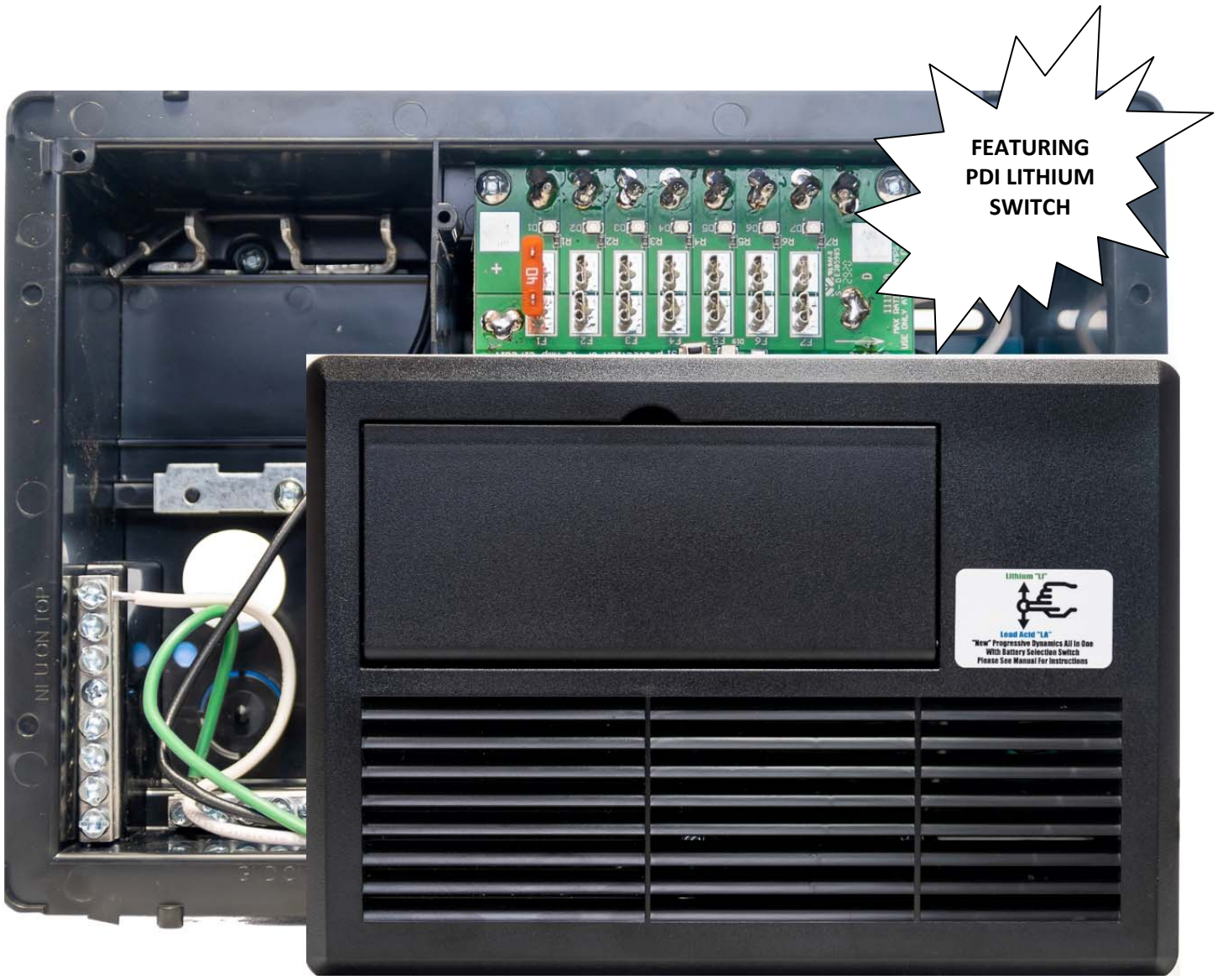
Installation and Operation Guide for PD4100 Series Power Control Center



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INSTALLATION INSTRUCTIONS

MOUNTING:

- The PD4100 series POWER CONTROL CENTER should be installed horizontally (converter section to the right).
- Unit is **NOT** ignition protected.
- Do not mount in the LP gas or the battery compartment.
- The INTELI-POWER converters are not designed for zero clearance compartments.
- The POWER CONTROL CENTER is not designed for wet or damp locations. Install in an interior / dry location.
- Cut mounting hole to approximately 6-7/8" x 10-1/8".
- The OEM should test the POWER CONTROL CENTER converter under full load conditions in its intended mounting location to ensure proper ventilation. Failure to provide adequate ventilation will prevent the converter from supplying full output power.

