

## UR Family

# Version 8.3x

## Release Notes

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### Overview

This document contains the release notes for firmware version 8.30 and software version 8.30 of the GE Universal Relay (UR) family of products.

Applicable to products: B30, B90, C30, C60, C70, C95, D30, D60, F35, F60, G30, G60, L30, L60, L90, M60, N60, T35, T60

Date of release 8.30: 12 May 2022

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.

Major firmware releases can introduce new protection and control elements that can affect the device's Modbus memory map. Check the summary of released features to find out if it applies to a particular release.

### Highlights 8.30

- **NEW** - Enhanced IEC 61850 GOOSE publishing capabilities through configurable datatype and data set size
- **NEW** - Increased number of IEC 61850 GOOSE DPS inputs in B30 relays with Process Bus Module
- **NEW** - Added a new setting to control the IEC 61850 CID file transfer over MMS
- **NEW** - Increased number of Wattmetric Ground Fault elements to 10 in F35
- **NEW** - Increased number of non-volatile latches to 48 in C30, C60 and C95
- **NEW** - Added alternate source for tracking frequency and phase reference
- **NEW** - Added displays for breakers and disconnect switches status
- Changed firmware to allow breakers and disconnect switches control when **SV TRBL PRT BLOCK** is set to "Global"
- Graphical Front Panel changes for breaker and disconnect switches interlock bypass
- Changed range of setting **PERCENT DIFFERENTIAL SLOPE 2** of the transformer percent differential element to 20% - 100%
- Enhanced Local/Remote Control Authority functionality for breaker elements and disconnect switches
- Enhanced synchrocheck element with option to select the phase used for the synchronization check
- Improved HiZ algorithm in the F60 relay

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## Firmware

### Firmware 8.30

#### Bus Differential Systems – B30, B90

**F Fixed seal-in functionality for a single-pole mode of Breaker Failure in a B90 relay set to “Logic”**

Products: B90 with **B90 FUNCTION** set to “Logic” with single-pole mode and seal-in enabled

Impacted firmware: 8.00 to 8.05, 8.10, 8.11, 8.20 to 8.24

Corrected firmware: 8.30

Workaround: Set the **B90 FUNCTION** to “Protection” or use external seal-in for breaker failure.

Description: In previous versions, in a B90 relay with the **B90 FUNCTION** set to “Logic”, there was an incorrect operation of the single-pole breaker failure elements that are using seal-in and current supervision functionalities. This manifests in two ways:

1. The breaker failure initiation is sealed-in only for one protection pass.
2. A breaker failure operation of one element could cause the operation of other breaker failure elements that are using seal-in and current supervision.

This issue does not affect the breaker failure elements in a B90 relay if the **B90 FUNCTION** is set to “Protection” and breaker failure in the 3-pole mode, or if the elements are not using seal-in and current supervision.

GE tracking number: 830-34

**E Enhanced Breaker Failure element in B30 relays with Process Bus Module**

Products: B30 with process bus module

Impacted firmware: 7.80 to 7.82, 7.90 to 7.92, 8.00 to 8.05, 8.10, 8.11, 8.20 to 8.24

Corrected firmware: 8.30

Workaround: None

Description: In previous firmware versions, B30 with process bus module order codes offered only 3-pole mode for breaker failure protection. Also, in previous firmware versions, the user had to use external OR gates to gather all internal and external initiate signals for breaker failure protection.

In version 8.30, two changes were implemented for the breaker failure element in B30 relays with process bus module:

1. A single-pole mode was added to the breaker failure protection element.
2. Additional **INITIATE** settings were added for each phase in single-pole mode and also for the 3-pole mode.

GE tracking number: 830-1

#### Communications

**C, E Enhanced IEC 61850 GOOSE publishing capabilities through configurable datatype and dataset size**

Products: All with IEC 61850

Impacted firmware: All

Corrected firmware: 8.30

Workaround: None

Description: In previous versions, the dataset sizes in IEC 61850 server were fixed to 64 data attributes. In

IEC 61850 GOOSE subscription, the data types Enum, INT8U, INT16U, INT32U cannot be mapped to RxGOOSE Analog Inputs and there is no provision to write Analog expressions on the subscribed Analog inputs.

In version 8.30, the dataset sizes are configurable – 32, 48, 64, 96, 128 and 192. A new actual value is added per dataset indicating the number of configured attributes in that dataset.

In IEC 61850 GOOSE subscription, subscribing to datatypes Enum, INT8U, INT16U, INT32U is supported. Analog expressions are added for each RxGOOSE Analog input and a new FlexOperand RxGOOSE An1 ExpnSt is added to indicate the Analog expression status.

GE tracking number: 830-15

**E Added option in B30 with Process Bus Module to map breaker/isolator status to subscribed IEC61850 GOOSE DPS inputs**

Products: All with process bus module

Impacted firmware: 7.70 to 7.73, 7.80 to 7.82, 7.90 to 7.92, 8.00 to 8.05, 8.10, 8.11, 8.20 to 8.24

Corrected firmware: 8.30

Workaround: None

Description: In previous versions, the subscribed DPS input cannot be directly mapped to Breaker status or Disconnect switch status. The DPS input is derived into on and off Boolean states and the individual Flex states needs to be mapped to Breaker and Disconnect switch states, requiring additional FlexLogic.

In version 8.30, for B30x new settings are introduced for **BKR STATUS DPS INPUT** and **ISOLATOR DPS INPUT** for each breaker status and isolator status elements respectively. The Subscribed RxGOOSE DPS Inputs can be directly mapped to the Breaker status and Isolator status.

GE tracking number: 830-13

**C, E Increased number of IEC 61850 GOOSE DPS inputs in B30 relays with Process Bus Module**

Products: B30 with process bus module

Impacted firmware: All

Corrected firmware: 8.30

Workaround: None

Description: In version 8.30, a B30 relay with process bus module can subscribe to up to 128 RxGOOSE DPS inputs, depending on the number of feeders supported by the order code.

GE tracking number: 830-16

**C Added support for enumeration values in IEC 61850 GOOSE publishing and subscription by the main CPU and the process bus module**

Products: All with IEC 61850

Impacted firmware: All

Corrected firmware: 8.30

Workaround: None

Description: In previous versions, the UR relay did not support enumeration values in IEC 61850 GOOSE subscription and publishing.

In version 8.30, both the main CPU and the process bus module support enumeration value in IEC 61850 GOOSE subscription and publishing, a B30 relay with process bus module can subscribe to up to 128 RxGOOSE DPS inputs, depending on the number of feeders supported by the order code.

GE tracking number: 830-18

**C Replaced MMS CONNECTION TIMEOUT setting with standard TCP keepalive messages**

Products: All with IEC 61850

Impacted firmware: All

Corrected firmware: 8.30

Workaround: None

Description: In previous versions, the **MMS CONNECTION TIMEOUT** setting was available for the IEC 61850 server, in addition to the TCP Keepalive mechanism, to disconnect the inactivity connections.

In version 8.30, the setting **MMS CONNECTION TIMEOUT** is deprecated, and inactive connections are effectively disconnected using TCP Keepalive mechanism.

