

PowerVerter APS 2400W 24VDC 120V Inverter/Charger with Auto-Transfer Switching, Hardwired

MODEL NUMBER: **APS2424**



Description

Tripp Lite's APS2424 DC-to-AC inverter with automatic line-to-battery transfer and integrated charging system serves as an extended run UPS, a standalone power source or an automotive inverter. Supplies up to 2400 watts of continuous 120V AC power from any 24V battery or automotive DC source. OverPower inverter output feature temporarily provides up to 150% of the continuous output for 1-60 minutes, and DoubleBoost inverter output feature delivers up to 200% of the continuous output for up to 10 seconds, providing the extra power needed to cold start heavy-duty tools and motorized equipment. When hardwire AC input is energized, commercial power passes through to connected equipment and the battery set is recharged via 3 stage, 14/55 amp charging system. In UPS mode, the APS system responds to blackouts and voltage fluctuations with a near instantaneous automatic transfer to battery-derived AC output. Includes a set of high current DC input terminals for simple installation (user supplies batteries and cabling - see owner's manual for recommendations). Passes sine wave utility or generator power during battery charging and UPS line power operation, plus efficient PWM sine wave AC output in inverter and UPS backup modes. Reliable large transformer design, with frequency control powers resistive electronic loads or large inductive motors, compressors and other items with high current needs on startup. Optional APSRM4 wired remote power switch with full status LEDs provides remote power inverter on/off switching and continuous status information (APSRM4 sold separate). Supports an unlimited amount of runtime with any number of user-supplied batteries connected. Highly adaptable to a variety of applications and site conditions with adjustable charger settings for wet/gel/SLA battery types and selectable line to battery power transfer voltages.

NOTE: To protect against high current draw that may occur during inverter failure, a fuse link rated at 300a should be positioned no more than 18" from the APS2424's battery in the positive line.

Features

- APS2424 serves as an automotive or stationary DC-to-AC inverter with automatic line-to-battery transfer and integrated battery charger

Highlights

- 24V DC or 120V AC input; 120V AC output (hardwired)
- 2400 watts continuous, 3600 watts OverPower™ and 4800 watts DoubleBoost™ inverter output
- 3 stage, 14/55 amp selectable wet/dry cell battery charger
- Auto Transfer Switching option for battery backup / UPS operation
- Reliability enhanced large-transformer design with protected DC and AC wiring terminals
- Rated over 90% efficient

Applications

- Versatile inverter/charger system with auto-transfer switching serves as an automotive inverter for RVs, over-the-road trucking, conversion vans and fleet service vehicles; a standalone alternative power source for off-grid, alternative energy or export applications and as an uninterruptible power supply (UPS) for items compatible with a 16.6 millisecond transfer time. NOTE: For sump pump applications, Tripp Lite recommends its "UT" Utility Truck Inverter/Chargers.

Package Includes

- APS2424 Inverter/Charger
- Instruction manual with warranty information



- Supports 120V AC output from a 120V AC line power source or 24V DC battery source
- 16.6 millisecond automatic transfer between line and battery power supports UPS protection during blackouts and voltage fluctuations for equipment compatible with a one cycle transfer time
- 2400 watts continuous AC output in inverter mode, 2400 watts continuous AC output in AC mode
- Double Boost inverter output supports momentary startup loads up to 200% of the continuous rating for up to 10 seconds
- OverPower inverter output supports longer duration overloads to 150% for 1-60 minutes under ideal battery and temperature conditions. (For best results, utilize OverPower usage for as short of a duration as possible, ensure battery bank and cabling is able to provide full nominal DC voltage under load and allow inverter/charger to fully cool before and after OverPower usage.)
- 3 stage, 14/55 amp battery charger with adjustable settings for wet/gel battery types offers fast, reliable battery recharging
- Protected hardwire bolt-down input lugs safely accept heavy gauge input wiring from attached battery bank
- Protected hardwire output passes 120V line power or inverter output through to connected equipment
- Reliability enhanced large-transformer design with secure mounting flanges and protected DC wiring terminals
- Moisture-resistant construction enables vehicular or marine operation in high humidity environments
- 3 position operating mode switch supports "AUTO" mode to enable automatic transfer between DC and AC modes, CHARGE-ONLY to maintain a full battery charge when AC is present without auto transfer and SYSTEM OFF settings.
- Set of six front panel LEDs display AC/DC operational modes, overload status, DC voltage level, shutdown status and system fault status
- Set of 4 configuration dials support wet/gel battery charging profiles, adjustable 135/145V high voltage auto transfer during overvoltages and selectable 75/85/95/105V AC low voltage auto transfer during brownouts
- Set of 4 additional configuration dials support 4 levels of charger limiting relative to output load size, a battery equalization program and battery charger low/high settings
- Resettable 30A charger AC input breaker and resettable 20A AC output breaker and automatic 2 speed cooling fan protect the inverter from load and temperature related failures
- Grounding lug properly connects the inverter/charger system to earth ground or vehicle grounding system
- Automatic overload and thermal shutoff safely turns off inverter as excessive loads or overheating conditions develop
- Front panel remote control connector enables remote off/on switching (requires APSRM4 switch accessory). Optional APSRM4 accessory also includes user configurable jacks to support inverter shutoff or startup as a vehicle ignition is engaged
- Load sensing control dial enables adjustable load threshold required to automatically turn the inverter on and off in DC mode as load conditions change