AC ELECTRICAL:

- Connect AC GROUND buss bar to chassis
- Connect wiring system using proper connections and appropriately sized cable clamp.
- Connect CONVERTER AC HOT (black) wire to a 15A circuit breaker.

Approved breakers (main and branch):

- ITE/Siemens – QP, QT
- Thomas & Betts – TB & TBBD series
- Square D – HOM & HOMT series
- Cutler Hammer/Bryant – BR & BRD series
- GE – HACR series

Approved Filler Plates

- ITE/Siemens – QF3
- GE – TQLFP1

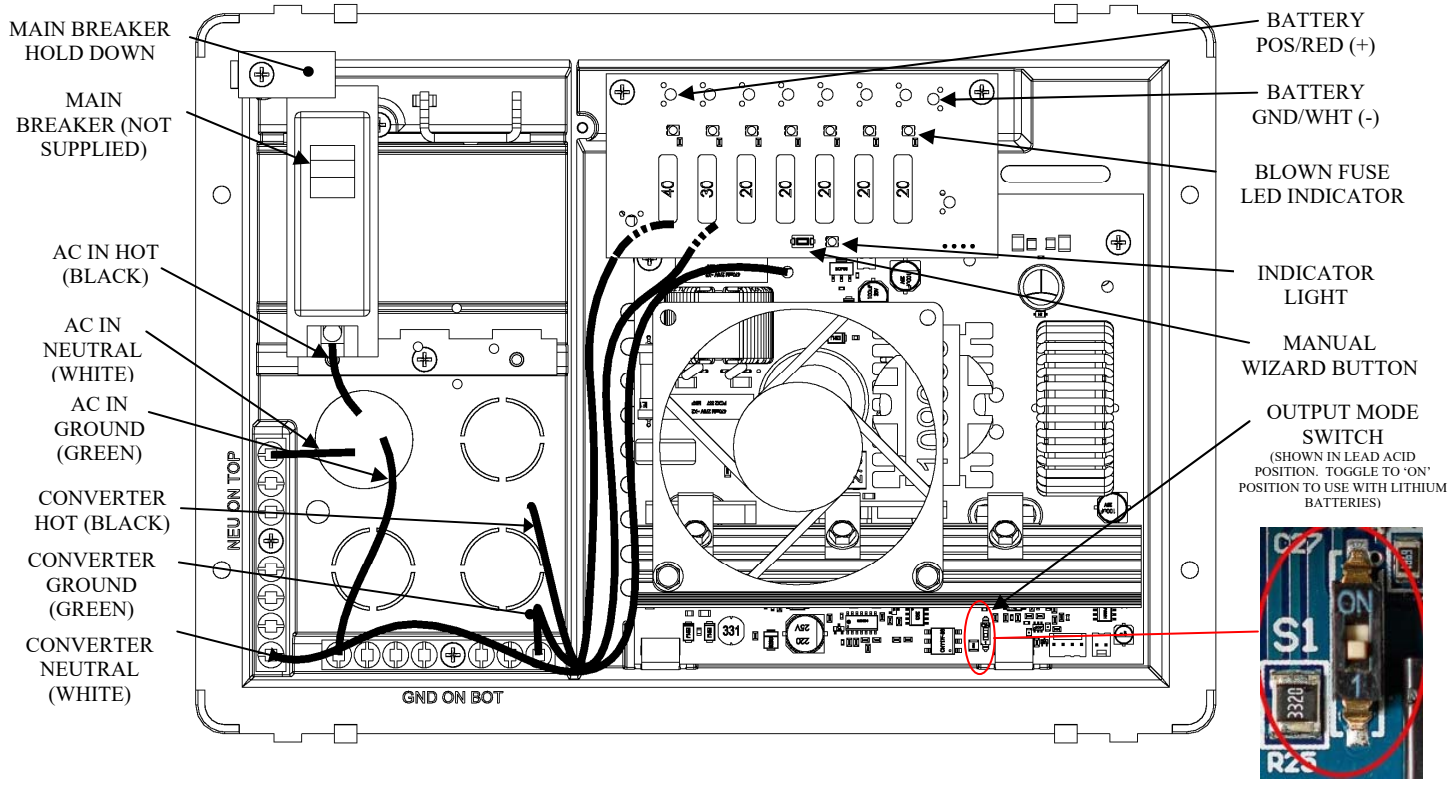
Torque Data
AC Breakers: see breaker mfg data
AC NEU & GND bars: #8 AWG – 30 IN LBS
#10-14 AWG – 25 IN LBS

