Version: May 29, 2024 DG Mate Series - DG + ESS Solutions

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ROYPOW

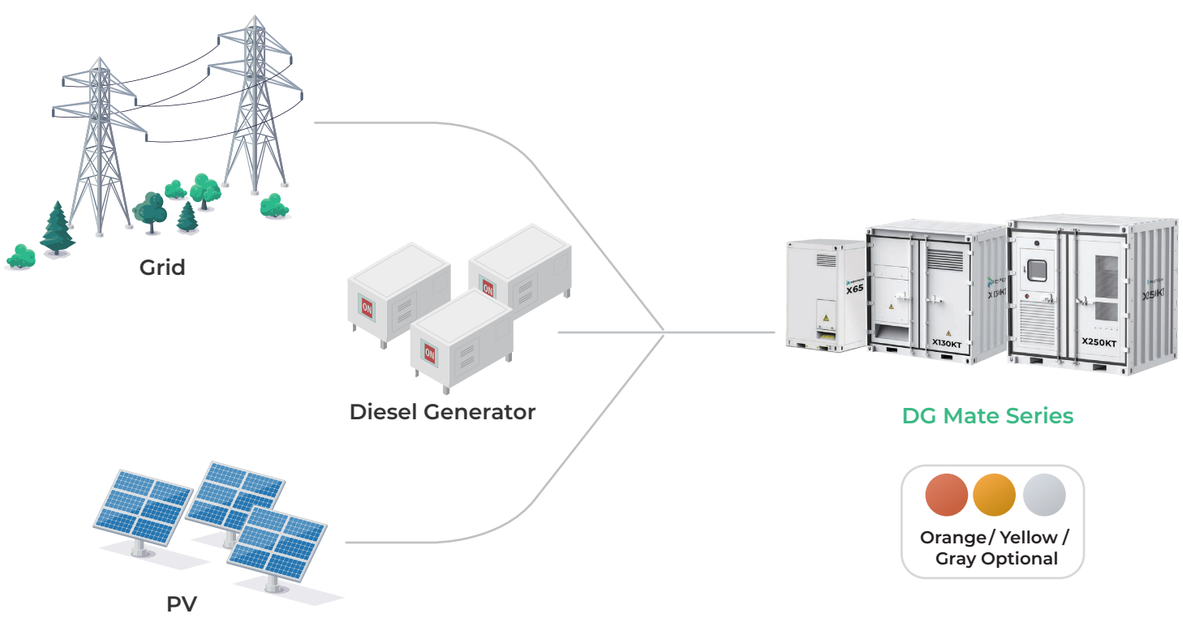
One-Stop C&I ESS Provider

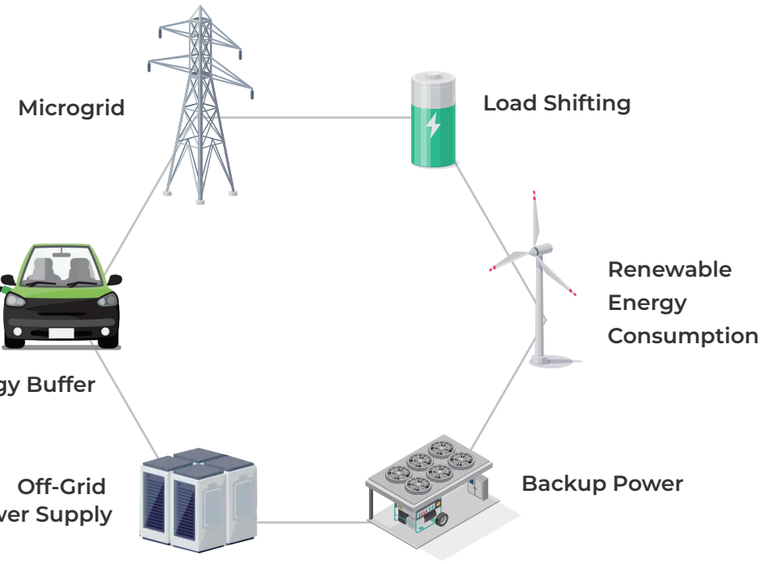
DG Mate Series
DG + ESS Solutions

Unlock Great Power
& Profit for Your Projects

DG Mater Series
DG + ESS Solutions

Designed to work with the diesel generators and make them more efficient and energy-saving. It can powerfully save more than 30% of fuel consumption, significantly saving your total cost of ownership for C&I energy applications.





