

123-SG-7D63

Solar Generator
solar.123e.com/123-SG-7D63



18 kW off-grid mobile solar generator: 16 panels over a 31.8 kWh lithium bank.



The 123-SG-7D63 under tow on the highway shoulder: 16 panels folded flat over the enclosure, three axles beneath it and the jacks up for the road.



OVERVIEW

123-SG-7D63 is an 18 kW off-grid mobile solar generator with no engine: 16 panels of 460 W, a 31.8 kWh lithium iron phosphate bank in six arrays, and an inverter rated 18 kW off-grid, all on a three-axle trailer. It is built for sites that need substantial power without noise, exhaust or a fuel delivery.

The inverter sets the 18 kW rating and delivers 120/240 V or 120/208 V at 50/60 Hz, with a 5 ms transfer and 97% conversion efficiency. It surges to 36 kW for 10 seconds, enough to start compressors, pumps and motors. The bank behind it can deliver 34.32 kW at 52 V, so the inverter — not the battery — is the limit at every load this machine is rated for, and full output stays available 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 indefinitely. Above that the bank does the work: 15.9 kWh usable at the standard 50% setting, which carries 5.14 hours at 3 kW, 2.57 hours at 6 kW, 1.71 hours at 9 kW, or 0.86 hours at the full 18 kW with no sun at all — 22.26 kWh if it 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 is rated to run from +14 to +131 °F (-10 to +55 °C). That makes the 123-SG-7D63 a fit for telecommunications, construction, utilities, and oil and gas sites that draw heavily by day and settle back at night, moved and set up with one tow.

FEATURES AND BENEFITS

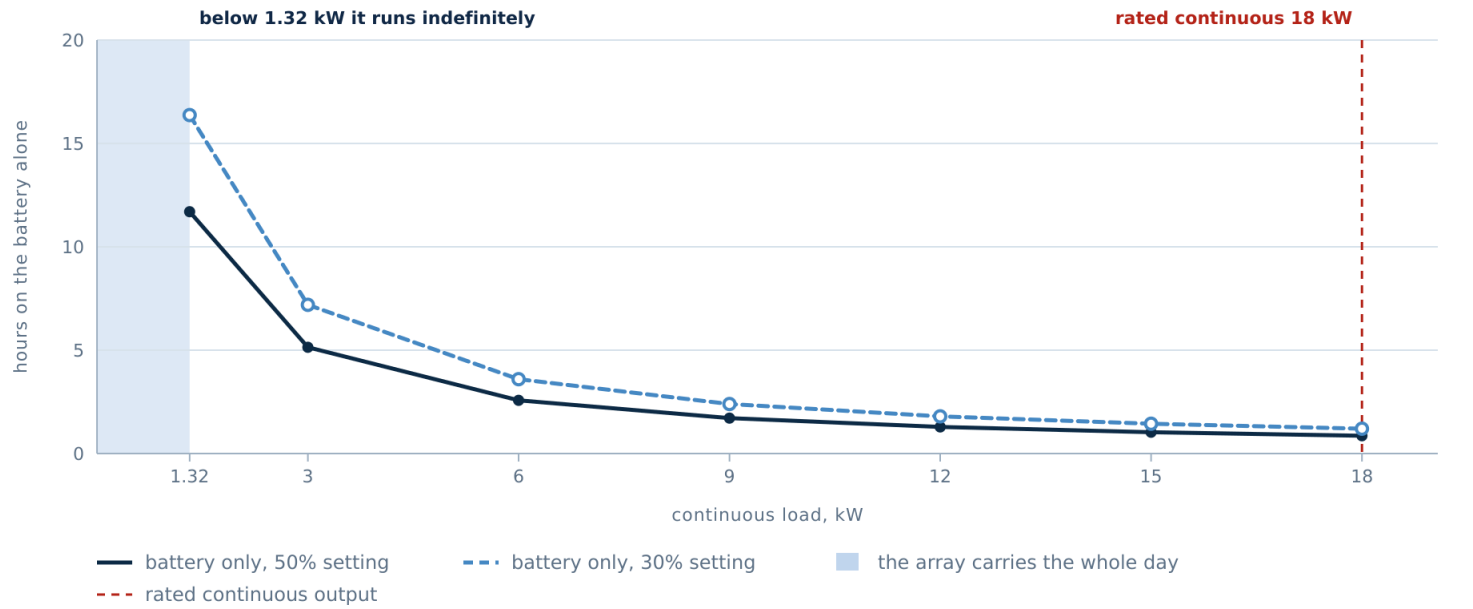
- **Inverter rated 18 kW off-grid at 120/240 V or 120/208 V, 50/60 Hz** — Site equipment plugs in as it would on the grid, and electronics ride through a change of source.
- **36 kW surge for 10 seconds** — Motor loads start without tripping the supply or oversizing the machine.
- **31.8 kWh lithium iron phosphate bank in six 5.3 kWh arrays** — A night shift runs silently, with no fuel, no exhaust and no engine to service.
- **16 x 460 W panels, 7.36 kW nameplate** — A steady base load runs on without a fuel delivery, a service call or a site visit.
- **Bank able to deliver 34.32 kW at 52 V, above the inverter's own rating** — The machine holds its full 18 kW for as long as there is energy in the bank.
- **Array wired straight into the inverter, with no separate charge controller** — Fewer parts to fail at a remote site, and a faster set-up on arrival.

KEY SPECIFICATIONS

POWER	
Rated continuous output	18 kW
Peak output	18 kW
Surge	36 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)
Arrays installed	6
Total stored energy	31.8 kWh
Usable stored energy at 50%	15.9 kWh
Silent runtime at 9 kW	1.7 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
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	11.7 h	31.6 kWh	covered	indefinite
3 kW	5.14 h	72 kWh	40.4 kWh	0.38 days
6 kW	2.57 h	144 kWh	112.4 kWh	0.14 days
9 kW	1.71 h	216 kWh	184.4 kWh	0.08 days
12 kW	1.29 h	288 kWh	256.4 kWh	0.06 days
15 kW	1.03 h	360 kWh	328.4 kWh	0.05 days
18 kW	0.86 h	432 kWh	400.4 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.