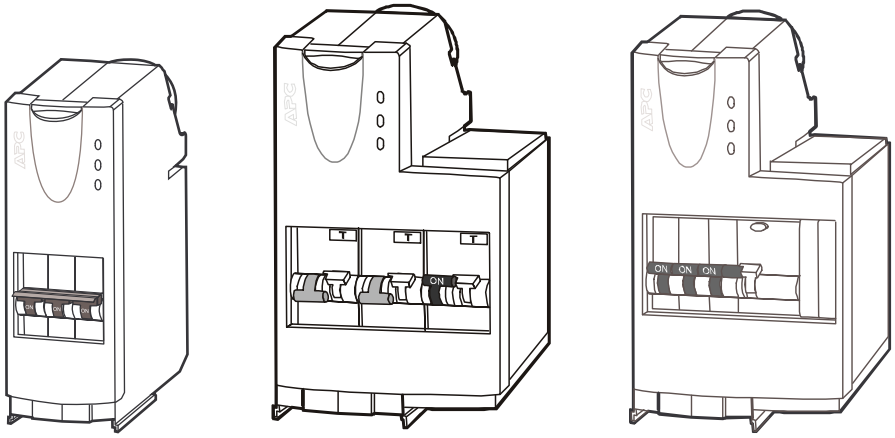
# Power Distribution Modules (PDM)

## Installation

**Single Phase PDM, Three Phase PDM, Single Phase PDM with RCD, Three Phase PDM with RCD**

**Latest updates are available on the Schneider Electric website**
**03/2024**



# Legal Information

The information provided in this document contains general descriptions, technical characteristics and/or recommendations related to products/solutions.

This document is not intended as a substitute for a detailed study or operational and site-specific development or schematic plan. It is not to be used for determining suitability or reliability of the products/solutions for specific user applications. It is the duty of any such user to perform or have any professional expert of its choice (integrator, specifier or the like) perform the appropriate and comprehensive risk analysis, evaluation and testing of the products/solutions with respect to the relevant specific application or use thereof.

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# Table of Contents

# Important Safety Instructions — SAVE THESE INSTRUCTIONS

Read these instructions carefully and look at the equipment to become familiar with it before trying to install, operate, service or maintain it. The following safety messages may appear throughout this manual or on the equipment to warn of potential hazards or to call attention to information that clarifies or simplifies a procedure.

The addition of this symbol to a “Danger” or “Warning” safety message indicates that an electrical hazard exists which will result in personal injury if the instructions are not followed.

This is the safety alert symbol. It is used to alert you to potential personal injury hazards. Obey all safety messages with this symbol to avoid possible injury or death.

**⚠DANGER**

**DANGER** indicates a hazardous situation which, if not avoided, **will result in** death or serious injury.

**Failure to follow these instructions will result in death or serious injury.**

**⚠WARNING**

**WARNING** indicates a hazardous situation which, if not avoided, **could result in** death or serious injury.

**Failure to follow these instructions can result in death, serious injury, or equipment damage.**

**⚠CAUTION**

**CAUTION** indicates a hazardous situation which, if not avoided, **could result in** minor or moderate injury.

**Failure to follow these instructions can result in injury or equipment damage.**

***NOTICE***

**NOTICE** is used to address practices not related to physical injury. The safety alert symbol shall not be used with this type of safety message.

**Failure to follow these instructions can result in equipment damage.**

## Please Note

Electrical equipment should only be installed, operated, serviced, and maintained by qualified personnel. No responsibility is assumed by Schneider Electric for any consequences arising out of the use of this material.

A qualified person is one who has skills and knowledge related to the construction, installation, and operation of electrical equipment and has received safety training to recognize and avoid the hazards involved.

# Safety Precautions

This manual contains important instructions that must be followed during installation, operation, and maintenance of the power distribution unit (PDU). For safety reasons, only trained users are allowed to operate the display interface and replace the power distribution modules (PDMs).

**⚠⚠DANGER**

**HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH**

- Electrical equipment must be installed, operated, serviced, and maintained only by qualified personnel.
- The PDU must be installed in accordance with the National Electrical Code or the Canadian Electrical Code and all applicable local codes.
- Service access areas are locked with a Red Key. The Red Keys must remain under the control of qualified service personnel.
- Wear appropriate personal protection equipment (PPE) when performing maintenance on this PDU.

