

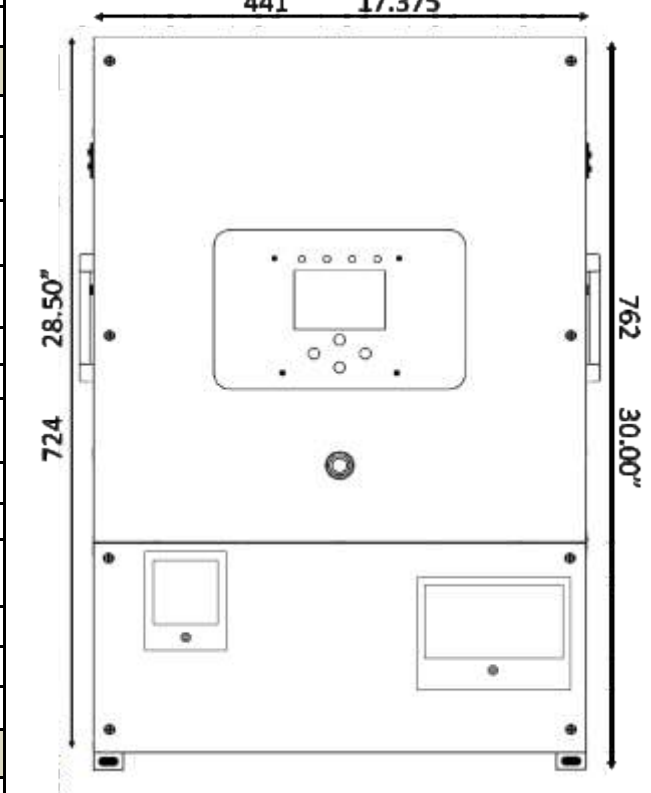
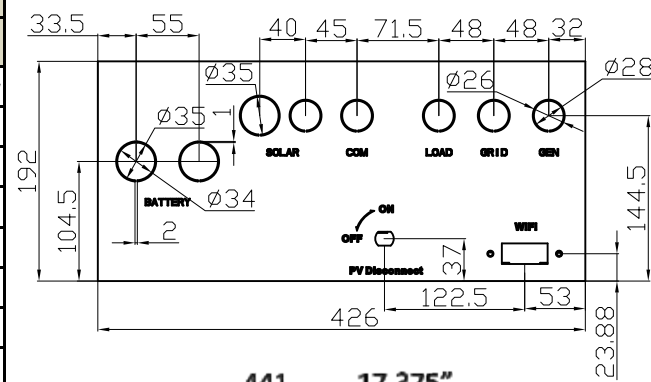
## Sol-Ark-12K-P Specifications

| Solar Output Power 12000W                      |                         |
|--|-------------------------|
| Max allowed PV DC Capacity                     | 8,250W+8,250W = 16,500W |
| Max PV power delivered to Battery & AC outputs | 12000W                  |
| Max DC voltage                                 | 500V@18A, 450V@20A      |
| MPPT voltage range                             | 150-425V                |
| MPPT 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 Coupling (Gen Breaker / Load Breaker)   | 7,600W / 9,600W         |

| AC Output Power 9000W On Grid & 8000W Off Grid |  |
|--|--|
| Connections                                    | 120/240/208V split phase                       |
| Continuous AC power to Grid (On Grid)          | 9000W 37.5A L-L (255V)<br>4800W 40A L-N (120V) |
| Continuous AC power to Loads (Off Grid)        | 8000W 33A L-L (240V)<br>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), 3-9 (208V)                         |
| Frequency                                      | 60/50Hz  |
| Continuous AC power with Grid or Generator     | 12000W 50A L-L (240V)<br>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) 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 16.75" x 9.37"    |
| Weight   | 74 lbs                    |
| Enclosure  | NEMA type 1 (Indoor Use)  |
| 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 |
| 250A Battery breaker / disconnect   | integrated |
| User wiring enclosure w/ 3/4" & 1" knock-outs   | integrated |
| Solar Flare/EMP Hardened to 2015 MIL-STD-461G (Independently tested June 2018)                              | optional   |

