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One-Stop C&I ESS Provider

DG Mate Series DG + ESS Solutions

Unlock Great Power
& Profit for Your Projects



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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 m² Headquarters Floor Area
2,500 m² Testing Center
231 Patents

Quality Control Certificates:

- ✓ Environmental Management System: ISO 14001:2015
- ✓ Occupational Health and Safety Management System: ISO 45001:2018
- ✓ 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
 IEC 60730, ISO 13849-1
 IEC 62619
 EN 62477, EN 62040, (EU) 2023/1542, EN 62109-1, EN 62109-2

UL, EMC, FCC, IEC/EN 61000-6, BS EN IEC 61000-6
 IEEE 1547, Function Safety, IEC 60730, ISO 13849-1
 CB, Transport, UN 38.3
 CE, RoHS, 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.

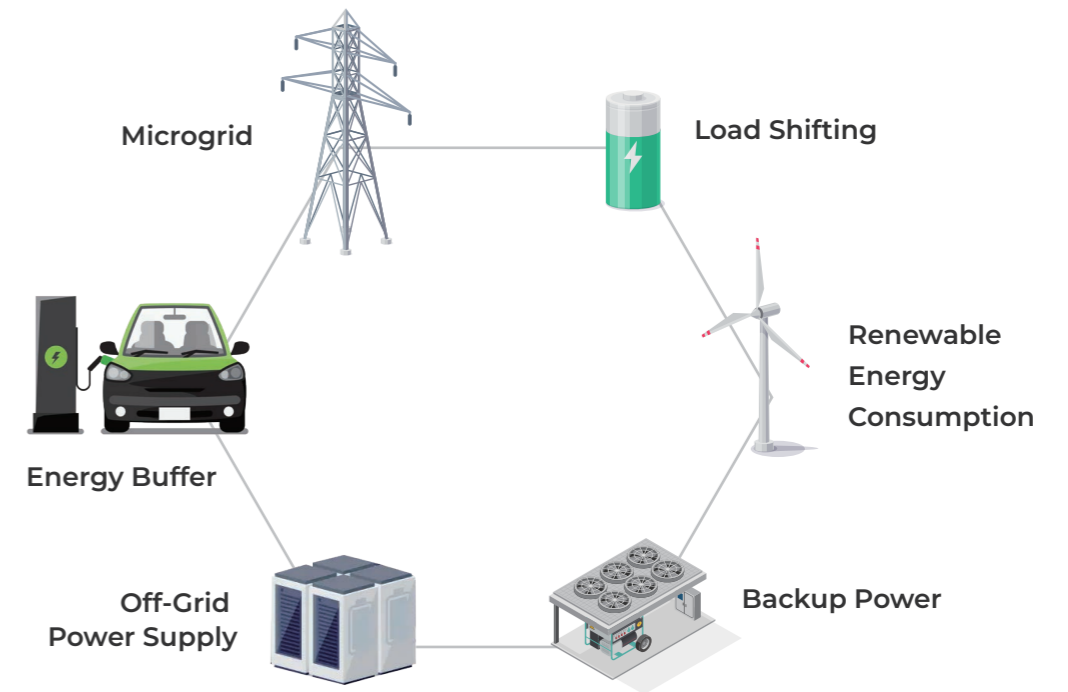
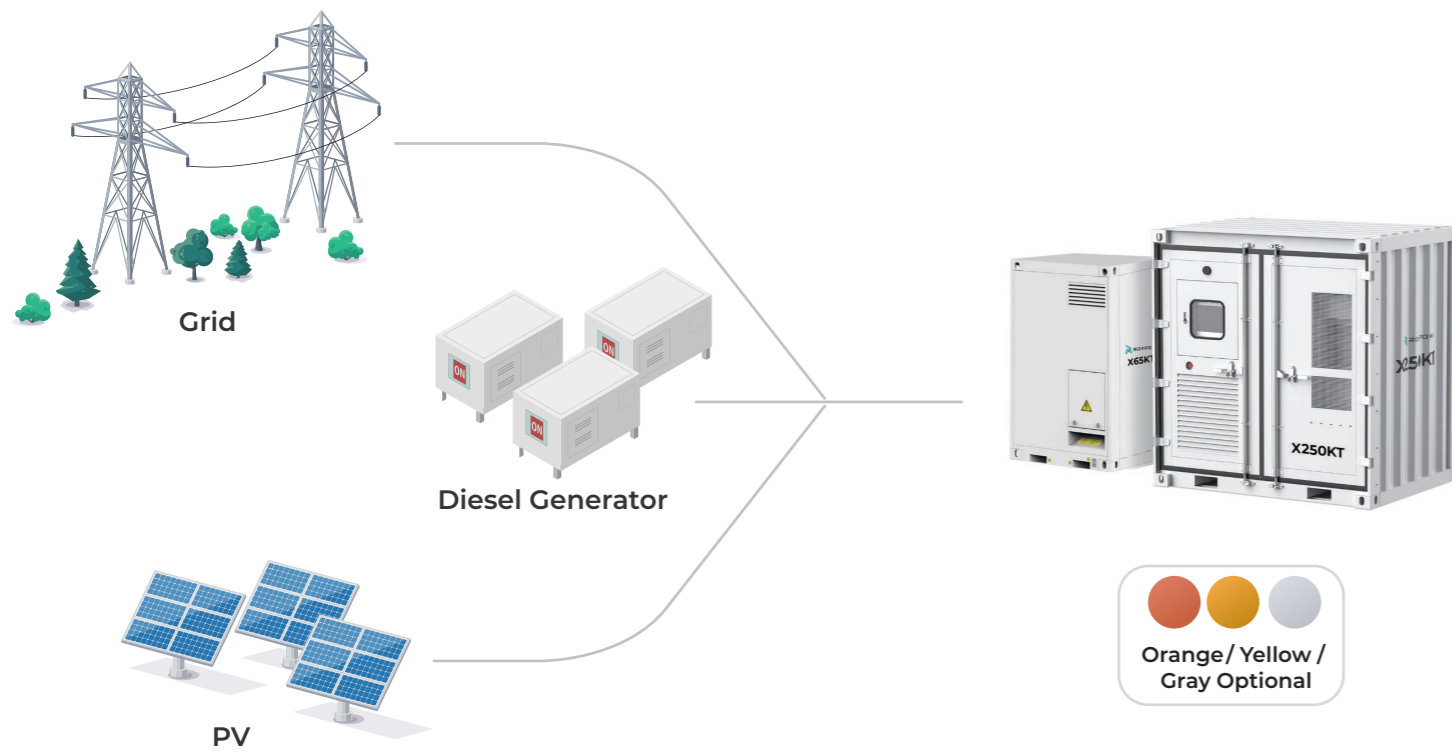
With years of dedication to new energy solutions, we are proud to offer customers professional solutions for:

