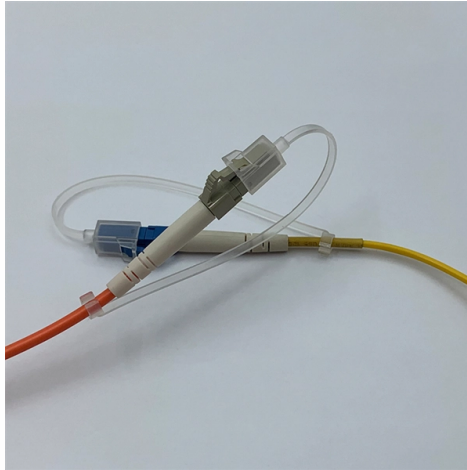


Cast aluminum explosion-proof distribution box models



Overview

Appleton™ AJBEW Cast Junction Boxes can be used for terminals, splicing wires, pull boxes, and bus boxes.

Key Takeaways

Cast aluminum explosion-proof distribution boxes are available in Ex d (flameproof), Ex e (increased safety), and Ex i (intrinsically safe) types, designed for hazardous areas with varying sizes, corrosion resistance, and installation options. Common Types and Features

1. Ex d (Flameproof) Boxes

- Designed to contain any internal explosion and prevent it from igniting the surrounding atmosphere.
 - Suitable for Zone 1, Zone 2, Zone 21, and Zone 22 hazardous areas.
 - Typically made from copper-free cast aluminum for corrosion resistance and high impact strength.
 - Available in multiple sizes with options for 3-5 hubs, DIN rails, and pre-cut threads for easy installation.
 - Examples include R. STAHL 8252 series and Pepperl+Fuchs Ex d terminal boxes .
- #### 2. Ex e (Increased Safety) Boxes

- Feature enhanced insulation and wiring terminals to prevent sparks or arcs.
- Often used in conjunction with Ex i circuits for intrinsically safe applications.
- Can operate in extreme temperatures, e.g., -60°C to +80°C, and are certified to ATEX, IECEx, and EAC standards.

• Eaton's Crouse-Hinds AboX series is a notable example, offering multiple cable entry points and powder-coated corrosion protection .

3. Ex i (Intrinsically Safe) Compatible Boxes

- Designed to house circuits that are incapable of releasing sufficient energy to ignite an explosive atmosphere.
- Often integrated with Ex e enclosures for combined safety.

Material and Construction

- Copper-free cast aluminum is standard for corrosion resistance, especially in marine or offshore environments.
- Powder-coated finishes enhance durability and chemical resistance.
- Some boxes offer stainless steel alternatives for extreme corrosion protection.

• High ingress protection ratings (IP66 or higher) ensure dust and water resistance .

Sizes and Installation Options

- Available in a wide range of sizes, from small junction boxes (e.g., 6" x 8" x 4") to large distribution enclosures (e.g., 32" x 36" x 12").
- Pre-drilled mounting lugs, DIN rails, and threaded hubs simplify installation.
- Custom modifications such as drilled entries, window kits, or internal back panels are often available .

Applications

- Oil & gas, petrochemical, chemical, and offshore industries.
- Control systems, signal and power distribution, and housing of electronic modules or relays.
- Environments with combustible gases, vapors, or dust. Key Consideration: When selecting a cast aluminum explosion-proof box, consider the hazard zone classification, required protection type (Ex d, Ex e, Ex i), environmental conditions, and installation requirements to ensure compliance with ATEX, IECEx, UL, or other relevant standards .

Article Content

AJBEW Cast Junction Box, Explosionproof, Dust-Ignitionproof, Aluminum

Appleton™ AJBEW Cast Junction Boxes can be used for terminals, splicing wires, pull boxes, and bus boxes. They are ideal for use

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This document is for preliminary research. Verify specifications against current standards, product documentation and project requirements.

