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ROYPOW

CE RoHS

ROYPOW All-Electric Truck APU direct email: **truckESS@roypow.com**

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 69 89 55555
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

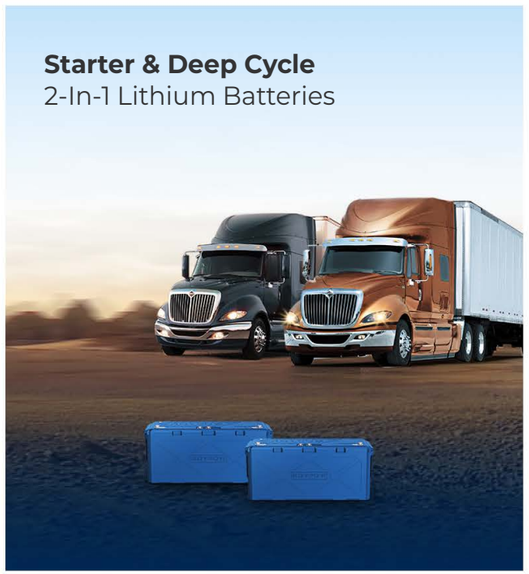
Tel: +81 090 7092 6969
Email: info@roypow.co.jp
Web: www.roypow.co.jp
Add: 〒271-0094 千葉県松戸市上矢切299- 7

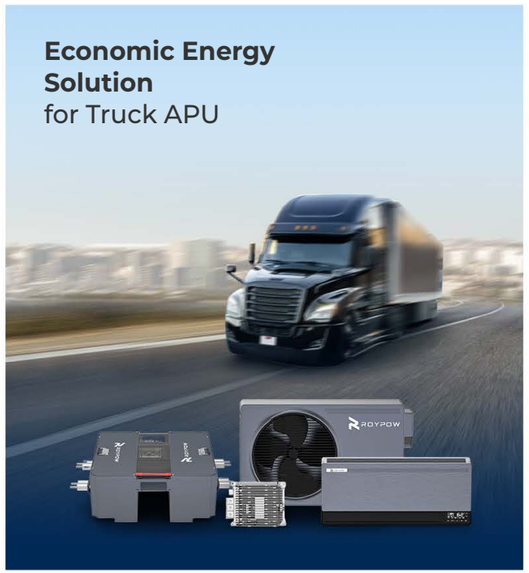
ROYPOW Technology Co., Ltd (Korea)

Tel: 1555-2016
Email: sales.kr@roypow.com
Add: 2405, GIDC Gwangmyeong station A Dong, 43 Iljik-ro, Gwangmyeong-si, Gyeonggi-do, Korea

Total Energy Solutions for Trucks and Specialty Vehicles

ROYPOW





Li-ion

sales@roypow.com
www.roypow.com

Scan it!

ROYPOW,
Your Trusted Partner

Contents

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

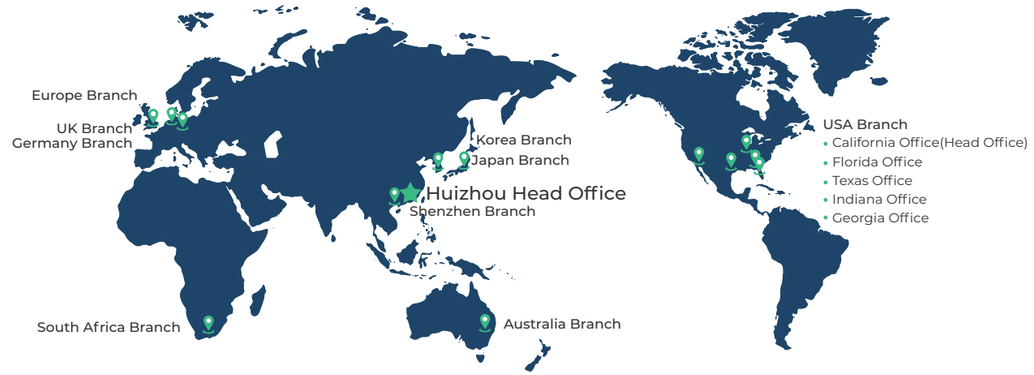
As a result of these investments, ROYPOW is capable of “end-to-end” integrated delivery, making our products out-perform the industry norms.