**Failure to follow these instructions will result in death or serious injury.**

**⚠⚠DANGER**

**HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH**

Turn off all power supplying the equipment and perform appropriate lockout/tagout procedures before installing or removing the PDM.

**Failure to follow these instructions will result in death or serious injury.**

**⚠WARNING**

**UNEXPECTED BEHAVIOR OF APPLICATION**

Only trained users should operate the display or replace the PDMs.

**Failure to follow these instructions can result in death, serious injury, or equipment damage.**

**⚠CAUTION**

**HAZARD OF EQUIPMENT DAMAGE**

- For PDMs with RCDs (residual current devices) installed, the occurrence of a ground fault will automatically open the adjacent circuit-breaker.
- PDMs with RCDs are equipped with a test button. Periodic testing of the RCD may be required. Check local codes for your region.

**Failure to follow these instructions can result in injury or equipment damage.**

# 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.

# Additional Safety Information

## Before You Begin

Verify that the system is free from all short circuits and grounds, except those grounds installed according to local regulations (according to the National Electrical Code in the U.S.A., for instance). If high-potential voltage testing is necessary, follow recommendations in equipment documentation to prevent accidental equipment damage.

Before energizing equipment:

- Remove tools, meters, and debris from equipment.
- Close the equipment cabinet door.
- Perform all start-up tests recommended by the manufacturer.

## Operation and Adjustments

The following precautions are from the NEMA Standards Publication ICS 7.1-195 (English version prevails):

- Regardless of the care exercised in the design and manufacture of equipment or in the selection and ratings of components, there are hazards that can be encountered if such equipment is improperly operated.
- It is possible to misadjust the equipment and thus produce unsatisfactory or unsafe operation. Always use the manufacturer instructions as a guide for functional adjustments. Personnel who have access to these adjustments should be familiar with the equipment manufacturer's instructions and other equipment used with this product.
- Only those operational adjustments actually required by the operator should be accessible to the operator. Access to other controls should be restricted to prevent unauthorized changes in operating characteristics.

**⚠WARNING**

**UNGUARDED MACHINERY HAZARD**

- Do not use this product with equipment which does not have point-of-operation protection.
- Do not reach into equipment during operation.

**Failure to follow these instructions can result in death, serious injury, or equipment damage.**

# Environment

| | Operating | Storage |
|---|---|---|
| Temperature | 0 °C to 30 °C (32 °F to 86 °F) without load derating.<br>0 °C to 40 °C (32 °F to 104 °F) with power derated. | 0 °C to 45 °C (32 °F to 113 °F) |
| Relative humidity | 0-95% non-condensing | 0-95% non-condensing |
| Elevation | Designed for storage in 0-1000 m (0-3300 feet) elevation. | |
| Operation environment | Protected from water and conductive contaminants | |

**NOTE:** If this product is installed in an environment with greater than 30 °C (86 °F) ambient temperature, either derate the product's current rating, or increase the size of the conductors supplying, in accordance with the derating factors of NFPA 70 and IEC 60364-5-53.

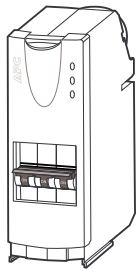
# Compliance

| | |
|---|---|
| Certification | Certified by VDE to IEC 61439-1:2020-05<br>IEC 61439-2:2020-07<br>DIN EN IEC 61439-1 (VDE 0660-600-1):2021-10<br>DIN EN IEC 61439-2 (VDE 0660-600-2):2021-10<br>EN IEC 61439-1:2021<br>EN IEC 61439-2:2021<br>Listed (US) and cUL(Canada) by Underwriters Laboratories Inc. to UL 60950 |
| Conditional short-circuit current rating (ICC) | 10 kA |
| Rated impulse withstand voltage (UCC) | 4 kV |
| Rated diversity factor | 0.6 |
| Overvoltage category | OVCIII |
| Protective class | 1 |
| Pollution degree | 2 |

**NOTE:** If this product is installed in an environment with greater than 30 °C (86 °F) ambient temperature, either derate the product's current rating, or increase the size of the conductors supplying, in accordance with the derating factors of NFPA 70 and IEC 60364-5-53.

