UR Family

Version 7.6x

Release Notes

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Overview

This document contains the release notes for firmware and software versions 7.60 to 7.66 of the Universal Relay (UR) family of products.

Applicable to products: B30, B90, C30, C60, C70, D30, D60, F35, F60, G30, G60, L30, L60, L90, M60, N60, T35, T60

Date of release 7.60: 30 June 2017

Date of release 7.61: 31 October 2017

Date of release 7.62: 5 December 2018

Date of release 7.63: 15 March 2019

Date of release 7.64: 28 August 2020

Date of release 7.66: 22 October 2020

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.

Firmware

Firmware 7.60

Summary

Improvements include the following.

- Added graphical front panel option for horizontal units. The panel includes a seven-inch screen and USB port. Retrofit kits are also available to install the graphical front panel on UR devices with enhanced or basic (non-riveted) front panels.
- Upgraded T, U, and V CPU modules to include two connector slots on the front to accommodate graphical, enhanced, and basic front panels.
- Added Front Panel Label Designer to customize the LEDs and pushbuttons for the graphical front panel using peel-and-stick labels (provided)
- Added support for the Password Authentication Protocol (PAP) for authenticating user logins to a RADIUS server (included with CyberSentry software option)
- Common Protection and Control Elements
  - Changed minimum pickup level for Phase Instantaneous Overcurrent and B90 Instantaneous Overcurrent elements
  - Changed instantiation rules for numbers of a few time protection elements
  - Modified the number of Disconnect (Breaker) Switch elements in the C60
  - Changed the number Breaker Restrike elements
  - Removed fault location actual values “Fault Loop Resist” and “Fault Loop React” from select front panel displays
  - Corrected inactive non-directional ground distance element for zones 2 to 5
  - Corrected breaker autoreclose trigger for breakers 3 and 4
- Common Platform Functions
  - Corrected firmware to save the state of the non-volatile latches before rebooting the unit after a reboot command
  - Corrected operation of LED TEST IN PROGRESS FlexLogic operand
- Cyber Security
  - Added PAP RADIUS authentication method
- Communications
  - Updated IEC 61850 power and energy deadband calculations
  - Corrected values of IEC 61850 Breaker Control operations counter and Disconnect Switch operations counter at power up
  - Corrected scanning of IEC 61850 DO “Beh” for Compensated Overvoltage logical nodes CmpOvPTOV2 and CmpOvPTOV3
  - Lowered maximum value for the Teleprotection settings “Local Relay ID”, “Terminal 1 Relay ID,” and “Terminal 2 Relay ID” to 63
  - Changed firmware to create dynamic IEC 61850 logical node type identifier (LNodeType ID) for contact inputs, contact outputs, transducer DCmA inputs, transducer DCmA outputs and transducer RTD logical nodes
  - Fixed firmware to apply the setting “DNP PF Scale Factor” without the need to reboot the relay
  - Added DNP scaling factors of 10^6, 10^7, 10^8

  - Removed value “PRP” from setting “PRT2 Redundancy” for order codes that do not include PRP software option
  - Added number of records as an IEC 61850 data object for fault location logical node (FltRptRFLO.NumRcd)
  - Added number of records as an IEC 61850 data object for the oscillography logical node (OscRDRE1.NumRcd)
  - Added relay UTC time as an IEC 61850 data object for the LPHD logical node (LPHD1.RlyUTCTms)
- Self-Test Diagnostic Alarms
  - Added alarms and improved functionality

Common Protection and Control Elements

G Changed minimum pickup level for Phase Instantaneous Overcurrent and B90 Instantaneous Overcurrent elements

Products: B90, and B30, C60, C70, D30, D60, F35, F60, G30, G60, L30, L60, L90, M60, N60, T35, T60

Impacted firmware: 7.40 to 7.42

Corrected firmware: 7.60

Workaround: Not applicable

Description: The minimum pickup level for Phase Instantaneous Overcurrent (IOC) and B90 IOC is changed from 0.020 pu to 0.005 pu.

GE tracking number: 760-1

G Changed instantiation rules for numbers of a few time protection elements

Products: Products that include the respective elements and products with HardFiber

Impacted firmware: 7.40 to 7.42

Corrected firmware: 7.60

Workaround: Not applicable

Description: For certain elements and depending on the order code, the number of respective elements was less than in previous versions.

In the new release, the numbers of the following elements for a given order code are at least the number of elements in firmware version 7.3x. See the Features per Product table in the UR Family Communications Guide for applicable numbers.

- Phase Time Overcurrent and Phase Instantaneous Overcurrent
- Neutral Time Overcurrent and Neutral Instantaneous Overcurrent
- Ground Time Overcurrent and Ground Instantaneous Overcurrent
- Restricted Ground Fault
- Wattmetric Ground Fault

This change affects products with DSP modules and products with HardFiber.

GE tracking number: 760-2

G Modified the number of Disconnect (Breaker) Switch elements in the C60

Products: C60

Impacted firmware: 7.40 to 7.42

Corrected firmware: 7.60

Workaround: Not applicable

Description: In the impacted versions, the number of Disconnect (Breaker) Switch elements in the

C60 was four times the number of Breaker Control elements.

In the new release, the number of Disconnect (Breaker) Switch elements in the C60 is six times the number of Breaker Control elements. That is, the maximum number possible increases from 16 to 24. Products with HardFiber have 24 Disconnect (Breaker) Switch elements.

GE tracking number: 760-3

G Changed the number Breaker Restrike elements

Products: B30, C60, C70, D60, F35, F60, G60, L60, L90, M60, T60

Impacted firmware: 7.40 to 7.42

Corrected firmware: 7.60

Workaround: Do not enable more Breaker Restrike elements than the number of installed DSP modules.

Description: For a given order code, the number of Breaker Restrike elements can be higher than the number of installed DSP modules. Enabling more Breaker Restrike elements than then number of installed DSP modules can trigger Module Failure 33 and the additional elements are not functional.

In the new release, the number of Breaker Restrike elements is as the number of installed DSP modules, up to a maximum of three. The maximum numbers are as follows:

2 = D60 G60 L60 L90 M60

3 = B30 C60 C70 F35 F60 T60

This change affects HardFiber products as well.

GE tracking number: 760-4

G Removed fault location actual values "Fault Loop Resist" and "Fault Loop React" from select front panel displays

Products: C60, F35, F60, L30

Impacted firmware: 7.40 to 7.42

Corrected firmware: 7.60

Workaround: None

Description: The front panel incorrectly displays the actual values "Fault Loop Resist" and "Fault Loop React" for C60, F35, F60, L30.

The new release corrects the issue. These actual values do not display on the front panels of the four products.

GE tracking number: 760-19

H Corrected inactive non-directional ground distance element for zones 2 to 5

Products: D30, D60, L30, L90, T60

Impacted firmware: 7.27, 7.32, 7.41

Corrected firmware: 7.28, 7.42, 7.60

Workaround: None

Description: The non-directional ground distance element is inactive for zones 2 to 5. The functionality for zone 1 is correct.

The new releases fix the issue. All zones are active.

GE tracking number: 742-5

F Corrected breaker autoreclose trigger for breakers 3 and 4

Products: All

Impacted firmware: All to 7.26, 7.30 to 7.42

Corrected firmware: 7.27, 7.60 and up

Workaround: None

Description: Breakers with index higher than 2 are activated incorrectly by an autoreclose command.

