Version: December 20, 2024, LiFePO4 Batteries for Electric Excavators

ROYPOW

CE RoHS

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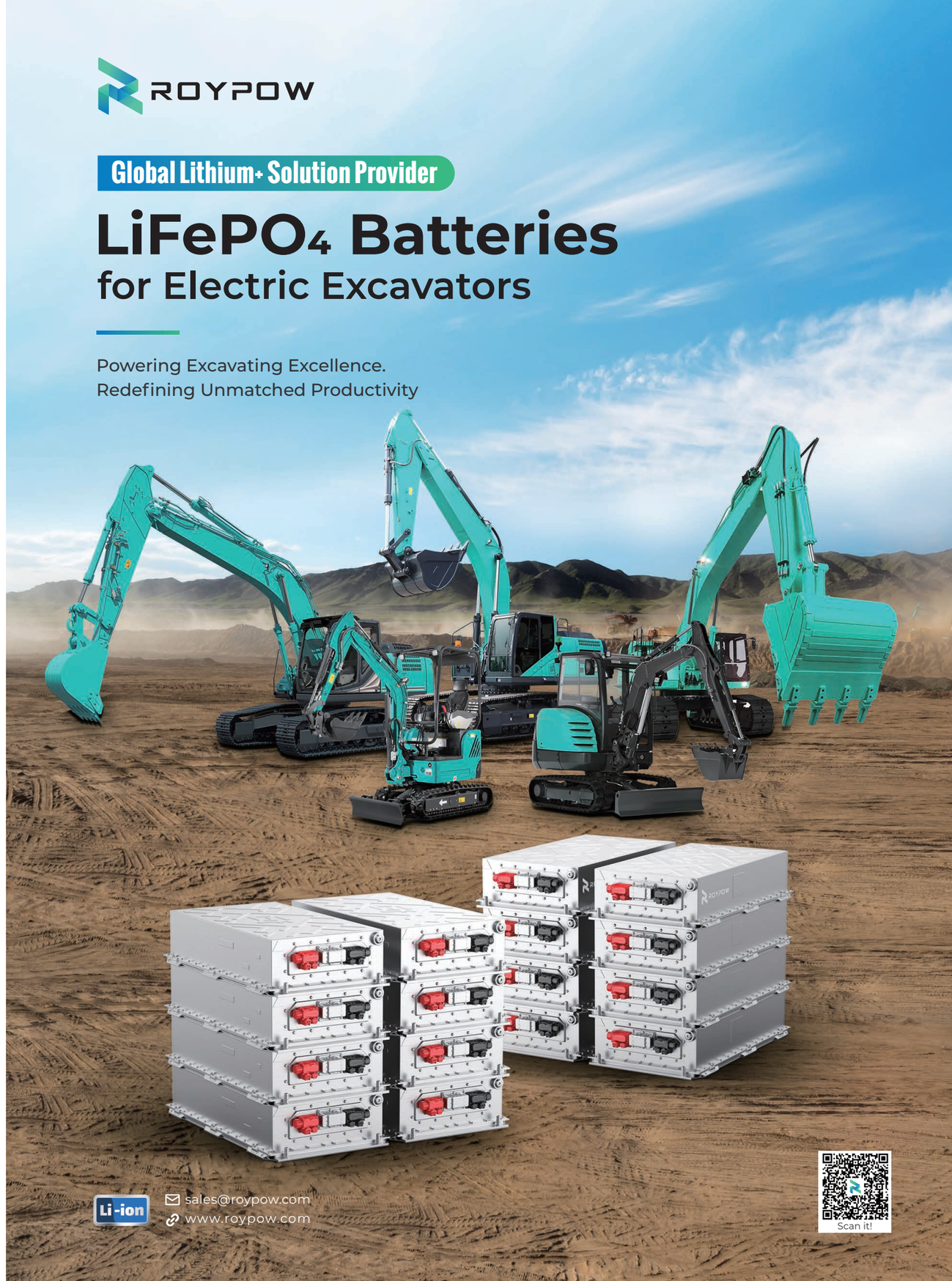
ROYPOW

Global Lithium+ Solution Provider

LiFePO4 Batteries
for Electric Excavators

Powering Excavating Excellence.
Redefining Unmatched Productivity



Li-ion

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Scan it!

