

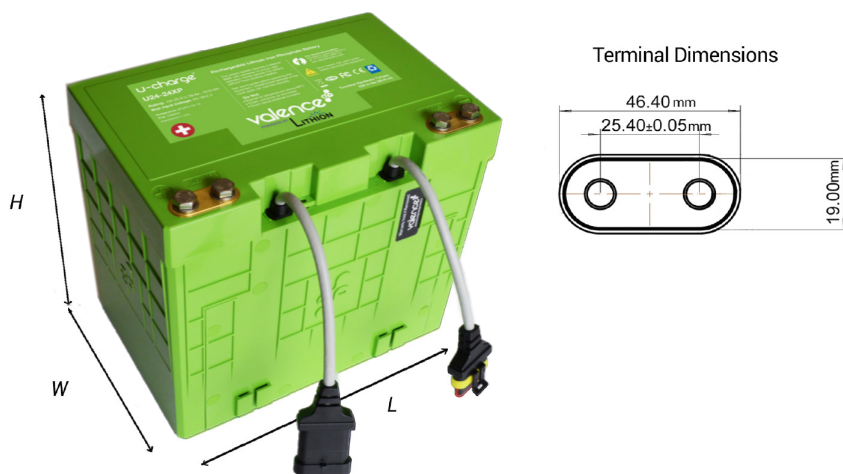
# U24-24XP

Part Number 1008684

## Group 24, 24 Volt Lithium Ion Battery Module

Lithion Battery provides safe, reliable and mobile energy solutions for energy storage and transportation. The U24-24XP is a high-performance, 24 volt battery, built on a patented Lithium Iron Phosphate chemistry platform. Customers now have a choice of a 24 volt battery in a Group 24 size case providing over 1.5 kWh.

The U24-24XP is ideal for material handling, stationary energy storage, and commercial EV or marine applications. The module's inherent safety, long cycle life, and zero maintenance offers end-users another alternative to lead acid by replacing with this reliable lithium ion solution.



### Mechanical Specifications

Height (excluding bolts)	225 mm	8.86"
Width	172 mm	6.77"
Length	260 mm	10.23"
Weight	16.3 ± 0.1 kg	35.8 lbs
Cell Configuration	81FR27/66-18	

Terminal Hardware	M8 x 1.25	
Terminal Torque	25 Nm	222 in-lbs
Plastic Case	Flame Retardant	
IP Rating	IP56	

### Electrical Specifications

Voltage (nominal)	25.6 V
Capacity @ C/5, 25 °C (typical)	59 Ah
Energy	1.51 kWh
Recommended Charge Voltage	29.2 V
Discharge Cutoff Voltage	20 V
Charge Float Voltage Range	27.6 - 29.2 V
Cont. Current/Peak (30sec)	118 A/ 177 A
Recommended Charge CCCV	≤ 29*A to 29.2 V

Discharge Temperature	-10 °C to 50 °C
Charge Temperature	0 °C to 45 °C
Self Discharge @ 25 °C	< 2% per month
Specific Energy	92 wh/Kg
Energy Density	150 wh/L

\*Higher charge rates may be possible. Please consult with our sales personnel about application.

Amp Hours (Ah)			Minutes of Discharge			
Over 5 Hrs	Over 2 Hrs	Over 1 Hr	@ 10 A	@ 25 A	@ 40 A	@ 60 A
59	58.1	57.7	355	140	87	58



### Features

- >4000 cycles at 80% DOD
- Create systems 24 - 1000 V
- Series and/or parallel operation
- Automatic cell monitoring & balancing
- Temperature monitoring of cells
- Rugged mechanical design
- Dual lug contacts
- Thread locking feature
- Footprint of Group 24 lead acid case
- Maintenance-free
- No hydrogen generation or gassing

### Benefits of Lithium (LiFePO<sub>4</sub>)

#### Efficient & Fast Charging

High charge efficiency of >90%. Increases productivity, reduces energy costs and eliminates the need for investments in battery change out systems.

#### High, Uniform Discharge Voltage

Delivers stable voltage during discharge. Increases equipment performance and reduces motor heat.

#### Longer Life

Provides > 10 times the life of lead acid batteries.

#### Robust Safety

Multiple levels of protection prevent operation outside of current, voltage, and temperature limits.

- No thermal runaway
- No corrosive acid leaks
- No explosive gassing

#### Space and Weight Efficiency

Systems provide >3 times the energy per weight of lead acid.

#### Environmentally Safe

Does not contain toxic metals such as cobalt, lead, cadmium, nor any corrosive acids or alkalis.

### Contact Us

[lithionbattery.com/contact-us/](http://lithionbattery.com/contact-us/)

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## Battery Management System

The U-Charge Battery Management System (U-BMS) integrates seamlessly with U24-24XP applications. The battery system manages all battery module parameters in real-time and system information can be monitored via CANbus.