The new releases fix the issue. Breakers 3 and 4 are not activated by the autoreclose function.
GE tracking number: 727-1

Common Platform Functions

G **Corrected firmware to save the state of the non-volatile latches before rebooting the unit after a reboot command**

Products: All

Impacted firmware: 7.00 to 7.42

Corrected firmware: 7.60

Workaround: Avoid issuing a reboot command less than two minutes after the state of a non-volatile latch was changed.

Description: The state of the non-volatile latches is stored every two minutes to Compact Flash (CF). In impacted versions, if the state of a non-volatile latch is changed and the unit is rebooted by a reboot command, from front panel or Modbus, the relay does not store the state of the non-volatile latches and fails to correctly restore it after the reboot.

The new release corrects the issue. Upon receiving a reboot command, from front panel or Modbus, the state of the non-volatile latches is stored before the unit is rebooted.

GE tracking number: 760-6

G **Corrected operation of LED TEST IN PROGRESS FlexLogic operand**

Products: All

Impacted firmware: All to 7.42

Corrected firmware: 7.60

Workaround: None

Description: In previous versions, the LED TEST IN PROGRESS FlexLogic operand does not operate when the LED test is active.

The new release corrects the issue.

GE tracking number: 760-8

Cyber Security

E **Added PAP RADIUS authentication method**

Products: All with the CyberSentry software option

Impacted firmware: 7.00 to 7.41

Corrected firmware: 7.42, 7.60.

Workaround: Not applicable

Description: In previous versions, only the EAP-TTLS authentication method is available when using a RADIUS server. The setting is located under **Settings > Product Setup > Security > RADIUS Authentication Method**.

In the new releases, PAP authentication method is added for RADIUS.

GE tracking number: 760-18

Communications

C **Updated IEC 61850 power and energy deadband calculations**

Products: All with the IEC 61850 software option

Impacted firmware: 7.3x to 7.42

Corrected firmware: 7.60

Workaround: None

Description: In impacted versions, the range for the IEC 61850 power and energy deadband calculations is large, resulting in large physical quantities for the deadbands.

In the new release, the range for the IEC 61850 power and energy calculations is restricted, thereby allowing for much tighter deadbands in terms of physical quantities.

GE tracking number: 760-5

C **Corrected values of IEC 61850 Breaker Control operations counter and Disconnect Switch operations counter at power up**

Products: All with the IEC 61850 software option

Impacted firmware: 7.3x to 7.42

Corrected firmware: 7.60

Workaround: None

Description: For the impacted versions, after power up, the IEC 61850 Breaker Control operations counter (OpCnt) and the Disconnect Switch operations counter (OpCnt) increases by one for all breakers/disconnect switches other than the first one.

The new release corrects the issue.

GE tracking number: 760-7

C **Corrected scanning of IEC 61850 DO "Beh" for Compensated Overvoltage logical nodes CmpOvPTOV2 and CmpOvPTOV3**

Products: D60, L60, L90

Impacted firmware: 7.40 to 7.42

Corrected firmware: 7.60

Workaround: None

Description: If the active setting group is greater than 1, the value of the IEC 61850 DO "Beh" for the Compensated Overvoltage logical nodes CmpOvPTOV2 and CmpOVPTOV3 is incorrect.

The new release corrects the issue.

GE tracking number: 760-9

C **Lowered maximum value for the Teleprotection settings "Local Relay ID", "Terminal 1 Relay ID," and "Terminal 2 Relay ID" to 63**

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

Impacted firmware: All to 7.42

Corrected firmware: 7.60

Workaround: Not applicable

Description: In previous versions, the maximum value for the Teleprotection settings "Local Relay ID," "Terminal 1 Relay ID," and "Terminal 2 Relay ID" is 255. These settings are located under **Settings > Product Setup > Teleprotection**.

In the new release, the maximum value is 63.

GE tracking number: 760-10

C **Changed firmware to create dynamic IEC 61850 logical node type identifier (LNodeType ID) for contact inputs, contact outputs, transducer DCmA inputs, transducer DCmA outputs and transducer RTD logical nodes**

Products: All with the IEC 61850 software option

Impacted firmware: 7.3x to 7.42

Corrected firmware: 7.60

Workaround: None

Description: In previous versions, the IEC 61850 logical node type identifier (LNodeType ID) is fixed.
In the new release, the IEC 61850 LNodeType ID is created dynamically to reflect the hardware based on the order code for the following:

- Contact Inputs
- Contact Outputs
- Transducer IO DCmA Inputs
- Transducer IO DCmA Outputs
- Transducer IO RTDs (TRTDs)

GE tracking number: 760-11

C **Fixed firmware to apply the setting "DNP PF Scale Factor" without the need to reboot the relay**

Products: All
Impacted firmware: All to 7.42
Corrected firmware: 7.60
Workaround: Reboot relay after changing setting "DNP PF Scale Factor"
Description: To apply a change to the setting "DNP PF Scale Factor," the relay must be rebooted.
In the new release, changes to this setting are applied without the need to reboot the relay.
GE tracking number: 760-12

C **Added DNP scaling factors of 10^6, 10^7, 10^8**

Products: All
Impacted firmware: All to 7.42
Corrected firmware: 7.60
Workaround: Not applicable
Description: Previous versions did not have the option to use scaling factors of 10^6, 10^7, 10^8 for DNP.
The new release adds scaling factors 10^6, 10^7, 10^8 for DNP. The path to the settings is **Settings > Product Setup > Communications > DNP Protocol**.
GE tracking number: 760-13

C **Removed value "PRP" from setting "PRT2 Redundancy" for order codes that do not include PRP software option**

Products: All without the PRP software option
Impacted firmware: All to 7.42
Corrected firmware: 7.60
Workaround: None
Description: The setting "PRT2 Redundancy" shows the value "PRP" even for order codes that do not include the PRP software option. Setting it to "PRP" does not enable PRP.
In the new release, the value "PRP" is removed from the setting "PRT2 Redundancy" for order codes without the PRP software option.
GE tracking number: 760-14

C **Added number of records as an IEC 61850 data object for fault location logical node (FltRptRFLO.NumRcd)**

Products: C60, D30, D60, F35, F60, L30, L60, L90 with IEC61850 software option
Impacted firmware: 7.40 to 7.42
Corrected firmware: 7.60
Workaround: None
Description: The number of fault location records is not included in the IEC 61850 data model.
In the new release, the number of records is added as an IEC 61850 data object for fault location

(FltRptRFLO.NumRcd).
GE tracking number: 760-15

C **Added number of records as an IEC 61850 data object for the oscillography logical node (OscRDRE1.NumRcd)**
Products: All with the IEC 61850 software option
Impacted firmware: All to 7.42
Corrected firmware: 7.60
Workaround: None
Description: The number of oscillography records is not included in the IEC 61850 data model.
In the new release, the number of oscillography records is added as an IEC 61850 data object for the oscillography logical node (OscRDRE1.NumRcd).
GE tracking number: 760-16

