



# PD9200 SERIES OWNERS MANUAL

## ***PROGRESSIVE DYNAMICS, INC. POWER CONVERTER LIMITED WARRANTY***

- I. **LIMITED WARRANTY:** Progressive Dynamics, Inc. warrants its power converter to be free from defects in material or workmanship under normal use and service; and limits the remedies to repair or replacement.
- II. **DURATION:** This warranty shall extend for a period of two years from the original date of purchase, and is valid only within the continental limits of the United States and Canada.
- III. **WARRANTY EXCLUSIONS:** This warranty specifically does not apply to:
  - A. Any power converter which has been repaired or altered in any way by an unauthorized person or service station;
  - B. Damage caused by excessive input voltage, misuse, negligence or accident; or an external force;
  - C. Any power converter which has been connected, installed or adjusted or used other than in accordance with the instructions furnished, or has had the serial number altered, defaced or removed;
  - D. Cost of all services performed in removing and re-installing the power converter; and
  - E. **ANY LOST PROFITS, LOST SAVINGS, LOSS OF USE OF ENJOYMENT OR OTHER INCIDENTAL DAMAGES ARISING OUT OF THE USE OF, OR INABILITY TO USE, THE PRODUCT. THIS INCLUDES DAMAGES TO PROPERTY AND, TO THE EXTENT PERMITTED BY LAW, DAMAGES FOR PERSONAL INJURY. THIS WARRANTY IS IN LIEU OF ALL OTHER WARRANTIES, INCLUDING IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE.**
- IV. **PROOF OF PURCHASE:** A warranty claim must be accompanied by proof of the date of purchase.
- V. **CLAIM PROCEDURE:** Upon discovery of any defect, Progressive Dynamics, Inc. shall be supplied the following information at the address listed below:
  - A. Name and address of the claimant;
  - B. Name and model of the power converter;
  - C. Name, year and model of the recreational vehicle in which the power converter was installed;
  - D. Date of purchase; and
  - E. Complete description of the claimed defect.

Upon determination that a warranty claim exists (a defect in material or workmanship occurring under normal use and service,) the power converter shall be shipped postage prepaid to Progressive Dynamics, Inc. together with proof of purchase. The power converter will be repaired or replaced and returned postage prepaid.

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## FEATURES

**INTEGRATED CHARGE WIZARD ...** The INTELI-POWER 9200 Power Converter is the intelligent way to charge your RV battery. The built-in Charge Wizard<sup>®</sup> microprocessor constantly monitors the battery voltage then automatically adjusts the converter output voltage to provide the proper charging voltage for fast recharges and long-term maintenance.

**MULTIPLE BATTERY CHARGING ...** INTELI-POWER 9200 has the capability of charging multiple batteries at the same time! They can even charge a combination of different capacity batteries.

**GFCI PROTECTION ...** INTELI-POWER 9200 has the LOWEST ground fault leakage. With this unit, the user can confidently utilize the RV's AC outlets without being concerned about a ground fault interruption of the facilities power source.

**REVERSE BATTERY PROTECTION CIRCUIT ...** If a battery is accidentally hooked up backwards, the converter will be protected. Externally mounted ATC type fuses will blow when a battery is connected in reverse. Replace with same type and rating.

## CAUTION

**IF THE REVERSE BATTERY PROTECTION FUSES ARE BLOWN DURING INSTALLATION, CHECK TO SEE THAT THE BATTERY HAS BEEN CONNECTED PROPERLY BEFORE REPLACING THE FUSES. REPLACE THE FUSES ONLY WITH THE SAME TYPE AND RATING AS THE ORIGINAL FUSES. USING OTHER FUSES COULD RESULT IN THE CONVERTER BEING DAMAGED, VEHICLE DAMAGE, INJURY OR OTHER CONSEQUENCES (SEE WARRANTY).**

**SHORT CIRCUIT PROTECTION ...** The "smart" converter, INTELI-POWER 9200, senses, within millionths of a second, if the output terminals have been shorted. If this condition should occur the converter first limits the current. Should the condition continue to exist the converter then reduces the current output, within thousandths of a second. The INTELI-POWER 9200 was designed to protect itself. Once the "short circuit" has been corrected the INTELI-POWER 9200 will automatically return to normal operating conditions.

**THERMAL PROTECTION ...** If an over temperature condition should occur due to air flow obstruction or improper installation, the INTELI-POWER 9200 senses the condition and decreases power output until the unit returns to normal operating temperature. The converter will return to full output capacity as it cools down.

