Installation and Operation Guide for PD9100 / 9200 Series Power Converter

INSTALLATION INSTRUCTIONS

NOTES:

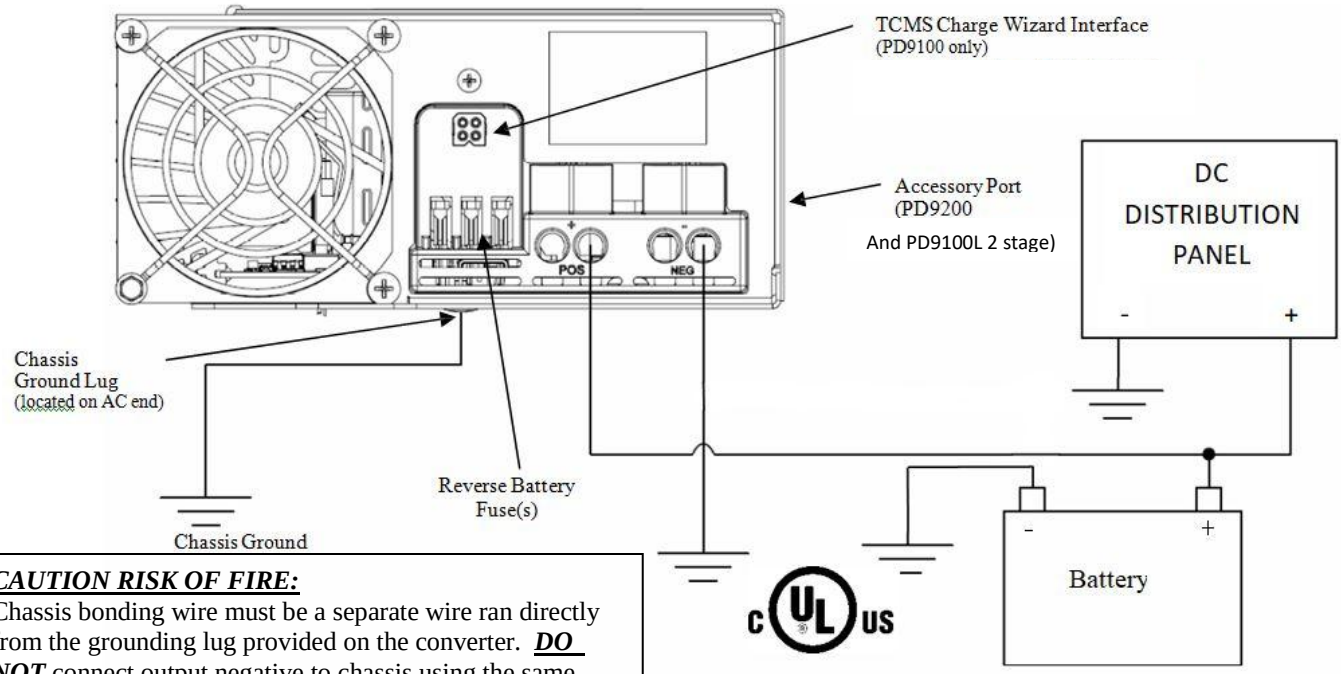
- Horizontal mounting of the power converter, is recommended although it can be mounted in any position that provides unobstructed ventilation to the fan and vent holes.
- The OEM should test the power converter under full load conditions in its intended mounting location. This will insure that there 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 be reduced as it responds to ambient conditions.
- The INTELI-POWER converters are not designed for zero clearance compartments.
- Use a 5/32" hex driver to tighten the output screws. Do not exceed 50 in-lbs. torque on the output terminals.
- The INTELI-POWER converters are not weather tight or designed for wet mounting locations. They must be protected from direct contact with water.
- Avoid the introduction of foreign materials into the case as this could damage or cause a malfunction of the converter.

Torque Data
DC Lugs: 30 – 50 IN LBS
Battery Ground Lug: 25 – 35 IN LBS
DO NOT REMOVE TERMINAL BLOCK SCREWS

Installation Steps:

1. Secure converter firmly to mounting surface.
2. Connect chassis ground lug (found on unit base) to chassis.
   - Ground wire to be between 6 and 12AWG wire.
3. Disconnect battery from both positive (+) and ground (-) cables.
4. Connect battery ground (-) to converter NEG (-) lug.
   - Conductor to be between 2 and 14AWG (follow all applicable codes when sizing conductor)
5. Disconnect any optional pendants or modules.
6. Plug converter into appropriate outlet.
7. Using a DC voltmeter, verify converter output. **If no output is present, refer to the trouble shooting guide in this manual and on the website.**
8. Disconnect power to converter
9. Connect battery positive (+) to converter POS (+) lug.
   - Conductor to be between 2 and 14AWG (follow all applicable codes when sizing conductor)

   Note: When connecting battery to converter POS (+), a spark may occur. This is normal.
10. Reconnect cables.
11. Reconnect any optional pendants or modules.
12. Reconnect power to converter.



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.

FEATURES

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

GFCI PROTECTION... INTELI-POWER converters have the LOWEST ground fault leakage. The user can confidently utilize the RV's AC outlets without concern of ground fault interruption of the facilities power source.

