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Version: September 23, 2026, Jobsite Energy Storage Systems

ROYPOW

Jobsite ESS: A Complete Family of Mobile Energy Storage Systems

From **15kW / 32kWh** through **500kW / 474kWh**



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ROYPOW Jobsite ESS Solutions

Committed to providing cutting-edge energy storage solutions to the world, ROYPOW has developed safe, efficient, and economical jobsite energy storage systems for the growing demands, helping to optimize the energy structure, enhance the reliability of the power system, reduce the cost of energy use, etc.



The solutions include:



PowerBoost Series

High Power Inductive Load Mobile Energy Storage System

Designed to replace conventional diesel generators by turning sharp peaks into stable loads—efficient, emission-free, quick to deploy, and future-ready, making energy management smarter and greener. With a strong load capacity, the system handles high current peaks during crane start-up and lifting operations for smooth performance. Supports energy monitoring via the EMS display and mobile app for power reliability. Ideal for construction sites, it powers cranes, hoists, placing booms, static pile drivers, and other inductive loads with strong performance and safety.



PowerFusion Series

Modular DG Hybrid Mobile Energy Storage System

Designed to work with the diesel generators and make them more efficient and energy-saving. It can powerfully save much fuel consumption, eliminate the need for larger-sized diesel gensets, and reduce the genset maintenance frequency, significantly saving your total cost of ownership of up to 50%. Suitable for construction sites, remote areas, events and emergencies, rental services, etc.



PowerGo Series

Modular Scalable Mobile Energy Storage System

Integrated with powerful technologies and functions into a compact, rugged cabinet for off-grid, small- and medium-sized energy support scenarios. Can be placed on a trailer to enable mobile efficiency and flexible deployment for rapid power supply anywhere. Helps reduce carbon and noise emissions, promoting a greener environment. The power and capacity can be customized to fit specific demands. Suitable for agriculture & ranches, emergencies, construction sites, rental applications, etc.



PowerRescue Series

DC Fast Charger Mobile Energy Storage System

Traditional solutions for low-speed vehicles and industrial equipment face multiple limitations: short runtime causing frequent downtime, fixed charging systems that are slow, costly, and often require site modifications or grid upgrades, space constraints in complex environments, and concerns over battery lifespan that can lead to excess idle assets. ROYPOW solves these challenges with on-demand fast charging and mobile power solutions that work in complex locations without large-scale infrastructure or grid upgrades. Mobile rental options further lower initial investment and ease range concerns.

High Power Inductive Load
Mobile Energy Storage System

135kVA/54kWh | 270kVA/108kWh

Designed for enhanced
tower crane operation efficiency



ROYPOW PowerBoost Series Advantages

Designed for Heavy Inductive Loads

- Powers one or more machines independently without support from the grid or DG.
- Seamlessly replaces both DG and mains grid, with stable output for peak demands.

Cost-Saving & Flexible Power Source

- Off-grid operation requires only a small DG to recharge the ESS, reducing costs and emissions.
- Supports flexible charging: 20-40kW three-phase or 6.6 kW single-phase.
- Cuts genset rental and fuel use; avoids expensive upgrades or expansions.

Clean, Quiet, Compact & Easy-to-Deploy

- Zero emissions & silent: ideal for noise-sensitive or eco-regulated areas; supports green building and ESG goals.
- Saves up to 70% of space and weight compared to traditional gensets, easy to transport and relocate.
- Plug & play: no modifications to cranes or hoists; simplified maintenance with fewer risks.

Power Challenges on Construction Sites

Mismatched Power Supply

- Grid access is often limited and costly to expand, while heavy machinery like tower cranes and hoists generate high and fluctuating demand, particularly during peak hours, resulting in instability, voltage drops, and the need for oversized backup systems.

Inefficient Power Sources

- Diesel generators are widely used in construction operations but are highly inefficient under partial or fluctuating loads, leading to excessive fuel consumption, higher maintenance costs, and shortened lifespan.

