



## Useful Notes – Universal Relay

- When adding a module or removing a module, the order code/model number of the Universal Relay must be updated. To update order code, perform the following sequence via the front keypad:
  - a. Press **MENU** key until **COMMANDS** menu is displayed.
  - b. Use message arrow down or up arrow to **RELAY MAINTANANCE**.
  - c. Press message right arrow once, and arrow down to **UPDATE ORDER CODE?**
  - d. Press value up to select **YES** and press **ENTER** key.
  - e. Relay will automatically update order code and re-boot relay.
  
- The front RS232 port of the relay is fixed at 19200 baud. When using enerVista UR Setup software, the value for the MODBUS SLAVE ADDRESS is not important when communicating via the front RS232 port. Use straight 9pin Male to 9pin Female RS232 cable for front port communications.
  
- The rear RS485 port (COM1 or COM2) of the relay is selectable between 300 to 115000 baud. When using enerVista UR Setup software, the value for the MODBUS SLAVE ADDRESS is **REQUIRED** for communication via RS485 port(s) or Ethernet port. The baud rate & Modbus Slave Address can be viewed & modified by:
  1. Press **MENU** key until **SETTINGS** menu is displayed.
  2. Use message arrow down or up arrow to **PRODUCT SETUP**.
  3. Press message right arrow once, and arrow down to **COMMUNICATIONS**
  4. Press message right arrow once, and arrow down to **SERIAL PORTS**.
  5. Press message right arrow once, and arrow down to relevant settings.
  6. To find the Modbus Slave Address review the setting under **MODBUS PROTOCOL**. (2 menu sections down from SERIAL PORTS).
  
- 1. Before any output or input of the relay can be operated, the relay must be put into service (or **PROGRAMMED**). This can be done either from the front keypad or using enerVista UR Setup software. Go to **SETTINGS >>PRODUCT SETUP>>INSTALLATION**. From the keypad, perform the following sequence:
  - f. Press **MENU** key until **SETTINGS** menu is displayed.
  - g. Use message arrow down or up arrow to **PRODUCT SETUP**.
  - h. Press message right arrow once, and arrow down to **INSTALLATION**
  - i. Press message right arrow once to view setting.
  - j. Press value up to select **PROGRAMMED** and press **ENTER** key.
  - k. TROUBLE led will disappear and IN SERVICE led will light.



### Downloading Settings **TO** Relay:

1. Run enerVista UR Setup software.
2. Under FILES/OFFLINE screen, right mouse click on FILES and select ADD EXISTING SETTINGS FILE and select file from A drive (or appropriate directory on computer) and select OPEN (and then it will be added to list).
3. Right mouse click on the desired settings file to download under the FILES/OFFLINE screen and select WRITE SETTINGS FILE TO DEVICE. Select the appropriate IED from the list and select SEND. You can also drag the desired settings file from the FILE/OFFLINE screen to relay on SITE LIST/ONLINE screen.
4. You need to make sure relay is PROGRAMMED. Go to SETTINGS and PRODUCT SETUP and INSTALLATION and select PROGRAMMED for relay settings and send to relay (select the SAVE button). Now relay is ready and input/outputs will be operational.

### Uploading Settings **FROM** Relay:

1. Run enerVista UR Setup software.
2. Select desired relay (or IED) from SITE LIST/ONLINE screen
3. Right mouse click for menu.
4. Select READ DEVICE SETTINGS.
5. Specify existing settings file for saving or specify directory or target diskette for saving by press  button on right.
6. Specify file name (no need to include extension of URS).
7. Select RECEIVE to get settings from relay.
8. Bottom status bar will display activity during upload.



#### Retrieve Event Recorder from Relay:

1. Run enerVista UR Setup software.
2. Select desired relay (or IED) from SITE LIST/ONLINE screen.
3. Go to ACTUAL VALUES and RECORDS and select EVENT RECORD (double-click on EVENT RECORD).
4. Select FILE and SAVE AS and specify directory and desired file name. No need to include extension EVT.
5. You can open an existing event file (\*.evt) by going to FILE and OPEN in enerVista UR Setup software.