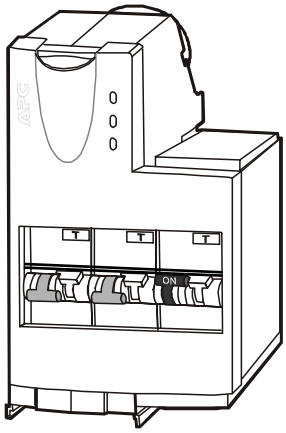
# Module Types

## Single Phase PDM and Three Phase PDM



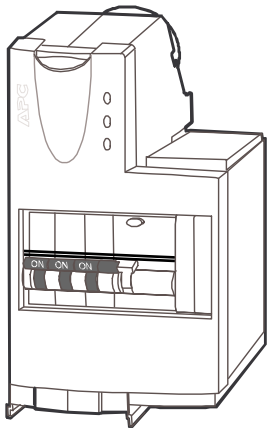
| Commercial reference | Explanation for code ‘XX’ | Explanation for code ‘XXX’ |
|---|---|---|
| PDM13XXIEC-XXX<br>PDM35XXIEC-XXX | The code stands for the rated current in Amps. Its value can be 16, 32, or 63. | The code stands for the length of the cable. Its value can be 3P, 3P-2, or 3P-3. The selectable length for 3P is 300 cm (118 in), 360 cm (142 in), or 420 cm (165 in). The selectable length for 3P-2 is 480 cm (189 in), 540 cm (213 in), or 600 cm (236 in). The selectable length for 3P-3 is 660 cm (260 in), 720 cm (283 in), or 780 cm (307 in). |

## Single Phase PDM with RCD (residual current devices)



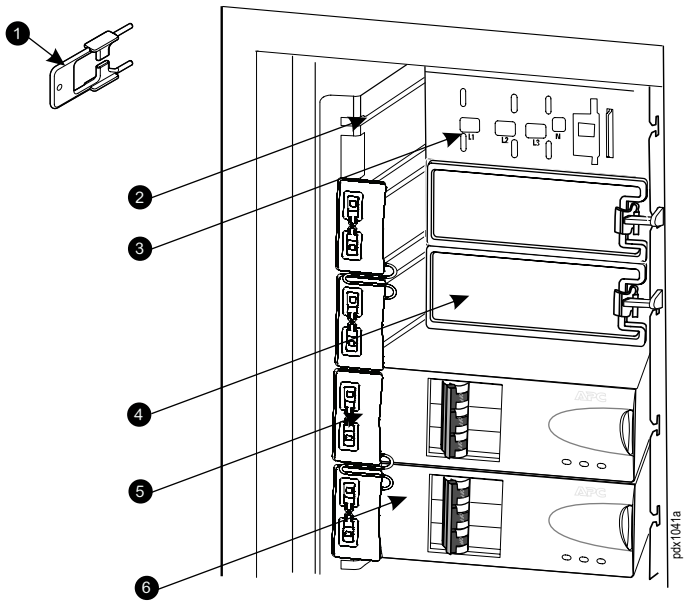
| Commercial reference | Explanation for code ‘XX’ | Explanation for code ‘XXX’ |
|---|---|---|
| PDM23XXIEC-XXX | The code stands for the rated current in Amps. Its value can be 16 or 32. | The code stands for the length of the cable. Its value can be 3P30R-1, 3P30R-2, or 3P30R-3. The selectable length for 3P30R-1 is 300 cm (118 in), 360 cm (142 in), or 420 cm (165 in). The selectable length for 3P30R-2 is 480 cm (189 in), 540 cm (213 in), or 600 cm (236 in). The selectable length for 3P30R-3 is 660 cm (260 in), 720 cm (283 in), or 780 cm (307 in). |

# Three Phase PDM with RCD (residual current devices)




| Commercial reference | Explanation for code 'XXX' |
|---|---|
| PDM316IEC-XXX | The code stands for the length of the cable. The selectable length is 140 cm (55 in), 320 cm (126 in), 500 cm (197 in), 680 cm (268 in), 860 cm (339 in), or 1040 cm (409 in). |

