

ROYPOW TECHNOLOGY CO., LTD. has a policy of improving products continuously. All the information in this catalogue is provided for reference only. We reserve the right to make revisions as well as product alterations and improvements at any time without prior notice. Trademarks are the property of ROYPOW TECHNOLOGY CO., LTD. or their respective owners. Technical data and illustrations are not binding. We assume no liability for misprints.

Version: June 04, 2024 ROYPOW X250KT



ROYPOW Technology Co., Ltd.

Tel: +86 (0)752-327 9099

Email: sales@roypow.com
service@roypow.com
marketing@roypow.com

Web: www.roypow.com

Add: ROYPOW Industrial Park, No.16, Dongsheng South Road,
Chenjiang Street, Zhongkai High-Tech District, Huizhou City,
Guangdong Province, China

ROYPOW (USA) Technology Co., Ltd.

Tel: +1 512 688 5555 (Texas Office)
Email: sales@roypowusa.com

Service Support: +1 626 269 0547
Email: service@roypowusa.com

Web: www.roypow.com

Head Office: 5901 Triumph St, Commerce, CA 90040, USA

Texas Office: 2350 Campbell Creek Blvd #100 Richardson, TX 75082, USA

Florida Office: 277 Douglas Avenue, Unit 1004, Altamonte Springs, FL 32714, USA

Indiana Office: 5545 W Raymond St, Ste H Indianapolis, IN 46241, USA

Georgia Office: 1150 Cobb International Pl NW Ste E, Kennesaw, GA 30152, USA

ROYPOW Technology UK Limited

Tel: +44 (0) 7918 955 940

Email: sales.uk@roypow.com

Add: Regus Green Park, 200 Brook Dr, Reading RG2 6UB, UK

ROYPOW Battery Technology (Pty) Ltd

Email: sales.za@roypow.com

Tel: +27 71 434 3769

Add: 53 Lake Rd, Longmeadow Business Estate, Edenvale, 1609, South Africa

ROYPOW (Europe) Technology B.V.

Email: sales.eu@roypow.com

Tel: +31 702 001 114

Web: www.roypoweurope.com

Add: Seattleweg 1, 3195 ND, Pernis, The Netherlands

ROYPOW Australia Technology Pty Ltd

Email: sales@roypowtech.com.au

Tel: +61 29185 0814

Web: www.roypowtech.com.au

Add: Suite 803a, 18 Orion Road, Lane Cove, NSW, 2066, Australia

ROYPOW Technology GmbH

Tel: +49 (0) 176 2358 8956

Email: sales.de@roypow.com

Web: www.roypow.gmbh

Add: Rosa-Parks-Straße 4, 64295 Darmstadt, Germany

ROYPOW株式会社

Tel: +81 090 7092 6969

Email: info@roypow.co.jp

Web: www.roypow.co.jp

Add: 〒271-0094 千葉県松戸市上矢切299-7

ROYPOW Technology Co., Ltd (Korea)

Tel: 1555-2016

Email: sales.kr@roypow.com

Add: 2405, GIDC Gwangmyeong station A Dong, 43 Iljik-ro,
Gwangmyeong-si, Gyeonggi-do, Korea

YOUR ENERGY SAVING EXPERT

X250KT DG + ESS Solution

Saving Up To

30% In Fuel Consumption



⚡ 250 kW



sales@roypow.com
www.roypow.com



High Power Motors have been widely used in industries, such as construction, mechanical manufacturing, mining, rail transit, petrochemical, etc.