GE tracking number: 830-19

#### **C, E Added a new setting to control the IEC 61850 CID file transfer over MMS**

Products: All with IEC 61850

Impacted firmware: 7.30 and up

Corrected firmware: 8.30

Workaround: None

Description: In previous versions, transferring a CID file over MMS was enabled by default and could not be disabled.

In firmware version 8.30, a new setting, found in **Settings > Product Setup > Communications > Protocol & Authority > CID File Write Via MMS**, was added that allows the user to disable the transfer of a CID file over MMS. The default value of the setting is "Enabled".

GE tracking number: 830-31

#### **C Changed firmware to allow duplicate subscriptions of same IEC 61850 GOOSE input in G2 CID file format**

Products: All with IEC 61850

Impacted firmware: All

Corrected firmware: 8.30

Workaround: None

Description: In previous versions, the relay did not allow duplicate subscriptions of the same IEC 61850 GOOSE input.

In version 8.30, in the G2 configuration type of the CID file, the relay now allows duplicate subscriptions of the same IEC 61850 GOOSE input.

GE tracking number: 830-35

#### **C Changed firmware in relays with CyberSentry software option to block an MMS client from changing the setting TXGOOSE SIM MODE when the setting LOCK RELAY SETTINGS is "Enabled"**

Products: All with IEC 61850 and CyberSentry software option

Impacted firmware: 7.70 to 7.73, 7.80 to 7.82, 7.90 to 7.92, 8.00 to 8.05, 8.10, 8.11, 8.20 to 8.24

Corrected firmware: 8.30

Workaround: None

Description: In previous versions, a relay with CyberSentry software option would allow an MMS control to change the setting **TXGOOSE SIM MODE** by changing the value of LPHD1.TxGoSim.ctlVal, even if the setting **LOCK SETTINGS** was "Enabled".

In version 8.30, if **LOCK SETTINGS** is enabled in the relay with CyberSentry software option, the value of **TXGOOSE SIM MODE** cannot be changed from an MMS client.

GE tracking number: 830-41

#### **C Fixed firmware to prevent high CPU usage when route destinations are not available**

Products: All

Impacted firmware: 7.28, 7.64 to 7.66, 8.10 and up

Corrected firmware: 8.30

Workaround: None

Description: In previous versions, if the route configuration is such that the destinations are not reachable,

the relay may experience high CPU usage and become sluggish.  
In version 8.30, this issue has been fixed.  
GE tracking number: 830-42

**C Changed IEC 61850 control block name attribute (cbName) to be fixed**

Products: All

Impacted firmware: All

Corrected firmware: 8.30

Workaround: None

Description: In previous versions, the IEC 61850 control block name (cbName) attribute was configurable, and the service attribute value is “dyn” in generated SCL files.

In version 8.30, the IEC 61850 control block name (cbName) attribute is no longer configurable.

GE tracking number: 830-50

**C Fixed firmware to close the HTTP TCP port when the HTTP TCP PORT NUMBER is set to “0”**

Products: All

Impacted firmware: 7.00 and up

Corrected firmware: 8.30

Workaround: Blocking the HTTP port in the firewall is recommended.

Description: In previous versions, setting the **HTTP TCP PORT NUMBER** to “0” did not close the HTTP port.

In version 8.30, this issue is fixed.

GE tracking number: 830-51

**C Fixed SFTP after firmware upgrade in a relay with IEC 61850 and without CyberSentry software option**

Products: All with IEC 61850 and without CyberSentry software option

Impacted firmware: 8.10, 8.11, 8.20 to 8.24

Corrected firmware: 8.30

Workaround: None

Description: In previous versions, in a relay with the IEC 61850 software option but without CyberSentry software option, after a firmware upgrade the relay requires an additional reboot to enable the SFTP protocol.

In version 8.30, this issue is fixed and SFTP will work immediately after a firmware upgrade.

GE tracking number: 830-52

**C Fixed open port after firmware upgrade of relays with PMU**

Products: All with PMU

Impacted firmware: 6.00 and up

Corrected firmware: 8.30

Workaround: Power cycle or reboot the relay immediately after a firmware upgrade.

Description: In previous versions, a port scan done immediately after the firmware upgrade of a relay with the PMU software option will reveal an open port with a random number. A subsequent reboot resolves this issue.

In version 8.30, this issue is fixed.

GE tracking number: 830-53

**C Restored webpages in relays without CyberSentry software option**

Products: All without CyberSentry software option

Impacted firmware: 8.10, 8.11, 8.20 to 8.24

Corrected firmware: 8.30

Workaround: None

Description: In version 8.10, several webpages were removed from relays without the CyberSentry software option.

In version 8.30, the following webpages were restored only in relays without CyberSentry software option: "Front-Panel Display Report", "DNP Points Lists", "IEC 60870-5-104 Points List", "IEC103 Inputs List".

These pages are not available in relays with CyberSentry software option.

GE tracking number: 830-54

**C Changed access rights of pushbuttons from front panel simulator in EnerVista UR Setup for a relay with CyberSentry software option**

Products: All with CyberSentry software option

Impacted firmware: 7.00 and up

Corrected firmware: 8.30

Workaround: None

Description: In previous versions, in a relay with the CyberSentry software option it was possible to activate the relay's pushbuttons without role authentication remotely from the front panel simulator in EnerVista UR Setup, when the **BYPASS ACCESS** setting was set to "Pushbuttons" or "Local".

In version 8.30, a relay with CyberSentry software option with **BYPASS ACCESS** set to "Pushbuttons" or "Local" will deny activation of the pushbuttons without role authentication. Only the "Remote" and "Local and Remote" bypass access options allow activation of the pushbuttons remotely in EnerVista UR Setup without the need for role authentication.

GE tracking number: 830-55

**C Changed the default value of the RADIUS authentication methods to PAP**

Products: All with CyberSentry software option

Impacted firmware: 7.00 and up

Corrected firmware: 8.30

Workaround: None

Description: In previous versions, the default value of the RADIUS authentication methods was EAP-TTLS.

In version 8.30, the default value of the RADIUS authentication methods is PAP.

GE tracking number: 830-56

**C Fixed handling of the ampersand character (&) when generating the IEC 61850 IID file**

Products: All with IEC 61850

Impacted firmware: 7.30 to 7.32, 7.40 to 7.42, 7.60 to 7.66, 7.70 to 7.74, 7.80 to 7.82, 7.90 to 7.92, 8.00 to 8.05, 8.10, 8.11, 8.20 to 8.24

Corrected firmware: 8.30

Workaround: Avoid using the ampersand character in settings that allow free text entry, like ID settings.

Description: In previous versions, the relay did not handle the ampersand character (&) when generating the IEC 61850 IID file.

In version 8.30, this issue is resolved.

GE tracking number: 830-64

**C Corrected checking of MAC address for IEC 61850 GOOSE**

Products: All with IEC 61850

Impacted firmware: All

Corrected firmware: 8.30

Workaround: None

Description: In version 8.30, the checking of the MAC address for IEC 61850 GOOSE was changed to match

the standard.

