**Installation**

Modular Power Distribution Unit

208/120 V with Input and Subfeed Breaker

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**IMPORTANT SAFETY INSTRUCTIONS!**

SAVE THESE INSTRUCTIONS!

This document contains important instructions that should be followed during installation and maintenance of the Modular Power Distribution Unit (PDU).

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**Electrical Hazard:** Only certified electricians are authorized to connect power to the PDU.

**Electrical Hazard:** The PDU must be installed in accordance with the National Electrical Code or the Canadian Electrical Code and all applicable local codes.

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**Level the PDU**

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**Install the Power Cables**

1. Open the rear door of the PDU.
2. Make sure the input breaker is in the OFF (open) position.
3. Open the safety door to expose the input breaker.
4. Unlock the side panel with the key (provided). Remove side panel to expose mains shield.
5. Loosen the screws from the mains shield and remove the shield to gain access to the compression terminals. Only remove the bottom shield if the bottom entry is used.
6. Loosen four screws from the rear top plate and remove the plate. Remove the bottom plate for bottom feed installations. Cut or punch a hole in the plate to accommodate a conduit for power cables.
7. Install the conduit and pull the conductors into the PDU from the bottom or the top.
8. Connect the phase (L1, L2, L3) conductors. Torque: 31.1 Nm (275 lb-in).
10. Connect the isolated ground conductor. Torque: 31.1 Nm (275 lb-in).
11. Connect the chassis ground (G) conductor. Torque: 5.6 Nm (50 lb-in).

Replace the mains shield and side panel. Close the safety door, and then the rear door, of the PDU.

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**Note:** Both top rear plates can be employed to accommodate power cables. Never drill or cut above the PDU.
Install the User Contacts

Note: Contact wires from external signaling, alarming, and sensing devices may be connected to the interface board to allow the PDU microprocessor to monitor these devices.

1. Open the front door of the PDU.
2. Note the location of the terminal block on the underside of a small top plate above the power distribution modules.

Install the Communication Cable

1. Connect one end of the CAT-5 cable to the RJ-45 port on top of the PDU.
2. Connect the other end of the CAT-5 cable to either an InfraStruXure Central, or InfraStruXure Manager server, or a local area network port.

Connect Conductors to the Subfeed Circuit Breaker

The subfeed conductors are installed in the same manner as the Power Cables as shown on page 1. Follow steps 1 through 7.

1. Connect the phase (L1, L2, L3) conductors. Torque 31.1 Nm (275 lb-in).
2. Connect the auxiliary (L4, L5, L6) conductors. Torque 31.1 Nm (275 lb-in).
3. Make sure all breakers on the PDM that is being installed are in the OFF (open) position.
4. Press the red button to release the latch then, pull open the latch.
5. Make connections to appropriately labeled terminals on the terminal block.

Install Power Distribution Modules

Electrical Hazard: To prevent arcing when removing a Power Distribution Module (PDM) from the panel, set all circuit breakers on that module to OFF (open).

Note: Install only APC-supplied 208/120 V PDMs in the panel of this PDU. APC PDMs can be safely installed in the panel even when the PDU is operational.

1. Open the front door of the PDU.
2. If your PDM does not include a handle tie, you will need to install one.
3. Make sure all breakers on the PDM that is being installed are in the OFF (open) position.
4. Press the red button to release the latch then, pull open the latch.

Customer Field Wiring, If Needed

<table>
<thead>
<tr>
<th>Factory Terminal Block Wiring</th>
<th>Auxiliary Contact Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>C1  120 VAC Shunt Trip</td>
<td>0.3 A @ 250 Vac</td>
</tr>
<tr>
<td>C2  120 VAC Shunt Trip</td>
<td>0.8 A @ 125 Vac</td>
</tr>
<tr>
<td>C3  N.O. Subfeed</td>
<td></td>
</tr>
<tr>
<td>C4  N.O. Subfeed</td>
<td></td>
</tr>
<tr>
<td>C5  N.O.</td>
<td></td>
</tr>
<tr>
<td>C6  N.C.</td>
<td></td>
</tr>
<tr>
<td>C7  N.C.</td>
<td></td>
</tr>
<tr>
<td>C8  N.C.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Customer Field Wiring, If Needed</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 Subfeed</td>
</tr>
<tr>
<td>8 Subfeed</td>
</tr>
</tbody>
</table>

Pdx0321c

Pdx0324g

Pdx0346a

Pdx0347a

Pdx0314b

Pdx0328c

Pdx0325c

Pdx0326c

Pdx0329c

Pdx0330c

Pdx0331c

Pdx0332c

Pdx0333c

Pdx0334c

Pdx0335c

Pdx0336c

Pdx0337c

Pdx0338c

Pdx0339c

Pdx0340c

Pdx0341c

Pdx0342c

Pdx0343c

Pdx0344c

Pdx0345c

Pdx0346a

Pdx0347a
5 Install PDMs starting from the bottom of the panel to avoid cable congestion. Select the next available 3-pole position for installation.

