GE VERNOVA

Multilin 8 Series Protection and Control Relay Platform

8 Series Firmware Version 4.32

Release Notes

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Summary

GE Vernova releases the 8 Series Firmware Version 4.32 for the Multilin 8 Series Protection Relays.

Multilin 8 Series Firmware Version 4.32

Release Date: Aug 25, 2025

- Multilin 8 Series firmware versions 1.2x and below cannot be upgraded to firmware version 1.3x and above. Please contact us to upgrade the product.
- Multilin 8 Series firmware versions 3.x and below cannot be upgraded to firmware version 4.x. Please contact us to upgrade the product.
- Upgrade the firmware to version 4.32 by downloading the file directly from GE Vernova website: 850 Feeder Protection System
- The latest D&I EnerVista Setup software v11 is available at the same location. The software supports Windows 7, 8.1, 10 and 11.

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

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1 Firmware v4.32

1.1 FlexLogic Operands

Section:	Protection / Communication Protocol
Impact to customer:	Using the Remote Input DPS FlexLogic operands in the Logic Designer prevented the FlexLogic engine from being evaluated
Products Affected:	8 Series
Versions Affected:	4.10, 4.20, 4.30
What changed?	Added support for Remote Input DPS operands to be used as part of FlexLogic equations.

1.2 Analog Input

Section:	Analog Input
Impact to customer:	In the 4.30 release Analog Inputs required either the Trip Function or Alarm Function to be 'Enabled' for the Analog Input values to be processed.
Products Affected:	8 Series
Versions Affected:	4.30
What changed?	Analog Inputs are now calculated when both Trip Function and Alarm Function are disabled, as in 4.20 and earlier.

1.3 Display text

Section:	HMI
Impact to customer:	Navigating to either setting 'Sensitive Gound TOC > Direction' or 'Sensitive Ground IOC > Direction' displayed '0 ? fmt' instead of the correct enumeration / format code
Products Affected:	8 Series
Versions Affected:	4.10, 4.20, 4.30
What changed?	The support for the enumeration / format code (FC164G) used by the Direction setting was added into the HMI logic

2 Firmware v4.31

2.1 Addition of Ethernet/IP EDS (Electronic Data Sheet) Files

Section:	Communication Protocols
Impact to customer:	Added EDS files that are product specific to identify supported parameters for Ethernet/IP.
Products Affected:	8 Series
Versions Affected:	4.30
What changed?	In version 4.31 product specific EDS files are available instead of a generic file for the entire product line.

2.2 Fahrenheit actual values scaling

Section:	Communication Protocol
Impact to customer:	Corrected Fahrenheit actual values on Modbus that were not following the scaling described in the format code F20E.
Products Affected:	859, 869
Versions Affected:	4.30
What changed?	The scaling of the Fahrenheit actual values now adheres to Modbus format code F20E with one decimal.

2.3 IEC61850 – 850-D LN RptRFLO Post Fault Voltages and Fault Distance values

Section:	Communication Protocol
Impact to customer:	For the 850-D the LN RptRFLO was not correctly showing the post fault voltages and fault distance.
Products Affected:	850
Versions Affected:	4.10, 4.20, 4.30
What changed?	The post fault voltages and fault distance have been corrected.

2.4 859 – ESA logs

Section:	Protection
Impact to customer:	Customers observed that the ESA Logs were not being created on the 859 with 4.04 firmware version.
Products Affected:	859
Versions Affected:	4.04, 4.20, 4.30.
What changed?	Incorrect logic prevented the 859 from creating the ESA log files.

2.5 869/859 – RTD Voting logic

Section: Protection

Impact to customer: Customers observed that when configuring multiple RTDs to Vote, the voting was using the threshold level configured in the 1st RTD only and not using the threshold level of each voting RTD.

Products Affected: 859, 869

Versions Affected: 4.20, 4.30

What changed? Voting logic updated to use the level configured in each of the individual RTDs.

2.6 869/859 – RTD configuration logic corrected

Section: Protection

Impact to customer: Corrected configuration logic which required a reboot to change the RTD Trip Output Relay setting to take effect.

