

X5 Hot-Swappable Battery

Preliminary Technical Datasheet

ULTRALIFE
X5



LITHIUMPOWER

SMART  **CIRCUIT**

Features & Benefits

- Robust and lightweight full aluminum case & handle construction
- Rechargeable Lithium Iron Phosphate chemistry for optimal endurance and safety
- Intuitive bi-directional docking simplifies use
- Ultralife Smart-Circuit technology for accurate fuel gauging
- Blue LED gas gauge indicator for quick capacity check
- Certified to the latest transportation and safety standards

Applications

- Medical carts
- Warehouse terminals
- Robotics

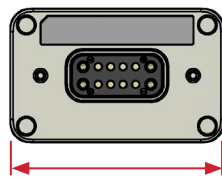
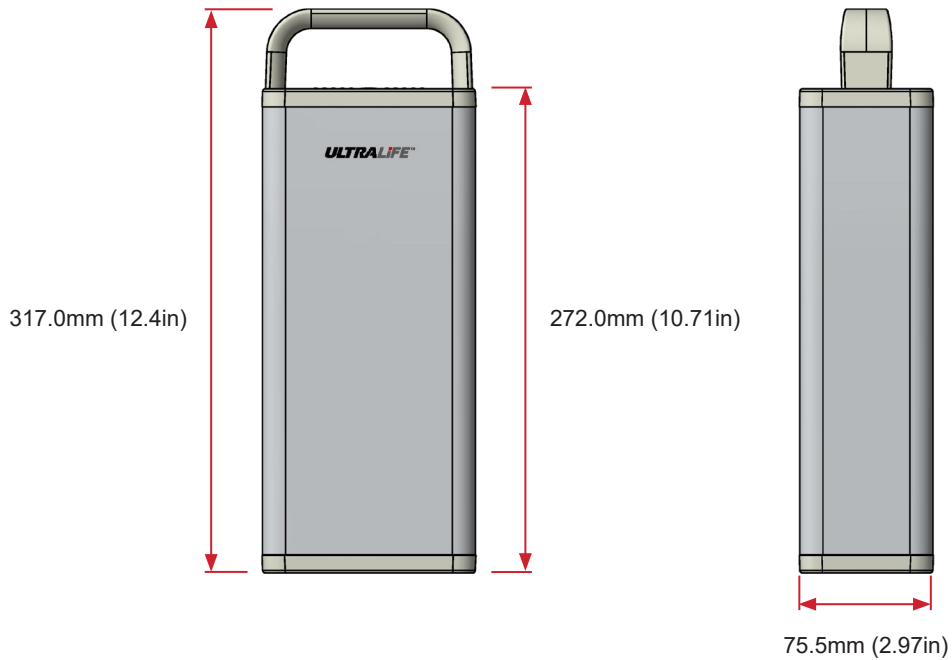
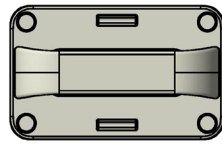
Accessories

- UCA-X5 Docking Cradle
- UCH-X5 Smart Charger

Technical Specifications

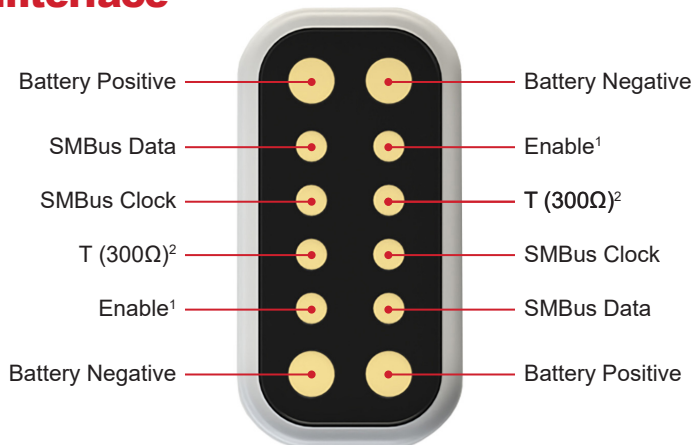
Model No.	URB-X5	
Chemistry	Lithium Iron Phosphate (LiFePO4)	
IEC Designation	4IFpR19/66-12	
Average Voltage	12.8V	
Nominal Capacity¹	21.6Ah	
Voltage Range	14.4V to 10.0V	
Max. Continuous Discharge	20A	
Max. Pulse Discharge	84A (<21ms)	
Energy	276.5Wh	
Energy Density	112Wh/l 81Wh/Kg	
Weight	3.4Kg ± 50g	
Cycle Life²	>2,000 Cycles	
Operating Temperature	0°C to +45°C (charge), -10°C to +50°C (discharge) ³	
Storage Temperature	-20°C to +50°C	
Internal Resistance	<50mΩ	
Self-Discharge @ 23°C	<5%/month	
Exterior/Housing	Silver anodised aluminum housing with traffic white aluminum handle and endcaps	
Terminals/Connector	Sub-flush gold-plated contacts for power and communications	
Size	Width:	120.5mm (4.74in)
	Depth:	75.5mm (2.97in)
	Height (Shoulder):	272.0mm (10.71in)
	Height (Handle):	317.0mm (12.4in)
Communications	System Management Bus Specification Rev 1.1 compliant Smart Battery Data Specification Rev 1.1 compliant	
State of Charge Indicator	10 segment blue LED with push button activation	
Protection	Over Charge:	>3.75V / cell
	Over Discharge:	<2.50V / cell
	Over Current:	>22A (charge), >22A (discharge)
	Over Temperature:	>+53°C (charge), >+60°C (discharge)
	Short Circuit:	Included
	Cell Imbalance:	Included
Charging	Constant Current, Constant Voltage (CC-CV) <20A, 14.4V (14.6V max)	
Safety	Material Safety Datasheet - 1923B_SDS Refer also to Safety Guide UBM-5112	
Certifications	UN 38.3 (Transportation), IEC 62133-2:2017 (Safety), UL 62133-2:2020 (Safety)	
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	Ultralife UCA-X5 Docking Cradle	
Notes	<ol style="list-style-type: none"> 1. Based on 0.2C discharge to 10.0V at +20°C 2. Based on CC-CV 10A 14.4V charge and 10A discharge to 10.0V 3. Ambient temperature must be limited to +40°C if continual discharge at 20A is required 4. Transportation regulations and classifications are available on the Ultralife website 	

