3200W 48VDC 230V Sine Wave Solar Inverter/Charger - 90A MPPT Solar Charge Controller, Parallel Operation, Hardwire Input/Output

MODEL NUMBER: **APSWX4KP48VMPPT**

Converts solar energy into usable electricity, manages the flow of energy between solar panels, batteries, and the electrical grid, and provides backup power during outages.

Highlights

- Delivers pure sine wave 230V AC power from AC or DC sources.
- Ideal for installation in rural or remote sites including residential, leisure, gas/oil and forestry
- Priority source selection alternates to deliver whichever power is optimal at the time
- Built-in Maximum Power Point Tracking (MPPT) solar charge controller that optimizes power generation from the solar panels.
- Auto-transfer switching option allows the unit to function as an extended-run UPS

Package Includes

- APSWX4KP48VMPPT Sine Wave Solar Inverter/Charger
- DB15 parallel cable
- DB9-to-RJ45 RS-232 cable
- AC wire retention kit (bracket & hardware)
- Owner's manual

Features

Provides Reliable, Independent Power For Home or Business
This pure sine wave hybrid inverter/charger intelligently manages power coming from your solar panels, batteries, and the utility grid all at the same time. It can allow for grid-tied operation and efficiently converts DC power from solar panels into AC power for immediate use or for energy storage in batteries, and vice versa. It converts stored power from any 48V DC battery source to network-grade AC power for sensitive electronics, including computers and laptops, network and audio/video equipment or office and household appliances. Recommended for rural and residential environments, telecommunications, gas and oil exploration, mining, forestry and other industries with remote sites. The APSWX4KP48VMPPT is an excellent solution for energy savings in grid-tied and off-grid environments.

Optimal Performance of The Solar Energy System
With built-in MPPT (Maximum Power Point Tracking) the APSWX4KP48VMPPT tracks and adjusts to the optimal point of power generation, resulting in increased energy production from the solar panels. This also improves the overall efficiency of the solar system, even in low-light conditions, resulting in consistent energy production throughout the day.

Priority Source Selection Allows Automatic Switching to Optimal Power Sources
The APSWX4KP48VMPPT uses priority source selection to alternate between utility and solar power when charging batteries, depending on which is optimal at that time. When powering a 230V AC connected load, the inverter will alternate between utility, solar and battery power. An automatic overload detector, cooling fan and resettable AC circuit breakers help protect the unit from damage.

Works as an Inverter, Standalone Power Source or UPS System
An automatic line-to-battery transfer switch and built-in maximum power point tracking (MPPT) charge controller allow the APSWX4KP48VMPPT to function as an inverter, standalone AC power source or extended-run UPS in environments with weak or unreliable solar or utility power. It delivers 3200W of continuous power and 6400W of peak power to handle high power draw during equipment startup or cycling. When used as a UPS, the APSWX4KP48VMPPT responds to blackouts and brownouts with an automatic transfer to battery-derived AC output.

Configures in Single-Phase or 3-Phase Parallel Connection

You may configure as many as to nine APSWX4KP48VMPPT units in a single-phase parallel connection for increased capacity up to 28.8kW or in a 3-phase parallel connection for increased capacity up to 9.6kW. Connecting in parallel is ideal for high-capacity residential, industrial and commercial installations.

Input Terminals Allow Hardwired Installation
High-current DC input terminals allow hardwired connection to an external energy storage battery system. Designed for easy installation in rural or remote sites including residential, leisure, gas/oil and forestry the APSWX4KP48VMPPT keeps the battery charged via the built-in AC and solar hybrid charging system while simultaneously delivering AC power to connected equipment. Pure sine wave power has less electrical noise and static for a clean signal that won't damage equipment.

Enhanced Management and Safety Features
The front control panel with LCD provides real-time readout of all system functions and robust configuration options to meet the needs of your application. An on/off switch allows instant one-touch control over connected devices. A wired remote control is included, which lets you control the APSWX4KP48VMPPT from up to 10 meters away. Five-way fault protection (high voltage, overload, overheat, short circuit, locked fan), an audible alarm and LEDs help increase operational safety.

Compatible with Photovoltaic Solar Panels
This pure sine wave solar inverter/charger works with photovoltaic (PV) solar panels, including single-crystalline, poly-crystalline with Class A rating and CIGS. For optimal performance, use "deep cycle" batteries with the APSWX4KP48VMPPT, preferably wet-cell (vented), gel-cell/absorbed glass mat (sealed) or Lithium batteries.

Meets Vital Safety and Emission Standards
With its highly efficient hybrid operation, the APSWX4KP48VMPPT carries certifications to meet CE and UKCA safety and emission directives.

Rugged Steel Housing Comes Ready for Mounting
The steel case resists moisture, vibration, impact and high-humidity environments. Built-in mounting brackets allow wall installation in a cool, dry location.

