

Progressive Dynamics, Inc.

PD9300 Series Power Converter



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Safety

⚠ WARNING:

This equipment employs components that tend to produce arcs or sparks. To prevent fire or explosion DO NOT install within compartments containing batteries or flammable materials.

⚠ CAUTION RISK OF FIRE:

Chassis bonding wire must be a separate dedicated wire that runs directly from the grounding lug provided on the converter. DO NOT connect output negative to chassis using the same wire.

⚠ CAUTION FOR OVERCHARGING:

DO NOT recharge flooded lead acid batteries while in either Lithium or AGM modes.

⚠ CAUTION FOR INSTALLATION:

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).

⚠ CAUTION LEAD ACID BATTERY MAINTENANCE:

It is important that the fluid level of any connected Flooded Lead Acid battery is checked on a regular basis. Flooded Lead Acid batteries will 'gas' and lose some fluids when continuously connected to any charging source.

⚠ CAUTION:

The PD9300 series power converter was designed and intended to be used in an RV to charge 12 Volt DC batteries and/or run the 12 Volt DC circuits therein. Progressive Dynamics is not responsible for the results of using the converter outside of the recommendations disclosed in this manual.

Specifications

PD9330

Input: 105 – 130 Volts AC, 60 Hz, **500** Watts

Input Connection: 15-Amp AC Plug

Output: 13.2 – 14.7 Volts DC, Rated for **30** Amps

Dimensions: 4.5" H x 8.25" L x 7.25" W, 4.5 lbs.

PD9345

Input: 105 – 130 Volts AC, 60 Hz, **725** Watts

Input Connection: 15-Amp AC Plug

Output: 13.2 – 14.7 Volts DC, Rated for **45** Amps

Dimensions: 4.5" H x 8.25" L x 7.25" W, 4.5 lbs.

PD9360

Input: 105 – 130 Volts AC, 60 Hz, **1000** Watts

Input Connection: 15-Amp AC Plug

Output: 13.2 – 14.7 Volts DC, Rated for **60** Amps

Dimensions: 3.6" H x 8" L x 9" W, 5.8 lbs.

PD9380

Input: 105 – 130 Volts AC, 60 Hz, **1300** Watts

Input Connection: 20-Amp AC Plug

Output: 13.2 – 14.7 Volts DC, Rated for **80** Amps

Dimensions: 3.6" H x 8" L x 9" W, 6 lbs.

See installation section for proper output wiring and use.

Features

SELECTABLE CHARGE PROFILES:

Allow you to select the right profile for the battery being charged. Supports flooded lead acid, AGM, and Lithium. The unit can also provide a constant output voltage for special needs. See Operation for details on each profile.

GFCI SAFE:

INTELI-POWER converters are tested thoroughly for full compliance with our high-quality standards, so that the converter is safe to use in GFCI circuits for regular RV use.

REVERSE BATTERY PROTECTION:

Easy to access fuses come pre-installed to protect against cross connecting the battery with the converter's outputs, preventing any damage to the battery, converter, or cables. Fuses can be replaced by same type and rating fuses found at local automotive stores.

OVERTEMP LOGIC

The converter is built with a temperature circuit that controls the fan and protects the unit in the event it is overheating. To allow the converter to cool itself properly make sure it is mounted in a location with proper ventilation and that the heatsink is clear.

OUTPUT SHORT SAFETY

For any reason if the output of the converter is shorted together, the converter will stop supplying power until the short is fixed.

