

# MICRO GRID

MG 150 & MG 300

- Mining Sites
- Service Centres
- Airports
- Seaports
- EV Charge Stations
- Community Battery



Model: MG300

Model: MG150

## Our intelligent lithium-powered industrial Micro Grid solutions give you control over grid power use.

Our Micro Grids enable you to reduce operating costs and optimise energy usage when needed the most. In the event of power outages, reliable backups prevent costly and potentially dangerous situations in industry productions.

Pairing industrial energy storage solutions with renewable sources such as solar or wind, allows you to maximise sustainable production and store excess green energy when it is produced. A game-changer for industry and ultimately for the environment. Secure a first-mover advantage and stay ahead of your competitors.

The industrial sector uses more delivered energy than any other end-use-sector, consuming about half of the world's total delivered energy. Production and assembly processes are energy demanding due to manufacturing process's as well as lighting, heating and air conditioning of large buildings. With high demand costs, industrial facilities are prime candidates for energy storage to reduce demand, improve power factor, and reduce operating costs.

### Optimise Usage

Our turnkey energy storage solutions enable you to become smarter and more sustainable by optimising how you use your energy.

### Secure Reserve Power

Protect your business from unreliable power supply caused by blackouts or planned shutdowns.

### Establish Energy Independence

Renewable energy production from solar integrates well with Remote Energy's solutions, allowing you to store excess energy in our batteries for later use or sell it to the grid.

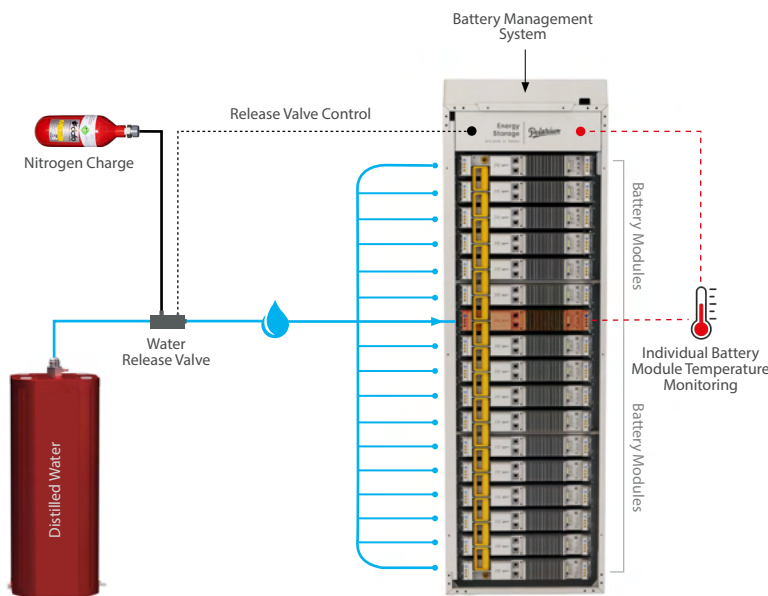
### Reduce Energy Costs

Remote Energy's energy storage solutions enable you to cut your energy costs by charging your batteries when prices are low and use the stored power when prices are high.

### Our Battery Technology

Remote Energy uses Polarium's high voltage batteries which are developed for large scale energy storage, based on a modular architecture and strict safety principles. Each high voltage battery string is scalable from six modules (63kWh, 307V) to 17 modules in series (178kWh, 869V) with each battery module communicating with the BMS mounted on top of the rack.

Designed with five layers of safety, from mechanics to cells. The BMS controls each battery to ensure that it functions safely, reliably and efficiently and includes intelligent features that allow you to analyse your battery rack, receive informations about its state of charge and state of health.



### Propagation Protection System

Remote Energy's Micro Grid solutions are fitted with a propagation protection system (PPS). The system monitors each battery module in real time for early signs of thermal runaway and will inject a fire inhibiting solution (distilled water) into any module that triggers the detection system. Within 4 seconds of detection, the fire suppression fluid is injected into the module at greater than 10 liters per minute and extinguishes the thermal run away immediately, in turn removing the risk of fire.

### Our Power Conversion System

With a compact 2.5U form factor, the transformerless 40kW power conversion system installs directly into equipment and Li-ion battery racks. Front-side terminations simplify interconnect and the fully parallelable, 40kW architecture supports system modularity and enables easy field upgrades.

Offering wide 208-480 VAC and 330-820 VDC operating ranges, grid-connected and grid-forming operating modes, advanced 'smart inverter' features and design and certification for energy storage applications, system design doesn't get any easier.



## Our System are Smart



### Option 1

Our systems can be supplied in rack form allowing you to fit power and energy into an existing indoor facility that you may have on site. Scale up or down as required.