Why ROYPOW DG Mate Series

DG + ESS Solutions

Makes Diesel Generator Set Energy Saving and Efficient

Saving
30%+ Fuel Consumption

Why DG Mate 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

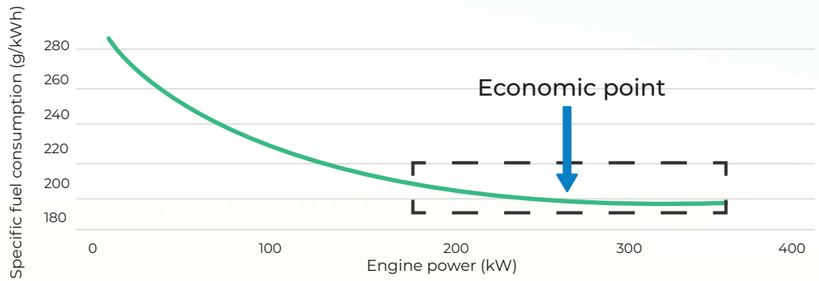
- Lower initial investment for a low-power DG
- Lower fuel consumption
- Support multiple DGs working in parallel
- Lower maintenance costs

X250KT

250 kW Output
Diesel Generator + Energy Storage System Solution

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.



Relationship between engine power and fuel consumption

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

Advantages of X250KT DG + ESS Solution

All-In-One
Integrated Battery + SEMS + SPCS

Hybrid Mode
Uninterrupted Power Supply

AC-Coupling
Connect to Diesel Generators, Grid, and PV

Up to 4 Sets in Parallel
Scalable Power and Capacity to Support Demanding Load

Load Sharing
Synchronize the Output Power with DG

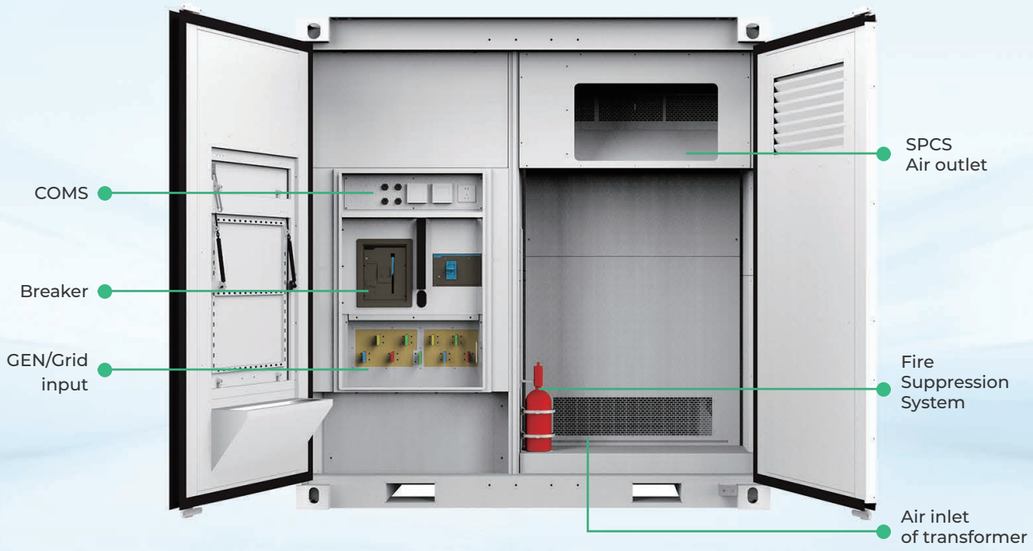
Intelligent Management
Remote Monitoring via App and Web

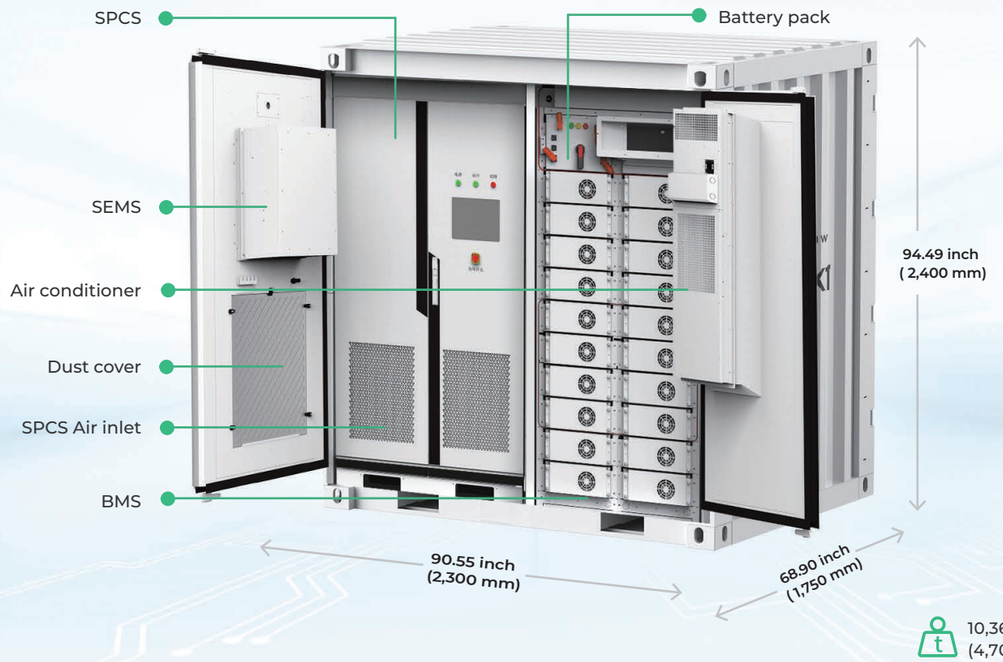
Rapid Deployment
Support Lifting and Forklift Transporation

Plug and Play
No Additional Complex Installation Required

Excellent Adaptability
Stable Performance in Harsh Environments

DG Mate Series X250KT





Technical Specifications

Orange/ Yellow / Gray Optional

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)	
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.