# SOL-ARK 12K

## READY



+



+



**COMMERCIAL / MEDICAL**  
No Glitch Transfer



**MILITARY**  
Cage Code: 7U4P4



**GRID SELL**  
+Time of Use



**OFF-GRID**  
Battery Agnostic

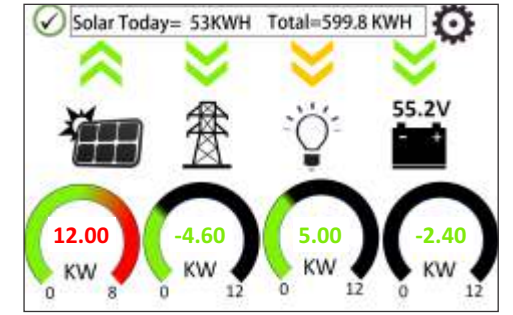


**RETRO-FIT**  
AC Coupling

# Competitor Comparison

| Design Type                             | DC Transformerless       |               |                          |                              | DC Coupled                     |                            |                          | AC Coupled                    |                                |                      |                       |                            |                                  |
|---|--------------------------|---------------|--------------------------|------------------------------|--------------------------------|----------------------------|--------------------------|-------------------------------|--------------------------------|----------------------|-----------------------|----------------------------|----------------------------------|
|   | Sol-Ark 12K              | Sol-Ark 8K    | Outback Skybox 2x5BX5048 | Generac PWRcell 7.6 +4x52500 | SolarEdge StorEdge 7.6 32xP400 | Panasonic (Darfon) 2xH5001 | Outback Radian FPR-8048A | Schneider XWPPro.8 + 3xMPPT80 | Victron 2xQuattro5K +3xMPPT150 | SMA 11000TL + 2x4548 | Enphase 2x10 +36xIQ7P | Sonnen ECO-20 + String Inv | Tesla 2x Powerwall2 + String Inv |
| Brand & Model                           |                          |               |                          |                              |                                |                            |                          |                               |                                |                      |                       |                            |                                  |
| MSRP Price                              | \$6,850                  | \$6,100       | \$10,000                 | \$6,500                      | \$6,900                        | \$6,200                    | \$8,000                  | \$9,900                       | \$9,200                        | \$9,800              | \$36,500              | \$24,000                   | \$19,400                         |
| Solar PV Continuous Power               | 12KW                     | 9KW           | 2x5.5KW                  | 8KW                          | 7.6KW                          | 2x6KW                      | 7.7KW                    | 11.6KW                        | 12KW                           | 11KW                 | 10.4KW                | 12KW                       | 12KW                             |
| Inverter AC Continuous Power            | 9KW                      | 9KW           | 2x5KW                    | 7.6KW                        | 7.6KW                          | 2x5KW                      | 8KW                      | 6.8KW                         | 8KW                            | 11KW                 | 10.4KW                | 8KW                        | 2x5KW                            |
| Inverter Battery Continuous Power       | 20KW                     | 20KW          | 2x5KW                    | 6.7KW                        | 5KW                            | 2x5.5KW                    | 8KW                      | 6.8KW                         | 8KW                            | 2x4.5KW              | 2x3.8KW               | 8KW                        | 2x5KW                            |
| Off Grid Inverter AC Peak Power (5s)    | 60W                      | 280W          | 10KW                     | 12KW                         | 7.6KW                          | 13KW                       | 12KW                     | 12KW                          | 20KW                           | 20KW                 | 8.8KW                 | 14KW                       | 14KW                             |
| System Idle Power                       | 60W                      | 280W          | 200W                     | 200W                         | 200W                           | 200W                       | 76W                      | 48W                           | 75W                            | 50W                  | 60W                   | 78W                        | 78W                              |
| AC to DC Charger                        | 185A                     | 200A          | 200A                     | 6.7KW                        | 5KW                            | 120A                       | 115A                     | 140A                          | 255A                           | 170A                 | N/A                   | 115A                       | N/A                              |
| User Interface                          | color touch              | color touch   | color touch              | Text                         | Text                           | Text                       | Text                     | Text                          | color touch                    | Text                 | X                     | color touch                | X                                |
| PV to Batt Efficiency @ 65%             | 97.5%                    | 81.0%         | 97.5%                    | 92.0%                        | 91.0%                          | 91.0%                      | 97.5%                    | 96.0%                         | 97.5%                          | 78.0%                | 92.0%                 | 82.0%                      | 92.5%                            |
| AC to Batt Efficiency @ 65%             | 96.0%                    | 80.0%         | 96.0%                    | 93.0%                        | 91.0%                          | 90.0%                      | 85.0%                    | 91.5%                         | 85.0%                          | 80.0%                | 95.0%                 | 85.0%                      | 95.0%                            |
| Batt to AC Efficiency @ 65%             | 95.5%                    | 94.5%         | 94.5%                    | 93.0%                        | 88.0%                          | 90.0%                      | 93.0%                    | 92.5%                         | 91.5%                          | 94.5%                | 95.0%                 | 93.0%                      | 95.0%                            |