How to choose a DG

Assumed load: Peak Power: **530 kW**, Rated power: **200 kW**

Traditional Proposal

If a Diesel Generator is adopted as power source:



Initial Overpurchase for a high power DG is necessary to match the maximum starting current of the motors

High Fuel Consumption is certain because of frequent motor starts and long-term operation at low power

Capacity Expansion is not possible for the conventional diesel generators

High Maintenance Costs due to frequent motor starts and high inrush current



Not suitable due to the high starting current of the load

The all-new ROYPOW X250KT system

Saves energy and makes Diesel Gen Sets more efficient



ROYPOW Proposal



No need to purchase high capacity DG due to the mutual power output from X250KT



Hybrid Solution



Lower initial investment for a low-power DG

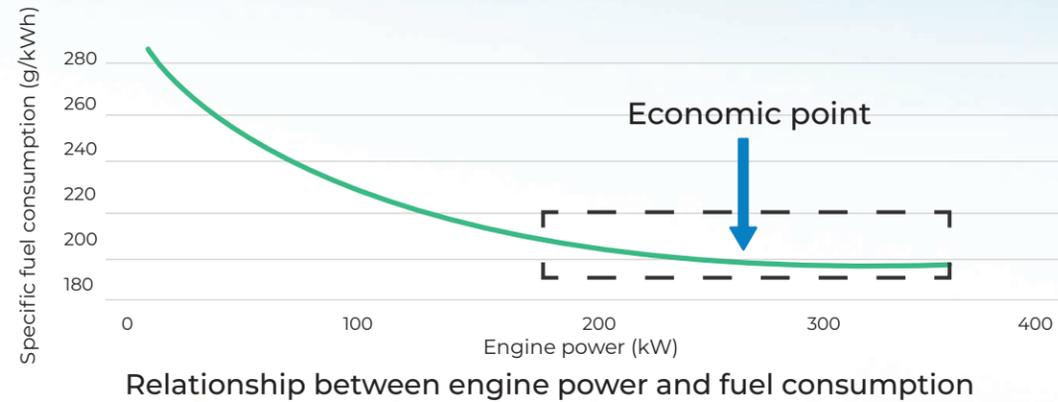
Lower fuel consumption

Support multiple DGs working in parallel

Lower maintenance costs

30% Savings on Diesel Fuel Consumption

ROYPOW X250KT intelligently and efficiently manages the output power of the engine at 50% to 70% of the rated power of the DG, ensuring that the DG operates at the lowest fuel consumption rate and helping achieve fuel consumption reduction.



250 kW Output

ROYPOW X250KT supports up to 250 kW continuous power output for 30 seconds to address the issues of high motor startup currents and load impacts, extending the lifespan of diesel generators, reducing failure rates, and decreasing maintenance frequency and costs.

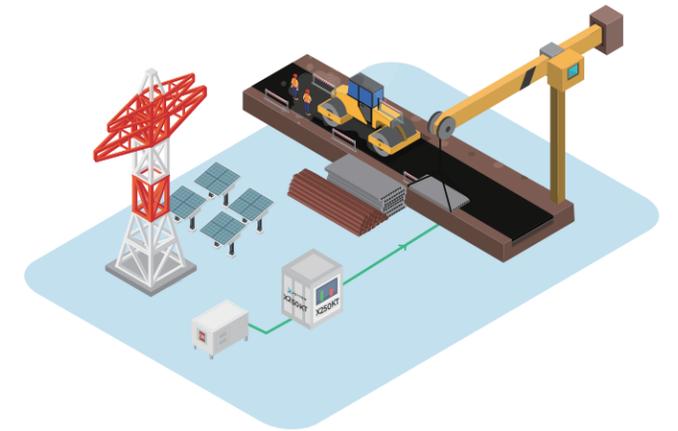


Saving
30%
Fuel Consumption

Two Working Modes

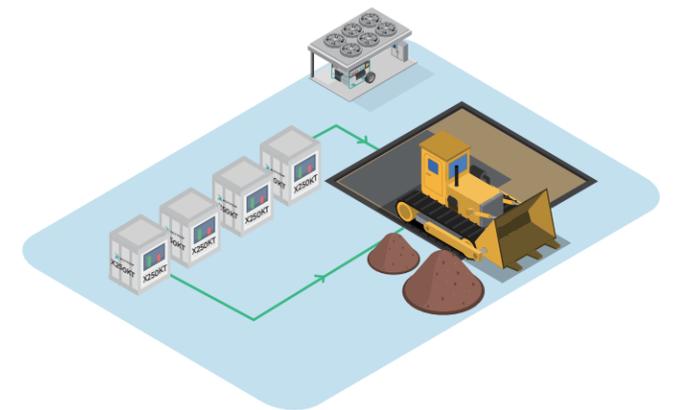
Hybrid Mode (X250KT + DG)

ROYPOW X250KT and diesel generator set work in parallel to power the load. Suitable for projects requiring high loads and extended power supply duration.