- 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

1 Starter & Deep Cycle 2-In-1 Lithium Batteries

Starter & Deep Cycle
2-In-1 Lithium Batteries

1 ROYPOW Battery Reaplce **4** Lead Acid

12V **314** Ah

350% Power ✱

1500 Amps CCA

2-4X Overall Service Life ✱

>3,500 Times Cycle Life

70% Lighter Weight ✱

-40°F Working Environment

✱ Compared to lead-acid and AGM batteries

Dual-Purpose Powerhouse

- Deliver high instantaneous cranking current for engine starts
- Support cabin power loads while parked to eliminate idling

Built Tough for the Heavy-Duty Trucking

- Vibration-resistant design withstands driving on bumpy roads
- Advanced cell balancing technology for cell consistency and extended battery lifespan

Extreme Weather Proof

- Stable performance across a wide temperature range from -40℃ to 60℃
- Built-in heating module automatically warms up the battery in extremely cold conditions

Effortless to Use

- Power-saving mode for long-time parking and easy to restart
- Designed for drop-in replacement of lead-acid batteries and easy installation

Designed for the Long Haul

- Fast charging minimizes downtime, making it ideal for high energy demands
- A single full charge provides uninterrupted power throughout the night

Intelligent Management

- Advanced BMS supports optimized performance and efficiency as well as software upgrades
- Bluetooth function enables remote battery status monitoring in real time on mobile

Technical Specifications

Model	SAT12314A
Nominal Voltage	12.8 V
Nominal Capacity	314 Ah
Stored Energy	4.02 kWh
Chemistry	$LiFePO_4$
Cycle Life	3,500 Times
Continuous Charge Current	100 A
Maximum Charge Current	150 A
Continuous Discharge Current	150 A
Cold Cranking Amps	1500 A

General Specifications

Battery Heating	Built-in Heater
Bluetooth	Support
Dimensions (L x W x H)	20.54 x 9.4 x 8.89 inch (521.8 x 238.8 x 225.8 mm)
Weight	66±4.4 lbs. (30±2 kg)
Working Temperature Range	-40°F ~ 140°F (-40°C ~ 60°C)
Terminal	M8 (Pure Copper)
IP Rating	IP67

Note: All data are based on ROYPOW standard test procedures. Actual performance may vary according to local conditions

2 **Premium Energy Soltuion for Truck APU**

New-generation All-Electric Truck APU Leader

Long Runtime & Fast Charging
No-idling. 14H+ runtime and 2H charging for continuous power.

Efficient Cooling
12,000 BTU / h Cooling Capacity; >15 Cooling EER

Emission-Free
Meet CARB and EPA SmartWay standard

Shore Power
Available option allows system to be plugged in where possible

Appropriate Temperature Control
Battery heating in low temperature environment

Maintenance-Free
Backed by 5 years warranty and 10 years battery life

Quieter Operation
≤35 dB noise level. No noise from generator or engine idling.

Compact Design
Lightweight at around 388 lbs

One-Stop Solution for
Truck Energy Saving and Energy Storage.

Enjoy Exceptional Value with **ROYPOW All-electric Truck APU**

ROYPOW all-electric truck APU can provide both DC and AC power to run sleeper cab hotel loads – including HVAC – without the need for auto-start or extended engine operation.

Traditional APU **VS** ROYPOW All-electric Truck APU

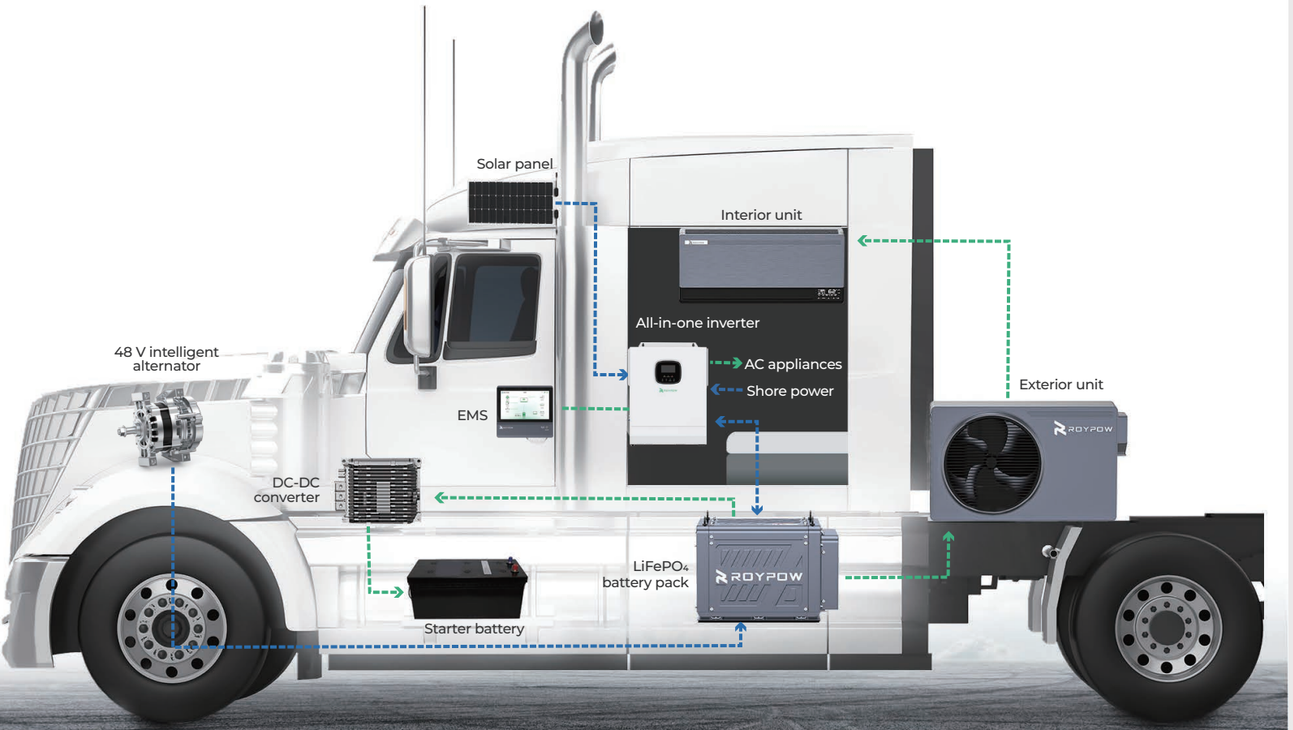
	ROYPOW All-electric Truck APU	Traditional APU
Noise	**≤35 dB**	>100 dB
Emission	**0 emission**	Severe fuel exhaust
Runtime	***>14 hours**	Continuous fuel consumption
Installation	**2 hours or so**	About 8~10 hours
Fuel/h	**0.085 gallon/h**	0.3 gallon/h
Charging time	**2 hrs or so fast charging**	>10 hours
Cooling capacity	**12000 BTU/h**	8000~13000 BTU/h
Cooling EER	**>15, leader of the market**	/
Weight	**388 lbs**	650~700 lbs
Payback period (2000hrs/year idling)	**11 months**	22 months
Maintenance	**0 maintenance**	Heavy maintenance: oil filter, fuel water separator, in-line fuel filter and air filter.

