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.

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

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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) 781-4241 Ext. 159 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 1Δ Horizontal Wall Mount](image1)

![Figure 2Δ Floor Mount](image2)

![Figure 3Δ Vertical Wall Mount](image3)

![Figure 4Δ Vertical Wall Mount](image4)
How to Disable Generator Transfer Delay

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**

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

**PD52DCS CONTROL BOARD**

**PD52S CONTROL BOARD**
Troubleshooting 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.

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. 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.
3. Replace voltage sense circuit board with PD812879.