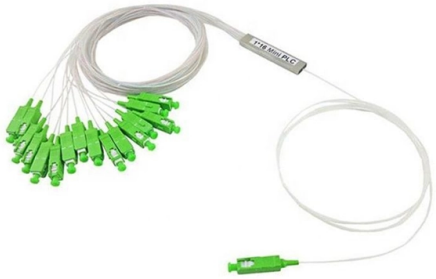
Construction Site Power Distribution Box Components Functions and Prices



Overview

Temporary power distribution boxes for flexible electrical installation. Robust solutions for construction sites, events and temporary energy infrastructure.

Key Takeaways

Construction site power distribution boxes safely distribute electricity to multiple circuits, featuring components like MCBs, RCCBs, busbars, and enclosures, with prices varying by capacity and features.

Key Components and Their Functions

Enclosure / Cabinet The outer casing, often made of sheet steel or fire-resistant technopolymer, protects internal components from dust, moisture, and mechanical impact. Outdoor boxes typically meet IP65/IP67 ratings for water and dust resistance and IK08/IK10 for impact protection. Main Circuit Breaker (MCB) Protects the entire distribution box from overloads and short circuits.

It ensures that the downstream circuits are safe from excessive current. Residual Current Circuit Breaker (RCCB) / RCBO Provides leakage protection, preventing electric shocks by disconnecting the circuit if current leakage is detected.

RCB

Os combine MCB and RCCB functions in one unit. Busbars Conductive bars that distribute power from the main supply to individual circuits. They are typically made of copper or aluminum for high conductivity.

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Sockets / Outlets CEE or earthed sockets allow connection of construction equipment, lighting, and temporary machinery. Some boxes include specialized sockets for cranes or heavy machinery. Surge Protection Device (SPD) Optional component to protect sensitive equipment from voltage spikes caused by lightning or unstable grids.

Timers and Control Relays Used in control distribution boxes to manage lighting, pumps, or other automated equipment on site. Internal Wiring and Terminal Blocks Pre-wired connections ensure organized and safe distribution to multiple circuits, reducing clutter and minimizing risk of accidental contact.

Types of Construction Site Distribution Boxes

Connection Cabinets: Connect to the public supply and measure energy consumption. Main and Group Distributors: Feed multiple downstream distributor boxes. Terminal Distributors: Portable units fed via CEE or earthed plugs.

Socket Distributors: Compact, portable boxes for hand-operated tools. Lighting and Crane Distributors: Include RCD protection and control terminals for specialized equipment.

Pricing Overview

Prices vary depending on capacity, number of circuits, phase type, and additional safety features: Small portable socket distributors (single-phase, 4–6 ways): Approximately $150–$400. Medium three-phase boxes (12–18 ways, IP65, with MCBs and RCCBs): Around $500–$1,200. Large main or group distributors for industrial sites (24+ ways, surge protection, crane outlets): Can range from $1,500–$5,000+, depending on customization and compliance with IEC standards.

Selection Tips

Determine number of circuits and phase requirements.

Choose IP and I

K ratings suitable for outdoor construction environments. Include RCCB/RCBO and SPD for safety and equipment protection. Consider pre-wired vs. custom configurations for rapid deployment and ease of installation.

Construction site power distribution boxes are essential for safe, organized, and efficient power management, and selecting the right components ensures compliance, durability, and worker safety.

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A site power distribution board is usually an electrical distribution box equipped with various sockets to provide power for different equipment and machinery. A construction power distribution box may also

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