

OVERVIEW

Grepow 12V 7Ah pouch-cell stacked LiFePO4 battery is a perfect replacement for traditional lead acid battery. Designed to deliver high discharge rate, leading cycle life and robust safety protections, the Grepow 12V 7Ah battery is ideal for demanding UPS, telecommunications back-up, and medical equipment power systems. Scalable arrays up to 48V, 148Ah (4S20P) without external Battery Monitoring System (BMS) it's possible.

BATTERY FEATURES

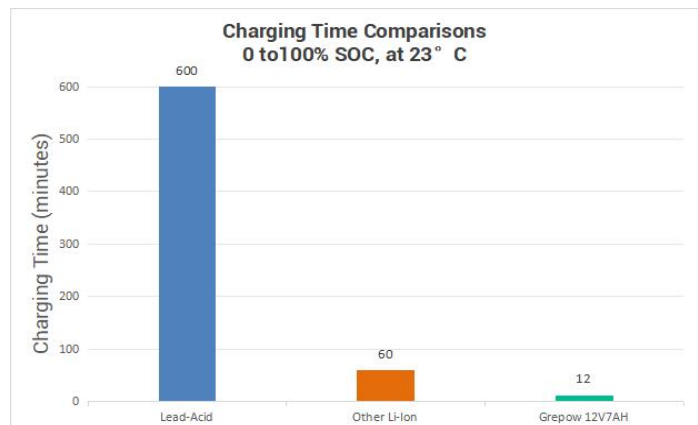
- Ultra Safe Lithium Iron Phosphate Cells
- High-rate Discharge Performance
- Long Cycle Life (>3000)
- Fast Simple Charging (8C)
- Drop-in 12V Lead Acid Replacement
- Built-in BMS for Battery Protection



LiFePO4 12V7AH vs. 12V Lead-Acid Battery

Grepow 12V7AH LiFePO4 battery is designed as drop-in replacements for 12V lead-acid batteries, which are identical in size to common 12V7AH lead-acid batteries. This combination reduces product integration costs, minimizes OEM customer's time to market and aftermarket customer replacement hurdles. The Grepow 12V7AH offers significant performance advantage over traditional lead acid batteries:

- Superior energy density
- Offers up to 20 times longer cycle life
- 50 times faster charging time
- 40% of the weight of a lead acid battery
- Consistent voltage for a longer time



PRODUCT SPECIFICATIONS

Name	Parameter
Nominal Voltage	12.8V
Nominal Capacity	7.4Ah
Watt-hour	94.72Wh
Max. Charge/Discharge Current Pulse	40A
Max. Inrush Current (Charge or Discharge)	240A
Max. Continuous Discharge Current (to 100% Depth of Discharge)	45A
Max. Continuous Charge Current	45A
Max. Charge Voltage	16V
Max.Charger Voltage (w/o damage)	60V
Recommended Float Voltage	13.6-14.4V
Charge time @ max rate	7.5min@8C
Min. Float Voltage	13.6V
Under-voltage Limit (min)	8V
Operating Temperature	-40~60°C
Recommended Storage Temperature	-40~35°C
Transportation	-40~70°C

TYPICAL APPLICATION

TELECOMMUNICATION

Communications gear, whether in public or private networks, must meet critical up-time requirements, despite being deployed in harsh and difficult to access locations.

- Small cells, Private wireless, OSP, Customer premise equipment

UPS SYSTEMS

Uninterruptible power supplies in data center (server UPS), industrial, and office applications - wherever computers are used in critical applications. Also suitable for industrial automation.

- Industrial Automation, Server UPS

MEDICAL EQUIPMENT

Increased backup functionality of medical devices in the indoor area, in the outdoor area ideal for the permanent operation of mobile devices without restrictions, thus significantly increasing the quality of patient care.

- Mobile Carts, Diagnostic Equipment

INDUSTRIAL SYSTEMS

Most applications have a combination of frequent and deep charge/discharge cycles and harsh environmental conditions. The Grepow 12V 7Ah LiFePO4 battery offers consistent power delivery across stateof-charge, fast recharging, light weight, long life, and robust safety.

- Autonomous robots, Industrial machinery, Security systems, Emergency lighting

OFF-GRID POWER SYSTEMS

Off-grid power systems require fast and frequent charge and discharge cycles, often in harsh environments with portable requirements.

