Model shown: SA-12K
Ratings: 12kW(PV), 9kW(grid-tie), 9kW(off-grid)
Nominal System Voltage: 48Vdc

Warranty: 10 years

Useful Resources

Online Video & Articles (click to open)

+ Read: Add Battery Backup to Grid-Tie
+ Read: Best Grid-Tie Solar Inverters
+ Watch: Types of Lithium Batteries
+ Read: Lead-acid vs. Lithium Batteries

ABOUT SOL-ARK

Sol-Ark is a Texas based, veteran-owned business that employs engineers specializing in solar, electrical, mechanical, and nuclear engineering. By designing and building their own patent pending electronics and systems that are tested in-house, they maintain control over all aspects of quality and performance. Sol-Ark is an award-winning system, known for its flexibility, robustness and it's reliability.

Unbound Sol-Ark

All-In-One Solar Generator system

Easy Installation: Cut installation time in half with Sol-Ark's all-in-one, compact design:
- Weighs only 74 lbs. — 3x less than legacy systems
- Easily accessible terminals for quick adjustments
- Fewer components & small parts

Adaptive Technology: Sol-Ark offers out-of-the-box integration with grid-tie, off-grid, hybrid, and battery backup systems:
- Uninterrupted backup power
- Compatible with a wide range of lithium and lead-acid battery manufacturers
- Supports peak demand shaving

Storage-Ready Design: The Unbound Sol-Ark can function as a grid-tie inverter — with or without batteries. Add energy storage right away, or wait until later when the time is right for you.

Effortless Expansion: Sol-Ark is great for projects big and small. With capabilities to parallel stack up to 9 inverters, Sol-Ark can adapt to larger applications and varying power demands.

Flexible Mounting Options: Install your Sol-Ark in a location that's most convenient for you. The Dual 500Vdc PV Chargers with 1-6 PV string inputs mitigates performance issues and extra installation costs associated with longer distance wire runs.

Better Battery Life: Maximize your batteries' lifespan with a **built-in** auto-generator start for your AC generator that keeps batteries at an optimal state of charge 24/7.

Monitor Anywhere, Anytime: Wi-fi connectivity allows you to monitor your system performance both on-site and remotely using the Powerview App.

Class-Leading Efficiency: Get more power from your panels, and use it whenever you need it. Sol-Arks maximizes production from your system with minimal energy losses and low self consumption.

EMP-Hardened upgrades available: Optional protection against the unknown. (contact us for pricing).

Sol-Ark-12K-P Specifications	
Solar Output Power 12000W	
Max allowed PV Power	6500W+6500W = 13,000W
Max PV power delivered to Battery & AC outputs	12000W
Max DC voltage	500V@18A, 450V@20A
MPPT voltage range	150-425V
Starting voltage	175V
Number of MPPT	2
Solar Strings per MPPT	2 w/o fuses, 3 w/ fuses
Max DC current per MPPT (self limiting)	20A@300V, 18A@400V
Max AC Coupled Input (Micro/String Inverters)	9,600W / 9,600W
AC Output Power 9000W On Grid & 9000W Off Grid	
Connections	120/240/208V split phase
Continuous AC power to Grid (On-Grid)	9000W 37.5A-L (240V) 4800W 40A L-N (120V)
Continuous AC power to Load (Off-Grid)	9000W 37.5A-L (240V) 4800W 40A L-N (120V)
Surge AC power 10sec Surge AC power 16ms	16,000VA L-L (240V) 25,000VA L-L (240V)
Parallel Stacking	2-8 (240V), 2,3,6,9 (208V)
Frequency	60/50Hz
Continuous AC power with Grid or Generator	15120W 63A L-L (240V) 7560W 63A 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) Output Power 9000W	
Type	Lead-Acid or Li-Ion
Nominal DC Input	48V
Capacity	50 – 9900Ah
Voltage Range	43.0 – 63.0V
Continuous Battery charging output	185A
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)	30.0" x 18.30" x 10.00"
Weight	78 lbs
Enclosure	NEMA Type 3R
Ambient Temperature (3 variable speed fans)	-25 to 55C, >45C derating
Display	Color touch screen
Wi-Fi Communication (monitoring or SW updates)	included
Snap on sensors for limited selling to Household	included
Standard Warranty (verified by HALT testing)	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, 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 breaker / disconnect	integrated
User wiring enclosure w/ ¾" & 1" knock-outs	integrated
Solar Flare/EMP Hardened to 2015 MIL-STD-461G (Independently tested June 2018)	optional