ULTRALIFE
BATTERY & ENERGY PRODUCTS

URB12400-U1-SMB
Technical Datasheet

LITHIUMPOWER®

Li-Ion LFP Benefits over SLA

- Uniform voltage during discharge
- No need to provide trickle charging to retain battery's charge
- Significantly lighter weight for the same amount of energy
- Battery does not become gaseous during use
- Nominal voltage is maintained over a wider temperature range

Features

- Can be properly charged using a 2 phase SLA charger
- IEC 62133-2:2017 compliant
- Designed to work with industry standard inverters used on medical carts
- SMBus communication interface

Applications

- Medical carts
- Scooters / wheelchairs
- UPS battery replacement
- Solar power battery
- Robotics & motor bots

Accessories

- UCA0152 installation cable

Technical Specifications		
Part No.	URB12400-U1-SMB	
Chemistry	Lithium Iron Phosphate (LFP)	
IEC Designation	4IFpR27/66-12	
Average Voltage	12.8V	
Nominal Capacity[1]	38.4Ah	
Voltage Range	10.0V - 14.6V	
Max. Continuous Discharge	20.0A	
Max. Pulse Discharge[2]	100A (<31ms)	
Energy[1]	492Wh	
Energy Density	91Wh/kg, 93Wh/l	
Weight	Approx. 5.44 ± 0.2kg (12.0 ± 0.4lbs)	
Cycle Life[3]	>2000 cycles	
Operating Temperature	-20°C to 60°C discharging; 0°C to 45°C charging	
Storage Temperature	-40°C to 60°C	
Internal Resistance	≤35mΩ	
Self-Discharge @ 23°C	<5% per month	
Memory Effect	None	
Exterior/Housing	Hard plastic, PC	
Terminals/Connector	¼-20 screw terminals	
Size	Length: Width: Height:	208.5 ± 2mm (8.21in) 136.4 ± 2mm (5.37in) 182.1 ± 2mm (7.17in)
Communications	Physical layer: Protocol:	SMBus SBD v1.1 partial compliance[5]
State of Charge Indicator	None	
Protection	Over Charge: Over Discharge: Over Current[2]: Over Temperature: Short Circuit; Cell Imbalance	3.75V (per cell) 2.50V (per cell) 22A (>5 secs) 65 ± 5°C
Charging	Connect the battery to a DC power source using correct polarity and apply a maximum voltage of 14.6V (14.4V recommended). Limit the current to the recommended rate of 8.0A and hold the voltage constant until the current declines to 0.8A. Maximum charge rate is 20.0A. Alternatively, you may apply a maximum charge voltage of 13.6V (limiting the current to 8.0A) and hold indefinitely to maintain the battery in a continuous standby state-of-charge of between 80-90%.	
Safety	Material Safety Datasheet - MSDS00152 Refer also to Safety Guide UBM-5112	
Certifications	UN 38.3; IEC 62133-2:2017	
Transportation	Class 9 International and within U.S.[4] Excepted when shipped by motorcar or rail within U.S.	
Harmonized Tariff Schedule	8507.60.0000	
Compatibility	Qualified for use with medical cart inverters from Tripp Lite and Ametek Powervar *(see page 2 of this document for details)*	

Notes

1. Using a C/5 discharge rate at 25°C.
2. For application discharge currents that exceed 20A, contact Ultralife for details of over-current protection limits.
3. Number of consecutive C/5 rate discharges and recommended charges at 25°± 5°C until the battery reaches 80% of initial capacity.
4. Transportation regulations, classifications and lithium content are available on the Ultralife website.
5. Contact Ultralife for a complete list of available SBS fields and commands.

