Case Study of Complete Distribution Box Project



Overview

This case study highlights a practical application of distribution boxes in a large-scale electrical installation project.

Key Takeaways

A complete distribution box project involves careful customization, phased installation, and integration with industrial automation systems to enhance efficiency, safety, and reliability.

Project Overview

A leading automotive manufacturing plant in Germany undertook a comprehensive automation upgrade in early 2023, requiring a robust electrical distribution system to support over 200 new sensors, actuators, and control devices across three production lines. The existing system was outdated and could not handle the increased connectivity and harsh industrial environment, prompting the selection of TSM-Series Distribution Boxes for their flexibility and reliability.

Design and Customization

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Customizing the distribution boxes was critical to meet project specifications and environmental challenges. For example, in a Canadian substation project, boxes were made from 2mm galvanized sheet material, coated with outdoor powder, and equipped with ventilated, waterproof roofs to withstand humidity, strong winds, and corrosive conditions. Additional features included welding wall hanging codes, lifting rings, grounding screws, and secure locking mechanisms, enhancing safety, functionality, and ease of use.

Implementation Methodology

The installation followed a phased approach, minimizing disruption to ongoing operations. Eighteen TSM-18 units were deployed systematically, allowing the team to integrate the boxes with existing production lines while maintaining operational continuity. Modular design facilitated scalability and future expansion.

Measurable Benefits

The deployment of distribution boxes delivered significant improvements: Enhanced reliability and safety in power distribution and control systemsReduced downtime and improved production efficiencyEase of maintenance and future scalability due to modular designProject completion ahead of schedule, exceeding performance expectations Lessons LearnedKey takeaways from the project include: Early evaluation of environmental and operational requirements ensures the distribution box meets all functional needsCustomization is essential for safety, durability, and compliance with project-specific conditionsPhased installation minimizes operational disruption and allows for testing and validation at each stageStandardizing on a reliable distribution box model simplifies future expansions and maintenance ConclusionA complete distribution box project combines strategic planning, customization, and systematic implementation to support industrial automation and electrical distribution needs.

By addressing environmental challenges, ensuring modularity, and integrating with automation systems, such projects can significantly improve operational efficiency, safety, and scalability for manufacturing and industrial facilities.

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