## Sol-Ark-12K-P Specifications

### Solar Output Power 12000W
- **Max allowed PV Power**: 6500W + 5000W = 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**: 125V
- **Number of MPPT**: 2
- **Max Solar Strings per MPPT**: 2
- **Max DC current per MPPT (self limiting)**: 20A@300V, 18A@400V
- **Max AC Coupled Input (Micro/String Inverters)**: 9600W / 9600W

### AC Output Power 9000W On Grid & 9000W Off Grid
- **Connectons**: 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)**: 4800W 40A L-N (120V)
- **Surge AC power 10sec**: 16,000VA L-L (240V)
- **Surge AC power 100ms**: 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 CEC Efficiency**: 96.5% (Peak 97.5%)
- **Idle Consumption typical – no load**: 60W
- **Sell back power modes**: 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 cerified safety by SGS labs to NEC & UL specs – NEC 690.4B & NEC 705.4/6**: 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
- **Battery breaker / disconnect**: integrated
- **AC input/output 63A breakers**: integrated
- **User wiring enclosure w/ ¾” & 1” knock-outs**: integrated
- **Solar Flare/EMP Hardened to 2015 MIL-STD-461G (Independently tested June 2018)**: optional

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