

PowerVerter® APS 2400W Inverter/Charger with Auto-Transfer Switching and UL Certification

MODEL NUMBER: **APS2448UL**



Description

Tripp Lite's APS2448UL 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 2400 watts of continuous 120V AC power from any 48V DC bus or battery source. Floating 48VDC ground offers compatibility with positive or negative grounded DC systems, including 48V telco applications. 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, 15 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 start-up. 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 run-time 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 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 100a should be positioned no more than 18" from the APS2448UL's battery in the positive line.

Features

- APS2448UL serves as an automotive or stationary DC-to-AC inverter with automatic line-to-battery transfer and integrated battery charger

Highlights

- 48V DC or 120V AC input; 120V AC output (hardwired)
- 2400 watts continuous, 3600 watts OverPower™ and 4800 watts DoubleBoost™ inverter output
- 3 stage, 15 amp selectable wet/dry cell battery charger
- Auto Transfer Switching option for battery backup / UPS operation
- Tested to UL (USA) and CSA (Canada) standards
- High reliability large-transformer design with protected DC and AC wiring terminals

Applications

- Versatile inverter/charger system with auto-transfer switching serves as an automotive inverter for RVs, conversion vans and fleet service vehicles; a standalone alternative power source for off-grid, alternative energy or 48V networking applications and as an uninterruptible power supply (UPS) for items compatible with an 8 millisecond transfer time. NOTE: For sump pump applications, Tripp Lite recommends its "UT" Utility Truck Inverter/Chargers.

Package Includes

- APS2448 Inverter/Charger
- Instruction manual with warranty information



- Supports 120V AC output from a 120V AC line power source or 48V DC battery source
- Floating 48VDC ground offers compatibility with positive or negative grounded DC systems, including 48V telco applications.
- 8 millisecond automatic transfer between line and battery power supports UPS protection during blackouts and voltage fluctuations for nearly all computer and networking applications
- 2400 watts continuous AC output in inverter mode, 2400 watts continuous AC output in AC mode
- Double Boost™ inverter output supports momentary start-up 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, 15 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 tested to UL (USA) and CSA (Canada) standards
- 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 dipswitches 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 dipswitches support 4 levels of charger limiting relative to output load size, a battery equalization program and battery charger on / off settings
- Resettable 15A 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 start-up 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	
Intended Application	Emergency Home Power (Sump Pumps, Furnice Motors, Lighting, Computers & Radio's)
Style	Heavy-duty with built-in battery charger
OUTPUT	
Frequency Compatibility	60 Hz
Output (Watts)	2400
Continuous Output Capacity (Watts)	2400
Peak Output Capacity (Watts)	4800
Output Nominal Voltage	120V



Tripp Lite
1111 W. 35th Street
Chicago, IL 60609 USA
Telephone: 773.869.1234
www.tripplite.com

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 15A input breaker dedicated to the charging system and 20A output breaker for AC output loads.
Outlet Quantity / Type	Hardwire
Number of Outlets	0
INPUT	
Nominal Input Voltage(s) Supported	120V AC
Recommended Electrical Service	DC INPUT: Requires 48VDC input source capable of delivering 56A 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 - 56A at 48VDC. AC INPUT: 33 amps at 120VAC with full inverter and charger load (13A 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)	48
BATTERY	
Expandable Battery Runtime	Runtime is expandable with any number of user supplied wet or gel type batteries
DC System Voltage (VDC)	48
Battery Pack Accessory (Optional)	98-121 sealed lead acid battery (optional)
Battery Charge	15A
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.
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.)	43
Shipping Weight (kg)	19.5
Unit Dimensions (hwd / in.)	7.25 x 8.5 x 16.75
Unit Dimensions (hwd / cm)	18.415 x 21.59 x 42.545
Unit Weight (lbs.)	38.6



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Unit Weight (kg)	17.5
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
Operating Temperature	32-104 Fahrenheit / 0-40 Celcius
LINE / BATTERY TRANSFER	
Transfer Time (Line Power to Battery Mode)	8 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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