Note: *14 hours of runtime is achievable when running at a temperature of below 88°F/32°C.

ROYPOW

Complete
Electric Solutions

Designed to install quickly and easily. The system can be easily customized for different driving conditions and budgets.



Automotive-grade

Truck Energy Storage Packs Included

48 V Intelligent Alternator

48 V intelligent alternator's overall popularity is attributed to its high safety and efficiency, which offers the best life experience for truck drivers.

Up to **5kW** continuous generated output

Up to **85%** conversion efficiency

LiFePO₄ Battery

ROYPOW LiFePO₄ battery pack provides high power capacity for your truck to run appliances, such as microwave, HVAC system, and more without the need to idle or run the generator.

Up to **10** years battery life

0 maintenance

>6,000 life cycles

12,000 BTU HVAC

Designed for sleeper cabs, this HVAC with variable speed expels the heat out of the cab effectively and runs quietly, creating a cozy resting environment.

14 hours+ of runtime

12,000 BTU / h cooling capacity

As low as **35** dB noise

DC-DC Converter

Designed specifically for truck use, the DC - DC converter is vibration-tested to ensure it can withstand the rigid road conditions with high performances retained.

Automotive-grade

Max. efficiency at **95%**

Solar Panel (Optional)

ROYPOW solar panel is designed to provide long-lasting durability and performance in the extreme trucking conditions.

Foldable

Lightweight

Ultra-thin

All-in-one Inverter (Optional)

The all-in-one solar charge inverter is a combination of an inverter, a battery charger and an MPPT solar charge controller into one complete system to reduce component and simplify installation.

ALL IN ONE

Inverter

+

Battery Charger

+

MPPT Solar Charge Controller

3 **Economic Energy Solution for Truck APU**

LiFePO₄ Batteries

IP67 Ingress Rating

Works with Truck's DC12V Alternator

Easy Installation with Minimal Truck Modifications

Technical Specifications

Configuration	2P14S
Battery Type	LiFePO₄
Rated Capacity	130Ah
Rated Voltage	44.8V
Rated Energy	5.824kWh
Cooling Mode	Natural (Passive) Convection
Working Temperature	Charge: -4°F~131°F (-20°C~55°C), Discharge: -4°F~131°F (-20°C~55°C)
Ingress Protection	IP67
Dimension	34.25 x 29.13 x 14.57 inch (870 x 740 x 370mm)
Weight	Around 264.55 lbs. (around 120 kg)

Bidirection DC-DC Converter

High efficiency & reduced switching losses

Rugged design for mobile environments

Wide operating temperature range -40°F ~ 185°F (-40°C ~ 85°C)