Environmental Impact

- Noise and emissions affect the worksite and surroundings. Growing pressure to reduce carbon footprint and meet regulations.

Lack of Energy Management

- No buffering of peak loads or intelligent control. Difficult to optimize power use or integrate renewables.

PowerBoost Series

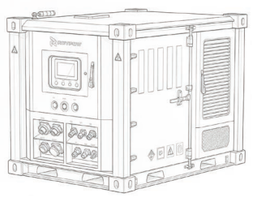
High Power Inductive Load
Mobile Energy Storage System

135kVA / 54kWh | 270kVA / 108kWh



Input 5-63A

Grid or Generator



PowerBoost Series

Output 385A

Applications

Tower Cranes
Hoists
Placing Booms
Static Pile Drivers
DTH Drills
Mine Elevators
Remote Monitoring & Software Updates
Managed by Software

Safe, Stable, Efficient

The third-gen SiC inverter delivers <15 ms response and constant power, current, and voltage control, with Black Start for reliable energy.

Up to 385A Output

Powerful performance for demanding applications, with high peak output for surge loads. Independent three-phase and single-phase charging modules enable flexible charging and simultaneous charge/discharge.

Dual-Side Liquid Cooling

Advanced variable-frequency liquid cooling keeps the temperature difference within 3°C and extends cell lifespan by up to 30%.

Fast Deployment & Intelligent Management

Supports plug-and-play installation with simplified maintenance on-site. Smart monitoring and control optimize performance and operational reliability.

Enhance On-Site Safety

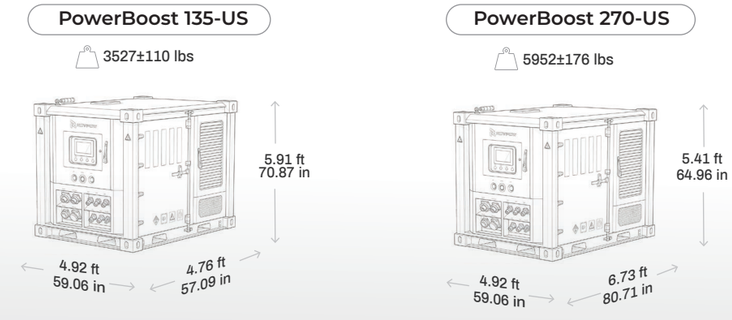
Reduces reliance on diesel power and lowers the diesel fire risks. Built-in multi-level protections for personnel and equipment safety.

Minimized Carbon Footprint

Achieves lower emissions, advancing sustainable operations to support ESG goals.

Dimensions and Weight

Dimensions and weight are for reference only. Please refer to the actual product.



Technical specifications

Product model	PowerBoost 135-US	PowerBoost 270-US
Battery Parameters		
Rated Energy	54kWh	108kWh
Rated voltage	832V	
Voltage range	728~949V	
Cycles	4000 (90%DOD & 70%EOL)	
AC Input Charging Parameters		
Single-phase input power	6.6kW(Optional)	
Single-phase input voltage range	85 - 264V	
Single-phase input current	Max. 32 A	
Three-phase input power	Max. 40kW	
Three-phase input voltage range	260 - 530V (3Phase 3wire)	
Three-phase input current	Max. 63A	
Frequency	50Hz/60Hz	
AC Output Parameters		
Rated output power	135kVA	270kVA
Max. Output Power(5min)	145kVA	290kVA
Peak power(5s)	160kVA	320kVA
Rated output current	162.5 A@480V	325 A@480V
Max. output power(5min)	175 A@480V	350 A@480V
Max. Peak current(5s)	192 A@480V	385 A@480V
Rated output voltage	480V，3L/N/PE	
Frequency	50/60Hz	
THDV	≤3%	
General parameters		
Input Interface	NEMA SS2-50P（2P4W)& IEC 63A (3P4W)	NEMA SS2-50P (2P4W) & IEC 63A (3P4W)
Output Interface	IEC 63A (3P4W) & 400A Series Camlock 5 Wire	IEC 63A (3P4W) & 400A Series Camlock 5 Wire
Display	10in	
Communication method	Dry contact/Bluetooth/Wi-Fi/4G	
Warranty	5 years	
Enclosure corrosion classificaition	C4	
Enclosure rating	IP54	
Cooling method	Liquid cooling + air cooling	
Operating temperature	-20~60°C[1]	
Relative humidity	10%~95%, No condensation.	
Altitude	<4000m[2]	
Packaging, Transportation, and Installation		
Packaging	Complete machine wooden box packaging	
Transportation	Sea transport, land transport	
Installation Method	Hoisting and ground fastening	

