

Battery Solar made Affordable

Examples:

Grid Tied No Batteries	Battery Based Typical	Sol-Ark 8K With Batteries
10 kW PV	11 kW PV* w/ 20kWh Batt	10 kW PV w/ 20kWh Batt
\$25,000	\$50,000	\$31,000 (\$21,000 DIY)

Assumptions:
 Install cost = \$1 / Watt
 Solar Panels + Mounting = \$1 / Watt
 Electronics cost = \$0.50 / Watt

*Typical Battery based systems are 10% less efficient



Color Touch Display

Quiet Variable-speed Fans

On/Off Button

48V Battery

4 PV inputs

PV Shut-off

Wiring Knockouts & WiFi

120/240V 50A Breakers

- AC In/Out
- AC Load Out
- AC Gen In/Smart Load Out
- Battery Temp sensor
- Auto-Generator Start
- PV Rapid Shut Down
- External current sensors
- Battery communication

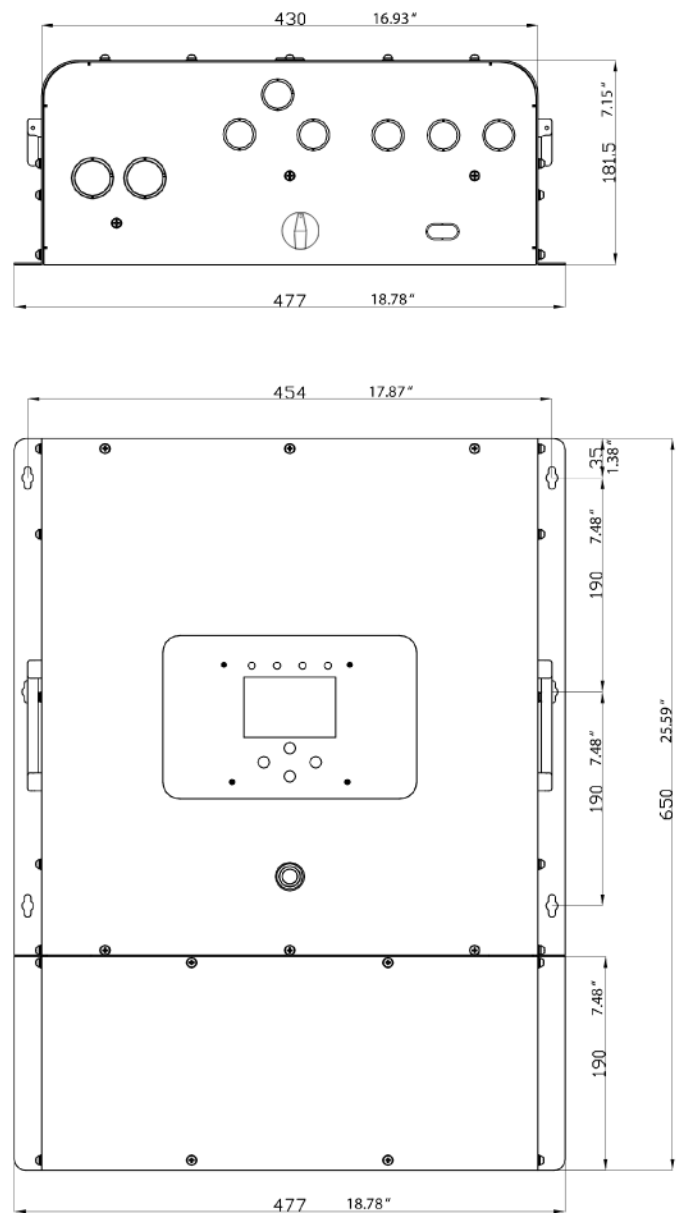
Sol-Ark 8K Specifications

Solar	
Max allowed PV Power	11000W
Max allowed PV Power per MPPT	5500W
Max DC voltage	500V
MPPT voltage range	150-425V
Starting voltage	175V
Number of MPPT	2
Solar Strings per MPPT	2
Max DC current per MPPT	18A (self limiting)

AC Output	
Connections	120/240V split phase
	8000W 33A L-L (240V)
Continuous AC power on Solar or Battery	4000W 33A L-N (120V)
	20,000VA L-L (240V)
Surge AC power 5sec	10,000VA L-N (120V)
Frequency	60/50Hz
	12000W 50A L-L (240V)
Continuous AC power with Grid or Generator	6000W 50A L-N (120V)
CEC Efficiency	96.5% (Peak 97.5%)
Idle Consumption typical – no load	60W
Sell back power modes	Limited to Household or Full Grid-Tied
Design (DC to AC)	Transformerless DC
Response Time (Grid-Tied to Off-Grid)	25ms

Battery (optional)	
Type	Lead-Acid or Li-Ion
Nominal DC Input	48V
Capacity	90 – 1000Ah
Voltage Range	42.0 – 61.0V
Continuous Battery charging output	190A
Charging curve	3-stage w/ equalization
Grid to Battery Charging Efficiency	96.0%
External temperature sensor	included
Current shunt for accurate % SOC	integrated
External Generator Start based on voltage or % SOC	integrated
Communication to Lithium battery	CanBus & RS485

General	
Dimensions (H x W x D)	25.6" x 18.8" x 7.1"
Weight	75 lbs
Enclosure	NEMA type 1 (Indoor Use)
Ambient Temperature (4 variable speed fans)	-25 to 55C, >45C derating
Display	Color touch screen
Wi-Fi Communication (monitoring or SW updates)	integrated
Snap on sensors for limited selling to Household	included
Standard Warranty	5 years
Optional Extended Warranty	10 years



Protection & Certifications

Electronics certified safety by SGS labs to NEC & UL specs – NEC 690.4B & NEC 705.4/6	Yes
Grid Sell Back – UL1741-2010/2018, IEEE1547a-2003/2014, FCC 15 class B	Yes
PV DC disconnect switch – NEC 240.15	integrated
Ground Fault Detection – NEC 690.5	integrated
PV rapid shutdown control – NEC 690.12	integrated
PV Arc Fault detection – NEC 690.11/UL1699B	integrated
PV input lightning protection	integrated
AC input/output 50A breakers	integrated
Battery overcurrent fuse	integrated
User wiring enclosure w/ 3/4" knock-outs	integrated
Solar Flare/EMP Hardened to 2015 MIL-STD-461G (Independently tested June 2018)	optional