123-SG-7DE7

Solar Generator

123esolar.com/123-SG-7DE7

36 kW off-grid mobile solar generator: 16 panels over a 74.2 kWh lithium bank in 14 modules.



The solar trailer hitched to a service truck, panels stowed, on a desert site

OVERVIEW

123-SG-7DE7 is a 36 kW off-grid mobile solar generator with no engine: 16 panels at 460 W each, a 74.2 kWh lithium iron phosphate bank across 14 modules, and an inverter rated 36 kW off-grid, all carried on a three-axle trailer. It suits sites that need heavy continuous power without noise, exhaust or a fuel delivery.

The inverter sets the 36 kW rating, delivering 120/240 V or 120/208 V at 50/60 Hz, with a 5 ms transfer and 97% conversion efficiency. It surges to 72 kW for 10 seconds — enough to start compressors, pumps and heavy motors. The bank behind it can deliver 80.08 kW at 52 V, so the inverter, not the battery, sets the limit at every load this machine is rated for, and full output holds for as long as there is energy in the bank.

The 7.36 kW array harvests 31.6 kWh on an average day, and below 1.32 kW the sun carries the load on its own, indefinitely. Above that threshold the bank takes over: 37.1 kWh usable at the standard 50% setting carries 6 hours at 6 kW, 3 hours at 12 kW, 2 hours at 18 kW, or 1 hour at the full 36 kW with no sun at all — stretching to 51.94 kWh if the bank is programmed to the 30% option.

The array feeds the inverter directly, so there is no separate charge controller to fit or to fail, and the machine runs across an ambient range of +14 to +131°F (-10 to +55°C). That range and the 36 kW rating make the 123-SG-7DE7 a fit for data centers, heavy construction, utilities, and oil and gas sites that draw hard around the clock, moved and set up with one tow.

Every 123eSolar system is SMART enabled, with cloud IoT monitoring and control reachable from a phone or desktop, so operators manage the site without making a trip to it.

FEATURES AND BENEFITS

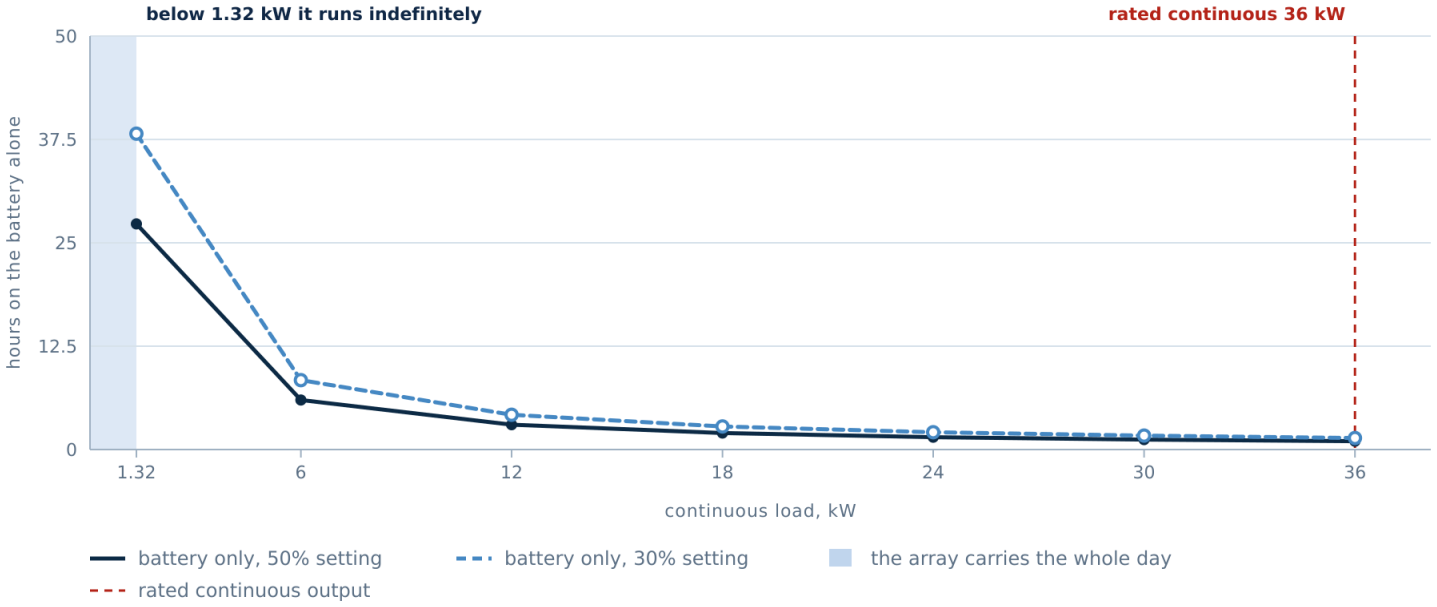
- **36 kW continuous off-grid inverter at 120/240 V or 120/208 V, 50/60 Hz** — Heavy site loads run at full rating without derating, and sensitive electronics ride through a change of source.
- **72 kW surge for 10 seconds** — Motor and compressor starts don't trip the supply or force an oversized machine.
- **74.2 kWh lithium iron phosphate bank across 14 modules at 52 V** — A full shift of heavy draw runs silently, with no fuel, no exhaust and no engine to service.
- **7.36 kW nameplate array, 16 panels at 460 W each** — Light, steady loads run indefinitely with no fuel delivery, no service call, and no site visit.
- **Bank able to deliver 80.08 kW at 52 V, well above the inverter's own rating** — Full 36 kW output is available for as long as the bank holds charge.
- **No separate charge controller: the inverter takes the 7.36 kW array directly** — Quicker commissioning on arrival, and one less component to maintain in the field.
- **Cloud IoT connectivity standard on every 123eSolar machine** — Field teams get visibility and control without a site visit.