#### Retrieve Oscillography Record from Relay:

1. Run enerVista UR Setup software.
2. Select desired relay (or IED) from SITE LIST/ONLINE screen.
3. Go to ACTUAL VALUES and RECORDS and select OSCILLOGRAPHY (double-click on OSCILLOGRAPHY).
4. Select desired record number. The highest number is the most recent record (NEWEST RECORD NUMBER).
5. Select READ to get waveform. The waveforms will be displayed graphically.
6. Select the DISK or SAVE AS button on top of waveform screen to save waveform. Specify directory and desired file name. No need to include extension CFG. The oscillography file is being saved in Comtrade 1999 format and enerVista UR Setup software will save three files with extensions DAT, CFG and HDR.
7. You can open an existing oscillography file (\*.cfg) by going to FILE and OPEN in enerVista UR Setup software.



### Retrieve Fault Report(s) from Relay:

1. Run eneVista UR Setup software.
2. Select desired relay (or IED) from SITE LIST/ONLINE screen.
3. Go to ACTUAL VALUES and RECORDS and select FAULT REPORTS (double-click on FAULT REPORTS).
4. Select desired fault from list and press VIEW. File will automatically be saved as a text file with extension TXT. Use Notepad or MS Word to view file.

### Swapping an Existing I/O Module with a Different I/O Module Configuration: (i.e. swapping a 6H card and replacing with a 6U card)

1. Connect to the UR relay and save the settings file to your computer using enerVista UR Setup software.
2. Power down the UR relay.
3. Remove the existing I/O module(s) to exchange.
4. Modify the white keying on the terminal block (not the module) to match the keying of the new module. Using a needle nose pliers, you can pull out the ENTIRE keying assembly from the inside of the relay and then modify the keying to match the new module. Use the white keying parts included.
5. After replacing the module(s), power on the UR relay.
6. The order code/model number of the UR relay must be updated. To update order code, perform the following sequence via the front keypad:
  - a. Press **MENU** key until **COMMANDS** menu is displayed.
  - b. Use message arrow down to **RELAY MAINTANANCE**.
  - c. Press message right arrow once, and arrow down to **UPDATE ORDER CODE?**
  - d. Press value up to select YES and press ENTER key.
  - e. Relay will automatically update order code and re-boot relay



8. The relay will now have FACTORY default settings. Before sending the saved settings file back to the UR relay, you need to convert the setting file to the new model number.
  - a. Start enerVista UR Setup software
  - b. Under FILES/OFFLINE screen, add the saved setting file.
  - c. Under SECURITY, select USER MANAGEMENT and check ENABLE SECURITY.
  - d. Close enerVista UR Setup software and re-start enerVista UR Setup software. If prompted for a USER/PASSWORD, use **Administrator** for User and **urpc** for Password.
  - e. Under FILES/OFFLINE screen, right mouse click on the setting file in enerVista UR Setup software and then select CONVERT SETTINGS FILE and change the model number to match the new model number and then select CONVERT.
  - f. Under SECURITY, select USER MANAGEMENT and de-select ENABLE SECURITY.
9. Update the SITE LIST in enerVista UR Setup software to the new UR model number. Select DEVICE SETUP and then select READ ORDER CODE of the modified UR IED. You need to do this so enerVista UR Setup software will properly communicate to the new UR model number. enerVista UR Setup Software will display an error message if the model number & version number within DEVICE SETUP does not match the actual UR relay.
10. Then download the converted settings to the UR relay by following the instructions described under *Downloading Settings TO Relay.*
11. Remember to place the relay into service by going to SETTINGS / PRODUCT SETUP / INSTALLATION and select PROGRAMMED. TROUBLE led will disappear and IN SERVICE led will light.



