



FM2 Feeder Manager 2 Revision 1.01 release notes

GE Publication Number: GER-4027

Copyright © 2004 GE Multilin

Overview

Summary

- Affected products: FM2 Feeder Manager 2
- Date of release: June 4, 2004
- Firmware revision: 1.01
- Bootcode revision: 4.00
- Hardware revision: E
- Manual revision: GEK-106559

Release summary

This release note covers the new FM2 Feeder Manager 2 product release, including firmware version 1.01 and PC software program version 1.00. The FM2 can be used for low voltage feeders with contactors or circuit breakers. It has protection and control functions such as thermal overload, instantaneous earth fault, open contactor/welded contactor, and undervoltage auto reclose.

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@indsys.ge.com
Home Page: <http://www.GEindustrial.com/multilin>

Release details

Models

The FM2 has 4 models. All models contain three phase thermal overload protection (49/51), earth fault protection (50G), undervoltage reclose, current, voltage, power and energy metering, timers and counters, 6 control inputs (Close A, Close B, Open, Test Mode, Contactor A status, Contactor B Status), plus 10 programmable inputs, separate outputs dedicated to two different contactors/breakers, one programmable output, and an ESD (emergency shutdown) output. The relay unit can be powered up by 120/240 V AC, 50 or 60 Hz.

- FM2-712-PD. This model comes with a 2 line 40 character LCD display, keypad and status indicating LEDs. The VT input and switch input voltage is rated for 120 V AC.
- FM2-722-PD. This model comes with a 2 line 40 character LCD display, keypad and status indicating LEDs. The VT input and switch input voltage is rated for 240 V AC.
- FM2-712-C. This is a black box version of FM2 with no display, keypad or status indicating LEDs. The VT input and switch input voltage is rated for 120 V AC.
- FM2-722-C. This is a black box version of FM2 with no display, keypad or status indicating LEDs. The VT input and switch input voltage is rated for 240 V AC.

Features

Feeder contactor/breaker operation.

The relay has ability to control both contactor and breaker feeders. For feeders that use a contactor, either of the outputs, Relay A or Relay B, can be used to control the contactor. For feeders using breakers, the output Relay A is used for closing the breaker and the output Relay B is used for tripping the breaker. Refer to the FM2 instruction manual (GEK-106559) for additional information.

Thermal overload protection.

The relay offers three overload curves (IEC A, IEC B and IEC C) defined in IEC 255-4 and British standard BS142. The curve multiplier setpoint (0.5 to 1.0) allows shifting of the selected base curve in the vertical time direction. Refer to the thermal protection sections of the FM2 instruction manual (GEK-106559) for additional information.

Earth fault protection.

The relay provides instantaneous earth fault protection. The earth fault current can be detected either from the residual connection of the phase CTs or from the zero sequence CT. A delay time can be set to prevent false alarms from momentary surges. Delay can be provided to earth fault trips as well to co-ordinate other relays in the system. Refer to the FM2 instruction manual (GEK-106559) for additional information.

Contactor/circuit breaker failure.

The relay provides contactor/circuit breaker monitoring while performing close and open commands. If the contactor does not change status an 'open control circuit' or 'welded contactor' alarm is triggered. If the breaker does not change status an 'breaker failed to close' or 'breaker failed to open' alarm is triggered.

Undervoltage auto reclose.

The feeder can be automatically reclosed after a momentary power loss when this feature is enabled. When the control voltage drops below the dropout voltage the contactors are de-energized. The FM2 can initiate timers to reclose the contactor upon the return of supply voltage. If control voltage is restored within the programmed reclose time, the feeder will be reclosed immediately. If the control voltage takes longer to be restored, the FM2 can be programmed to

attempt a reclose after a set time delay. The programmable reclose delay can be set independently for two programmable reclose power loss delays. Refer to the FM2 manual (GEK-106559) for additional information.

Metering.

The relay displays following metering information: Phase RMS currents and Earth leakage current, Phase current imbalance in percent (%), VT Primary Voltage, Power and Energy (if VT primary is programmed).

Monitoring.

The relay monitors number of contactor/breaker operations and feeder operation time. It displays the following information: No. of operations, Total trips, Earth fault trips, Number of Control trips, Number of Hours feeder closed, Number of hours feeder closed since last closed, Number of hours feeder open. This information can be reset to zero by giving clear timer and clear counter commands.

Device information.

The device details such as firmware, supervisor program and boot program versions, order code, date of manufacture, serial number is available under factory data setpoints. For more information, refer to the Factory Data section of the FM2 manual (GEK-106559).

enerVista FM2 Setup software

With the enerVista FM2 setup software running on your PC, it is possible to:

- Program and modify setpoints
- Load/save setpoint files from/to disk
- Read actual values and monitor status
- Log data (trending)
- Get help on any topic

The enerVista FM2 setup software allows immediate access to all the features of the FM2 through pull-down menus in the familiar Windows environment. The software can also run without a FM2 connected. This allows you to edit and save setpoint files for later use. If a FM2 is connected to a serial port on a computer and communication is enabled, the FM2 can be programmed from the setpoint screens. In addition, measured values, status and alarm messages can be displayed with the actual screens.

Upgrading Product Firmware/Software

- Firmware File Name: 61CME101.000
- PC File Name: FM2setup100.exe
- PC Software Upgrade Procedure: Download and install the latest enerVista FM2 Setup installation file from the GE Multilin website at <http://www.GEindustrial.com/multilin>.