Operation

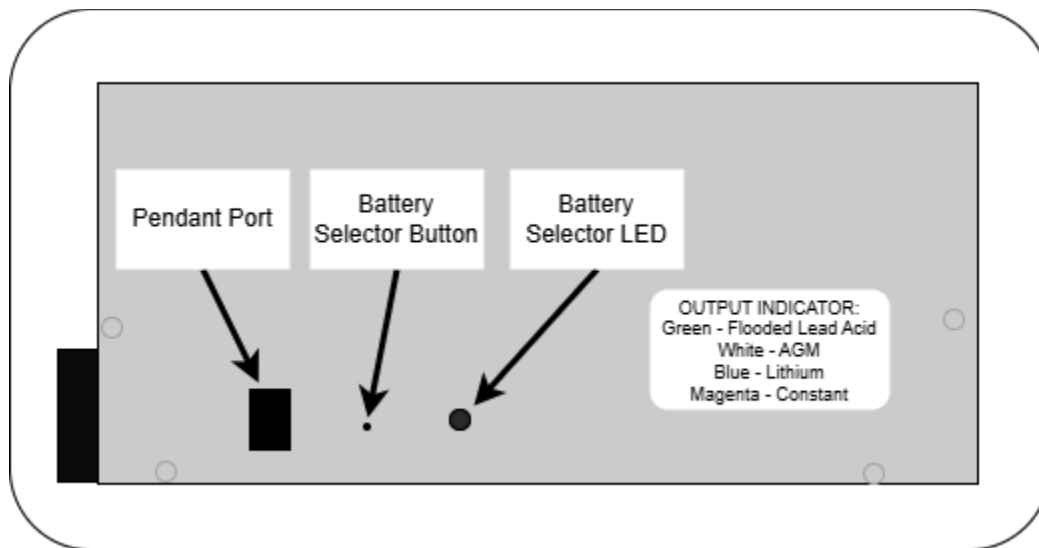
General Use

While the converter is supplied with proper 105 – 130 AC Voltage it will be on and outputting voltage based on the profile selected, see below.

The fan circuit is designed to automatically power the fan when the internal temperature of the unit reaches about 140 Degrees Fahrenheit and will turn off once it cools down again.

Battery Selection

The right side of the converter also has 2 access holes, one with the battery selection button and one to see the LED light color inside indicating the selected profile. Using the insertion tool, press the button and hold it to cycle through the profile options. Press and hold the button for at least 3 seconds until the LED changes color. Continue to depress button until the desired battery type is selected. The LED will turn off after 30 seconds.



The battery profiles are presented in the following order and will cycle in this order while selecting.

- Green – Flooded Lead Acid (FLA)
- White – Absorbed Glass Material (AGM)
 - This can appear to be slightly blue because the internal circuit board is blue
- Blue – Lithium (Li)
- Magenta – Constant Voltage

Wizard Pendant (Optional)

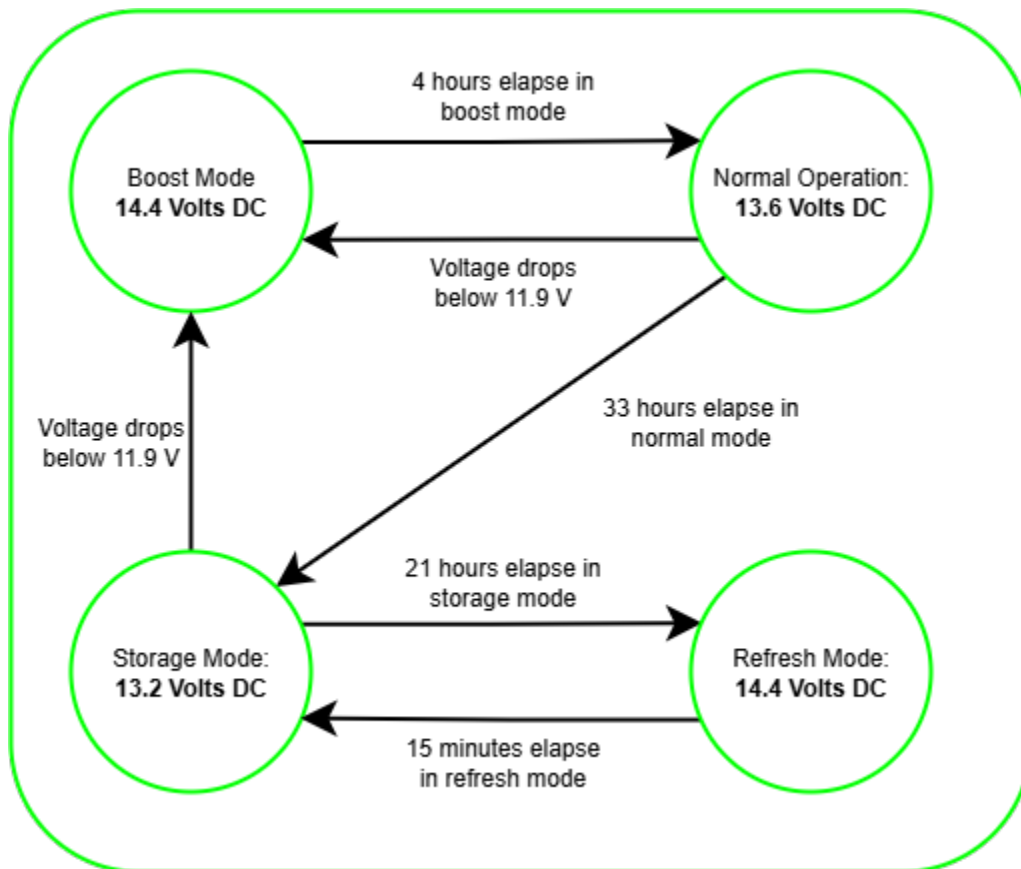
The right side of the converter has an RJ-22 port for the Remote Pendant, available with retail models or on our service parts store: [link](#)

