

## SolarInnovate Energy Solutions

# Circuit breaker in substation in Congo



## 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.

What type of Breaker is used in a power substation?

Air circuit breakers are also known to be very reliable - they typically provide over 20 years of service life before needing to be replaced. The oil circuit breaker is another type of breaker that can be found in power substations.

What is an example of a circuit breaker?

For example, consider a substation feeding power to an industrial area. If a short circuit occurs on one of the distribution lines due to a tree branch falling on the line, the circuit breaker associated with that line must quickly detect the fault and interrupt the current.

What is the difference between OBC and SF6 arc Breakers?

Oil (OCB) use insulating oil to suppress arcs. They are more common in legacy systems and require ongoing maintenance due to oil degradation. SF<sub>6</sub>: These breakers, employed in high-voltage substations, use sulphur hexafluoride gas for superior arc quenching and insulation.

Which type of SF6 circuit breaker is widely used in power industry?

The type of SF6 circuit breaker that is widely used in power industry is the puffer types of SF6 circuit breaker. Figure 4 shows the puffer type of SF6 circuit breaker working principle. Figure 4. Puffer type of SF6 circuit breaker working principle are fixed contact and moving contact.

What is an OCB in a high-voltage substation?

OCBs are used in high-voltage substations and have been popular in the past, although they are now being replaced by more modern technologies.

Example: In a rural high-voltage substation serving a long transmission line, an OCB might be used to protect the line.

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