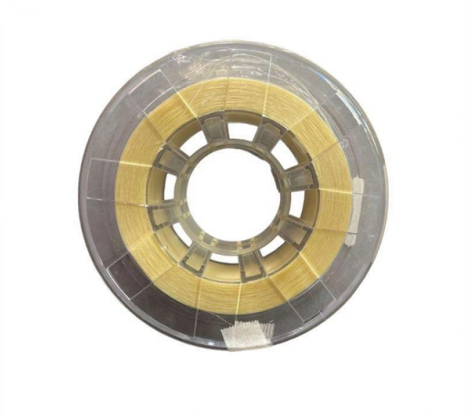


Grounding wire of the distribution box casing



Overview

DISTRIBUTION BOX Each DISTRIBUTION BOX and controller must be grounded. On the US market, a 5.26 mm² (10 AWG) ground wire Grounding of the all-plastic dis.

Key Takeaways

The distribution box casing must be grounded using dedicated studs or plates, with low-resistance connections to the main grounding system to ensure safety and equipment protection.

Connection Points: Grounding wires should be attached to factory-provided threaded studs or dedicated grounding plates inside the distribution box. These points are typically welded to the base plate or side walls to provide mechanical stability and reduce vibration-induced loosening . **Wire Selection:** Use appropriately sized grounding wires according to local standards. For example, in the US, a 10 AWG (5.26 mm²) wire is standard, while in other markets, a 6 mm² wire is recommended . For connections between mounting plates and spindles, larger wires (e.g., 16 mm² or 6 AWG) may be required to maintain low resistance over long cable runs . **Flexible Connections:** For moving parts such as hinged doors, use flexible copper braided tape to maintain continuous electrical contact and reduce contact resistance . **Anti-loosening washers or serrated washers** help pierce oxide layers and maintain reliable conductivity. **Surface Preparation:** Remove coatings, oxide layers, or dirt from contact surfaces to ensure low-resistance connections. Applying a small amount of conductive grease can further prevent electrochemical corrosion and maintain long-term conductivity . **Resistance Requirements:** The total grounding resistance from the distribution box casing to the main grounding point should be very low, typically below 0.1 Ohm, to ensure effective fault current dissipation and personnel safety . Measure resistance after installation to verify compliance. **Redundant Grounding:** In critical or outdoor installations, consider multiple grounding points in parallel rather than a single sequential connection. This reduces the risk of high resistance due to corrosion, weather, or mechanical loosening . **Maintenance Considerations:** Regularly inspect grounding connections for corrosion, loose bolts, or increased resistance, especially in outdoor or high-humidity environments. Stainless steel enclosures, while corrosion-resistant, can still develop oxidation at copper-to-steel contact points .

Summary

Proper grounding of a distribution box casing involves connecting the metal enclosure to the main grounding system using dedicated studs or plates, ensuring low-resistance, mechanically secure, and corrosion-resistant connections. Flexible connections for moving parts, correct wire sizing, surface preparation, and periodic inspection are essential to maintain safety, equipment protection, and compliance with electrical standards .

Article Content

Grounding Requirements for Electrical Cables, Cable Trays, and

Grounding bolts on the casing of power cable joint boxes or intermediate junction boxes must be connected to the

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