6 Slide the PDM into the panel using the top and bottom guide tracks for that position. Make sure you slide the PDM all the way into its position.

7 Close the latch. This will tighten electrical contacts in the PDM against the busbar.

8 Feed cable from the PDM through the brush-filled slot in the roof of the PDU.

9 Use tie wraps to secure loose cables to the enclosure. Connect the PDM cable to the appropriate rack-mount PDU or other equipment.

10 Set all breakers on the newly installed PDM to the ON (closed) position.

### Specifications

#### AC Input and Subfeed

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Input Circuit Breaker</td>
<td>400A</td>
</tr>
<tr>
<td>Nominal voltage</td>
<td>208/120 V, 3W + N + G</td>
</tr>
<tr>
<td>Frequency</td>
<td>60 Hz</td>
</tr>
<tr>
<td>Input and subfeed circuit</td>
<td>320 A</td>
</tr>
<tr>
<td>Maximum continuous current</td>
<td>320 A</td>
</tr>
</tbody>
</table>

#### AC Output

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nominal voltage</td>
<td>208/120 V, 3W + N + G</td>
</tr>
<tr>
<td>Maximum continuous current</td>
<td>320 A (PDMs plus subfeed)</td>
</tr>
<tr>
<td>Full load rating</td>
<td>115 kVA @ 208 V 3 PH</td>
</tr>
<tr>
<td>Power distribution module</td>
<td>208/120 V, 3-pole modules</td>
</tr>
<tr>
<td>Power distribution poles</td>
<td>72</td>
</tr>
<tr>
<td>Maximum number of PDMs</td>
<td>24</td>
</tr>
<tr>
<td>Output cable connections</td>
<td>TC-ER (Tray cable - exposed runs)</td>
</tr>
<tr>
<td>Output cable lengths</td>
<td>Various, based on using APC PDMs</td>
</tr>
</tbody>
</table>

### Environment and Compliance

- **Operating Environment**
  - Protected from water and conductive contaminants
  - Temperature: Operating: 0 to 40°C (32 to 104°F), Storage: 0 to 45°C (32 to 113°F)
  - Humidity: Operating: 0 to 95%, non-condensing, Storage: 0 to 95%, non-condensing
  - Elevation: 10 000 m (3,000 ft)

- **Certification**
  - Listed and cUL by Underwriters Laboratories Inc.

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**Note:** When installing PDMs near the top of the panel, perform step 8 before steps 6 and 7 to avoid cable congestion between the panel and the slot.

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**Note:** Input and subfeed circuit breakers are 100% rated. In accordance with the National Electrical Code, input wiring shall be rated 90°C (194°F) minimum and shall be sized for ampacity in accordance with the 75°C (167°F) columns of conductor ampacity tables.

**Note:** Conductor sizing in this manual is based on an ambient temperature of 30°C (86°F). If the ambient temperature of your datacenter is greater than 30°C (86°F), larger conductors are to be used in accordance with the Correction Factors of the National Electric Code and the Canadian Electric Code. Conductor sizing in this manual is based on conductors and circuit breaker terminals rated 75°C (167°F).
Regulatory Agency Approval

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 Installation Guide, 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.

This Class A digital apparatus complies with Canadian ICES-003.
Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

This is a Class A Product. In a domestic environment this product may cause interference, in which case the user may be required to take adequate measures.

Appendix

Install filler plates

Install APC filler plates (part number 870-14628) to properly cover 3-pole panel positions that are not occupied by a PDM.

1 Position the filler plate sideways in front of the open 3-pole panel position (the top is on the right, the bottom on the left, as shown).
2 Insert the bottom of the filler plate into the slot on the left side of the panel position.
3 Push the top of the filler plate forward until its locking mechanism snaps securely into the panel.

Install shielding troughs

1 Snap an APC-provided trough into slots on the roof of the PDU. The tabs at the base of the trough must fit securely into the slots.

Note: Be sure to properly align the PDU trough with troughs installed on top of the enclosures located alongside the PDU.

2 Feed the PDM cables through the roof of the PDU and into the trough system for connection with the appropriate rack-mount PDUs.

APC Worldwide Customer Support

Customer support and warranty information is available at the APC Web site, www.apc.com.

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