



Installation and Operation Guide for PD5100 Automatic Transfer Switch

LIMITED WARRANTY

- I. **LIMITED WARRANTY:** Progressive Dynamics, Inc. warrants its automatic transfer switch 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 one year 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 product 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 product 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 product; 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 in this manual:
- A. Name and address of the claimant;
 - B. Name, model and serial number of the product;
 - C. Application in which product was installed. (Includes manufacturer, model and model year where applicable)
 - 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 converter section shall be shipped postage prepaid to Progressive Dynamics, Inc. together with proof of purchase. The product will be repaired or replaced and returned postage prepaid.

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WARNING

TORQUE ALL CONNECTIONS PER LABEL. – IMPROPER TORQUE MAY CAUSE DAMAGE TO CONNECTIONS LEADING TO PROPERTY DAMAGE, SERIOUS INJURY, OR DEATH.

WARNING

THE 5100 AUTOMATIC TRANSFER SWITCHES ARE NOT IGNITION PROTECTED AND SHOULD NOT BE MOUNTED IN THE SAME COMPARTMENT AS THE BATTERIES OR FLAMMABLE MATERIALS. DO NOT MOUNT THE TRANSFER SWITCH IN THE GENERATOR OR LP GAS COMPARTMENT. A FIRE CAUSING PROPERTY DAMAGE, SERIOUS INJURY, OR DEATH COULD RESULT!

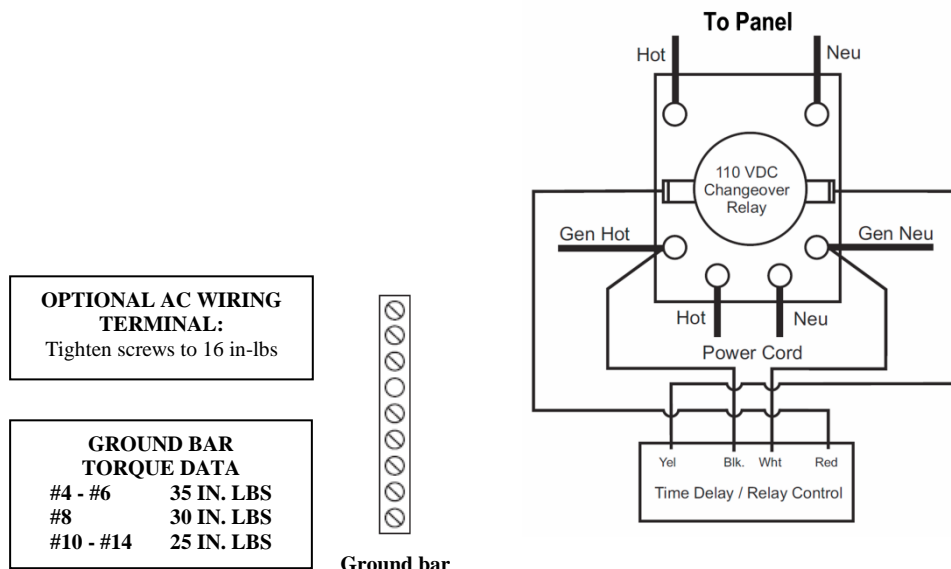
WARNING: SHOCK HAZARD

DUE TO THE HIGH VOLTAGES ASSOCIATED WITH ITS OPERATION ONLY QUALIFIED SERVICE PERSONNEL SHOULD INSTALL OR TROUBLESHOOT THIS TRANSFER SWITCH! ALL APPLICABLE CODES AND STANDARDS MUST BE MET WHEN INSTALLING THIS DEVICE. SEE WIRING DIAGRAM LOCATED ON THE INSIDE OF THE PRODUCTS COVER. IMPROPER HANDLING OR INSTALLATION MAY CAUSE SERIOUS INJURY OR DEATH.

INSTALLATION INSTRUCTIONS

The 5100 Automatic Transfer Switches are not suitable for outdoor locations and should be mounted on a flat surface with 4 screws (not included) in a protected area. We recommend that the transfer switch be mounted as close to the shore power and generator power cords as practical to reduce voltage loss.

NOTE: Prior to connecting power to contactor, ensure all relay contacts are free of debris.

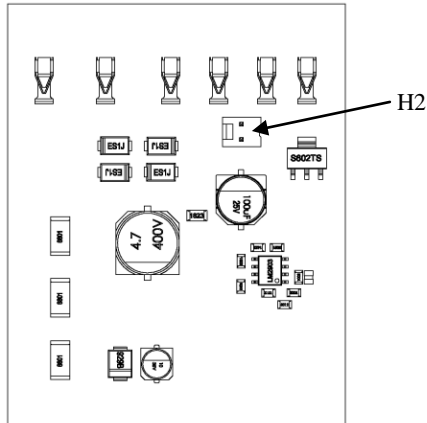


DESCRIPTION OF OPERATION

- When the shore power is applied the relay is at rest and power is transferred to the panel.
- When generator power is applied there is a 20-45 second delay and then the relay activates transferring generator power to the panel.
- If shore power returns while the generator power is present nothing will happen. When the generator power is removed the relay will drop out and allow the shore side to supply power.
- Generator overrides shore power.