Products Affected: 8 Series

Versions Affected: 4.20, 4.30

What changed? RTD configuration logic corrected to initialize the Trip Output setting after configuring it to operate.

2.7 850 – RMIO RTDs Targets/Events

Section: Protection

Impact to customer: Corrected text of Target messages and Events when Remote RTD (RMIO) activated an Alarm pickup.

Products Affected: 8 Series

Versions Affected: 4.20, 4.30

What changed? Incorrect message '? <0xA46E-1>' was changed to display a valid Alarm target and event when connected to Remote Resource.

2.8 Ground Fault settings on HMI

Section: HMI

Impact to customer: Customers observed that Ground Fault Trip Pickup and Ground Fault Alarm Pickup settings were not visible on the HMI. Ground Fault settings were only configurable from the Setup software.

Products Affected: 859, 869

Versions Affected: 4.10 (869), 4.20, 4.30

What changed? The HMI logic was updated to utilize the correct database attributes.

2.9 869 – VFD input default for protection elements

Section:	Protection
Impact to customer:	When VFD is enabled it is expected that certain protection elements would dynamically change the input from using Phasor (DFT) to using the RMS quantities. This modification applies to: Phase TOC, Phase IOC, Sensitive Ground TOC, Ground TOC, Neutral TOC, 2 Speed Motor Protection.
Products Affected:	859, 869
Versions Affected:	4.10, 4.20, 4.30
What changed?	The input signal was changed to RMS for specific protection elements based on VFD being enabled.

3 Firmware v4.30

3.1 Update graphics to show GE VERNOVA

Section: HMI

Impact to customer: Initial boot screen and first splash screen updated to show ‘GE Vernova’.

Products Affected: 8 Series

What changed? Graphics logo during boot sequence

3.2 Changes to Inactivity Intensity

Section: HMI

Impact to customer: The range of the Inactivity Intensity changed from 10 to 100% to 0-30%. The default Inactivity Intensity setting changed from 50% to 30%.

Products Affected: 8 Series

What changed? Setting range and default of Inactivity Intensity

3.3 Improve dependency design

Section: HMI

Impact to customer: 8 Series customers could experience problems when editing Grouped settings on the HMI that are not the currently active group.

Products Affected: 8 Series

What changed? Logic for editing non-Group settings on HMI corrected.

3.4 Update Volts Per Hertz Logic for Setting Dependencies

Section: Protection / HMI

Impact to customer: Volts/Hertz ‘TD Multiplier’ and ‘Pickup Delay’ settings visibility based on curve selected.

Products Affected: 8 Series

What changed? 'TD Multiplier' should be visible for all Curve types except 'Definite Time' and the ‘Pickup Delay' setting should be visible for Curve type 'Definite Time'.

3.5 Support for 869 with Synchronous Motor option

Section: Protection

Impact to customer: Customers can now order 869’s with Synchronous Motor (SM/SPM) order code options.

Products Affected: 869

What changed?	869 now supports C5 or D5 in Slot K to enable the Synchronous Motor support.

3.6 Improvement to the 869 Synchronous Motor Protection

Section:	Protection
Impact to customer:	Enhanced SM Start Sequence Control logic.
Products Affected:	869
What changed?	The Sync Motor start sequence detection logic has been modified to enable the PF and Field Under Current protection if DC field is lost.

3.7 Added Support for Transformer Inter-turn Fault Detection

Section:	Protection
Impact to customer:	New protection element 'Transformer Inter-turn Fault Detection' now available.
Products Affected:	845
What changed?	New protection element available with the 'Advanced' Current Protection Option.

3.8 Add Dynamic Smart Default for TOC and IOC when VFD Enabled

Section:	Protection
Impact to customer:	869/859 customers that Enable VFD will see the Input setting change from Phasor to RMS for Input Setting on the following protection elements: Phase TOC, Phase IOC, Ground TOC, Sensitive Ground TOC, Neutral TOC.
Products Affected:	869, 859
What changed?	TOC/IOC Default input setting changes from Phasor to RMS when VFD is enabled.