GE tracking number: 830-69

**C Changed behavior of relay when IEC 61850 deadband value is “0”**

Products: All with IEC 61850

Impacted firmware: All

Corrected firmware: 8.30

Workaround: None

Description: In previous versions, a IEC61850 deadband value of “0” suppressed GOOSE/reporting. The factory default value of the IEC61850 deadbands was “0”.

In version 8.30, to relay’s behavior matches Tissue 1565, i.e., with a deadband of “0” the attribute magnitude follows the instantaneous value. The factory default value for the IEC 61850 deadbands was changed to 100%.

GE tracking number: 830-70

**C Fixed potential configuration error of relays with Process Bus Module when the remote IED publishes multiple GOOSE messages that share the same dataset**

Products: All with process bus module

Impacted firmware: 7.80 to 7.82, 7.90 to 7.92, 8.00 to 8.05, 8.10, 8.11, 8.20 to 8.24

Corrected firmware: 8.30

Workaround: None

Description: In previous versions, the configuration of relays with process bus module may fail, if the remote IED publishes multiple GOOSE messages that share the same dataset.

In version 8.30, this issue is fixed.

GE tracking number: 830-75

**C Corrected operation of the “Oscillatory GOOSE” FlexLogic operand**

Products: All with IEC 61850

Impacted firmware: 7.00 and up

Corrected firmware: 8.30

Workaround: None

Description: In previous versions, the “Oscillatory GOOSE” FlexLogic operand was asserted later than the required 4 stated changes within 40 msec.

In version 8.30, this issue is fixed.

GE tracking number: 830-76

## Distribution Feeders

**E Increased number of Wattmetric Ground Fault elements to 10 in F35**

Products: F35

Impacted firmware: All

Corrected firmware: 8.30

Workaround: None

Description: In previous versions, F35 relays supported a maximum of 5 Wattmetric Ground Fault elements.

In version 8.30, the maximum number of Wattmetric Ground fault elements is 10. The order code has to include 5 CT banks to allow for 10 Wattmetric Ground Fault elements.

GE tracking number: 830-23

## Platform

### G Removed SV DELAY ALARM setting from all UR Family relays apart from L90 and L30

Products: All with process bus module

Impacted firmware: 7.80 to 7.82, 7.90 to 7.92, 8.00 to 8.05, 8.10, 8.11, 8.20 to 8.24

Corrected firmware: 8.30

Workaround: None

Description: The aim of the **SV DELAY ALARM** setting in relays with process bus module is to alert the user if the network delay is more than a configured threshold. In previous versions, a relay with process bus module could measure network delay only in L90/L30 relays. For all other relays, the delay calculated by the relay was the difference in delays between SV streams.

In version 8.30, the **SV DELAY ALARM** setting and the associated FlexLogic operands “RxSV Delay ALM ON/OFF” have been limited to L90/L30 relays and have been removed from the other relay types.

Due to the removal of the **SV DELAY ALARM** setting in all UR relays other than L90/L30, the criterion for asserting **DELAYED PROCESSING** alarm is now a fixed threshold of 12 msec.

GE tracking number: 830-2

### G Changed default value of the SV time synchronization status to “No-Sync”

Products: All with process bus module

Impacted firmware: 7.80 to 7.82, 7.90 to 7.92, 8.00 to 8.05, 8.10, 8.11, 8.20 to 8.24

Corrected firmware: 8.30

Workaround: None

Description: In previous versions, in relays with process bus module, the default value of the SV time synchronization status was “Local”.

In version 8.30, the default state of the SV time synchronization status, the “RxSV Sync Status” actual values, is “No-Sync”. The relay’s behavior does not change and only the actual value is changed to correctly present the status of the SV. “Local” is only displayed when the SV stream is actually synced with a local clock

GE tracking number: 830-3

### G Shortened time to apply the test mode in relays with Process Bus Module

Products: All with process bus module

Impacted firmware: 7.80 to 7.82, 7.90 to 7.92, 8.00 to 8.05, 8.10, 8.11, 8.20 to 8.24

Corrected firmware: 8.30

Workaround: None

Description: In previous versions, in relays with process bus module it took about 20 sec to apply setting changes to the test mode.

In version 8.30, this time was shortened to about half a second.

GE tracking number: 830-4

### D Improved time synchronization menus for relays with Process Bus Module

Products: All with process bus module

Impacted firmware: 7.80 to 7.82, 7.90 to 7.92, 8.00 to 8.05, 8.10, 8.11, 8.20 to 8.24

Corrected firmware: 8.30

Workaround: None

Description: In previous versions, the time synchronization settings were split in different menus for the Real Time Clock and for the process bus module.

In version 8.30, the process bus module time synchronization menu has been moved to the **Product Setup > Real Time Clock** menu. New actual values for the process bus module PTP status have been added



under **Actual Values > Process Bus Module > Time Sync.**

GE tracking number: 830-5

**E Graphical Front Panel changes for breaker and disconnect switches interlock bypass**

Products: All

Impacted firmware: All

Corrected firmware: 8.30

Workaround: None

Description: In previous versions, Breaker and Disconnect switch interlock open and close settings are applied only for IEC61850 controls. An MMS client can bypass the interlock conditions using the check bits in control command.

In version 8.30, a new setting **BRK1 CILO INTRLK TO LOCAL CTRL** is added. When set to "Enabled", the interlock conditions are applied to local commands (Commands from graphical front panel, Pushbuttons and Breaker1 Open/Close Command settings). Interlock conditions to local commands can be bypassed from graphical front panel by setting **BRK1 CILO INTERLOCK GFP BYPASS** to "Enabled".

GE tracking number: 830-6

**G Changed range of setting PERCENT DIFFERENTIAL SLOPE 2 of the transformer percent differential element to 20% - 100%**

Products: G30, T35, T60

Impacted firmware: All

Corrected firmware: 8.30

Workaround: None

Description: In previous versions, the range of the setting **PERCENT DIFFERENTIAL SLOPE 2** of the transformer percent differential element was 50% - 100%.

In version 8.30, the range of this setting was changed to 20% - 100%.

GE tracking number: 830-7

**E Added additional targets and events for the relay in test mode and simulation mode**

Products: All

Impacted firmware: All for test mode and simulation mode

Corrected firmware: 8.30

Workaround: None

Description: In previous versions, there were no targets and events, to indicate when the relay is in simulation mode or test mode.

In version 8.30, targets and events were added for indication of the **TEST MODE** and **SIMULATION MODE**.

GE tracking number: 830-8

**E Added additional targets and events to indicate abnormal SV conditions in relays with Process Bus Module**

Products: All with process bus module

Impacted firmware: 7.80 to 7.82, 7.90 to 7.92, 8.00 to 8.05, 8.10, 8.11, 8.20 to 8.24

Corrected firmware: 8.30

Workaround: None

Description: In previous versions, in order codes with process bus module, there were no targets or events for abnormal conditions of the SV Streams.