**IGNITION PROTECTION ...** All INTELI-POWER 9200 series converters are ignition protected.

**INTERNAL COMPONENT COOLING ...** The INTELI-POWER 9200 series of converters are equipped with a variable speed cooling fan. The fan will only run at the speed needed to prevent the converter from overheating and shutting down. Running the fan at lower speeds where possible will reduce the audible noise generated by the fan while protecting the converter from excess heat. The location of the fan allows for the maximum cooling of both the case and components.

**OVERVOLTAGE PROTECTION ...** If the Input Voltage exceeds a preset limit the converter will shutdown to prevent damage. The unit will return to normal operation when the voltage returns to normal

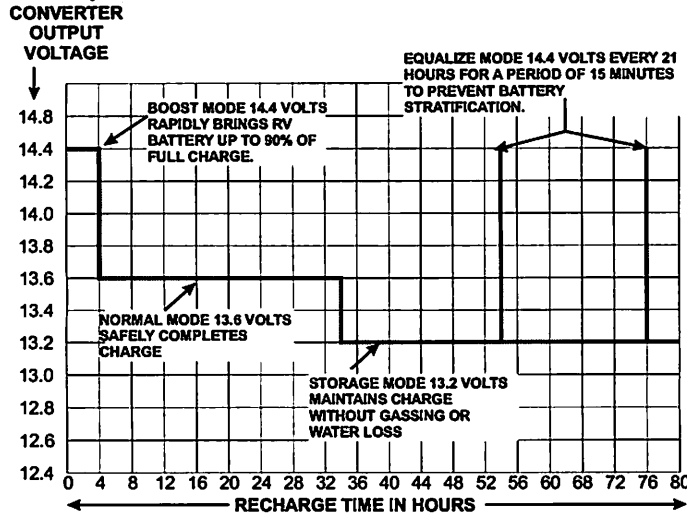
The INTELI-POWER series of power converters have undergone tens of thousands of hours of strenuous engineering testing to insure years of trouble free operation. These converters have been designed and tested to provide maintenance free operation.

## GENERAL INFORMATION

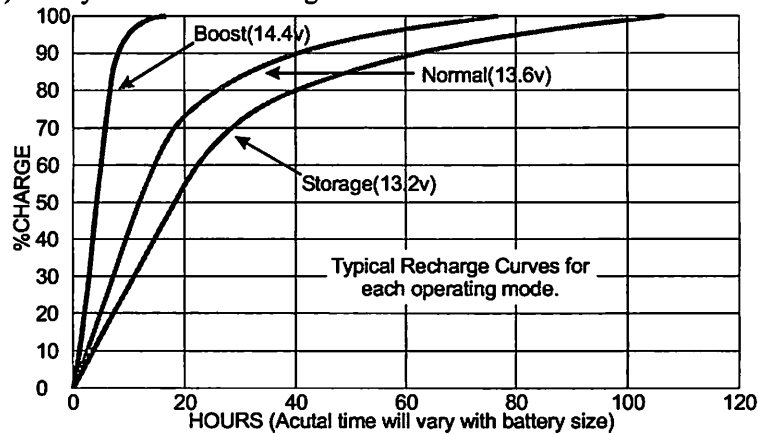
The INTELI-POWER 9200 series 120 VAC to 12 VDC power converters are state-of-the-art electronic converter / battery chargers. The INTELI-POWER 9200's are UL and CUL (Canadian) listed.

Their compact size and quiet operation gives greater flexibility in selecting the mounting location for either OEM installation or after market replacement.

The INTELI-POWER 9200 series converters have the Charge Wizard controlled charging module built in. The Charge Wizard is a microprocessor-controlled device incorporated in Progressive Dynamics 9200 Series Inteli-Power Converters. It constantly monitors the RV battery, and then automatically adjusts the converter output voltage based on its charge status. The Charge Wizard has four (4) operating Modes (BOOST, NORMAL, STORAGE and EQUALIZE). Each Mode is automatically selected by the Charge Wizard and ensures a fast yet safe recharge for your RV battery. See chart below for details.



The chart below shows the amount of time it took a converter set to three different output voltages to recharge a 125AH (Amp Hour) battery after it was discharged to 10.5 volts.



**14.4 Volts (Boost Mode)** – Returned the battery to 90% of full charge in approximately 8 hours. The battery reached full charge in approximately 11 hours.

**13.6 Volts (Normal Mode)** – Required 40 hours to return the battery to 90% of full charge and 78 hours to reach full charge.

**13.2 Volts (Storage Mode)** – Required 60 hours to return the battery to 90% of full charge and 100 hours to reach full charge.

