



**FORTRESS
POWER**
Secure your energy

EV6500-S Inverter

SPLIT / SINGLE-PHASE OFF-GRID SOLAR STORAGE INVERTER

OVERVIEW

Reliable, Flexible Power for Off-Grid & Backup Applications

The Fortress Power EV6500-S is a versatile 6.5kW split/single-phase off-grid inverter designed for backup power, peak shaving, and smart energy management. With support for both grid and generator input, a built-in 140A solar charge controller, and intelligent switching, it delivers reliable performance in any environment. Time-of-use scheduling, optional CTs for added safety, and parallel support for up to six units (39kW) make it ideal for off-grid homes, microgrids, and hybrid solar systems.

FEATURES

That Maximize Performance, Flexibility, and Control

High-Capacity Solar Charging

The built-in solar charge controller supports up to 140A, maximizing solar input for faster, more efficient battery charging—ideal for large off-grid systems or high-usage households.

Dual Power Source Compatibility

Supports grid and generator input with intelligent switching, giving you seamless power management and uninterrupted operation during outages or low solar production.

Time-of-Use Optimization

Advanced time-sharing functionality allows users to schedule charge and discharge cycles, optimizing energy usage and reducing reliance on expensive utility rates.

Safe & Stable Operation with Optional CT

Optional current transformers (CTs) enhance system safety and reliability by monitoring current flow and enabling precise load control and protection.

Scalable Up to 39kW

Parallel up to six EV6500-S units for a total output of 39kW, making it a powerful choice for large homes, small businesses, and off-grid compounds.

Versatile Application Support

Designed for a range of energy scenarios including Backup Power, Off-Grid Living, Peak Shaving, Net Metering, Smart Load Control, and Microgrid Installations—all in one rugged and intelligent package.



Applications

Backup	Off-Grid
Peak Shaving	Microgrid
Net Metering	Smart Load

Specifications

- Rated Output Power: 6,500W
- Max. Output Power: 13,000W
- Rated Output Voltage: 120/240 Vac (single/split-phase)
- Frequency: 50/60Hz
- Rated Battery Voltage: 48V
- Max. Input Short Circuit Current: 18A+18A
- No. of MPPT: 1+1

TECHNICAL DATA

Precision-Engineered Specifications for Optimal Performance

GENERAL DATA

Weight	47.84 lbs (21.7 kg)
Operating Temperature	14 °F - 131 °F (-10 °C - 55 °C), >45 °C derating
Protection Level	IP20 (for indoor use only)
Noise	<60db
Dimensions (W x D x H)	25.5 x 16.1 x 5.5 in (648 x 410 x 140 mm)
Cooling Mode	Fan

INVERTER OUTPUT

Rated Output Power	6,500W
Maximum Peak Power	13,000 VA
Rated Output Voltage	120/240 VAC (Single/Split-Phase)*
Rated Frequency	50/60Hz*
Output Wave	Pure Sine Wave
Switching Time	10 ms (typical value)
Parallel Number	6

BATTERY PARAMETERS

Compatible Battery Type	Lithium-ion battery / lead-acid battery / user- defined battery*
Rated Battery Voltage	48 Vdc
Voltage Range	40 Vdc-60 Vdc*
Maximum Grid/Generator Charge Current	80 A DC*
Maximum Battery Charge Current	140 A DC*

PV INPUT

MPPT Channel Number	2
Maximum Input Power	5,000W+5,000W
Maximum Input Short Circuit Current	18 / 18 A
Maximum Open Circuit Voltage	550 Vdc / 550Vdc
MPPT Operating Voltage Range	150 Vdc-450 Vdc

GRID / GENERATOR INPUT

Input Phase Voltage Range	65 VAC - 140 VAC
Grid Frequency Range	50/60 Hz
Bypass Overload Current	40A

COMMUNICATION

Built-in Interface	RS485 / CAN / USB / dry contact*
External Module (Optional)	Wi-Fi / GPRS*

STANDARDS & CERTIFICATIONS

Safety Standards	IEC62109-1, IEC62109-2, and UL1741
EMC	EN61000-6-1, EN61000-6-3, and FCC 15 class B
RoHS	Yes

EFFICIENCY

MPPT Tracking Efficiency	99.9%
Maximum Efficiency of Battery Inverter	93%

* Adjustable