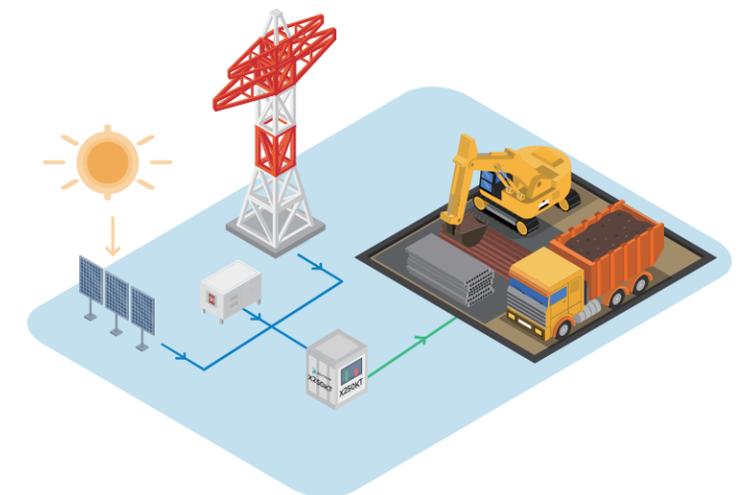
Off-Grid Mode

When the diesel generator fails, ROYPOW X250KT ensures continuous and uninterrupted power to the loads and improves the quality of the power supply.



AC-Coupling

X250KT can connect with PV, Grid or Diesel Generator for charge and discharge functionality.





Quality Design. Lasting Reliability.



All-In-One Modular Design

Integrates the powerful and efficient battery, SPCS, and SEMS into one unit



Plug & Play

Ensures easy installation, convenient maintenance, and flexible expansion of up to 4 units.



Rapid Deployment

Supports frequent lifting and forklift transportation for rapid deployment.



Adapt to Various Environments

Highly waterproof and dust-proof to maintain stable performance under various weather conditions.



Integrated Alert & Warning System

Equipped with a comprehensive safety package, including a fire extinguishing system, to ensure timely warnings and worry-free safety.