3.9 Reactive Power Trip/Alarm element addition of 'OFF' setpoint

Section:	Protection
Impact to customer:	Customers were not able to disable either the Positive VAR or Negative VAR pickup. Customers had both available when they enabled either the Trip or Alarm.
Products Affected:	869, 889
What changed?	The Positive VAR and Negative VAR settings for both the Trip and Alarm configuration now have an 'OFF' choice so that only one (Positive or Negative) can be configured.

3.10 Enhancements to FlexLogic – Number of Timers Increased to 64

Section: Protection

Impact to customer: Customers can now use 64 FlexLogic Timers.

Products Affected: 8 Series

What changed? Number of FlexLogic Timers increased from 32 to 64.

3.11 Enhancements to FlexLogic – Number of Virtual Inputs Increased to 256

Section: Protection

Impact to customer: Customers can now use 256 Virtual Inputs.

Products Affected: 8 Series

What changed? Number of Virtual Inputs increased from 128 to 256.

3.12 Enhancements to FlexLogic – Number of Virtual Outputs Increased to 256

Section: Protection

Impact to customer: Customers can now use 256 Virtual Outputs.

Products Affected: 8 Series

What changed? Number of Virtual Outputs increased from 128 to 256.

3.13 Enhancements to FlexLogic – Number of FlexElements increased to 16

Section: Protection

Impact to customer: Customers can now use 16 FlexElements.

Products Affected: 8 Series

What changed? Number of FlexElements increased from 8 to 16.

3.14 859 - Add Support for PTP

Section: Timing Protocols

Impact to customer: 859 customers can now use Precision Clock Synchronization Protocol

Products Affected: 859

What changed? Platform support for Precision Time Protocol (PTP) added to 859

3.15 869, 859 - Removed unused parameters from Learned Data

Section:	Records
Impact to customer:	Unused data removed from records
Products Affected:	869, 859
What changed?	Unused data removed from Learned Data
Further Details:	Removed the following parameters from the Learned Data Records: Learned Running Cool Time Const. Learned Stopped Cool Time Const, Learned Unbal Bias K Factor. These parameters may be added back in during 4.40 when the values are used in the Thermal Model.

3.16 Stop applying 'Dynamic Smart Defaults' when processing a CID file

Section:	File Handling
Impact to customer:	On 869 and 859, when the Switching Device changes from Breaker to Contactor, Trip Output Relay settings are being reconfigured.
Products Affected:	8 Series
What changed?	The 'Smart Defaults' that firmware applies are now not getting applied when a settings file is transferred to the relay.
Further Details:	Not performing the 'Smart Defaults' on the firmware side is not necessary because the Setup tool performs a similar setting change to the Trip Output Relay when the customer changes the Device Type from Breaker to Contactor.

3.17 Clear Power Quality (PQ) Records after a FW Upgrade

Section:	File Handling
Impact to customer:	After a firmware upgrade the PQ Records remained on the system and the customer had to clear these PQ Records manually.
Products Affected:	850, 869
What changed? upgrade.	PQ Records are now getting cleared after performing a successful firmware
Further Details:	PQ Records are now cleared after a firmware upgrade.

3.18 Add Support for Ethernet/IP

Section:	Communication Protocols
Impact to customer:	Customers can now use the Communication Protocol Ethernet/IP.
Products Affected:	8 Series
What changed?	Ethernet/IP is now available on the 8 Series single rear Ethernet Port.

3.19 Add Support for Remote Modbus Device (RMD/GMD)

Section:	Communication Protocols
Impact to customer:	Customers can now use the Remote Modbus Device feature that was previously available in 8 Series 3.0x.
Products Affected:	8 Series
What changed?	Support for RMD/GMD added to 4.30 with Advanced Monitoring order code option.