C **Added relay UTC time as an IEC 61850 data object for the LPHD logical node (LPHD1.RlyUTCTms)**
Products: All with the IEC 61850 software option
Impacted firmware: All to 7.42
Corrected firmware: 7.60
Workaround: None
Description: The relay UTC time is not included in the IEC 61850 data model.
In the new release, the IEC 61850 data object LPHD1.RlyUTCTms is added to represent the relay UTC time in seconds since January 1, 1970 00:00:00.
GE tracking number: 760-17

Self-Test Diagnostic Alarms

C **Added alarms and improved functionality**
Products: All
Impacted firmware: All to 7.42
Corrected firmware: 7.60
Workaround: None
Description: Prior to UR 7.60, the UR produced visible alarms for most internal diagnostic events, even when relay protection availability was not compromised. In firmware version 7.60, the UR alarm design has been changed to generate user alarms only when protection is compromised. In addition, internal diagnostics are revised for lower sensitivity to internal alarms, such as redundancy checks, to allow for more secure, robust protection with fewer nuisance alarms.
The UR design continues to maintain extensive monitoring on availability of all protection elements. The design also provides robustness through a recovery mechanism that is initiated to minimize downtime for protection availability. As a result of this change, new self-tests are added to the design. See the manual for more information.
GE tracking number: 760-20

Firmware 7.61

Summary

Improvements include the following.

- Added Polish language to the relay
- Added Japanese language to the relay
- Added support for new CPU (9W) with two ST fiber ports and one RJ45 port
- Added support for high-density input and output modules (6X and 6W)
- Common Protection and Control Elements
  - Corrected the scaling of “V0 3rd Harmonic” FlexAnalog in VT Fuse Failure element 2 and higher
  - Corrected metering of voltage harmonics in L30 and L90
  - Corrected number of settings menus for the following elements: Negative Sequence TOC/IOC/Directional OC, and Cold Load Pickup
  - Corrected usage of Voltage Cut-off Level setting in calculation of polarizing voltage for Negative Sequence Directional Overcurrent and Neutral Directional Overcurrent elements
  - Corrected Thermal Overload element to prevent early trip on hot curve at marginal thermal pickup level
  - Corrected the use of “REVERSE PH ROTATION” settings when relay boots up
- Common Platform Functions
  - Increased the total number of contact inputs/outputs
  - Corrected timestamp of first events at startup when DST is enabled
  - Corrected issue when settings group function is enabled with IEC 61850 software option that causes relay to reboot in rare instances
  - Corrected IRIG-B signal lost alarm to trigger when relays with IEEE 1588 PTP are time synchronized through IRIG-B and signal is lost
  - Corrected firmware to reject an IEC 61850 CID file too large to be stored in the relay
  - Modified graphical front panel firmware to support stacking order for single-line diagram components
  - Corrected graphical front panel error message when user attempts to authenticate during a session lockout period
  - Corrected firmware to reestablish communication between the main CPU and the graphical front panel after a failed firmware upgrade
  - Corrected firmware to prevent erroneous Module Failure 32 self-test error
  - Corrected graphical front panel from displaying an extra tab in Metering
  - Corrected graphical front panel to enable use of Tabular 5 page as Home page
  - Corrected graphical front panel to refresh dynamically the FlexLogic operand names of Digital Counters, Digital Elements, and FlexElements
  - Corrected graphical front panel to prevent displaying a blank page if the relay is configured to display a Phasor page in rolling mode and no sources are configured
  - Corrected firmware to prevent erroneous assertion of Storage Media Alarm at startup
  - Corrected graphical front panel to prevent password prompt when changing Security Access Level on a relay without CyberSentry option
  - Corrected graphical front panel display when Administrator role logs out from relay with local bypass enabled
  - Corrected firmware to refresh automatically the number of targets for “Process Bus Trouble:

Link x" self-test errors
  - Corrected FlexLogic operands "Access Local CMND On" and "Access Local SETG" when local passwords are set
  - Corrected graphical front panel to prompt for command password after a command is sent over USB
  - Improved refresh rate of user-programmable pushbutton LEDs on the graphical front panel
  - Corrected graphical front panel to prevent redundant password prompts when changing the Security Access Level setting
  - Changed several graphical front panel soft buttons to be typematic
  - Corrected graphical front panel to display correct error message when user attempts to log in as Supervisor role and this role is disabled
  - Corrected user-programmable pushbuttons to respond when the "Pushbutton Set" input FlexLogic operand is asserted for a very short time
  - Corrected oscillography start time when "AC Input Waveforms" setpoint is set to "Off"
  - Improved validation of time input when year is set from graphical front panel
  - Improved display of targets on graphical front panel
  - Corrected oscillography trigger position in very large oscillography files in C30
  - Corrected firmware to update the "Number of targets" (Modbus register 0x14E1) on changes to target setting or setting groups
  - Corrected functionality of "Reset Annunciator" setting for a relay with graphical front panel
- Communications
  - Increased capability of relay to receive up to 32 ASM R-GOOSE messages
  - Changed firmware to use the minimum value of the "MMS Connection Timeout" setting to disable checking for an idle connection
  - Modified firmware to allow configuration of the network settings through IEC 61850 CID file
  - Corrected serial inactivity timeout on RS232 front port for a CyberSentry relay
  - Corrected firmware to allow the Administrator role to access the Reset key over the USB connection
  - For a relay with IEEE 1588, corrected the firmware so that it does not turn on the "Clock Unsynchronized" FlexLogic operand during the one minute holdover time
  - Changed firmware to return "File non-existent" error when requesting a User Fault Report from a relay with no such file
  - Improved network connectivity of relay when Ethernet switch is rebooted
  - Corrected firmware to display correctly the IEC 61850 attribute Master.LPHD1.PhyNam.name in an MMS client when the relay name contains XML special characters
  - Corrected generation of Private section in IEC 61850 CID file with a large "Logic Designer" section
  - Corrected routing of network frames using Default Gateway and Static Routes in Failover or PRP redundant modes
- Phasor Measurement Unit (PMU) – Synchrophasors
  - Updated year in the PMU header frame to state 2011 in compliance with IEEE C37.118 2011 standard

Common Protection and Control Elements

M **Corrected the scaling of "V0 3rd Harmonic" FlexAnalog in VT Fuse Failure element 2 and higher**
Products: C60, C70, D30, D60, F35, F60, G30, G60, L30, L60, L90, M60, N60, T60

Impacted firmware: 6.00 to 6.05, 7.00 to 7.60

Corrected firmware: 7.61

Workaround: None

Description: The VTFF element setting configuration includes “VT Fuse Failure Alarm Delay,” “Neutral Wire Open Detection,” and ”Neutral Wire Open 3 Harm PKP.” Any changes to these settings from default are not applied in VTFF element 2 or higher.

This is corrected in version 7.61.

GE tracking number: 761-6

M **Corrected metering of voltage harmonics in L30 and L90**

Products: L30, L90

Impacted firmware: 7.4x, 7.60

Corrected firmware: 7.61

Workaround: None

Description: In previous versions, metering of voltage harmonics in L30 and L90 is not functional. Voltage THD and Harmonics metering were added to L30 and L90 in version 7.40.

In version 7.61, metering of voltage harmonics is functional in L30 and L90.

