

# **Circuit breaker in substation in Finland**





## Overview

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What is a circuit breaker in a substation?

A circuit breaker in substation is a key component in electrical power systems, designed to interrupt the flow of electricity when a fault occurs, such as a short circuit or overload. Depending on system design, these devices can operate manually or automatically and come in various types, including air, vacuum, oil, and SF<sub>6</sub> gas.

Which earthing arrangement is used for substation AC systems in Finland?

In Finland, the used earthing arrangement for substation AC systems is typically TN-C-S. The circuit first starts with a common neutral and protective PEN conductor, which is later separated to a neutral N conductor and a protective PE conductor. TN-C: A combined PEN conductor fulfils the functions of both a PE and an N conductor.

How often should a substation be inspected in Finland?

Each newly built or a modified substation in Finland requires a commissioning inspection and then a verification inspection done by an authorized third-party inspector. After a substation is commissioned, it will also need a periodic inspection done every few years.

What is a low voltage auxiliary AC system in Finland?

The low voltage auxiliary AC system voltage level of a substation in Finland is typically a three phase 230/400 V TN (see chapter 2.11.6 ) system with a frequency of 50 Hz. The DC system is a 110 V or 220 V IT (see chapter 2.11.6 ) system, an auxiliary system that supplies critical loads with uninterruptable power.



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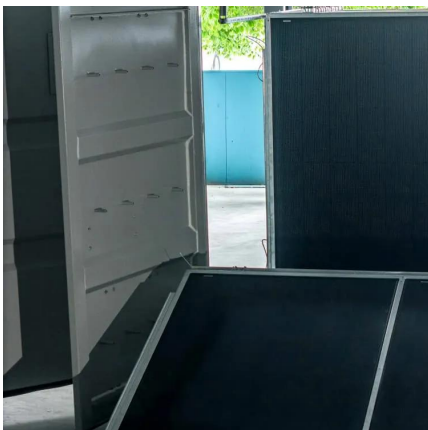


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