3.20 Add Support for ORCAT

Section:	Communication Protocols
Impact to customer:	8 Series customers can now deploy logic using ORCAT control over IEC61850
Products Affected:	850, 845, 889
What changed?	Add Support for ORCAT using IEC61850 attributes

3.21 Added Support for IEC61850 Control Interlocks (LN CILO)

Section:	Communication Protocols
Impact to customer:	859 customers can now deploy logic using Control Interlocks over IEC61850
Products Affected:	850, 845, 889
What changed?	Added Support for Control Interlocks using IEC61850 LN CILO

3.22 Update IEC61850 to support Motor Contactor

Section:	Communication Protocols
Impact to customer:	Customers can now monitor and control the Contactor on IEC61850
Products Affected:	869, 859
What changed?	IEC61850 Added LNs CnctCSWI and CnctXSWI

3.23 Separate Modbus Registers for RTD Temperatures in Fahrenheit

Section:	Communication Protocols
Impact to customer:	Customers can now monitor RTD Temperatures in Fahrenheit regardless of the Temperature configuration setting.
Products Affected:	8 Series
What changed?	Modbus registers added for RTD temperatures that always show Fahrenheit
Further Details:	Existing RTD Temperatures will still follow the Temperature configuration setting. There is now a separate RTD Temperature section in the Modbus map that will always show Fahrenheit temperatures.

3.24 Remove support for v2c from SNMP Protocol

Section:	Communication Protocols
Impact to customer:	SNMP v2c will no longer be supported.
Products Affected:	8 Series
What changed?	SNMP will support v3c only.

3.25 Hide OPC-UA Actual Values on HMI

Section:	Communication Protocols
Impact to customer:	Unused data removed from Actuals
Products Affected:	8 Series
What changed?	Unused data removed from Actuals HMI

3.26 859: Add 'Connection Type' setting on Ethernet Port 2

Section:	Communication Protocols
Impact to customer:	New setting introduced to allow two different Ethernet connections (Copper and Fiber).
Products Affected:	859
What changed?	New variant released which offers Fiber option as 2nd Ethernet port.

3.27 New FlexLogic operands 'WiFi Connected' and 'WiFi Disconnected'

Section:	Communication Protocols
Impact to customer:	New operands introduced indicating status of the WiFi.
Products Affected:	850, 869, 889, 845
What changed?	New FlexLogic operands added to Format Code 142 FC142 to indicate WiFi Connectivity.

3.28 Support for RSTP

Section:	Communication Protocols
Impact to customer:	Customers can now use Rapid Spanning Tree Protocol (RSTP) on the 8 Series.
Products Affected:	8 Series
What changed?	RSTP is now available on the 8 Series.

3.29 HSR is now supported on 859

Section: Communication Protocols

Impact to customer: Customers can now use HSR on the 859.

Products Affected: 859

What changed? Previously available on 8 Series 4.20, HSR is now available on the 859.

3.30 IEC60870-5-104 is now supported on 859

Section: Communication Protocols

Impact to customer: Communication Protocol IEC104 is now supported on the 859.

Products Affected: 859

What changed? Previously available on 8 Series 4.20, IEC104 is now available on the 859.

3.31 Setting added to specify Modbus function code 3 or 4 support on All Rear Ports

Section: Communication Protocols

Impact to customer: Customers can now configure which rear port (Ethernet and/or RS485) to support reading Actuals using either Function Code 3 or Function Code 4.

Products Affected: 8 Series

What changed? In version 4.20, selection of Function Code 3/Function Code 4 applied only to the RS485 ports. Now a setting has been added to select which rear ports (Ethernet and/or RS485) support the Function Code selected for Modbus.

3.32 Add Additional Items for 469 Compatibility Mode

Section: Communication Protocols

Impact to customer: Additional 469 registers added to Compatibility Mode.

Products Affected: 869

What changed? Additional 469 registers added to Compatibility Mode.

Further Details: Check Communications Guide for additional 469 registers supported.

3.33 Changing Power Supply type not reflected in order code

Section: System

Impact to customer: Customers observed that the power supply cannot be changed from High to Low.

Products Affected: 8 Series

What changed? The startup logic was improved to update the order code based on the installed power supply.

3.34 859/869 Short Circuit element pickup level change

Section:	Protection
Impact to customer:	Customers reported the Short Circuit element was not operating as expected based on the configured pickup level.
Products Affected:	869, 859
What changed?	The Short Circuit element was modified in version 4.20, in version 4.30, the Short Circuit element logic was reverted to the previous behavior.

