

Vertical Residential All-in-One ESS



- **All-in-One Design**

AIO modular system that includes inverter, charger controller, UPS-level switching system and battery modules

- **Easy Installation & Capacity Expansion**

Plug & Play modular design
Save 50% installation time
Save 50% installation space
Scalable up to 30.72kWh

- **High Safety**

IP65 outdoor design
3-level (cell-pack-system) protection
AFCI standard
Overload capacity 150% for 10mins

- **Easy Management**

Dynamic SOC calibration
RSD Ready & VPP Ready
Support remote monitoring through mobile phone
APP & global Cloud platform available

Technical specification:

| | Ares 3KAL | Ares 3.6KAL | Ares 4KAL | Ares 4.6KAL | Ares 5KAL | Ares 5.5KAL | Ares 6KAL |
|---------------------------------------|---|---------------|---------------|---------------|---------------|---------------|---------------|
| PV Input | | | | | | | |
| Max. Input Power | 4.5 kW | 5.4 kW | 6.0 kW | 6.9 kW | 7.5 kW | 8.3 kW | 9.0 kW |
| Max. PV Voltage | 550 V | | | | | | |
| MPPT Range | 80 - 500 V | | | | | | |
| Full MPPT Range | 90 - 500 V | 110 - 500 V | 120 - 500 V | 130 - 500 V | 150 - 500 V | 160 - 500 V | 170 - 500 V |
| Normal Voltage | 360 V | | | | | | |
| Startup Voltage | 100 V | | | | | | |
| Max. Input Current | 18.5 x 2 A | | | | | | |
| Max. Short Current | 26 x 2 A | | | | | | |
| No. of MPP Tracker / No. of PV String | 2/2 | | | | | | |
| Battery Port | | | | | | | |
| Max. Charge/Discharge Power | 3.0 kW | 3.6 kW | 4.0 kW | 4.6 kW | 5.0 kW | 5.5 kW | 6.0 kW |
| Max. Charge/Discharge Current | 80 A | | | 120 A | | | |
| Battery Normal Voltage | 51.2 V | | | | | | |
| Battery Voltage Range | 40 - 60 V | | | | | | |
| Battery Type | Li-ion / Lead-acid etc. | | | | | | |
| AC Grid | | | | | | | |
| Max Continuous Current | 14.0 A | 17.0 A | 19.0 A | 22.0 A | 23.0 A | 26.0 A | 28.0 A |
| Max Continuous Power | 3.0 kVA | 3.6 kVA | 4.0 kVA | 4.6 kVA | 5.0 kVA | 5.5 kVA | 6.0 kVA |
| Nominal Grid Current | 13.7 / 13.1 A | 16.4 / 15.7 A | 18.2 / 17.4 A | 21.0 / 20.0 A | 22.8 / 21.8 A | 25.0 / 24.0 A | 27.3 / 26.1 A |
| Nominal Grid Voltage | 198 to 242 @ 220 / 207 to 253 @ 230 V | | | | | | |
| Nominal Grid Frequency | 50 / 60 Hz | | | | | | |
| Power Factor | 0.999 (Adjustable from 0.8 overexcited to 0.8 underexcited) | | | | | | |
| Current THD | < 3 % | | | | | | |
| AC Load Output (Back-up) | | | | | | | |
| Max Continuous Current | 14.0 A | 17.0 A | 19.0 A | 22.0 A | 23.0 A | 26.0 A | 28.0 A |
| Max Continuous Power | 3.0 kVA | 3.6 kVA | 4.0 kVA | 4.6 kVA | 5.0 kVA | 5.5 kVA | 6.0 kVA |
| Max Peak Current (10min) | 20.5 / 19.6A | 24.6 / 23.5A | 27.3 / 26.1A | 31.4 / 30A | 34.1 / 32.7A | 37.8 / 36.1A | 41.0 / 39.2A |
| Max Peak Power (10min) | 4.5 kVA | 5.4 kVA | 6.0 kVA | 6.9 kVA | 7.5 kVA | 8.3 kVA | 9.0 kVA |
| Nominal AC Voltage L-N | 220 / 230 V | | | | | | |
| Nominal AC Frequency | 50 / 60 Hz | | | | | | |
| Switching Time | < 10 ms | | | | | | |
| Voltage THD | < 3 c | | | | | | |
| Efficiency | | | | | | | |
| CEC Efficiency | 97.0 % | | | | | 98.1 % | |
| Max. Efficiency | 97.6 % | | | | | 98.1 % | |
| PV to Bat. Efficiency | 98.1 % | | | | | 98.1 % | |
| Bat. between AC Efficiency | 96.8 % | | | | | 96.8 % | |
| Protection | | | | | | | |
| PV Reverse Polarity Protection | Yes | | | | | | |
| Over Current/Voltage Protection | Yes | | | | | | |
| Anti-Islanding Protection | Yes | | | | | | |
| AC Short Circuit Protection | Yes | | | | | | |
| Residual Current Detection | Yes | | | | | | |
| Ground Fault Monitoring | Yes | | | | | | |
| Insulation Resister Detection | Yes | | | | | | |
| PV Arc Detection | Yes | | | | | | |
| Enclosure Protect Level | IP65 / NEMA4X | | | | | | |

