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Lithium battery solutions

LiFePO₄ Batteries for Construction Machinery

Powering Equipment Excellence,
Redefining Unmatched Productivity



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ROYPOW

For One-stop New Energy Solutions

- R&D, manufacturing and sales of motive power systems and energy storage systems as one-stop solutions
- Fully automatic production lines, a full range of test equipment and an advanced MES
- Covering Complete Power Solutions for Off-Road Vehicles, Marine Power System, Jobsite ESS, Vehicle-Mounted ESS, and Electric Retrofit Solutions
- Self-development of power electronics technologies, including PCS, BMS, and EMS, as well as motor and controller motion control algorithms



750+ Employees
200+ R&D People
105,000 m² Headquarters Floor Area
2,500 m² Testing Center
330 Patents

Quality Control Certificates:

- ✓ Environmental Management System: ISO 14001:2015
- ✓ Occupational Health and Safety Management System: ISO 45001:2018
- ✓ Quality Management System: ISO 9001:2015, IATF16949:2016
- ✓ Information Security Management System: ISO/IEC 27001:2022
- ✓ Social Accountability Management System: SA8000:2014
- ✓ Hazardous Substance Process Management: IECQ QC 080000

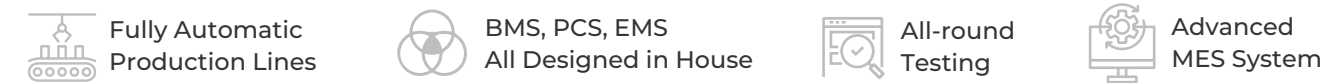


Product Certifications:

UL 1973, UL 9540A, UL 9540, UL 2580, UL 2271, UL 1741			FCC, IEC/EN 61000-6, BS EN IEC 61000-6
IEEE 1547			IEC 60730, ISO 13849-1
IEC 62619			UN 38.3
EN 62477, EN 62040, (EU) 2023/1542, EN 62109-1, EN 62109-2			RoHS Directive 2011/65/EU & (EU) 2015/863

R&D and Manufacturing Highlights

As a result of these investments, ROYPOW is capable of "end-to-end" integrated delivery, making our products out-perform the industry norms.



Global Sales and Service Network



ROYPOW has comprehensively unfolded its overseas market layout to ensure the localization of R&D, manufacturing, marketing and service, becoming one of your most reliable and valuable partners.

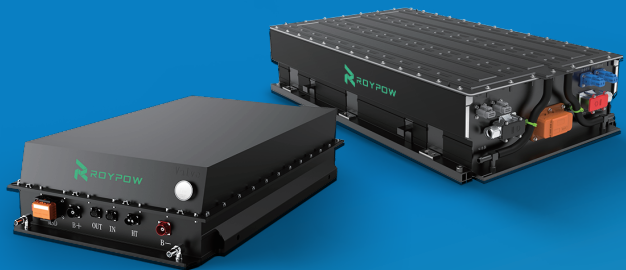


Upgrading to New Technology, with Our Turnkey Solutions.

With years of dedication to new energy solutions, we are proud to offer customers professional solutions for:

- Complete Power Solutions for Off-Road Vehicles
- Marine Power System
- Jobsite ESS
- Vehicle-Mounted ESS
- Electric Retrofit Solutions
- Residential and C&I ESS





LiFePO₄ Batteries for Construction Machinery

In the battery-powered construction machinery industry, business requires batteries that won't tire out no matter the task. ROYPOW comes in handy and gives your heavy-duty equipment full performance capacity.

Embedded with ROYPOW batteries inside, businesses can expect uncompromising power performance and capability comparable to traditional diesel-powered solutions while reducing carbon footprint and enhancing sustainability and profitability.



Efficient and Stable

- ✓ More power with a high rate of discharge
- ✓ Consistent performance without the voltage drop at the end of the cycle
- ✓ Reduced unplanned downtime and maximized uptime



Worry-Free and Cost-Effective

- ✓ Long lifespan and no need for more batteries
- ✓ Zero maintenance and no frequent battery swaps
- ✓ Reduced battery maintenance labor costs



Green and Sustainable

- ✓ Reduced carbon footprint
- ✓ Good for excavator operators and the planet



*Ideal Power Solutions
for A Full Day's Heavy-Duty Construction Work*



Efficient Liquid Cooling

Maintain temperature difference, ensure stable and consistent performance, and extend the battery lifespan.



Grade A LFP Cells

Ensure unmatched reliability and longevity in demanding conditions.



Rugged Durability

From the ruggedized, heavy-duty base to the internal structural supports, the batteries withstand the harsh vibrations and shocks of outdoor construction.



Long Lifespan

The batteries are designed for longevity with a lifespan of up to 10 years and can withstand over 4,000 times of deep charge and discharge.



Intelligent BMS

Ensure optimal battery performance and maximize efficiency.



Built-in Fire Extinguishing System

Each battery is equipped with one or more specially designed fire extinguisher devices for fire protection.



IP68 Ingress Rating

The electrical components are fully enclosed to protect from dust and water ingress to fit different construction site environments.