3.35 Ground Fault logic change during Stop Condition

Section:	Protection
Impact to customer:	In version 4.20 the Ground Fault element was not functional when the Motor was Stopped; whereas in previous firmware versions (4.1x and 3.0x) the Ground Fault element was functional when the Motor was Stopped.
Products Affected:	869, 859
What changed?	The Ground Fault element's logic was reverted to previous implementation.

3.36 889 Loss of Excitation nuisance trip after power cycle

Section:	Protection
Impact to customer:	Users observed the Loss of Excitation element creating a nuisance trip after a power cycle.
Products Affected:	889
What changed?	The initialization of parameters was not accounting for the correct phase rotation. The element logic was modified to use the correct parameters.

3.37 Thermal Inhibit logical change

Section:	Protection
Impact to customer:	Users observed the Thermal Inhibit was not working as expected.
Products Affected:	869, 859
What changed?	In Thermal Inhibit function, the comparator was changed from ">" to ">=".

3.38 Broken Rotor Bar Element Targets

Section:	Protection
Impact to customer:	Users observed that the Broken Rotor Bar target messages were not appearing.
Products Affected:	869, 859
What changed?	Targets were removed in version 2.40. Users can now choose with the Targets setting to either enable or disable the Target Messages for BRB.

3.39 Reduced Voltage Starting Correction

Section:	Protection
Impact to customer:	Reduced Voltage Starting element was not operating at the expected level.
Products Affected:	869, 859
What changed?	The logic was modified by adjusting the dropout level.

3.40 859 COMTRADE file format adjusted

Section:	Records
Impact to customer:	User observed in the COMTRADE record that the scale factor was 0:0 when the Ground input is not configured. This parameter was causing issues for 3rd party COMTRADE Viewers.
Products Affected:	859
What changed?	The COMTRADE record channel that describes Ground signal was modified to be a non-zero value.

3.41 XCBR/CSWI status does not update when configured as Contactor

Section:	Communication Protocols
Impact to customer:	Customer observed that when the Device Type is configured as Contactor, the IEC61850 MMS LN XCBR and LN CSWI were not being updated.
Products Affected:	869, 859
What changed?	The IEC61850 LNs updated to show the status and control of the Contactor on LNs CnctXSWI and CnctCSWI.

3.42 850 Metering quality over IEC61850

Section:	Communication Protocols
Impact to customer:	Customer reported issue on 850D 2.9x and corrected on 4.30.
Products Affected:	8 Series
What changed?	The range of the IEC61850 MMXU was increased to allow the metered value to remain in change and allow the attribute to be updated.

3.43 850D V4.1X issues reporting slot K measurements

Section:	Communication Protocols
Impact to customer:	Customer reported issue on 850-D 4.1x and corrected on 4.30.
Products Affected:	8 Series
What changed?	The range of the IEC61850 MMXU was increased to allow the metered value to remain in change and allow the attribute to be updated.

3.44 Incorrect symbol is displayed on SLD

Section: HMI

Impact to customer: User observed a symbol for the Reactor on the HMI that did not match the symbol placed on the Single-Line Editor.

Products Affected: 8 Series

What changed? The Reactor symbol was updated.

3.45 Corrected Phasor Screen display

Section: HMI

Impact to customer: Customer observed inconsistencies between screens, SLD, Phasor, Summary.

Products Affected: 8 Series

What changed? Phasor screens were corrected to show magnitude quantities instead of RMS quantities.

3.46 850 with Russian or Ukrainian language unexpected crash

Section: HMI

Impact to customer: Customer observed the 850 rebooting when the language is set to Russian or Ukrainian and the customer navigates the HMI to either the Last Trip Data or Event Records screen.

Products Affected: 8 Series

What changed? It was determined that the crash occurred because the size of the translated text was not properly accounted for. The text allocation was increased to properly support the maximum size of non-English strings.

3.47 Master.LLN0.Beh won't send report when data change

Section: Communications

Impact to customer: Customer would not receive a report if the Master.LLN0.Beh changed.

Products Affected: 8 Series

What changed? Updated logic to send report.

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

Region	E-mail	Comments
Global Contact Centre	ga.support@gevernova.com	+44 1785 250070
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