

RIVO MULTITRADE OPTICAL SYSTEMS

The access switch has dual power supplies



Overview

Why do switches have 2 power supplies?

A dual power supply setup provides a crucial backup, ensuring the switch remains operational even if one power supply fails.

Key Takeaways

To connect dual power supplies to an access switch, install both PSUs in the chassis, connect each to a properly rated power source, ensure grounding, and configure redundancy or load-sharing as supported by the switch.

Step-by-Step Guide

1. Verify Compatibility and Type Ensure both power supply modules are of the same type (AC or DC) and compatible with your switch model. For example, Cisco Catalyst 9200 switches support either two AC modules or one AC module with a blank cover, and both modules must match in type .

2. Install the Power Supplies
 - Insert the main PSU into the primary slot.
 - Insert the redundant PSU into the secondary slot. The redundant PSU is typically hot-swappable, allowing installation without powering down the switch .
3. Connect to Power Sources
 - Connect each PSU to a separate power source or circuit to maximize redundancy. Ideally, use circuits of the same voltage and phase to avoid potential issues .

- AC power supplies generally support 100–240 VAC input and use standard IEC-320 C13 plugs . 4. Grounding
- Properly ground the switch using the grounding pads on the rear panel. Use wire sizes that meet local electrical codes (e.g., 6 AWG for U.S. installations) and secure with appropriate screws .
- Never bypass or defeat the ground conductor. 5. Configure Redundancy Mode
- Redundant Mode (1:1 or N+N): One PSU acts as a backup in case the primary fails, ensuring uninterrupted operation.
- Combined Mode: Both PSUs share the load, which can increase total PoE capacity for connected devices .
- For stackable switches, technologies like StackPower allow power pooling across multiple switches, dynamically redistributing power during PSU failures . 6. Safety and Best Practices
- Power down the switch before connecting or disconnecting PSUs if not hot-swappable.
- Ensure overcurrent protection is in place for each circuit.
- Avoid connecting PSUs to circuits with different voltages unless the switch explicitly supports it, as mismatched voltages can cause operational issues . 7. Testing and Verification
- After connecting, verify that both PSUs are recognized and operating correctly.
- Check the switch's management interface for PSU status and redundancy alerts. By following these steps, you can ensure that your access switch maintains high availability and continuous operation even if one power supply fails, while also optimizing PoE capacity and overall power efficiency.

Article Content

Layer 2 switch with dual AC power supply

It will work fine in a non-SFP+ network module port (e.g., any of the ports on the 1GbE module) for the uplink.

Related Video Reference

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