



ABB DISTRIBUTION SOLUTIONS, EP SERVICE

Relay retrofit program

General presentation

1MRS757635 D



Relay retrofit program

Content

Life cycle management

Overview

Replacement IEDs, dedicated tools and accessories

Existing relays and selected replacement IEDs

Retrofit project phases and dedicated tools

Engineering

Installation and mounting

Testing

Documentation and training

Added value for the customer

Conclusions



Relay retrofit program

Life cycle management

ABB's life cycle extension initiative targets to support the life cycle management (LCM) of utility and industrial power distribution systems

One strategic consideration of the LCM of a power system is to extend the life cycle of a switchgear panel through retrofit programs for selected switchgear equipment

A timely executed retrofit program for selected devices will also allow the life cycle of the remaining switchgear components to be fully utilized



Relay retrofit program

Overview

Relay retrofit program is based on

- Using IEDs belonging to the Relion® product family as replacement devices
- Pre-designed installation accessories
- Using a dedicated IED Migration Support Tool (MST)

This carefully engineered program provides you with

- A controlled and repeatable procedure for replacing existing protection relays with modern IEDs.
- The opportunity to accurately schedule and timely execute the various phases of your retrofit project to minimize downtime of the production or power distribution processes.





Relay retrofit program

Variety of solutions to extend the installation’s lifetime

ABB has a variety of solutions to extend the complete installation’s lifetime via offering the most suitable protection system refurbishment option.

Every case has its own characteristics, which must be considered. However, we present some rough guidelines in the table below:

Solution	Buy more time minimum efforts	Restart relay’s life cycle with the same functionality	Increase relay’s functionality	System level (communication) renewal performed simultaneously
Preventive maintenance	++	+	-	-
One-to-one replacement	+	++	-	-
Relay retrofit program	-	+	++	++

Relay retrofit program

Replacement IEDs, tools and accessories

The Relay retrofit program for the selected relays consists of the following:

- 615 series protection and control IEDs
- IED Migration Support Tool (MST)
- Relion Test Box RTB615 with masking plates
- Replacement IED test templates
- Wire markings and wiring harnesses
- Cutting tool
- Cover plates
- Documentation
- Training

Relay retrofit program

Existing relays and selected replacement IEDs

Relay type(s) to be retrofitted	New replacement IED	Ordering code
MCX 912	REM615 standard configuration “A”	#BMAAC#####1E #BMAAG#####1E ¹
MCX 913	REM615 standard configuration “A”	#BMAAC#####1E #BMAAG#####1E ¹
SPAJ 140 C	REF615 standard configuration “C”	#BFCAC#####1E
SPAJ 141 C	REF615 standard configuration “C”	#BFCAD#####1E
SPAJ 142 C	REF615 standard configuration “C”	#BFCAD#####1E
SPAM 150 C	REM615 standard configuration “A”	#BMAAC#####1E #BMAAG#####1E ¹
SPAU 130 C	REU615 standard configuration “A”	#BUAEA#####1E
SPAU 320 C1	REU615 standard configuration “A”	#BUAEA#####1E
SPAU 330 C1	REU615 standard configuration “A”	#BUAEA#####1E

Relay retrofit program

Retrofit project phases and dedicated tools

Retrofit project phases	Dedicated tools and accessories
Engineering	IED Migration Support Tool Documentation
Mounting and Installation	Cutting tool Cover plates Wire markings and wiring harness Documentation
Testing	Relion Test Box RTB615 Replacement IED test templates Documentation

Ensure accurate scheduling and timely execution of your retrofit project phases to minimize downtime of your production or power distribution processes



Retrofit project phases

Engineering

Engineering

IED Migration Support Tool (MST)

MST offers you an easy, fast and efficient way to process the parameters of the existing relay and map them to the selected replacement IED.

MST also defines the configuration of the IED based on functionality of the existing relay.