Technical specification:

Ares 3KAL Ares 3.6KAL Ares 4KAL Ares 4.6KAL Ares 5KAL Ares 5.5KAL Ares 6KAL

| General Data | |
|------------------------------------|--|
| Dimensions (W*H*D) | 600 x 430 x 210 mm |
| Weight | 25 kg |
| Topology | Transformerless |
| Cooling | Intelligent Fan |
| Relatively Humidity | 0-100 % |
| Operating Temperature Range | - 25 to 60 °C |
| Operating Altitude | ≤ 2000° m |
| Noise Emission | < 25 dB |
| Standby Consumption | < 10 W |
| Mounting | Wall Bracket |
| Communication with RSD | SUNSPEC |
| Display & Communication Interfaces | LCD, LED, RS485, CAN, Wi-Fi, GPRS, 4G |
| Certification & Approvals | NRS097, G98/G99, EN50549-1, C10/C11, AS4777.2, VDE-AR-N4105, VDE0126, IEC62109-1, IEC62109-2 |
| EMC | EN61000-6-2, EN61000-6-3 |

| Battery Cell Technology | | PowerCool-LFP-VLV | | | | | |
|-----------------------------------|-------------|--|--------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|
| | | 1pcs | 2pcs | 3pcs | 4pcs | 5pcs | 6pcs |
| Number of Pack | | 1pcs | 2pcs | 3pcs | 4pcs | 5pcs | 6pcs |
| Total Energy* | | 5.12 kWh | 10.24 kWh | 15.36 kWh | 20.48 kWh | 25.6 kWh | 30.72 kWh |
| Usable Energy* | | 4.86 kWh | 9.72 kWh | 14.59 kWh | 19.45 kWh | 24.32 kWh | 29.18 kWh |
| Voltage Range | | 44.8 ~ 57.6 Vd.c | | | | | |
| Nominal Voltage | | 51.2 V | | | | | |
| Max. Charge Voltage | | 57.6 V | | | | | |
| Max. Continuous Charging Current | | 50 A | 100 A | 120 A | 120 A | 120 A | 120 A |
| Max. Continuous Discharge Current | | 50 A | 100 A | 120 A | 120 A | 120 A | 120 A |
| DOD | | 95 % | | | | | |
| Communication | | CAN | | | | | |
| Dimension(L*W*H) | | (600±2) * (215±2) * (360±3) mm | (600±2) * (215±2) * (680±5) mm | (600±2) * (215±2) * (1000±7) mm | (600±2) * (215±2) * (1320±9) mm | (600±2) * (215±2) * (1640±9) mm | (600±2) * (215±2) * (1960±9) mm |
| Net Weight | | (50±2) kg | (97±4) kg | (144±6) kg | (191±6) kg | (238±6) kg | (285±6) kg |
| Operating Condition | | Indoor or outdoor | | | | | |
| Operating Temperature | Charging | 0~55 °C | | | | | |
| | Discharging | 0~55 °C | | | | | |
| Humidity | | 5% ~ 95% (No Condensation) | | | | | |
| Cooling Type | | Natural | | | | | |
| IP Rating | | IP65 | | | | | |
| Installation Method | | Stacked installation | | | | | |
| Warranty | | 10 years (5 free warranty + 5 paid warranty) | | | | | |
| Configuration | | IEC62619,IEC63056,IEC61000-6-1,IEC61000-6-3,IEC62477-1,IEC60730,IEC62040,UN38.3,MSDS | | | | | |

Testing conditions based on temperature 25°C at the beginning of life.

*Total Energy/Usable Energy measured under specific conditions from PowerCool-LFP 0.2C CC-CV