

PowerVerter 2000W 120V 12VDC RV Inverter/Charger with Auto-Transfer Switching, Hardwired, UL458

MODEL NUMBER: MRV2012UL



The MRV2012UL is a heavy-duty, DC-to-AC inverter with automatic line-to-battery transfer and integrated charging system that serves as an extended-run UPS, a standalone power source or an automotive inverter suitable for recreational applications.

Features

Inverter

- MRV2012UL serves as an automotive or stationary DC-to-AC inverter with automatic line-to-battery transfer and integrated battery charger
- Supplies a 120V AC output from a 120V AC line power source or 12V DC battery source
- 2000 watts continuous AC output in inverter mode, 3600 watts continuous AC output in AC line power mode

Automatic Transfer

- 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

Battery Charger

- 3-stage battery charger with user-selectable 25/100 amp operation and adjustable settings for wet/gel battery types with charger on/off capability; offers fast, reliable battery recharging
- Protected hardwire DC terminal posts safely accept heavy-gauge input wiring from attached battery bank
- Protected hardwire output passes 120V line power or inverter output through to connected equipment
- Extremely reliable large-transformer design tested to UL (USA & Canada) standards

Overload / Overtemperature Protection

- DoubleBoost 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 up to 60 minutes under ideal battery and temperature conditions. (For best results, utilize OverPower usage as short of a duration as

Highlights

- Heavy-duty DC-to-AC, PWM sine wave inverter with automatic line-to-battery transfer and integrated charging system
- Functions as an extended-run UPS, a standalone power source or an automotive inverter
- 2000 watts continuous, 3000 watts OverPower™ and 4000 watts DoubleBoost™ inverter output
- 12V DC or 120V AC input; 120V, 60 Hz output (hardwired)
- 3-stage battery charger with user-selectable 25/100 amp, wet/dry cell operation
- Built-in Isobar® premium AC surge protection
- Unlimited back up time with user supplied batteries

Package Includes

- MRV2012UL Inverter/Charger
- Instruction manual with warranty information
- Battery Temperature Sensor cable
- Conduit hanger

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.)

- Resettable 25A charger AC input breaker and variable-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

Operating Modes / Display LEDs

- 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
- Six front panel LEDs display AC/DC operational modes, overload status, DC voltage level, shutdown status and system fault status
- 4 configuration dip-switches support wet/gel battery charging profiles, charger enable/disable capability, selectable 75/85/95/105V AC low voltage auto transfer points during brownout conditions
- 4 additional configuration dip-switches support 4 levels of charger limiting relative to output load size, a battery equalization program and battery charger low/high settings

Optional Features

- Front panel connector enables remote off/on switching (requires optional APSRM4 remote control module, sold separately)
- Load-sensing control dial enables adjustable load threshold required to automatically turn the inverter on and off in DC mode as load conditions change
- Battery temperature sensor with 20-ft. (6.09 m) cable to prolong battery life by adjusting the charge level based on battery temperature
- Ignition Switch Control Jack can be used to connect the Inverter to your vehicle's ignition switch in order to automatically control the Inverter.
- Automatic Generator Starter jack enables user configuration of automatic generator startup as inverter batteries drop to 11.5V DC and generator shutoff as inverter batteries are recharged to 14.1V DC

Construction

- Moisture-resistant construction enables vehicular operation in high-humidity environments

Specifications

| OVERVIEW | |
|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| UPC Code | 037332149121 |
| INPUT | |
| Nominal Input Voltage(s) Supported | 120V AC |
| Maximum Input Amps / Watts | DC INPUT: Full continuous load - 190A at 12V DC. AC INPUT: 38 amps at 120V AC with full inverter and charger load (20A max charger-only / combined input load to support charger and AC output is automatically controllable to 66%-33%-0% based on AC output I |
| Recommended Electrical Service | DC INPUT: Requires 12V DC input source capable of delivering 190A for the required duration (when used at full continuous capacity - DC requirements increase during Over-Power and Double-Boost operation). For automotive applications, professional hardwire |

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| Input Connection Type | DC INPUT: Set of 2 DC terminal posts. AC INPUT: hardwire. User supplies cabling. 0 gauge or larger (see manual). AC INPUT: hardwire |
| Voltage Compatibility (VAC) | 120 |
| Voltage Compatibility (VDC) | 12 |
| OUTPUT | |
| Frequency Compatibility | 60 Hz |
| Pure Sine Wave Output | No |
| Nominal Output Voltage(s) Supported | 120V |
| Output Receptacles | Hardwire |
| Continuous Output Capacity (Watts) | 2000 |
| Peak Output Capacity (Watts) | 4000 |
| 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 120V AC (+/-5%). |
| Output Frequency Regulation | 60 Hz (+/- 0.3 Hz) |
| Overload Protection | Includes 25A input breaker dedicated to the charging system |
| BATTERY | |
| Expandable Runtime | Yes |
| Expandable Battery Runtime | Runtime is expandable with any number of user supplied wet or gel type batteries |
| Expandable Runtime Description | Runtime is expandable with any number of user-supplied wet or gel type batteries |
| DC System Voltage (VDC) | 12 |
| Battery Pack Accessory (Optional) | 98-121 ; sealed lead acid battery (optional) |
| Battery Charge | 25A / 100A (user-selectable) |
| LVC (Low Voltage Cut-Off) | 10VDC +/-3% |
| USER INTERFACE, ALERTS & CONTROLS | |
| Front Panel LEDs | 6 LEDs offer continuous status information on load (6 levels reported) and battery charge level (7 levels reported). See manual for sequences. |
| 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 APSRM4 ; accessory (sold separately) in inverter mode. In AC uninterruptibl |
| PHYSICAL | |
| Material of Construction | Polycarbonate, Aluminum |
| Cooling Method | Multi-speed fan |
| Included Accessories | Battery temperature sensor cable; conduit hanger |
| Form Factors Supported | Mounting slots enable secure placement of inverter on any horizontal surface (see manual for additional mounting information) |

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| Shipping Dimensions (hwd / in.) | 12.10 x 21.20 x 13.50 |
| Shipping Dimensions (hwd / cm) | 30.73 x 53.85 x 34.29 |
| Shipping Weight (lbs.) | 46.30 |
| Shipping Weight (kg) | 21.00 |
| Unit Dimensions (hwd / in.) | 8.000 x 10.500 x 17.500 |
| Unit Dimensions (hwd / cm) | 20.32 x 26.67 x 44.45 |
| Unit Weight (lbs.) | 43.2 |
| Unit Weight (kg) | 19.60 |
| ENVIRONMENTAL | |
| Relative Humidity | 0%-95% Non-Condensing |
| LINE / BATTERY TRANSFER | |
| Transfer Time (Line Power to Battery Mode) | 16.6 ms (typical - compatible with many computers - 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 145V |
| FEATURES & SPECIFICATIONS | |
| 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. |
| STANDARDS & COMPLIANCE | |
| Product Certifications | UL 458 |
| Product Compliance | RoHS |
| WARRANTY & SUPPORT | |
| Product Warranty Period (Worldwide) | 30-month limited warranty |