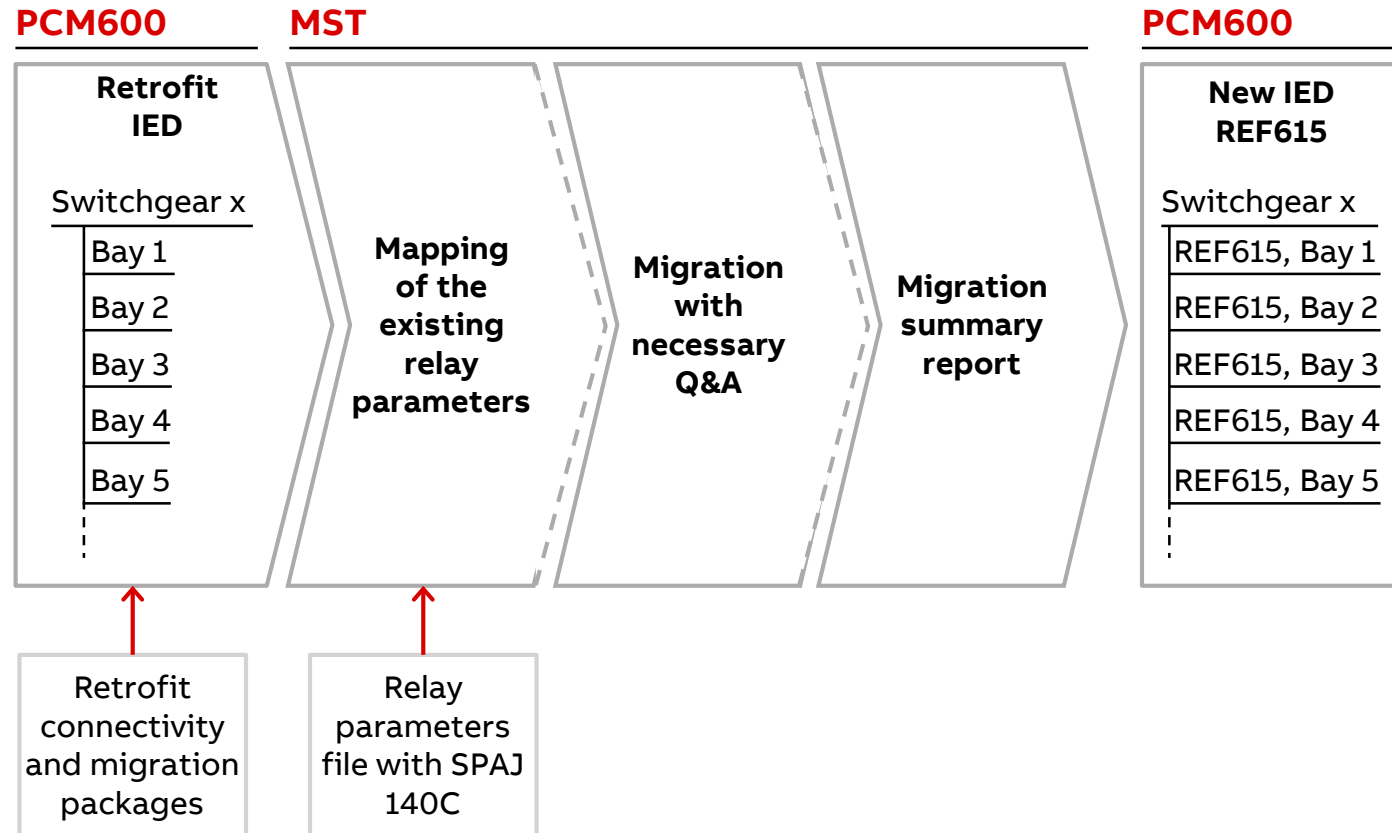
As a result of the migration you receive a fully parameterized and configured replacement IED, with the exception of the communication configuration.

Engineering

Migration example of SPAJ 140 C to REF615

The MST runs on PCM600. It is delivered in a retrofit connectivity package.

MST utilizes the information provided by the retrofit migration packages, which contain the existing relay specific migration rules. The migration packages are included into the retrofit connectivity package.