- 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
- Motors, Controllers and Chargers



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.



Diesel Generator Hybrid Energy Storage System

Saving Fuel Consumption up to 30%

Makes Diesel Generator Set Energy Saving and Efficient



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



Hybrid Solution



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



Lower initial investment for a low-power DG



Lower fuel consumption



Support multiple DGs working in parallel

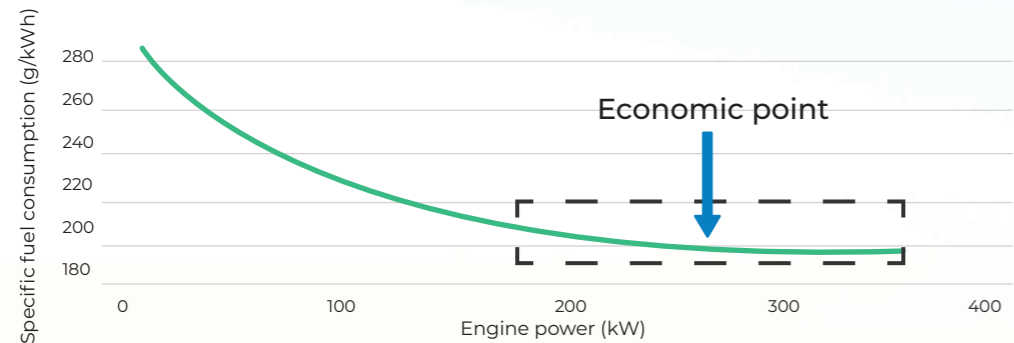


Lower maintenance costs

X250KT 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 Fuel Consumption up to