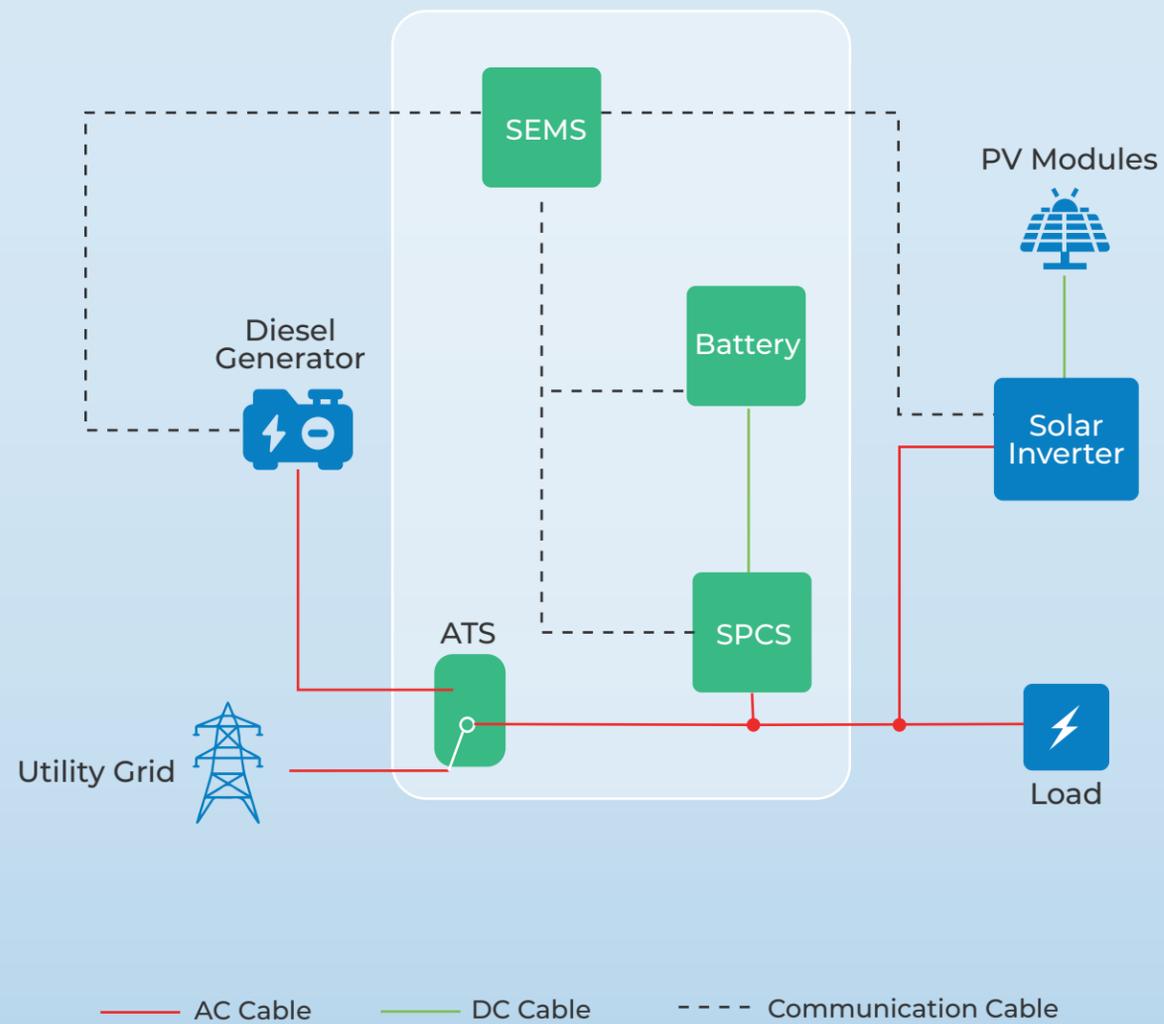


Up to 4 Sets Parallel

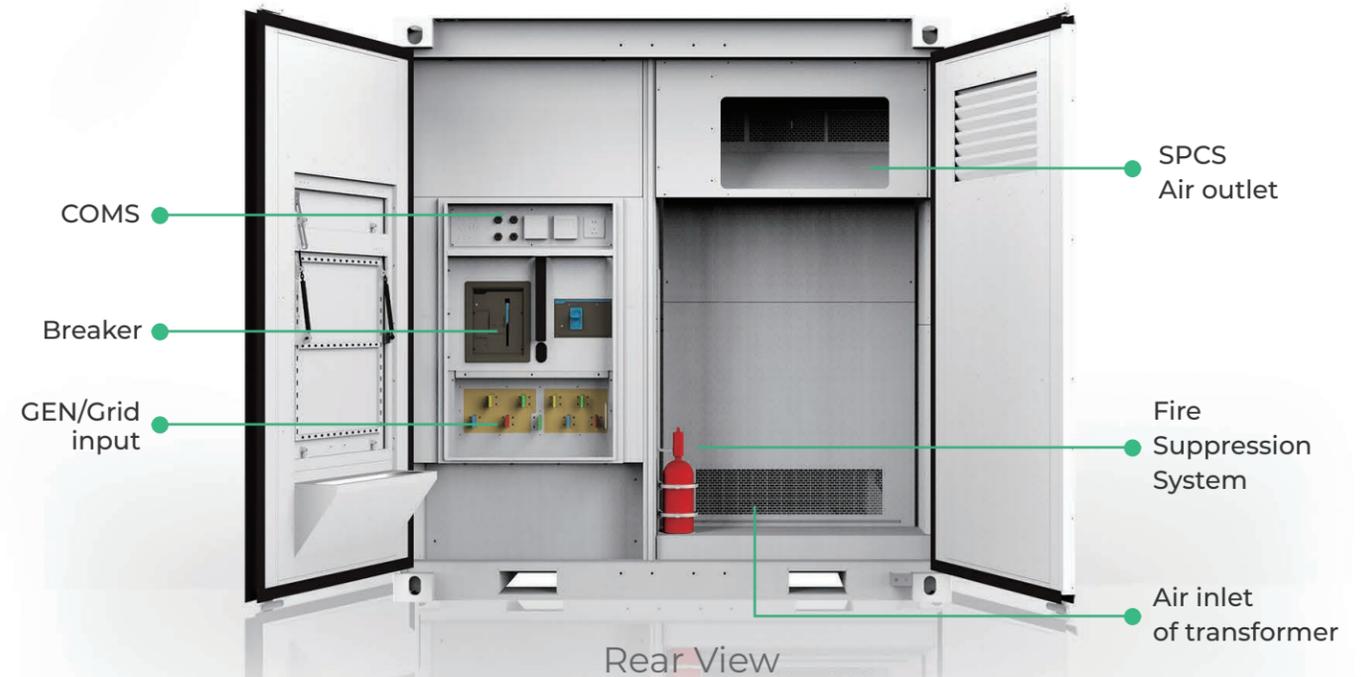
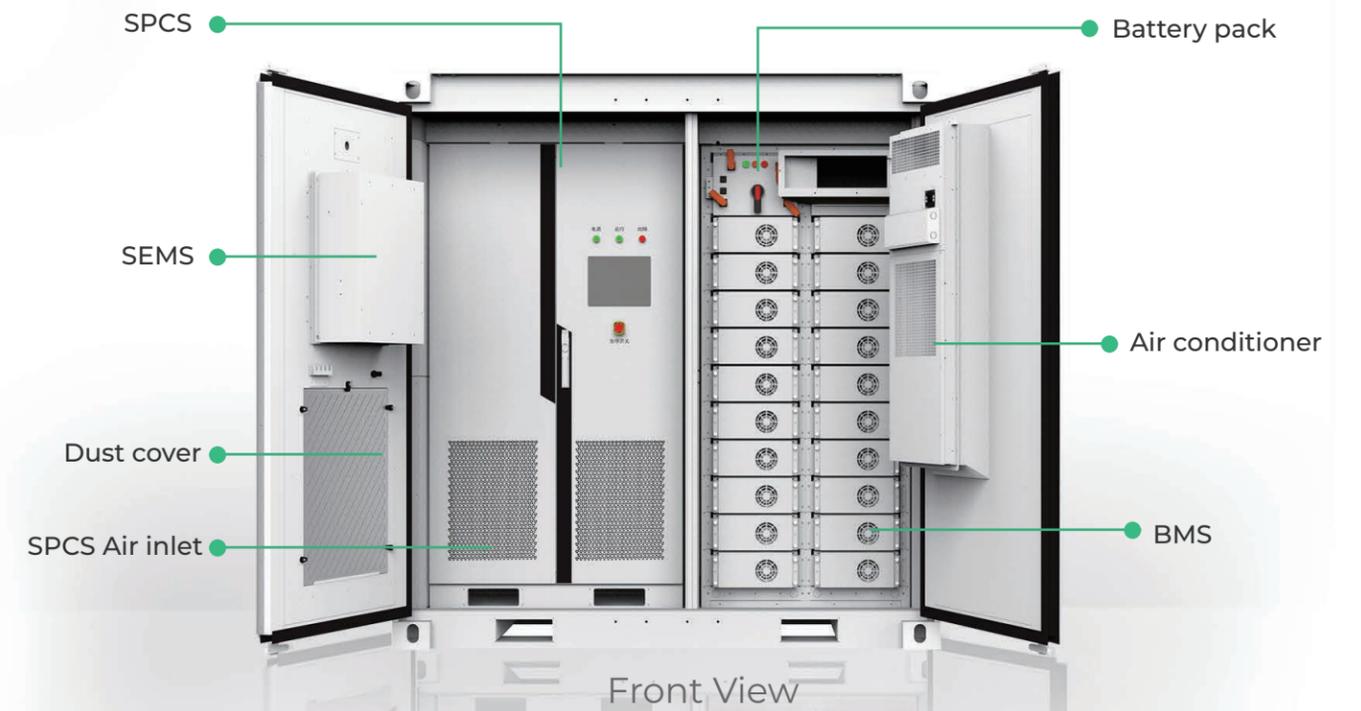
Supports up to 4 sets of units working in parallel, with the energy capacity reaching 1 MW/ 614.4 kWh, for high loads.

