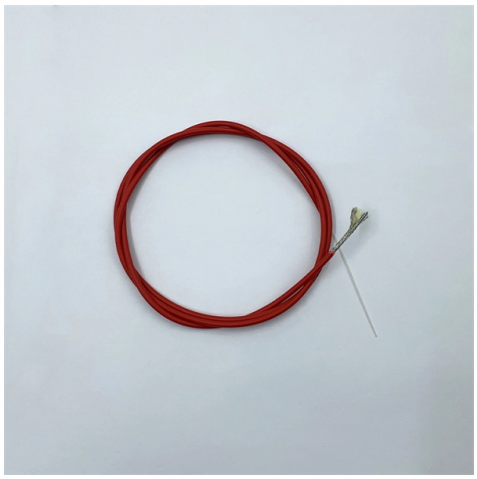
ZITHA TECH SPECIALTY CABLES (Pty) Ltd

Can a power distribution box be installed in the computer room



Overview

Applying Article 645: The NEC and IT roomsTo minimize possible differences in potential in the grounding systems for power circuits supplying IT equipment.

Key Takeaways

Yes, a power distribution box can be installed in a computer room, provided it meets safety, environmental, and regulatory requirements.Key Considerations for Installation

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Compliance with Electrical Codes: Before installing a power distribution box, the room must comply with the National Electrical Code (NEC) Article 645 if it is designated as an IT room. This includes having a dedicated disconnecting means, a separate HVAC system, fire-rated separation from other areas, and restricted access to authorized personnel only . If these conditions are not met, general wiring rules apply. Environmental Requirements: The computer room should be dry, well-ventilated, and free from corrosive gases or flammable substances. Proper environmental conditions ensure the safe operation of the distribution box and prevent equipment damage . Placement and Accessibility: Distribution boxes are typically installed at a convenient height, often around 1.4 meters from the floor, to facilitate operation and maintenance. In rooms with multiple units, maintaining uniform installation height improves both functionality and aesthetics . PDUs can be rack-mounted (horizontal or vertical) or free-standing, depending on the room layout and equipment configuration . Electrical Safety and Connections: Ensure all connections are tight and properly insulated. Grounding is essential, with robust grounding terminals and neutral connections to protect the entire circuit. Color-coded wiring (e.g., yellow/green for ground) helps with accurate identification and maintenance . Using certified PDUs with UL, CE, or ISO9001 standards ensures compliance and reliability . Power Management Features: Modern PDUs offer advanced features such as load balancing, surge protection, real-time monitoring, and remote control. These features help maintain uptime, prevent overloads, and allow proactive management of server power distribution .

Summary

Installing a power distribution box in a computer room is feasible and common in IT environments. The installation must follow NEC requirements, ensure proper environmental conditions, maintain safe and accessible placement, and use certified equipment with appropriate grounding and monitoring features. Following these guidelines ensures both safety and reliable power delivery to critical IT equipment.

Article Content

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Together, with the actual equipment sizes, this defines the overall minimum dimensional requirements of the room.

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