

Article Overview

On-site power distribution boxes in Bahrain must comply with EWA regulations, IEC standards, and, where applicable, ATEX-certified protection for hazardous areas.

Regulatory Requirements

The Electricity and Water Authority (EWA) in Bahrain mandates that all electrical installations, including distribution boxes, adhere to the latest editions of IEC, IEE, and Kuwait regulations, adapted for local conditions. Key requirements include:

- o Excess current protection: Distribution boards must include circuit breakers or fuses to prevent overloads and short circuits .
- o Earthing and bonding: Proper earthing is required to ensure safety and prevent electrical shock .
- o Wiring and segregation: Conductors must be properly segregated and installed in conduits, cable trays, or trunking to avoid interference and overheating .
- o Approval: Any deviation from standard regulations requires approval from the Electricity Distribution Directorate (EDD) .
- o Lightning protection: If the building has a lightning protection system, it must not be bonded directly to the electrical distribution system .

Practical Protection Measures

For residential and commercial applications, distribution boards should:

- o Be enclosed in robust cabinets with protection ratings from IP40 to IP65, depending on exposure to dust, moisture, or outdoor conditions .
- o Include overload and short-circuit protection via main and branch breakers .
- o Be installed in accessible, ventilated, and secure locations to prevent accidental contact or tampering .
- o Use quality materials such as carbon steel, stainless steel, or aluminium for durability .

Hazardous and Industrial Areas

In environments with flammable gases, vapors, dust, or chemicals, ATEX-certified explosion-proof distribution boxes are recommended:

- o These boards provide intrinsically safe operation, preventing ignition in hazardous atmospheres .
- o They support circuit segregation, proper earthing, and bonding, and can be customized for single-phase or

Protection of power distribution boxes in Bahrain

three-phase AC systems .

o Common applications include oil and gas facilities, refineries, and pharmaceutical workshops where safety is critical .

Summary

To ensure safe and compliant operation of on-site power distribution boxes in Bahrain:

o Follow EWA regulations and IEC standards for installation, earthing, and protection .

o Use robust, IP-rated enclosures for general applications .

o For hazardous areas, implement ATEX-certified explosion-proof boards with proper circuit design and safety measures .

o Obtain EDD approval for any deviations or special installations . These measures collectively ensure electrical safety, reliability, and regulatory compliance for on-site power distribution in Bahrain.

Welcome Bahrain Switchgear & Lighting Industries (BSLI) was formed in 1986 as a manufacturing division of AKA Ansari W.L.L. with

The EWA has adopted many of the clauses from the latest editions of the IEC, IEE & KUWAIT Regulations, modifying them to suit

Regulations for electrical installations in Bahrain, covering wiring, protection, and equipment. Essential for engineers and contractors.

These regulations outline electrical installation requirements in Bahrain to ensure safety. They define key terms and apply to all

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Inside a Power Distribution Board Let's explore the anatomy of a power distribution boards.

This guidebook collates all building permit regulations and interpretations related to electricity supply in Bahrain according to the

KINGDOM OF BAHRAIN ELECTRICITY AND WATER AUTHORITY REGULATIONS FOR ELECTRICAL INSTALLATIONS

EWA's Standards and Regulations outlines essential guidelines and requirements to ensure the safe, sustainable, and

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Regulations In most countries, electrical installations shall comply with more than one set of regulations, issued by

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