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 Low-Speed Vehicles' Batteries, Industrial Batteries, as well as Residential ESS, Commercial & Industrial ESS, and Mobile ESS
- Self-development of power electronics technologies, including PCS, BMS, and EMS

750+ Employees

190+ R&D People

105,000 ㎡ Headquarters Floor Area

2,500 ㎡ Testing Center

202 Patents

Quality Control Certificates:

- Environmental Management System: **ISO 14001:2015**
- Occupational Health and Safety Management System: **ISO45001:2018**
- 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

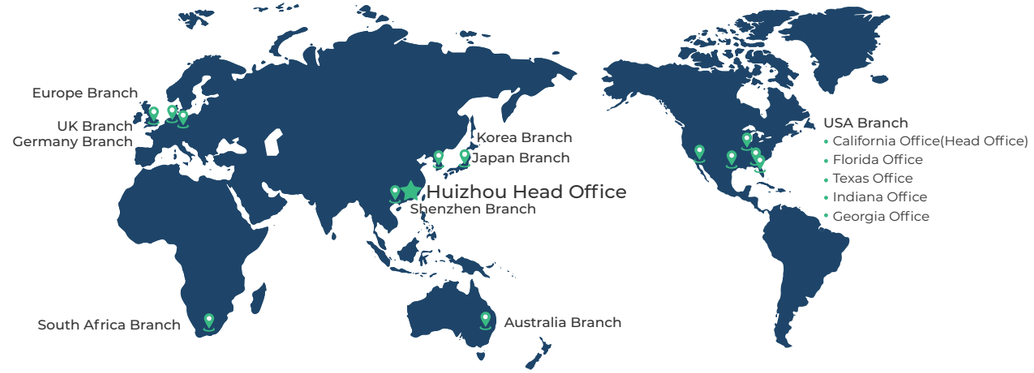
As a result of these investments, ROYPOW is capable of “end-to-end” integrated delivery, making our products out-perform the industry norms.

- Fully Automatic Production Lines
- BMS, PCS, EMS All Designed in House
- All-round Testing
- Advanced MES System

Global Sales and Service Network

- Timely Delivery
- Hassle-free After-sales Service
- Fast Response Technical Support

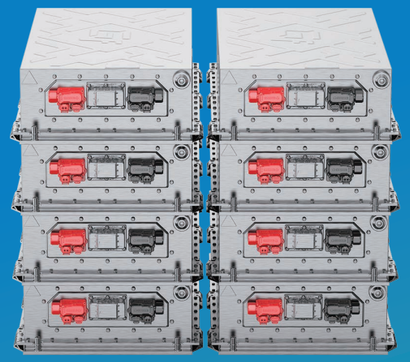
ROYPOW has comprehensively unfolded its overseas market layout to ensure the localization of R&D, manufacturing, marketing and service, becoming one of your most reliable and valuable partners.



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:

- Low-speed Vehicle Batteries
- Battery Systems for Off-highway Applications
- Residential Energy Storage Systems
- Mobile Energy Storage Systems
- Industrial Batteries
- Battery Systems for Emerging Applications
- Commercial & Industrial Energy Storage Systems
- Chargers



LiFePO4 Batteries for Electric Excavators

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

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

Ideal Power Solutions

for A Full Day's Heavy-Duty Construction Work

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

Why ROYPOW Batteries

Safest LFP Chemistry

The excavator batteries are built with the LFP chemistry, proven the safest, most stable, efficient, and economical power option for industrial applications.

Long Lifespan

The batteries are designed for longevity with a lifespan of up to 10 years and can withstand over 3,500 times of deep charge and discharge.

Low Temperature Heating

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

Automotive-Grade Rugged Durability

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

Built-in Fire Extinguishing System

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

Zero Maintenance

ROYPOW batteries eliminate the need for frequent swaps or maintenance, saving abundant time and costs to replace the battery on excavators.

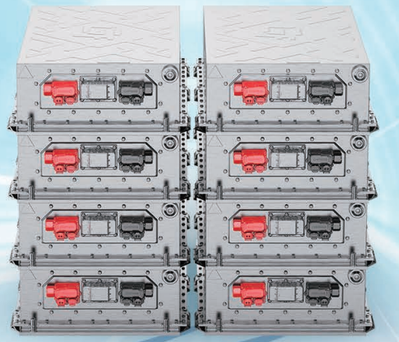
IP65 Rated

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

Designed for
Extended Heavy-duty Excavation

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 10 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.



