

Replacing the distribution box with an explosion-proof distribution box



Overview

- Equipped with specialized hinge structure, which can prevent the flameproof joints from damage when opening and closing the box, and greatly prolong the service life of box.

Key Takeaways

Replacing an explosion-proof distribution box requires careful adherence to safety protocols, proper grounding, certified components, and maintaining the enclosure's integrity to prevent ignition in hazardous areas.

Preparation and Safety

Power Isolation: Ensure the electrical supply to the distribution box is completely turned off at the main breaker or isolating switch to prevent electrocution or sparks.

Verify Hazard Zone Requirements: Confirm the box's certification (Ex d, Ex e, Ex p) matches the site's hazardous zone classification and that the replacement box meets ATEX, IECEx, or local standards.

Inspect Components: Check that all cables, connectors, and terminal blocks are rated for explosion-proof use and free from damage.

Removal of the Old Box

Open the Cover Safely: Only open the terminal chamber cover after power is isolated. Avoid scratching or damaging the explosion-proof joint surfaces.

Disconnect Wiring: Carefully disconnect all incoming and outgoing cables, noting their positions for reconnection.

Use a multimeter to confirm no residual voltage. **Remove Mounting Hardware:** Unscrew the box from its mounting surface, ensuring the enclosure is supported to prevent dropping or damage. **Installation of the New Box:** Install the new distribution box on a stable, corrosion-resistant surface, keeping the inclination under 5 degrees and away from heat sources or collision risks.

Cable Entry and Termination: Feed cables through certified cable glands, ensuring proper sealing. Connect incoming power, neutral, and earth wires to the designated terminals. Outgoing circuits should be connected according to the original wiring diagram.

Grounding: Securely connect the internal and external ground wires to the dedicated earth terminal to prevent electrical hazards. **Tighten and Seal:** Ensure all terminal screws and cable glands are tightened to manufacturer specifications. Close the cover and secure it with fasteners, maintaining the integrity of the explosion-proof seal.

Post-

Installation Checks

Inspection: Verify all connections, check for proper grounding, and ensure no damage to the enclosure or seals. **Functional Test:** Restore power and test circuits for correct operation using a multimeter or continuity tester. **Maintenance Considerations:** Apply anti-rust oil to joint surfaces if exposed to moisture, and schedule regular inspections every 6–12 months, or more frequently in corrosive environments.

Additional Tips

Use stainless steel or coated aluminum enclosures for aggressive environments; polymer housings are acceptable only if certified. Ensure all connectors and glands preserve the explosion-proof rating; standard connectors can be used only if certified for the environment. For outdoor installations, consider a rain cover to prevent water ingress and corrosion.

Following these steps ensures the replacement maintains safety, compliance, and long-term reliability in hazardous areas.

Article Content

How to Install Explosion-Proof Distribution Box

Install the box in a location with a lower risk of danger, away from collision risks, heat sources, and as much as possible, in a corrosion and

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·Equipped with specialized hinge structure, which can prevent the flameproof joints from damage when opening and closing the box, and greatly prolong the service life of box. The boxes can be combined

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Explosion-proof distribution boxes represent where regulatory wisdom meets engineering excellence. What appears as simple protective enclosures are actually sophisticated safety systems

How to Install Explosion-Proof Distribution Box

3. Regularly inspect the explosion-proof distribution box for any damage to components. The installation inclination of the distribution box should

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