

## 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

Maximum Hybrid Power @25C/77F	kW/kVA	60 / 60				
Maximum Hybrid Power @40C/104F	kW/kVA	58 / 58				
Max Current Output	A	166				
ESS power @25C/77F*	kW / KVA	24 / 24				
ESS power @40C/104F*	kW / KVA	22 / 22				
Prime Power (diesel) @40C/104F	kW/kVA	36 / 36				
Fuel tank Capacity	gal (L)	75 (284)				
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	1.17	2.10	3.15	4.20
Fuel Autonomy 0% 25% 50% 75% 100%	h	-	64	36	-	-
Rated energy storage capacity	kWh	76.8				
Net energy storage capacity	kWh	71.4				
Rated voltage (60Hz)	VAC	208/120				
DC Battery System ESS	VDC	48				
Recharge time	h	3.2				
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	8500 / 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 (LiFePO<sub>4</sub> 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	6 units	Peak efficiency %	96%
Input DC voltage range (VDC)	38 - 66	Peak power %	130%
Rated apparent power (kVA)	5	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

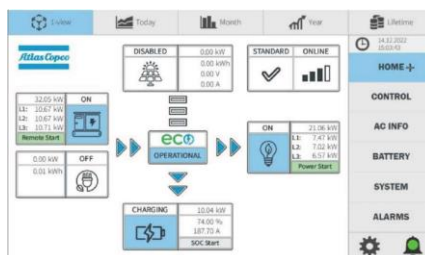
Nominal values for standard conditions and performance

## 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 <sup>®</sup>
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