ROYPOW X250KT

System Topology

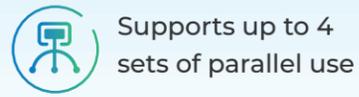


System Composition of ROYPOW X250KT



Special Power Conversion System (SPCS)

The SPCS controls the charge/discharge process of the battery pack. It can not only connect to the grid to achieve AC/DC conversion but also operate independently off the grid to directly supply power to AC load.



Supports up to 4 sets of parallel use



Equipped with multiple fault protection mechanisms



Works with the diesel generator to power the loads

LiFePO₄ Battery Energy Storage System (BESS)

Equipped with advanced LiFePO₄ BESS - safer, more stable, and more eco-friendly than other lithium chemistries, the ROYPOW X250KT system ensures quality power and energy reliability for worksites.



High-Power & High-Efficiency Output



Built-in Battery Management System (BMS) for Intelligent Control and Protections



Long Cycle Life & Design Life



5 Years Warranty

Smart Energy Management System (SEMS)

The SEMS coordinates the battery pack, SPCS, BMS, and others into a complete system, responsible for data acquisition, monitoring and analysis, and energy scheduling for efficient energy usage.



Integrated Energy Scheduling Algorithms



High Compatibility & Flexibility



Improved System Reliability & Efficiency



Intuitive Monitoring & Friendly Remote Control via Web and APP



Application Scenarios of ROYPOW X250KT

Temporary electricity usage



Emergency power supply



Micro-grid power supply



ROYPOW X250KT System



 10,361.72 lbs
(4,700 kg)

Technical Specifications

Model	X250KT-U/A	X250KT-E/A
AC Output Data (On-grid Mode)		
Rated Power	150 kW	150 kW
Max. Rated / Apparent Power	250 kW / 280 kVA ^[1]	250 kW / 280 kVA ^[1]
Rated Voltage	480 V (±15%)	400 V (±15%)
Rated Current	183 A	220 A
Grid Frequency	60 Hz	50 Hz
AC Connection	3 W + N	3 W + N
THDI	≤ 3%	≤ 3%
Power Factor	-1 ~ +1	-1 ~ +1
AC Output Data (Off-grid Mode)		
Rated Power	250 kW	250 kW
Max. Rated / Apparent Power	250 kW / 250 kVA ^[1]	250 kW / 250 kVA ^[1]
Rated Voltage / Frequency	480 V / 60 Hz	400 V / 50 Hz
THDV (Linear Load)	≤3%	≤3%
Battery Data		
Battery Chemistry	LiFePO ₄	LiFePO ₄
Nominal Energy	153.6 kWh	153.6 kWh
Working Voltage Range	600V ~ 876V	600 V ~ 876 V
Nominal Charging Current	100 A	100 A
Nominal Discharging Current	200 A	200 A
Max. Discharging Current	300 A	300 A
DOD	90%	90%
Compatible Diesel Generator		
Rated Power	≤400 kVA	≤400 kVA
Rated Voltage	480 V	400 V
Rated Frequency	60 Hz	50 Hz
General		
Parallel Capable	Yes (Up to 4)	Yes (Up to 4)
EMS	SEMS3000 12 inch LCD Touch Panel	SEMS3000 12 inch LCD Touch Panel
Ingress Rating	NEMA 3R	IP54
Topology	Transformer	Transformer
Working Temperature	-4 ~ 131°F (-20 ~ 55°C)	-4 ~ 122°F (-20 ~ 50°C)
Storage Temperature	-40 ~ 149°F (-40 ~ 65°C)	-40 ~ 149°F (-40 ~ 65°C)
Relative Humidity	5 ~ 95% (No condensing)	5 ~ 95% (No condensing)
System Noise	<65 dB	<65dB
Cooling	Intelligent temperature control (Battery room) Air cooling (Inverter room)	Air cooling (Inverter room)
Fire Suppression System	Included	Included
Altitude	5,000 (>3,000 derating)	5,000 (>3,000 derating)
Certifications	UL1973 / UL1741 / UL9540A / FCC Part 15 Class B / UN38.3	CE / UN38.3
Dimensions, LxWxH	90.55 x 68.90 x 94.49 inch (2,300 x 1,750 x 2,400 mm)	
Weight	10,361.72 lbs (4,700 kg)	

