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RELEASE NOTE - DECEMBER 21, 2018

# Release of Relion<sup>®</sup> 670 series version 2.2

The evolution of Relion 670 series continues with this update. The designation of this update is revision 2.2.3.



# Introduction



We are pleased to announce an update of the Relion 670 series version 2.2, our flagship protection and control IEDs. With this update, we bring several new features and enhancements.

The update covers customized and pre-configured IEDs covering all application areas with the products REB/REC/RED/REG/REL/RER/RES and RET670. The Relion 670 series covers a complete set of applications from generator protection, transformer protection and control to busbar protection, line protection, phasor monitoring and bay control. With the introduction of version 2.2 of the 670 series, we further expand the application areas especially for digital substations, enhancing the system functionality and flexibility.

Key system features such as support for many Ethernet communication ports, HSR redundancy method and precision time synchronization following the IEC/IEEE 61850-9-3 profile are introduced in this release. Process bus sampled values via IEC/UCA 61850-9-2LE are now supported in all products of the Relion 670 series.

## New features and benefits



The following new features and their benefits are introduced in this update:

- Line distance protection for series compensated lines is now improved by an extremely fast transient direction detection based on the well proven RALDA principles. The high speed fault detection from both line ends together with scheme communication enable fast fault clearance.
- REL670 now includes increased number of functional instances whereby protection of two overhead lines (one as main and another as backup) can be achieved using a single IED.
- RET670 now includes a state-of-the art differential protection for phase-shifting transformers. In terms of solution, the complex phase-shifting transformer is seen as a single unit and only external CTs and VTs will be required. The differential protection is self-adaptive to the phase angle and voltage ratio thereby making it extremely simple to configure, set and deploy.
- The single phase and three phase circuit breaker failure protection are now updated with a flexibility of having several different initiation conditions.
- REC670 now includes 12 instances (from earlier 6 instances) of high-impedance differential protection functions. This increase will now allow coverage of applications with a higher number of zones using one single IED.
- All 670 series products now include current/voltage/general delta supervision functionality. These can be used for delta calculation including vector shift calculation using instantaneous/RMS magnitudes for usage in applications such as comparators or release conditions.

- All 670 series products now include current/voltage harmonic monitoring functionality. These functions are useful to monitor the harmonic distortion, up to 5<sup>th</sup> harmonic, total harmonic distortion and total demand distortion.
- All 670 series products now include a feature where the function keys on the LHMI can be configured for use either with or without authentication.

## PCM600 and IED connectivity package for 670 series products version 2.2

PCM600 version 2.8 together with 670 series connectivity package version 3.2.5 will be required.

The version 3.2.5 of the IED Connectivity package for Relion 670 series supports 670 series version 2.2 products as well as earlier versions of the 670 series.

For further details about the connectivity package and its installation, please refer to the release note 1MRG033152.

## Requirements when using Precision Time Protocol (PTP)

For important information when using Precision Time Protocol (PTP) in Substation Automation please refer to the guideline, 1MRG028134.

## Documentation and marketing material

The product guides, technical manuals, technical summary sheets and brochures are available via [abb.com/protection-control](http://abb.com/protection-control).

## Ordering and delivery

All new orders on the Relion 670 series version 2.2 products will be delivered with this update. For current delivery time, please get in touch with our sales contact at ABB Grid Automation Products.

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ABB AB  
Grid Automation Products  
SE-721 59 Västerås, Sweden  
Tel. +46 21 32 50 00  
Fax +46 21 14 69 18

[abb.com/protection-control](http://abb.com/protection-control)

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