GE tracking number: 761-7

D **Corrected number of settings menus for the following elements: Negative Sequence TOC/IOC/Directional OC, and Cold Load Pickup**

Products:

Negative Sequence IOC/Directional OC: C70, D30, D60, F35, F60, L30, L60, L90, T60

Negative Sequence TOC: C70, D30, D60, F60, L30, L60, L90, T60

Cold Load Pickup: F35, F60

Impacted firmware: 7.4x, 7.60

Corrected firmware: 7.61

Workaround: None

Description: In previous versions, the number of settings menus on the front panel for the following elements exceed the actual number of elements in the relay: Negative Sequence TOC/IOC/Directional OC, and Cold Load Pickup. These extra elements are available on the front panel only but the extra elements do not provide protection function in the relay.

In version 7.61, this has been corrected. The number of menus for these elements matches the actual number of elements. The number of elements available for configuration now match the number of elements that provide the protection function in the relay.

GE tracking number: 761-8

P **Corrected usage of Voltage Cut-off Level setting in calculation of polarizing voltage for Negative Sequence Directional Overcurrent and Neutral Directional Overcurrent elements**

Products:

Negative Sequence Directional OC: C70, D30, D60, F60, G30, G60, L60, L90, T60

Neutral Directional OC: C70, D30, D60, F60, G30, G60, L30, L60, L90, M60, N60, T60

Impacted firmware: All except those listed in corrected firmware

Corrected firmware: 5.72, 5.83, 5.92, 6.00 to 6.05, 7.61

Workaround: None

Description: In the affected versions, the relay uses a fixed cutoff of 0.02 pu for the calculation of the polarizing voltage for the Negative Sequence Directional Overcurrent and Neutral Directional Overcurrent elements.

In the revisions corrected, the relay uses the value of the display voltage cutoff setting for the polarizing voltage.

GE tracking number: 761-13

P **Corrected Thermal Overload element to prevent early trip on hot curve at marginal thermal pickup level**

Products: All except B90, C30, M60

Impacted firmware: All to 7.60

Corrected firmware: 7.61

Workaround: None

Description: In previous releases, early thermal tripping occurs to the hot curve at marginal thermal pickup level, and a short-duration current magnitude drop can cause a large error on the hot curve operation time.

In version 7.61, these have been fixed.

GE tracking number: 761-49

F **Corrected the use of "REVERSE PH ROTATION" settings when relay boots up**

Products: G30, G60

Impacted firmware: All to 7.60

Corrected firmware: 7.61

Workaround: None

Description: The relay incorrectly uses the state of FlexLogic operand assigned to "REVERSE PH ROTATION" setting at start up. This causes incorrect Phase rotation to be used by the relay. The issue occurs during relay power-up only and not during runtime.

In version 7.61, this issue is fixed.

GE tracking number: 761-50

Common Platform Functions

N **Added Polish language to the relay**

Products: All

Impacted firmware: All to 7.60

Corrected firmware: 7.61

Workaround: Not applicable

Description: The Polish language is supported on the horizontal enhanced front panel and the graphical front panel, as well as in the EnerVista software.

GE tracking number: 761-1

N **Added Japanese language to the relay**

Products: All

Impacted firmware: All to 7.60

Corrected firmware: 7.61

Workaround: Not applicable

Description: The Japanese language is supported on the graphical front panel and in the EnerVista software.

GE tracking number: 761-2

N **Added support for new CPU (9W) with two ST fiber ports and one RJ45 port**

Products: All

Impacted firmware: All to 7.60

Corrected firmware: 7.61

Workaround: Not applicable

Description: The firmware supports a new CPU (9W) that has two 100 MB ST fiber connectors and one RJ45 connector.

GE tracking number: 761-3

N Added support for high-density input and output modules (6X and 6W)

Products: All

Impacted firmware: All to 7.60

Corrected firmware: 7.61

Workaround: Not applicable

Description: The firmware supports the following two new I/O modules:

- Module 6W with 30 contact inputs
- Module 6X with 18 contact outputs

The new I/O modules use pin type terminal blocks instead of the current ring type. The new terminals are required to achieve higher I/O count per module.

GE tracking number: 761-4

E Increased the total number of contact inputs/outputs

Products: All

Impacted firmware: All to 7.60

Corrected firmware: 7.61

Workaround: None

Description: In previous firmware versions, the relay supports 96 contact (digital) inputs and 64 contact outputs.

In version 7.61, the relay supports 120 contact inputs and 72 contact outputs.

GE tracking number: 761-5

R Corrected timestamp of first events at startup when DST is enabled

Products: All

Impacted firmware: All to 7.60

Corrected firmware: 7.61

Workaround: None

Description: A delay in update of Daylight Savings Time (DST) after powerup of the relay causes a few entries in the event recorder to use UTC timestamp.

In version 7.61, this has been corrected.

GE tracking number: 761-9

B Corrected issue when settings group function is enabled with IEC 61850 software option that causes relay to reboot in rare instances

Products: All with the IEC 61850 software option

Impacted firmware: 7.00 to 7.60

Corrected firmware: 7.61

Workaround: None

Description: The setting group state set via IEC 61850 control operation is saved in non-volatile storage. On rare occasions, the read value from the non-volatile storage can be out of bounds, causing the relay to reboot.

In version 7.61, this has been corrected.

GE tracking number: 761-10

G, D Corrected IRIG-B signal lost alarm to trigger when relays with IEEE 1588 PTP are time synchronized through IRIG-B and signal is lost

Products: All with the IEEE 1588 software option

Impacted firmware: 7.00 to 7.60

Corrected firmware: 7.61

Workaround: Use an IRIG-B source connected to a GPS antenna

Description: In previous versions, a relay with the IEEE 1588 (PTP) software option synchronized by an IRIG-B signal from a source without a GPS antenna does not correctly detect loss of IRIG-B signal and continues to indicate that the relay is synchronized by IRIG-B.

In version 7.61, this has been corrected.

GE tracking number: 761-11

C Corrected firmware to reject an IEC 61850 CID file too large to be stored in the relay

Products: All with the IEC 61850 software option

Impacted firmware: 7.3x to 7.60

Corrected firmware: 7.61

Workaround: Perform a manual restart of the relay to ensure that the CID file sent to the relay persists

Description: In previous versions, the relay accepts a CID file that exceeds its storage capabilities and continues to use the configuration from the file until the relay is rebooted. Upon restart, the relay reverts to the last known good CID file in its storage.

In version 7.61, the relay rejects a CID file that is too large to be stored.

GE tracking number: 761-14

D Modified graphical front panel firmware to support stacking order for single-line diagram components

Products: All with graphical front panel

Impacted firmware: 7.60

Corrected firmware: 7.61

Workaround: None

Description: In the initial release, the graphical front panel firmware does not support a stacking order for components in the single-line diagram (SLD).

In version 7.61, the graphical front panel supports a stacking order in the SLDs.

GE tracking number: 761-18

D Corrected graphical front panel error message when user attempts to authenticate during a session lockout period

Products: All with graphical front panel and the CyberSentry software option

Impacted firmware: 7.60

Corrected firmware: 7.61

Workaround: None

Description: In version 7.60, when attempting to authenticate during a session lockout period, the graphical front panel displays the error message “Password Not Valid” instead of the message “Too many attempts. Blocked for # minutes.”

In version 7.61, the graphical front panel displays the proper error message.