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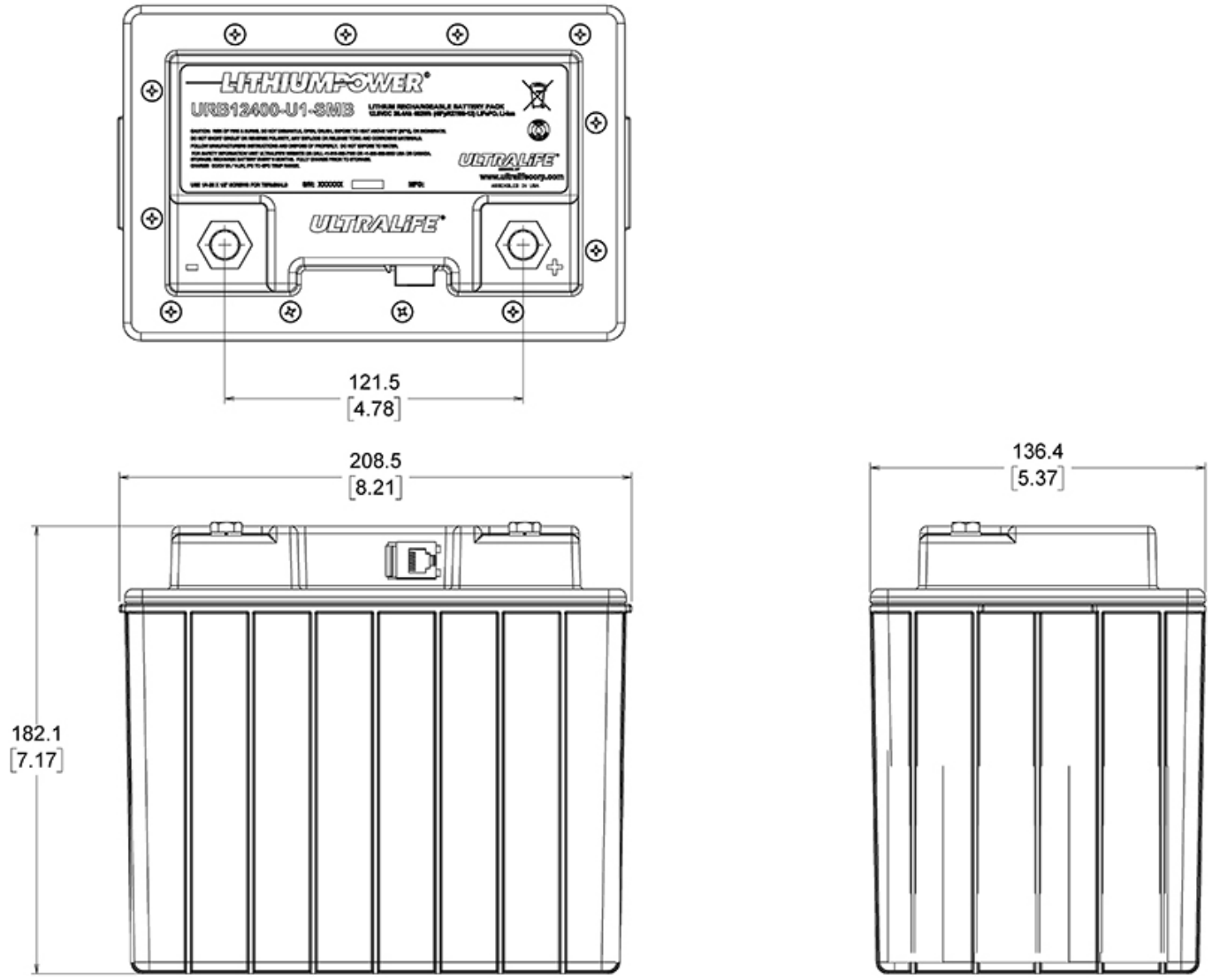
Dimensions



Compatibility

The Ultralife URB12400-U1-SMB is qualified for use with the following medical cart inverters:

- Tripp Lite 'Power Modules' HC150SL, HCINT150SL or HC150ATD
- Ametek Powervar 'Mobile Power Managers' ABCE150-11M2 or ABCE150-22M2.

The Ultralife URB12400-U1-SMB is a direct replacement* for the Valence Technology U1-12RT or U1-12RJ, the Inventus Power U1-40 or the Power-Sonic PSL-12450

* Some legacy medical inverter systems may require a firmware update to fully utilize battery fuel gauging. When used in other, non-medical inverter systems please contact Ultralife for compatibility advice.

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Performance Graphs