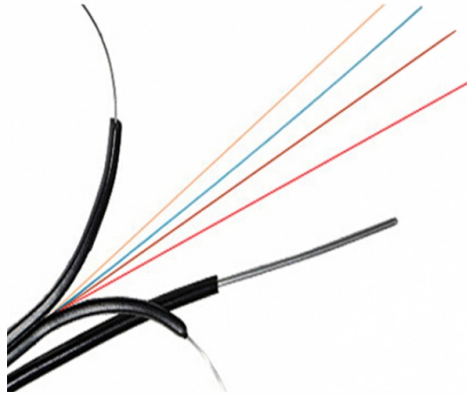


Parameters of Explosion-proof Distribution Boxes for Construction Sites



Overview

1□ The manufacture and installation of distribution box and switch box shall meet the following requirements: 1.

Key Takeaways

Explosion-proof distribution boxes for construction sites are designed to safely manage electrical power in hazardous environments, with strict adherence to material, electrical, and installation standards.

Key Technical Parameters

1. Protection Standards and Certifications Explosion-proof distribution boxes must comply with international and national safety standards to ensure safe operation in hazardous areas. Common certifications include ATEX, IECEx, NEMA, and GB7251. These standards define the enclosure's ability to contain internal explosions and prevent ignition of surrounding flammable gases, vapors, or dusts .

2. Material and Construction

- Enclosure Material: Stainless steel (Baosteel 304 or higher) or aluminum for corrosion resistance and durability .
- Wall Thickness: Minimum 4 mm for stainless steel boxes .
- Flameproof Design: Often a combination of Ex d (flameproof) and Ex e (increased safety) chambers .



- Ingress Protection: Typically IP66, ensuring dust-tight and water-resistant performance .
- ### 3. Electrical Parameters
- Voltage Levels: Commonly 220V or 380V, depending on site requirements .
 - Rated Current and Short-Time Withstand Current: Example: 250A rated current with 10kA short-time withstand, adjustable per project needs .
 - Circuit Configuration: Single-phase, three-phase, or mixed input; outlet circuits can be single-phase or three-phase .
- ### 4. Installation and Site Requirements
- Location: Close to power supply, dry, well-ventilated, and away from corrosive or humid environments .
 - Mounting Height: Typically 1.5–1.8 meters above ground for easy operation and inspection .
 - Fixing Method: Secure mounting using brackets or screws to prevent movement due to vibration or collision .
 - Wiring: High-temperature resistant copper wires; proper cross-sectional area to meet load requirements; all cable inlets and cover joints must be sealed .
- ### 5. Safety and Maintenance Considerations
- Grounding: Metal box, electrical installation board, and internal appliances must be properly grounded .
 - Wiring Fasteners: Galvanized parts; secondary wiring should use black wire with casing sequencing .
 - Serviceability: Modular designs allow easy access for maintenance and repairs, minimizing downtime .
- ### 6. Environmental and Operational Considerations
- Designed to withstand harsh construction site conditions, including dust, moisture, vibration, and temperature fluctuations .
 - Materials and coatings ensure long-term durability and low maintenance requirements .
- ### 7. Model Variants
- Low-voltage switchgear cabinets: GCK, GCS, MNS (withdrawable), GGD, GDH, PGL (fixed), .
 - Distribution boxes for construction sites: XL, GXL, XF series .
 - Specialized boxes: PZ20/PZ30 terminal lighting, PZ40/XDD(R) metering, PXT(R)K series for surface-mounted or concealed installations .
- ### Summary

Explosion-proof distribution boxes for construction sites must combine robust materials, certified safety standards, precise electrical specifications, and proper installation practices to ensure safe operation in hazardous environments. Attention to certifications, protection type, electrical load, and maintenance accessibility is critical for compliance, worker safety, and long-term reliability .

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