Wizard Pendant Operation Guide: [link](#)

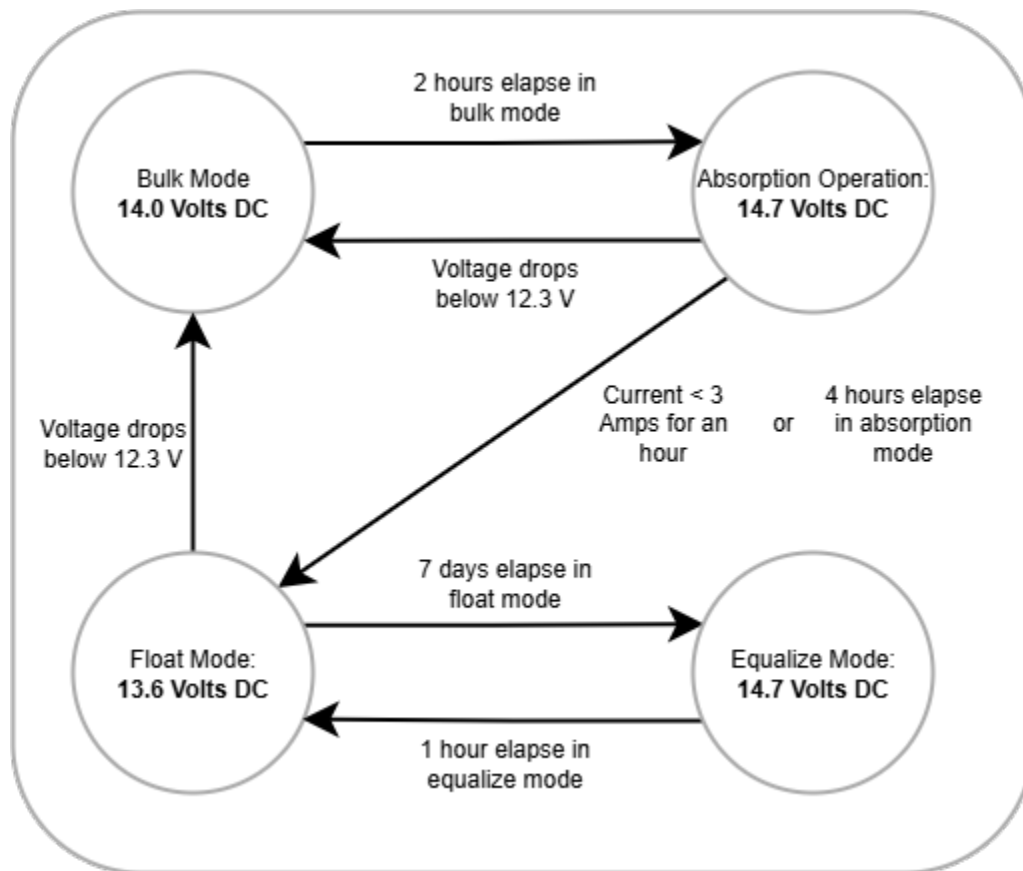
Charge Profiles

Each charging profile depicted is the automatic logic of the converter and the condition needed to move between each state. For any condition referring to voltage, it is the DC voltage as seen by the converter.