In version 8.30, in order codes with process bus module, targets and events were added for the RxSV processing logic with the option to select the FlexLogic operands of interest.

GE tracking number: 830-9

## **N Enhanced Local/Remote Control Authority functionality for breaker elements and disconnect switches**

Products: All

Impacted firmware: All

Corrected firmware: 8.30

Workaround: None

Description: In previous versions, only the Breaker/Disconnect switch local state was used to determine the control authority for IEC 61850 controls. When Breaker/Disconnect switch was in local mode, controls from IEC1850 were blocked and when in remote mode, controls from IEC1850 were allowed for any originator category.

In version 8.30, an enhanced local/remote control functionality was added to provide multi-level control from different levels (Bay, Station, Remote) for the breaker elements and disconnect switches for a full compliance to the IEC 61850 7-4:2010 Annex B standard.

GE tracking number: 830-10

## **E Added alternate source for tracking frequency and phase reference**

Products: All

Impacted firmware: All

Corrected firmware: 8.30

Workaround: None

Description: In previous versions, the tracking frequency and phase reference stay had just one single source. When this source signal was lost or became unmeasurable, the relay was using nominal frequency for tracking purposes until the main reference signal became available and measurable again.

In version 8.30, an alternate tracking frequency and phase reference source has been added. If the signal specified by the main **TRACKING FREQUENCY AND PHASE REFERENCE** setting is lost or becomes unmeasurable, the reference will be automatically switched to this alternative source. When the main source signal becomes available again, relay will switch back to the main source. If neither the main nor alternate reference signals are available, tracking frequency reverts to nominal until either main or alternate reference signals are available and measurable. The alternate source is optional and can be enabled by the user as required.

GE tracking number: 830-11

## **E Enhanced synchrocheck element with option to select the phase used for the synchronization check**

Products: All with synchrocheck: B30, C60, C95, D30, D60, F60, G30, G60, L30, L60, L90, N60, T60

Impacted firmware: All

Corrected firmware: 8.30

Workaround: None

Description: In previous versions, the user could select only the sources for the synchrocheck element, not individual phases of a source.

In version 8.30, a new setting **SYNCHK PHASE SELECT** allows the user to select specific phases for the synchronization check. Additionally, just one source can now be used in the synchrocheck element, where selected 4th channel Vx voltage will be checked against matching voltage from the 3-phase bank.

GE tracking number: 830-12

## **E Improved HiZ algorithm in the F60 relay**

Products: F60 with HiZ

Impacted firmware: All

Corrected firmware: 8.30

Workaround: None

Description: In previous versions, an F60 relay with HiZ could potentially assert "HiZ DOWNED COND", in

error during complex switching conditions when in fact the conductor was still intact. Based on the gathered data, changes have been made to the HiZ Element of the F60 in version 8.30 to make it more secure against false operation of HiZ DOWNED COND.

In version 8.30, the HiZ algorithm was improved to be more secure against false operation of the “HiZ DOWNED COND” and includes the following additional algorithm improvements:

1. Improved loss of load voltage supervision
2. Introduced adaptive arming time of the HiZ element
3. Added a block setting to give the user the ability to customize the block element

GE tracking number: 830-14

**F Fixed partial protection blocking of the synchrocheck element in relays with Process Bus Module**

Products: All of the following with process bus module and Synchrocheck: B30, C60, C95, D30, D60, F60, G30, G60, L30, L60, L90, N60, T60

Impacted firmware: 7.90 to 7.92, 8.00 to 8.05, 8.10, 8.11, 8.20 to 8.24

Corrected firmware: 8.30

Workaround: None

Description: In firmware version 8.30, the partial protection blocking of the synchrocheck element in relays with process bus module is fixed.

GE tracking number: 830-26

**F Fixed delay in applying the simulation mode after reboot in relays with Process Bus Module**

Products: All with process bus module

Impacted firmware: 7.90 to 7.92, 8.00 to 8.05, 8.10, 8.11, 8.20 to 8.24

Corrected firmware: 8.30

Workaround: None

Description: In previous versions, for a relay with process bus module, after reboot there was a short delay in applying the simulation mode, which can cause a maloperation.

In version 8.30, this issue is fixed.

GE tracking number: 830-28

**F Fixed partial protection blocking of the CT Trouble element in B30 relay with Process Bus Module**

Products: B30 with process bus module

Impacted firmware: 7.90 to 7.92, 8.00 to 8.05, 8.10, 8.11, 8.20 to 8.24

Corrected firmware: 8.30

Workaround: None

Description: In previous versions, a B30 relay with process bus module using partial protection blocking did not block the CT trouble element when an SV Stream Trouble was asserted for a stream that affected it.

In version 8.30, this issue is fixed.

GE tracking number: 830-29

**M Fixed partial protection blocking in relay with Process Bus Module when switching to the alternate AC banks**

Products: All with process bus module

Impacted firmware: 7.90 to 7.92, 8.00 to 8.05, 8.10, 8.11, 8.20 to 8.24

Corrected firmware: 8.30

Workaround: None

Description: In previous versions, in relays with process bus module, the partial protection blocking feature did not work correctly after the relay switched to the alternate banks.

In version 8.30, this issue is fixed.  
GE tracking number: 830-30

**C Increased robustness of firmware upgrade over USB**

Products: All with graphical front panel

Impacted firmware: 7.60 and to 7.66, 7.70 to 7.74, 7.80 to 7.82, 7.90 to 7.92, 8.00 to 8.05, 8.10, 8.11, 8.20 to 8.24

Corrected firmware: 8.30

Workaround: Upgrade firmware over Ethernet

Description: In previous versions, upgrading firmware over USB was prone to fail due to communication errors on the USB channel.

In version 8.30, the firmware upgrade over USB was improved by adding additional error checking.

GE tracking number: 830-32

**C Fixed firmware upgrade over USB for a relay with CyberSentry software option**

Products: All with graphical front panel and CyberSentry software option

Impacted firmware: 7.20 to 7.28, 7.30 to 7.32, 7.40 to 7.42, 7.60 to 7.66, 7.70 to 7.74, 7.80 to 7.82, 7.90 to 7.92, 8.00 to 8.05, 8.10, 8.11, 8.20 to 8.24

Corrected firmware: 8.30

Workaround: Upgrade firmware over Ethernet or enable local bypass by selecting "Local" or "Local and Remote" as the **BYPASS ACCESS** value.

Description: In previous versions, the firmware upgrade over USB over in a relay with CyberSentry software option fails, if **BYPASS ACCESS** is not set to "Local" or "Local and Remote".

In version 8.30, this issue is fixed.

GE tracking number: 830-33

**D Fixed display of Process Bus Module firmware version and compilation timestamp after a power cycle**

Products: All with process bus module

Impacted firmware: 7.80 to 7.82, 7.90 to 7.92, 8.00 to 8.05, 8.10, 8.11, 8.20 to 8.24

Corrected firmware: 8.30

Workaround: Power cycling or rebooting the relay usually resolves this issue.

Description: In previous versions, occasionally after power cycling or rebooting the relay, the process bus module firmware version and compilation timestamp are shown as 0.