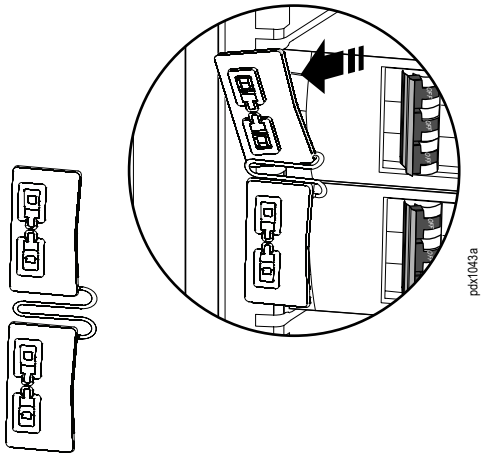
# Component Identification




| Item | Description |
|---|---|
| 1 | Slot lock key |
| 2 | Slots (hold modules in place) |
| 3 | Backplane |
| 4 | Filler plate |
| 5 | Module slot lock |
| 6 | PDM |

**NOTE:** Two slot locks are attached together as a pair.

The illustration shows the top lock that is removed from its slot but still attached to the installed lock below it.



# Install a PDM

**⚠⚠DANGER**

**HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH**

Electrical equipment must be installed, operated, serviced, and maintained only by qualified personnel.

**Failure to follow these instructions will result in death or serious injury.**

**⚠⚠DANGER**

**HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH**

Turn off all power supplying the equipment and perform appropriate lockout/tagout procedures before installing the PDM.

**Failure to follow these instructions will result in death or serious injury.**

**⚠CAUTION**

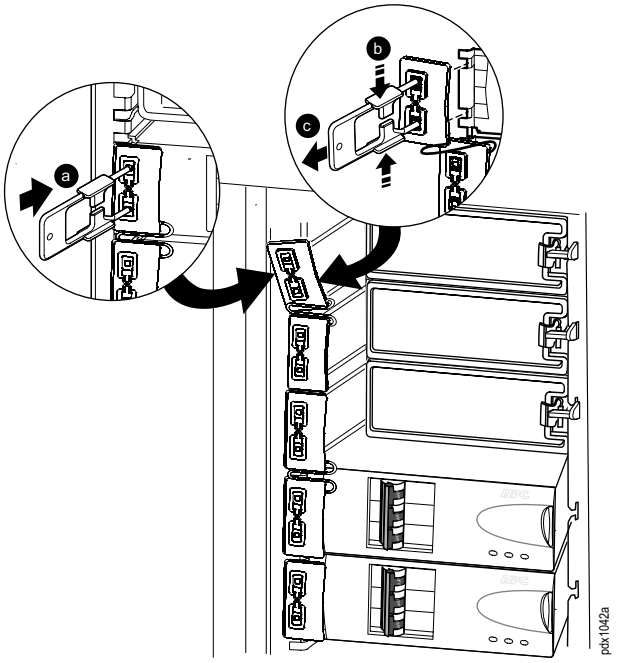
**HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH**

The PDMs must ONLY be installed with matching output voltage.

**Failure to follow these instructions can result in injury or equipment damage.**

**NOTE:** Install PDMs starting with the bottom position and upward to avoid cable congestion.

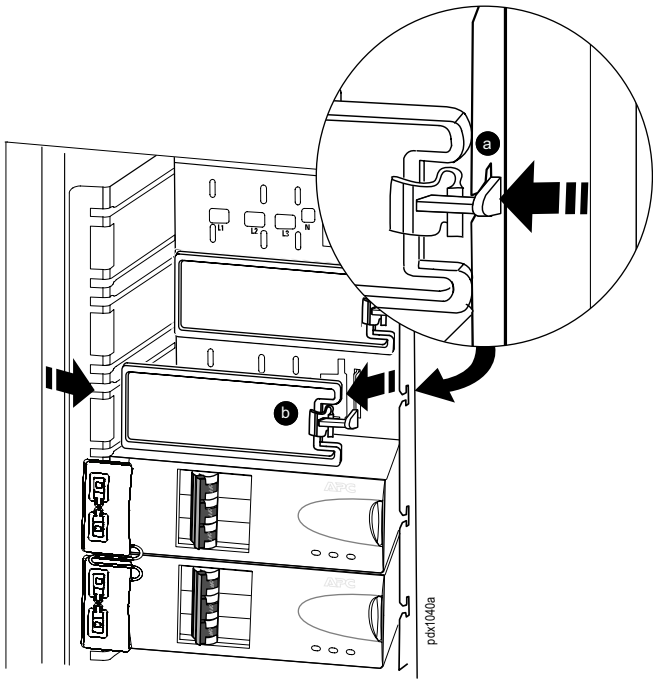
1. Open the front door of the PDU.
2. Remove the slot lock. Use the key (provided) to remove the slot lock.




   a. Insert the key in the slot lock as shown in the illustration.
   b. Squeeze the sides of the key inward to grasp the slot lock firmly.
   c. Pull the slot lock key out, while squeezing, to extract the lock from the slot.