### Converting Setting File Model Number using enerVista UR Setup Software:

1. Start enerVista UR Setup software
2. Under SECURITY, select USER MANAGEMENT and check ENABLE SECURITY.
3. Close enerVista UR Setup software and re-start enerVista UR Setup software. If prompted for a USER/PASSWORD, use **Administrator** for User and **urpc** for Password.
4. Under FILES/OFFLINE screen, right mouse click on the setting file in enerVista UR Setup software and then select CONVERT SETTINGS FILE and change the model number & firmware version to match the new model number/firmware version and then select CONVERT.
5. Under SECURITY, select USER MANAGEMENT and de-select ENABLE SECURITY. (not necessary, but you will then need to remember the password of **urpc** each time you start enerVista UR Setup software).

### Upgrading Firmware in UR Relay via Front RS232 Port using enerVista UR Setup Software

1. The firmware upgrade process will take from 15 to 30 minutes.
2. Connect to the UR relay and save the settings file to your computer using enerVista UR Setup software (i.e. Following the instructions described under *Uploading Settings FROM Relay*). Use straight 9pin-to-9pin RS232 cable from computer to front port of UR relay. Connect to the UR relay via QUICK CONNECT feature.
3. Power down the relay.
4. Press and hold the three keys (8, 0, and +/-) and then re-power the relay. Hold these three keys in for about 5-10 seconds and the relay will go into flash programming mode at 115200 baud.
5. Modify the baud rate under the Site List in enerVista UR Setup software by pressing DEVICE SETUP. Under Device Setup, select the necessary RS232 interface and modify the baud rate from 19200 to 115200.
6. Select OK at the bottom of the Device Setup screen.



7. Connect to the desired UR relay that you wish to upgrade firmware from the SITE LIST/ONLINE screen. Use straight 9pin-to-9pin RS232 cable from computer to front port of UR relay.
8. Select MAINTANANCE and UPDATE FIRMWARE.
9. Open the desired firmware file to download (i.e. a0mcmc343.000) and proceed with the upgrade. Select NO when prompted to SAVE FIRMWARE?
10. After the firmware has downloaded to the UR Relay, the relay will automatically re-boot. Press the target reset key on the front of the relay to clear any self-test error messages.
11. The only self-test message that will appear will be "UNIT NOT PROGRAMMED". Go to SETTINGS>>PRODUCT SETUP>>INSTALLATION and select PROGRAMMED. TROUBLE led will disappear and IN SERVICE led will light.
12. Update the site list by following the instructions described under Updating a UR Relay Model number under SITE LIST. Change baud rate under enerVista UR Setup software back to 19200 for the updated UR IED.
13. Convert the old setting file to the new firmware version by following the instructions described under Converting Setting File Model Number using enerVista UR Setup Software
14. Download this converted settings file to the relay by following the instructions described under Downloading Settings TO Relay.

### Upgrading Firmware in UR Relay via Ethernet Port using enerVista UR Setup Software

1. The firmware upgrade process will take around 5 minutes.
2. Connect to the UR relay and save the settings file to your computer using enerVista UR Setup software (i.e. Following the instructions described under Uploading Settings FROM Relay).
3. For direction connection to a UR relay, use an Ethernet cross-over cable between computer and UR relay. Configure computer TCP/IP settings within range of UR relay to be upgraded. Do not make the computer's IP address equal to UR relay's IP address. For example, if the UR relay's IP



address = 3.94.244.210, set the computer's IP address = 3.94.244.200  
Make sure to set the Subnet Mask address the same on the laptop and the UR relay, for example 255.255.255.0 You can also follow the detailed instruction in the document called "**enerVista UR Setup Software Quick Connect Instructions**"

