

NOVA 12K

SPLIT-PHASE HYBRID INVERTER



High Power Output & System Scalability

10kW continuous pure sine wave output with 91% DC-to-AC efficiency for stable, reliable performance.

Parallel operation of up to 6 units for a total system capacity of 60kW.

Hybrid split-phase design supporting off-grid, grid-tied with battery backup, AC-coupled systems, and secondary input sources including generators.

Compatible with 120/240V and 120/208V split-phase applications.

High-Performance Solar Input & Energy Conversion

Dual MPPTs with 120–550VDC high-voltage and 18A high-current input ranges.

Supports up to 600VDC PV input and a recommended 12kW PV array without a combiner box, enabling reduced cable size.

Door-type cable compartment for cleaner, safer wiring and easier installation.

Intelligent Monitoring & System Integration

Built-in Wi-Fi with mobile app for real-time monitoring and remote control.

RS485 communication port for seamless BMS integration.

User-adjustable charging current/voltage for precise system configuration.

External CT sensor enabling true 100% self-consumption control.

Comprehensive Protection & High-Capacity Battery Charging

Up to 200A max charging current, compatible with 48V AGM, Gel, Lithium, and Flooded batteries.

Built-in 300A DC breaker, 60A AC breaker, and lightning & ground-fault protection for enhanced electrical safety.

Integrated arc-fault detection (AFD) and rapid shutdown (RSD) safety compliance.

IP65-rated enclosure for waterproof, dust-proof, and outdoor-ready durability.

SPECIFICATIONS

Model	RS-H12K
Product Name	NOVA 12K

PV INPUT (DC)

Max DC Power	12,000W
MPPT Voltage Range	120–550VDC
Max PV Input Current	2 x 18A (Max 30A)
Max DC Voltage	600VDC

AC OUTPUT (GRID / BATTERY MODE)

Nominal Output Voltage	120VAC (P-N) / 208VAC (P-P) / 240VAC (P-P)
Output Power	10,000W/10,000VA
Output Frequency	50/60Hz (Auto Detection)
Output Waveform	Pure Sine Wave
Efficiency (DC-to-AC)	91%
Inrush Current	50A / 20ms
Power Factor	0.9 lead–0.9 lag

AC INPUT

Input Voltage Range	85–140VAC (per phase)
Nominal Frequency	50/60Hz
Input Power	10,000W

BATTERY & CHARGER

Battery Type	Lead-acid/Li-ion
Nominal Voltage	48VDC
Voltage Range	40–62VDC
Max Charge Current	200A
Max Discharge Current	200A

INTERFACE

Communication Port	RS232/Wi-Fi/BMS/USB
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GENERAL

Ingress Protection	IP65
Operating Temperature	–13°F to 140°F (derating above 113°F)
Dimensions (D × W × H)	8.5 × 20.3 × 31.4 in
Net Weight	108.0 lbs

CERTIFICATION

Compliance	UL 1741, FCC, CE, RoHS
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