3. Remove the filler plates. Save the filler plates for reinstallation.

   **NOTE:** If a PDM is removed, a filler plate must be installed to cover the open module position.

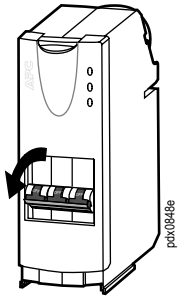



   a. Press down on the filler plate clip to release its locking mechanism.

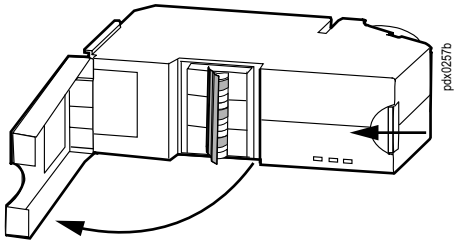
   b. Pull the filler plate directly towards you and along the slot until it is free.

4. Install a PDM.

   a. Make sure all breakers on the PDM being installed are in the OFF (open) position.



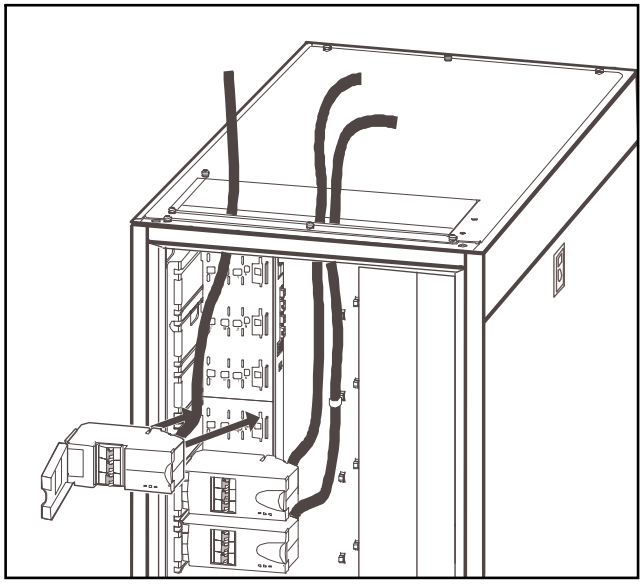

   b. Press the red button to release the latch on the PDM.



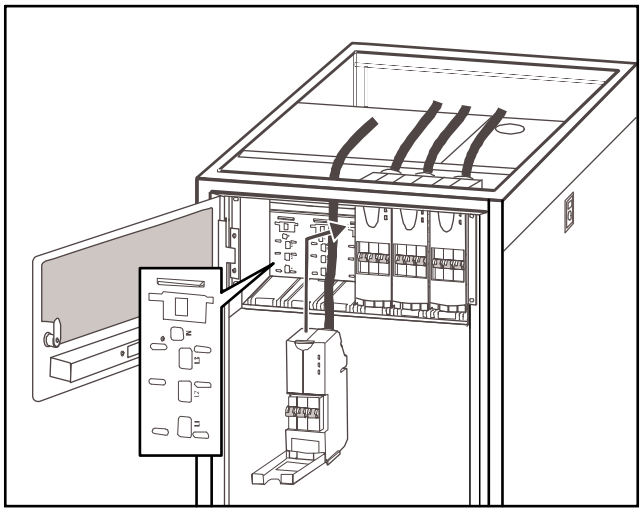

   c. Pull open the latch.

   d. Feed the cable(s) through the top opening in the cabinet and into the cable power troughs (if applicable) on top of cabinets.

