

Retrofitting

Cradle: Solution for CB retrofitting in non-ABB panel



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.

Cradle is one of the retrofit technical solutions used by ABB. It is the latest ABB retrofit design concept in order to easily connect the new breaker to a wide range of existing non-ABB panels.

—
01

—
01
12kV Cradle

Concept

Cradle solution comprises a frame that hosts a standard circuit-breaker connected to the existing switchgear by an adaptation system.

The adaptation system allows a completely standard ABB withdrawable apparatus to be fitted to the original switchgear. 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 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 (UniGear) and additional switchgear
- Same operational interface and maintenance approach for the equipment installed in Cradle 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

Ease of use

- Modular operating mechanism
- Inbuilt spring charging handle

Safety upgraded

- The original shutter system and all the relevant interlocking are replaced with new standard ones installed from the factory on the Cradle solution
- Shutter and circuit breaker movement are interlocked to enable all necessary safety features
- Option for remote racking of apparatus
- Integrated with interlock preventing removal of control plug in service position of CB
- Optionally integrated with temperature monitoring sensors near apparatus spouts

Technology

- Cradle solutions are fully type tested according to IEC 62271-1 standards

—
02
12kV Cradle

—
03
ABB VHE12S panel
retrofitted with Cradle
solution



—
02

What's needed for a quote?

The following basic details are necessary for providing standard retrofit solutions offer:

- Pictures of switchgear and breaker labels
- Pictures of switchgear and breaker
- CB compartment inner pictures
- Inner dimensions of CB compartment
- Required quantities

How long it takes to modernize?

8-10 hours site work

Technical data

Rated voltage	[kV]	7.2	12
Rated power frequency withstand voltage	[kV 1 min]	20	28
Rated lightning impulse withstand voltage	[kVp]	60	75
Rated frequency	[Hz]	50	50
Rated short time withstand current	[kA 3 s]	25..40	25..40
Peak current	[kAp]	62.5...100	62.5...100
Rated current (40°C)	[A]	1250	1250, 1600, 2000, 2500, 3150 ¹⁾

¹⁾ With forced cooling



—
03

For more information please contact:

ABB India Limited
ELDS-Service
Plot No. 79, Street No.17, MIDC Estate
Satpur, Nashik - 422 007
Maharashtra, India
Tel: +91 253-2201200
Email: ppmvsupport@in.abb.com

We reserve the right to make technical changes or modify the contents of this document without prior notice. With regard to purchase orders, the agreed particulars shall prevail. ABB does not accept any responsibility whatsoever for potential errors or possible lack of information in this document.

We reserve all rights in this document and in the subject matter and illustrations contained therein. Any reproduction, disclosure to third parties or utilization of its contents – in whole or in parts – is forbidden without prior written consent of ABB. Copyright© 2021 ABB All rights reserved.