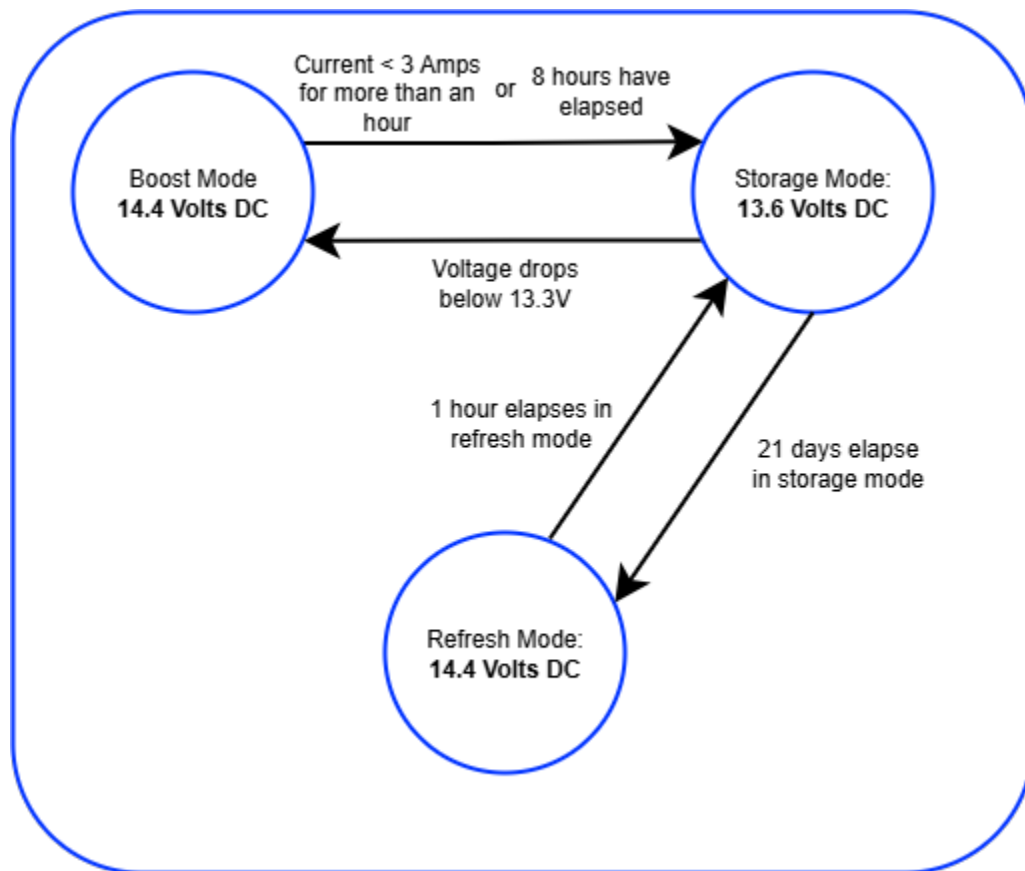
Flooded Lead Acid (Green LED)



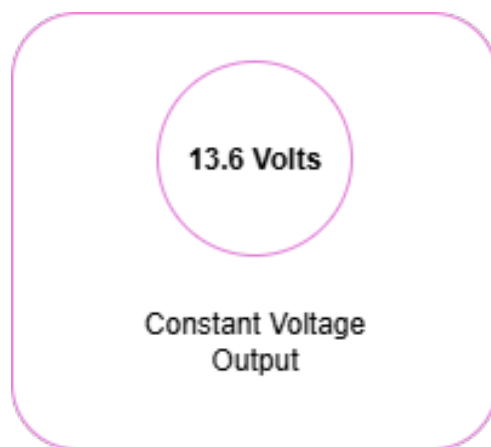
AGM (Absorbed Glass Material) (White LED)



Lithium (Blue LED)



Constant (Magenta LED)



Installation

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 10AWG (follow all applicable codes when sizing conductor)
5. Disconnect any optional pendant.
6. Plug converter into appropriate outlet.
7. Set converter to desired battery type as described in the battery selection section.
8. Using a DC voltmeter, verify converter output.