**Vertical Rack Distribution Panel**

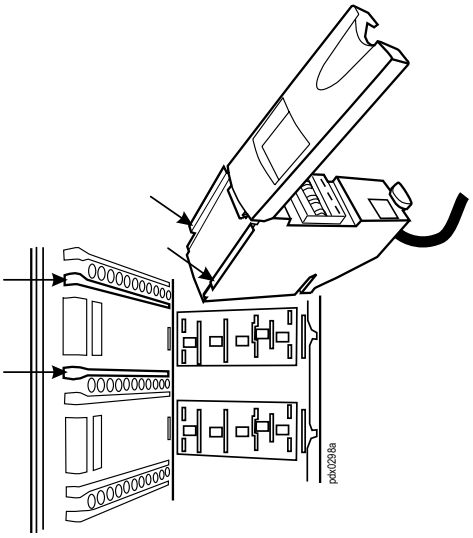


**Horizontal Rack Distribution Panel**

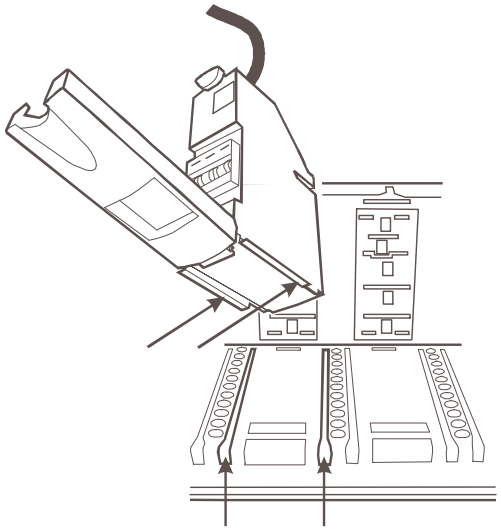


   e. Slide the PDM all the way into the slots. Close the latch to secure the PDM.

**Vertical Rack Distribution Panel**

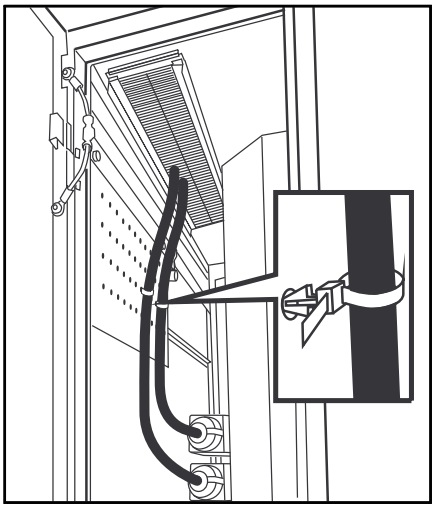



**Horizontal Rack Distribution Panel**

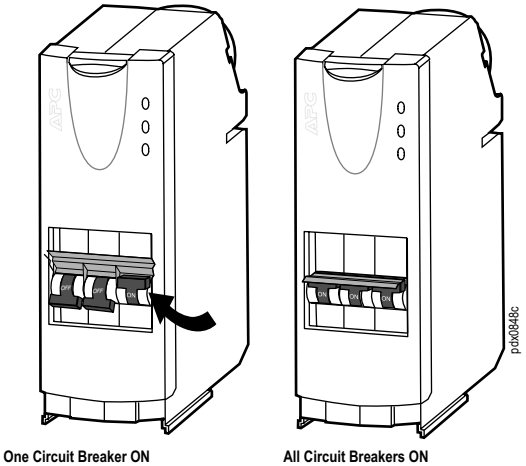


f. **For vertical rack distribution panels ONLY**: Use plastic ties to secure loose cable(s) to the cabinet.

**Vertical Rack Distribution Panel**



g. Set the required circuit breakers on the newly installed PDM to the ON (closed) position.