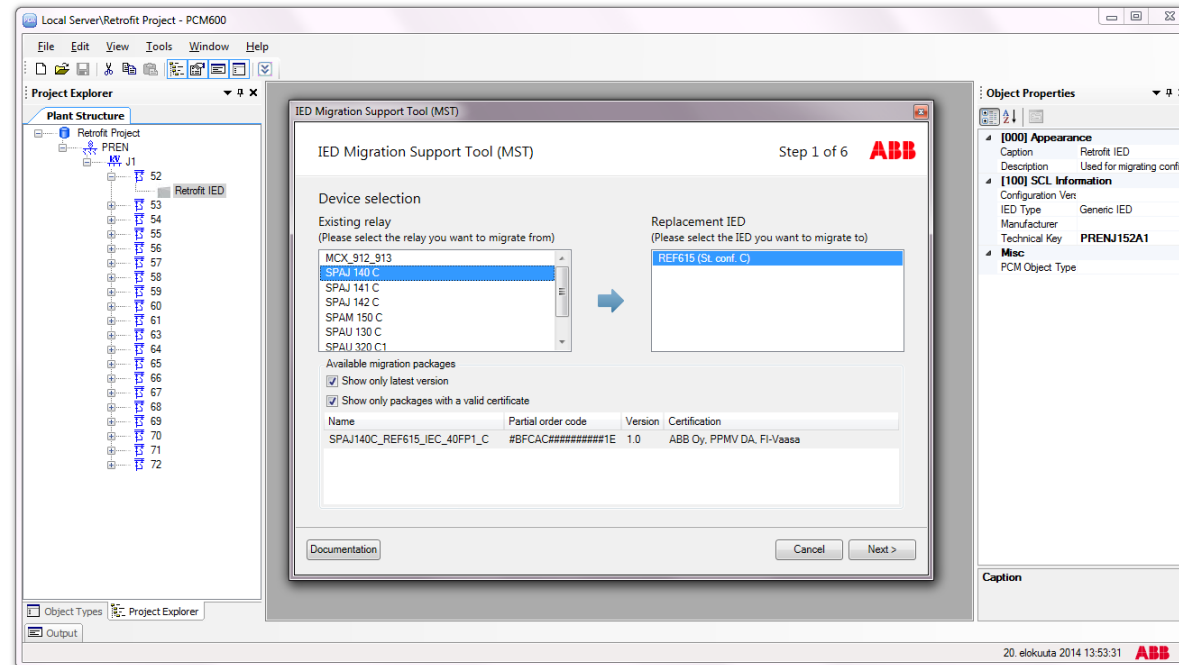


Engineering

Migration Support Tool tutorial

The Relay Retrofit Program Migration Support Tool tutorial is available on the program's [web page](#).

The tutorial provides an overview to migrating an existing relay using the IED Migration Support Tool.



Retrofit project phases

Installation and mounting

Installation and mounting

Wire markings and wiring harness

You can significantly reduce the time and effort needed for planning, preparation and implementation thanks to the ready-made wire markings and wiring harness.

Wire markings are provided as complete sets. The sets correspond to the terminal set-up of the existing relay and the replacement IED.

Wire markings sets are available for all of the relays supported in the Relay Retrofit Program.

A wiring harness is an existing relay type specific wire set including marked wires for each terminal of the replacement IED.

Installation and mounting

Cutting tool

The cutting tool is a dedicated handheld battery-driven device for machining the existing panel cutout.

No need for time consuming measurements or additional panel surface protection.

The tool allows you to cut a panel metal sheet with a thickness of up to 2.5 mm.

The tool enables a precise quality cut each and every time.

The tool is silent, fast and safe to use.



Installation and mounting

Cutting tool

The tool is delivered in a cutting tool kit.

The cutting tool kit is a dedicated plastic case containing

- A power unit
- SPACOM¹ or MCX² cutting head
- Two batteries and
- A battery charger

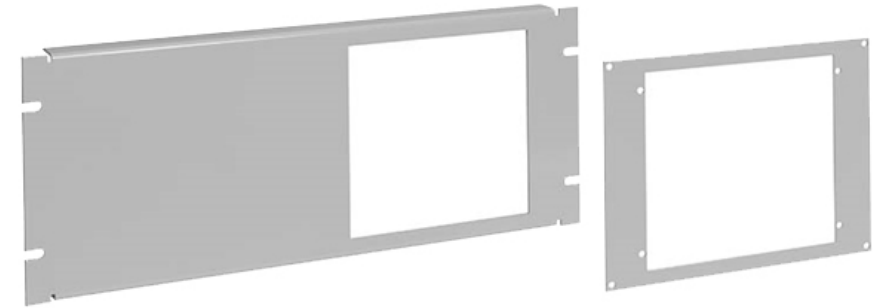


Installation and mounting

Cover plates

If the existing panel cut-out is larger than that of the replacement IED, or if it has a different format, you can use the predesigned cover plate for adjusting the cut-out size.