In version 8.30, this issue is fixed.

GE tracking number: 830-36

**G Fixed seal-in functionality of contact outputs 10 to 18 in contact outputs module 6X**

Products: All with contact output module 6X

Impacted firmware: 7.61 to 7.66, 7.70 to 7.74, 7.80 to 7.82, 7.90 to 7.92, 8.00 to 8.05, 8.10, 8.11, 8.20 to 8.24

Corrected firmware: 8.30

Workaround: None

Description: In previous versions, the seal-in functionality of contact outputs 10 to 18 of the contact outputs module 6X was not working. The seal-in functionality of contact outputs 1 to 9 was working correctly.

In version 8.30, the seal-in function of all 18 contact outputs of the 6X module is working correctly.

GE tracking number: 830-37

**D Fixed display of the analog actual values in the Graphical Front Panel annunciator**

Products: All with graphical front panel

Impacted firmware: 7.60 to 7.66, 7.70 to 7.74, 7.80 to 7.82, 7.90 to 7.92, 8.00 to 8.05, 8.10, 8.11, 8.20 to 8.24

Corrected firmware: 8.30

Workaround: Avoid using actual values in the last page of the annunciator

Description: In previous versions, that actual values in the last page of the annunciator were not updating correctly.

In version 8.30, this issue is fixed.

GE tracking number: 830-38

**G Changed the default value of the Process Bus Module setting ANTI-ALIASING FILTER to “Disabled”**

Products: All with process bus module

Impacted firmware: 7.80 to 7.82, 7.90 to 7.92, 8.00 to 8.05, 8.10, 8.11, 8.20 to 8.24

Corrected firmware: 8.30

Workaround: None

Description: In previous versions, the Process Bus Module setting **ANTI-ALIASING FILTER** was set to “Enabled” by default.

In version 8.30, the default value of the **ANTI-ALIASING FILTER** setting is “Disabled”. GE MU-320 already employs an anti-aliasing filter, therefore no need for additional filtering in the process bus module. When UR relays receive SV from a merging unit not employing an anti-aliasing filter or of questionable quality, the setting can be set to “Enabled”.

GE tracking number: 830-39

**G Corrected scaling of ground current magnitude in the ground current supervision of the Restricted Ground Fault element**

Products: All of the following with RGF: F60, G30, G60, L90, T35, T60

Impacted firmware: 5.84, 6.07, 7.28, 8.03 to 8.24

Corrected firmware: 8.30

Workaround: None

Description: In previous versions, the ground current magnitude of the ground current supervision ( “ $I_{Gmag} \geq 0.8 \times PKP$ ”) of the Restricted Ground Fault element was not scaled to the differential base, but was scaled to the CT base.

In version 8.30, this issue is fixed and current supervision is scaled to the differential base.

GE tracking number: 830-40

**C Fixed firmware to assert the “PTP Failure” FlexLogic operand in a specific case**

Products: All with IEEE 1588

Impacted firmware: 7.00 and up

Corrected firmware: 8.30

Workaround: None

Description: In previous versions, if IEEE 1588 (PTP) is enabled for more than one Ethernet port on the main CPU, but the relay is synchronized to PTP on a single port, if that port is disabled, the relay will not assert the “PTP Failure” FlexLogic operand.

In version 8.30, this issue is fixed.

GE tracking number: 830-44

**R Fixed event recorder to prevent the display of duplicated events in the relays with Process Bus Module**

Products: All with process bus module

Impacted firmware: 7.90 to 7.92, 8.00 to 8.05, 8.10, 8.11, 8.20 to 8.24

Corrected firmware: 8.30

Workaround: None

Description: In previous versions, the event record of a relay with process bus module occasionally displayed the same event twice, with an identical timestamp.

In version 8.30, this issue is fixed.

GE tracking number: 830-48

**D Fixed “Add to User Display” issue**

Products: All

Impacted firmware: All

Corrected firmware: 8.30

Workaround: None

Description: Any existing system display can be copied into an available user display by pressing the Enter key on the respective display.

In previous versions, in relays without CyberSentry software option but using settings/commands passwords when adding a user display, the front panel display can become stuck on the prompt “ADD TO USER DISPLAY?”.

In version 8.30, this issue is fixed.

GE tracking number: 830-49

**D Fixed display issue when changing user passwords in relays with Graphical Front Panel and CyberSentry software options**

Products: All with graphical front panel and CyberSentry software option

Impacted firmware: 7.60 to 7.66, 7.70 to 7.74, 7.80 to 7.82, 7.90 to 7.92, 8.00 to 8.05, 8.10, 8.11, 8.20 to 8.24

Corrected firmware: 8.30

Workaround: Pressing Escape will resolve the issue.

Description: In previous versions, in relays with graphical front panel and CyberSentry software option, the following sequence will result in an erroneous display:

- Attempt to change a role password from the graphical front panel, followed by pressing the Home key.

Pressing the Menu key after this sequence displays the prompt for changing the password instead of the Menu display. Pressing the Escape key will exit this state.

In version 8.30, this issue is resolved.

GE tracking number: 830-57

**F Fixed potential maloperation of the thermal overload protection element during pickup at variable load conditions**

Products: All with thermal overload protection: B30, C60, C70, C95, D30, D60, F30, F35, F60, G30, G60, L30, L60, L90, N60, T35, T60

Impacted firmware: 7.61 to 7.66, 7.70 to 7.74, 7.80 to 7.82, 7.90 to 7.92, 8.00 to 8.05, 8.10, 8.11, 8.20 to 8.24

Corrected firmware: 8.30

Workaround: None

Description: In previous versions there was the potential for the maloperation of the thermal overload protection element when switches hot-cold curves in variable load pickup conditions.

GE tracking number: 830-58

**U Corrected firmware to prevent Test Blocked mode after a firmware upgrade or loading settings into the relay**

Products: All

Impacted firmware: 7.90 to 7.92, 8.00 to 8.05, 8.10, 8.11, 8.20 to 8.24

Corrected firmware: 8.30

Workaround: Change the **IED MODE** setting to “Test” or “Test Blocked” and then back to “On”.

Description: In previous versions, after a major firmware upgrade or after loading settings, occasionally the relay remains in “Test-Blocked” mode.

GE tracking number: 830-60

**D Fixed flickering display on the Graphical Front Panel during a firmware upgrade**

Products: All with graphical front panel

Impacted firmware: 8.21 to 8.24

Corrected firmware: 8.30

Workaround: None

Description: In previous versions, the messages displayed on the graphical front panel during a firmware upgrade were flickering.

In version 8.30, this issue is resolved.

