



BAT

BAT-0200-S-1U

BAT-0500-E-2U

MILITARY GRADE UPS BATTERY PACK

-20°C to 55°C Operating Temperature	Lithium Ion Battery Technology	200Whr - 1U 500Whr - 2U Battery Energy Capacity	LED Status Display	1250W Continuous Output Power	>10 Min. - 1U >24 Min. - 2U Battery Run Time Options
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DESIGNED & MANUFACTURED IN USA

SynQor's Military-Grade Uninterruptible Power Supply Battery Pack units are designed for the extreme environmental and demanding electrical conditions of Military/Aerospace applications. SynQor's battery pack incorporates field proven rugged packaging technologies. The use of Lithium Ion batteries permits the lowest profile and lowest weight solution in its power class. It is designed and manufactured in SynQor's USA facilities to comply with a wide range of military standards.

The UPS Battery Pack is only intended for use within the SynQor UPS-1500 and UPS-3000 products as the primary battery pack for the UPS. The pack cannot be used as a standalone battery. Multiple layers of circuit protection are implemented internal to the battery pack. Features include heater resistors for operating down to -20°C ambient, and internal hardware protection and status monitoring.

Hot Swappable Internal Battery Pack

Features

- Sealed, weather-proof, shock-proof construction when installed in a UPS-1500/3000
- Hot swappable battery pack (Lithium Ion)
- >10 minute run-time at full power
- Contains 200Whr of energy
- 1250W continuous output power
- Full power discharge: -20 °C to +55 °C
- Automatic cell-to-cell balancing software and circuitry
- Over and under-temperature protection features
- Internal heaters for low-temp operation down to -20 °C
- Internal hardware protection and status monitoring
- LED status display of system parameters
- <1U high unit (15.00" x 10.89" x 1.46")
- Low weight: 10 lbs.

Options

- 2U Extended battery pack gives >24 minutes of run-time
- 2U Extended battery pack contains 500Whr of energy
- <2U high unit (15.00" x 10.89" x 2.98")
- 2U Extended battery pack weight: 21 lbs.

Specification Compliance

When installed inside a UPS-1500/UPS-3000, the system is designed to meet:

- MIL-STD-1399-300B - Interface Std for Shipboard Systems
- MIL-STD-810G - Environmental Engineering Considerations
- MIL-STD-461F - Electromagnetic Interference
- MIL-STD-704F - Aircraft Electrical Power Characteristics
- MIL-STD-1275D - Vehicle Electrical Power Characteristics

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In-Line Manufacturing Process

- AS9100 and ISO 9001 certified facility
- Full component traceability



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Technical Specification

Battery Packs	1500S Series (1U; 32 lbs.)	1500E Series (2U; 50 lbs.)	3000S Series (2U; 64 lbs.) 2 battery packs required
Standard Battery Pack (1U; 10lbs.)	BAT-0200-S-1U-000 (200 Watt-Hours)		BAT-0200-S-1U-000 (200 Watt-Hours)
Extended Battery Pack (2U; 21lbs.)		BAT-0500-E-2U-000 (500 Watt-Hours)	

LITHIUM-ION BATTERY ELECTRICAL CHARACTERISTICS			
Parameter	1U Standard Battery Pack	2U Extended Battery Pack	Notes & Conditions
Energy Capacity	200 Watt-Hours	500 Watt-Hours	
Run Time			Given the UPS output power shown
625W	21 min.	50 min.	
1000W	13 min.	31 min.	
1250W	10 min.	24 min.	
Recharge Time (to 90%)	2 hrs.	4 hrs.	Total system output power < 1000W
Temperature Range for Recharge	0°C to 45°C		See Notes 1, 2, and 3
Temperature Range for Discharge	-20°C to 55°C		Discharging only enabled below +55°C
Temperature Range for Storage	-40°C to 65°C		See Note 4

Note 1: Internal heaters, which receive power from the UPS system, maintain battery temperature above 0°C when UPS input power is present.

