



**RIC**  
electronics Ltd.

RECTIFIER  
INVERTER  
CONVERTER

# CleanGen™

ZERO EMISSION POWER GENERATOR



# CLEANGEN™

**100kVA/250kWh**

CleanGen is an environmentally friendly mobile power solution that is designed to power equipment and critical loads – wherever it's needed. Providing 250kWh battery capacity, the system provides clean, uninterrupted power, free of distortions and fluctuations – all without emitting harmful CO<sub>2</sub> into the atmosphere.

Help the environment while reducing fueling, set-up, maintenance and labor costs.



**Total Annual  
Estimated  
CO<sub>2</sub> Savings**

**108,907 kg/yr**

## Environmental

**Carbon emissions** saved per generator:

- 4,802 lb or 2,178 kg per week
- 240,099 lb or 108,907 kg per year

**Diesel fuel saved** annually:

- 10,800 gallons (~\$5.00USD/gal.): \$54,000 USD or;
- 40,882 litres (~2.15CAD/L): \$87,896 CAD

*Estimate based on 135kW generator running at 1/2 load, 8 hours per day, 5 days per week, 50 weeks per year.*

## Return on Investment

Rented at a premium, customers have realized a 100% ROI in 22 months.

The lithium iron phosphate batteries have a lifespan of approximately 5000 cycles under nominal conditions, which means you can discharge ~80% and recharge the batteries every day for over 13 years.



# Benefits & Features

**Environmentally friendly.** Emits no operational CO<sub>2</sub>.

**Reduced generator operating costs.** No more expensive fossil fuel.

**Reduced labour.** Because there's no noise and harmful byproducts being given off, CleanGen can be parked close to the required load reducing the need for long cable runs and the costs associated.

**Recharge batteries anywhere EVs do.** Use CleanGens dual 240VAC EV charging ports to recharge batteries at any EV charging station.

**Continuous, uninterrupted power.** Drawing on instantaneous battery power, CleanGen provides clean, uninterrupted power helping to mitigate the risk of dropping the load.

**Maintenance free.** No active maintenance require. Just charge and discharge.

**Recharge CleanGen - without disconnecting.** CleanGen can be daisy chained indefinitely providing power to recharge the main battery, provide power to the load, or both.



**Diversify** your fleet

# CleanGen vs. Diesel Generator

## Summary

### DIESEL GENERATOR

- Significant CO<sub>2</sub> emissions
- Maintenance every 250-1000 hours
- Long cable runs due to noise/vibration
- Operates best at higher loads (avoid wet stacking)
- Bring fuel to generator
- Variable power quality
- Challenges with high 3 phase imbalanced loads
- Operationally high cost per kW

### CLEANGEN

- No operational CO<sub>2</sub> emissions
- No active maintenance
- Short cable runs
- Can operate at any load with similar efficiency without degradation
- Take CleanGen to recharge station
- Clean power free of distortion
- Supports 100% imbalanced loads
- Operationally low cost per kW



# CLEANGEN™ J250

**100kVA/250kWh**

Industry standard footprint

No maintenance

Quiet, clean, and unobtrusive



## Specifications

### INPUT

<u>Main 3Ph AC Input</u> Camlock, 400A breaker	<u>EV Charging</u> <u>2 X 1Ph Input</u> J1772 connector, 40A breaker	<u>Blockheater</u> <u>1 X 1 Ph Input</u> NEMA 5-15P
208Y/120VAC, 291A, 3Ph, 5 wire, 60Hz	240VAC, 32A, 60Hz	120VAC, 6.4A, 60Hz

### OUTPUT

Inverter Output 100kVA, 0.8 PF			
<u>1 X 3Ph Out</u> Camlock, 400A breaker	<u>2 X 3Ph Out</u> Camlock, 225A breaker	<u>3 X 1Ph Out</u> Joy connector, 60A breaker	<u>3 X 1Ph Out</u> NEMA 5-20R
208Y/120VAC, 278A, 5 wire	208Y/120VAC, 180A 3Ph, 5 wire	120VAC, 48A	120VAC, 20A, 1.9kW

### INVERTER

Output	Continuous output: 100kVA, 0.8 PF
Overload Capability	144kW for 60 seconds
Instantaneous	~192kW for 200msec

### BATTERY

Capacity	250kWh
Type	Lithium Iron Phosphate (LiFePO4)
Battery Monitoring	Individual string: voltage and current; Cell voltage, cell balancing, cell temperatures
Battery Cycles	Up to 5000 (depends on temp., depth of discharge, and discharge rate)
Battery Recharge Time	Dual EV: 22.6 hrs      3 PH: 13.2 hrs      Dual EV + 3 PH: 8 hrs

### ENVIRONMENTAL

Acoustic Noise Level at 1 Meter	55.0 dB
Relative Humidity	0 to 95%, non-condensing
Operating Temp.	0 to 40 °C

For more information

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