Dimensions



120.5mm (4.74in)

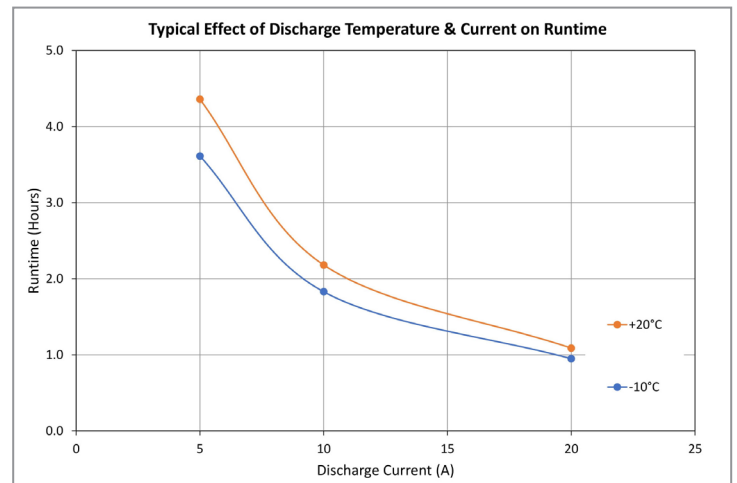
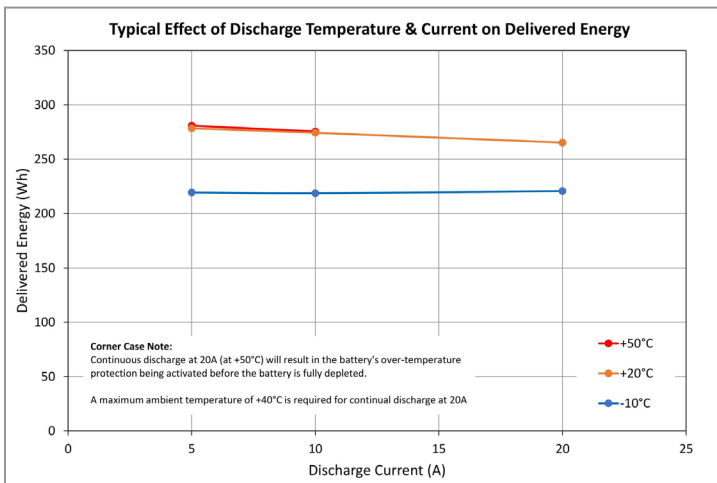
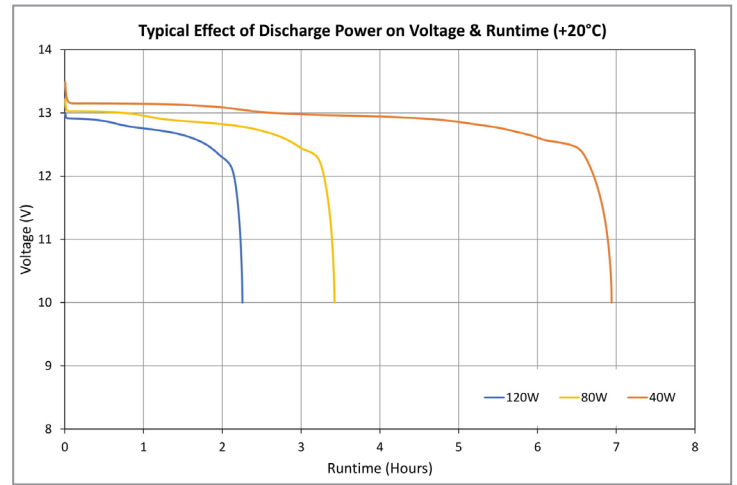
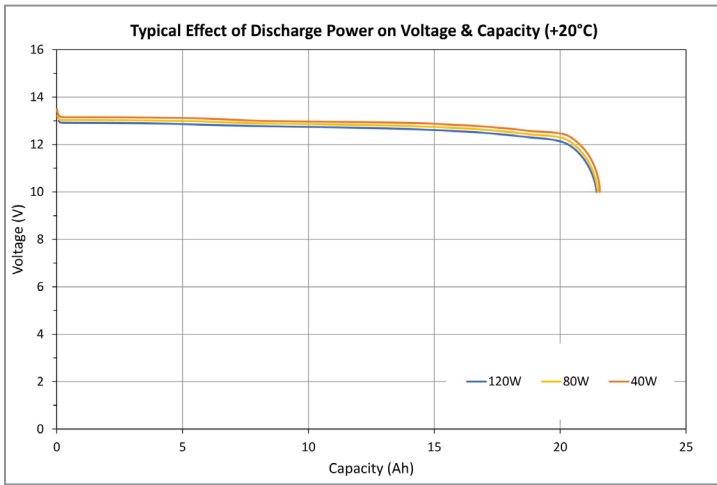
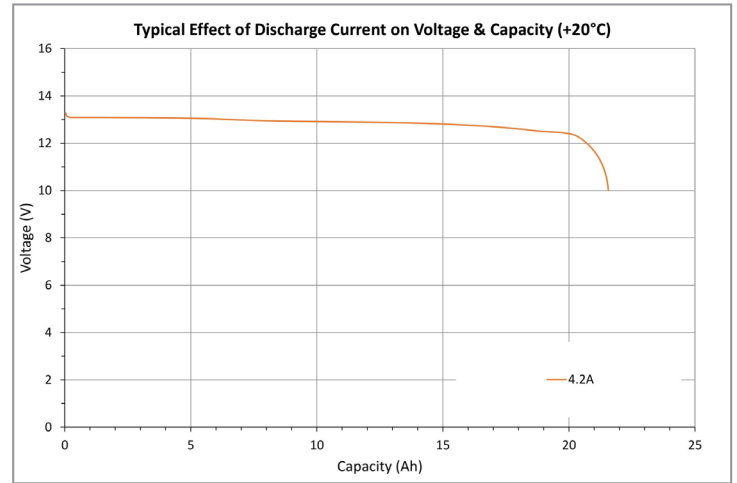
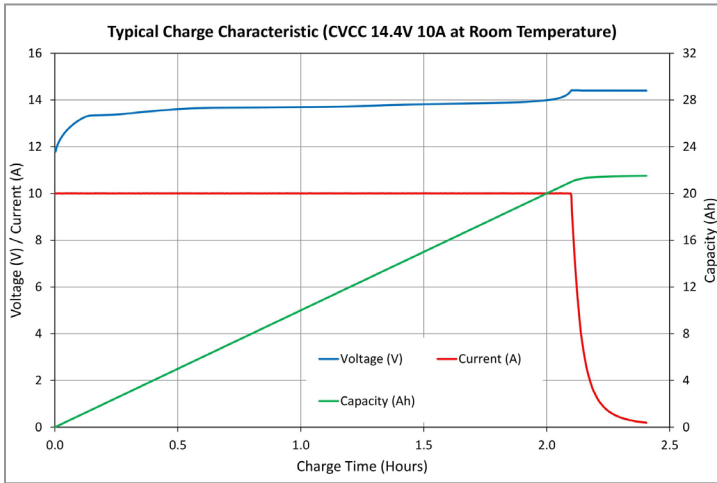
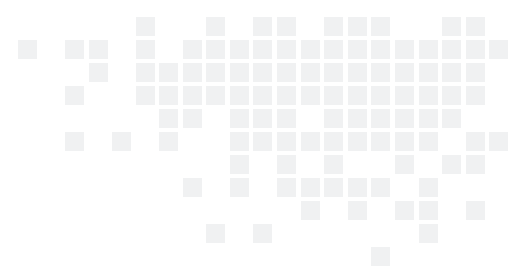
Electrical Interface



Notes

1. This pin must be connected to Battery Negative to enable the battery output
2. A 300Ω fixed resistor is connected between this pin and Battery Negative and provides the 'Safety Signal' described in the Smart Battery Data Specification

Performance Graphs



Performance Graphs (continued)