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DG Mate Series | X130KT

X130KT

130 kW Output
Diesel Generator + Energy Storage System Solution

All-In-One
Integrated Battery + SEMS + SPCS

Rapid Deployment
Support Lifting and Forklift Transporation

AC-Coupling
Connect to Diesel Generators, Grid, and PV

Up to 4 Sets in Parallel
Scalable Power and Capacity to Support Demanding Load

Plug and Play
No Additional Complex Installation Required

Intelligent Management
Remote Monitoring via App and Web

Saving
30%+
Fuel Consumption

Technical Specifications

Orange/ Yellow / Gray Optional

Model	X130KT-U/A	X130KT-E/A
AC Output Data (On-grid Mode)		
Rated Power	130 kW	130 kW
Apparent Power	145 kVA	145 kVA
Rated Voltage	480 V (±15%)	400 V
Rated Current	156 A	187 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 / Apparent Power	130 kW / 145 kVA	130 kW / 145 kVA
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	153.5 kWh optional	153.5 kWh optional
Nominal Charging Current	50 A	50 A
Nominal Discharging Current	100 A	100 A
Working Voltage Range	600 V ~ 876 V	600 V ~ 876 V
Max. Output Power	230 kW (180 Sec)	230 kW (180 Sec)
DOD	90%	90%
Compatible Diesel Generator		
Rated Power	≤300 kVA	≤300 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 ~ 55°C)
Storage Temperature	104 ~ 149°F (-40 ~ 65°C)	104 ~ 149°F (-40 ~ 65°C)
Relative Humidity	5 ~ 95% (No condensing)	5 ~ 95% (No condensing)
System Noise	<65 dB	<65 dB
Cooling	Intelligent temperature control (Battery 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, W x H x D	1,750 x 2,000 x 2,400 mm (68.89 x 78.74 x 94.48 inch)	
Weight	2,000 kg (4,409 lbs)	

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DG Mate Series | X65KT

X65KT

65 kW Output
Diesel Generator + Energy Storage System Solution

All-In-One
Integrated Battery + SEMS + SPCS

Rapid Deployment
Support Lifting and Forklift Transporation

AC-Coupling
Connect to Diesel Generators, Grid, and PV

Up to 4 Sets in Parallel
Scalable Power and Capacity to Support Demanding Load

Plug and Play
No Additional Complex Installation Required

Intelligent Management
Remote Monitoring via App and Web

2866.0 lbs
(1,300 kg)

Saving
30%+
Fuel Consumption

Technical Specifications

Orange/ Yellow / Gray Optional

Model	X65KT-U/A	X65KT-E/A
AC Output Data (On-grid Mode)		
Rated Power	65 kW	65 kW
Apparent Power	71.5 kVA	71.5 kVA
Rated Voltage	480 V (±15%)	400 V
Rated Current	79 A	95 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 / Apparent Power	65 kW / 71.5 kVA	65 kW / 71.5 kVA
Rated Voltage / Frequency	480V / 60Hz	400V / 50Hz
THDV (Linear Load)	≤3%	≤3%
Battery Data		
Battery Chemistry	$LiFePO_4$	$LiFePO_4$
Nominal Energy	76.8 kWh	76.8 kWh
Nominal Charging Current	50 A	50 A
Nominal Discharging Current	100 A	100 A
Working Voltage Range	600 V ~ 876 V	600 V ~ 876 V
Max. Output Power	65 kW	65 kW
DOD	90%	90%
Compatible Diesel Generator		
Rated Power	≤120 kVA	≤120 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 ~ 55°C)
Storage Temperature	104 ~ 149°F (-40 ~ 65°C)	104 ~ 149°F (-40 ~ 65°C)
Relative Humidity	5 ~ 95% (No condensing)	5 ~ 95% (No condensing)
System Noise	<65 dB	<65 dB
Cooling	Intelligent temperature control (Battery 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, W x H x D	45.27 x 78.74 x 49.21 inch (1150 x 2000 x 1250 mm)	
Weight	2,866 lbs (1,300 KG)	

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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 deliver y makeing 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;
- **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.
- **Industrial Batteries** including forklifts, aerial work platforms, floor cleaning machines and electric excavators;
- **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.