123-SG-7D83

Solar Generator

123esolar.com/123-SG-7D83

18 kW off-grid mobile solar generator: 16 panels over a 42.4 kWh lithium bank.



triple axle white trailer stowed in desert

OVERVIEW

123-SG-7D83 is a solar and battery power system on one trailer. It is rated for 18 kW of continuous output; the inverter sets that limit. It delivers 120/240 V or 120/208 V at 50 / 60 Hz, with a 5 ms transfer. It powers single-phase 120 V and 240 V equipment; it does not supply three-phase loads. Storage is 42.4 kWh of lithium iron phosphate (LFP), 21.2 kWh of it usable at the standard 50% reserve: 2.28 hours at 9 kW on the battery alone. The 7.36 kW solar array produces 31.6 kWh/day on an average day, facing south. Solar offsets energy across the day rather than following the load minute by minute; below 1.32 kW it carries the site on its own. It arrives on its own 3-axle trailer, rated for operation from +14 to +131 °F (-10 to +55 °C).

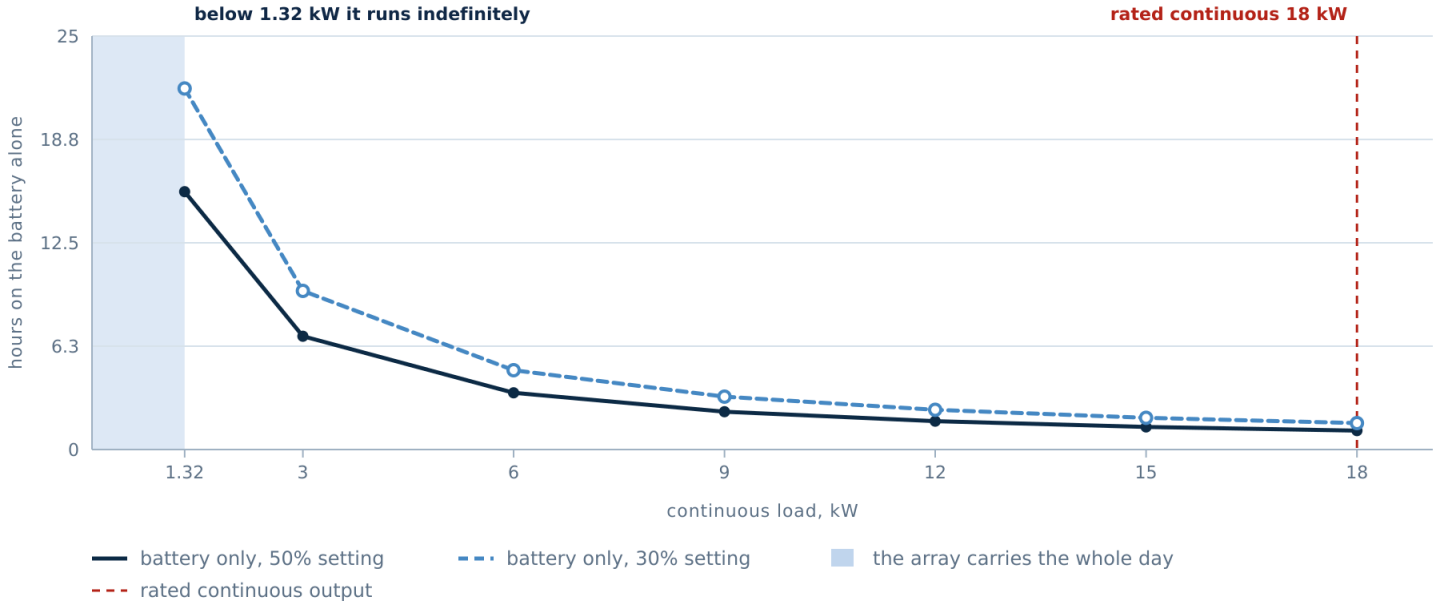
Built for sites without grid power: telecommunications, construction, utilities, and oil and gas. Below 1.32 kW the site runs on sun and battery alone — silent, fuel-free and without limit. There is no engine on this build: nothing to fuel, nothing to service and nothing to hear.

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	**8**
Total stored energy	**42.4 kWh**
Usable stored energy at 50%	**21.2 kWh**
Silent runtime at 9 kW	**2.3 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	**15.59 h**	**31.6 kWh**	**covered**	**indefinite**
3 kW	6.85 h	72 kWh	40.4 kWh	0.51 days
6 kW	3.43 h	144 kWh	112.4 kWh	0.18 days
9 kW	2.28 h	216 kWh	184.4 kWh	0.11 days
12 kW	1.71 h	288 kWh	256.4 kWh	0.08 days
15 kW	1.37 h	360 kWh	328.4 kWh	0.06 days
18 kW	1.14 h	432 kWh	400.4 kWh	0.05 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.