Specifications

OVERVIEW	
Style	Heavy-duty with built-in battery charger
OUTPUT	
Frequency Compatibility	60 Hz
Output Receptacles	Hardwire
Output (Watts)	2400
Continuous Output Capacity (Watts)	2400
Peak Output Capacity (Watts)	4800
Output Nominal Voltage	120V



Output Voltage Regulation	LINE POWER (AC): Maintains 120V nominal sine wave output from line power source. INVERTER POWER (AC): Maintains PWM sine wave output voltage of 120 V AC (+/-5%).
Output Frequency Regulation	60 Hz (+/- 0.3 Hz)
Overload Protection	Includes 30A input breaker dedicated to the charging system and 20A output breaker for AC output loads
INPUT	
Nominal Input Voltage(s) Supported	120V AC
Recommended Electrical Service	DC INPUT: Requires 24VDC input source capable of delivering 112A for the required duration (when used at full continuous capacity - DC requirements increase during Over-Power and Double-Boost operation).
Maximum Input Amps / Watts	DC INPUT: Full continuous load - 112A at 24VDC. AC INPUT: 44 amps at 120VAC with full inverter and charger load (24A max charger-only / combined input load to support charger and AC output is automatically controllable to 66%-33%-0% based on AC output load
Input Connection Type	DC INPUT: Set of 2 DC bolt-down terminals. AC INPUT: Hardwire via built in junction box with cover plate
Voltage Compatibility (VAC)	120
Voltage Compatibility (VDC)	24
BATTERY	
Expandable Battery Runtime	Runtime is expandable with any number of user supplied wet or gel type batteries
DC System Voltage (VDC)	24
Battery Pack Accessory (Optional)	98-121 sealed lead acid battery (optional)
Battery Charge	14A/55A (selectable)
LEDS ALARMS & SWITCHES	
Switches	3 position on/off/remote switch enables simple on/off power control plus "auto/remote" setting that enables distant on/off control of the inverter system when used in conjunction with optional APSRM4 accessory when used in inverter mode. In AC uninterruptible power mode, "auto/remote" setting enables automatic transfer from line power to battery power - to maintain continuous AC power to connected loads.
Front Panel LEDs	Set of 6 LEDs offer continuous status information on load percentage (6 levels reported) and battery charge level (7 levels reported). See manual for sequences.
SURGE / NOISE SUPPRESSION	
AC Suppression Joule Rating	600
PHYSICAL	
Shipping Dimensions (hwd / in.)	13.5 x 15 x 21.5
Shipping Dimensions (hwd / cm)	34.29 x 38.1 x 54.61
Shipping Weight (lbs.)	42
Shipping Weight (kg)	19.1
Unit Dimensions (hwd / in.)	7.25 x 8.5 x 16.25
Unit Dimensions (hwd / cm)	18.42 x 21.59 x 41.28



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Unit Weight (lbs.)	39
Unit Weight (kg)	17.7
Cooling Method	Multi-speed fan
Material of Construction	Polycarbonate
Form Factors Supported	Mounting slots enable permanent placement of inverter on any horizontal surface (see manual for additional mounting information)
ENVIRONMENTAL	
Relative Humidity	0-95% non-condensing
LINE / BATTERY TRANSFER	
Transfer Time (Line Power to Battery Mode)	16.6 milliseconds (typical - compatible with many computers, servers and networking equipment - verify transfer time compatibility of loads for UPS applications)
Low Voltage Transfer to Battery Power	In AC "auto" mode, inverter/charger switches to battery mode as line voltage drops to 75V (user adjustable to 85, 95, 105V - see manual)
High Voltage Transfer to Battery Power	In AC "auto" mode, inverter/charger switches to battery mode as line voltage increases to 135V (user adjustable to 145 - see manual)
SPECIAL FEATURES	
Load Sensing	Optional load sense function enables automatic inverter shutoff and startup as connected equipment is powered off and on. Front panel load sense potentiometer can be set to shutoff or turn on inverter power in response to loads of any level, up to 150 watts.
Remote Control Capability	Yes
WARRANTY	
Product Warranty Period (U.S. & Canada)	1-year limited warranty
Product Warranty Period (International)	2-year limited warranty
Product Warranty Period (Mexico)	2-year limited warranty
Product Warranty Period (Puerto Rico)	1-year limited warranty

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