**Option 2**  
Utilise our modern Micro Grid enclosure system, with your own brand and colors enhancing your forecourt space



### Option 3

For larger applications, utilize our 10,20 and 40ft energy storage solutions from 1mW to 5mW



### **Arbitrage**

Support your site loads from the battery when electricity rates are high and charge the battery when electricity rates are low.

### **PV Self Consumption**

Get the most out of your solar investment and reduce your site operations dependency on the grid through smart power management, enabling you to re-direct excess power generation to batteries for later use during peak hours.

### **Flexibility Markets**

Unlock the value of your battery energy storage system and monetise your system's flexibility by selling stored energy or providing ancillary services, such as frequency regulation, to the electricity grid.

### **Peak Shaving**

Reduce your site demand charges and save costs by shifting your power dependency from grid to battery, shaving the peaks of your power consumption and allow you to boost available power without having to upgrade your grid connection.

### **AC Backup**

Protect your on-site network against power cuts with our intelligent battery storage system kicking in to ensure uninterrupted power supply.

### **Grid Support**

Improve local peak power capacity by increasing maximum power capacity through smart energy storage systems. In locations with temporary overloads, energy storage systems can be installed to cover the overload to avoid having to upgrade larger parts of the grid.

### **FFR (Fast Frequency Response)**

Rapidly correct the load imbalance in less than 50 msec seconds, making you compliant with oncoming demands and regulations to reduce inertia.

### **Voltage Support**

Monitor and maintain ideal line voltage, by using our power management and storage solution as a buffer, enabling you to inject and absorb active/reactive power to and from the grid.

### **Frequency Support**

Provide first-response frequency support and stabilise the grid. Our power management and storage solution will contribute to even out the deviation from nominal grid frequency by adjusting active power to and from the grid.

### **Phase Balancing**

Balance your three-phase load to provide utilisation of your upstream distribution network, by feeding power from phases with low load – to phases with high load and thereby stabilising the phase voltages.

DESCRIPTION	MG150	MG300
Maximum Power (bi-directional)	40-80kVA @480VAC 35-70kVA @415VAC	40-160kVA @480VAC 35-140kVA @415VAC
Nominal AC Voltage	415V	415V
AC Input Voltage Range	208-480V	208-480V
Phase	3pH	3pH
Frequency	50/60hZ	50/60hZ
Maximum AC Current	100Arms	200Arms
Nominal DC Voltage	711VDC	711VDC
Energy Storage Capacity (Design/Usable)	123kWh/107kWh	246kWh/214kWh
Max Time Operation @ Max Output Power	1.5h	1.5h
Battery Technology	Li-NMC	Li-NMC
Efficiency of Power Conversion System	97%	97%
Grid Interface	3 & 4 Wire Transformer Less Grid Interface	3 & 4 Wire Transformer Less Grid Interface
Grid Tie & Grid Forming	Yes	Yes
Back Starts Bias Supply	Yes	Yes
Power Factor	-1 to 1	-1 to 1
Current Harmonics	IEEE 1547 Compliant	IEEE 1547 Compliant
Energy Storage Fire Protection	Polarium Propagation Protection System	Polarium Propagation Protection System
Electrical Fire Protection	Stat-X (Zero ODP, Zero GWP)	Stat-X (Zero ODP, Zero GWP)
System Shut Down Protection	E Stop (Local & Remote) BMS (Auto)	E Stop (Local & Remote) BMS (Auto)
System Standards	UL1973, UL9540 (Including UL9540A, IEC62619, IEC62933-5-2, IEC63056, IEC/EN 61000-6-2, IC/EN61000-6-4, FCC Part 15, UL 1741-SA	UL1973, UL9540 (Including UL9540A, IEC62619, IEC62933-5-2, IEC63056, IEC/EN 61000-6-2, IC/EN61000-6-4, FCC Part 15, UL 1741-SA

ENCLOSURE TECH SPECS	MG150	MG300
Enclosure Dust Protection	Filtered Pressuriser	Filtered Pressuriser
Enclosure Cooling	Air Conditioning (230V AC)	Air Conditioning (230V AC)
Enclosure Heating	Anti Condensation Electric Heating	Anti Condensation Electric Heating
Enclosure Fabrication	3 mm Aluminum Sheet	3 mm Aluminum Sheet
Enclosure IP Rating	IP55 IK10 NEMA 4.	IP55 IK10 NEMA 4.
Enclosure Standards	IEC62208, IEC/EN/AS60529, EIA-310-D, RoHS, CE	IEC62208, IEC/EN/AS60529, EIA-310-D, RoHS, CE
Dimensions	L 1600mm x D 1000mm x H 2200	L 2000mm x D 1000mm x H 2200
Weight	1500kg	2500kg