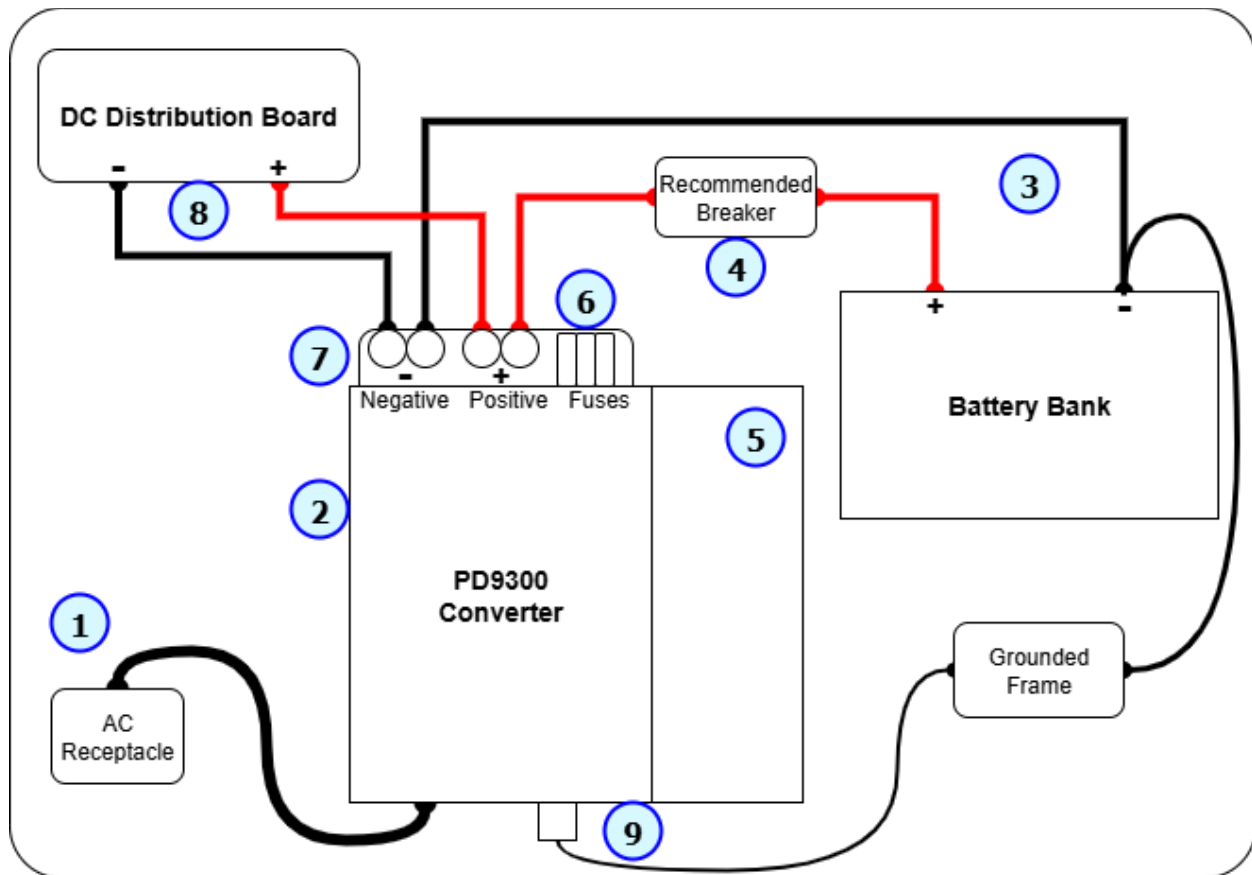
If no output is present, refer to the trouble shooting guide in this manual and on the website.
9. Disconnect AC power to converter.
10. Connect battery positive (+) to converter POS (+) lug.
 - Conductor to be between 2 and 10AWG (follow all applicable codes when sizing conductor). Refer to the recommendation table below.

