



INTELI-POWER[®] 9200 SERIES
PD9200 SERIES – 24 VOLTS
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. Model and serial number of the power converter;
 - C. Name, year and model of the vehicle in which the power converter was installed;
 - D. Copy of original bill of sale showing date of purchase;
 - 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.

Progressive Dynamics Inc.
507 Industrial Rd.
Marshall, MI 49068
service@progressivedyn.com
www.progressivedyn.com

For Warranty Service Call: (269) 781-4241



Extended warranties
are available for purchase at
www.progressivedyn.com

FEATURES

INTEGRATED CHARGE WIZARD® ... The INTELI-POWER 9200 Power Converter is the intelligent way to charge your battery. The built-in Charge Wizard® 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 vehicle'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

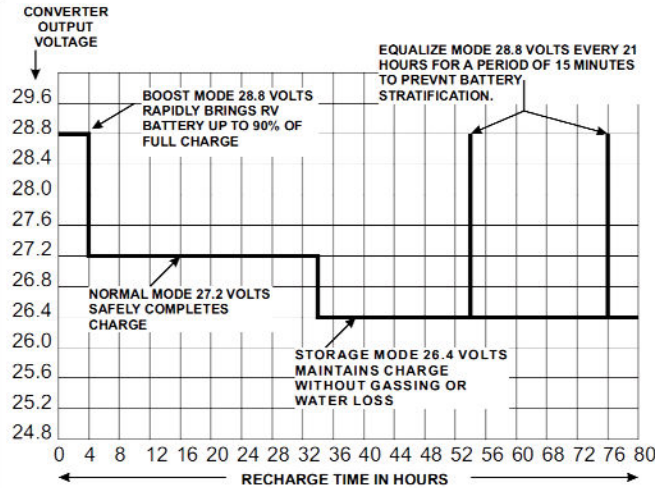
The INTELI-POWER series of power converters have undergone tens of thousands of hours of strenuous engineering testing to insure years of trouble free operation. These converters have been designed and tested to provide maintenance free operation.

GENERAL INFORMATION

The INTELI-POWER 9200 series 120 VAC to 24 VDC power converters are state-of-the-art electronic converter / battery chargers.

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 Intelli-Power Converters. It constantly monitors the 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 battery. See chart below for details.



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 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 27.2 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 DC 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 27.2 VDC. The system was designed to sense voltage on the battery and automatically selects one of 3 operating modes (normal, boost and storage) to provide the correct charge level to the batteries.

BOOST MODE: If the converter senses that the battery voltage has dropped below a preset level the output voltage is increased to approximately 28.8 volts DC to rapidly recharge the battery.

NORMAL MODE: Output voltage set at approximately 27.2 volts DC.

STORAGE MODE: When the converter senses that there has been no significant battery usage for 30 hours the output voltage is reduced to 26.4 volts DC for minimal water usage. When in storage mode the microprocessor automatically increases the output voltage to 28.8 volts DC for 15 minutes every 21 hours to help reduce sulfation of the battery plates.

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.

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(s) to indicate the mode of operation.

BOOST MODE – Indicated by green LED remaining on. The output voltage is 28.8VDC to rapidly recharge the battery up to 90% of full charge.

NORMAL MODE – When the battery is between 50% and 90% charged, the green LED will flash once per second. When the battery has reached 90% of full charge the green LED will flash 2 - 3 times per second. In this mode the output voltage is 27.2VDC and the converter is safely completing the charge of the battery.

STORAGE MODE – Indicated by green LED flashing every 6 - 8 seconds. In this mode the output voltage has been lowered to 26.4VDC, the battery is fully charged and the converter is maintaining the charge.

MANUAL BUTTON - The manual button has been provided to allow the operator to temporarily override the converter (not recommended) or to verify the converter is operating properly. For manual operation, Press and Hold the button. The indicator light will soon remain "ON" indicating Boost Mode. Continue to hold the button and the light will blink rapidly indicating the converter is in the Normal Mode. Continue to hold the button until the light blinks slowly indicating the converter is now in the Storage Mode. After the manual button is released the converter will stay in the selected mode. When the battery charge status changes, the converter will return to the automatic mode of operation to prevent damage to the battery.

- All times and voltages provided above are approximate. –

If a REMOTE PENDANT was not provided with your INTELI-POWER 9200 Series Converter/Charger, you can purchase one on-line at 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 output to reduce its output power 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