REVERSE BATTERY PROTECTION prevents damage if battery leads are cross connected. Since the only consequence of cross connection is a blown fuse, damage to or possible replacement of the converter is avoided. Cross connection of battery leads is the only thing that will blow these fuses. Replacement fuses are available at any automotive store.

GENERAL OPERATION

The INTELI-POWER series converter will supply "clean" power from input voltages that range from 105-130 VAC.

The INTELI-POWER series of converters are designed for use with a battery; however, filtered DC voltage can power sensitive electronics without the need for a battery or other filtering.

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.

9100 / 9100L/9100AL - The full rated load is available for load, battery charging or both. When charging the battery, the converter has a nominal voltage output of 13.6 VDC (14.4 VDC for 9100L series) for 12 volt models and 27.2 VDC (28.55 VDC for 9100L series) for 24 volt models.
9100L/9100AL (2-Stage) – When charging the battery, the converter has a nominal voltage output of 14.4 VDC. When the converter senses an output current drop below a preset level, the converter will automatically switch to IDLE mode and the voltage output will drop to 13.6VDC

CAUTION

The 9100AL series converter/chargers are designed to recharge lithium iron phosphate batteries.
DO NOT USE TO RECHARGE LEAD/ACID BATTERIES!

When storing the vehicle for extended periods of time, disconnect the batteries unless a TCMS Charge Wizard® is attached. Reconnect battery once a month to maintain a full charge.

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 MAY RESULT IN CONVERTER DAMAGE, VEHICLE DAMAGE, INJURY OR OTHER CONSEQUENCES (SEE WARRANTY).

WARNING:

THIS EQUIPMENT EMPLOYS COMPONENTS THAT TEND TO PRODUCE ARCS OR SPARKS – TO PREVENT FIRE OR EXPLOSION DO NOT INSTALL IN COMPARTMENTS CONTAINING BATTERIES OR FLAMMABLE MATERIALS.

9200 - The full rated load is available for load, battery charging or both. When charging the battery, the converter has a nominal voltage output of 13.6 VDC for 12 volt models and 27.2 VDC for 24 volt models. The system will sense voltage on the battery and automatically select one of three operating modes (normal, boost and storage) to provide the correct charge level to the batteries.

BOOST MODE: If the voltage drops below a preset level the output voltage is increased to approximately 14.4 VDC (28.8 VDC for 24 volt models) to rapidly recharge the battery.

NORMAL MODE: Output voltage set at approximately 13.6 VDC (27.2 VDC for 24 volt models).

STORAGE MODE: If there is no significant battery usage for 30 hours the output voltage reduces to 13.2 VDC (26.4 VDC for 24 volt models) for minimal water usage. In storage mode, the output voltage increases to 14.4 VDC (28.8 DC for 24 volt models) for approximately 15 minutes every 21 hours to help prevent 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

PD9130(L) Input: 105-130 VAC 60 Hz 500 Watts Output: 13.6 VDC, 30 Amps (9130L) – 14.4 VDC, 30 Amps Dimensions: 4.5H x 8.25L x 7.25W Weight: 4.5lbs	**PD9_45(L)** Input: 105-130 VAC 60 Hz 725 Watts Output: 13.6 VDC, 45 Amps (9145L) – 14.4 VDC, 45 Amps Dimensions: 4.5H x 8.25L x 7.25W Weight: 4.5lbs	**PD9_60(L)** Input: 105-130 VAC 60 Hz 1000 Watts Output: 13.6 VDC, 60 Amps (9160L) – 14.4 VDC, 60 Amps Dimensions: 3.6H x 8L x 9W Weight: 5.8lbs	**PD9_70** Input: 105-130 VAC 60 Hz 1250 Watts Output: 13.6 VDC, 70 Amps (9170L) – 14.4 VDC, 70 Amps Dimensions: 3.6H x 8L x 9W Weight: 5.8lbs
PD9_80A(L) Input: 105-130 VAC 60 Hz 1300 Watts Output: 13.6 VDC, 80 Amps (9180AL) – 14.4 VDC, 80 Amps Dimensions: 3.6H x 8L x 9W Weight: 6.0lbs		**PD9_25-24(L)** Input: 105-130 VAC 60 Hz 900 Watts Output: 27.2 VDC, 25 Amps (9125-24L) – 28.55 VDC, 25 Amps Dimensions: 4.5H x 8.25L x 7.25W Weight: 4.5lbs	**PD9_40-24A(L)** Input: 105-130 VAC 60 Hz 1300 Watts Output: 27.2 VDC, 40 Amps (9140-24AL) – 28.55 VDC, 40 Amps Dimensions: 3.6H x 8L x 9W Weight: 6.0lbs

TROUBLE SHOOTING GUIDE

PROBLEM	POSSIBLE CAUSES	ACTION
1. No Output	Proper AC power 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 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 4 below) (No over voltage protection for 230V units)	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	Excessive load for converter	Reduce load requirements or install larger converter
	Input voltage not between 105-130 VAC	Correct input supply voltage
	Bad battery cell(s)	Replace battery
	Mild Overheating	Check air flow
		Allow unit to cool
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