4. Connect to the desired UR relay that you wish to upgrade firmware from the SITE LIST/ONLINE screen or use QUICK CONNECT and select Ethernet.
5. Select MAINTANANCE and UPDATE FIRMWARE.
6. Open the desired firmware file to download (i.e. a0mcmc342.000) and proceed with the upgrade. Select NO when prompted to SAVE FIRMWARE? Select NO when prompted if downloading firmware over Internet?
7. After the firmware has downloaded to the UR Relay, the relay will automatically re-boot. Press the target reset key on the front of the relay to clear any self-test error messages.
8. The only self-test message that will appear will be "UNIT NOT PROGRAMMED". Go to SETTINGS>>PRODUCT SETUP>>INSTALLATION and select PROGRAMMED. TROUBLE led will disappear and IN SERVICE led will light.
9. Update the site list by following the instructions described under Updating a UR Relay Model number under SITE LIST.
10. Convert the old setting file to the new firmware version by following the instructions described under Converting Setting File Model Number using enerVista UR Setup Software)
11. Download this converted settings file to the relay by following the instructions described under Downloading Settings TO Relay.

Updating a UR Relay Model number under SITE LIST:  
(use after upgrading UR relay firmware)

1. Run enerVista UR Setup software and connect computer to relay.
2. Select DEVICE SETUP.



3. Select the desired UR relay to update.
4. Select READ ORDER CODE.
5. Device ORDER CODE/VERSION will be automatically updated showing the new model number/firmware version.
6. Select OK at the bottom of the screen.

Adding I/O or CT/VT Module to UR Relay  
(i.e. adding 8A module to "M" slot)

1. Connect to the UR relay and save the settings file to your computer using enerVista UR Setup software.
2. Remove blank plate on rear of UR relay covering the M to P slots.
3. Prior to step 4, add the white keying parts on the terminal block to match the keying of the module.
4. For a CT/VT module, mount the terminal block on the rear of the UR relay such that the CT shorting clips are on the top of the block. Add the 1-8 terminal marking strip on the side of the terminal block. Make sure to place the a-b-c terminal strip on the top of the block prior to mounting.
5. Remove the tie strap in the front door latch of the UR relay and open the faceplate of the relay. Add the "8A" module in the "M" slot of the UR relay. Close and latch the front door.
6. Power on the UR relay.
7. The order code/model number of the UR relay must be updated. To update order code, perform the following sequence via the front keypad:
  - a. Press **MENU** key until **COMMANDS** menu is displayed.
  - b. Use message arrow down to **RELAY MAINTANANCE**.
  - c. Press message right arrow once, and arrow down to **UPDATE ORDER CODE?**
  - d. Press value up to select YES and press ENTER key.
  - e. Relay will automatically update order code and re-boot relay
8. The relay will now have FACTORY default settings. Before sending the saved settings file back to the UR relay, you need to convert the setting



- file to the new model number
- a. Start enerVista UR Setup software
  - b. Under FILES/OFFLINE screen, add the saved setting file.
  - c. Under SECURITY, select USER MANAGEMENT and check ENABLE SECURITY.
  - d. Close enerVista UR Setup software and re-start enerVista UR Setup software. If prompted for a USER/PASSWORD, use **Administrator** for User and **urpc** for Password.
  - e. Under FILES/OFFLINE screen, right mouse click on the setting file in enerVista UR Setup software and then select CONVERT SETTINGS FILE and change the model number to match the new model number and then select CONVERT.
  - f. Under SECURITY, select USER MANAGEMENT and de-select ENABLE SECURITY.
9. Update the SITE LIST in enerVista UR Setup software to the new UR model number by following the instructions described under *Updating a UR Relay Model number under SITE LIST*
10. After modifying or reviewing the converted settings file, download the converted settings to the UR relay following the instructions described under *Downloading Settings TO Relay*.
11. Remember to place the relay into service by going to SETTINGS / PRODUCT SETUP / INSTALLATION and select PROGRAMMED. TROUBLE led will disappear and IN SERVICE led will light.

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