Note: [1] [2] The system automatically adapts its output based on the actual operating environment and working conditions.
All data are based on ROYPOW standard test procedures, actual performance may vary according to local conditions.

Modular Scalable Mobile Energy Storage System

15kW / 32kWh | 15kW / 33kWh

Ideal for microgrids, load shifting, renewable energy consumption, energy buffers, off-grid power supply, backup power applications, etc.

Easy to Deploy, Simple to Operate & Maintain

Plug-and-play installation with minimal on-site maintenance. Remote monitoring and control for optimized performance and reliability.

Reduce OPEX and Carbon Footprint

Reduces diesel fuel consumption and maintenance costs while simultaneously lowering Scope 1 Emissions.

Improved Reliability

Eliminates downtime from generator breakdowns and maintenance, and protects sensitive drives from poor power variations in voltage from the grid.

Automatic Charging Control

Automatic charge control from grid, solar PV, or diesel generator. Diesel generator will auto start/stop for maximum efficiency with zero manual control required.

Enhanced Safety and Redundancy

Reduces risk from diesel fires and spills, noise, and noxious fumes, while providing power redundancy to complete critical evolutions in the event of generator breakdowns or grid power outage.

Compact & Lightweight Scalable Modular Configuration

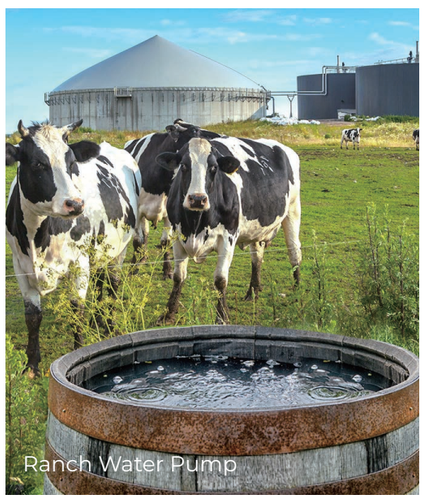
Compact size and lightweight with ability to scale by paralleling up to 6 units for more power and energy in an easy to deploy modular system.



ROYPOW
Mobile Hybrid ESS Solution

For small-scale C&I energy applications, ROYPOW's mobile hybrid ESS is the ideal choice, offering a compact, flexible, and cost-effective energy storage solution to meet the demands of power backup, peak shaving, and seamless integration with renewable energy sources. Businesses can optimize energy usage, lower costs, enhance sustainability, etc.