Specifications

OVERVIEW	
UPC Code	037332256478
INPUT	
Solar Panel	Non-isolated system. Compatible with Mono-crystalline, Poly-crystalline with Grade A rating, and CIGS solar panels.
Nominal Input Voltage(s) Supported	220V AC; 230V AC; 240V AC
Recommended Electrical Service	AC INPUT: 230V 32A circuit breaker recommended. DC INPUT: Requires 48VDC input source capable of delivering 120A for the required duration (when used at full continuous capacity - DC requirements increase during OverPower and DoubleBoost operation). For automotive applications, professional hardwire. PV MPPT INPUT: 120-450VDC Input (450VDC Max Open Circuit Voltage). 5000W Max Solar Panel Configuration
Maximum Input Amps	27.0
Input Connection Type	DC BATTERY INPUT: Set of DC bolt-down terminals. AC INPUT: Hardwire via built in terminal strip with wire retention plate. PV INPUT: Hardwire terminal strip
Voltage Compatibility (VAC)	220; 230; 240
Voltage Compatibility (VDC)	48
Input Frequency	50 / 60 Hz (Input Frequency Range: 47-65Hz)
OUTPUT	

Frequency Compatibility	50 / 60 Hz
Pure Sine Wave Output	Yes
Nominal Output Voltage(s) Supported	220V; 230V; 240V
Output Receptacles	Hardwire
Continuous Output Capacity (Watts)	3200
Peak Output Capacity (Watts)	6400
Output Voltage Regulation	LINE POWER (AC): Maintains nominal sine wave output from line power source. INVERTER POWER (AC): Maintains sine wave output of +/-2%
Output Frequency Regulation	50/60Hz. Battery Mode: 50/60Hz +/- 0.5 Hz
BATTERY	
Expandable Runtime	Yes
Expandable Battery Runtime	User-supplied 48V DC battery system
Expandable Runtime Description	Runtime is expandable with any number of user-supplied wet-cell, gel-cell, or lithium (w/integrated BMS) type batteries
DC System Voltage (VDC)	BATTERY: 48. MPPT PV: 120-450
Battery Pack Accessory (Optional)	Wet/Gel/AGM/SLA/LFP (User Supplied)
Battery Charge	Hybrid selectable 90A max charging system. 60A AC Charger, 90A MPPT Solar Charge Controller, and AC + Solar Charger combined for up to 90A charging.
USER INTERFACE, ALERTS & CONTROLS	
Front Panel LCD Display	Multi-function LCD displays Input, Output, Configuration, Battery Level, Charging Status, Load status. Left segment displays Input Voltage, Input Frequency, Battery Voltage, PV1 Voltage and Charger Current. Middle display: program settings, flash warning codes, fault codes, parallel system quantity (if configured). Right display segment displays Output Voltage, Output Frequency, Load Percentage, Load Current (VA), Load (watts), DC Discharge Current. Graphical icons for battery and load level (0-24%, 25%-49%, 50-74%, 75-100%), operation mode, and mute operation.
Front Panel LEDs	3 LEDs for Operation (Green), Charge (Amber), Fault (Red) Alarm Status. See manual for sequences.
Switches	2 position on/off switch. 4 push buttons up/down/left/right/enter.
PHYSICAL	
Material of Construction	Metal
Cooling Method	Thermal-controlled fan system
Shipping Dimensions (hwd / in.)	20.66 x 14.76 x 7.87
Shipping Dimensions (hwd / cm)	52.50 x 37.50 x 20.00
Shipping Weight (kg)	11.39
Unit Dimensions (hwd / in.)	18.457 x 11.614 x 4.732
Unit Dimensions (hwd / cm)	46.88 X 12.95 X 12.02
Unit Weight (lbs.)	21.10
Unit Weight (kg)	9.57

ENVIRONMENTAL	
Storage Temperature Range	-15° to 60°C
Relative Humidity	0-95% non-condensing
Operating Elevation	0-6562 ft. (0-2000 m)
Audible Noise	60dB front side @ 1 meter
Operating Temperature	0° to 50°C
LINE / BATTERY TRANSFER	
Transfer Time (Line Power to Battery Mode)	10 milliseconds
Low Voltage Transfer to Battery Power	In AC "auto" mode, inverter/charger switches to battery mode as line voltage drops in wide range mode at 120V +/- 7V or Narrow range mode at 170V +/-7V (user adjustable). See manual.
High Voltage Transfer to Battery Power	In AC "auto" mode, inverter/charger switches to battery mode as line voltage rises above 280V +/- 7V
FEATURES & SPECIFICATIONS	
Grounding	Main grounding lug connects inverter/charger to earth or vehicle chassis ground
Generator Start Compatibility	Contact relay signal (NO and NC) contacts
Single-Phase Parallel / Stacking Support	Up to 9 units max for a combined capacity up to 28.8kW
3-Phase Parallel / Stacking Support	Up to 9 units max for a combined capacity up to 9.6kW
STANDARDS & COMPLIANCE	
Product Certifications	EN 61000; IEC 62109-1; IEC 62109-2
Product Compliance	CE (Europe); REACH; RoHS; UKCA
WARRANTY & SUPPORT	
Product Warranty Period (International)	2-year limited warranty

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