30%+



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 Transportation



Plug and Play

No Additional Complex Installation Required

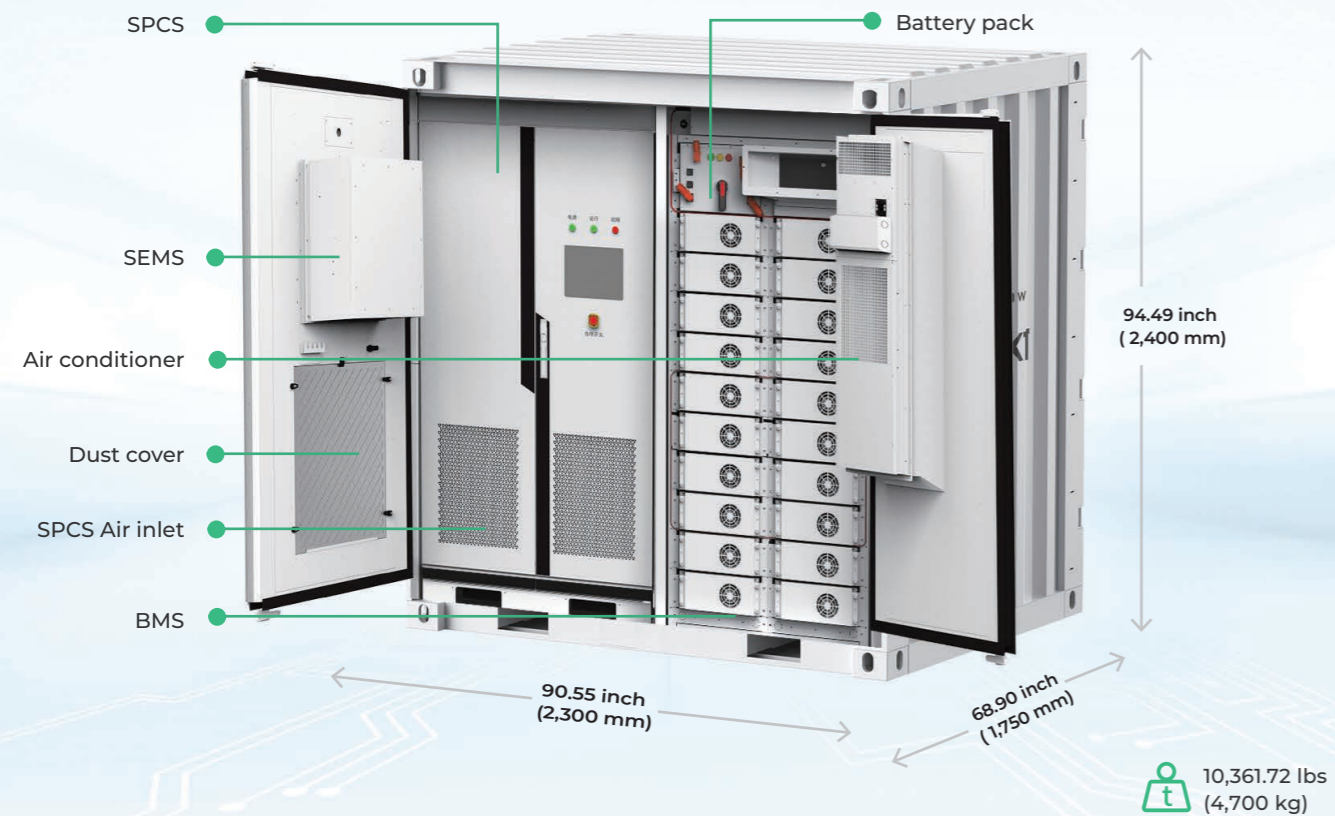
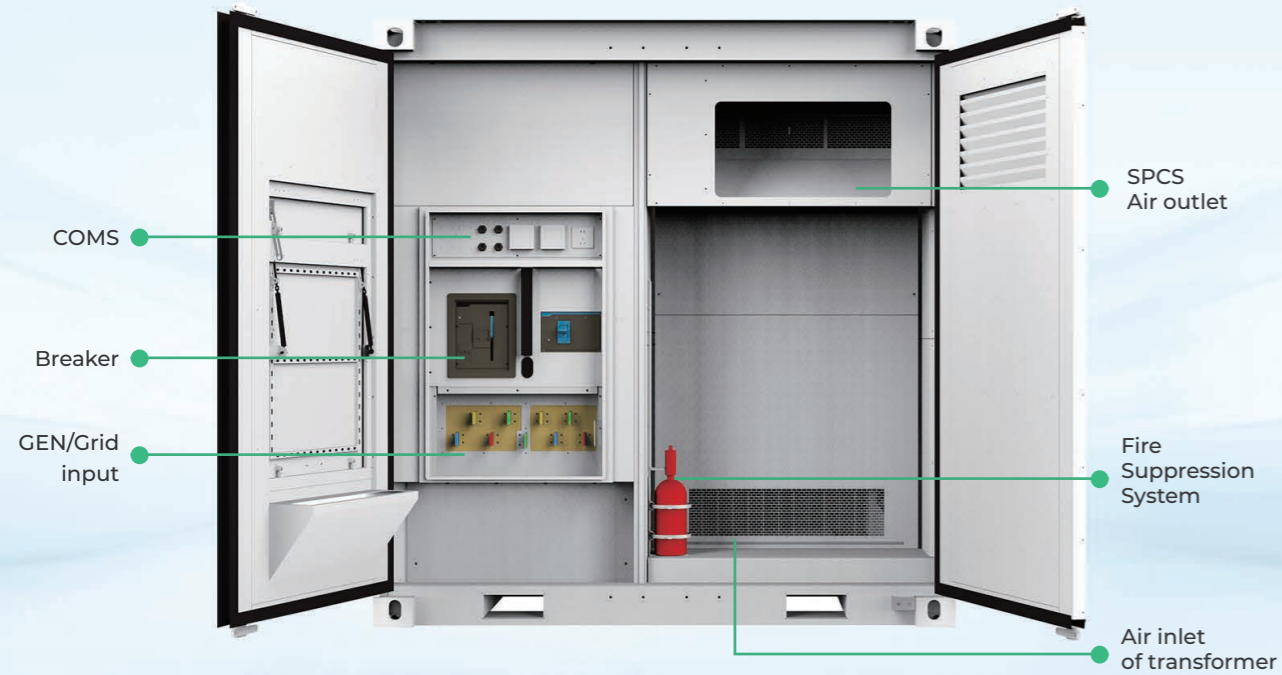