Construction


Ranch Water Pump


Emergency Power


Farm Irrigation



VS







ROYPOW Solution

- Compact, integrated design for easy installation and transportation
- Easy parallel connection for specific project needs
- Connect to DG and solar panels
- Built tough to withstand harsh working conditions
- Intelligent management

Diesel Generator Solution

- High fuel consumption and costs
- Remote monitoring not allowed for most DGs
- Frequent maintenance and oil changes required
- Air pollution and excessive noise

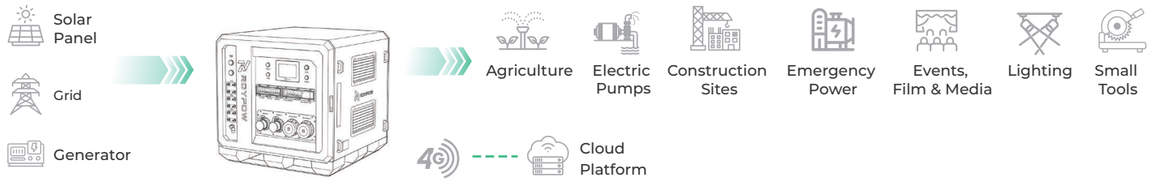
Standard C&I Energy Solution

- Bulky size and heavy weight. Difficult to carry Suitable for use in fixed locations
- Cannot be moved frequently
- Poor vibration resistance
- High initial purchase cost
- Require professional personnel for operation

Portable Power Solution

- Small battery capacity & short battery life
- Low power, not suitable for mechanical equipment
- Not support 3-phase 380V output, generator charging, or remote monitoring
- Poor overload capacity
- Interface not waterproof

System Topology

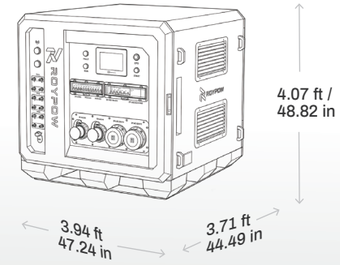


System Composition



Dimensions and Weight

Dimensions and weight are for reference only. Please refer to the actual product.



1653.46 lbs

Specifications

Product Model	PC15KS-U	PC15KT-US
AC Output		
Continuous Power	15kW	
Motor Starting Power	18kW@5min	
Burst Power	22.5kW@10s	
Continuous Current	62.5A	41.6A
Motor Starting Current	75A@5min	50A
Burst Power Current	94A@10s	62.5A
Rated Voltage	120V/240V (L1+N+L2)	208V/220V (3W+N+PE)
Rated Frequency	60Hz	
THDI	3%	
AC Output Interface	CEE / Camlock / NEMA optional	
AC Input		
Max. Power	20kVA	
Voltage / Current	240V (Split Phase) / 83.3A	220V or 208V/41.6A
THDI	3%	
Single Phase Charge	120V/32A	120V / 127V, 32A
AC Input Interface	CEE / Camlock / NEMA optional	
Battery		
Nominal Energy	32kWh	33kWh
Chemistry	LFP	
Warranty	4000 Cycles / 5 Years	
PV Input		
Max. Power	24kW	30kW
Max. Input Current per MPPT	27A per MPPT	30A per MPPT
MPPT Voltage Range	120~550V (225-550V, Full load)	160 ~ 950V (340-800V, Full load)
Number of MPPT / Number of String per MPPT	4 / 1	3 / 2
General		
Enclosure Rating	IP54	
Parallel Capacity	2	6
Relative Humidity	0~95% Non Condensing	
Fire Suppression System	Hot Aerosol (Cell & Cabinet)	
Max. Efficiency	98% (PV to AC) 94.5% (BAT to AC)	
Isolation Method	Transformerless	
Working Temperature	-4~131°F	
Noise Emission (dB)	≤30	
Cooling	Natural Cooling	
Altitude (m)	4,000 (>2,000 Derating)	

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

3 PowerFusion Series

Modular DG Hybrid Mobile Energy Storage System

250kVA/153.6kWh | 500kVA/474.2 kWh

Makes diesel genset energy saving and efficient



Saving Total Cost of Ownership up to **50%**

Why PowerFusion Series?