GE tracking number: 761-19

G Corrected firmware to reestablish communication between the main CPU and the graphical front panel after a failed firmware upgrade

Products: All with graphical front panel

Impacted firmware: 7.60

Corrected firmware: 7.61

Workaround: None

Description: In version 7.60, if the firmware upgrade fails, it is possible that the main CPU does not communicate with the graphical front panel anymore. Contact GE Grid Solutions technical support for assistance.

In version 7.61, this issue has been fixed.

GE tracking number: 761-22

G Corrected firmware to prevent erroneous Module Failure 32 self-test error

Products: All but C30

Impacted firmware: 7.00 to 7.60

Corrected firmware: 7.61

Workaround: None

Description: In previous versions, a relay can erroneously declare a Module Failure 32 self-test error.

In version 7.61, this issue is fixed and the self-test is correctly implemented.

GE tracking number: 761-25

D Corrected graphical front panel from displaying an extra tab in Metering

Products: All with graphical front panel

Impacted firmware: 7.60

Corrected firmware: 7.61

Workaround: None

Description: In version 7.60, if one or two Metering pages are configured and one of the pages is Page 5, the graphical front panel displays an extra, empty Page 5.

In version 7.61, the extra page does not display.

GE tracking number: 761-26

D Corrected graphical front panel to enable use of Tabular 5 page as Home page

Products: All with graphical front panel

Impacted firmware: 7.60

Corrected firmware: 7.61

Workaround: None

Description: In version 7.60, if the Home page is configured to page Tabular 5, the graphical front panel displays the Product Information page as the Home page.

In version 7.61, this issue is fixed and the Tabular 5 page displays.

GE tracking number: 761-28

D Corrected graphical front panel to refresh dynamically the FlexLogic operand names of Digital Counters, Digital Elements, and FlexElements

Products:

Digital Counters and FlexElements: All with graphical front panel, except B90

Digital Elements: All with graphical front panel

Impacted firmware: 7.60

Corrected firmware: 7.61

Workaround: None

Description: In version 7.60, the graphical front panel does not update dynamically the names of the FlexLogic operands of Digital Counters, Digital Elements, and FlexElements when their ID strings are changed from default. A relay restart is required for the change to take effect.

In version 7.61, this issue is fixed.
GE tracking number: 761-30

D **Corrected graphical front panel to prevent displaying a blank page if the relay is configured to display a Phasor page in rolling mode and no sources are configured**

Products: All with graphical front panel
Impacted firmware: 7.60
Corrected firmware: 7.61
Workaround: None
Description: In version 7.60, if no sources are configured and one of the Rolling Mode Pages is configured to a Phasor page, the graphical front panel displays an empty page.
In version 7.61, if no phasors or tabular pages are configured, the graphical front panel displays a "Sources and Metering screens are not configured" message.
GE tracking number: 761-31

G **Corrected firmware to prevent erroneous assertion of Storage Media Alarm at startup**

Products: All
Impacted firmware: 7.00 to 7.60
Corrected firmware: 7.61
Workaround: None
Description: In previous versions, on very rare occasions, it is possible that the relay mistakenly asserts the Storage Media Alarm self-test at startup.
A Storage Media Alarm self-test error prevents the relay from storing the following data to non-volatile memory event records, oscillography, data logger, non-volatile actuals, fault report, settings monitor, and security events.
In version 7.61, this issue is fixed.
GE tracking number: 761-32

G **Corrected graphical front panel to prevent password prompt when changing Security Access Level on a relay without CyberSentry option**

Products: All with graphical front panel
Impacted firmware: 7.60
Corrected firmware: 7.61
Workaround: None
Description: In version 7.60, the graphical front panel prompts for a password when changing the **Security > Access Level** setting, even though the relay has no passwords set.
In version 7.61, this issue is fixed.
GE tracking number: 761-34

G **Corrected graphical front panel display when Administrator role logs out from relay with local bypass enabled**

Products: All with graphical front panel and the CyberSentry software option
Impacted firmware: 7.60
Corrected firmware: 7.61
Workaround: None
Description: In version 7.60, in a relay with CyberSentry software option and with local Bypass Access enabled, the graphical front panel continues to display that one user is logged in, even after the Administrator role logs out.
In version 7.61, this issue is fixed.
GE tracking number: 761-35

G **Corrected firmware to refresh automatically the number of targets for "Process Bus Trouble: Link x" self-test errors**

Products: All

Impacted firmware: 7.60

Corrected firmware: 7.61

Workaround: None

Description: In version 7.60, the "Target Sequence" Modbus register is not increased automatically if more than one "Process Bus Trouble: Link x" self-test error is asserted. In this case, the target message shows only the number of the first link lost (for example, Link 1), and the numbers of the additional links (for example, Link 1, 3, 5) do not display in any Modbus client.

In version 7.61, this issue is fixed.

GE tracking number: 761-37

G **Corrected FlexLogic operands "Access Local CMND On" and "Access Local SETG" when local passwords are set**

Products: All without the CyberSentry software option

Impacted firmware: 7.60

Corrected firmware: 7.61

Workaround: None

Description: In version 7.60, if a local setting password and a local command password are set, the operands "Access Local CMND On" and "Access Local SETG" are On even without entering the respective password.

In version 7.61, this issue is fixed.

GE tracking number: 761-38

G **Corrected graphical front panel to prompt for command password after a command is sent over USB**

Products: All with graphical front panel

Impacted firmware: 7.60

Corrected firmware: 7.61

Workaround: None

Description: In version 7.60, if a local command password is set, and a command is sent over USB with the correct password, the relay does not prompt for the password again when initiating a local command from the graphical front panel.

In version 7.61, this issue is fixed.

GE tracking number: 761-39

D **Improved refresh rate of user-programmable pushbutton LEDs on the graphical front panel**

Products: All with graphical front panel

Impacted firmware: 7.60

Corrected firmware: 7.61

Workaround: None

Description: In version 7.60, the LED associated with a user-programmable pushbutton illuminates after a certain lag after operating the pushbutton.

Version 7.61 improves the refresh rate of the user-programmable pushbutton LEDs.

GE tracking number: 761-41

G **Corrected graphical front panel to prevent redundant password prompts when changing the Security Access Level setting**

Products: All with graphical front panel and without the CyberSentry software option

Impacted firmware: 7.60

Corrected firmware: 7.61

Workaround: None

Description: In version 7.60, the user can be prompted for the password when changing the **Security > Access Level** setting even though a valid password was already input.

In version 7.61, this issue is fixed.

GE tracking number: 761-42

G **Changed several graphical front panel soft buttons to be typematic**

Products: All with graphical front panel

Impacted firmware: 7.60

Corrected firmware: 7.61

Workaround: None

Description: In version 7.61, the following buttons are now typematic: mover cursor, backspace, page up, page down. Typematic refers to repeat of a key as long as it is pressed.

GE tracking number: 761-43

G **Corrected graphical front panel to display correct error message when user attempts to log in as Supervisor role and this role is disabled**

Products: All with graphical front panel and the CyberSentry software option

Impacted firmware: 7.60

Corrected firmware: 7.61

Workaround: None

Description: In version 7.60, using a graphical front panel and CyberSentry, if the Supervisor role is disabled and a user attempts to log in as Supervisor, the relay prompts for the Supervisor password.

