

Installation and Operation Guide for PD5200 and PD5300 Automatic Transfer Switch

PD52



PD52S & PD52DCS



PD53-100



Note: The PD52S & PD52DCS are provided with LED lights. The GREEN LIGHTS indicate Shore Power or Generator Power is available. RED LIGHTS indicate a catastrophic event has occurred and the surge protection is no longer functioning. The PD52DCS utilizes a DC coil to eliminate noise.

SPECIFICATIONS				
MODEL NUMBER	PD52	PD52S	PD52DCS	PD53-100
Voltage rating	120/240 VAC	120/240 VAC	120/240 VAC	120/240 VAC
Current rating (line)	50 Amps	50 Amps	50 Amps	100 Amps
Current rating (neutral)	70 Amps	70 Amps	70 Amps	100 Amps
Dominant source	Generator (selectable delay)	Generator (selectable delay)	Generator (selectable delay)	Generator (selectable delay)
Open neutral protection	No	Yes	Yes	No
Reverse polarity protection	No	Yes	Yes	No
Safety interlocks	Mechanical & Electrical	Mechanical & Electronic	Mechanical & Electronic	Mechanical & Electrical
Under voltage protection	No	Yes	Yes	No
Over voltage protection	No	Yes	Yes	No
Multi mode surge protection	No	Yes	Yes	No
Total surge energy rating	None	3,300 Joules	3,300 Joules	None
Total surge current rating	None	103,000 AMPS	103,000 AMPS	None
Weight	7 LBS	9 LBS	10 LBS	17 LBS
Dimensions	10.38L X 6.88W X 4.5H	10.25L X 8.25 X 5.5H	10.25L X 8.25 W X 5.5H	12.0L X 10.0W X 6.0H
Agency listing	ETL UL 1008	ETL UL 1008	ETL UL 1008	NOT LISTED

Table of Contents

Warranty	2
Safety Warnings	2
Description of Operation	3
Installation Instructions	3
Mounting Configurations	3
Time-Out Disable	4
Troubleshooting	5

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:
- A. Name and address of the claimant;
 - B. Model and serial number of the product;
 - C. Name, year and model of the vehicle in which the product 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 product 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 to 507 Industrial Road, Marshall, MI 49068.

For Warranty Service Call: (269) 781-4242 or email service@progressivedyn.com



ATTENTION



WARNING: TORQUE ALL CONNECTIONS PER LABEL – EXCESSIVE TORQUE MAY CAUSE DAMAGE TO CONNECTIONS LEADING TO A FIRE CAUSING PROPERTY DAMAGE, SERIOUS INJURY OR DEATH.

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 INSIDE OF THE COVER AND ON THE BACK OF THIS PAGE. IMPROPER HANDLING OR INSTALLATION MAY CAUSE SERIOUS INJURY OR DEATH.

WARNING: THE 5200 & 5300 SERIES AUTOMATIC TRANSFER SWITCHES ARE NOT IGNITION PROTECTED AND SHOULD NOT BE MOUNTED IN THE SAME COMPARTMENT AS BATTERIES OR FLAMMABLE MATERIALS SUCH AS GASOLINE. DO NOT MOUNT THE TRANSFER SWITCH IN THE GENERATOR OR LP GAS COMPARTMENT. A FIRE CAUSING PROPERTY DAMAGE SERIOUS INJURY OR DEATH COULD RESULT!

THESE PRODUCTS ARE NOT DESIGNED FOR USE WITH 240 VOLT SINGLE LEG SUPPLIES. APPLICATION OF VOLTAGES IN EXCESS OF 130 VOLTS FROM HOT TO NEUTRAL MAY CAUSE PERMANENT DAMAGE TO THE UNIT.

Description of Operation

- When power is applied to the shore side, the contactor activates and supplies power to the panel—GREEN shore LED on front panel will light.
- When power is applied to the Gen side there is a 20-45 second delay then the Gen side contact will activate, power will go to the panel from the Gen side and the shore side will be locked out—GREEN generator LED on front panel will light.
- If shore power returns while the Gen power is present, nothing will happen. When the Gen power is removed the contactor will drop out and allow the shore side to supply power.
- In a single leg application, the HOT1 side must be used for the control circuitry to work. For models with surge protection, both HOT1 and HOT2 must have power applied for proper operation.