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

Converter Model	Battery Cable Size Under 10ft	Battery Cable Size 10ft – 15ft	Battery Cable Size Over 15ft
PD9330	8 AWG	6 AWG	4 AWG
PD9345	6 AWG	4 AWG	4 AWG
PD9360	6 AWG	4 AWG	3 AWG
PD9380	4 AWG	2 AWG	1 AWG

Note the maximum AWG size that will fit in the converter is 4 AWG. An adaptive length must be used to connect larger gauges.

Wiring Diagram



1. AC Receptacle – 15-amp cord for all models but the PD9380. PD9380 requires a 20-amp receptacle.
2. Battery Selection and Remote Pendant – The RJ-22 port for the pendant, and the battery selection button are accessible on the side of the converter.
3. Battery Cables – Should be as short as they can be for most optimal charge and need to be the recommended wire gauge, as seen in chart above.
4. Breaker/Fuse/Disconnect – It is recommended to have a breaker or fuse in-line with the battery positive cable that is rated above the converter and below the rating of the cable. For example, a PD9360 with 6 AWG cable should have a 75 Amp fuse or breaker in-line because 6 AWG cable is only rated to 65-75 Amps.
5. Fan and Heatsink – The fan needs proper ventilation to cool the converter. There should be sufficient space for air flow and the heatsink should have space around it to properly dissipate heat.
6. Reverse Battery Protection Fuses – These parallel fuses are designed to blow when the battery is connected backwards while the converter is on. It is recommended to

only remove these fuses for checking or replacement while the converter is off or they may blow from the converter's nominal amperage.

7. Output Connections – 5/32” Hex Lugs that should be properly contacting only the metal of the cable, not the insulation, and should meet the torque specification of 30-50 IN LBS.
8. DC Distribution Panel Cables – Sufficient size cables should be properly connected to the DC distribution board from the converter or straight from the battery. The size of the cables depends on total current draw from the DC devices connected.
9. Converter Ground Lug – There needs to be a proper connection from the ground lug to the RV frame. We recommend using a 12 AWG wire or larger.

Troubleshooting

No Output

- Check the connection of the AC plug for the converter's input power
- Check for 120 Volts AC at the receptacle
 - If the VAC is outside of 105 – 130 Volts than the converter will shutdown
- Make sure the converter is not overheating, and the fan is running with proper ventilation
 - The fan automatically runs at around 140 degrees Fahrenheit
- Check that the reverse protection fuses are not blown
 - Only remove the fuses while the converter is off (unplugged)
 - If they are, confirm the battery cables are wired with the proper polarity to prevent more fuses blowing
- Check to make sure no wires are damaged or loose causing a short and shutting down the converter

Low Output

- Confirm the converter is not overloaded by the connected DC circuits
 - The converter's output voltage will drop if the rated current is exceeded
- Confirm the battery does not have a bad connection or bad cell
- Take your battery to an automotive or RV shop and get it load tested
- Make sure the converter is not overheating, and the fan is running with proper ventilation
 - The fan automatically runs at around 140 degrees Fahrenheit

Intermittent Output or No Output on Generator

- Check for 120 Volts AC at the receptacle, the generator could be surging or dropping out
 - If the VAC is outside of 105 – 130 Volts than the converter is shutting down by design
 - Confirm the generator is running smoothly
 - Seek professional assistance from the manufacturer if the generator is not running steady

Please refer to website for further trouble shooting information.

See website www.progressivedyn.com for more troubleshooting information and return instructions.

Warranty

LIMITED WARRANTY: Progressive Dynamics, Inc. warrants its power control center to be free from defects in material or workmanship under normal use and service for a period of two years from the original date of purchase; and limits the remedies to repair or replacement. This warranty is valid only within the continental limits of the United States and Canada. See website www.progressivedyn.com for more warranty information and return instructions.