GE tracking number: 830-62

**R Changed AC channel labeling in oscillography records in relays with Process Bus Module**

Products: All with process bus module

Impacted firmware: 7.80 to 7.82, 7.90 to 7.2, 8.00 to 8.05, 8.10, 8.11, 8.20 to 8.24

Corrected firmware: 8.30

Workaround: None

Description: In version 8.30, to improve consistency of AC channel naming in oscillography records between relays with process bus module and DSP modules, the following AC signal convention WX-YZ was introduced, where:

W-DSP slot name or B for the process bus module relay

X-DSP channel name or channel number for the AC bank

Y-I for current channel and V for voltage channel

Z-phase, A, B, C and G for current and A, B, C and X for voltage

GE tracking number: 830-63

**D Corrected potential discrepancy in the list of target messages when viewed from different Modbus clients**

Products: All

Impacted firmware: 7.60 to 7.66, 7.70 to 7.74, 7.80 to 7.82, 7.90 to 7.92, 8.00 to 8.05, 8.10, 8.11, 8.20 to 8.24

Corrected firmware: 8.30

Workaround: None

Description: In previous versions, the list of target messages of a relay may differ when viewed from different Modbus clients. This issue may be observed also between the target messages listed by the Graphical Front Panel and by EnerVista UR Setup.

In version 8.30, this issue is resolved.

GE tracking number: 830-65

**G Changed default value of the setting RESTD GND FT PICKUP DELAY of the Restricted Ground Fault element**

Products: All with RGF: F60, G30, G60, L90, T35, T60

Impacted firmware: All

Corrected firmware: 8.30

Workaround: None

Description: In previous versions, the factory default value of the setting **RESTD GND FT PICKUP DELAY** of the Restricted Ground Fault element was “0”.

In version 8.30, the default value of the setting **RESTD GND FT PICKUP DELAY** was changed to "0.3 s".  
GE tracking number: 830-66

**G Changed firmware to prevent prompting for password if the LOCK SETTINGS setpoint is "Enabled"**

Products: All with Graphical Front Panel

Impacted firmware: 7.60 to 7.66, 7.70 to 7.74, 7.80 to 7.82, 7.90 to 7.92, 8.00 to 8.05, 8.10, 8.11, 8.20 to 8.24

Corrected firmware: 8.30

Workaround: None

Description: In previous versions, a relay with graphical front panel would prompt for the password when attempting to change a setting, even when the **LOCK SETTINGS** setpoint was "Enabled".

In version 8.30, if the **LOCK SETTINGS** setpoint is "Enabled", the graphical front panel will not prompt for the password but display "Local Access Denied".

GE tracking number: 830-67

**G Changed the threshold of the supervision current of the current polarization of the neutral directional overcurrent element**

Products: All with IEC 61850

Impacted firmware: 5.70 to 5.72, 5.80 to 5.84, 5.90 to 5.92, 6.00 to 6.08, 7.00 to 7.01, 7.10 to 7.12, 7.20 to 7.28, 7.30 to 7.32, 7.40 to 7.42, 7.60 to 7.66, 7.70 to 7.74, 7.80 to 7.82, 7.90 to 7.92, 8.00 to 8.05, 8.10, 8.11, 8.20 to 8.24

Corrected firmware: 8.30

Workaround: None

Description: In previous versions, the supervision current of voltage current polarization in the neutral directional overcurrent element was  $|I_g| \geq 0.05pu$ .

In version 8.30, the threshold of the current supervision of the voltage current polarization in the neutral direction overcurrent protection element was changed to be the current cutoff setting level,  $|I_g| \geq \text{Current\_Cutoff\_Level}$ .

GE tracking number: 830-68

**G Changed naming of outputs for 6X contact outputs module**

Products: All

Impacted firmware: 7.61 to 7.66, 7.70 to 7.74, 7.80 to 7.82, 7.90 to 7.92, 8.00 to 8.05, 8.10, 8.11, 8.20 to 8.24

Corrected firmware: 8.30

Workaround: None

Description: In previous versions, the terminal of the 6X contact outputs module were simply numbered from 1 to 18.

In version 8.30, to make it easier to identify them, the terminal names of the 6X contact outputs module have been renamed as follows:

"1a","3a","5a","7a","9a","11a","13a","15a","17a"

"1b","3b","5b","7b","9b","11b","13b","15b","17b"

GE tracking number: 830-71

**D Add displays for breakers and disconnect switches status**

Products: All

Impacted firmware: All

Corrected firmware: 8.30

Workaround: None

Description: In version 8.30, new displays for the status of breakers and disconnect switches were added to the actual values menus.



GE tracking number: 830-72

**R Fixed display issue with breaker pushbutton control on the Graphical Front Panel**

Products: All with graphical front panel

Impacted firmware: 7.90 to 7.92, 8.00 to 8.05, 8.10, 8.11, 8.20 to 8.24

Corrected firmware: 8.30

Workaround: None

Description: The **BREAKER PB CONTROL** setting allows open/close operations to be performed from the front panel button when the value of the FlexLogic operand assigned to it is high.

In previous versions, in relays with graphical front panel, the open/close buttons were displayed regardless of the state of the FlexLogic operand assigned to the setting **BREAKER PB CONTROL**.

In version 8.30, the open/close buttons will be displayed only when the value of the FlexLogic operand assigned to **BREAKER PB CONTROL** is high and local control from the front panel is allowed.

GE tracking number: 830-73

**R Corrected syslog to issue "Authentication Notice" events when performing commands from the front panel**

Products: All with CyberSentry software option

Impacted firmware: 7.00 and up

Corrected firmware: 8.30

Workaround: None

Description: In previous versions, in relays with CyberSentry software option issuing commands from the front panel recorded only "Authentication Info" events, without the "Authentication Notice" events that are present when issuing commands remotely.

In version 8.30, this issue is fixed.

GE tracking number: 830-74

**R Fixed assertion of the "Setting Changed" FlexLogic operand when year changes**

Products: All

Impacted firmware: 7.00 and up

Corrected firmware: 8.30

Workaround: None

Description: In previous versions, when the year of the date changes, either by command or naturally at the end of the year, the "Setting Changed" FlexLogic operand is asserted.

In version 8.30, this issue is fixed.

GE tracking number: 830-77

## Process Bus Module

**U Changed firmware to allow breakers and disconnect switches control when SV TRBL PRT BLOCK is set to "Global"**

Products: All with process bus module

Impacted firmware: 7.80 to 7.82, 7.90 to 7.92, 8.00 to 8.05, 8.10, 8.11, 8.20 to 8.24

Corrected firmware: 8.30

Workaround: None

Description: In previous versions, in relays with process bus module, when **SV TRBL PRT BLOCK** was set to "Global", breaker and disconnect switch control was blocked during SV Stream Trouble.

In version 8.30, when "Global" is selected for this setting, it is still possible to control breakers and disconnect switches even when an "SV Stream Trouble" self-test is asserted.

GE tracking number: 830-20

**G Corrected L90/L30 relays with Process Bus Module 87L element operation when SV stream has SMPSYNC value other than "Global"**

Products: L90/L30 with process bus module

Impacted firmware: 7.80 to 7.82, 7.90 to 7.92, 8.00 to 8.05, 8.10, 8.11, 8.20 to 8.24

Corrected firmware: 8.30

Workaround: None

Description: To ensure the correct operation of the 87L current differential element, it is imperative that all the Merging Units (MUs) used by the L90/L30 relay and the relay itself are synchronized to the same clock.

