Retrofitting
Vertical OneFit: the hard-bus retrofit concept

Circuit-breaker retrofitting is a cost-effective alternative to complete switchgear replacement. ABB Service experts conduct site audits on existing installations to assess the condition of the equipment, recommend the most suitable solution and technically support the most appropriate investment. Retrofit is one of the retrofit technical solution used by ABB. OneFit is the latest ABB hard-bus retrofit design concept, containing an integrally safe plug-in technology in order to easily connect the new breaker to a wide range of existing panels.

Concept
OneFit is comprised of a frame that hosts a standard circuit breaker connected to the existing switchgear bushings by an additional power circuit that also acts as an internal interface with the new breaker. The adaptation system (OneFit kit) allows a completely standard ABB withdrawable apparatus to be fitted to the old panel. Both the horizontal drawout and the vertical lift breaker designs are available in the OneFit range. The vertical OneFit concept allows to turn obsolete vertical lift equipment into new horizontal drawout breakers. The installed base of vertical lift breakers is largely available in BS and ANSI countries. The result is a great improvement in reliability, safety, maintenance and performance. ABB Service is a complete system provider of retrofitting solutions, from proposal to design, manufacturing and testing, down to installation and commissioning.

Benefits
Maintenance and repair
- The new apparatus mounts all standard spare parts with all the benefits in terms of delivery time and price
- Equipment and spare parts are interchangeable with new ABB extension panels and additional switchgear
- Same operational interface and maintenance approach for the equipment installed in OneFit, used in different original brand panels, and new ABB panels

Modernization process
- The use of standard breakers makes them ready without any modification for future ABB replacement switchgear, providing an optimized investment for the next substation renewal.

Safety
- The fire hazard is eliminated with the new breaker interrupting technology respect to the original one, typically bulk oil or dead-tank oil
- The original shutter system and all the relevant interlocking are replaced with new standard ones installed from the factory on the OneFit system
- Shutter and circuit breaker movement are interlocked to enable all necessary safety features
- The dielectric properties are increased thanks to the installation of a new insulation plate
- Depending on which OneFit package is chosen, apparatus racking behind a closed door and remote racking are available

Standards
- OneFit solutions are type tested according to latest IEC and ANSI IEEE Standards:
  - 62271-1 (for the frame), 62271-100 (for the circuit-breaker) and 62271-200 when the original panel is provided to perform the tests.
  - C37.20.2 Standard for Metal Clad Switchgear, C37.04 rating structure of high voltage circuit breakers and C37.59 requirements for conversion of power switchgear equipment.
Packages
The OneFit range is made up of four packages with progressively increased technological content targeting personnel safety and switchgear renewal.

- OneFit: the true retrofitting solution, new apparatus racking system, integrated metallic isolating shutter and state of the art interlocking system
- OneFit Safety: increased personnel protection providing closed-door operational mode preventing accidental electrical contact injuries
- OneFit Safety Plus: a new operational safety level, remote racking to provide a safer operating environment for personnel through the proven method of adding distance between the operator and arc flash incident energy at the switchgear site
- OneFit eSafety Plus: the integration of protection relay and measuring sensors gives a new life to switchgear, combining all the benefits of the previous packages with a complete equipment revamping.

Contact us

Vertical OneFit solution (example panel rear view)

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

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