

Production and Installation of Distribution Boxes

Article Overview

Distribution boxes are manufactured with precision from raw materials into protective enclosures and installed following strict safety and technical standards to ensure reliable electrical distribution.

Manufacturing Process

Design & Engineering: The process begins with engineers creating CAD drawings and 3D models based on customer requirements, standards (IEC/ANSI), and application scenarios. This ensures proper dimensions, material thickness, IP/NEMA protection levels, and component layout for applications like industrial automation, solar power, or commercial buildings . **Material Preparation:** High-quality steel, stainless steel, or plastic composites are selected depending on indoor or outdoor use. Materials undergo tests for thickness, hardness, and corrosion resistance. Surface treatment materials, such as anti-rust coatings or powder paint, are prepared to enhance durability . **Cutting, Forming, and Assembly:** CNC laser cutting, punching, bending, and stamping machines shape the metal sheets. Holes for circuit breakers, switches, and cable entries are precisely punched. Components are then welded or fastened together, with reinforcements at stress points. Surface finishing, including powder coating or galvanization, ensures corrosion resistance and aesthetic quality . **Component Installation:** Inside the enclosure, busbars, main and branch circuit breakers, terminals, and neutral/ground bars are installed. Connections are made with copper bars, and loop markings are fixed with plastic strips. The box is cleaned and inspected to meet mechanical, electrical, and appearance standards .

Installation Process

Site Selection: Choose a location close to the main power supply, accessible for maintenance, and away from water, flammable, or corrosive substances. Outdoor installations require waterproofing, and additional equipment like rain covers or dehumidifiers may be used . **Mounting:** Distribution boxes can be wall-mounted or floor-mounted depending on size and type. Ensure proper alignment, secure fasteners, and leave sufficient space around the box for ventilation and maintenance . **Wiring and Connections:** Connect the main switch to sub-switches using copper bars, ensuring the outgoing wire cross-section is not smaller than the incoming wire. Properly label loops and secure all connections. Verify that protective devices like circuit breakers and RCDs are correctly installed . **Inspection and Testing:** After inst...

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Distribution box

Yet the distribution box is a highly complex component that not only ensures safe power distribution, but is also responsible for

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Contact Us

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