The integrated Charge Wizards ability to change the output voltage of the converter will significantly reduce the amount of time it takes to recharge your RV battery. The lower voltage for Storage Mode prevents gassing and reduces water loss during long-term storage.

## GENERAL OPERATION

The INTELI-POWER 9200 series will supply "clean" nominal 13.6 VDC (Normal Mode) power from input voltages that range from 90-130 VAC.

The INTELI-POWER 9200 series of converters are primarily designed for use with a battery, however, the output of the INTELI-POWER 9200 converters are a regulated, filtered D.C. voltage that can power sensitive electronics without the need for a battery or other filtering.

### NOTE

At normal input voltages the full load rated capacity is available.

At input voltages less than 105 VAC the converter may not supply full rated output capacity.

The full rated load is available for load, battery charging or both. When functioning as a regulated battery charger the INTELI-POWER 9200 converters have nominal voltage output of 13.6 VDC. The system was designed to sense voltage on the battery and automatically selects one of 4 operating modes (normal, boost, storage and equalization) to provide the correct charge level to the batteries.

### CAUTION

**IT IS IMPORTANT THAT THE FLUID LEVEL OF ANY CONNECTED BATTERIES BE CHECKED ON A REGULAR BASIS. ALL BATTERIES WILL "GAS" AND LOSE SOME FLUIDS WHEN CONTINUOUSLY CONNECTED TO ANY CHARGING SOURCE.**

**NORMAL MODE:** Output voltage set at 13.6 volts DC. This voltage provides good charging rates and low water usage.

**BOOST MODE:** If the converter senses that the battery voltage has dropped below a preset level the output voltage is increased to 14.4 volts DC to rapidly recharge the batteries.

**STORAGE MODE:** When the converter senses that there has been no significant battery usage for approximately 30 hours the output voltage is reduced to 13.2 volts DC for minimal water usage.

**EQUALIZATION MODE:** When in storage mode the microprocessor automatically increases the output voltage to 14.4 volts for 15 minutes every 21 hours. This will help to reduce the buildup of sulfation on the battery plates.

## REMOTE PENDANT

**NOTE:** Your Inteli-Power 9200 Converter/Charger may have been supplied with a *Remote Pendant*. The *Remote Pendant* is optional on OEM but is included with all retail models and plugs in to the accessory port of the 9200 Converter/Charger.

While the built-in Charge Wizard automatically determines which operating mode is best suited to recharge or maintain optimum battery condition, the *Remote Pendant* allows for manual override and has an indicator light to indicate the mode of operation:

**Light "ON"** – Indicates the converter is in the *Boost Mode* and the output voltage is 14.4 VDC to rapidly recharge the battery up to 90% of full charge.

**Light Blinks Rapidly (every 2-3 seconds)** – Indicates the converter is in the *Normal Mode* and the output voltage is 13.6VDC. In this mode the converter is safely completing the charge of the battery.

**Light Blinks Slowly (every 5-6 seconds)** – Indicates the unit is in the *Storage Mode* and the output voltage has been lowered to 13.2VDC. In this mode the RV battery is fully charged and the converter is maintaining the charge.

**MANUAL SWITCH.** The manual switch has been provided to allow the operator to manually override the converter (not recommended) and to verify the converter is operating properly. For manual operation, Press and Hold the switch. The indicator light will soon remain "ON" indicating Boost Mode. Continue to hold the switch and the light will blink rapidly indicating the converter is in the Normal Mode. Continue to hold the switch until the light blinks slowly indicating the converter is now in the Storage Mode. After the manual button is released the converter will return to the automatic mode of operation, if needed, to prevent damage to the battery.

***If a REMOTE PENDANT was not provided with your INTELI-POWER 9200 Series Converter/Charger, you can purchase one from your Local RV Dealer or on-line at [www.progressivedyn.com](http://www.progressivedyn.com)***

## INSTALLATION INSTRUCTIONS

Horizontal mounting of the INTELI-POWER 9200, is recommended although it can be mounted in any position that provides unobstructed ventilation to the fan and vent holes. Secure the converter firmly to the mounting surface using standard fasteners.

The OEM should test the INTELI-POWER 9200 under full load conditions in its intended mounting location. This will insure that there is sufficient unobstructed ventilation to the converter allowing it to operate at its maximum rated load. Failure to provide adequate ventilation to the converter will cause the converter to cycle on and off as it responds to ambient conditions.

