SUNGOLDPOWER

Freedom Pro 16K-48




# 16KW 48V All-in-One Solar Charge Inverter

## Powerful Performance | Total Flexibility | Smart Energy | Reliable Anytime

The SunGoldPower **16kW** Solar Charge Inverter, Compatible with lead-acid and lithium batteries, featuring dual activation to instantly wake dormant lithium via grid or solar. Delivers stable split-phase pure sine wave output with adjustable voltage options, while dual MPPTs (up to 99% efficiency, 36A per circuit) maximize solar harvest and support high-power modules for superior energy output.

Multiple charging modes and time-of-use scheduling help cut energy costs with ease. Built-in UPS, energy-saving mode, and 130% unbalanced load support ensure continuous, stable power in any scenario. With an intuitive LCD display, full-scale protection, and CAN/USB/RS485 connectivity, it's a dependable solution for efficient and worry-free energy storage.

- Support Different Batteries
- Dual Activation Function
- Supports 6 parallel units
- Supports 6 Different Voltage
- Dual MPPT
- WIFI Module Monitoring
- 4 Charging Modes
- 360° Protection
- Large LCD Display
- Breaker Module

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# Technical Specifications

| Product Model | Freedom Pro 16K-48 |
|---|---|
| **Inverter Output** | |
| Rated Output Power | 16000W |
| Max. Peak Power | 2 times rated power, 10s |
| Max. Apparent Power | 16000VA |
| Rated Output Voltage | 120Vac/240Vac (L1+L2+N+PE) |
| Rated Output Current | 66.7Aac |
| Motor Load Capacity | 9HP |
| Rated Output Frequency | 50/60Hz |
| Waveform | Pure sine wave |
| Switch Time | 10 ms (typical) |
| **Battery Input** | |
| Battery Type | Li-ion Battery / Lead-Acid Battery / User Defined |
| Rated Battery Voltage | 48Vdc |
| Battery Voltage Range | 40-60Vdc |
| Max. Grid/Generator Charging Current | 300Adc |
| Max. Charging/Discharging Current | 300Adc |
| Charging Curve | 3 Stages /Equalization |
| Charging Strategy for Li-Ion Battery | Self-adaption to BMS |
| **PV Input** | |
| No. of MPPT Trackers | 2 |
| Max. PV array power | 12KW + 12KW |
| Max. PV Input Current | 36Adc+36Adc |
| PV Short-circuit Current | 50Adc + 50Adc |
| Max. PV Open-Circuit Voltage | 600Vdc/600Vdc |
| MPPT Operating Voltage Range | 120-550Vdc/120-550Vdc |
| **Grid / Generator Input** | |
| Rated Input Voltage | 120Vac/240Vac (L1+L2+N+PE) |
| Input Voltage Range | 85-140Vac/170-280Vac |
| Rated Input Frequency | 50/60Hz |
| Bypass Overload Current (Grid) | 100Aac |
| **Protection** | |
| Battery Protection,AC Output Short-circuit Protection,Overload Protection,Overtemperature Protection,PV Overvoltage Protection...Built-in advanced safety system with AFCI, GFCI, and Rapid Shutdown (RSD), fully aligned with U.S. safety standards. | |
| **General Data** | |
| Parallel Capacity | 1~6 units |
| Dimensions | 24.5 x 33.61 x 8.48 inches |
| Weight | 105 lbs |
| Protection Degree | IP20, indoor use only |
| Operating Temperature Range | 14 ~ 131 °F, >113 °F Derated |
| Noise | <60dB |
| Cooling Method | Intelligent Air Cooling |
| **Communication** | |
| Internal Interface | RS485 / CAN/ WiFi/ Dry contact |
| External Module (optional) | WiFi/ 4G Stick |
| **Certified Specifications** | |
| Safety standards | IEC62109-1, IEC62109-1, IEC62109-2, UL1741 |
| EMC | EN61000-6-1, EN61000-6-3, and FCC 15 Class B |

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