PD51 TIME-OUT DISABLE

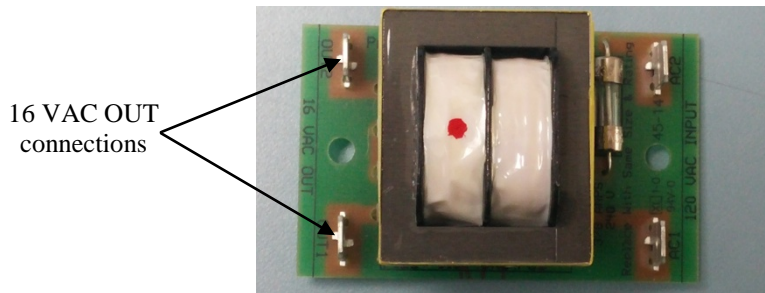
The PD51 control board is not field modifiable. To disable the timeout function, install a 0.100" pitch jumper (not provided) on the header at H2 on the PCB.



Optional SHORE VOLTAGE DETECTOR

(Used with Auto Generator Start)

For transfer switches supplied with the optional voltage sense board, connect the "16 VAC OUT" connections to the "shore power present" inputs of your generator control center. (These connections do not have a polarity requirement.) This output will be 16 VAC whenever shore power is present.



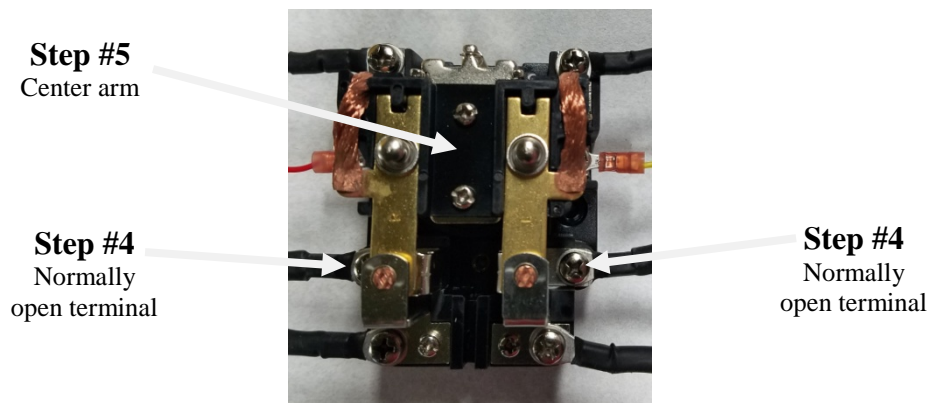
PD5100 TROUBLESHOOTING GUIDE

The Automatic Transfer Switch (ATS) is designed to be quickly tested for proper operation and repair if necessary.

NOTE: The most common reason for power not transferring is contamination of the contacts. The contacts and inside of the housing must be free of any debris. With the power off, a piece of paper slid between the contacts is enough to clean them. Spray contact cleaner will also work.

The following will describe how to test for proper circuit board operation and how to replace it if necessary.

1. Disconnect all AC power from the RV and make sure the generator is "OFF"
2. Remove the cover from the ATS.
3. With the power off check for 3k - 7k ohms on the red and yellow wires to the relay. If the coil checks open or shorted, replace the entire ATS.
4. Start the generator and wait 20-45 seconds to see if the relay will energize.
 - If the relay does not energize, go to Step # 5.
 - If the relay energizes, but the generator still does not provide 120 VAC power to the RV, use an AC voltmeter to check for 120 VAC power from the generator to the ATS. Then check for 120 VAC at the N.O. (Normally Open) terminals of the relay.
 - If 120 VAC power is present at the N.O. terminals of the relay, you have a wiring problem between the ATS and the RV AC distribution panel.
 - If no voltage is measured on the N.O. terminals, the entire unit will need to be replaced.
5. With the generator running use an insulated screwdriver to carefully push down on the center arm of the relay, until the center arm of the relay makes contact with the N.O. contacts of the relay.
 - If AC power is now present in the RV the circuit board in the ATS has failed and must be replaced.



6. If the relay contacts are burned and pitted (see photo below), the generator has a problem and its voltage is dropping below 90VAC under load. If this problem occurs, you must repair or replace the generator and the complete ATS.

