Sol-Ark®

Energy Insurance for your family

SOL-ARK 8K

More Affordable:
5-15% less solar panels &
5-20% less batteries than others!

World's Most Efficient Battery Inverter

ees AWARD 2019 FINALIST

THE ENERGY AWARDS 18
Sol-Ark 8K: Renewable Energy Technology of 2018
FINALIST

S&P GLOBAL PLATTS
GLOBAL ENERGY AWARDS
2018 FINALIST

THE ENERGY AWARDS 18
Sol-Ark 8K: Home Energy Product of 2018
FINALIST

Sol-Ark® 8K Hybrid Solar Generator

Energy Insurance for your family

Resilient

- EMP/Solar Flare/Lightning Hardened to 2X military levels (MIL-STD-461G)
- 4ms Instant Battery Backup

Affordable

- Expandable PV: 1.5KW to 11KW
- Batteries: Optional, 12KWh to 48KWh
- Payback Period = 7.5 years

Innovative

- Most Efficient Battery Based Solar Storage Inverter in the World
- Affordable Solar Storage
- Easiest All in One Install and User Interface
- Smart Load: automatic On/Off Grid

THE ENERGY AWARDS 18
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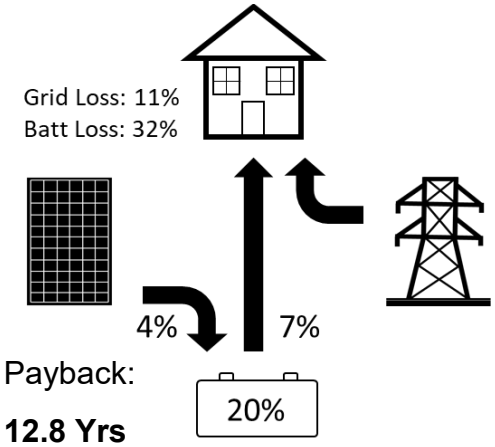
Sustainable

- Lifespan: Panels = 50yrs
- Sol-Ark is a Solar Powered Generator made from Recyclable Materials
- Infinitely Recyclable Low Cost Batteries

Efficient

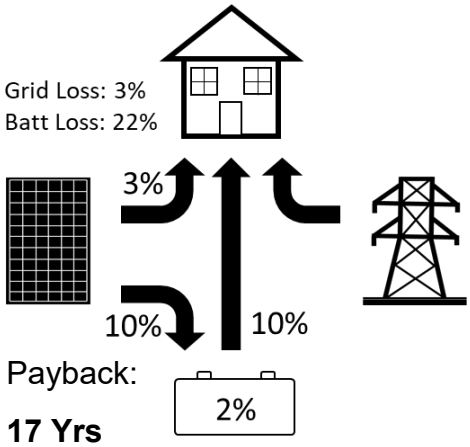
- Saves $4,000 on solar and $1,500 on batteries on average

Traditional Solar



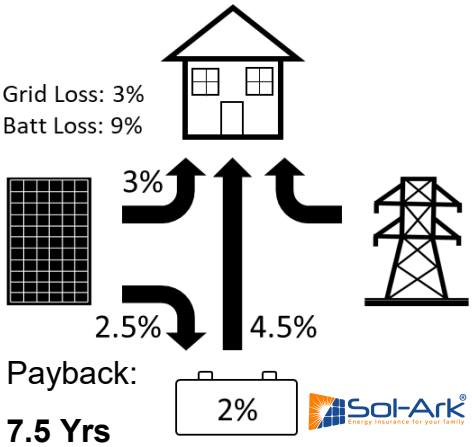
Payback:
12.8 Yrs

Hybrid Solar



Payback:
17 Yrs

Sol-Ark Hybrid Solar



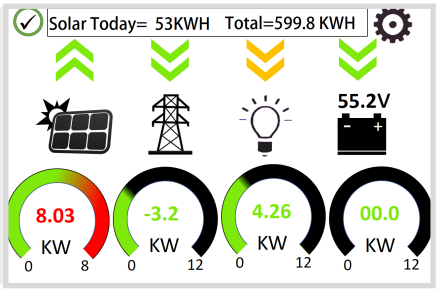
Payback:
7.5 Yrs

Sales@sol-ark.com **www.Sol-Ark.com** **972-575-8875**

Battery Solar made Simple

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: 9kW**
- **AC Load Out: 20kWpk**
- **AC Gen In/Smart Load Out**
- **Battery Temp sensor**
- **Auto-Generator Start**
- **PV Rapid Shut Down**
- **External current sensors**
- **Battery communication**