Excellent Adaptability

Stable Performance in Harsh Environments

X250KT

DG + ESS Solution Structure



Technical Specifications

Orange / Yellow / Gray Optional

Model	X250KT-E/A
AC Output Data (On-grid Mode)	
Rated Power	150 kW
Max. Rated / Apparent Power	250 kW / 280 kVA ^[1]
Rated Voltage	400 V (±15%)
Rated Current	220 A
Grid Frequency	50 Hz
AC Connection	3 W + N
THDI	≤ 3%
Power Factor	-1 ~ +1
AC Output Data (Off-grid Mode)	
Rated Power	250 kW
Max. Rated / Apparent Power	250 kW / 250 kVA ^[1]
Rated Voltage / Frequency	400 V / 50 Hz
THDV (Linear Load)	≤ 3%
Battery Data	
Battery Chemistry	LiFePO ₄
Nominal Energy	153.6 kWh
Working Voltage Range	600 V ~ 876 V
Nominal Charging Current	100 A
Nominal Discharging Current	200 A
Max. Discharging Current	300 A
DOD	90%
Compatible Diesel Generator	
Rated Power	≤ 400 kVA
Rated Voltage	400 V
Rated Frequency	50 Hz
General	
Parallel Capable	Yes (Up to 4)
EMS	SEMS3000 12 inch LCD Touch Panel
Ingress Rating	IP54
Topology	Transformer
Working Temperature	-4 ~ 122°F (-20 ~ 50°C)
Storage Temperature	-40 ~ 149°F (-40 ~ 65°C)
Relative Humidity	5 ~ 95% (No condensing)
System Noise	< 65dB
Cooling	Air cooling (Inverter room)
Fire Suppression System	Included
Altitude	5,000 (>3,000 derating)
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.

