Firmware update of protection and control relays

Description

Firmware updates represent an integral part of ABB’s life cycle management of protection and control relays. Offering the latest usability improvements, firmware updates ensure optimal operation and performance, and an improved user experience throughout the relay’s entire life cycle.

ABB’s firmware update concept allows asset owners the opportunity to update the firmware of their protection relays. With all necessary information provided, asset owners can decide both whether and when to implement the firmware update. The ideal time would be during periodical testing or a maintenance break.

Firmware update concept

Firmware updates include usability improvements. The order or composition (REX640) code of the relay will remain the same as before the update and so will the product version or connectivity level (REX640). Also the relay configuration and parameters will remain unchanged.

Available firmware updates are announced on ABB’s web pages and can be downloaded free of charge. ABB also offers a firmware update service as an option. The firmware update does not affect the product warranty.

Scope

Firmware updates are available for the following protection relays:
- 611 series
- 615 series IEC version 3.0 or later
- 620 series IEC/CN version 2.0 or later
- 630 series
- REX640
- SSC600

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Available firmware updates are easily accessible for download through ABB’s data-sharing and backup service, Data Care. Accessing the firmware updates requires no user registration, only entering the relay’s serial number.
Firmware update package

Each firmware update includes:

1. Firmware update binary files

The binary files represent the latest firmware update revision and are intended for writing to the protection relay and version, or connectivity level (REX640), to which the update applies. The firmware of the smart substation control and protection device, SSC600, and the 611, 615, 620 and REX640 protection relays is updated using PCM600, whereas SUT Lite is used for the 630 series relays.
The firmware update revisions are incremental. For instance, firmware update revision 4.0.5 for 615 series 4.0 IEC protection relays covers all improvements included in the previous revisions (4.0.1, 4.0.2, 4.0.3 and 4.0.4). Updating the firmware to the latest revision can be done irrespective of the current revision, for instance, from revision 4.0.2 to 4.0.5.

2. Release note

The release note describes the implemented usability improvements specific to the firmware update revision.

3. Firmware update guideline

The firmware update guidelines provide the workflow together with detailed instructions on how to perform the update. The update procedure requires using the latest PCM600 version, including Hotfixes and the connectivity package.

For the 615 and 620 series and SSC600, each product variant, version and configuration has its own firmware update package, whereas there is a common package for all 630 series product variants and versions. For REX640 each product connectivity level has its own FW update package.

Firmware update procedure

The main steps of how to perform the update are described in the picture below. More detailed instructions can be found in the firmware update guidelines.

Update tools:
Latest version of PCM600 or SUT Lite
Latest version of protection relay connectivity package

Protection relay

1. Prepare the computer to be used for updating
2. Plan and prepare the site works (including safety measures)
3. Read relay configuration
4. Write new firmware revision
5. Restore (write) relay configuration and verify the outcome