Rectification Measures for Ungrounded Network Cabinets



Overview

Below is a comprehensive guide for implementing effective bonding and grounding systems in data centers.

Key Takeaways

Proper grounding of ungrounded network cabinets involves connecting all metal parts to a common bonding network, using grounding kits, and ensuring EMC-compliant installation to prevent electrical hazards and interference. Key Rectification Steps1. Establish a Common Bonding Network (CBN)Connect the cabinet frame to a central earth reference point or mesh common bonding network (MCBN) using a #6 AWG copper jumper with proper compression lugs ( ).

Ensure metal-to-metal contact between all cabinet sections; if bolted sections are painted or coated, use tin-plated copper jumpers or paint-piercing hardware to maintain electrical continuity ( ). 2.

Use Grounding Kits

Deploy UL-listed, CSA-certified, and RoHS-compliant grounding kits designed for 4-post racks or net-access cabinets ( ). Grounding strips should be tin-plated and mounted to the cabinet rails, with equipment bonded via discreet jumpers and long-barrel compression lugs ( ).



© 2026 METRA FIBER MARKET - All rights reserved

Ensure ES

D protection by mounting ESD ports on both front and back of the cabinet ( ). 3. EMC-Compliant Cable and Shielding PracticesConnect shielded cables (S/FTP or equivalent) to the cabinet frame with 360° contact to minimize electromagnetic interference ( ).

Keep grounding conductors short and low-impedance, running directly to the common equipotential bonding bar (EBB) ( ). Ground control cable screens as close as possible to the terminals and cabinet inlet to reduce disturbances ( ). 4.

Individual Equipment Bonding

Each device or rack-mounted component should be individually bonded to the grounding strip or CBN, not daisy-chained, to maintain low-resistance paths ( ). Use 6 AWG conductors for strong, reliable connections ( ). 5.

Verify and Test

After installation, measure continuity and resistance to ensure all parts of the cabinet are properly bonded. Confirm that grounding meets EMC and safety standards (EN 61800-3, ISO/IEC 11801, DIN EN 50173) ( ).

Additional Recommendations

Maintain consistent grounding practices across all cabinets in the data center or network room. Use paint-piercing or tin-plated copper jumpers where surfaces are coated to ensure reliable electrical contact ( ). Regularly inspect and maintain grounding connections to prevent corrosion or loosening over time.

By following these rectification measures, ungrounded network cabinets can be safely integrated into a structured, EMC-compliant, and low-resistance grounding system, protecting both personnel and sensitive IT equipment.

Article Content

Structured Cabling, Grounding & Equipotential Bonding

A professional equipotential bonding of all network devices in an information technology equipment within a building can only be accomplished by consis-tently earthing all installed network components

Comprehensive Guide to Data Center Bonding and Grounding

Below is a comprehensive guide for implementing effective bonding and grounding systems in data centers. The Mesh-BN is the backbone of the bonding system, designed to ensure a uniform

Guide to earthing structured cabling systems and related hardware

© 2026 METRA FIBER MARKET - All rights reserved

Protective Earthing is a requirement to divert unwanted, potentially hazardous currents from all exposed metallic parts such as equipment chassis, racks, cabi-nets, cable trays, conduit, and patch panels for

ACS800 HOW TO REMOVE THE EMC-RFI FILTERING WHEN

ACS800 HOW TO REMOVE THE EMC-RFI FILTERING WHEN USED ON AN UNGROUNDED IT NETWORK Description: This will provide information on how to remove the EMC-RFI filtering in the

Solved: Data Center Grounding

Your customer is talking about "ground loops" which is a common problem when grounding type power adapters are used, or there is a a nuetral to ground bond at or through the

Data Centre Cabinet Earthing Guide | PDF | Cable

This document provides guidelines for grounding and bonding cabinets, frames, and rack systems according to European standards. It states that: 1) All metallic components must be bonded to an

Outdoor Cabinet Protection Through Better Grounds and Bonding

When looking at your equipment cabinet, recognize that every single metal object that pierces the metal enclosure brings in transient and EMI risks to the inside of the equipment cabinet.

Why Are Ungrounded Systems Permitted? Provisions and

There are some benefits of operating a system ungrounded if the NEC permits it, but it is important to monitor it and react appropriately if a phase-to-ground condition develops.

GROUNDING AND BONDING

Article 250 covers the general requirements for bonding and grounding electrical installations. The terminology used in this article has been a source of much confusion over the years so pay careful

Electrical Cabinet Grounding and Earthing: Safety

Master electrical cabinet grounding & earthing standards for industrial safety. Expert guide covering IEC compliance, installation methods, and critical design

Grounding DC Power Supplies | Support of ACE AUTOMATION Europe

It is also convenient for the sake of measurements when the reference for any DC component can be any metallic object nearby. If the system is ungrounded, you must have a common — a wire nearby

© 2026 METRA FIBER MARKET - All rights reserved

REVIEW OF GROUND FAULT PROTECTION METHODS FOR GROUNDED, UNGROUNDED

With the exception of voltage stress, operating a system as ungrounded, high-impedance grounded, or resonant grounded restricts ground fault current magnitudes and achieves most of the goals listed

Electrical grounding and bonding per NEC

Understanding correct grounding and bonding design and construction is crucial for proper electrical system operation and personnel safety Learning Objectives Learn the proper

Ground faults in ungrounded systems (risks & detection)

Ungrounded systems are power systems with no intentionally applied grounding. However, they are grounded by the natural capacitance of the system to ground.

Grounded and ungrounded electrical and power system design

Uninterruptible power supply systems are operating ungrounded during power transfer, critical to the overall design of electrical and power systems in a nonresidential building.

Measurement and Analysis of Capacitive Current in Ungrounded

Measurement and Analysis of Capacitive Current in Ungrounded System of Distribution Network Abstract: The 10,. 35kV distribution system is a neutral ungrounded system, and its fault is largely

Fundamentals of Grounding in Industrial Automation and Control

The subject of grounding in electronics is broad and complex, spanning across a variety of functions and objectives. In this article, we will investigate the applications and regulation of

Cabinet Grounding

a ground conductor providing 2000 cmil per running foot. Figure 3-11 provides a typical equipment cabinet grounding detail.

© 2026 METRA FIBER MARKET - All rights reserved

Contact Us

Continue your research online:

Website: https://metramarket.es
Technical inquiry: https://metramarket.es/contact.html

This document is for preliminary research. Verify specifications against current standards, product documentation and project requirements.

© 2026 METRA FIBER MARKET - All rights reserved