4G Intelligent Control

Support real-time monitoring, enabling efficient battery management and minimizing downtime.



Low Temperature Heating

The heating function will activate for stable charging and discharge at a low temperature during the cold months.



Technical Specifications

Pack Model	C150	C230	C320	G150	G230	G320
Dimension (mm/inch)	1070x630x200 mm (42.13x24.8x7.87 inch)	1070x630x240 mm (42.13x24.8x9.45 inch)	956x630x200 mm (37.64x24.8x7.87 inch)	956x630x240 mm (37.64x24.8x9.45 inch)		
Rated Capacity (Ah)	150	230	320	150	239	320
Rated Voltage (V)	153.6	153.6	115.2	124.8	124.8	96
Rated Energy (kWh)	23.04	35.32	36.86	18.72	28.7	30.72
Cooling Method	Liquid Cooling					

Electrical Performance Parameters

Working Voltage Range (V)	0°C<T≤65°C	120~175.2	120~175.2	90~131.4	97.5~142.35	97.5~142.35	75~109.5
	-20°C≤T≤0°C	96~175.2	96~175.2	72~131.4	78~142.35	78~142.35	60~109.5
Max. Continuous Charge Rate				1C			
Pulse Discharge Rate				3C@10s			
Pulse Regeneration Rate				1.5C@30s			
Max. System Voltage				750V			
Max. System Series Connection		4S	4S	5S	5S	5S	6S
Max. System Parallel Connection				3P			

Electrical Performance Parameters

Certification	R100, UN38.3
Ingress Protection	IP68, IPX9K



High Reliability

Built to withstand harsh environments, extending service life while reducing maintenance and replacement costs.



Superior Vibration Resistance

Withstands vibrations up to six times higher than the toughest passenger-vehicle standard, delivering lasting performance.



Extended Cycle Life

Over 4,000 cycles for consistent performance throughout the battery's lifespan.



Liquid Cooling

Efficiently manages heat to ensure stable performance and extend battery life even under heavy-duty operation.

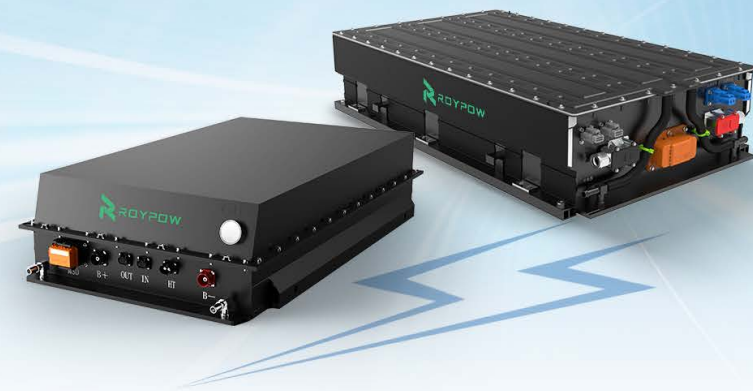


Technical Specifications

Pack Model		C230-V2	C304-V2	C173-V2	G230-V2	G304-V2
Dimension (mm/inch)		1082 x 630 x 240 / 42.60 x 24.80 x 9.45			940 x 630 x 240 / 37.01 x 24.80 x 9.45	
Rated Capacity (Ah)		230	304	173	230	304
Rated Voltage (V)		153.6	115.2	201.6	124.8	96
Rated Energy (kWh)		35.32	35.02	34.87	28.7	29.18
Cooling Method				Liquid Cooling		
Electrical Performance Parameters						
Working Voltage Range (V)	0°C < T ≤ 65°C	120~175.2	90~131.4	157.5~229.9	97.5~142.35	75~109.5
	-35°C ≤ T ≤ 0°C	96~175.2	72~131.4	126~229.9	78~142.35	50~109.5
Max. Continuous Charge Rate				1C		
Pulse Discharge Rate				3C@30s		
Pulse Regeneration Rate				2C@30s		
Max. System Voltage				1000V		
Max. System Series Connection		5S	7S	4S	7S	8S
Max. System Parallel Connection				3P		
Reliability Performance Parameters						
Vibration Standard		GB 31467.3-2015 (6× Duration), GB 38031-2020 Damp Heat Cycling, Combined Vibration + Mechanical Shock + Environmental Stress Tests under Charge-Discharge				
Ingress Protection				IP68, IPX9K, IPXXB		
Mechanical Shock				GB 38031-2025 (2 Cycles)		

Charge Fast. Power Long

ROYPOW batteries support fast charge to increase the uptime and complete the construction tasks on schedule. A single full charge extends up to 8 hours of use for the best productivity. Operators can recharge the equipment during breaks or overnight to get well-prepared for another shift of hard work.



1~1.5 Hour DC Fast Charging Station

6~8 Hours* Continuous Use

*Actual battery duration time varies depending on different working conditions and the type of job.

Multiple Charging Ways

More Versatility
and Flexibility



DC Fast Charging



Tow Charging



Mobile Container
DC Charging

Customized Power Solutions

Suitable for mine trucks, bulldozers, road rollers, excavators, wheel loaders, cement mixers, etc.