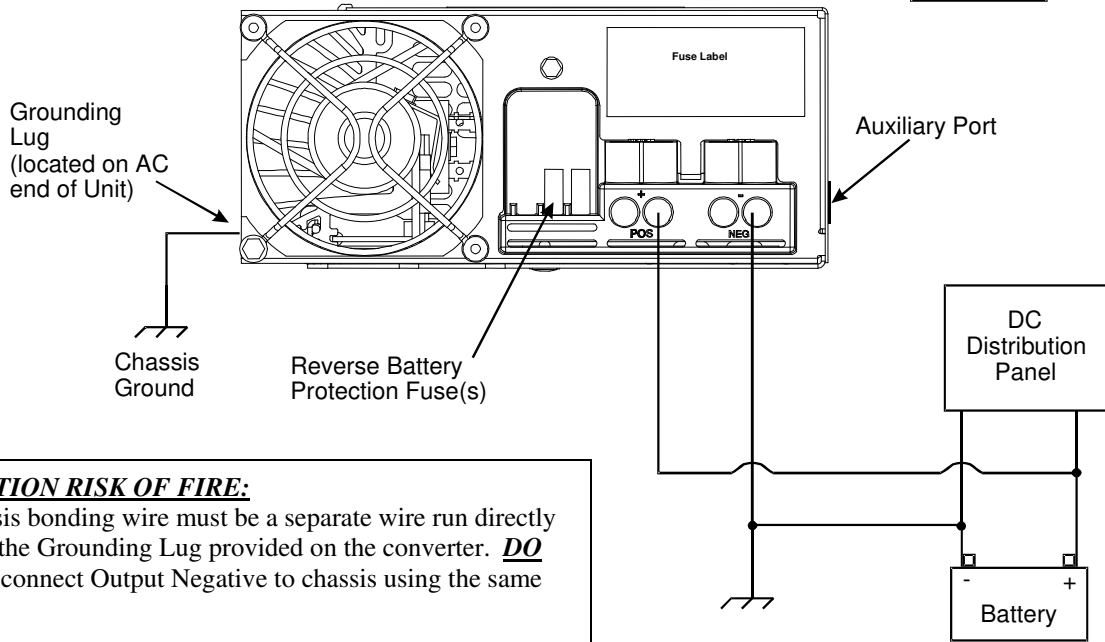
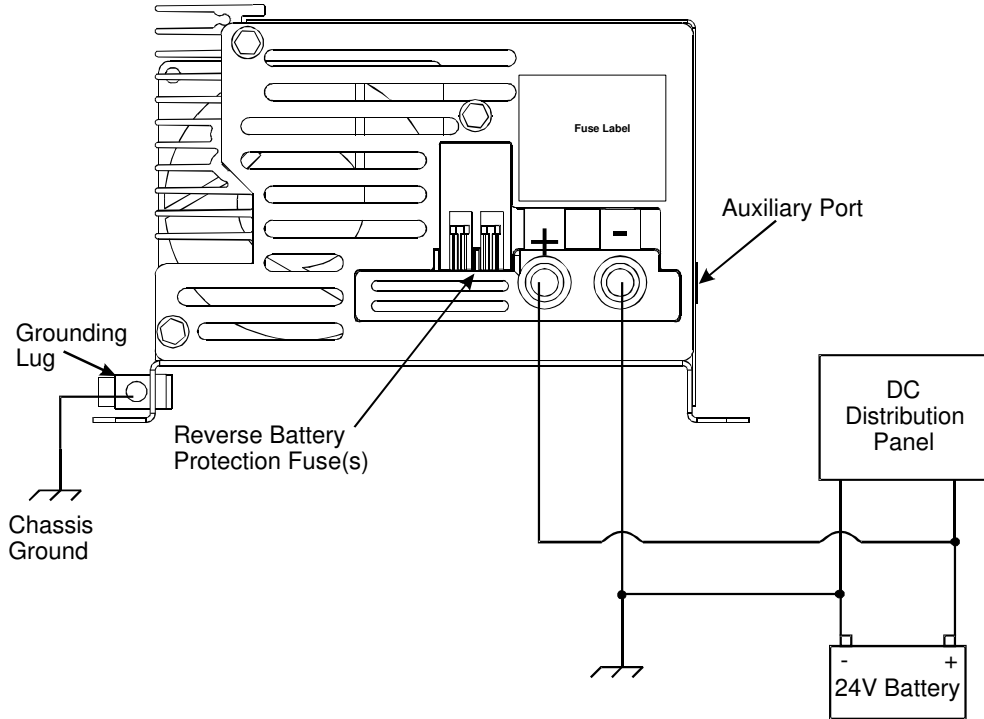
PROBLEM	POSSIBLE CAUSES	ACTION
1. No Output	120 VAC supply not connected	Connect power supply Check AC distribution panel for proper operation
	External Fuses Blown	Check for Reverse Polarity Replace Fuses with same type and rating
	Short Circuit	Trace RV Circuits for possible fault
	Unit has shutdown due to 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. Low Output	Compartment gets too hot	Check air flow to the converter Improve Ventilation to the compartment
	Excessive Load for Converter	Reduce load requirements or Install Larger Converter
	Input Voltage not between 105-130 VAC	Correct input supply voltage
	Unit has overheated	Check air flow Allow unit to cool
	Bad Battery Cell(s)	Replace Battery
4. 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 26 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)

PD9225-24	PD9240-24
Input: 105-130 VAC 60 Hz 750 Watts	Input: 105-130 VAC 60 Hz 1300 Watts
Output: 27.2 VDC, 25 Amps	Output: 27.2 VDC, 40 Amps
Dimensions: 4.50H x 8.25L x 7.25W	Dimensions: 3.60H x 11.50L x 9.00W
Weight: 4.5lbs	Weight: 7.5lbs



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