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

ROYPOW Proposal



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



Hybrid Solution +

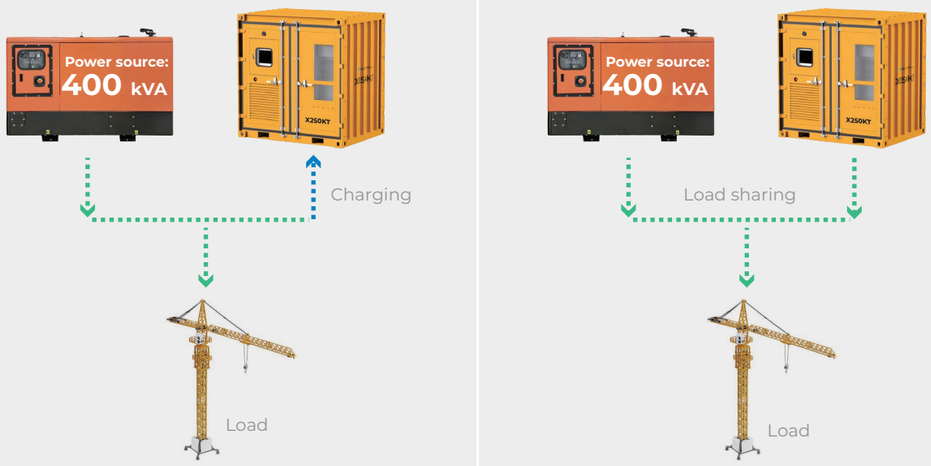


- Lower initial investment for a low-power DG
- Lower fuel consumption
- Support multiple DGs working in parallel
- Lower maintenance costs

Working modes

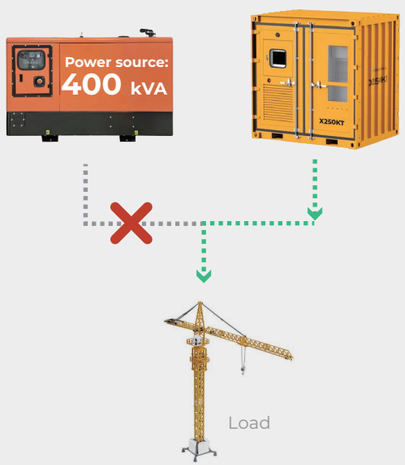
Diesel Hybrid Mode

Generator prioritizes load supply while charging the battery. The X250KT supports the generator during peak demand.



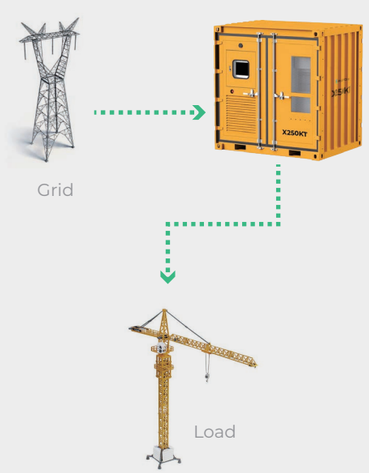
Island Mode

Battery powers the load independently.



Grid Mode

The grid charges the X250KT, and the X250KT supplies power to the load.



