This publication describes the replacement procedure for the power distribution module (PDM) in 4100U and 4100ES Fire Alarm Control Panels (FACP).

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READ AND SAVE THESE INSTRUCTIONS- Follow the instructions in this installation manual. These instructions must be followed to avoid damage to this product and associated equipment. Product operation and reliability depend upon proper installation.

DO NOT INSTALL ANY SIMPLEX® PRODUCT THAT APPEARS DAMAGED- Upon unpacking your Simplex product, inspect the contents of the carton for shipping damage. If damage is apparent, immediately file a claim with the carrier and notify an authorized Simplex product supplier.

ELECTRICAL HAZARD - Disconnect electrical field power when making any internal adjustments or repairs. All repairs should be performed by a representative or authorized agent of your local Simplex product supplier.

STATIC HAZARD - Static electricity can damage components. Handle as follows:
- Ground yourself before opening or installing components.
- Prior to installation, keep components wrapped in anti-static material at all times.

FCC RULES AND REGULATIONS – PART 15 - This equipment has been tested and found to comply with the limits for a Class A digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

SYSTEM REACCEPTANCE TEST AFTER SOFTWARE CHANGES To ensure proper system operation, this product must be tested in accordance with NFPA 72® after any programming operation or change in site-specific software. Reacceptance testing is required after any change, addition or deletion of system components, or after any modification, repair or adjustment to system hardware or wiring.

All components, circuits, system operations, or software functions, known to be affected by a change, must be 100% tested. In addition, to ensure that other operations are not inadvertently affected, at least 10% of initiating devices that are not directly affected by the change, up to a maximum of 50 devices, must also be tested and proper system operation verified.

NFPA 72® is a registered trademark of the National Fire Protection Association.
Removing a Defective PDM (Slide Mount)

Introduction

The power distribution module (PDM) for a Slide Mount consists of a mounting bracket and slide bracket assembly. The slide bracket assembly contains the actual card and connector ports used to distribute power. The mounting bracket simply allows the slide bracket assembly to slide in and out of the cabinet allowing easy access to the wires connected to the PDM (see Figure 1).

Note: The location of the PDM differs depending on the type of back box. The illustration below, for instance, shows the location of a PDM in a two-bay back box.

In most cases, only the slide bracket assembly needs to be replaced. The service kit, however, includes both the slide bracket and the mounting bracket. The only time you would need to replace the mounting bracket is if it has been damaged to a point where the slide bracket can no longer easily slide in and out of the mounting bracket. The instructions in this document cover the replacement of both the PDM mounting bracket and the PDM slide bracket.

Figure 1. PDM Location for Slide Mount (Two-Bay Box)

Remove Power and Access the CPU Bay

1. Remove power to the system by disconnecting any battery connection at the PDM and then removing AC power at the breaker.
2. Locate the PDM. It is mounted to the inside-right panel of the back box.

Continued on next page
Removing a Defective PDM (Slide Mount), *Continued*

1. Slide the PDM assembly out of the PDM mounting bracket until all the plugs connected to the PDM are easily accessible for removal.

2. Label the plugs connected to the PDM according to location on the PDM and remove them. The locations and suggested labels for each connection are shown in Figure 2.

3. Remove the cover over the PDM assembly in order to access the AC power wire connections.

4. Label and remove the wire connections to the AC power terminal atop the PDM. Suggested labels for the connections are shown in Figure 2.

5. Once all the wires have been detached from the PDM, loosen them from the four wire clamps at the back end of the PDM slide bracket assembly.

6. With the wires now completely removed, the PDM assembly easily slides out of the PDM mounting bracket. Slide the PDM out of the mounting bracket and discard it.

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**Replace the PDM Mounting Bracket**

Replacing the PDM Mounting Bracket involves removing any electronic bays in the back box that prohibit access to the two nuts that fasten the mounting bracket to the studs extending from the side of the back box.

- If the PDM mounting bracket is not damaged, skip ahead to the next section titled “Installing the New PDM”.
- If the PDM mounting bracket attached to the side of the back box is damaged and needs replacing, follow the steps in the remainder of this section.

**Note:** It is rare that a PDM mounting bracket needs to be replaced, and the procedure to do so is involved. Do not perform these steps unless the PDM mounting bracket is damaged to a point where the PDM slide bracket cannot move easily in and out of the mounting bracket.

*Continued on next page*
Replace the PDM Mounting Bracket

1. If you are unable to access the nuts that fasten the bracket to the back box without removing an electronics bay, remove the bay(s) using the steps below.
   a. Label and disconnect any wires or cables that exit the bay (AC power or system comm/power cables for example). These wires/cables could be attached to any component within the bay. Make sure that the label for each wire/cable contains the name of the card it came from as well as the specific location on the card from which it were removed.
   b. Remove and set aside the screws that fasten the bay to the rear of the back box. This will detach the bay from the box. Be prepared to support the weight of the bay and set it aside.
2. Now, remove the two nuts that fasten the mounting bracket to the studs extending from the side of the box. Discard the mounting bracket.