In version 7.61, in this scenario the relay displays “Local Access Denied.”

GE tracking number: 761-44

D **Corrected user-programmable pushbuttons to respond when the “Pushbutton Set” input FlexLogic operand is asserted for a very short time**

Products: All

Impacted firmware: All to 7.60

Corrected firmware: 7.61

Workaround: Assert the “Pushbutton Set” operand for longer than 100 msec

Description: In previous versions, the relay can fail to operate a user-programmable pushbutton when the “Pushbutton Set” input FlexLogic operand is asserted for less than 100 msec, even though the manual specifies a minimum of 50 msec.

In version 7.61, this issue is fixed.

GE tracking number: 761-45

R **Corrected oscillography start time when “AC Input Waveforms” setpoint is set to “Off”**

Products: All

Impacted firmware: All to 7.60

Corrected firmware: 7.61

Workaround: None

Description: In previous versions, if the “AC Input Waveforms” is set to “Off,” the oscillography start time is incorrect.

In version 7.61, this issue is fixed.

GE tracking number: 761-47

G **Improved validation of time input when year is set from graphical front panel**

Products: All with graphical front panel

Impacted firmware: 7.60

Corrected firmware: 7.61

Workaround: None

Description: The default time format of the graphical front panel is yyyy-mm-dd. If the format is changed to any format that has a two-digit year and then the two-digit year is manually set, the graphical front panel defaults the date to 1970. The range is not checked.

In version 7.61, this issue is fixed. The range is checked too.

GE tracking number: 761-48

G **Improved display of targets on graphical front panel**

Products: All with graphical front panel

Impacted firmware: 7.60

Corrected firmware: 7.61

Workaround: None

Description: In version 7.60, when a high number of targets/error messages is generated, occasionally the graphical front panel displays “Bad Enum” or a duplicated target message.

In version 7.61, this issue is fixed.

GE tracking number: 761-51

R **Corrected oscillography trigger position in very large oscillography files in C30**

Products: C30

Impacted firmware: 7.4x, 7.60

Corrected firmware: 7.61

Workaround: None

Description: In previous versions, in C30 if less than eight digital channels are configured, the resulting oscillography file is very large. In this case, the trigger position is incorrect.

In version 7.61, this issue is fixed.

GE tracking number: 761-52

G **Corrected firmware to update the “Number of targets” (Modbus register 0x14E1) on changes to target setting or setting groups**

Products: All

Impacted firmware: All to 7.60

Corrected firmware: 7.61

Workaround: None

Description: In previous versions, the number of targets Modbus register is not updated on changes to target settings or settings groups. For example, if a target is enabled and active, if the corresponding setting is disabled, the “Number of targets” Modbus register is not updated.

In version 7.61, this issue is fixed.

GE tracking number: 761-53

D **Corrected functionality of “Reset Annunciator” setting for a relay with graphical front panel**

Products: All with graphical front panel

Impacted firmware: 7.60

Corrected firmware: 7.61

Workaround: Use the **RESET** button on the graphical front panel

Description: The “Reset Annunciator” setting uses a FlexLogic operand that when activated

acknowledges/resets all annunciators. This setting does not function correctly.

In version 7.61, this issue is fixed. Activating the FlexLogic operand set in the setpoint “Reset Annunciator” performs the same function as pressing the **RESET** button on the graphical front panel itself.

GE tracking number: 761-56

Communications

C **Increased capability of relay to receive up to 32 ASM R-GOOSE messages**

Products: All with the IEC 61850 software option

Impacted firmware: 7.4x, 7.60

Corrected firmware: 7.61

Workaround: None

Description: In previous versions, a relay with the IEC 61850 software option cannot receive more than 28 ASM routable GOOSE (R-GOOSE) messages.

In version 7.61, the relay can receive up to 32 ASM R-GOOSE messages.

GE tracking number: 761-15

C **Changed firmware to use the minimum value of the “MMS Connection Timeout” setting to disable checking for an idle connection**

Products: All with the IEC 61850 software option

Impacted firmware: All to 7.60

Corrected firmware: 7.61

Workaround: None

Description: The “MMS Connection Timeout” setting specifies a time delay for the detection of a lost connection by using the MMS protocol.

In version 7.61, the minimum value (10 seconds) of the “MMS Connection Timeout” setting disables the check for the loss of the MMS connection. Then the relay relies only on three TCP KeepAlive messages to detect a broken connection.

GE tracking number: 761-16

C **Modified firmware to allow configuration of the network settings through IEC 61850 CID file**

Products: All with the IEC 61850 software option

Impacted firmware: 7.30 to 7.60

Corrected firmware: 7.61

Workaround: Manual configuration of the network settings

Description: In previous versions, it is not possible to configure network settings through a CID file.

In version 7.61, the network settings can be configured using CID file when sent using a serial interface (RS232, RS485, or USB). The CID file needs to have at least one IP address of a UR port for it to be accepted.

GE tracking number: 761-17

G **Corrected serial inactivity timeout on RS232 front port for a CyberSentry relay**

Products: All with RS232 front port and CyberSentry software option

Impacted firmware: 7.00 to 7.60

Corrected firmware: 7.61

Workaround: In the EnerVista software, manually disconnect the role in use from the relay

Description: In previous versions, a relay with the CyberSentry software option does not use a serial inactivity timeout on the RS232 front port.

In version 7.61, a relay with the CyberSentry software option is corrected to use the serial inactivity timeout for the RS232 front port. This refers to **Settings > Product Setup > Security > Supervisory > Serial Inactivity Timeout**.

GE tracking number: 761-20

C **Corrected firmware to allow the Administrator role to access the Reset key over the USB connection**

Products: All with a graphical front panel and the CyberSentry software option

Impacted firmware: 7.60

Corrected firmware: 7.61

Workaround: None

Description: In version 7.60, in a relay with the CyberSentry software option, the Administrator role in the EnerVista UR Setup software did not have access to the Reset key when connected over the USB connection of the graphical front panel.

In version 7.61, this has been corrected.

GE tracking number: 761-21

C **For a relay with IEEE 1588, corrected the firmware so that it does not turn on the "Clock Unsynchronized" FlexLogic operand during the one minute holdover time**

Products: All with the IEEE 1588 software option

Impacted firmware: 7.00 to 7.60

Corrected firmware: 7.61

Workaround: None

Description: For relays with the IEEE 1588 software option, if the clock source is lost, a one minute holdover time is applied. At the end of this minute, the relay selects the next best clock to use as a source. In previous versions, the “Clock Unsynchronized” operand turned on during the one minute holdover time.

In version 7.61, this issue is fixed. The “Clock Unsynchronized” operand does not turn on during the one minute period.

GE tracking number: 761-23

C **Changed firmware to return "File non-existent" error when requesting a User Fault Report from a relay with no such file**

Products: B30, B90, C70, G30, G60, M60, N60, T35, T60

Impacted firmware: All to 7.60

Corrected firmware: 7.61

Workaround: None

Description: In previous versions, a relay returns an empty User Programmable Fault Report file if no such file exists.

In version 7.61, the firmware returns a “File non-existent” message if there are no User Fault Report files in the relay. This affects both MMS communication and TFTP.