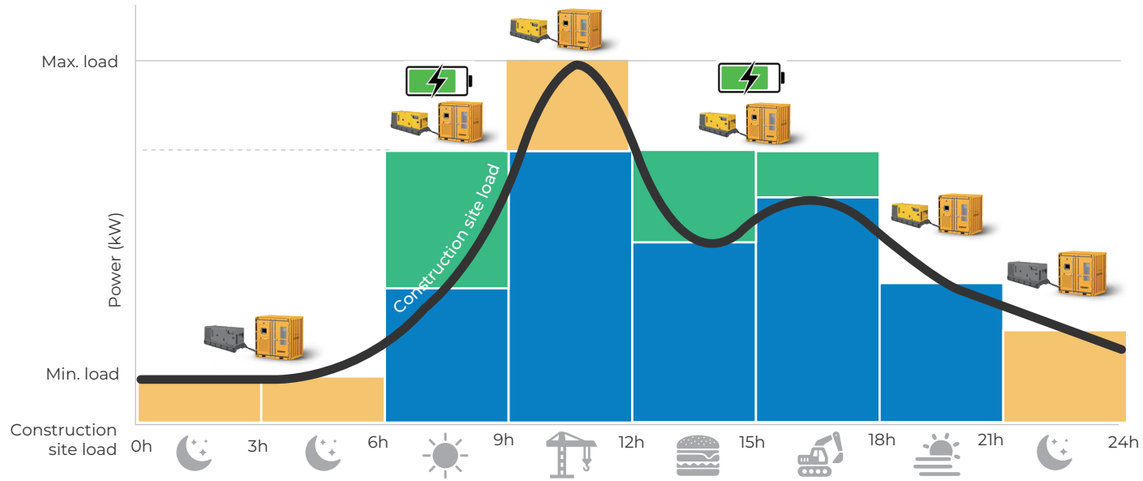
Hybrid Mode

In hybrid mode, the ESS successfully manages energy coming from different sources, including renewables (like solar), the power grid, and diesel generators. The ESS provides resilient and reliable energy on demand, helping operators lower their emissions, meet regulations, and cut costs.

Fuel Saving **Reduced Generator Runtime** **Lower Emissions**

24h at a construction site

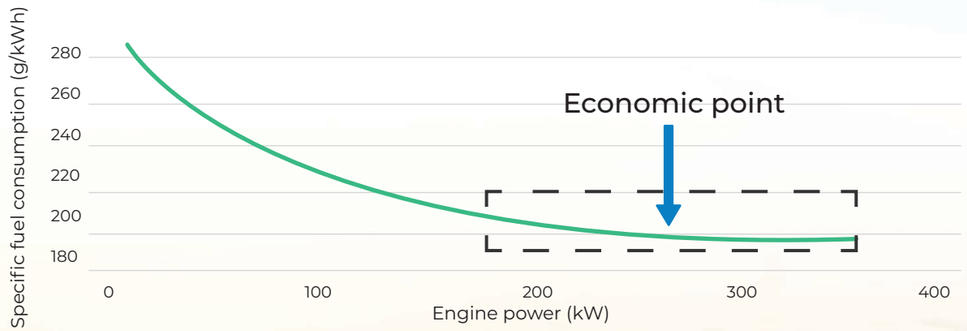
Generator to Load | Generator Charging ESS | ESS to Load



Modular DG Hybrid Mobile Energy Storage System

Saving Total Cost of Ownership up to 50%

ROYPOW hybrid ESS intelligently and efficiently manages the output power of the engine at 50% to 80% of the rated power of the diesel generator (DG) sets, ensuring that the DG operates at the lowest fuel consumption rate and helping achieve fuel consumption reduction. This also helps reduce the high motor startup currents and load impacts to the DG, extend the DG lifespan, reducing failure rates, and decrease maintenance frequency and costs, thereby lowering the total cost of ownership by up to 50%.



Relationship between engine power and fuel consumption

Advantages of ROYPOW Solution

Easy to Deploy, Simple to Operate & Maintain

Plug-and-play installation with minimal on-site maintenance. Remote monitoring and control for optimized performance and reliability.

Reduce OPEX and Carbon Footprint

Reduces diesel fuel consumption and maintenance costs while simultaneously lowering Scope 1 Emissions.

Improved Reliability

Eliminates downtime from generator breakdowns and maintenance, and protects sensitive drives from poor power variations in voltage from the grid.

Designed for Ruggedness and Durability

The robust, industrial-grade design ensures long-term reliability in harsh jobsite environments, minimizing unplanned downtime and maintenance.

Flexible Power for Diverse Jobsites

Easily integrates with solar, diesel generators, and grid power, and scales up to 8 units in parallel, to meet the energy needs of various jobsites.

