GE
Grid Solutions

Multilin 650 Family

Firmware v9.00, Software v9.00

Release Notes

This document contains the release notes for firmware version 9.00 for the Multilin 650 Family of products.

Summary

GE Grid Solutions issues the Multilin 650 Family Firmware version 9.00 and EnerVista 650 Setup software 9.00. The firmware is specific to some 650 Family products and does not affect other devices.

The 9.00 firmware and 9.00 software version release for the 650 platform introduces software and firmware improvements that only affect C650 and F650 devices. When using firmware version 9.00, EnerVista 650 setup 9.00 or above must be used.

Highlights of this release include:

9.00 Firmware Version

Bay Controller & Monitoring System/Feeder Protection Relay - Common Platform functions - F650, C650

•   Added Cybersecurity functionality according to NERC-CIPv6 and IEEE 1686 requirements

9.00 EnerVista 650 Setup software

•   Compatibility with 9.00 Firmware version
•   Affected products: C650 and F650
•   Firmware Release Date: Apr 25th, 2024
•   EnerVista Setup Release Date: Apr 30th, 2024

New 650 firmware and EnerVista Setup software can be downloaded from the links below, based on device type.

F650: https://www.gegridsolutions.com/app/ViewFiles.aspx?prod=f650&type=7

C650: https://www.gegridsolutions.com/app/ViewFiles.aspx?prod=c650&type=7

NOTE

For existing 650 devices installed with firmware version below 7.0x, you must obtain a new relay to benefit from the enhancements described in this release note. If the new features and enhancements are not needed, no upgrade of the relays is required.

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

Release Details

In the change descriptions below, 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.

Multilin 650 Family - Firmware version 9.00 Release Details

Bay Controller & Monitoring System/Feeder Protection Relay
Common Platform functions - F650, C650

N   **Cybersecurity functionality according to NERC-CIPv6 and IEEE 1686 requirements, in two different options:**

- o   Basic Cybersecurity option
    1. Device / Local Authentication
    2. RBAC: 4 fixed roles: Administrator, Engineer, Operator & Viewer
    3. Password complexity = Disabled by default (minimum password length: 4)
    4. Flag for Failed authentication, User lockout for configurable period
    5. Encrypted communication over ethernet
    6. Inactivity Timeout
    7. Security event storage on IED
    8. Secure firmware download
    9. Hardening (Enable / Disable communication ports and protocols)

- o   Advanced Cybersecurity option
    1. Device / Local Authentication
    2. Remote / Server Authentication- RADIUS
    3. Syslog – security events
    4. Password Complexity = Enabled by default
    5. Default password: as per the complexity rules

EnerVista 650 Setup - Software version 9.00 Release Details

G   **Compatibility implemented with Firmware 9.00 version**

Updated database and configuration files to ensure compatibility with 9.00 Firmware version.

Upgrade Path

Firmware Compatibility

The 9.00 firmware is not compatible with firmware versions below 7.0x, or with any previous F650 CPU hardware, i.e. F650 with order code containing Rear Ethernet Communication Board option B, C, D or E. Existing B, C, D and E options still benefit from the previous CPU hardware. The released firmware version runs only on the new models with Rear Ethernet Communication Board options: G, H, J, K, L & M. The 9.00 firmware requires EnerVista 650 Setup software version 9.00 or higher. GE suggests using the latest version of the software.

Upgrading 650 devices installed with firmware versions below 7.0x requires replacement of the complete relay. New relays require choosing from the new [G, H, J, K, L or M] characters in the order code under the "Rear Ethernet Communication Board 2" option.

EnerVista 650 Setup software can convert settings files from an older version to the latest version. It also provides a tool to compare settings files from different versions, generating a Difference Report. This Difference Report identifies new settings and additional information to assist the user during the upgrade process.

Software Compatibility

The minimum operative system requirements for the EnerVista 650 Setup software are as follows:

- Windows 7
- Windows 8
- Windows 10

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

For further assistance

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

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