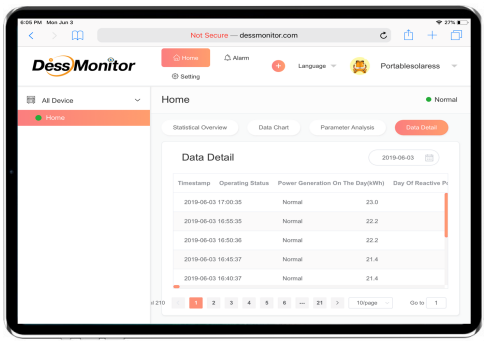
- **Grid Tied Mode:** Sell your power to the Grid
- **Meter Zero Mode:** Zero your whole home power
- **Time of Use:** Use batteries to avoid $$$$ power
- **120 / 240 / 208V**

- **Smart Load:** Programable Loads for high power off-grid items saves battery capacity
- **AC Coupling:** add backup to 7kW of existing Grid Tie installs
- **Peak Shaving:** Reduces peak demand charges

EMP/CME/LIGHTNING PROTECTION

◊ Protect your system and appliances from EMP/Solar Flare/Lightning at 2X military requirements

Wireless Monitoring & Remote Software updates



Competitor Comparison

Brand & Model	Sol-Ark 8K	Outback Skybox SBX5048	Pika X7600 + 4xS2500	SolarEdge 7600A + 32xP400	Darfon 2xH5001	Outback Radian FPR-8048A	Schneider XWPro6.8 + 2xMPPT80	Sonnen ECO-16 + String Inv	Magnum 2x4448PAE +16xGT500	Tesla 2x Powerwall2 + String Inv
Inverter Continous Power	9KW (8KW)	5KW	7.6KW	7.6KW (Batt=5KW)	2x5.5KW	8KW	6.8KW	8KW	2x4KW	2x5KW
Off Grid Inverter Power peak (5s)	20KW	5KW	12KW	6.6KW	13KW	12KW	12KW	12KW	17KW	14KW
System Idle Power	60W	140W			200W	76W	48W	60W	58W	78W
AC to DC Charger	185A	100A	6.7KW	5KW	120A	115A	140A	115A	120A	N/A
User Interface	color touch	color touch	Text	Text	Text	Text	Text	color touch	Text	X
PV to Batt Efficiency @ 65%	97.5%	81.0%	92.0%	91.0%	91.0%	97.5%	96.0%	82.0%	80.5%	92.5%
AC to Batt Efficiency @ 65%	96.0%	80.0%	93.0%	91.0%	90.0%	85.0%	91.5%	85.0%	85.0%	95.0%
Batt to AC Efficiency @ 65%	95.5%	94.5%	93.0%	88.0%	90.0%	93.0%	92.5%	93.0%	91.0%	95.0%
On Grid PV to AC Efficiency @ 65%	96.5%	94.0%	95.5%	96.5%	95.5%	90.2%	88.5%	97.0%	95.5%	97.0%
Off Grid or Time of Use PV -> Batt -> AC *Losses* @ 65%	7%	24%	15%	21%	19%	10%	12%	25%	30%	13%
UPS Grid Failure Transfer Time	4ms	20ms	1000ms	2000ms	20ms	8ms	8ms	100ms	16ms	2000ms
EMP/Solar Flare Hardened to >100KV/m	optional +$1.2K	X	X	X	X	X	X	X	X	X
Low Cost Easy Install	✓	✓	X	X	✓	X	X	X	X	X
Warranty electronics	5/10 yr	5/10 yr	10 yr	12/20/25 yr	5/10 yr	5/10 yr	5 yr	10 yr	5 yr / 25yr	10 yr
NEC UL1699B Arc Fault	✓	✓	✓	✓	X	✓	X	✓	✓	✓
AC Coupling to Micro/String Inverters	✓	X	X	✓	X	✓	✓	✓	✓	✓
Parallel Stacking	X	✓	X	X	✓	✓	✓	X	✓	✓
UL1741SA/Rule 21 & 14H (Grid Sell only)	✓	✓	✓	✓	✓	✓	✓	✓	X	X