Enhanced Safety and Redundancy

Reduces risk from diesel fires and spills, noise, and noxious fumes, while providing power redundancy to complete critical evolutions in the event of generator breakdowns or grid power outage.





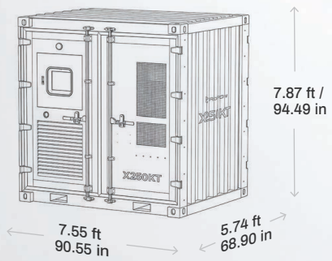
System Topology



Dimensions and Weight

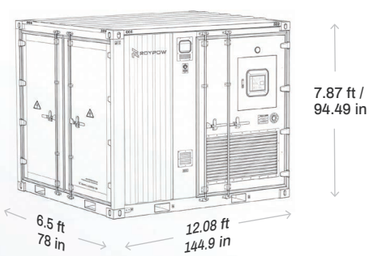
X250KT-U/A

11244 lbs



X500KT-U/A

19842 lbs



Specifications

Product model	X250KT-U/A	X500KT-U/A
AC Output Parameters		
Continuous Power	150 kW	500 kW
Motor Starting Power (210s)	250 kVA	550 kVA
Burst Power (210s)	250 kVA	550 kVA
Voltage	480 V, 3L / N / PE	480 V (±10%), 3L / N /PE
Frequency	60 Hz	60 Hz
Continuous Current	180 A	602 A
Motor Starting Current (210s)	270 A	602 A
Burst Current (210s)	270 A	602 A
THDi	≤ 3%	≤ 3%
PF	0.99 / -1~1	-1 ~ 1
Battery Parameters		
Energy	153.6 kWh	474.2 kWh
Cell Chemistry	LFP	LFP
Rated Charging Power/Current	150 kW / 200 A	230kW / 285A
AC Input		
Compatible Diesel Generator Power	Up to 450 kVA	Up to 800 kVA
Voltage	480 V	480 V
Frequency	60 Hz	60 Hz
Busbar Rating	800 A	1200 A
General Parameters		
Parallel Capacity	Up to 8	Up to 8
EMS	SEMS3000 12 inch LCD Touch Panel	SEMS3000 12 inch LCD Touch Panel
Ingress Rating	IP54	IP54
Isolation Method	Transfomer	Transformer
Working Temperature	-4~122°F	-4 ~ 122°F
Storage Temperature	-40~149°F	-40 ~ 149°F
Relative Humidity	5% ~ 95% (Non Condensing)	5%~95% (Non Condensing)
Noise Level	＜65 dB	<65dB
Cooling	Intelligent Temperature Control (Battery Room)	Liquid cooling
Altitude	2,000 m	2,000 m
Fire Suppression System	Included	Included
AC Input Interface	2 × 400A Camlock sets (5-wire)	2 × 400A Camlock sets (5-wire)
AC Output Interface	2 × 400A Camlock sets (5-wire)	2 × 400A Camlock sets (5-wire)
Communication Interface	RS485, Dry contact	RS485, Dry contact
Certifications		UN38.3

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

PowerRescue Series

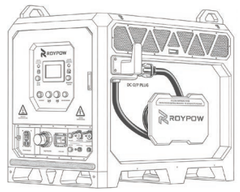
DC Fast Charger
Mobile Energy Storage System

200A Charging / 38kWh



Input **Max. 50A@ 200-500Vdc**

Charging Station or Grid or Generator



200A DC Charging

Vehicle Charging (24V, 36V, 48V, 72V, 76.8V, and max. 100V Low-Speed Vehicles & Construction Machinery)

Forklift · Aerial Work Platform · Excavator · Backup Power · Skid Steer Loaders

Remote Monitoring & Software Updates · Managed by Software

Mobile DC Fast Charging for 20V~100V Equipment

Delivers rapid and reliable power to a wide range of electric equipment with voltage requirements from 20V to 100V, reducing reliance on fixed charging infrastructure, minimizing downtime, and maximizing operational efficiency.

