

Technical specifications

Hybrid Generator

Voltage: 208/120 V - Three Phase

Frequency: 60HZ



General description

The ECOPower Hybrid Generator is designed to meet the requirements of applications such as rental, events, and telecom. Built with lithium ion batteries, this mobile product is ready to supply more sustainable and efficient power, working in hybrid with its own diesel generator providing superior fuel and maintenance savings. It can provide an average of 9 hours of silent power per charging cycle with the option of extended autonomy thanks to in-built solar panel connections. A greener solution for a more efficient performance.

TECHNICAL INFORMATION

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|--|----------|--------------------------------|------|------|------|------|
| Maximum Hybrid Power @25C/77F | kW/kVA | 60 / 60 | | | | |
| Maximum Hybrid Power @40C/104F | kW/kVA | 60 / 60 | | | | |
| Max Current Output | A | 250A | | | | |
| ESS power @25C/77F* | kW / KVA | 32 / 32 | | | | |
| ESS power @40C/104F* | kW / KVA | 26 / 26 | | | | |
| Prime Power (diesel) @40C/104F | kW/kVA | 39 / 39 | | | | |
| Fuel tank Capacity | gal (L) | 110 (416) | | | | |
| Fuel Consumption 0% 25% 50% 75% 100% | gal/kwh | 0.00 | 0.08 | 0.07 | 0.07 | 0.07 |
| Fuel Consumption 0% 25% 50% 75% 100% | gal/h | 0.00 | 1.38 | 2.49 | 3.73 | 4.97 |
| Fuel Autonomy 0% 25% 50% 75% 100% | h | - | 80 | 44 | - | - |
| Rated energy storage capacity | kWh | 57.6 | | | | |
| Net energy storage capacity | kWh | 53.6 | | | | |
| Rated voltage (60Hz) | VAC | 240/120 | | | | |
| DC Battery System ESS | VDC | 48 | | | | |
| Recharge time | h | 2.1 | | | | |
| Depth of discharge (DoD%) | % | 90% | | | | |
| Battery type | | Lithium Iron phosphate LiFePO4 | | | | |
| Operating temperature** | °F | -4 to 122 | | | | |
| Dimensions (L x W x H) | in | 230 x 88 x 140 | | | | |
| Weight GTW/GVWR | lbs | 9700 / 9900 | | | | |

The standard reference conditions are: 25 °C, 100 kPa and 30% relative humidity.

* Engine to start at 80% ESS power for higher hybrid performance

**At extreme temperatures engine may run more frequently.

EN-IEC 61000, EN-IEC 60335, EN-IEC 60335, EN-IEC 62109, EN 55014, IEE1547, UL9540A, ADR class 9, ISO9001, ISO14001, Low Voltage Directive 2014/35/EU, EMC directive 2014/30/EU

Batteries

Lithium-iron-phosphate (LiFePO₄ or LFP) is the safest of its family. Also does not need to be fully charged to perform correctly. Service life even slightly improves in case of partial charge instead of a full charge. This is a major advantage, in addition, its wide operating temperature range, excellent cycling performance, low internal resistance and high efficiency.

LFP is therefore the chemistry of choice for very demanding applications

| | | | |
|----------------------|---------|-------------------------------------|--|
| Quantity | 16 / 12 | C-rate discharge | 1 C |
| Rated voltage (VDC) | 48 | Weight per battery (kg) | 39 |
| Rated capacity* (Ah) | 100 | Expected cycle life (@DoD,EOL,25°C) | 6000 @90% |
| Automatic Heating | Yes | Smart Cooling | Yes |
| Rated capacity* (Wh) | 4800 | Standards | IEC62619, IEC63056,CE, UN38.3, UL1973, UL9540A, UKCA |

*@25°C

Solar

A solar charger gathers energy from your solar panels, and stores it in the batteries. Using the latest, fastest technology, MPPT maximises this energy-harvest, driving it intelligently to achieve full charge in the shortest possible time. Sistem maintains battery health, extending its life.

| | | | |
|-----------------------------|--|------------------|-------|
| Quantity | 2x MPPT 250/70 | Nominal PV power | 4000w |
| Max PV Open circuit Voltage | 150V resp. 250V absolute maximum coldest conditions . 145V resp. 245V start-up and operating maximum | | |
| Protection | PV reverse polarity / Output short circuit / Over temperature | | |

Inverters

Power electronics that combines inverter and charger. It is needed to transform the energy supply from batteries (DC) to the loads (AC) with or without additional sources as diesel generators or grid.

| | | | |
|---|---------|---|------------|
| Quantity | 4 units | Peak efficiency % | 96% |
| Input DC voltage range (VDC) | 38 - 66 | Peak power % | 130% |
| Rated apparent power (kVA) | 10 | Maximum power time (min) | 30 |
| Rated active power (kW) | 8 | Power factor | -1...1 |
| Peak Power of 200% of nominal Power (short circuit) | 0.5 s | 150% of nominal power where output voltage remains stable | 5 s |
| 130% of nominal power where output voltage remains stable | 30 s | Start up current of load (3 phase motor) | 3x Nominal |

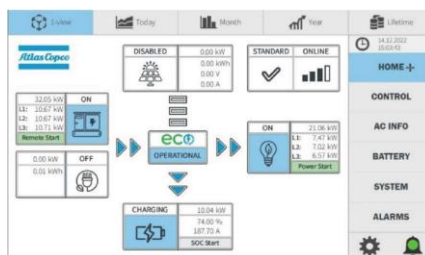
Nominal values for standard conditions and performance

Controller and performance

ECO Energy controller optimizer, provides intuitive control and monitoring for all batteries and power electronics integrated in the battery pack. A highly customizable start/stop system. Use state of charge, voltage, load and other parameters. Define a special set of rules for silent and quiet times, and optionally a monthly test run.

| | | | |
|--|-----------------------|-------------------------|------------------------|
| Control Panel | 7" Full Color Display | Telematics & GPS | Fleetlink [®] |
| 24 Timer | Yes | Silent Hours Capability | Yes |
| Automatic Balancing | Every 30 working days | | |
| Maximum auxiliary consumption heating (kW) | 4 | ... ventilation | 0.2 |

Nominal values for standard conditions and performance



Series Mode

Series mode will allow to serialise with another ZBP energy storage system in order to achieve higher electrical output free of noise and smoke