

How to connect the main power supply to the network cabinet

Article Overview

To connect the main power supply to a network cabinet, route the input power cables to the cabinet's PDU, connect live (L), neutral (N), and protective earth (PE) wires correctly, secure them with the recommended torque, and follow local electrical safety regulations.

Step-by-Step Guide

1. Plan the Power Layout Before connecting, determine the total electrical load of the cabinet, the number of devices, and redundancy requirements. Identify the PDU type (rack-mounted or standalone) and the route for input power cables from the main supply or UPS to the cabinet . 2. Prepare the Cabinet

- Remove protective panels or rodent-proof mesh to allow cable entry .
- Install wire bushings at cable entry points to prevent insulation damage .
- Ensure the cabinet is properly grounded. 3. Route the Cables
- Route the input power cables through the top or bottom of the cabinet, avoiding airflow obstruction and sharp bends .
- Use cable ties or side panel mounts to secure cables neatly, maintaining structured cabling for safety and maintainability . 4. Connect to the PDU
- Connect the PE (ground) cable to the grounding bar.
- Connect L (live) and N (neutral) cables to the corresponding terminals on the PDU .
- Insert the cable end fully into the clamp and tighten screws to the recommended torque to prevent loose connections .
- If using multiple PDUs, repeat the process for each unit. 5. Verify and Test
- Double-check all connections for correct polarity and secure fastening.
- Ensure no cables are pinched or under tension.
- Power on the PDU and verify that all connected devices receive stable power. 6.

Follow Safety and Compliance Standards

- Always wear protective gloves and use insulated tools.
- Follow local electrical codes and regulations for high-voltage connections .
- Document the power connections for maintenance and compliance purposes. By following these steps, you ensure safe, reliable, and maintainable power delivery to your network cabinet while minimizing risks of electrical faults or downtime .



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Once the power supply is securely screwed into place, begin connecting the cables. Attach the main power cables to the

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pcb design

I'd originally intended to keep them all at the top of the board (not top layer, top from a bird's eye view) and keep the

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