Quick Start Guide
Relay Retrofit Program

ABB’s Relay Retrofit Program encompasses a repeatable procedure for replacing existing protection relays using pre-designed tools and installation accessories and a dedicated software tool for setting parameter migration. ABB’s protection relays from the Relion® product family are used as the replacement devices.

With these carefully engineered tools and accessories, the time and effort needed to perform all the retrofit project phases – from engineering to final testing – is considerably reduced.

The program includes all the devices, accessories, hardware and software tools needed for a timely scheduled and controlled execution of your retrofit project.

Program deliverables
The Relay Retrofit Program for selected existing relays consists of the following:
• 615 series protection and control IEDs as replacement devices
• IED Migration Support Tool (MST)
• Relion Test Box, RTB615, with masking plates
• Replacement IED test templates
• Wire markings and wiring harnesses
• Cover plates
• Cutting tool
• Documentation
• Training

The program supports the migration of the existing relay’s functionality into the new replacement IED, with the help of software and hardware tools and related accessories.

The program also offers the possibility to benefit from additional features, which become available with the replacement IED, for example, adding arc flash protection. Note, however, that the additional features and communication configuration are subject to supplementary engineering.

About this guide
This quick guide is designed to introduce the key concepts of the Relay Retrofit Program, providing an overview to the engineering, installing and testing activities.

For more detailed information, please refer to the complete customer documentation, which is available on the Relay Retrofit Program’s web page. Go to: https://new.abb.com/medium-voltage/distribution-automation/protection-relay-services/extensions-upgrades-and-retrofits/retrofits/relay-retrofit-program.
## ABB’s Relay Retrofit Program

### Engineering
- **Collect settings from the existing relay**
- **Run the Migration Support Tool**
- **Optional: Configure additional functionality**
- **Write the configuration to the ID**

<table>
<thead>
<tr>
<th>Hardware</th>
<th>Software</th>
<th>Documentation</th>
</tr>
</thead>
</table>
| - Laptop with USB serial adapter
  - Cable SPA-ZP 5A3 for SPACOM |
  - PCM600
  - Retrofit connectivity package
  - Replacement IED connectivity package |
  - PCM600 |  |  |
| Documentation     | Software                  | Documentation          |
| - CAP 505 manuals
  - SPACOM manuals
  - MCX manuals | - Relay Retrofit Program application manual |  |
  |  | - 615 series manuals | - 615 series manuals |

**Work instructions:** Relay Retrofit Program Migration Support Tool Tutorial 1MRS757634

### Installation
- **Extend the panel cutout**
- **Install the cover plate, if needed**
- **Optional: Configure additional functionality**
- **Write the configuration to the ID**

<table>
<thead>
<tr>
<th>Hardware</th>
<th>Documentation</th>
</tr>
</thead>
</table>
| - Cutting tool
  - Cover plates
  - Relion 615 series IED
  - Wiring harness including wire marking sets |
|  |  |
| Documentation     |  |
| - Cutting tool assembly manual and video
  - Cutting tool operating guide and video
  - Cutting tool safety guide |

**Work instructions:** Relay Retrofit Program Application Manual 1MRS757638

### Testing
- **Insert the IED into RT615**
- **Insert masking plates and connect cables**
- **Import settings and test the IED**
- **Reinstall the IED into the panel and perform final tests**

<table>
<thead>
<tr>
<th>Hardware</th>
<th>Software</th>
<th>Documentation</th>
</tr>
</thead>
</table>
| - Relion Test Box RT615
  - Relion 615 series IED
  - Omicron
  - Masking plates
  - Cables between RT615-Omicron |
  |  |  |  |
|  | - Laptop
  |  |  |
|  | - Omicron |
|  |  |  |
|  |  |  |
|  |  |  |

**Work instructions:** Relay Retrofit Program Testing Tutorial 1MRS757639

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*ABB's Relay Retrofit Program*
Existing relay migration with the Migration Support Tool

Existing relay types and replacement IEDs

<table>
<thead>
<tr>
<th>Relay type to be retrofitted</th>
<th>Replacement IED</th>
<th>Order code</th>
</tr>
</thead>
<tbody>
<tr>
<td>SPAJ 140 C</td>
<td>REF615 standard configuration 'C'</td>
<td>#BFCAC#1E</td>
</tr>
<tr>
<td>SPAJ 141 C</td>
<td>REF615 standard configuration 'C'</td>
<td>#BFCAD#1E</td>
</tr>
<tr>
<td>SPAJ 142 C</td>
<td>REF615 standard configuration 'C'</td>
<td>#BFCAD#1E</td>
</tr>
<tr>
<td>SPAM 150 C</td>
<td>REM615 standard configuration 'A'</td>
<td>#BMAAC#1E</td>
</tr>
<tr>
<td>SPAU 130 C</td>
<td>REU615 standard configuration 'A'</td>
<td>#BUAE#1E</td>
</tr>
<tr>
<td>SPAU 320 C1</td>
<td>REU615 standard configuration 'A'</td>
<td>#BUAE#1E</td>
</tr>
<tr>
<td>SPAU 330 C1</td>
<td>REU615 standard configuration 'A'</td>
<td>#BUAE#1E</td>
</tr>
<tr>
<td>MCX 912, 913</td>
<td>REM615 standard configuration 'A'</td>
<td>#BMAAC#1E</td>
</tr>
</tbody>
</table>

1) The order code for a replacement IED includes a fixed (in capital letters) and a non-fixed (in hashes (#)) part. The non-fixed part can be freely selected as when ordering any 615 series IED.

2) With RTD inputs