

SR750/760 Feeder Management Relay

Firmware Version 7.31

Release Notes

GE Publication Number: GER-4364

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Overview

Summary

GE Multilin issues the SR750/760 Feeder Management Relay Firmware 7.31 release. Highlights of this release include:

- Improved Bus Tie Logic in Auto Transfer Scheme Applications
- Release Date: February 23, 2010

Release details

In the following enhancement descriptions, a revision category letter is placed to the left of the description. Refer to the Appendix at the end of this document for a description of the categories displayed.

Firmware Version 7.31

U Improved Bus Tie Logic in Auto Transfer Scheme Applications

The Auto Transfer Scheme logic has been improved in firmware version 7.31 when using the SR750/SR760 Feeder Management Relays as the Bus Tie Relay.

When using the 750/760 as the Bus Tie relay with firmware version 7.30 a potential alarm could occur if the following conditions are met during the energization of the system.

When Incomer Two (2), feeding the line side (synchro voltage) of the 750/760 Bus Tie relay is closed prior to Incomer One (1) closing and the 750/760 Bus-Tie relays reads a small voltage (1~10V) at the Bus-1 voltage inputs due to noise or transients, this will cause the 750/760 synchro-check function to issue a false 'out of synch' alarm when Incomer One (1) is closed. The 750/760 Bus Tie relay will display the synchro-check angle remaining latched at 30 degrees and the Bus Tie relay will remain open and cannot be closed manually during this alarm.

The synchro-check alarm will clear when control power is cycled to the 750/760 Bus Tie relay. Once control power is cycled the Bus Tie relay is now ready for transfer.

In firmware version 7.31 this issue has been corrected and the Auto Transfer Scheme logic has been improved to operate in the above conditions.

Release details from SR750/760 Firmware Upgrade 7.30

In the following enhancement descriptions, a revision category letter is placed to the left of the description. Refer to the Appendix at the end of this document for a description of the categories displayed.

GE Multilin issues the SR 750 Feeder Management Relay Firmware 7.30 release. Highlights of this release include:

- Enhanced Auto Transfer Scheme
- Default User Map for Modbus Addresses
- Enhanced Internal Hardware Monitoring
- Enhanced Diagnostic for Event Storage
- Improved IRIG-B Time Synchronization
- Data Logger and Waveform Capture Improvement
- Release Date: Jan 20, 2010.

GE Multilin issues the EnerVista SR 750 Feeder Management Relay Setup software 7.30 release. Highlights of this release include:

- Support for Firmware version 7.30
- Enhanced Modbus User Map Setting Selection
- Enhanced Trace Memory Trigger Settings
- Improved Phasor value display
- Improved logic when saving analog output range
- Implementation of Quick Action Bar
- Release Date: Jan 20, 2010

Upgrading from a previous version of the 750 Setup software to the new 7.30 can be done via EnerVista Launchpad or downloaded directly at:

<http://gemultilin.com/software/750.htm>

Please contact your local GE Multilin sales representative or GE Multilin Customer Service Department (CST) for any questions regarding this upgrade.

Release details

In the following enhancement descriptions, a revision category letter is placed to the left of the description. Refer to the Appendix at the end of this document for a description of the categories displayed.

Firmware Version 7.30

E Enhanced Auto Transfer Scheme

The Auto Transfer Scheme has been enhanced in the SR760/SR750 Feeder Management Relay.

Enhancements have been made to the auto transfer scheme when manual initiation of the bus transfer has occurred. A programmable set point, TRANSFER DELAY SELECT TO TRIP has been incorporated to allow enhanced coordination timing between the main incoming breaker opening and the tie breaker closing.

A set point for TRANSFER READY AUXILARY RELAY (3) has been added for external indication for transfer ready. This AUXILARY RELAY can be wired to an external indicating light to provide clear indication to the operators that the system is ready to transfer. When enabled, the Auxiliary output relay 3 will energize when bus transfer conditions are met.

An additional set point, 'BUS TRANSFER LOGIC' has been added to provide the selectivity of the new transfer scheme (Scheme 2), which has been added in this release. By default, Scheme 1 will be Auto Transfer Scheme selected.

Refer section 5.8.7 in SR750/760 instruction manual for details on Scheme 2.

Dead source detection has been improved in firmware version 7.30 by measuring the source voltage at its own frequency. Previous to this release the measurement of line voltage would register an error and could see a dead source condition if the source is healthy under following conditions:

- One of the incomers is open.
- Line voltage is at a different frequency from bus voltage.

