

8 Series Firmware Version 4.13

Release Notes

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Overview

This document contains the release notes for firmware versions 4.13 of the Multilin 8 Series Protection Relays.

This release note is applicable to the products: 845, 850, 869, 889.

Date of release: June 14, 2024

Notes:

Major firmware releases can introduce new protection and control elements that can affect the device's Modbus memory map. Check the summary of released features to find out if it applies to a particular release

Multilin 8 Series firmware versions 1.2x - 3.x cannot be upgraded to firmware version 4.x. Please contact us to upgrade the product.

Upgrade the firmware to version 4.13 by downloading the file directly from the GE website:

The latest EnerVista 8 Series Setup software is available at the same location. The software supports Windows 7, 8.1, 10 and 11.

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

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Summary

Protection changes

- 'Critical Path Error On' in the targets

Platform changes

- Oscillography/Transient records
- Force LEDs from Front Panel
- IEC61850 Timestamp
- RS485 Communications
- Remote output operands
- Slot I/O Error self-test diagnostic message logic
- Compatibility Mode Enhanced.

Release details

In the following descriptions, a category letter is placed to the left of the title. See the table at the end of this document for descriptions of the categories.

850 - 'Critical Path Error On' event in Bus Transfer applications

U 'Critical Path Error On' event in Bus Transfer application

Products: 850

In a Bus Transfer application, the Bus Tie Breaker relay may lose bus voltage input reference, for example due to fuse failure, and switch to single phase input as reference. In firmware 4.10 such switching may impact tracking frequency which may lead to event "Critical Path Error On" which is a major self-test diagnostic error that will force the 850 out of service. With Bus Tie relay out of service it will de-activate auxiliary contact output 16 (Auto TRF Ready), indicating to the other 850 relays in the Transfer Scheme that Bus Tie Breaker is not available and declare Transfer Not Ready. Rebooting the relay will re-establish the Transfer Scheme availability.

In firmware 4.13, the voltage reference switch will not impact the tracking frequency due to limits being put on valid input range.

Common Platform Functions

R Oscillography/Transient records

Corrected protection pass index on oscillography records for the contact inputs/outputs to align with analog signals for more accurate event analysis.

D Force LEDs from Front Panel

Corrected the format codes to drive the LED activation when Force LED Command is executed from front panel.

C IEC61850 Timestamp

Corrected time stamp issue in buffered and unbuffered reports.

C RS485 Communications

Corrected performance of RS485 port by adding filtering of communication traffic and faster response to data polls. This improvement avoids delays in response caused by internal timeout.

C Remote output operands

Updated Flexlogic parser to allow remote output operands to parse.

C Slot I/O Error self-test diagnostic message logic

Slot I/O error mechanism was changed to allow for self-recovery from transient events that disrupt communications between RTD and CPU modules. This enhancement works in conjunction with latest firmware revision v1.09 of the RTD module.

C Compatibility Mode Enhancements

Compatibility mode now supports the following Commands:

- 869 – Reset, Motor Start, Motor Stop and waveform trigger commands
- 850 – Clear Energy, Max Demand, and Event recorder commands
- 850 – Reset Trace memory and Data logger commands
- 850 – Reset. Open, Close Commands
- 850 – Virtual Inputs control
- 850 – Trigger Trace Memory

Corrected Frequency and Power Quality scaling to show correct measurements.

The following Modbus data points are now supported through compatibility mode:

- 845 – Max Current Demand
- 850 – Breaker status
- 850 – Contact Output relays 5, 6 and 7
- 850 – Bus Undervoltage and Line Undervoltage
- 869 - Starter Failure Alarm
- 869 - Max Start Rate Lockout time
- 869 - Time between starts lockout time
- 869 - Motor running hours
- 869 - Motor FLA
- 869 - Learned Acceleration and Learned Starting current
- 869 - Start Inhibit block lockout time
- 869 - Critical Fail/Self-Test relay status
- User map addresses 30773 and 30774
- 869 - Time to Start
- 869 - Trip status
- 889 - Pre-Trip A-B Voltage
- 889 - Pre-Trip B-C Voltage
- 889 - Pre-Trip C-A Voltage
- 889 - Frequency Pretrip
- 889 - Real Power (MW) Pretrip
- 889 - Reactive Power Mvar Pretrip
- 889 - Apparent Power MVA Pretrip
- 889 - Last Trip Data Stator RTD
- 889 - Hottest Stator RTD Temperature
- 889 - Last Trip Data Bearing RTD
- 889 - Hottest Bearing RTD Temperature
- 889 - Last Trip Data Other RTD
- 889 - Hottest Other RTD Temperature
- 889 - Last Trip Data Ambient RTD
- 889 - Hottest Ambient RTD Temperature
- 889 - Analog Input 1 - 4 Pretrip
- 889 - Hottest Stator RTD Temperature

- 889 - Hottest Bearing RTD Temperature
- 889 - Hottest Other RTD Temperature
- 889 - Hottest Ambient RTD Temperature
- 889 - Neutral Voltage Fundamental Pretrip
- 889 - Neutral Voltage 3rd Harmonic Pretrip
- 889 - Pre-Trip Vab/lab
- 889 - Pre-Trip Vab/lab Angle
- 889 - Access Switch State
- 889 - Breaker Status Switch State
- 889 - Assignable Digital Input 1 through 7 State
- 889 - Trip Coil Supervision
- 889 - Negative Varhours
- 889 - Generator Hours Online
- 889 - Overcurrent Pickup (Alarm)
- 889 - Phase Overcurrent Pickup (Trip)
- 889 – Frequency

Categories

This document uses the following categories to classify changes.

Code	Category	Description
A	Hardware change	This change may require hardware to be updated and/or replaced
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 add 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, and so on)
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 can be taken immediately
H	Hidden failure to trip	Protection does not operate when appropriate
F	False trip	Protection operates when it is not appropriate
B	Unexpected restart	Relay restarts unexpectedly

For further assistance

For product support, contact the information and call center as follows:

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