GE tracking number: 761-24

C **Improved network connectivity of relay when Ethernet switch is rebooted**

Products: All

Impacted firmware: 7.00 to 7.60

Corrected firmware: 7.61

Workaround: None

Description: On rare occasions, the relay does not reconnect to the switch after the switch is rebooted. In this case connectivity is restored only by rebooting the relay or by reconnecting the network cable.

In version 7.61, this issue is fixed.
GE tracking number: 761-27

G **Corrected firmware to display correctly the IEC 61850 attribute Master.LPHD1.PhyNam.name in an MMS client when the relay name contains XML special characters**

Products: All
Impacted firmware: 7.30 to 7.60
Corrected firmware: 7.61
Workaround: Not applicable
Description: In previous releases, when the relay name contains special XML characters the IEC 61850 attribute Master.LPHD1.PhyNam.name displays incorrectly. For example, a relay name “Relay <1>” displays as “Relay lt;1gt;”
In version 7.61, this issue is fixed. Redundant white space also is removed from this attribute when printed to the SCL files.
GE tracking number: 761-33

C **Corrected generation of Private section in IEC 61850 CID file with a large “Logic Designer” section**

Products: All with the IEC 61850 software option
Impacted firmware: 7.4x, 7.60
Corrected firmware: 7.61
Workaround: None
Description: In previous versions, if the binary produced by “Logic Designer” in the EnerVista UR Setup software is too large, when saving it to the relay it is possible that the relay generates an invalid IEC 61850 IID file.
In version 7.61, this issue is fixed.
GE tracking number: 761-46

C **Corrected routing of network frames using Default Gateway and Static Routes in Failover or PRP redundant modes**

Products: All
Impacted firmware: All to 7.60
Corrected firmware: 7.61
Workaround: None
Description: In previous versions, the routing of network frames using Default Gateway and Static Routes fails with any broken path in redundancy modes (PRP or Failover).
In version 7.61, this issue is fixed. The relay detects that the respective network path is broken and in Failover/PRP redundancy mode correctly route the Ethernet packets to the port that has a working network path. The detection of the broken network path can take up to 5 seconds.
GE tracking number: 761-55

Phasor Measurement Unit (PMU) - Synchrophasors

C **Updated year in the PMU header frame to state 2011 in compliance with IEEE C37.118 2011 standard**

Products: All with the PMU software option
Impacted firmware: 6.00 to 7.60
Corrected firmware: 7.61
Workaround: None
Description: In previous versions, the year in the PMU header frame is 2005, although the relay is compliant with the IEEE C37.118 2011 standard.

In version 7.61, the year in the PMU header frame is corrected to 2011.
GE tracking number: 761-12

Firmware 7.62

Summary

Improvements include the following.

- Common Platform Functions
  - Changed firmware to restore Ethernet communication after a reboot of a network switch for relays with optical SFP modules

Common Platform Functions

C **Changed firmware to restore Ethernet communication after a reboot of a network switch for relays with optical SFP modules**

Products: All with 9T or 9U CPU module using fiber Avago HFBR-57E5APZ SFP and a Cisco network switch

Impacted firmware: 7.00 to 7.61

Corrected firmware: 7.62

Workaround: None

Description: In previous UR 7.x firmware versions for relays using a 9T or 9U CPU module with Avago fiberoptic small form-factor pluggable ports (SFPs), the Ethernet connection over fiber is not restored after a reboot of a Cisco network switch. Unplugging and replugging the cable restores the connection. Ethernet connections from other switch vendors or using copper SFPs with RJ45 are not affected by this issue.

Firmware version 7.62 fixes the issue. It restores Ethernet communications after reboot of any network switch regardless of the type of SFP transceiver used.

GE tracking number: 762-1

Firmware 7.63

Summary

Improvements include the following.

- Common Platform Functions
  - Removed phasor plot from graphical front panel source phasor page

Common Platform Functions

D **Removed phasor plot from graphical front panel source phasor page**

Products: All with graphical front panel except C30

Impacted firmware: 7.60, 7.61, 7.62, 7.70, 7.71, 7.80

Corrected firmware: 7.63, 7.72

Workaround: Do not use rolling mode with source phasor page

Description: The graphical front panel displays a phasor page for each configured AC source. The page displays a phasor plot and a table with the numerical values of all currents, voltages, and symmetrical components of the respective AC source. If the source phasor page is included in the rolling mode configuration, the graphical front panel can experience an unexpected restart, without affecting protection.

In the new releases, the phasor plot is removed from the graphical front panel source phasor page. The page displays only the table with the numerical values of the currents, voltages, and symmetrical components. This change prevents the graphical front panel from experiencing an unexpected restart if the rolling mode is configured to include at least one source phasor page.

GE tracking number: 763-1

Firmware 7.64

Summary

Improvements include the following.

- Cyber Security
  - Corrected Syslog reporting format to conform to RFC 5424
- Communications
  - Corrected firmware to prevent an unexpected restart when attempting to retrieve files over RS232
  - Corrected firmware to identify link status for third Ethernet port of a 9V CPU module
  - Resolved Wind River TCP/IP stack (IPnet, Urgent/11) vulnerabilities published in ICSA-19-211-01
  - Resolved DNP3 vulnerability published in ICSA-20-105-02
  - Corrected firmware to prevent loss of connectivity in PRP/failover mode after rebooting certain network switches

Cyber Security

C **Corrected Syslog reporting format to conform to RFC 5424**

Products: All with a CyberSentry software option

Impacted firmware: 7.00 to 7.26, 7.30 to 7.63

Corrected firmware: 7.27, 7.64, 7.70 and up

Workaround: None

Description: A relay with a CyberSentry software option supports security event reporting through the Syslog protocol. In previous versions, the syslog fields of priority value and timestamp are not formatted according to RFC 5424.

In the new releases, the fields priority value and timestamp in the syslog produced by the UR conform to RFC 5424. The severity of the security events also has been changed, as detailed in the instruction manual.

GE tracking number: 770-20

Communications

B,C **Corrected firmware to prevent an unexpected restart when attempting to retrieve files over RS232**

Products: All

Impacted firmware: 7.30 to 7.63, 7.70 to 7.72, 7.80, 7.81

Corrected firmware: 7.64, 7.73, 7.82, 7.90

Workaround: Retrieve files or write IEC 61850 SCL files over Ethernet instead of RS232

Description: Attempts to retrieve files such as event log, fault report, oscillography, and data logger from the relay over an RS232 connection or to write an IEC 61850 SCL file over RS232 can result in an unexpected restart. The likelihood increases when the EnerVista UR Setup software is installed on Windows 10. Reading or writing settings, actual values, or commands over Modbus from individual EnerVista dialog windows does not result in an unexpected restart.

In the new releases, the relay does not restart unexpectedly when retrieving files over RS232 connection or when writing SCL files to the relay over RS232.

GE tracking number: 773-1

C **Corrected firmware to identify link status for third Ethernet port of a 9V CPU module**

Products: All with type 9V CPU module

Impacted firmware: 7.61 to 7.63, 7.70, 7.71, 7.72

Corrected firmware: 7.64, 7.73, 7.80 and up

Workaround: None

Description: A 9V CPU module has three Small Factor Pluggable (SFP) connectors of RJ45 type. It has the link LED of the third Ethernet port permanently turned on, even when no link is detected.