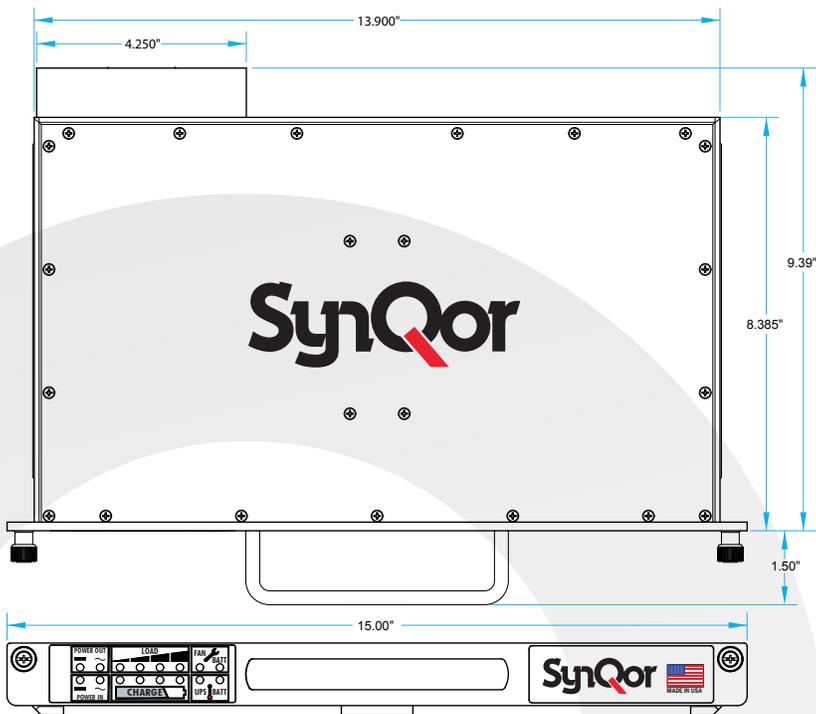
Note 2: Battery charging, internal to and facilitated by the UPS, is only enabled below +45°C.

Note 3: Charging current may be limited depending on UPS input and output conditions.

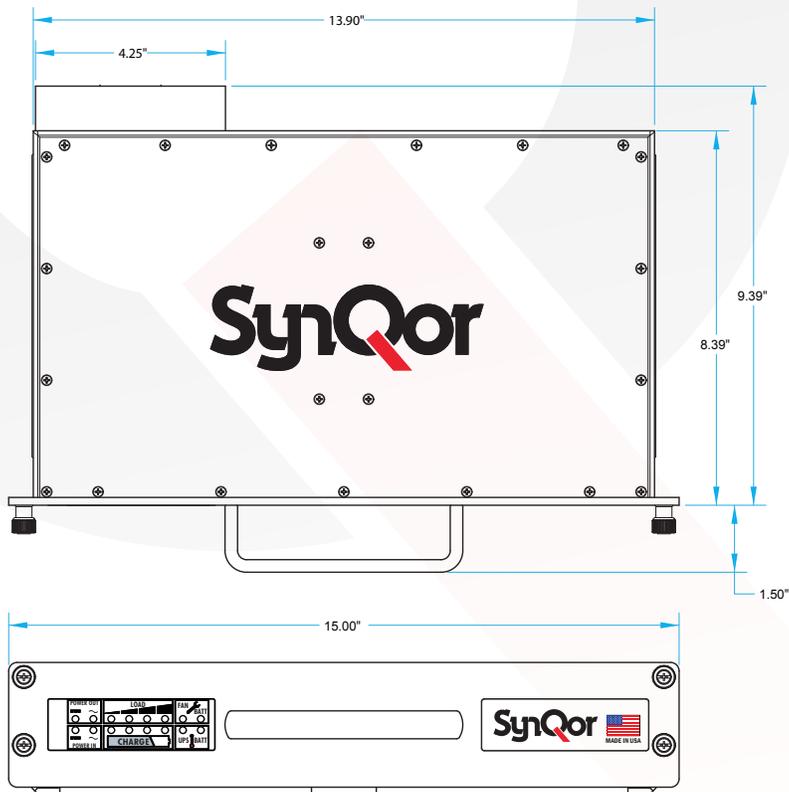
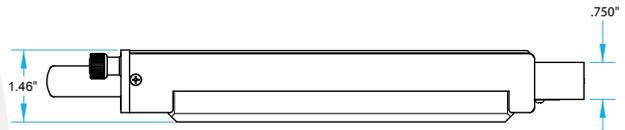
Note 4: Long-term battery capacity is substantially improved when stored at ambient temperatures below 35°C.

