

# PowerVerter APS Inverter/Charger

Reliable Power Source for Uninterruptible Emergency Backup Applications



## Model #: APS1012

- ▶ 12V DC input; 120V AC output
- ▶ 2 outlets
- ▶ 1000 watts continuous output
- ▶ 2000 watts peak output for extended period
- ▶ Advanced battery charger
- ▶ Fast load switching with less transfer time

## DESCRIPTION

Tripp Lite's APS1012 3-function DC-to-AC inverter with auto 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 1000 watts of continuous 120V AC power to 2 AC outlets from any 12V battery or automotive DC source.

PowerVerter APS Inverter chargers accommodate peak surge demands by delivering more output power than their continuous rating. PowerVerter APS Inverters supply up to double their output to easily handle equipment start up and motor cycling requirements. A DoubleBoost™ feature provides up to 200% of the continuous output for up to 10 seconds, providing the extra power needed to cold start heavy-duty tools and equipment. An OverPower™ feature delivers up to 150% of the continuous output for up to 1 hour. When AC cable is connected to a live wall socket, commercial power passes through to connected equipment and the battery set is recharged via 3 stage, 14/55 amp selectable charging system. In UPS mode, the APS system responds to blackouts and brownouts with an uninterrupted transfer to battery-derived AC output. Includes a set of high current DC input terminals for simple installation (user supplies batteries and cabling). Reliable large transformer design with efficient PWM sine wave output and frequency control powers resistive electronic loads or large inductive motors, compressors and other items with high current needs on startup. 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 battery types and selectable line to battery power transfer voltages.

## KEY BUYING POINTS

- Functions as an extended run UPS system, standalone power source and automotive inverter
- Includes AC input cord and auto-transfer to enable battery charging and automatic UPS support for blackouts and brownouts
- 1000 watts continuous output power; 2000 watts power for up to 10 seconds; 1500 watts power for up to an hour
- Battery runtime is dependent upon the size and number of user-supplied 12-volt batteries used
- 2 outlets; 6-ft. AC power cord; DC input terminals for 12V battery connection
- Converts 12V DC to 120V AC
- Frequency control for operating stability
- Advanced 14/55 amp selectable, 3-stage battery charger and selector switch for gel or wet cell batteries
- Resettable circuit breaker protects APS against system overload
- Switch allows user to select between off, auto-invert and charge-only settings
- 6 diagnostic LEDs indicate AC present, on battery, overload, & battery voltage level (high, medium, & low)
- Configuration switches to allow the user to select the high and low voltage for the unit to automatically transfer from AC power to battery backup
- Coated internal circuit boards offer continuous operation in humid environments (0-95%, non condensing)
- RJ45 port allows connection of APS/PowerVerter Remote Switch (manuf# [APSRM4](#))

## TYPICAL APPLICATIONS

- Extended Run UPS Configure as a UPS for long-term battery support of telecom systems, security alarms, computer systems and various other motorized and electronic loads.
- Standalone Power Alternative power source for use in off-grid, backwoods, alternative energy and export applications where

commercial power is not continuously available.

- Automotive Connect to an automotive electrical system to run power tools, computers, electronic test equipment, home entertainment and other AC appliances in fleet service vehicles, over-the-road trucks, campers, RVs, minivans and more.

## OPTIONS & ACCESSORIES

- Battery - 12 volt / 75 amp-hour (98-121)
- Battery Cabinet holds 2 batteries; includes cabling (BP260)
- External switch for wired remote control of APS unit ([APSRM4](#))

