Installation Method of Bronze Plate for Photovoltaic Distribution Box



Overview

For detailed installation drawings and installation method, please refer to installation manual of tracker supplier.

Key Takeaways

A bronze plate in a PV distribution box should be securely mounted, electrically bonded to the equipment grounding system, and connected to the grounding electrode to ensure safety and code compliance.

Preparation and Placement

Before installation, select a dry, accessible location for the distribution box, ideally at a height of around 1. 5 meters, with good ventilation and protection from water ingress, dust, and mechanical damage. Verify the IP/NEMA rating of the enclosure to ensure it meets environmental requirements, and confirm that the bronze plate material is compatible with the box and grounding conductors to prevent galvanic corrosion.

Mechanical Installation

Mounting the Plate: Secure the bronze plate to the inner wall of the distribution box using corrosion-resistant screws or bolts. Ensure the plate is flat and stable to provide a reliable surface for bonding connections. Positioning: Place the plate where it can easily connect to all metallic components that require grounding, such as busbars, terminal blocks, and the enclosure itself.

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Electrical Bonding and Grounding

Bonding to Equipment: Connect all non-current-carrying metallic parts of the distribution box, including the bronze plate, to the Equipment Grounding Conductor (EGC). This ensures a low-impedance path for fault currents and protects personnel from electric shock. Connection to Grounding Electrode: If required by local code or NEC Article 690, connect the bronze plate to the Grounding Electrode Conductor (GEC), which links to a grounding rod or the premises grounding system.

This stabilizes system voltage relative to earth and enhances safety during faults. Use of Listed Hardware: Employ UL/CE-certified lugs, bolts, and washers to maintain electrical continuity and prevent loosening over time.

Wiring and Safety Checks

Ensure all connections are tight, corrosion-free, and insulated where necessary. Maintain neat cable management to avoid accidental contact or short circuits. Perform visual inspections and multimeter tests to verify continuity between the bronze plate, the distribution box, and the grounding system before energizing the system.

Compliance and Maintenance

Follow NE

C, IEC, or local electrical codes for grounding and bonding. Record installation details for future inspections and maintenance. Schedule regular inspections to ensure the bronze plate remains securely mounted and electrically continuous.

By following these steps, the bronze plate will serve as a reliable grounding and bonding point within the PV distribution box, ensuring both personnel safety and equipment protection.

Article Content

Installation Manual

For detailed installation drawings and installation method, please refer to installation manual of tracker supplier. For other tracker systems that are not listed in Table 8, please contact Jinko for more

How to install the distribution box for a photovoltaic power station ...

This installation method needs to consider the load-bearing capacity of the wall and whether the wall''s materials and structure are suitable for installing the distribution box.

Electric Panel Installation Method Statement

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It outlines 4 steps: 1) Pre-installation preparation including reviewing plans and ensuring safety, 2) Mounting panels and running wiring, 3) Installing circuit breakers or fuses, and 4)

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Equipotential Bonding and Lightning Protection

/ Equipotential bonding must ideally be installed so that modules can be removed from the layout when servicing is required without the equipotential bonding losing its function.

Guide to the Installation of Photovoltaic Systems

Engineering Recommendation G59 (current edition) – Recommendations for the connection of generating plant to the distribution systems of licensed distribution network operators.

Photovoltaic Distribution Box Design Requirements

Overview NEC Article 314 and local electrical codes specify minimum requirements for box sizing, mounting, grounding, and labeling. Using listed enclosures from manufacturers meeting UL and

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What is a PV Distribution Box?

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The installation requirements for the distribution box

Learn how to install a distribution box safely and correctly. Covers wiring, placement, standards, and expert tips for a compliant setup.

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How To Connect PV Solar To Utility Grid Here are design tips for methods of PV system utility interconnection. The purpose of this article is to give you a basic understanding of the concepts and

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