

489 Generator Protection System

Revision 4.02 Release Notes

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Overview

Summary

GE Multilin releases version 4.02 of 489 firmware that introduces enhancements to the 489 Generator Protection System. Highlights of this release include:

Protection

- Enhancements to Stator Differential Protection
- Enhancements to Under-frequency /Over-frequency protection elements
- Enhancements to Switch Inputs trip time delay

This document contains the release notes for the 4.02 release of the 489 Generator Protection Relay.

- Affected product: 489 Generator Protection System
- Date of release: April 4, 2008
- Firmware revision: 4.02

The version 4.02 release is compatible with the Enervista 489 Setup software versions 4.01 and higher and is backwards compatible for previous versions of 489 hardware that support 4.00 firmware.

Release details

In the following change descriptions, a revision category letter is placed to the left of the description. Refer to the Appendix at the end of this document for additional details.

489 Generator Protection System

E

Stator Differential Protection

Additional enhancements have been implemented to the Stator Differential Protection element in the 489 Generator Protection System in version 4.02. With release of FW v4.02, enhancements to 489 Stator Differential Protection are made for applications where two 489's are protecting a dual-breaker generator configuration. The 489 differential element has an internal delay on the differential operation sufficient to ride through the switching of the setting group while still allowing the relay to trip without this delay for significant faults. Refer to the 489 instruction manual for details.

E

Under-Frequency/Over-frequency trip time delay

With release of FW v4.02, the trip delay time for Under-frequency and Over-frequency protection elements have been increased to 5000.0 sec. Previous to this release the trip delay time was limited to 2100.0 sec. The 489 Instruction manual has been updated to reflect this change in the specifications.

F

Switch Input Trip time delay

With release of FW v4.02, the trip operation for Switch Inputs using trip time delay setting more than 2147.0 sec is improved. Previous to this release the trip times for Switch Inputs were incorrect for trip delay setting more than 2147.0 sec. The trip operation for Switch input is now corrected and is within specification for trip delay setting greater than 2147.0 sec.

Appendix

Change categories

This document uses the following categories to classify the changes.

Table 1: Revision categories

Code	Category	Comments
N	New feature	A separate feature added to the relay. Changes to existing features even if they significantly expand the functionality are not in this category
G	Change	A neutral change that does not bring any new value and is not correcting any known problem
E	Enhancement	Modification of an existing feature bringing extra value to the application
D	Changed, incomplete or false faceplate indications	Changes to, or problems with text messages, LEDs and user pushbuttons
R	Changed, incomplete or false relay records	Changes to, or problems with relay records (oscillography, demand, fault reports, etc.)
C	Protocols and communications	Changes to, or problems with protocols or communication features
M	Metering	Metering out of specification or other metering problems
P	Protection out of specification	Protection operates correctly but does not meet published specifications (example: delayed trip)
U	Unavailability of protection	Protection not available in a self-demonstrating way so that corrective actions could be taken immediately
H	Hidden failure to trip	Protection may not operate when it should
F	False trip	Protection may operate when it should not
B	Unexpected restart	Relay restarts unexpectedly

The revision category letter is placed to the left of the change description.

GE Multilin technical support

GE Multilin contact information and call center for product support is shown below:

GE Multilin
215 Anderson Avenue
Markham, Ontario
Canada L6E 1B3

Telephone: 905-294-6222 or 1-800-547-8629 (North America), +34 94 485 88 00 (Europe)

Fax: 905-201-2098 (North America), +34 94 485 88 45 (Europe)

E-mail: multilin.tech@ge.com

Home Page: <http://www.GEmultilin.com>