The new releases correct the issue. The relay identifies correctly the link status for every Ethernet port in the module.

GE tracking number: 780-4

C **Resolved Wind River TCP/IP stack (IPnet, Urgent/11) vulnerabilities published in ICSA-19-211-01**

Products: All

Impacted firmware: 7.00 to 7.63, 7.70 to 7.81, 7.90, 7.91

Corrected firmware: 7.64, 7.82, 8.02

Workaround: None. Potential mitigation is possible for some vulnerabilities according to the Wind River security advisory.

Description: Previous versions are affected by the Wind River TCP/IP stack (IPnet, Urgent/11) vulnerabilities published in the July 2019 in ICS advisory ICSA-19-211-01.

The new releases correct the issue.

GE tracking number: 802-9

C **Resolved DNP3 vulnerability published in ICSA-20-105-02**

Products: All using DNP3 protocol

Impacted firmware: 6.06, 7.21 to 7.63, 7.70 to 7.81, 7.90, 7.91

Corrected firmware: 7.64, 7.82, 8.02

Workaround: None. Apply the mitigations recommended in the ICS advisory.

Description: In April 2020, ICS-CERT published ICS advisory ICSA-20-105-02 affecting the DNP3 protocol.

The new releases correct the issue.

GE tracking number: 802-10

C **Corrected firmware to prevent loss of connectivity in PRP/failover mode after rebooting certain network switches**

Products: All

Impacted firmware: 7.00 to 7.63, 7.70 to 7.81, 8.00 to 8.02

Corrected firmware: 7.64, 7.82, 8.03

Workaround: None

Description: In previous versions, in PRP/failover mode, rebooting certain network switches can cause the relay to lose connectivity on one of the ports and possibly also cause CPU overload.

In the new releases, the firmware is corrected to prevent network failure and CPU overload in PRP/failover mode when a network switch is rebooted.

GE tracking number: 803-9

Firmware 7.66

Summary

Improvements include the following.

- Communications
  - Corrected memory leak in “Routing and ARP Tables Information webpage
  - Corrected memory management error in link and SFP monitoring task

Communications

C **Corrected memory leak in “Routing and ARP Tables Information webpage**

Products: All

Impacted firmware: 7.0x to 7.64

Corrected firmware: 7.66, 8.04 and up

Workaround: Avoid refreshing the “Routing and ARP Tables Information” webpage many times

Description: The “Routing and ARP Tables Information” webpage included a small memory leak. Refreshing the webpage a large number of times can cause unnecessary loss of memory. This issue has not been reported by any customer.

The new releases correct the issue.

GE tracking number: 766-1

C **Corrected memory management error in link and SFP monitoring task**

Products: All

Impacted firmware: 7.64, 8.03

Corrected firmware: 7.66, 8.04 and up

Workaround: None

Description: The task monitoring the status of the Ethernet link and the SFP modules contains a memory management error that can lead to the task being suspended. In this case, changes in the Ethernet link status are not detected.

The new releases correct the issue.

GE tracking number: 766-2

Software

Software 7.61

Summary

Improvements include the following (761-54).

- Added multilingual support – Japanese and Polish
- Added operating system support for Windows 10 and Windows Server 2012 Release 2 (64-bit)
- Bug fixes

EnerVista UR Setup Software

N Software exceptions

The following items were fixed:

- Unable to create ICD and CID files when the URS file includes a template
- There are incorrect two-character Contact Output slot identifiers shown in both the UR Setup software interface and inside the settings file. An example is slot H1 in “TRIP OUTPUT IOn (H1).”
- Inconsistency in the way EnerVista UR Setup software labels the settings for the 4L Latching Output Contact module. Some of the settings are labeled "Contact Output" and some of them are labeled "Latching Output". This occurs when there are latching outputs and any other contact output modules in the relay order code.
- Three “Direct Input” settings in the EnerVista UR Setup software have names that are slightly different from the corresponding setting on the relay front panel
- The Function setting for 100% Stator Ground after file conversion defaults to Disabled and cannot be Enabled because it is read-only
- With a relay having firmware version 3.4x or 3.50, if local settings or command passwords are set on the relay, EnerVista UR Setup software does not prompt the user to enter the password when trying to change the settings or send a command via front serial port
- For POTT_1P_SEAL_IN_DELAY setting conversion, when an L90 settings file is converted from version 5.4 or 6.0 to 7.2 or 7.0, the “Seal-in Delay” setting incorrectly changes from default 0.4 s to 0.0 s
- The Contact Op Voltage Monitoring label ID is wrong for modules 6T and 6G
- When the “Preserve Custom Attributes when Importing SCD/CID Files” option is enabled in Preferences, after removing an offline device from the EnerVista UR Setup software, occasionally all temporary files associated with the device are not deleted. When later adding a device with the same name to the offline window, any subsequent changes made to the device are not updated.
- When converting from version 5.00 to 7.20, the Contact Output SealIn operand is incorrectly converted, and the “End of List” FlexLogic equation entries are included incorrectly in the conversion report

Upgrade

Compatibility

The 7.66 firmware runs on the T, U, V, and W CPU modules. View the order code to determine the CPU module in the relay. For example, in C60-V03-HPH-H6H, the relay has a V CPU module.

The graphical front panel requires a T, U, V, or W CPU module that has two connector slots on the front of the module. One connector allows a basic or enhanced front panel to be connected, and the other connector allows a graphical front panel.

The 7.66 firmware release is not compatible with previous UR CPU hardware (CPU types A, B, D, E, G, H, J, K, N, and S).

The 7.66 firmware release requires EnerVista UR Setup software version 7.6x or higher. GE suggests use of the latest available version of the software.

Upgrade

If upgrading both EnerVista software and UR firmware, upgrade the software first. Upgrade takes about 20 minutes and can be done over an Ethernet connection. The USB port cannot be used for the upgrade.

To upgrade the software:

1. If a beta version of the EnerVista UR Setup software is installed, uninstall it, for example using the Windows Control Panel.
2. Download the new software from http://www.gegridsolutions.com/app/ViewFiles.aspx?prod=urfamily&type=7
   The software is a .exe file.
3. Install the new software by (double-)clicking the file.
4. Refresh the order code in EnerVista under the **Device Setup** button.

To upgrade the firmware:

1. Download the firmware from http://www.gegridsolutions.com/app/ViewFiles.aspx?prod=urfamily&type=7
2. In the EnerVista software, navigate to **Maintenance > Update Firmware** and select the firmware file. For any issues, see a UR instruction manual.
   When the update finishes, the relay restarts.
3. Reconnect the EnerVista software to the relay, and refresh the order code in EnerVista under the **Device Setup** button.
4. Convert the existing settings file, then load the converted settings to the relay.
5. Set the device to "Programmed" under **Settings > Product Setup > Installation** to put it into service.

Categories

This document uses the following categories to classify changes.

Revision categories

Code	Category	Description
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:

GE Vernova
650 Markland Street
Markham, Ontario
Canada L6C 0M1
Worldwide telephone: +1 905 927 7070
Europe/Middle East/Africa telephone: +34 94 485 88 54
North America toll-free: 1 800 547 8629
Fax: +1 905 927 5098
Worldwide e-mail: GA.support@gevernova.com
Website: https://www.gevernova.com/grid-solutions/multilin/