Technical Specifications

Model	XDC2500-12
48 V Voltage range	24 V - 36 / 48 / 54 V - 57 V
12 V Voltage range	8 V - 8.5 / 14 / 15.5 V - 16 V
Max. Rated Power	Buck: 2.5 kW (178 A @14 V), Boost: 2 kW (41 A @48 V), Buck mode: The derating factor is 15.5 V - 16 V , 8.5 V-8 V corresponding to 100% - 0 load, Boost mode: The derating factor is 54 V - 57 V, 36 V-24 V corresponding to 100% - 0 load
Over-temperature protection range	248°F (120°C)
CAN communication	CAN communication
Precharge time	Once pre-charge instruction is received, the 48 V side busbar capacitor voltage is expanded from 12 V to rated 48 V set by the controller in 150 ms.
Working temperature range	1. At temperature below -40°F (-40℃), the output is turned off. 2. At temperature between 104°F - 140°F (40℃ - 60℃), full power output is reached. 3. At temperature between 140°F - 185°F (60℃ - 85℃), linear reduced output of 2,500 W - 0 W is provided. 4. At temperature above 185°F (85℃), output is turned off.
Ingress protection rating	IP67
Weight	< 6.6 lbs (3 kg)
Dimension	9.4 x 6.9 x 3.0 inch (238 x 175 x 75 mm)

Air Conditioner

Up to 9 Hours Running

12,000 BTU/h Cooling Capacity

>15 EER High Efficiency

As Low As 35 dB Noise

Air Purifying

Super Quiet

Intelligent Control

Eco-friendly Refrigerant

Technical Specifications

Model	XKF-12-FTT
Rated input voltage	DC 48 V
Inverter / Non-inverter	Inverter
Mode	Cooling / Heating
Refrigerating capacity	5,000 ~ 12,000 BTU / h (1,500 ~ 3,500 W)
Refrigerating power	300 ~ 830 W
Rated cooling capacity	12,000 BTU / h (3,520 W)
Rated cooling power	750 W
Energy efficiency ratio (EER)	15 BTU / w.h
Max. rated input current	25 A
Heating capacity	2,700 BTU / h (800 W)
Input power of heating	800 W
Air flow	≥294 CFM （≥500 m³/h ）
Temperature range	61°F - 86 °F (16℃ - 30℃)
Refrigerant	R410A
Outdoor unit waterproof level	IPX4
Indoor unit noise level	35 dB
Outdoor unit noise level	52 dB
Indoor unit dimension (L x W x H)	26.1 x 7.7 x 11.7 inch (663 x 197 x 296 mm)
Outdoor unit dimension (L x W x H)	35.5 x 9.4 x 20.4 inch (902 x 240 x 519 mm)
Indoor / outdoor unit weight	13.2 lbs (6.0 kg) 66.1 lbs (30.0 kg)

Note: All data are based on ROYPOW standard test procedures. Actual performance may vary according to local conditions.

4 **Energy Storage Solution for Specialty Vehicles**

Energy Storage Solution
for Specialty Vehicles

Designed to Fit
Provide customized solution to fit different specialty vehicle types and size build

Reduced Energy Costs
Reduce engine idling to run the air conditioner and other loads, which save much on fuel consumption cost

Go Greener and Cleaner
Reduce gas emissions and pollution and enhance sustainability by integrating renewable solar power

DIY off-grid system included

LiFePO₄ Batteries
ROYPOW LiFePO₄ battery pack provides a high power capacity for the off-grid system to run appliances such as the microwave, HVAC system, and more without the need to run the generator.

Capacity: **5.1** kWh / Pack

10 Years Battery Life

Inverter / Charger
ROYPOW charger inverter offers a dependable solution for converting solar energy into usable power, optimizing energy consumption, and enhancing system performance, while ensuring smooth operation for your vehicle.

5kW / **6.5**kW / **8**kW/ **10**kW / **12**kW ... Options

Grid & PV & Generator
Battery Charger

Single-phase, Split-phase, Three-phase

Rooftop Air Conditioner
Designed for the off-grid system, this HVAC with variable speed expels the heat out of the cabin effectively and runs quietly, creating a cozy resting environment.

15,000 BTU / h
Cooling Capacity

15,000 BTU / h
Heating Capacity

As Low As
50 dB Noise

Variable-speed

Solar Panel
Maximize your savings and enjoy the peace of mind that comes with the solar panel's top durability, reliability and efficiency. Ideally suited for the outdoors!

100W, **20**V Per Piece

Support
Series Connection

Capacity Can Be Combined by
Scenario Demand

Energy Management System
It collects, manages and coordinates equipment in the region, ensuring the safe, stable, and efficient operation of the system.

Energy Allocation Management

Connection via **Wi-Fi Hotspot**

Remote Control

PDU (Power Distribution Unit)
Its main function is to distribute electrical currents to different power supply equipment, and maintain the proper operation of electrical devices.

Maximum Bus Power **17.9** kW / pcs

Maximum Bus Current **350** A

IP65

Parallel Working for Higher Power