Installation Instructions

The 5200 & 5300 Automatic Transfer Switches can be installed as shown in figures 1 and 2 provided there is room to route the shore power, generator, and distribution connection wires. The 5200 & 5300 Automatic Transfer Switches are not suitable for outdoor locations and should be mounted 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.

REFER TO WIRING DIAGRAMS LOCATED INSIDE THE COVER FOR ALL CONNECTION INFORMATION AND TORQUE REQUIREMENTS.

NOTE: DO NOT MOUNT THE UNIT VERTICALLY AS SHOWN IN FIGURE 3 AND 4. DOING SO WILL SHORTEN THE SERVICE LIFE OF THE UNIT.

Consult a licensed electrician or a certified RV technician for installation assistance.

Proper mounting configuration options

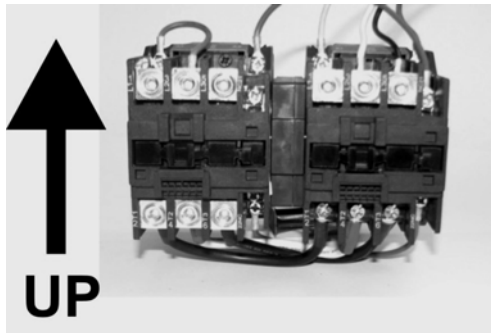


Figure 1—Horizontal Wall Mount

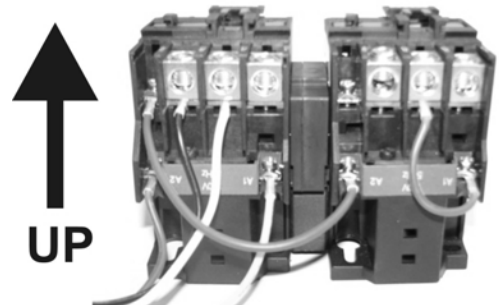


Figure 2—Floor Mount



Figure 3—Vertical Wall Mount

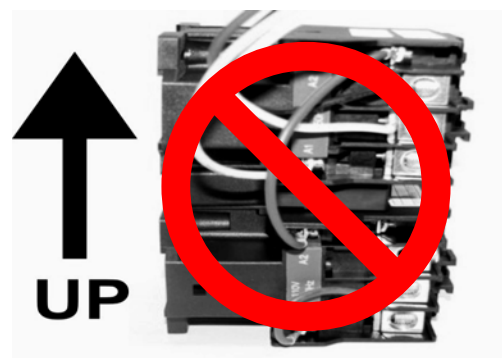
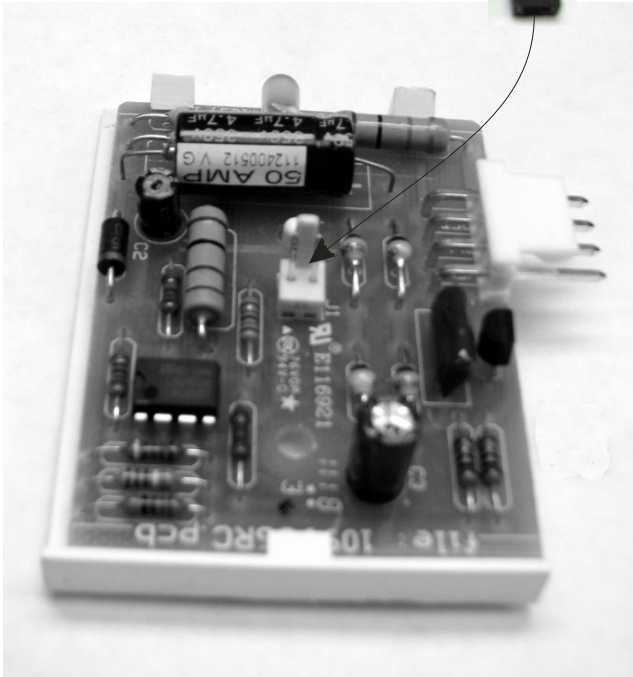


