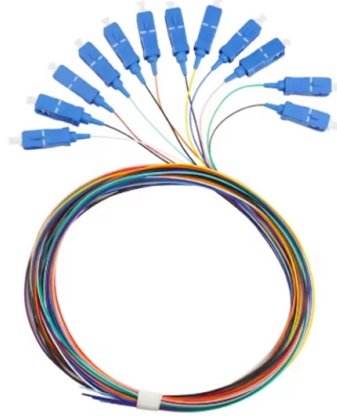


Production of Low-Voltage Switchgear



Overview

Logstrup is a manufacturer and supplier of low voltage, high quality modular switchboards for high impact industries.

Key Takeaways

Low-voltage switchgear (LVS) is manufactured to safely control, protect, and distribute electrical power up to 1,000 volts, combining precision engineering, high-quality components, and compliance with safety standards. Overview of Low-Voltage Switchgear

Low-voltage switchgear refers to electrical panels designed to control, protect, and isolate electrical equipment operating at voltages up to 1,000 volts, commonly used in residential, commercial, and industrial settings . LVS ensures reliable power distribution, prevents overloads, short circuits, and allows safe maintenance access. Key components include circuit breakers, fuses, relays, disconnect switches, and busbars .

Manufacturing Process

- **Design and Engineering:** LVS manufacturing begins with customized engineering based on project specifications, load requirements, and safety standards. Manufacturers like Weimiao and Liyond provide project-based designs, ensuring panels meet the exact needs of industrial or commercial facilities .
- **Component Selection:** High-quality components are selected for reliability and safety, including vacuum circuit breakers (VCBs), SF6 load break switches, and metal-clad enclosures. These components are critical for fault protection, arc quenching, and operational longevity .

- **Panel Fabrication:** The switchgear enclosure is fabricated using metal-clad or modular structures, designed to house all electrical components securely. This includes main distribution boards (MDB), sub-main distribution boards (SMDB), and motor control centers (MCC) .
- **Assembly and Wiring:** Components are installed and interconnected according to single-line diagrams (SLDs) and load calculations. Wiring is carefully routed to ensure minimal energy loss, safety, and ease of maintenance .
- **Testing and Quality Assurance:** LVS undergoes rigorous testing, including insulation resistance, continuity, functional operation, and short-circuit testing. Compliance with international standards ensures safety, reliability, and energy efficiency .
- **Integration of Smart Technologies:** Modern LVS may include digital monitoring, remote control, and energy management systems. Smart switchgear allows real-time fault detection, load management, and predictive maintenance, enhancing operational efficiency .

Applications

Low-voltage switchgear is used in industrial plants, commercial buildings, infrastructure projects, and critical facilities. It ensures safe power distribution, energy efficiency, and protection of personnel and equipment . Manufacturers like ABB and NATUS emphasize flexibility, modularity, and long-term reliability in their LVS solutions .

Key Considerations in Manufacturing

- **Safety Compliance:** Adherence to IEC and local electrical standards is mandatory.
- **Customization:** Panels are often engineered for specific projects, not standard catalog products .
- **Durability:** Use of robust materials and high-quality components ensures long service life.
- **Energy Efficiency:** Optimized layouts and intelligent load management reduce energy losses .
- **Maintenance Accessibility:** Designs allow easy inspection, replacement, and upgrades.

Leading Manufacturers

Top LVS manufacturers include ABB, NATUS, Weimiao, and Liyond, offering solutions ranging from standardized panels to fully engineered, project-specific switchgear . These companies integrate advanced technologies to meet modern energy efficiency, safety, and digitalization requirements. In summary, the manufacturing of low-voltage switchgear involves a combination of custom engineering, high-quality components, precise assembly, rigorous testing, and optional smart technologies to ensure safe, reliable, and efficient power distribution across diverse applications.

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The minimum clearances between switchgear and obstacles specified by the manufacturer

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With the development of national infrastructure construction and power energy investment, the demand for high and low voltage

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