

UR Universal Relay Series

Revision 5.22 Release Notes

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Overview

Summary

GE Multilin issues the UR 5.22 release that introduces changes to the communications protocols in the UR family of products

Highlights of this release include:

- **DNP 3.0 protocol - analog value enhancement**
- **Change to the status of LED's reported in communications**

This document contains the release notes for the 5.22 release of the Universal Relay (UR) series.

- Affected products: B30, C30, C60, C70, D30, D60, F35, F60, G30, G60, L60, L90, M60, N60, T35, T60
- Date of release: October 26th, 2007
- Firmware revision: 5. 22

If users have existing UR Family relays installed with older versions of firmware, they can download and install this new firmware to benefit from the enhancements described in this release note. If the user does not require these new features and enhancements, no upgrading of the relays is required.

Products Affected

This release encompasses the following UR Family products:

- B30 Bus Differential Relay
- C30 Controller
- C60 Breaker Management Relay
- C70 Capacitor Bank Relay
- D30 Line Distance Relay
- D60 Line Distance Relay
- F35 Multiple Feeder Management Relay
- F60 Feeder Management Relay
- G30 Generator Management Relay
- G60 Generator Management Relay
- L60 Line Phase Comparison Relay
- L90 Line Differential Relay
- M60 Motor Relay
- N60 Network Stability and Synchrophasor Measurement System
- T35 Transformer Management Relay
- T60 Transformer Management Relay

Hardware / Software Compatibility

The new 5.22 firmware that is a part of this release is compatible with UR-series hardware version 4.00 and higher.

The use of the new 5.22 firmware requires the EnerVista UR Setup software to be version 5.20 and higher.

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.

Communications Enhancement

C

DNP3.0: Analog Values not being reported correctly

Applicable: B30, C30, C60, C70, D30, D60, F35, F60, G30, G60, L60, L90, M60, N60, T35, T60

The DNP3.0 Analog reporting has been enhanced to ensure that analog values are correctly updated and reported to the DNP master. In the previous version of firmware, the Universal Relay would meter analog values properly however, after prolonged periods of time, the analog values being reported over DNP would stop being updated and continually report the last known value. All protection and control functions continued to operate correctly when this occurred.

C

Status of LED's showing incorrect value being reported through communications protocols

Applicable: B30, C30, C60, C70, D30, D60, F35, F60, G30, G60, L60, L90, M60, N60, T35, T60

The status of the LEDs that are being reported through communications protocols have been modified to report the correct status of the LED. In the previous version of the firmware, the status of the LED's reported through communications would actually report the status of the Operand driving the LED whether or not the LED was Latched. In the new version of the firmware, if the LED is programmed as Latched, the status reported through communications will show this Latched status until operand driving drops out and the reset command has been given to the relay.

Upgrade paths

If users have existing UR Family relays installed with older versions of firmware, they can download and install this new firmware to benefit from the enhancements described in this release note. If the user does not require these new features and enhancements, no upgrading of the relays is required. Firmware upgrades can be easily performed using the EnerVista UR Setup software. This software can also convert settings files from an older version to the latest version and provides a Difference Report once the conversion has been completed. This Difference Report identifies new settings and additional information to assist the user during the upgrade.

Upgrade path for versions 4.00 and above

For UR-series devices installed with versions 4.00 firmware and above, the revision 5.22 release can be uploaded to the relay using the EnerVista UR Setup software.

Upgrade path for revisions below version 4.00

For UR-series devices installed with versions of firmware below 4.00, an upgrade package must be obtained from GE Multilin to upgrade the relay CPU and CT/VT modules.

Benefits of revision 4.00 and above:

The benefits of revision 4.00 and above are as follows:

- Supports many new features and functionality
 - IEC 61850 communications protocol
 - 100 Mb Ethernet
 - IRIG-B repeater
 - Isolated RS485 and IRIG-B
 - Synchrophasors in the D60, L90, N60 & G60
 - Support for Breaker-and-a-Half Transmission Line Protection (D60, L90)
 - Motor Health Diagnostics (M60)
 - Enhanced Front Panel
- Exceeds new IEEE C37.90 requirements
 - Transient immunity (2 to 4 kV)

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

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