This rare condition could occur if the bus is feeding large inertia motors or capacitor banks.

Firmware version 7.30 corrects this issue.

E Introduced A Default User Map for Modbus Addresses

The 750 Modbus memory map has been enhanced to include a default user memory map. This default user memory map includes the most commonly used Modbus addresses in one table. By including the default memory map in one easy to poll user map the user is able to poll the most commonly used data in one pole scan thereby increasing system efficiency.

Please refer SR750/760 instruction manual GEK-106471 for the list of default Modbus addresses used in User Map.

E Enhanced Internal Hardware Monitoring

The SR750/SR760 internal hardware monitoring system has been improved in firmware release 7.30.

In firmware version 7.30, the A/D Virtual Ground error detection has been enhanced to detect faults in the power supply circuitry and to prevent inaccurate trips due to incorrect A/D samples caused by a voltage rail fault. In the detection of a fault in the power supply circuitry the relay will display a "Self Test Error" and inhibit operation of the output relays to prevent a false trip.

E Enhanced Diagnostic for Event Storage

In firmware version 7.30 the Enhanced Diagnostics for Event Storage has been implemented in order to provide users with the necessary information to identify system configuration issues that may arise from clock

synchronization messages being continuously communicated from the DCS or SCADA system to the SR750 relay.

In firmware version 7.30, the Enhanced Diagnostics allows users to quickly identify, correct and eliminate non-critical system communication messages that are being continuously recorded in the event storage.

M,F Improved IRIG-B Time Synchronization

The IRIG-B Time Synchronization has been improved in firmware release 7.30.

In firmware versions 7.00 to 7.21, the possibility of inaccurate undervoltage trips may occur when all of the following conditions are present at the same time:

- The Undervoltage protection is enabled
- The Undervoltage set point is programmed greater than 90% of nominal operating voltage
- The Undervoltage delay set point is set to zero.
- IRIG-B time synchronization is enabled

Firmware version 7.30 corrects this issue.

R Data Logger and Waveform Capture Improvement

In firmware version 7.30 the data logger and waveform capture has been improved to disable the data logger and waveform capture when trigger on alarm, control and drop-out are set inactive.

In previous firmware versions, unexpected records can occur if the Trigger on Alarm, control and drop-out are inactive but trigger on pickup and trip are active.

Firmware version 7.30 corrects this issue.

Enervista Set up Software Version 7.30

E Enhanced User Modbus Map Setting Selection

The User Modbus Map has been enhanced to allow users to select the setting rather than entering the Modbus address.

R Enhanced Trace Memory Trigger Settings

The trace memory trigger settings have been enhanced in release 7.30 of the SR750/SR760 Setup Software. The trace memory trigger settings for trip and pickup have been defaulted to 'enabled' when creating a new setting file.

Prior to release 7.30, the trace memory trigger settings for trip and pickup were set to disabled when creating a new file.

R Improved Phasor value display

Setup software version 7.30 has been enhanced to properly display phasor values.

Prior to software release 7.30 the phasor values displayed represented the peak values. Software version 7.30 has been improved to display the RMS values when viewing the phasor diagram in the software.

R Improved logic when saving analog output range

Setup software version 7.30 has been enhanced to properly save analog output range settings.

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Prior to software release 7.30 the analog output range settings would not be saved correctly if the analog outputs were enabled and the default ranges were not changed.

E Implementation of Quick Action Bar

The SR750 set-up software version 7.30 has been enhanced to include the Quick Action Bar. The Quick Action Bar provides users with ease-of-use functionality when accessing diagnostic data from the SR750/SR750 Feeder Management Relays.

The Quick Action Bar provides users the ability to quickly access diagnostic data such as: the Event Recorder, Waveforms, Metering data, View Input/Output Screen and the Service Report with the click of a button.



Upgrade paths

This upgrade can be done either via EnerVista Launchpad or by direct download from the following site:

<http://gemultilin.com/software/750.htm>

If using EnerVista Launchpad, follow these steps:

1. Open EnerVista Launchpad
2. Click "IED Setup"
3. Click "Check Updates". Note: this will check for updates to all of the IED setup software shown.
4. Select the 750 version 7.30 upgrade for download.

Please contact your local GE Multilin sales representative or GE Multilin Customer Service Department (CST) for any questions regarding this upgrade.

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:

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