**THE INTELI-POWER 9200 CONVERTERS ARE NOT DESIGNED FOR ZERO CLEARANCE COMPARTMENTS.**

**! ATTENTION !**

**DO NOT EXCEED 50 IN-LB TORQUE ON THE OUTPUT TERMINALS.**

**THE OUTPUT TERMINALS ARE RATED FOR 2 TO 14 GA. COPPER WIRE.**

**THE INTELI-POWER 9200 CONVERTERS ARE NOT WEATHER TIGHT OR DESIGNED FOR WET LOCATION MOUNTING. THEY MUST BE PROTECTED FROM DIRECT CONTACT WITH WATER.**

**DURING THE MANUFACTURING PROCESS AVOID THE INTRODUCTION OF FOREIGN MATERIALS INTO THE CASE AS THIS COULD CAUSE A MALFUNCTION OF THE CONVERTER.**

### TROUBLE SHOOTING GUIDE

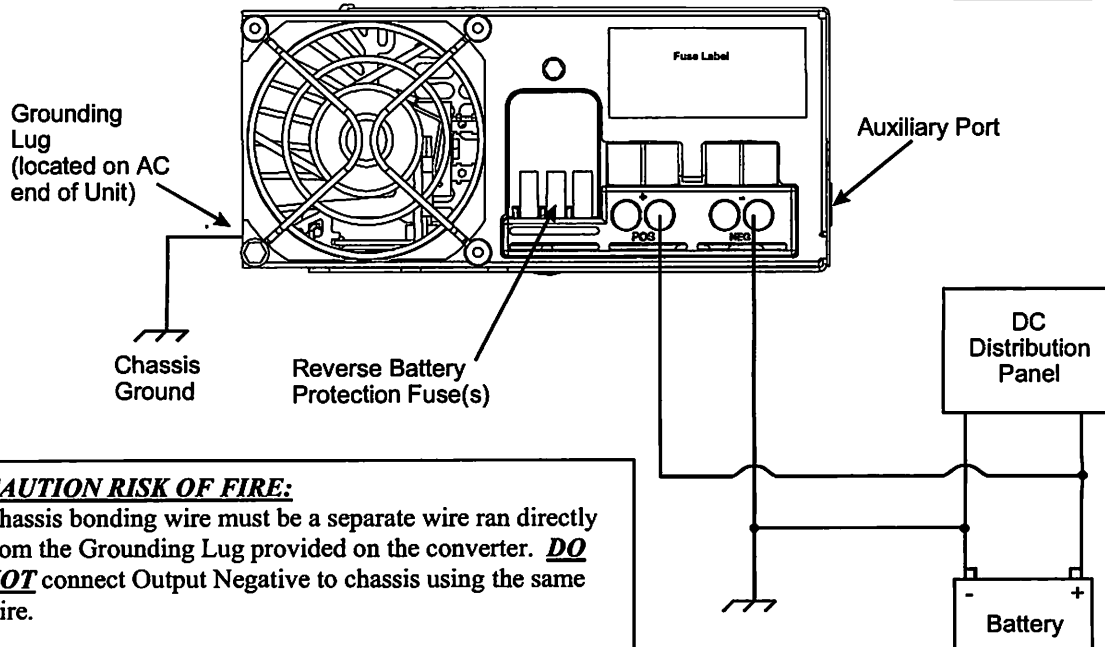
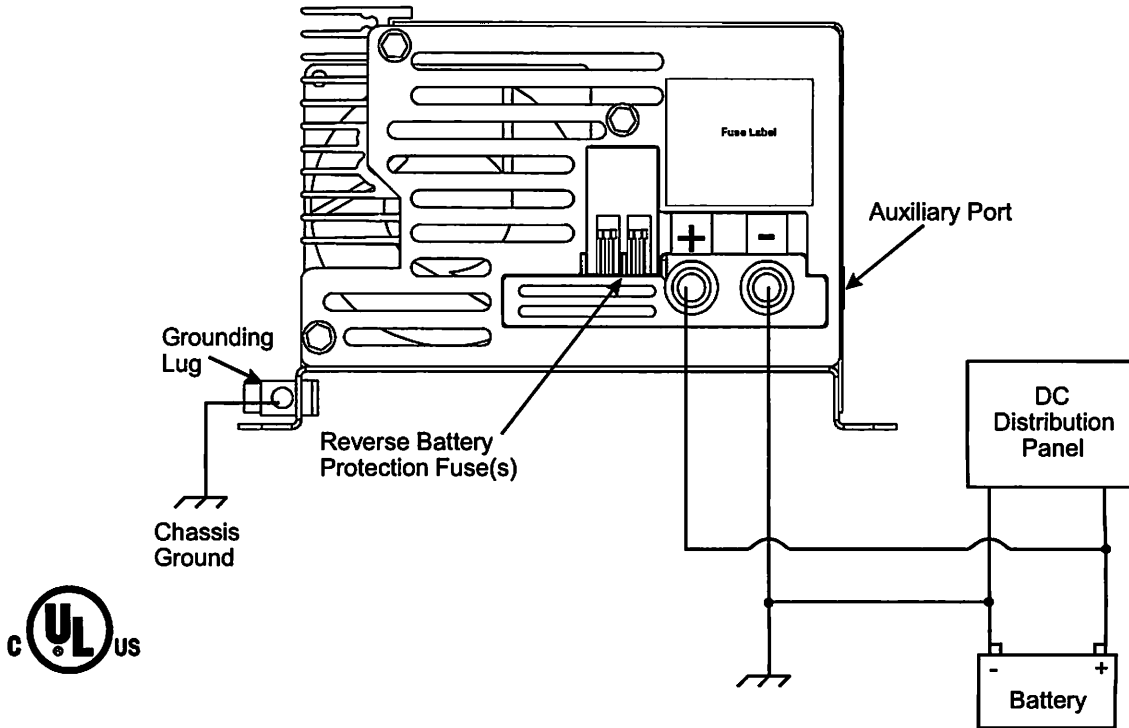
PROBLEM	POSSIBLE CAUSES	ACTION	
1. No Output	120 VAC supply not connected	Connect power supply Check AC distribution panel for proper operation	
	External Fuses Blown	Check for Reverse Polarity Replace Fuses with same type and rating	
	Short Circuit	Trace RV Circuits for possible fault	
	Unit has shutdown due to overheating	Check air flow Allow unit to cool	
	Unit has shutdown due to over voltage (Also see Item 5 below)	Check input voltage Converter will shut down if the input voltage exceeds 132 Volts Correct Input Voltage	
	2. External Fuses Blown	Reverse Battery Hook Up	Correct Hook up and replace Fuses with same type and rating
	3. Converter cycles on & off	Compartment gets too hot	Check air flow to the converter Improve Ventilation to the compartment
4. Low Output			Excessive Load for Converter Input Voltage not between 105-130 VAC Bad Battery Cell(s)
5. Intermittent or no Output on Generator, works on Shore Power	Unit has shutdown due to over voltage.	Add another load to the generator, this may reduce the "spikes" to an acceptable level	
	Some generators exhibit excessive voltage spikes on the AC power output, this may cause the over voltage protection to shut the unit down	Contact generator manufacturer for possible defect in the generator	

