Sol-Ark 5K-P Spec Sheet



Solar	Input Power 5000W
Max Allowed PV Power	3250W + 3250W = 6500W
Max PV Power Delivered to Battery & AC Outputs	5000W
Max DC Voltage (Voc)	500V @ 18A, 450V @ 20A
MPPT Voltage Range	150-425V
Starting Voltage	125V
Number of MPPT	2
Max Solar Strings Per MPPT	2
Max DC Current per MPPT (Self Limiting)	10A
Max AC Coupled Input (Micro/String Inverters)	9600W

AC	Output Power 5kW On-Grid & Off-Grid
Connections	120/240/208V Split Phase
Continuous AC Power to Grid (On-Grid)	5000W 20.8A-L (240V)
Continuous AC Power to Load (Off-Grid)	5000W 20.8A-L (240V)
Surge AC Power 10sec Surge AC Power 100ms	16,000VA L-L (240V) 25,000VA L-L(240V)
Parallel Stacking	No
Frequency	60/50Hz
Continuous AC Power with Grid or Generator	15120W 63A L-L (240V)
CEC Efficiency	96.5% (Peak 97.5%)
Idle Consumption Typical—No Load	60W
Sell Back Power Modes	Limited to Household/Fully 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 5000W
Type	Lead-Acid or Li-Ion
Nominal DC Input	48V
Capacity	50 — 9900Ah
Voltage Range	43.0 — 63.0V
Continuous Battery Charging Output	120A
Charging Curve	3-Stage w/ Equalization
Grid to Batt Charging Efficiency	96.0%
External Temperature Sensor	Included
Current Shunt for Accurate % SOC	Integrated
External Gen Start Based on Voltage or %SOC	Integrated
Communication to Lithium Battery	CanBus & RS485

General	
Dimensions (H x W x D)	30.0” x 18.3” x 10.0”
Weight	78 lbs
Enclosure	NEMA 3R
Ambient Temperature	-25-55°C, >45°C Derating
Installation Style	Wall-Mounted
Wi-Fi & LAN Communication	Included
Standard Warranty (verified by HALT Testing)	5 Years

Protections & 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, IEE-E1547a-2003/2014, FCC 15 Class B, UL1741SA,	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	Integrated
PV Input Lightning Protection	Integrated
PV String Input Reverse Polarity Protection	Integrated
AC Output Breakers - 63A	Integrated
250A Battery Breaker / Disconnect	Integrated
Surge Protection	DC Type II / AC Type II

Design Type	DC Transformerless						AC Coupled	
Brand & Model	Sol-Ark 12K	Sol-Ark 8K	Sol-Ark 5K	Generac PWRcell 7.6 +4xS2500	SolarEdge Energy Hub 7.6 32xP400	Panasonic (Darfon) 2xH5001	Enphase 2x10 +36xIQ7P	Tesla 2x Powerwall2 + String Inv
MSRP Price	$6,900	$6,100	$4,500	$6,500	$7,600	$6,200	$28,700	$19,400
Solar PV *Continuous Power*	12KW	9KW	6.5KW	11KW	7.6KW	2x6KW	10.4KW	12KW
Inverter AC Continuous Power	9KW	8KW	5KW	7.6KW	7.6KW	2x5KW	10.4KW	2x5KW
Inverter Battery Continuous Power	9KW	8KW	5KW	9KW	6.1KW	2x5.5KW	2x3.8KW	2x5KW
Off Grid Inverter AC *Peak Power* (5s)	16KW	16KW	16KW	12KW	6.9KW	13KW	8.8KW	14KW
System Idle Power	60W	60W	60W			200W		78W
AC to DC Charger	185A	185A	120A	6.7KW	5KW?	120A	N/A	N/A
User Interface	color touch	color touch	color touch	Text	Text	Text	X	X
PV to Batt Efficiency @ 65%	97.5%	97.5%	97.5%	92.0%	92.5%	91.0%	92.0%	92.5%
AC to Batt Efficiency @ 65%	96.0%	96.0%	96.0%	93.0%	93.5%	90.0%	95.0%	95.0%
Batt to AC Efficiency @ 65%	95.5%	95.5%	95.5%	93.0%	93.5%	90.0%	95.0%	95.0%
On Grid PV to *AC Efficiency* @ CEC	96.5%	96.5%	96.5%	95.5%	98.0%	95.5%	97.0%	97.0%
Time of Use or Off Grid PV -> Batt -> AC *Losses* @ 65%	7%	7%	7%	15%	14%	19%	13%	13%
Grid Failure *UPS Transfer Time*	4ms	4ms	4ms	1000ms	3000ms	20ms	2000ms	2000ms
Low Cost Easy Install	✓	✓	✓	✓	✓	✓	✓	✓
Warranty	10 yr	5/10 yr	5 yr	10 yr	12/20/25 yr	10 yr	10 yr	10 yr
AC Coupling to existing Inverters	✓	✓	✓	X	✓	✓	✓	✓
Parallel Stacking	✓	X	X	X	✓	✓	✓	✓
120/240/208V 3Phase	✓	X	X	✓	X	X	X	✓
Generator Charging	✓	✓	✓	X	X	X	X	X
AC Load Shedding for TOU & Off Grid	✓	✓	✓	✓	X	X	X	X
California & HECO (Grid Sell)	✓	✓	X	✓	✓	✓	✓	✓
NEC UL1699B Arc Fault	✓	✓	✓	✓	✓	X	✓	✓
Outdoor Enclosure	✓	✓	✓	✓	✓	X	✓	✓
Battery Bank	20KWh 6000cycles +$13K	20KWh +$13K	20KWh +$13K	18KWh 3500c +$13K	2x9.8KWh 3000c +$12K	18KWh 3000c +$15K	21.0KWh 6000cycles	28KWh 3500cycles