

DISTRIBUTION SOLUTIONS

OneFit hard-bus retrofill with earthing switch onboard

Small footprint with full protection and safety upgrade

01 OneFit with earthing switch retrofill



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The comprehensive circuit breaker retrofitting solution integrates the earthing switch (ES) in the retrofill. This provides safety of operation by enabling earthing of the load side in the panels where ES is not present or it is not more reliable. The new earthing switch is fully interlocked with standard OneFit, providing renewal and highest reliability of all safety features. The optional CTs enable renewal of measurement and protection in one packaged and type tested solution.

Concept

OneFit comprises of a frame that hosts a standard circuit-breaker connected to the existing switchgear busbar risers 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 original switchgear. OneFit is combined with an earthing switch installed upon the basement. The result is a great improvement in reliability, safety, maintenance and performance.

Benefits

Maintenance and repair aspect

- 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 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 upgraded

- The original shutter system and all the relevant interlocking are replaced with new standard ones installed from the factory on the OneFit
- Shutter and circuit breaker movement are interlocked to enable all necessary safety features
- Depending on which OneFit package is chosen, apparatus racking behind a closed door and remote racking are available

Due to earthing of load side by integrated and full interlocks of ES to OneFit the operator protection is enhanced.

Standards

- OneFit solutions are type tested according to latest IEC 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. Otherwise ABB can provide a technical extension certificate

OneFit 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 new CTs integration and connection to a Relion Relay gives a new life to switchgear, combining all the benefits of the previous packages with a complete equipment revamping

02 OneFit with earthing switch and CTs retrofit, view



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Options

TruckMaster remote motorized racking
MySiteCare monitoring and diagnostic
MyRemoteCare cloud based services
Power Care customer support agreement

Earthing switch

The earthing switch integrated ST1-UG is a crank opening and closing earthing device also used in ABB UniGear 550.

Parameters:

Rated Voltage	Rated withstand voltage	Rated short-time withstand current	Rated duration of short circuit	Making current
U_r (kV)	U_p (kV)	I_k (kA)	t_k (s)	I_{dyn} (kA)
12	75	31.5	4	80

Current Transformers

Current transformers type LZZX-10Q by ABB are as an option integrated in the solution. Please confirm with project manager before using third-party one. They are replaced by insulators when not requested by customer application. The full range of available CTs parameters is detailed on the ordering form.

Parameters:

Rated primary current	Rated secondary current	Accuracy class	Capacity (VA)	Rated short-time thermal current/du ration	Rated dynamic current
I_{pr} (A)	I_{sr} (A)			I_{th} (kA/s)	I_{dyn} (kA)
250	1, 5	0.2 S or 5P10	10	31.5/4	80
300	1, 5	0.2 S or 5P10	10 or 15	31.5/4	80
400	1, 5	0.2 S or 5P10	10 or 20	31.5/4	80
500, 600, 800	1, 5	0.2 S or 5P10	15 or 20	31.5/4	80
1000, 1250	1, 5	0.2 S or 5P10	15 or 20	31.5/4	80

For more information please contact:

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

OneFit Webpage:



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.

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