| On Grid PV to AC Efficiency @ CEC       | 96.5%                    | 94.0%         | 94.0%                    | 95.5%                        | 96.5%                          | 95.5%                      | 90.2%                    | 88.5%                         | 89.2%                          | 98.0%                | 97.0%                 | 97.0%                      | 97.0%                            |
| Time of Use or Off Grid                 | 7%                       | 7%            | 7%                       | 15%                          | 21%                            | 19%                        | 10%                      | 12%                           | 11%                            | 28%                  | 13%                   | 25%                        | 13%                              |
| PV -> Batt -> AC Losses @ 65%           | 4ms                      | 8ms           | 20ms                     | 1000ms                       | 2000ms                         | 20ms                       | 8ms                      | 8ms                           | 20ms                           | 5000ms               | 2000ms                | 100ms                      | 2000ms                           |
| Grid Failure UPS Transfer Time          | optional +\$1.5K         | opt +\$1.2K   | X                        | X                            | X                              | X                          | X                        | X                             | X                              | X                    | X                     | X                          | X                                |
| EMP/Solar Flare Hardened to >100KV/m    | ✓                        | ✓             | ✓                        | ✓                            | ✓                              | ✓                          | ✓                        | ✓                             | ✓                              | ✓                    | ✓                     | ✓                          | ✓                                |
| Low Cost Easy Install Warranty          | 10 yr                    | 5/10 yr       | 5/10 yr                  | 10 yr                        | 12/20/25 yr                    | 5/10 yr                    | 5/10 yr                  | 10 yr                         | 5yr                            | 10 yr                | 10 yr                 | 10 yr                      | 10 yr                            |
| AC Coupling to existing Inverters       | ✓                        | ✓             | ✓                        | X                            | ✓                              | ✓                          | ✓                        | ✓                             | ✓                              | ✓                    | X                     | ✓                          | ✓                                |
| Parallel Stacking                       | ✓                        | X             | ✓                        | X                            | X                              | ✓                          | X                        | ✓                             | ✓                              | ✓                    | X                     | ✓                          | ✓                                |
| 120/240/208V 3Phase Generator Support   | ✓                        | X             | ✓                        | ✓                            | X                              | X                          | X                        | ✓                             | ✓                              | ✓                    | X                     | ✓                          | ✓                                |
| AC Load Shedding for TOU & Off Grid     | ✓                        | ✓             | ✓                        | X                            | X                              | X                          | X                        | X                             | ✓                              | X                    | X                     | ✓                          | X                                |
| UL1741SA/Rule 21 & 14H (Grid Sell only) | ✓                        | ✓             | ✓                        | ✓                            | ✓                              | ✓                          | ✓                        | ✓                             | ✓                              | ✓                    | ✓                     | ✓                          | ✓                                |
| NEC UL1699B Arc Fault Outdoor Enclosure | ✓                        | ✓             | ✓                        | ✓                            | ✓                              | ✓                          | ✓                        | ✓                             | ✓                              | ✓                    | ✓                     | ✓                          | ✓                                |
| Battery Bank                            | 22KWh/2400cycles +\$5.2K | 22KWh +\$5.2K | 26KWh +\$7.2K            | 20.3KWh 3500c +\$14K         | 2x9.8KWh 3000c +\$12K          | 19.4KWh 6000c +\$19K       | 26KWh +\$7.2K            | 26KWh +\$7.2K                 | 26KWh +\$7.2K                  | 26KWh +\$7.2K        | 21.0KWh 6000Cycles    | 20KWh 6000Cycles           | 28KWh 3500Cycles                 |

# STACKABLE, No Glitch, ALL-IN-ONE HYBRID



Color Touch Display

## What's Inside

Two Built-In 500V Charge Controllers

1 - 6 PV Strings

Battery Disconnect

48V Battery Input

Battery Temp Sensor

Auto-Generator Start

Rapid Shut Down Signal

Current Sensors Included

Battery Communication

PV Disconnect

Wiring Knockouts & WiFi

50A AC In/Out

50A AC Load Out

40A AC Gen In/Smart Load Out



## Limitless

PARALLEL STACKING (1-9), GRID SELL, METER ZERO, TIME OF USE, SMART LOAD, PEAK SHAVING, 20 kW PEAK POWER, 9.6kW AC COUPLING

## Highly Accelerated Life Testing

PROVEN TO LAST WELL BEYOND THE STANDARD 10 YEAR WARRANTY

## Engineered, Tested, Serviced in U.S.A

TALK TO A US BASED ENGINEER 7 DAYS A WEEK

## No Glitch Switch

FASTEST TRANSFER TIME

Free Remote Monitoring / Programming