- Oil / gas / mining, remote sensors, electronic road signs, lighting

SAFETY AND COMPLIANCE

- IEC62133; UL 1973 Certification
- REACH, RoHS and Battery Directive (2006/66/EC)
- FCC, UL1642, UL991, CE incl EMC
- UN Manual of Tests and Criteria Part III subsection 38.3

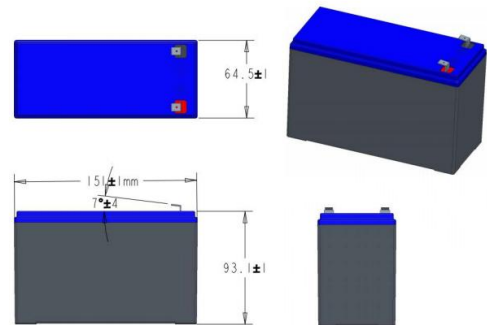


BMS Protection Board Function

- Overcharge protection
- Equalization function
- Short circuit protection
- Charge overcurrent protection
- Over-discharge protection
- High and low temperature protection

PHYSICAL AND MECHANICAL SPECIFICATIONS

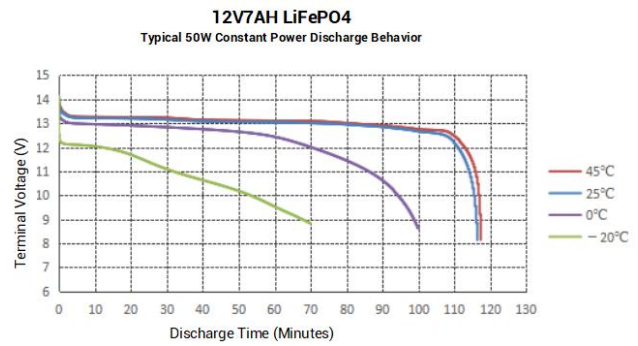
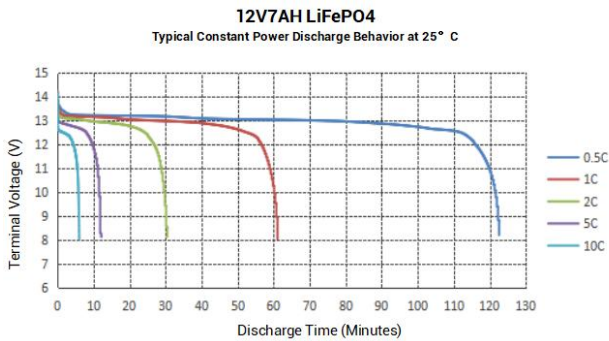
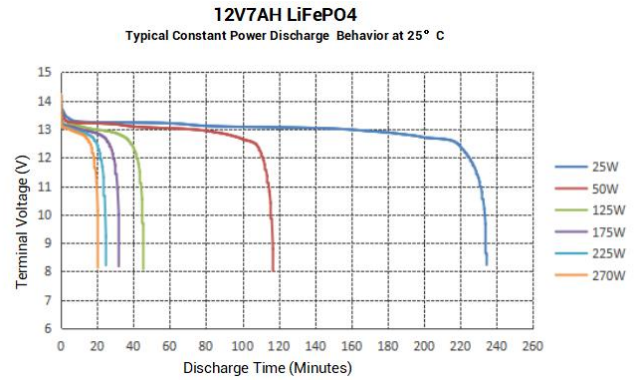
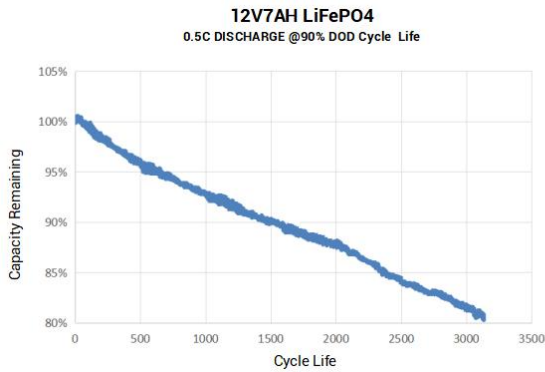
Specification	Description
Size (L x W x H)	94.1*65.5*152mm
Weight	1.11Kg
Case Material	ABS+PC



Grepow 12V 7AH SCALABILITY

- Simple systems up to 3.6 kWh*
 - Up to 4 in series
 - Up to 20 in parallel
- Enables 12V, 24V, 36V and 48V systems
- No external BMS required

CHARGE AND DISCHARGE CHARTS



Constant Power Discharge Characteristics in Watts @25°C	End Voltage	Up to 13min	23min	46min	69min	87min	135min
	10V	410W	237W	122W	83W	66W	43W

Constant Current Discharge Characteristics in Watts @25°C	End Voltage	Up to 8min	22min	44min	67min	89min	136min
	10V	40A	20A	10A	6.7A	5A	3.3A



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