KEY SPECIFICATIONS

POWER	
Rated continuous output	**36 kW**
Peak output	**36 kW**
Surge	**72 kW**
Output voltage and phase	**120/240 V or 120/208 V**
Output frequency	**50 / 60 Hz**
Transfer time	**5 ms**
ENERGY STORAGE	
Battery technology	**Lithium iron phosphate (LFP)**
Battery bank	**14 modules, one 52 V bank (in parallel)**
Total stored energy	**74.2 kWh**
Usable stored energy at 50%	**37.1 kWh**
Silent runtime at 18 kW	**2 hours**
SOLAR	
Array rated power	**7.36 kW**
Solar panels	**16 x 460 W**
Daily solar production	**31.6 kWh/day**
Load covered by solar alone	**1.32 kW**
MECHANICAL AND SITE	
Trailer	**3-axle, towable**
Overall dimensions	**19.7 x 6.2 x 7.1 ft (236.5 x 74.2 x 85.1 in)**
Ambient operating range	**+14 to +131 °F (-10 to +55 °C)**

PERFORMANCE ACROSS THE LOAD RANGE

How long the battery carries the load on its own. Below 1.32 kW the array carries the whole day and the machine runs indefinitely. Above it, these are the hours the bank lasts with no sun and nothing charging, at the standard 50% setting and at the 30% setting.



LOAD, CONTINUOUS	BATTERY ONLY	DAILY DRAW	AFTER SOLAR	DAYS OF AUTONOMY
1.32 kW · solar break-even	**27.29 h**	**31.6 kWh**	**covered**	**indefinite**
6 kW	6 h	144 kWh	112.4 kWh	0.32 days
12 kW	3 h	288 kWh	256.4 kWh	0.14 days
18 kW	2 h	432 kWh	400.4 kWh	0.09 days
24 kW	1.5 h	576 kWh	544.4 kWh	0.07 days
30 kW	1.2 h	720 kWh	688.4 kWh	0.05 days
36 kW	1 h	864 kWh	832.4 kWh	0.04 days

Every load runs continuously and the day is 24 hours: daily draw is the load × 24 h. Solar is a daily energy offset, not an instantaneous power match.