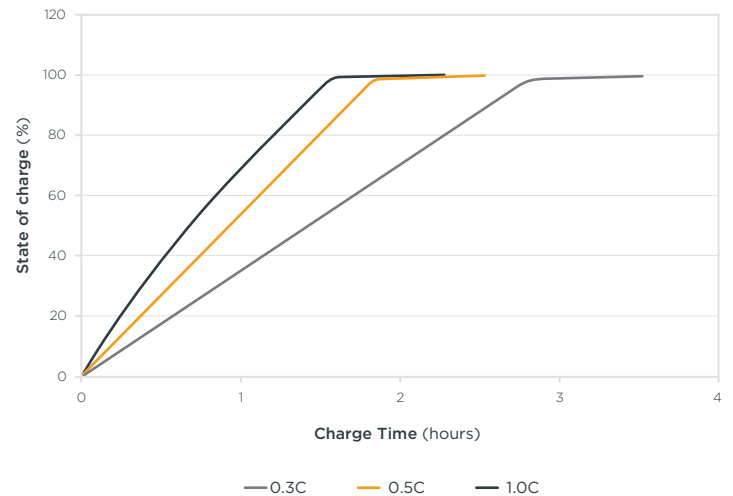
## Voltage and Capacity vs. Temperature

Discharge current: 1.0C



## Charging Performance

Test condition: Ambient Temperature



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Request  
more Information

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