

# PowerVerter EMS Inverter/Charger

Reliable Mobile Power Source for Ambulance/EMS Vehicles



## Model #: EMS1012UL

- ▶ UL458 / KKK-A-1822 listed
- ▶ 12V DC input, 120V AC output
- ▶ 2 hospital-grade GFI outlets; hospital-grade plug
- ▶ 2 Anderson DC connectors (1 on the unit and 1 included in the box) for quick battery connection
- ▶ 1000 watts continuous output

## DESCRIPTION

Description Tripp Lite's EMS1012UL inverter with integrated charging system provides automatic, uninterruptible DC-to-AC power for critical on-board equipment. Ideal for installation by ambulance/EMS vehicle manufacturers, dealer or EMS service for OEM, replacements and upgrades. Supplies up to 1000 watts of continuous 120V AC power to 2 AC outlets from any 12V battery or automotive DC source. When AC cable is connected to a shore power source, commercial power passes through to connected equipment and the battery set is recharged via 3 stage, 15/55 amp selectable charging system. This unit can also function as a UPS system, responding to blackouts and brownouts with an uninterrupted transfer to battery-derived AC output. Convenient Anderson DC input quick connector on the unit with extra Anderson DC input connector included in the box (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. Includes AC input surge suppression. Includes hospital grade plug and outlets with GFI (ground fault interrupter) protection. UL458 / KKK-A-1822 listed.

## KEY BUYING POINTS

- Functions as an emergency vehicle inverter, extended run UPS system or standalone power source
- 1000 watts continuous output power; provides up to twice this rating for momentary startup of inductive loads
- UL458 / KKK-A-1822 listed
- Battery runtime is dependent upon the size and number of user-supplied 12-volt batteries used
- 2 hospital-grade, GFI protected outlets; 3-ft. AC power cord with hospital grade plug; Two 175A rated Anderson DC input connectors (1 on the unit and 1 included in the box) for 12V battery quick connection for use with user-supplied cables
- Converts 12V DC to 120V AC
- Frequency control for operating stability
- Advanced 15/55 amp selectable, 3-stage battery charger and selector switch for gel or wet cell batteries
- 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 remote switch (part# External switch for wired remote control of APS unit ([APSRM4](#)) which is included
- Included remote switch can be linked in a daisychain with a second remote switch (sold separately) for remote operation from multiple locations. Multiple mounting options include recess panel mount or below dash. Ignition interlock feature can shut down unit when engine is off, ending worries of accidental battery drain
- Allows unlimited runtime capability by allowing the use of any number of user-supplied batteries

## TYPICAL APPLICATIONS

- Connect to an emergency vehicle's (ambulance, rescue squad or police B.A.T. mobiles) electrical system to run on-board diagnostic and emergency equipment.

## OPTIONS & ACCESSORIES

- Battery - 12 volt / 75 amp-hour (model # 98-121)
- Battery Cabinet holds 2 batteries; includes cabling (model # BP260)

## PACKAGE INCLUDES

- EMS1012UL inverter/charger
- Instruction manual with warranty information
- APSRM4 remote switch
- 2 Anderson DC connectors (1 on the unit and 1 included in the box)

## COMPLETE SPECIFICATIONS

SYSTEM OVERVIEW	
System overview:	Reliable 12VDC to 120VAC power inverter system for emergency vehicles serves as an automotive inverter, a battery charger and an uninterruptible power supply. Built to Meet or Exceed Tough EMS Standards UL458 and GSA KKK-A1822E. 1000 watts continuous / 2000 watts peak. Includes wired remote control and cabling.
Voltage compatibility:	12VDC / 120VAC
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: 120VAC nominal, DC CHARGER OUTPUT (DC): 12VDC 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 hospital-grade AC outlets with built-in GFI protection (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 12VDC. AC INPUT: 12 amps at 120VAC with full inverter and charger load
Input connection type:	DC INPUT: 175A Anderson DC connector. AC INPUT: NEMA 5-15P hospital-grade input plug
Input cord length:	DC INPUT: 175A Anderson DC connector at the end of a 3 ft. 1/0 gauge color coded red/black cable. User supplies DC input cabling for use with included wireable Anderson connector. AC INPUT: attached 6 ft. AC line cord with plug
Recommended electrical service:	DC INPUT: Requires 12VDC 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: 120VAC
BATTERY	
DC system voltage:	DC input operating range 10-15VDC.
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 included External switch for wired remote control of APS unit <b>APSRM4</b> 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>	760 joules AC surge suppression included
<b>PHYSICAL</b>	
<b>Shipping weight (lbs):</b>	34.8
<b>Shipping weight (kg):</b>	15.8
<b>Unit weight (lbs):</b>	28.6
<b>Unit weight (kg):</b>	13.0
<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>CERTIFICATIONS</b>	
<b>Certifications:</b>	UL458 (mobile inverter), KKK-A-1822 (Ambulance), cUL (Canada)
<b>WARRANTY</b>	
<b>Product warranty:</b>	18 months (Outside the U.S. and Canada, call for warranty information)
<b>SPECIAL FEATURES</b>	
<b>TVSS grounding:</b>	Yes, includes rear panel grounding lug
<b>Appearance:</b>	Attractive gray color scheme
<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.

*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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