**Do not replace the converter unless the following checks have been performed:**

1. Loosen the screw on the positive terminal and disconnect the positive wire. Read the converter output voltage using a DC voltmeter. If the voltage is above 13 volts, the converter is working properly.
2. If the converter output is zero volts, use an AC voltmeter to check for proper voltage at the 120 VAC outlet that the converter is plugged into. This voltage should be between 105 and 130 volts.
3. Check the fuses located at the front of the converter. These fuses will only blow if the battery or DC output leads were connected in reverse, even for a moment. Replace the fuses and repeat step 1.

**INPUT/OUTPUT SPECIFICATIONS**  
(Specifications subject to change without notice)

<u>PD9230</u>	<u>PD9240</u>	<u>PD9245</u>
Input: 105-130 VAC 60 Hz 500 Watts Output: 13.6 VDC, 30 Amps Dimensions: 4.5H x 8.25L x 7.25W Weight: 4.5lbs	Input: 105-130 VAC 60 Hz 600 Watts Output: 13.6 VDC, 40 Amps Dimensions: 4.5H x 8.25L x 7.25W Weight: 4.5lbs	Input: 105-130 VAC 60 Hz 725 Watts Output: 13.6 VDC, 45 Amps Dimensions: 4.5H x 8.25L x 7.25W Weight: 4.5lbs
<u>PD9260</u>	<u>PD9270</u>	<u>PD9280</u>
Input: 105-130 VAC 60 Hz 1000 Watts Output: 13.6 VDC, 60 Amps Dimensions: 3.6H x 8L x 9W Weight: 5.8lbs	Input: 105-130 VAC 60 Hz 1250 Watts Output: 13.6 VDC, 70 Amps Dimensions: 3.6H x 8L x 9W Weight: 5.8lbs	Input: 105-130 VAC 60 Hz 1300 Watts Output: 13.6 VDC, 80 Amps Dimensions: 3.6H x 11.5L x 9W Weight: 7.5lbs



**CAUTION RISK OF FIRE:**  
 Chassis bonding wire must be a separate wire ran directly from the Grounding Lug provided on the converter. **DO NOT** connect Output Negative to chassis using the same wire.