In previous firmware versions, the 87L current differential element was operational as long as the incoming **SMPSYNC** attribute satisfied the **SMPSYNC CHECK** setting, compromising 87L when MUs lost the Global time reference.

In version 8.30, 87L is now automatically blocked when an MU being used by the 87L loses the global time reference.

Additionally, a new time synchronization mode "LOCAL-87L" is added in firmware version 8.30 for those situations where only one clock is present in the network and 87L can continue operation securely.

GE tracking number: 830-21

## Substation and Breaker Controllers

**E Increased number of non-volatile latches to 48 in C30, C60 and C95**

Products: C30, C60 and C95

Impacted firmware: All

Corrected firmware: 8.30

Workaround: None

Description: In previous versions, C30, C60 and C95 supported only 16 non-volatile latches.

Firmware version 8.30 now includes support for 48 non-volatile latches in C30, C60 and C95.

GE tracking number: 830-22

## Transmission Line and Capacitor Bank – L30, L90, D60

**E Fixed partial blocking functionality for L90/L30 87L current differential element in relays with Process Bus Module**

Products: L90/L30 with process bus module

Impacted firmware: 7.80 to 7.82, 7.90 to 7.92, 8.00 to 8.05, 8.10, 8.11, 8.20 to 8.24

Corrected firmware: 8.30

Workaround: None

Description: In previous versions, in L90/L30 relays with process bus module, the partial blocking functionality of the 87L current differential element was not applied correctly. For example, the element was blocked due to SV Stream Trouble of the stream not included in the configuration of the source used by the 87L element. Also, partial blocking was applied incorrectly after issuing a "Clear Channel Tests Records" or "Clear All Records" command.

In firmware version 8.30, this issue is fixed

GE tracking number: 830-24

**G Fixed angle difference in L90/L30 87L element in hybrid configuration of DSP and Process Bus Module relay when applied at 50 Hz and IEC61869-9**

Products: L90/L30 with process bus module

Impacted firmware: 7.80 to 7.82, 7.90 to 7.92, 8.00 to 8.05, 8.10, 8.11, 8.20 to 8.24

Corrected firmware: 8.30

Workaround: When using IEC61850-9-2LE this angle difference is not present.

Description: In previous versions, in a hybrid configuration of L90/L30 relays where one end was DSP-based and another was process bus module based, with 50 Hz nominal frequency, and using IEC61869-9 there was a permanent 3° angle difference between the local and remote relays' currents.

In firmware version 8.30, this issue is fixed

GE tracking number: 830-27

**G Fixed missing AC banks 3 and 4 in the oscillography record of a relay with Process Bus Module and breaker-and-a-half software options**

Products: All with process bus module and breaker-and-a-half

Impacted firmware: 7.80 to 7.82, 7.90 to 7.92, 8.00 to 8.05, 8.10, 8.11, 8.20 to 8.24

Corrected firmware: 8.30

Workaround: None

Description: In previous versions, in a relay with process bus module and breaker-and-a-half software options, the oscillography record displayed only AC banks 1 and 2; banks 3 and 4 were missing.

In version 8.30, this issue is resolved, all 4 banks are correctly displayed.

GE tracking number: 830-61

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## Software

### Software 8.30

#### **Combined Time Synch setting windows**

Workaround: None

Description: Time Synch and RTC settings were split between multiple windows. In EnerVista UR Setup 8.30, these settings have been combined in a single window under **Product Setup > Real Time Clock > General**. for ease of configuration.

#### **Sampled Value (SV) Configuration – Handling of Events and Target settings**

Workaround: None

Description: To accommodate for firmware changes, “Events” and “Targets” have been added as new items with multiple settings to **Settings > Process Bus Module > General** window.

#### **Possible to import settings from CID file to offline device**

Workaround: None

Description: In previous UR Setup versions, the user could only import settings from a pre-exported XML file. In UR Setup 8.30, the user can import settings directly from a CID file.

#### **Increased number of data attributes in one dataset from 64 to 192**

Workaround: None

Description: To accommodate for firmware changes, users can configure up to 192 data attributes in one dataset in UR Setup 8.30.

#### **Increased number of RxGOOSE DPS Inputs from 16 to 128 for B30 Process Bus Module relay**

Workaround: None

Description: To accommodate for firmware changes, the number of RxGOOSE DPS Inputs for the B30 process bus module relay has been increased to 36 for the 8-feeder software option, 72 for the 16-feeder software option and 128 for the 24-feeder software option.

#### **RxGOOSE Analog Input supports INT8U, INT16U, INT32, INT32U and Enum data types of subscription**

Workaround: None

Description: To accommodate for firmware changes, in addition to Float type, UR Setup 8.30 adds support for INT8U, INT16U, INT32, INT32U and Enum data types in RxGOOSE Analog Input subscription.

#### **Increased number of supported non-volatile latches to 48 for C30, C60 and C95**

Workaround: None

Description: To accommodate for firmware changes, the number of supported non-volatile latches has been increased from 16 to 48 for the C30, C60 and C95.

#### **Implemented sAddr in SCL files option**

Workaround: None

Description: sAddr has been added to the 8.30 SCL files, to provide the critical linkage between IEC61850 data attributes and relay settings/actual values/flex operands/analog/command/control etc.

### **Read ICD option is not available for online device**

Workaround: None

Description: To accommodate for firmware version 8.30 changes that mean those devices no longer contain ICD files, the Read ICD option for online devices in UR Setup 8.30 has been removed for devices with firmware 8.30 and above.

### **Implemented configurable data model and dynamically instantiated LGOS and LSVS for Process Bus Module – Reduced setting file**

Workaround: None

Description: To accommodate for firmware version 8.30 changes, the UR Setup 8.30 data model can be customized by users so that only the required data model (Logical Devices and Logical Nodes) will be instantiated in the SCL files. LGOS and LSVS (for process bus module only) will be instantiated dynamically into the data model if the corresponding RxGOOSE and RxSV are being configured.

As a result of these changes, CID and IID file sizes are smaller than in previous UR Setup versions.