Figure 4—Vertical Wall Mount

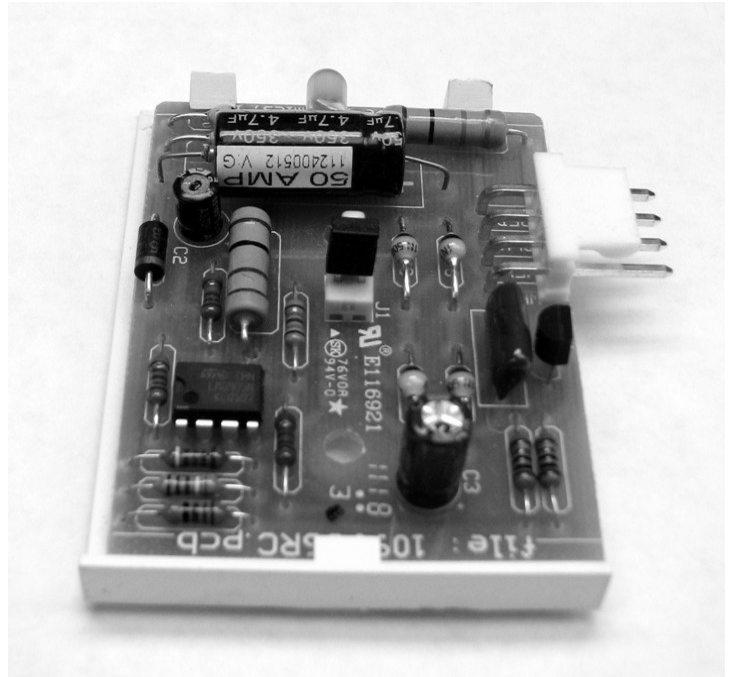
How to Disable Generator Transfer Delay

.100 inch Shorting Jumper

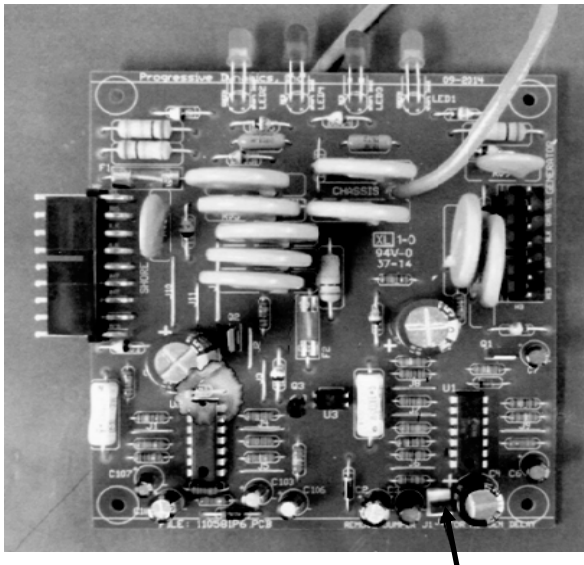


PD52/PD53 CONTROL BOARD

To **DISABLE** the time-out function of the control board **INSTALL** a .100 inch shorting jumper over the connector marked J1.

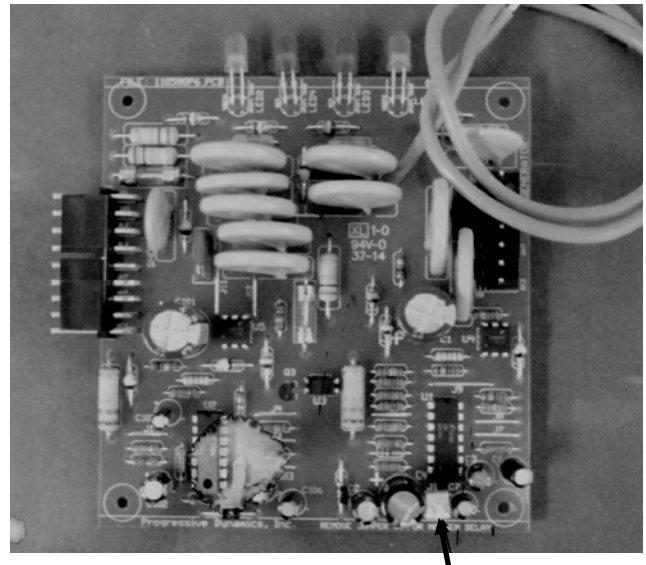


PD52/PD53 CONTROL BOARD
With Jumper Installed and delay time disabled



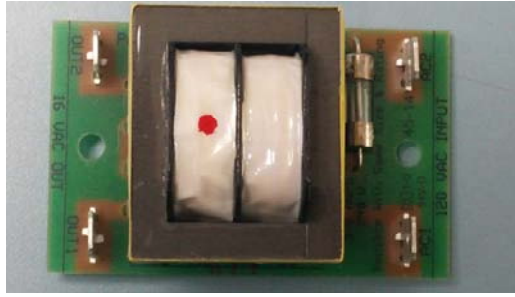
PD52DCS CONTROL BOARD

To **DISABLE** the time out function of the control board **REMOVE** the shorting jumper over the connector marked J1 as shown.



