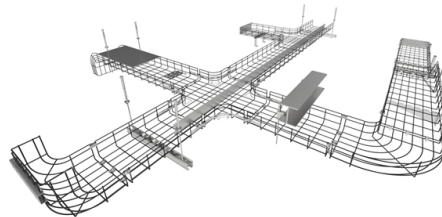


Distribution Box Ground Wire Installation Guide



Overview

Each DISTRIBUTION BOX and controller must be grounded. On the US market, a 5.26 mm² (10 AWG) ground wire must be used, and in all other markets a 6 mm² must be used.

Key Takeaways

Proper grounding of a distribution box ensures safety, prevents electrical hazards, and maintains system reliability. Key Steps for Grounding a Distribution Box

1. Identify Grounding Points Open the distribution box and locate the grounding bar (PE bar) or terminals marked with grounding symbols.

These are the designated points for connecting the ground wire inside the box.

- 2.

Select the Correct Ground Wire

Use a copper core wire with a yellow-green insulation for visibility and safety.

In the U

S, a 10 AWG (5.26 mm²) wire is standard; in other markets, a 6 mm² wire is recommended. For connections between mounting plates and components, larger wires may be required depending on cable length and system configuration (e.g., 16 mm² or 6 AWG for long tool cables),.

3.

Connect the Ground Wire

Strip the insulation at the wire end and attach it securely to the PE bar or grounding terminal using screws or bolts. Ensure all electrical components inside the box that require grounding are connected to the PE bar with copper wires. For metal enclosures, such as stainless steel boxes, use braided copper tape between the door panel and box body to maintain continuity, and apply conductive grease to prevent corrosion.

Tighten all bolts with anti-loosening washers to maintain low contact resistance. 4. Connect to the Main Grounding System Attach a wire from the distribution box mounting plate to the central grounding point of the facility.

Ensure the total ground resistance between all system parts is less than 0.1 Ohm for industrial applications. For residential or commercial setups, follow local codes (NEC, IEC) and maintain a maximum resistance of 25 Ohms.

5.

Inspection and Testing

After installation, use a multimeter to measure resistance from the box to the main grounding electrode. Verify that all connections are firm, corrosion-free, and clearly labeled for future maintenance. Schedule regular inspections to ensure long-term reliability.

Additional Tips

Install the distribution box in a dry, accessible location with proper ventilation. Use UL/CE-certified components and follow local electrical codes for safety. Label all grounding connections and consider modular designs for easier upgrades.

By following these steps, the distribution box will be safely grounded, minimizing the risk of electrical faults and ensuring compliance with safety standards.

Article Content

DISTRIBUTION BOX

Each DISTRIBUTION BOX and controller must be grounded. On the US market, a 5.26 mm² (10 AWG) ground wire must be used, and in all other markets a 6 mm² must be used.

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