## PACKAGE INCLUDES

- APS1012 Inverter/Charger
- Instruction manual with warranty information

## COMPLETE SPECIFICATIONS

| SYSTEM OVERVIEW                 |                                                                                                                                                                                                                                                                                                       |
|---------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| System overview:                | Reliable 12V DC to 120V AC power inverter system serves as an automotive inverter, a battery charger and an uninterruptible power supply. Extended runtime capable with any number of user supplied batteries. 1000 watts continuous / 2000 watts peak. Requires hardwire installation, 2 AC outlets. |
| Voltage compatibility:          | 12V DC / 120V AC                                                                                                                                                                                                                                                                                      |
| Frequency compatibility:        | 60 Hz                                                                                                                                                                                                                                                                                                 |
| OUTPUT                          |                                                                                                                                                                                                                                                                                                       |
| Output watt capacity (watts):   | Continuous - 1000 watts, Overpower (up to 1 hour) - 1500 watts, Double-Boost wattage (up to 10 seconds) - 2000 watts                                                                                                                                                                                  |
| Output nominal voltage:         | AC OUTPUT: 120V AC nominal, DC CHARGER OUTPUT (DC): 12V DC nominal                                                                                                                                                                                                                                    |
| Output voltage regulation:      | LINE POWER (AC): Maintains 120V nominal sine wave output. INVERTER POWER (AC): Maintains PWM sine wave output voltage of 120 VAC (+/-5%). DC CHARGER OUTPUT (See battery recharge rate section)                                                                                                       |
| Output frequency regulation:    | 60 Hz (+/- 0.3 Hz)                                                                                                                                                                                                                                                                                    |
| Outlet quantity / type:         | Includes 2 AC outlets (NEMA 5-15R)                                                                                                                                                                                                                                                                    |
| Overload protection:            | Includes 12A input breaker dedicated to the charging system and 12A output breaker for AC output loads                                                                                                                                                                                                |
| INPUT                           |                                                                                                                                                                                                                                                                                                       |
| Maximum input amps / watts:     | DC INPUT: Full continuous load - 95A at 12V DC. AC INPUT: 12.1 amps at 120V AC with full inverter and charger load                                                                                                                                                                                    |
| Input connection type:          | DC INPUT: Set of 2 DC bolt-down terminals. AC INPUT: NEMA 5-15P input plug                                                                                                                                                                                                                            |
| Input cord length:              | DC INPUT: User supplies cabling. 6 gauge or larger recommended. AC INPUT: attached 6 ft. AC line cord with plug                                                                                                                                                                                       |
| Recommended electrical service: | DC INPUT: Requires 12V DC input source capable of delivering 95A for the required duration (when used at full continuous capacity). For automotive applications, professional hardwire installation with 225A minimum battery system fusing is recommended. AC INPUT: 120V AC                         |
| BATTERY                         |                                                                                                                                                                                                                                                                                                       |
| DC system voltage:              | DC input operating range 10-15V DC.                                                                                                                                                                                                                                                                   |
| Battery recharge rate:          | Includes selectable 14 / 55 amp DC charging system with selectable profiles for vented wet cell and sealed gel cell batteries. Optional use battery equalize charge function equalizes the                                                                                                            |

|                                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                       | charge level when used with multiple batteries (see manual for detailed charger information).                                                                                                                                                                                                                                                                                                                                           |
| <b>Expandable battery runtime:</b>                    | Runtime is expandable with any number of user supplied wet or gel type batteries                                                                                                                                                                                                                                                                                                                                                        |
| <b>LEDS ALARMS &amp; SWITCHES</b>                     |                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Front panel LEDs:</b>                              | 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.                                                                                                                                                                                                                                                                        |
| <b>Switches:</b>                                      | 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 <a href="#">APSRM4</a> 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. |
| <b>SURGE / NOISE SUPPRESSION</b>                      |                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>AC surge suppression:</b>                          | AC surge suppression not included                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>PHYSICAL</b>                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Shipping weight (lbs):</b>                         | 31.4                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Shipping weight (kg):</b>                          | 14.3                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Unit weight (lbs):</b>                             | 26.8                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Unit weight (kg):</b>                              | 12.16                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Unit Dimensions (HWD/in):</b>                      | 7.25 x 8.5 x 16.25                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Unit Dimensions (HWD/cm):</b>                      | 18.4 x 21.6 x 41.3                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Shipping Dimensions (HWD/in):</b>                  | 13.5 x 15 x 21.5                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Shipping Dimensions (HWD/cm):</b>                  | 34.3 x 38.1 x 54.6                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Material of construction:</b>                      | Polycarbonate                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Form factors supported:</b>                        | Mounting slots enable permanent placement of inverter on any horizontal surface (see manual for additional mounting information)                                                                                                                                                                                                                                                                                                        |
| <b>Cooling method:</b>                                | Fan                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| <b>ENVIRONMENTAL</b>                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Operating Temperature:</b>                         | 32-104 Fahrenheit / 0-40 Celcius                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Relative Humidity:</b>                             | 0-95% non-condensing                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>LINE / BATTERY TRANSFER</b>                        |                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Transfer time from line power to battery mode:</b> | 4-6 milliseconds                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Low voltage transfer to battery power:</b>         | User configurable to 75V, 85V, 95V & 105V                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>High voltage transfer to battery power:</b>        | User configurable to 135V, 145V                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>WARRANTY</b>                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Product warranty:</b>                              | 1 year (Outside the U.S. and Canada, call for warranty information)                                                                                                                                                                                                                                                                                                                                                                     |
| <b>SPECIAL FEATURES</b>                               |                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Appearance:</b>                                    | Black color                                                                                                                                                                                                                                                                                                                                                                                                                             |
| <b>Load Sensing:</b>                                  | 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.                                                                                                                                                                      |
| <b>BATTERY PACK ACCESSORY (optional)</b>              |                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Battery Pack Accessory (optional):</b>             | 98-121 sealed lead acid battery (optional)                                                                                                                                                                                                                                                                                                                                                                                              |

*The policy of Tripp Lite is one of continuous improvement.  
Specifications are subject to change without notice.  
Therefore, your product may vary slightly from what is currently listed.*



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