Phase loss fault in distribution box

Overview

When one phase of a three-phase system is lost, a phase loss occurs. This is also called 'single phasing'. Typically, a phase loss is caused by a blown fuse, thermal overload, broken wire, worn contact or mechanical failure. Common causes of power loss are environmental conditions such as severe wind, lightning strikes and storms, wildlife, trees, and vehicular accidents. Conductor failure, insulation failure, equipment (contactor, overcurrent device, transformer, etc. A phase loss that goes undetected can rapidly result in unsafe conditions. Quality power is power delivered to a load that is within the load specified voltage, is capable of delivering enough current under any operating condition, and includes minimal, not damaging, changes. Most residential properties in North America use a split-phase system, consisting of two separate 120-volt lines, or “hot. In the traditional methods of faulty phase selection for single-phase-to-ground faults (SPGs), power frequency-based amplitude and phase characteristics are used to identify the faulty phase.

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