### **Implemented latest changes in IMD – Breaker Control, Disconnect Switches**

Workaround: None

Description:

#### **Breaker Controls**

- Updated value for CSWI.OpOpn.general and respective d string
- Added InRef11 and InRef12 in Bkr0XCBR# logical node
- Added settings: XCBR# TagOn ctlModel, XCBR# TagOn sboTimeout, BkrCSWI# TagOn ctlModel, BkrCSWI# TagOn sboTimeout and BkrCSWI# LocSta ctlModel
- Updated Bkr0XCBR#.TagOn.sboTimeout and BkrCSWI#.TagOn.sboTimeout as Configurable, MMS readable and writable
- Corrected FlexOperand name for BkrCILO.EnaLocOpn and BkrCILO.EnaLocCls
- Updated d string for Bkr0XCBR#.InRef1 and Bkr0XCBR#.InRef3
- Updated TagOn as controllable in both XCB and CSWI
- Updated OC dependency for BypOnLoc and BypOffLoc Dos

#### **Disconnect Switches**

- Added inRef7 and InRef8 in Disc0XSWI# logical nodes
- Added settings: XSWI# TagOn ctlModel, XSWI# TagOn sboTimeout, DiscCSWI# TagOn ctlModel, DiscCSWI# TagOn sboTimeout and DiscCSWI# LocSta ctlModel
- Updated Disc0XSWI#.TagOn.sboTimeout and DiscCSWI#.TagOn.sboTimeout as Configurable, MMS readable and writable
- Corrected FlexOperand name for Disc0XSWI#.BypOn and Disc0XSWI#.BypOff DOs
- Corrected d string for DiscCILO.EnaLocOpn and DiscCILO.EnaLocCls
- Updated d string for Disc0XSWI#.InRef1 and Disc0XSWI#.InRef3
- Update TagOn as controllable in both XSWI and CSWI
- Updated OC dependency for BypOnLoc and BypOffLoc DOs

### **Implemented support for duo ICDs for offline devices**

Workaround: None

Description: To accommodate for firmware changes, two different ICDs are now available for each offline device. One contains the full data model with file name as “[devicename]\_default.cid”, and the other contains only the active data model being customized by user with file name as “[devicename].icd” The “[devicename]\_default.cid” file is equivalent to the ICD file available for UR relays with firmware version 7.2x and prior. The “[devicename].icd” file is the new reduced size ICD file.

### **Increased RxGOOSE# dataset members from 64 to 256**

Workaround: None

Description: To accommodate for firmware changes - IMD – Configurable GOOSE has been updated. RxGOOSE dataset members, the RxGOOSE Boolean/DPS/Analog Inputs member setting range and the number of LGOS# InRef settings have all increased to 256.

### **Breaker and Bus replica isolator supports reading status from DPS GOOSE Rx**

Workaround: None

Description: To accommodate for firmware changes, the breaker and bus replica isolator elements needed to support reading status from DPS GOOSE Rx. The breaker status settings can now be configured by mapping the subscribed DPS directory straight from GOOSE Rx.

### **Local/Remote command allowed for all controllable DOs**

Workaround: None

Description: To accommodate for firmware changes, settings are now added to the Protocol setting screen to allow local/remote command for all controllable DOs.

### **E3 type configuration supports publisher file with a maximum of 64 dataset members**

Workaround: None

Description: While G2 type configuration supports publisher files with maximum of 256 data members in UR Setup version 8.30, for E3 configuration type, the maximum number of data members remains at 64. So, in the RxGOOSE# Messages screen, RxGOOSE# Members 1 to 64 are editable (65 to 256 are read only). In the RxGOOSE# Boolean/DPS/Analog Inputs screen, the range of the setting “Member” is adjusted to 1 to 64 and the number of LGOS#.InRef are reduced to 64, so InRefxxx will be changed to InRefxx, or 01...64

### **Corrected the templated fields being displayed**

Workaround: None

Description: When the user created template information using UR Setup 7.82 and then opened them on UR Setup version 8.22, the incorrect templated fields were displayed e.g., Phase distance Z2 templated field was incorrectly displayed on Phase distance Z3 field.

This issue has now been corrected in UR Setup version 8.30.

### **Corrected the Drag and Drop of devices to the required site**

Workaround: None

Description: Previously, when dragging and dropping an existing UR file onto an offline window of an existing site, the new device did not appear under that site, but under the generic devices. The device would then have to be moved manually from Device to the required site.

This has now been corrected in UR Setup version 8.30.

### **Pickup range shown in UR Setup changed for DSP module and sensitive ground input relays**

Workaround: None

Description: UR relays without Process Bus Module but with sensitive ground input (i.e., with 8M module), have a minimum pickup for Ground TOC and IOC elements set to 0.002pu. However, EnerVista UR Setup showed the pickup range starting from 0.005pu. The setting range on the front panel of the relay has a minimum of 0.002pu. If the settings file is downloaded from the relay, it is possible to change the setpoint from 0.002pu to the default 1pu.

In UR Setup 8.30, this issue has been corrected.

### **Configured RxG Bool operands (assigned to duplicate DAs) being reset to the last RxG Bool Input after CID upload**

Workaround: None

Description: When RxG Bool inputs are assigned to duplicate DAs from different GCBs from the same IED, the configured duplicate Rx Bool operands under private settings were reset to the last RxG Bool inputs in the same sequence when the online CID updates. This issue was seen in firmware versions 8.1x and 8.2x. In UR Setup 8.30, this issue has been corrected.

**Error reading IID file remotely**

Workaround: None

Description: Previously, when network connection was not stable, UR Setup would report a failure to read the IID file when opening an online device on the IEC61850 screen.

In UR Setup 8.30, there is improved error handling and retrying mechanism during the file transfer between UR Setup and UR relay.

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## Upgrade

### Compatibility

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

The current firmware release requires EnerVista UR Setup software version 8.0x or higher. GE suggests use of the latest available version of the software.

### Upgrade

When upgrading both EnerVista software and UR firmware, upgrade the software first. Upgrade of the software takes about five minutes. When upgrading EnerVista software on a computer with Windows Server 2012, its Release 2 needs the KB2919355 update first. Follow the instructions described in the following link <https://www.microsoft.com/en-US/download/details.aspx?id=42334>

The firmware can be upgraded over an Ethernet connection or a serial connection (RS-232, RS-485, or USB in relays with graphical front panel) and may take between 10 to 60 minutes depending on the relay's order code and the channel used for the firmware upgrade.

Any DSP manufactured between 1 September 2011 and 1 December 2015 installed in a relay with firmware version 7.25 or higher minor revision, 7.32 or higher minor revision, 7.40 or higher minor revision, 7.60 or higher minor/major revision must be sent back to the factory for updates before updating the firmware. This is to prevent potential nuisance alarms ('Module Failure 31' or 'Diagnostic Alarm', depending on firmware version).

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>  
The firmware is a .SFD file.
2. Under **Settings > Product Setup > Security > Access Supervision** or **Settings > Product Setup > Security > Supervisory**, the **Lock Firmware** setting needs to be disabled.
3. In the EnerVista software, navigate to **Maintenance > Update Firmware** and select the .SFD file.  
For any issues, see a UR instruction manual.  
When the upgrade finishes, the relay restarts.



4. Reconnect the EnerVista software to the relay, and refresh the order code in EnerVista under the **Device Setup** button.
5. Convert any existing settings file, then load the converted settings to the relay. See the instruction manual for information.
6. Set the device to "Programmed" under **Settings > Product Setup > Installation** to put it into service.
7. If you changed the **Lock Firmware** setting, reset it.

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## Categories

This document uses the following categories to classify changes.

### Revision categories

Code	Category	Description
A	Hardware change	This change may require hardware to be updated and/or replaced
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

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## For further assistance

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

GE Grid Solutions

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: [multilin.tech@ge.com](mailto:multilin.tech@ge.com)

Europe e-mail: [multilin.tech.euro@ge.com](mailto:multilin.tech.euro@ge.com)

Website: <http://www.gegridsolutions.com/multilin/>