

Install cable trays on data server racks



Overview

We'll go through what you need to know about Cable Tray Installation in Data Centres, covering everything from getting ready to checking the finished job and keeping it in good shape.

Key Takeaways

Installing cable trays in a server rack requires careful planning, proper tray selection, and organized routing to ensure airflow, accessibility, and future expansion.

Planning and Preparation

Before installation, map your rack layout and equipment density. Identify the U positions occupied, the origin and termination points of cables, and separate power and data pathways to prevent electromagnetic interference (EMI) and heat buildup. Reserve 30% of tray capacity and keep cable managers at 50% fill to allow for future growth.

Consistent labeling and color coding of cables is essential for maintenance and troubleshooting.

Selecting the Right Cable Tray

Wire mesh trays: Ideal for data cables due to open structure, which improves airflow and allows easy access. Ladder trays: Suitable for power cables, providing heat dissipation and physical separation to reduce EMI. Avoid solid-bottom trays in most server room scenarios, as they can block airflow.



Vertical Cable Tray Installation

Vertical trays run along the sides of the server rack, guiding cables from top to bottom. Steps include: Mount the tray securely to the rack frame using brackets or screws. Route cables through the tray, keeping them organized and avoiding tight bends.

Use vertical cable managers with slots or channels to maintain separation and reduce strain. Ensure the tray does not obstruct airflow, especially in hot aisle/cold aisle configurations.

Horizontal Cable Tray Installation

Horizontal trays organize cables across the rack, typically from front to back. Steps include: Install horizontal trays or lacing bars between equipment to bundle and guide cables. Secure cables with Velcro straps or cable ties, avoiding over-tightening to prevent damage.

Maintain proper spacing to allow airflow and easy access for maintenance.

Best Practices

Plan cable pathways before pulling cables to avoid rework. Separate power and data cables to reduce interference. Maintain airflow by avoiding fully enclosed trays and keeping pathways clear.

Label all cables and ports for easier troubleshooting and maintenance. Check load capacity of trays to prevent sagging or damage. By following these steps, you can create a structured, efficient, and scalable cable management system in your server rack that supports both current needs and future expansion.

Article Content

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We'll go through what you need to know about Cable Tray Installation in Data Centres, covering everything from getting ready to checking the finished job and keeping it in good shape.

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A basket tray is a cable tray designed for light duty applications. The basket tray is lightweight and easy to install; however a certain level of experience is needed to properly install.

Network Cable Management | Eaton

Eaton's data center cable management solutions are sturdy and easy-to-assemble, perfect for routing network and power cables under floors and above server racks.

Setting Up a Server Rack - Server Rack Installation

So, let's discuss server rack installation best practices: Weight distribution. Place the heaviest equipment at the bottom to ensure stability,

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