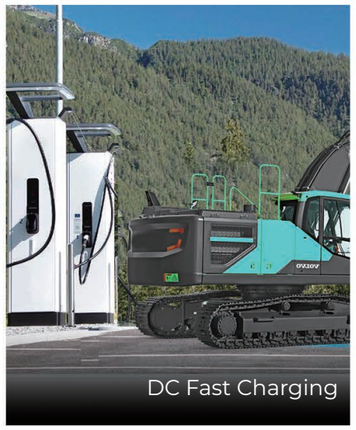
1 Hour DC Fast Charging Station

6 - 10 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

Intelligent Battery Management System (BMS)

ROYPOW's self-developed BMS ensures the electric excavator battery's peak performance and safety through real-time monitoring and multiple protections, maximizing efficiency and extending battery life.

- All-Time Cell Balancing and Energy Management
- Real-time Monitoring and Communication Through CAN
- Battery Maintenance and Remote Upgrades
- Fault Alarm and Safety Protection

Smart 4G Module (Optional)

ROYPOW smart 4G module can be customized in the excavator batteries to realize real-time remote monitoring.

- Battery Status Monitoring
- Remote Control
- GPS Location
- Remote Software Upgrades
- Easy Network Connection
- Faults Alarm

Liquid Cooling System (Optional)

A well-designed and high-quality thermal management solution can be customized to help dissipate the heat when the power goes up.

Applications

Tailored Battery Systems for Excavation Applications

From mini to large excavators

Technical Specifications

Model	Series/ Parallel	Nominal Voltage	Nominal Capacity	Nominal Energy	Cycle Life	Continuous Charge / Discharge Current	Maximum Charge / Discharge Current	Dimensions (L*W*H)	Weight lbs. (kg)	IP Rating
CV150230	1S1P	153.6 V	230 Ah	35.328kWh	>4,000 Times	0.5C / 1C	1C (60S)/ 2C(60S)	41.92x 24.80 x 9.44 inch (1065 x 630 x 240 mm)	94.80±4.41 lbs (243±5 kg)	IP67
CV115280	1S1P	115.2 V	280 Ah	32.256kWh	>4,000 Times	0.5C / 1C	1C (60S)/ 2C(60S)	41.92x 24.80 x 9.44 inch (1065 x 630 x 240 mm)	94.80±4.41 lbs (235±5 kg)	IP67
CV115314	1S1P	115.2 V	314 Ah	36.17 kWh	>4,000 Times	0.5C / 1C	1C (60S)/ 2C(60S)	41.92x 24.80 x 9.44 inch (1065 x 630 x 240 mm)	94.80±4.41 lbs (233±5 kg)	IP67
CV150230	n*S1P	n*153.6 V	230 Ah	n*35.328kWh	>4,000 Times	0.5C / 1C	1C (60S)/ 2C(60S)	41.92x 24.80 x 9.44 inch (1065 x 630 x 240 mm)	/	IP67
CV115280	n*S1P	n*115.2 V	280 Ah	n*32.256kWh	>4,000 Times	0.5C / 1C	1C (60S)/ 2C(60S)	41.92x 24.80 x 9.44 inch (1065 x 630 x 240 mm)	/	IP67
CV115314	n*S1P	n*115.2 V	314 Ah	n*36.17 kWh	>4,000 Times	0.5C / 1C	1C (60S)/ 2C(60S)	41.92x 24.80 x 9.44 inch (1065 x 630 x 240 mm)	/	IP67
CV150230	1Sn*P	153.6 V	n*230 Ah	n*35.328kWh	>4,000 Times	0.5C / 1C	1C (60S)/ 2C(60S)	41.92x 24.80 x 9.44 inch (1065 x 630 x 240 mm)	/	IP67
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CV115314	1Sn*P	115.2 V	n*314 Ah	n*36.17 kWh	>4,000 Times	0.5C / 1C	1C (60S)/ 2C(60S)	41.92x 24.80 x 9.44 inch (1065 x 630 x 240 mm)	/	IP67

Working Temperature Range

Charge Temperature
32°F~131°F (0°C ~ 55°C)

DischargeTemperature
-4°F~131°F (-20°C ~ 55°C)

Storage Temperature Range

Short-term (Within One Month)
-4 ~ 113°F (-20 ~ 45°C)

Long-term (Within One Year)
32 ~ 95°F (0 ~ 35°C)

Note: 1. Only authorized personnel are allowed to operate or make adjustments to the batteries.
2. All data are based on ROYPOW standard test procedures. Actual performance may vary according to local conditions.