



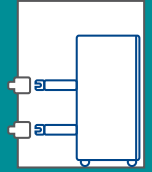
Medium voltage service

Asset upgrade Circuit breakers retrofit

Technical solutions

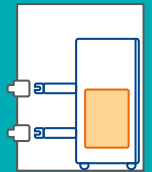
Retrofit

Retrofit breakers are normally used to replace phased out devices by current production versions. They are mechanically and electrically engineered to adapt to the existing solution on site. ABB Service experts conduct site audits on existing installations to assess the condition of the equipment, recommend the proper solution and support the right investment decision.



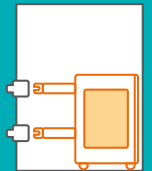
Conversion

The conversion method utilizes the existing circuit breaker truck together with some portion of the existing parts, to build a new device that interfaces with the existing switchgear. Depending on the condition and future life span of the existing components, some parts may be re-used. They can be power and auxiliary contacts, arms and interlock, etc.



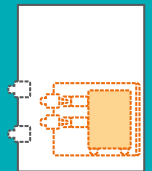
Roll-in replacement

The roll-in replacement circuit breaker is a completely new device built around a modern fixed assembly and does not incorporate original parts. A properly designed replacement circuit breaker is fully interchangeable with the existing one and does not require significant modifications to the switchgear.



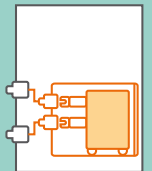
Retrofill

Retrofill is a modernization process including the replacement of the circuit breaker and some of the functional components of the power compartments. It is applicable where the existing switchgear frame is in serviceable condition. Two design concepts can be applied depending of the requirements.



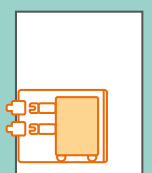
Hard-bus retrofill

The hard-bus retrofill is composed by a frame hosting the circuit breaker. It is connected to the existing switchgear bushings by an additional power circuit, that acts also as inner interface with the new breaker.



Cradle-in-cradle

The cradle-in-cradle is a complete cassette with inner and outer interfaces. The outer interface mounts physically and electrically in the switchgear cubicle where existing bushings are removed from. The inner interface matches up with the new breaker.



Benefits

Circuit breaker retrofit is a cost-effective switchgear modernization solution. The result is a noticeable improvement on reliability, safety, maintenance and performances. ABB is a full system provider, from the proposal and design, through the manufacturing and testing, up to the installation and commissioning. Both ABB and non-ABB installed base can be addressed.

This concept gets most of the benefits of the roll-in retrofit, but the reuse of some parts result in a more cost effective solution. It requires additional inspection and testing activities to ensure those parts will not compromise the equipment reliability. Manufacturing and logistic constraints can also be critical aspects

Active Standards compliance is one of the key elements when designing and testing replacement breakers. This methodology allows to exchange the original device without the extended downtime required for the switchgear replacement. Higher performances and additional features can also be targeted.

This product family includes a range of solutions supporting the switchgear upgrade when additional constraints are in place:

- other parts than the breaker (shutters, interlocks, etc.) need to be replaced;
- the original panel design does not allow to meet today required features and Standards.

This solution balances the need for a retrofill solution with reasonably limited site works and linked outage. OneFit is the latest ABB hard-bus retrofill design concept, embedding an integrally safe plug-in technology to easily connect the new breaker to a wide range of existing panels.

The time and effort of emptying the compartment and arranging it to fit the new cassette is offset by providing a modern, reliable and interchangeable solution. The relevant longer downtimes must be considered when choosing this option.

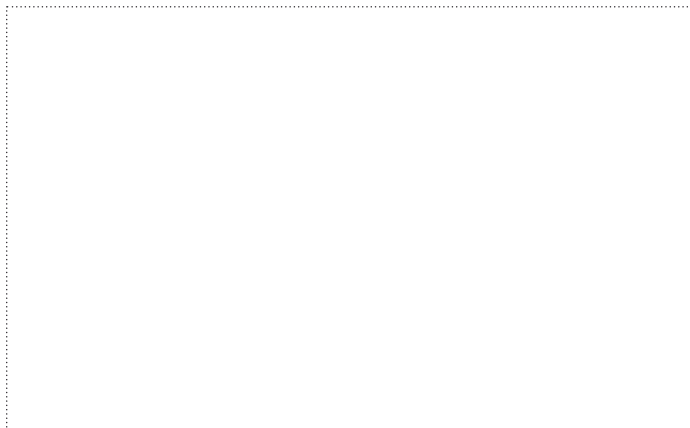


Roll-in replacement example.



Hard-bus retrofill: ABB OneFit design.

Contact us



Your Service sales contact: www.abb.com/contacts
More Service information: www.abb.com/productguide

The data and illustrations are not binding. We reserve the right to make changes without notice in the course of technical development of the product.

© Copyright 2012 ABB. All rights reserved.