[1] Depends on the output power of the battery system.

All pictures shown are for reference only and data are based on ROYPOW standard test procedures. Actual performance may vary according to local conditions. Only authorized personnel are allowed to operate or make adjustments to the batteries. We reserve the right to make revisions as well as product alterations and improvements at any time without prior notice.

ROYPOW, Your Trusted Partner

For One-stop Energy Solutions

ROYPOW TECHNOLOGY is dedicated to the R&D, manufacturing and sales of motive power systems and energy storage systems as one-stop solutions.

With more than 20 years of combined experience in manufacturing renewable energy and battery systems, ROYPOW provides Lithium-ion Batteries covering most daily living and working fields: for Low-Speed Vehicles such as golf carts, personnel carriers; Industrial Batteries for use in Material Handling Equipment such as forklifts, aerial work platforms and floor cleaning machines as well as renewable Energy Storage Systems for residential, commercial, industrial, vehicle-mounted and marine applications.

ROYPOW has established a worldwide network to serve customers with a manufacturing center in China and subsidiaries in the USA, the UK, Germany, the Netherlands, South Africa, Australia, Japan and Korea to date. ROYPOW owns and operates fully automatic production lines, a full range of test equipment and an advanced MES that collectively address all aspects of its manufacturing process, from electronics, software design to module assembly, battery assembly as well as initial and final testing. ROYPOW focuses on the self-development of power electronics technologies, including PCS, BMS, and EMS as the core competence.

As a renewable energy innovator, ROYPOW is committed to the mission of achieving energy sustainability while creating a better life for human beings.



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.

- All-round testing.
- Integrated design.
- Advanced MES system.
- IATF 16949 automotive quality management system certification
- QC system.
- Persistent technology innovation.
- Fully automatic production line.
- ISO12405-2 vibration performance and safety testing of automotive lithium batteries

Global Sales and Service Network System

- 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** including golf carts and sightseeing cars;
- ✓ **Industrial Batteries** including forklifts, aerial work platforms, floor cleaning machines and electric excavators;
- ✓ **Vehicle-Mounted Energy Storage Systems & Batteries** Including RV and truck energy storage and air conditioning systems, off-grid solar systems for RV, as well as power batteries for electric motorcycles and airport ground support equipment;
- ✓ **Residential Energy Storage Systems & Portable Power Units** including home storage and portable energy storage products, as well as off-grid energy storage (for forest cabin, island homes without electricity, etc.);
- ✓ **Chargers** for forklifts, aerial work platforms, floor cleaning machines, golf carts and various marine batteries.
- ✓ **Marine Energy Storage Systems & Batteries** including trolling motors, fish finders, other off-grid energy storage systems for marine, and marine power systems;
- ✓ **Commercial & Industrial Energy Storage Systems** including diesel generator power micro-grid energy storage systems (for tower cranes, air compressors, mixers, crushers, etc);
- ✓ **Battery Systems for Port Equipment** including Reach Stackers, Empty Container Handlers, Carriers, Cranes, Terminal Tractors, and other electric equipment.

