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Business Unit ABB Oy, Distribution Solutions
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Firmware update release 3.0.10 for 615 series IEC product version 3.0 protection relays

Scope

Firmware update release 3.0.10 is for the following 615 series protection relays:

- REF615
- REM615
- RET615
- REU615
- RED615

To verify that the firmware update applies to the protection relay version, ensure that the second and last two characters of the order code on the label on top of the human-machine interface (HMI) match the corresponding characters of the order code in Fig. 1.

x BXXXXXXXXXXXXXXXXX D

Fig 1. Order code of the 615 series protection relays

To identify the current firmware revision of the 615 series protection relay, please refer to Fig. 2.

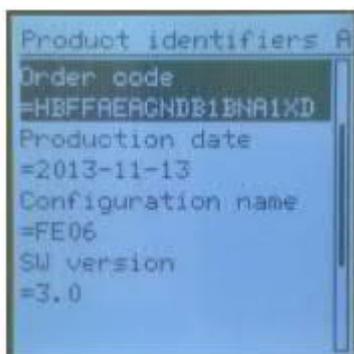


Fig. 2 Current firmware revision of the 615 series protection relay

Implemented usability improvement

The firmware update release includes usability and operational improvement. The following improvements has been implemented:¹

Firmware update release 3.0.10:

Cyber Security

- Cyber Security improvements to the "Ripple20" vulnerability in TCP/IP communication stack for normal product usage conditions. Following vulnerabilities (CVE, Common Vulnerabilities and Exposures) has been identified in the product and fixed by the update:
 - CVE-2020-11907
 - CVE-2020-11909
 - CVE-2020-11910
 - CVE-2020-11911
 - CVE-2020-11912

Note! Some of the security scanners might still report existence of Ripple20 vulnerability after the update. This is a false positive, since the scanners indicate the presence of the IP stack, without being able to check the vulnerability and its fixes.

Communication

- Improvement to relay communication stack software to handle if IEC 61850 Edition 2 fixed length GOOSE messages is wrongly configured to the relay.

¹ The relay firmware update may also include some minor usability improvements not listed in this note.

Control

- Improvement to the synchrocheck function for preventing unexpected short-period reset of SYNC_OK output. The reset could have been seen in very rare situations even when the synchronism conditions were fulfilled and voltages were aligned on both sides of the breaker.

Firmware update release 3.0.9:

HMI

- The starting time of the front port communication of the local HMI has been improved after relay start-up.

Protection

- The operation accuracy of the frequency protection functions FRPFRQx and LSHDPFRQx has been improved in frequency rate-of-change operation mode.
- Stability of the frequency protection functions FRPFRQx and LSHDPFRQx has been improved for voltage phasor shift situations

Communication

All protocols

- Unnecessary rebooting of the relay is prevented when a client (OPC server) has a wrong configuration and is connected to relay.
- Relay TPC communication stack behavior has been enhanced to avoid sending unnecessary arp-messages in case the number of connected communication clients to the relay exceeds the allowed five (5) communication clients.

Modbus

- The function of User Defined Register (UDR) is improved when mapped to certain input signals, e.g. DCSXW11 with the Modbus protocol.

Engineering

- Onetime password (OTP) functionality has been added. This improvement provides a secure mechanism to access the protection relay in case ADMINISTRATOR password is lost.

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Update procedure

Firmware updates represent an integral part of ABB's life cycle management of distribution protection and control relays. The updates ensure optimized usability throughout the relay's entire life cycle by offering the latest improvements. The ideal time for a firmware update would be at device commissioning, during periodical testing or a maintenance break.

All 615 series IEC version 3.0 (D) product deliveries manufactured later than September 19th, 2021 include the stated relay firmware update 3.0.10 or newer.

Please note that ABB will not be liable for any direct or indirect costs related to the firmware update procedure. The update procedure shall be performed at the sole responsibility of the possessor of the devices.