LITHIUM-ION BATTERY PACK MONITORING FEATURES	
Total Pack Output Voltage	Total Pack Output Current
Internal Pack Voltage	Internal Pack Current
Total Voltage of Series-Connected Cells	Cell Temperatures
Individual Cell Voltages	PCB Temperatures
Status of Charge and Discharge Protection Switches	

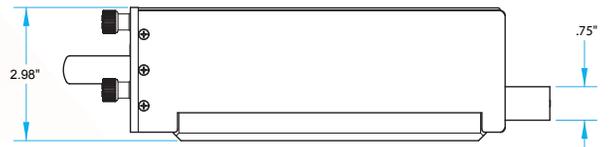
LITHIUM-ION BATTERY PACK PROTECTION FEATURES		
Discharge Protection	Charge Protection	String Heater Overrides
Cell Under-Voltage Lockout, Software	Cell Over-Voltage Lockout, Software	Timeout
Cell Under-Voltage Lockout, Hardware	Cell Over-Voltage Lockout, Hardware	PCB Temperature
Cell Under-Voltage Lockout Timer	Cell Over-Voltage Lockout Timer	Measured Pack Voltage
Excessive String Current	Excessive Charging Current	Any Cell Temperature
String Short-Circuit Current	Total String Voltage Too Low	String Output Current
Excessive Pack Current	Detection of UPS Chassis Installation	
Detection of UPS Chassis Installation	Cell Temperature Too Hot for Charging	
Cell Temperature Too Hot for Discharge	Cell Temperature Too Cold for Charging	
Cell Temperature Too Cold for Discharge	PCB Temperature Too High	
PCB Temperature Too High		



BAT-0200-S-1U



BAT-0500-E-2U





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Ordering Information

BAT	Battery Pack Capacity (Watt-Hours)	Battery Pack Size	Height	Options
BAT	0200	S	1U	000
BAT	0200:200 Whr 0500:500 Whr	S: Standard E: Extended	1U: 1.46" (10 lbs.) 2U: 2.98" (21 lbs.)	000 (Standard)

Not all combinations make valid part numbers, please contact SynQor for availability. See the Product Summary web page for more options.

Note: Battery packs are shipped at a charge level of 30%.

Examples: **Standard: BAT-0200-S-1U-000**
 Extended: BAT-0500-E-2U-000

Safety & Qualifications

IEC 62133	Safety requirements for portable secondary sealed cells.
ST/SG/AC.10/11	UN Recommendations on the Transport of Dangerous Goods
UL 1642	Lithium Batteries
EN 62040-1	General and safety requirements for UPS (Does not apply to 400Hz operation)
EN 62040-2	UPS Electromagnetic compatibility (Category C4)

Contact SynQor for further information and to order:

Phone: 978-849-0600 **Toll Free:** 888-567-9596 **Fax:** 978-849-0602

E-mail: power@synqor.com **Web:** www.synqor.com

Address: 155 Swanson Road, Boxborough, MA 01719 USA

WARRANTY

SynQor offers a 1 year limited warranty. Complete warranty information is listed on our website or is available upon request from SynQor.