PD52S CONTROL BOARD

To **DISABLE** the time out function of the control board **RE-REMOVE** the shorting jumper over the connector marked J1 as shown. (Control board shown with jumper removed.)



SHORE SOURCE VOLTAGE DETECTOR (Used for Auto Gen 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.

Hi-pot Procedure: (OEM INSTALLATIONS ONLY)

NOTE: FOR TRANSFER SWITCHES WITH SURGE PROTECTION, DISCONNECT GREEN WIRE FROM GROUND BAR WHILE PERFORMING THIS TEST. (DO NOT ALLOW WIRE END TO CONTACT ANY METALLIC SURFACE)

1. On shore Power Connections connect HOT1, HOT2 and NEU together.
2. Connect one lead of Hi-pot tester to the HOT1, HOT2 and NEU junction.
3. Connect other lead of Hi-pot tester to Chassis Ground.
4. Apply power to Hi-pot Tester and perform test.
5. Perform steps 1-4 for the LOAD and GENERATOR side to complete Hi-pot testing of the coach.

NOTE: RECONNECT GREEN WIRE WHEN COMPLETE.

TROUBLE SHOOTING GUIDE

No power to loads when plugged into shore power:

1. Measure AC Volts between HOT1 and NEU on the shore line connections, there must be voltage between 105 and 130VAC to energize the contactor. If the proper voltage is not present then there is a wiring error between the shore cord and the transfer switch or a shore power problem.
2. If proper voltage is present at HOT1 and NEU on the shore side measure AC Volts on the load side between HOT1 and NEU, should read between 105 and 130VAC. If the voltage is not present and there is proper voltage on the SHORE side the transfer switch is defective. If the proper voltage is present on the LOAD side there is a wiring error between the transfer switch and the distribution panel.

No power to loads when generator is running:

1. Disconnect Shore Power.
2. Start the generator, measure AC Volts between HOT1 and NEU on the GEN connections, there needs to be voltage between 105 and 130VAC to energize the contactor. NOTE: there is a 20-45 second delay before the generator transfer contacts engage. When voltage is present between HOT1 and NEU the green LED on the control board will be illuminated. If the proper voltage is not present then there is a wiring error between the generator and the transfer switch or a generator problem.
3. If proper voltage is present at HOT1 and NEU on the GEN side wait 20-45 seconds then measure AC Volts on the load side between HOT1 and NEU, it should read between 105 and 130VAC. If the voltage is not present and there is proper voltage on the GEN side the transfer switch is defective.

NOTE: FOR MODELS WITH SURGE PROTECTION THERE MUST ALSO BE 105 TO 130VAC PRESENT FROM HOT2 TO NEUTRAL.

Continued on next page

One or both RED LEDs on front cover lit. (Units with Surge Protection)

1. This indicates the surge protection on the shore side has been damaged and is no longer functional.
2. Replace circuit board assembly. For model PD52S use PD813347 control Board. For Model PD52DCS use PD813283 control board. WARNING: Using the wrong control board will result in damage to the contactor.

No power to Auto Gen Start

1. With shore power connected, measure AC Volts between HOT1 and NEU on the shore line connections, there must be voltage between 105 and 130VAC to energize the contactor. If the proper voltage is not present then there is a wiring error between the shore cord and the transfer switch or a shore power problem.
2. Measure voltage on output terminals of the voltage sense board. Test should be performed with wires connected and also disconnected. Voltage should be about 16 VAC.
3. If voltage not present with no connection, replace voltage sense circuit board with PD813237.
4. If voltage not present with wires connected there is a problem with the wiring or your generator control center.

NOTES

Warranty Information

Serial Number: _____

Date of Purchase: _____

Coach Year: _____

Coach Make and Model: _____