Event	Default Warning (Adj)	Fault
High Temperature	55 °C	65 °C
Low Temperature	-5 °C	-15 °C
High Voltage	3.9 V	any cell 4.2 V
Low Voltage	2.8 V	any cell 2.0 V
Over Current	time + current	> 177 A for 30 sec
Low SOC	20%	

### Protection

Over/Under Voltage  
Over/Under Temperature  
Over Current  
Pre-Charge Control

### Data Logging w/External Device

Faults/Warnings  
I/V/T History  
State of Charge

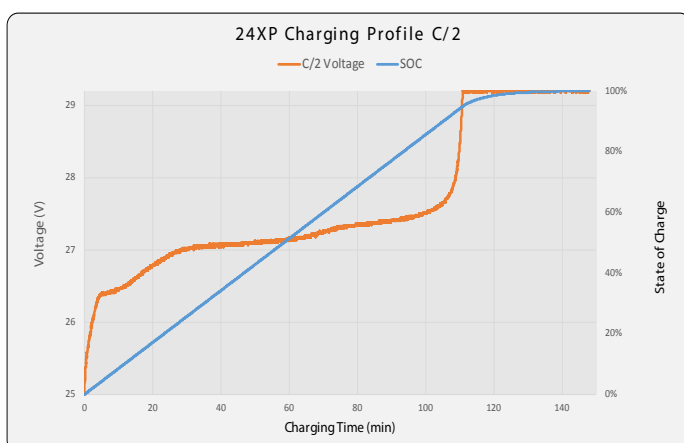
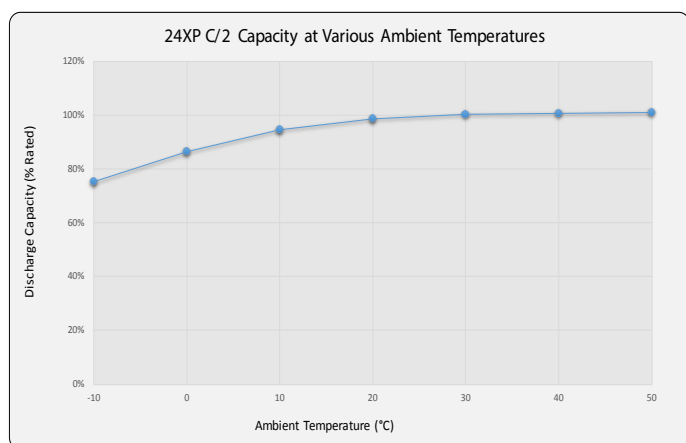
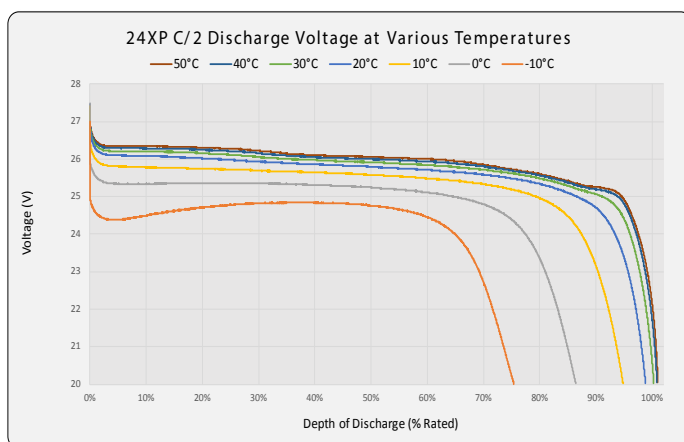
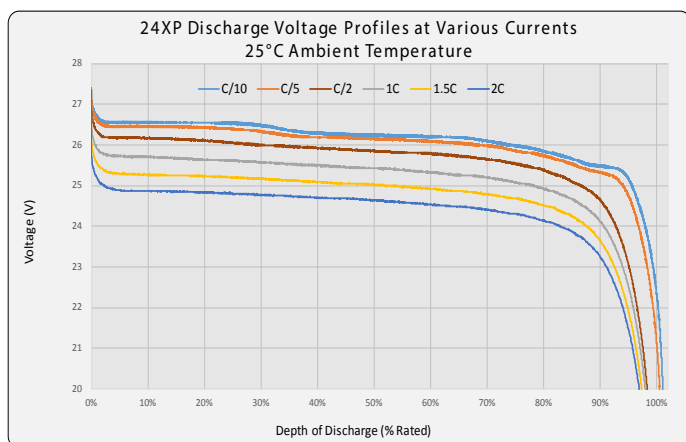
### Software

Firmware  
Real Time Diagnostics  
Data Download  
Data Analysis

### Communication

Cable to USB  
CAN2.0B

## Performance



## Certifications

- UL 2580
- UL 1642 (cells)
- IEC 62619
- FCC Class B, CE
- UN 38.3

### Shipping Classifications

UN 3480  
Class 9

IP56

FC

CE



All specifications are subject to change without notice. All information provided herein is believed, but not guaranteed, to be current and accurate.

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