Cover plates enable quick and easy mounting of the replacement IEDs.





Retrofit project phases

Testing

Testing

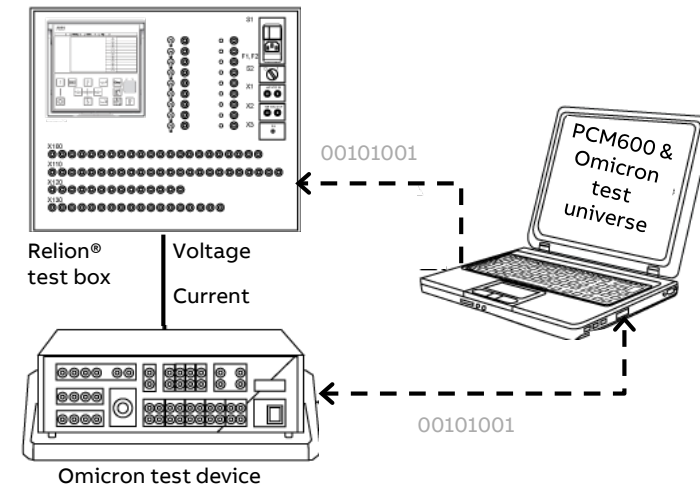
Relion Test Box RTB615

RTB615 is a test box for 615 series' plug-in units¹

RTB615 provides auxiliary power for the plug-in unit and an interface for a secondary test device, such as Omicron.

RTB615 is equipped with an IED type-specific masking plate leaving just those terminals accessible, which are needed for testing the selected IED.

With RTB615 you can easily test and verify the basic functionality of the replacement IED.



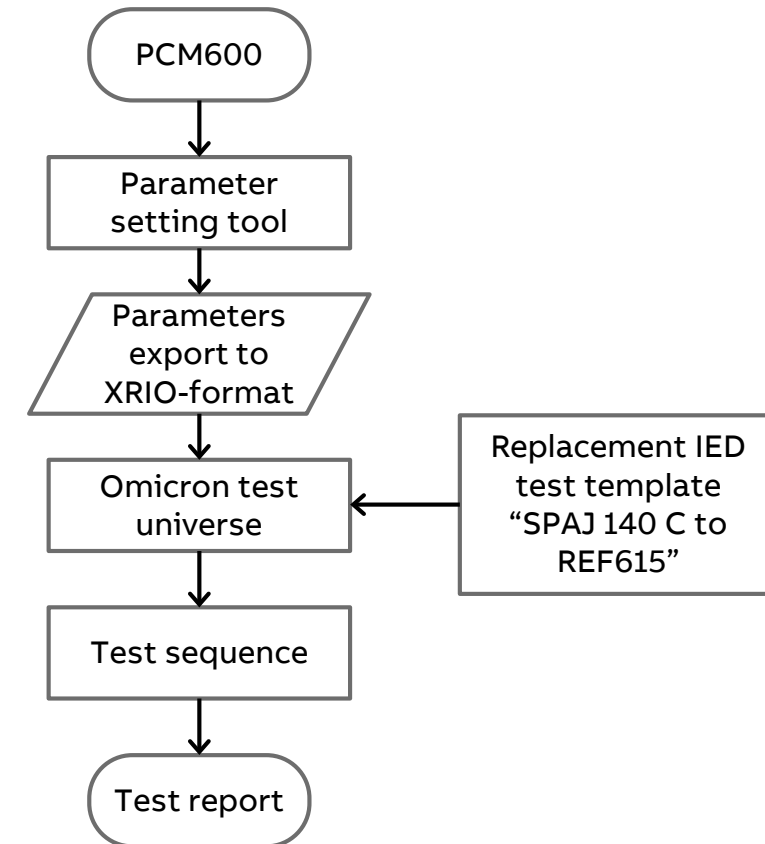
Testing

Replacement IED test workflow

The replacement IED test templates include test rules used by the Omicron Test Universe for testing replacement IEDs after configuration and parameter migration.

