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Page                 1/4  
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## Firmware update release 5.1.3 for 615 series ANSI product version 5.0 FP1 protection relays

### Scope

Firmware update release 5.1.3 is for the following 615 ANSI series protection relays:

- REF615
- REM615
- RET615
- RED615
- REG615

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.

xAXXXXXXXXXXXXXXXXXX1G  
   ↑                          ↑↑↑

*Fig 1. Order code of the 615 ANSI series protection relays*

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



*Fig. 2 Product identifiers of the 615 series protection relay*

## Implemented usability improvements

The firmware update release includes usability and operational improvements. The following improvements have been implemented:<sup>1</sup>

### Firmware update release 5.1.3:

#### Supervision

- Improvements to Load profile record LDPRLRC function stability. Previously when using Load Profile Recorder it might have caused occasionally some self-supervision IRF indications (e.g. IRF2 & IRF82 seen).
- Improvement to self-supervision watchdog function, by enhanced task scheduling.

#### Protection

- REF615 & RED615: High-impedance fault detection HIZ (PHIZ) function enhancement. Preventing possible misoperation when operation mode settings are changed.

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

## Firmware update release 5.1.2:

### Cyber Security

- Cyber Security improvements to the "Ripple20" vulnerability in TCP/IP communication stack for normal product usage conditions. The following vulnerabilities have 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.*

### Supervision

- Improving Time counter rollover in relay's communication module that may have caused internal relay fault with error code *IRF116 COM card error* and relay to self-reboot after time interval(s) which is divisible by ~50 days from previous restart.

### Communication

- Improvement on GOOSE receiving. In a system where one relay is receiving GOOSE communication from multiple senders, it is possible that a communication break in one sender might impact handling of received values from other senders.
- Improving IEEE 1588 (PTPv2) Time synchronization when using non-zero (ID>0) PTP Domain ID. Enhancement at transparent clock peer-to-peer measurement and improving Path delay compensation. (Compensating delay for long communication cables).



Date	01.02.2024
Page	4/4
Subject	Firmware update release

## **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.

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.

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