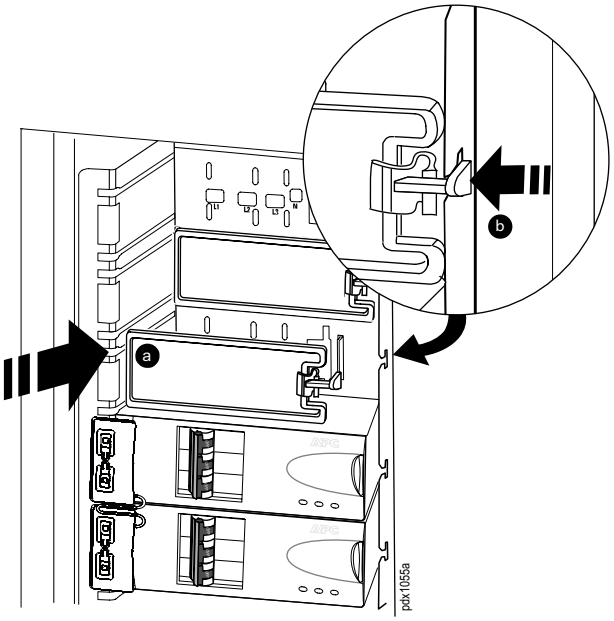



One Circuit Breaker ON  All Circuit Breakers ON

**NOTE:** Some PDMs come with a shared handle covering all the circuit breaker handles so that when they are set to OFF, all the

circuit breakers will shut off together. The handle can be flipped up to set individual circuit breakers to the ON position.

5. Install the filler plates to cover all 3-pole panel positions that are not occupied by a PDM.

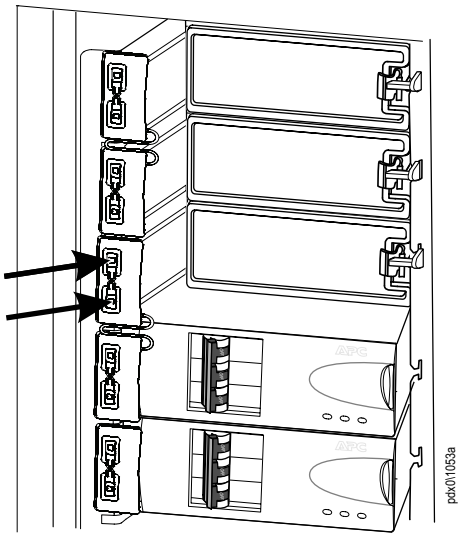



   a. Position the filler plate in front of any open PDM location and insert the bottom tab of the filler plate into the slot.

   b. Snap the filler plate into position. Check that the latch is secure.

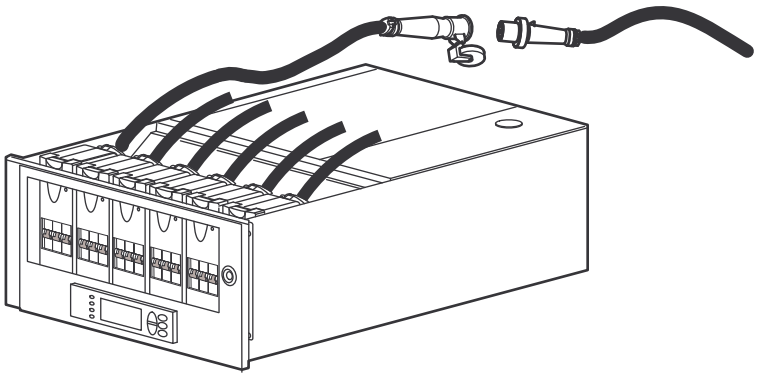
6. Install the slot lock. Press the slot lock into the slots.

   **NOTE:** A slot lock must be installed in each slot whether filled by a module or filler plate.




7. Upon completion of the PDM installation, close the door of the PDU.

8. Connect the PDM cable(s) to the appropriate rack PDU or other equipment.



**NOTE:** Power can be restored to the PDU following connection of the PDM cables to the load.

# Remove a PDM

**⚠⚠DANGER**

**HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH**

Electrical equipment must be installed, operated, serviced, and maintained only by qualified personnel.

**Failure to follow these instructions will result in death or serious injury.**

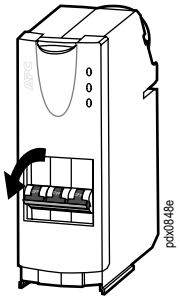
**⚠⚠DANGER**

**HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH**

Turn off all power supplying the equipment and perform appropriate lockout/tagout procedures before removing the PDM.

**Failure to follow these instructions will result in death or serious injury.**

1. Before removal, verify that all circuit breakers on the PDM are in the OFF (open) position.




2. Reverse the PDM installation procedure to remove a PDM. See Install a PDM, page 14 for details.

Schneider Electric
35 rue Joseph Monier
92500 Rueil Malmaison
France


As standards, specifications, and design change from time to time, please ask for confirmation of the information given in this publication.



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