Sol-Ark-8K-48-ST Specifications

Solar

Max allowed PV Power	11000W
Max allowed PV Power per MPPT	6000W
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)
Max AC Coupled Input (Micro/String Inverters)	7,000W
Max Combined Solar Input (DC+AC)	13,000W

AC Output

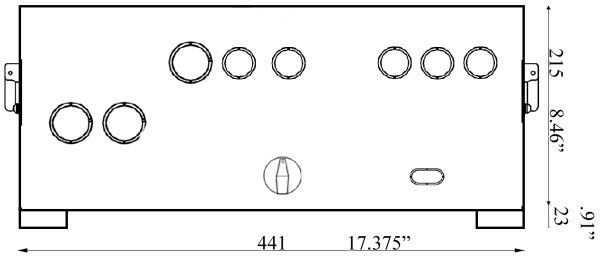
Connections	120/240V split phase
Continuous AC power on Solar or Battery	9000W 37.5A L-L (240V) 4800W 40A L-N (120V)
Surge AC power 5sec	20,000VA L-L (240V) 10,000VA L-N (120V)
Frequency	60/50Hz
Continuous AC power with Grid or Generator	12000W 50A L-L (240V) 6000W 50A L-N (120V)
CEC Efficiency	96.5% (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)	4ms
Power Factor	+-0.9 - 1.0

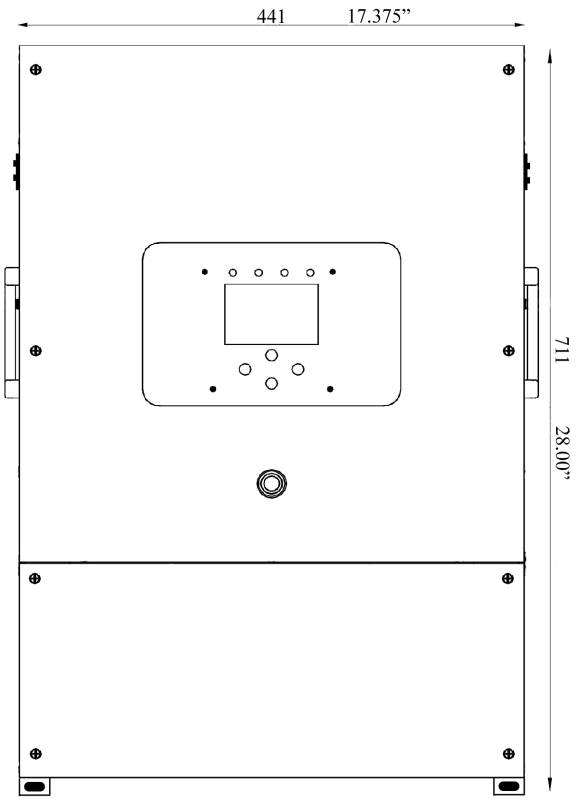
Battery (optional)

Type	Lead-Acid or Li-Ion
Nominal DC Input	48V
Capacity	90 – 2000Ah
Voltage Range	41.0 – 59.0V
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)	28.0” x 17.375” x 9.37”
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, (April 2019: UL1741SA, CA Rule 21, HECO Rule 14H)	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/ ¾” & 1” knock-outs	integrated
Solar Flare/EMP Hardened to 2015 MIL-STD-461G (Independently tested June 2018)	optional