Reduce OPEX and Carbon Footprint

Reduces diesel fuel consumption and maintenance costs while simultaneously lowering Scope 1 Emissions.

Compact Size, Lightweight, and Flexibility Simplifies One-Site Charging

Quickly mobilize DC Fast Charging capacity to exactly where you need it, when you need it.

Designed for Ruggedness and Durability

The robust, industrial-grade design ensures long-term reliability in harsh jobsite environments, minimizing unplanned downtime and maintenance.

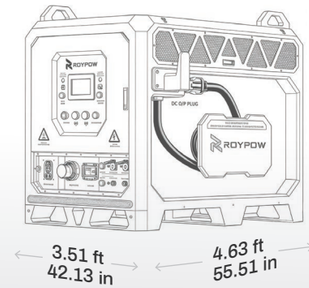
Intelligent Management

Supports communication via 4G, Bluetooth, WiFi, and dry contacts, enables remote management through APP and WEB, and allows OTA upgrades.

Comprehensive Safety by Design

Featuring BMS, thermal and insulation monitoring, over-voltage/over-current/short-circuit protection, fire detection, and door safety interlock. IP54-rated for outdoor environments.

Dimensions and Weight



LB 2094 lbs

Specifications

Model	MC100200-38-US		
DC Output Charging			
Power	20kW	Interface	REMA320 Plug
Voltage Range	20～100V	Cable Length	5m
Current	5~200A	BMS Communication Mode	CAN
Max. Efficiency	93%		
AC Output			
Nominal Power	1.6kVA	THDi	3%
Nominal Voltage	120V (Single Phase, L-N-PE)	Output Interface	NEMA 5-15R (2)
Output Current	13A		
DC Output			
DC Voltage	24V	Output Interface	2-Pin Micro Waterproof Aviation Connector
Output Current	20A		
Battery Capacity			
Energy	38kWh	Heating Function	Yes
Chemistry	LFP	Warranty	4,000 Cycles / 5 Years
Working Voltage	384V/300~438V		
DC Fast Charging			
Input Power	Max. 20kW	Charge Rated	0.5P
Input Voltage Range	200～500V	Input Interface	CCS 1
Input Current	Max. 50A	Communication Signals / Protocol	PLC / SAE J1772
AC Charging Pile			
Max. Input Power	3.5kW / 7kW	Charging time	≤11h (25°C, 0.1P, AC 120V)/≤6h (25°C, 0.2P, AC 240V)
Input Voltage	120V (L-N-PE) / 240V (L1-L2-PE)	Input interface	TYPE 1
Input Current	32A	Communication signals/ protocol	CP（PWM）/ SAE J1772
OBC Charging			
Max. Input Power	3.5kW/7kW	Input Current	32A
Input Voltage	120V (L-N-PE) / 240V (L1-L2-PE)	AC Input Interface	NEMA SS2-50P
Operating Temperature	-40°F~+185°F		
General Parameters			
Protection Mode	Charging Cable Temperature Detection, Overvoltage/Undervoltage Protection, Overload Protection, Over-temperature Protection, Surge Protection, Insulation Monitoring Protection, Emergency Stop Protection, etc.		
Display	Display Touch Screen 7-inch & LED Indicator (Y/G/R Indicator)	Operating Temperature	-4°F～+131°F
Button	SYSTEM-POWER/STOP INPUT/START/STOP OUTPUT/ EMG-STOP	Storage Temperature	-22°F ~ +140°F
Communication Method	4G/WIFI/Bluetooth	Relative Humidity	5%～95%, Non condensation
Cooling Method	Forced Air Cooling	Altitude	≤2000m
Enclosure Level	IP54	Noise Level	75dB
Fire Protection Function	Smoke Detection and Aerosols	Certification	UN 38.3, UL9540A, UL1973, IEC62619@Cells

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