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

X65KT

65 kW Output
Diesel Generator + Energy Storage System Solution



All-In-One
Integrated Battery + SEMS + SPCS



Rapid Deployment
Support Lifting and Forklift Transportation



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 Fuel Consumption up to

30%+

Technical Specifications

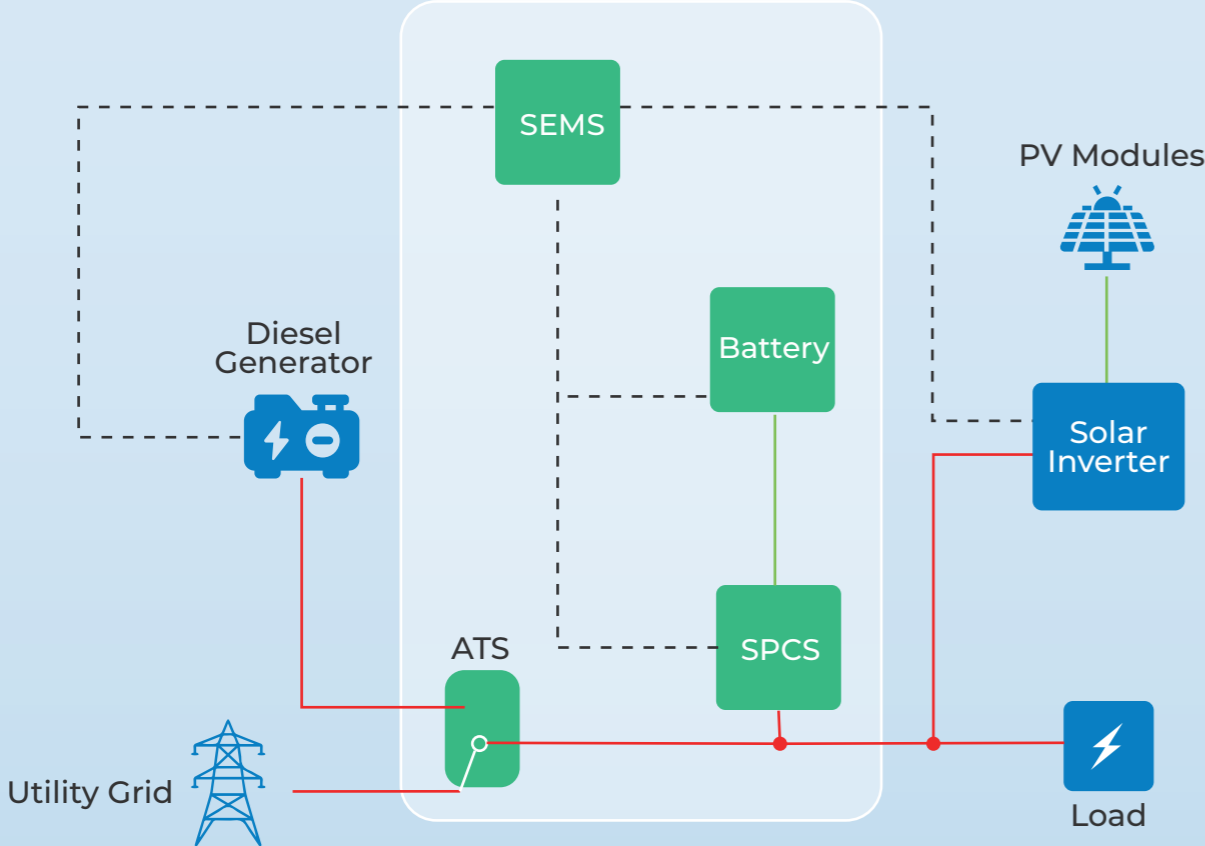
Orange / Yellow / Gray Optional

Model	X65KT-E/A
AC Output Data (On-grid Mode)	
Rated Power	65 kW
Apparent Power	71.5 kVA
Rated Voltage	400 V
Rated Current	95 A
Grid Frequency	50 Hz
AC Connection	3 W + N
THDI	≤ 3%
Power Factor	-1 ~ +1
AC Output Data (Off-grid Mode)	
Rated / Apparent Power	65 kW / 71.5 kVA
Rated Voltage / Frequency	400V / 50Hz
THDV (Linear Load)	≤3%
Battery Data	
Battery Chemistry	LiFePO ₄
Nominal Energy	76.8 kWh
Nominal Charging Current	50 A
Nominal Discharging Current	100 A
Working Voltage Range	600 V ~ 876 V
Max. Output Power	65 kW
DOD	90%
Compatible Diesel Generator	
Rated Power	≤120 kVA
Rated Voltage	400 V
Rated Frequency	50 Hz
General	
Parallel Capable	Yes (Up to 4)
EMS	SEMS3000 12 inch LCD Touch Panel
Ingress Rating	IP54
Topology	Transformer
Working Temperature	4 ~ 122°F (-20 ~ 55°C)
Storage Temperature	104 ~ 149°F (-40 ~ 65°C)
Relative Humidity	5 ~ 95% (No condensing)
System Noise	<65 dB
Cooling	Intelligent temperature control (Battery room) Air cooling (Inverter room)
Fire Suppression System	Included
Altitude	5,000 (>3,000 derating)
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)

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

DG Mate Series

System Topology



— AC Cable — DC Cable - - - - Communication Cable

Applications