DC ELECTRICAL:

- Connect battery POS (+) lead to the F1 (red) lead.
- Connect battery/chassis NEG (-) lead to the – (white) lead.
- Connect branch circuit wiring to the F2 through F7 leads
- Connect DC accessory returns to a customer supplied battery/chassis NEG (-)

Wiring Diagram

(Below image may vary, depending on model)



Consult a licensed electrician or RV technician for installation assistance

GENERAL OPERATION

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

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

At normal input voltages (105 – 130VAC) the full load rated capacity is available. At input voltages less than 105 VAC the converter may not supply full rated output capacity.

⚠ CAUTION

When the OUTPUT MODE SWITCH is in the 'ON' position, the converter is designed to charge lithium iron phosphate (LiFePO4) batteries only. DO NOT USE TO RECHARGE LEAD/ACID BATTERIES!

⚠ CAUTION

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

PD4100 – The full rated output is available for load, battery charging or both. The PD4100 converter is designed for operation with both lead acid (LA) and lithium (LI) batteries.

Lead Acid mode: When the OUTPUT MODE SWITCH is in the '1' (default) position, the converter has a nominal voltage output of 13.6 VDC. The system is designed to sense voltage on the battery and automatically selects one of three 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 14.4 VDC to rapidly recharge the battery.

NORMAL MODE: Output voltage set at approximately 13.6 VDC.

STORAGE MODE: When there has been no significant battery usage for 30 hours the output voltage is reduced to 13.2 VDC for minimal water usage. When in storage mode, the output voltage will periodically increase to 14.4 VDC to help prevent sulfation of the battery plates.

Lithium mode: When the OUTPUT MODE SWITCH is in the 'ON' position, the converter is designed to provide a constant nominal voltage output of 14.6 VDC.

See website for instructions on locating and changing the OUTPUT MODE SWITCH position

See website for detailed explanation of Charge Wizard® function

REVERSE BATTERY PROTECTION CIRCUIT

If a battery is accidentally hooked up backwards, the converter will be protected. Easily accessible ATC type fuses will blow when a battery is connected in reverse. Correct battery wiring and replace fuses with same type and rating. Appropriate fuse size is indicated on the circuit board.

Amp/Model	# of fuses	Fuse size (A)
35	1	40

NOTE: Disconnect all power to the converter prior to checking or changing fuses!

The DC Section:

The DC panel features up to six fused positions, one rated for up to 30 amps and five rated for up to 20 amps, for accessories. Each branch has an LED to indicate a blown branch fuse. See product labeling for actual DC fuse position ratings.

⚠ CAUTION

FOR CONTINUED PROTECTION AGAINST RISK OF FIRE OR ELECTRICAL SHOCK, REPLACE ONLY WITH SAME TYPE AND RATING FUSE.

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Specifications (Specifications subject to change without notice)	
Model	PD4135
AC Section	120 VAC 30 Amp Max.* – 5 Branch Circuits
DC Section	12 VDC 40 Amp Max. - 6 Branch Circuits**
Converter Section	Input: 105-130VAC 50/60 Hz 725 Watts Output: 13.6 -14.6 VDC 35 Amps Weight: 6 lbs

* - Maximum continuous loads on main or branch circuits not to exceed 80% of the circuit breaker ratings

** - Consult local regulatory authority for possible branch circuit restrictions

TROUBLESHOOTING GUIDE

PROBLEM	POSSIBLE CAUSES	ACTION
No Output	Proper AC power not connected	Connect power supply
		Check AC distribution panel for proper operation
	Reverse battery fuses blown	Check for reverse battery connection.
		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 (Converter will shut down if the input voltage exceeds 132 VAC)	Check input voltage
		Correct input voltage
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
	Bad battery cell(s)	Replace battery
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
Battery does not charge but circuits have power	Reverse battery fuses blown.	Check battery polarity. Correct if necessary. Replace fuses.
	No battery connection.	Check wiring to battery including possible inline fuse.

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

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

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