   You are now ready to install the new PDM Mounting Bracket and reinstall any electronic bays you have removed, if necessary.
3. Line up the two rear holes on the mounting bracket with the studs extending from the side of the back box where you removed the old mounting bracket.
4. Place the new mounting bracket onto these two studs and fasten the two, #6 nuts to the ends of the studs.
5. If you earlier removed an electronic bay(s) from the back box, reinstall it now using the following steps:
   a. Match up the four screw holes at each corner of the bay with the appropriate holes at the back of the back box.
   b. Using the four screws you set aside earlier, fasten the bay to the back box.
   c. Reconnect the labeled wires and cables that you earlier detached from the cards within the bay.
Installing a Replacement PDM (Slide Mount)

1. Remove the cover from the new PDM assembly and slide it (with no wires connected to it) into the PDM mounting bracket. Insert the end of the assembly with the four wire clamps first.

2. Leave the PDM hanging out of the mounting bracket far enough to allow for attaching the wires you removed from the old PDM.

3. Connect the wires you removed from the AC power terminal on the old PDM to the same locations on the new PDM.

4. Install the cover over the PDM.

5. Match up the labels for each plug to the appropriate connector on the PDM and make the connections.

6. Once all the wires are connected, route the wires back through the wire clamps at the back end of the PDM assembly.

7. Slide the PDM assembly all the way back into the mounting bracket.

8. Complete the replacement procedure by performing the steps in the Preparing System for Operation (Box or Slide Mount) section (last page of this publication).
Removing a Defective PDM (Box Mount)

Introduction

The power distribution module (PDM) for a Box Mount consists of a module cover, actual module itself, and the insulator/marker strip (see Figure 3).

Note: The location of the PDM differs depending on the type of back box. The illustration below, for instance, shows the location of a PDM in a two-bay back box.

Figure 3. PDM Location for Box Mount (Two-Bay Box)

1. Remove power to the system by disconnecting any battery connection at the PDM and then removing AC power at the breaker.

2. Locate the PDM. It is mounted to the lower right side of the back box.

Continued on next page
Removing a Defective PDM (Box Mount), *Continued*

1. If you are unable to access the support posts that fasten the PDM to the back box without removing an electronics bay, remove the bay(s) using the steps below.
   a. Label and disconnect any wires or cables that exit the bay (AC power or system comm/power cables for example). These wires/cables could be attached to any component within the bay. Make sure that the label for each wire/cable contains the name of the card it came from as well as the specific location on the card from which it were removed.
   b. Remove and set aside the screws that fasten the bay to the rear of the back box. This will detach the bay from the box. Be prepared to support the weight of the bay and set it aside.

2. Label the plugs connected to the defective PDM according to location on the PDM and remove them. The locations and suggested labels for each connection are shown in Figure 4.

3. Remove the cover over the defective PDM in order to access the AC power and battery wire connections.

4. Label and remove the wire connections to the AC power and battery terminals atop the defective PDM. Suggested labels for the connections are shown in Figure 4.

5. Once all the wires have been detached from the defective PDM, discard it.

6. If you earlier removed an electronic bay(s) from the back box, reinstall it now using the following steps:
   a. Match up the four screw holes at each corner of the bay with the appropriate holes at the back of the back box.
   b. Using the four screws you set aside earlier, fasten the bay to the back box.
   c. Reconnect the labeled wires and cables that you earlier detached from the cards within the bay.

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**Figure 4. PDM Terminal Labels**

Cover must be removed to expose AC power terminal.
Installing a Replacement PDM (Box Mount)

See Figure 3 while performing the steps in this section.

1. Locate the four threaded standoffs inside the back box.
2. Remove the cover from the replacement PDM.
3. Line up the insulator/marker strip with the four standoffs. Face out the proper side of the strip according to your use of 120 V or 240 V power.
4. Screw replacement PDM onto the strip using the four plastic support posts (supplied).
5. Connect the wires you removed from the defective PDM to the same locations on the replacement PDM.
6. Install the cover over the PDM.
7. Match up the labels for each plug to the appropriate connector on the PDM and make the connections.
8. Complete the replacement procedure by performing the steps in the Preparing System for Operation (Box or Slide Mount) section (last page of this publication).
Preparing System for Operation (Box or Slide Mount)

To Complete PDM Replacement Procedure

Complete the replacement procedure using the instructions below.

1. Reapply system power at the breaker.
2. Restore battery power to the cabinet by reconnecting the battery cable at the PDM.
3. Redress and close the main cabinet door.

The system is now ready for normal operation.