The test template specifies the content and format of the test report.

The test set-up together with the templates considerably simplifies and speeds up the testing.



Retrofit project phases

Documentation and training

Program web page

Link to the program page

Relay Retrofit Program

Targeting reliable and secure power distribution

ABB has developed a complete Relay Retrofit Program, which focuses on the smooth and controlled replacement of existing protection relays with modern protection and control IEDs. The program includes all the devices, accessories, hardware and software tools and documentation (manually needed by a broadly skilled and controlled execution of retrofit projects). The various phases of the retrofit project can be accurately scheduled and timely executed by extending knowledge of the production or power distribution processes. Further, the Relay Retrofit Program can be used to improve the protection system by implementing new functionality, such as arc fault protection, and by enhancing the horizontal and vertical transfer of information.

A carefully planned and smoothly implemented retrofit program generates added value, and the extended lifespan the cycle grants time for forthcoming decision making. The program is based on the use of IEDs from the Relatrol product family as replacement devices, or pre-designed installation accessories – and the use of a dedicated migration tool.

Are you looking for support or purchase information?

Contact us

Program deliverables

For a smooth retrofit of the below listed protection relays to new Relatrol IEDs the following tools and accessories are available:

Project phase	Tools/accessories
Preparation	ED Migration Support Tool (MST)
Mounting / Installation	Cutting tool Wiring cuttings and harnesses
Testing	Relay Test box RTBRLS Replacement IED test templates

Documentation is issued for each step along the project phases.

Relay retrofits

Currently supported replacements:

SPN / IEC reference	New equipment IED
SPN 130 C	REML15 4.0 RP1 BCL abs. conf. C
SPN 131 C	REML15 4.0 RP1 BCL abs. conf. C
SPN 132 C	REML15 4.0 RP1 BCL abs. conf. C
SPN 130 C	REML16 4.0 RP1 BCL abs. conf. A
SPN 132 C	REML15 4.0 RP1 BCL abs. conf. A

Why ABB?

- Breasts the extended life cycle of switchgear
- Substantial savings in time and resources with very top and structural replacement process
- Replacement relay is a standardized and future proof feature it's series product
- Use of same relay types enable ease of maintenance
- In built arc fault protection option to enhance personnel safety

Download related documents for Relay Retrofit Program

Available documents:

How kit (IT)

Popular documents (x)

Relay Retrofit Program, Cutting tool opening type SPACOM 100

Movie - English - 2014-05-02 - 345.2 MB

Relay Retrofit Program, Cutting tool assembly guide

Advanced search » Documents in all languages

10/14

Relay retrofit program

Training

A one-day classroom training course

- Introduces the tools and equipment used in the program
- Provides practical information on how to effectively carry out relay retrofit projects

The course code is P271.

For further information visit the [training web pages](#).



Retrofit project phases

Added value and conclusions

Relay retrofit program

Added value for the customer

Controlled and repeatable procedure for replacing existing protection relays with modern IEDs allows you to

- Improve the quality of the overall project
- Accurately plan the project budget and time schedule
- Quickly and efficiently carry out the project
- Minimize downtimes of production or power distribution processes

Carefully engineered tools, accessories and templates considerably simplify and speed up the retrofit project phases from engineering to final testing.

The Relay Retrofit Program allows you to improve your protection system by implementing additional functionality, for instance, by adding an optional arc flash protection.



Relay retrofit program

Added value for the customer

The program provides a controlled and repeatable procedure for replacing the existing protection relays with modern IEDs.

The program stands for constant quality, time saving and repeatable procedures.

Migration support tool (MST) for the migration of the existing relay parameters and logics into the new IED environment has been carefully designed and verified by ABB relay experts.

Excellent support for engineering, installation and mounting and testing phases.



ABB