Technical Note: XW/Conext XW+ Compatibility

Introduction

The goal of this technical note is to provide the reader with adequate knowledge to plan and take considerations when adding inverter/chargers to a system in which XW and Conext XW+ inverter/chargers are mixed.

Scope

This technical note is written with the sole purpose of clarifying technical aspects for the Conext series Inverter/Chargers by providing information beyond what is available in the *Conext XW+ Owner's Guide* and *Conext XW+ Installation Guide*. It incorporates the safety information in these guides by reference.

This technical note applies to customers looking to mix XW and Conext XW+ models in a multi-unit system with the intention to replace Conext XW+ firmware with XW firmware or vice versa.

The information provided below does not modify, replace or waive any of the terms and conditions mentioned in the installation and owner's guides, including but not limited to the limited warranty.

Compatibility

XW / Conext XW+ devices running different firmware versions in a multi-unit system will lead to conflicts. Due to this fact, both XW and Conext XW+ units will require the same firmware version to be loaded in order to function properly.

It is possible to downgrade Conext XW+ firmware using the latest XW firmware. This firmware should be applied to the Conext XW+ when it is residing on the same multi-unit system as the XW. See "Procedure to Downgrade Conext XW+ Firmware with XW Firmware" on page 2.

Conversely, it is possible to upgrade XW firmware using the latest Conext XW+ firmware. This firmware should be applied to the XW when it is residing on the same multi-unit system as the Conext XW+. See "Procedure to Upgrade XW Firmware with Conext XW+ Firmware" on page 4.

Please see the *Conext XW+* and *Conext Configuration Tool Owner's Guides* or contact Schneider Electric technical support if you have questions about installing firmware.

Schneider Electric

Procedure to Downgrade Conext XW+ Firmware with XW Firmware
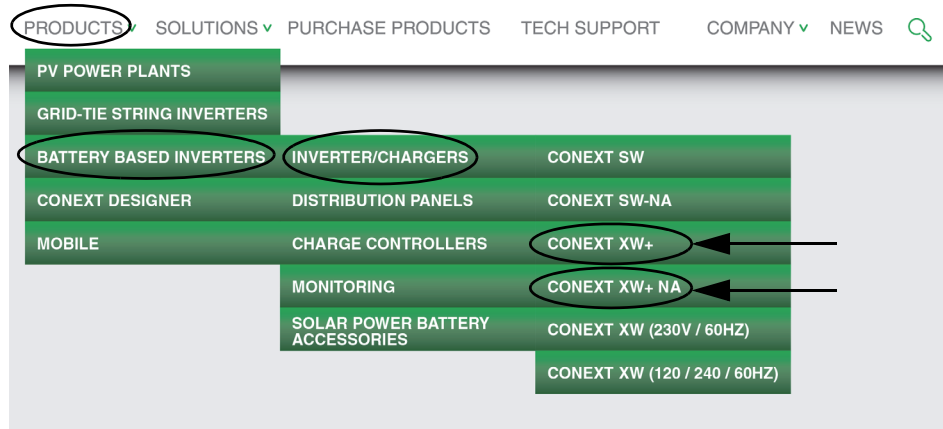

NOTICE

EXTERNAL CONTACTOR NOT SUPPORTED

Replace Conext XW+ firmware with XW firmware, if your power system does not require full multi-cluster configuration using an external contactor.

If your power system requires full multi-cluster configuration using an external contactor, consider replacing your XW control board with a Conext XW+ control board with the latest Conext XW+ firmware.
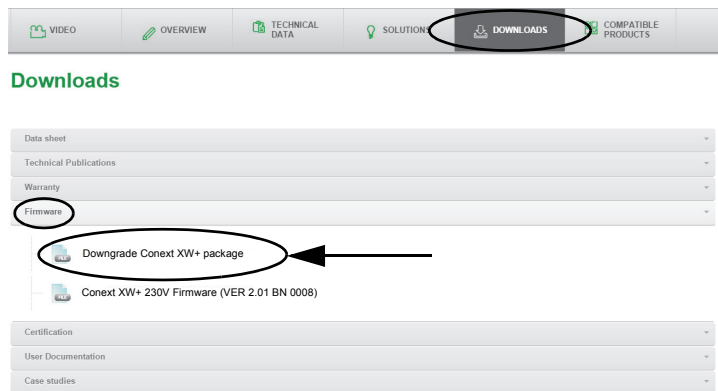
For information, contact Schneider Electric at solar.schneider-electric.com.

Failure to follow these instructions may cause equipment damage.

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1. Obtain and install the *Conext Configuration Tool* software and included dongle (Part # 865-1155-01) if not already installed in the system. The downgrade process below requires these tools.

2. From the Products menu item of http://solar.schneider-electric.com, select either Conext XW+ or Conext XW+ NA.

3. Click **Downloads**, then click **Firmware** and then select the **Downgrade Conext XW+ package** file.

4. Choose a location in your computer to download the **Downgrade Conext XW+ package** file and unzip (extract) it. Remember this location.

5. Using the Conext Configuration Tool, Click **Configure -> Firmware Upgrade**.
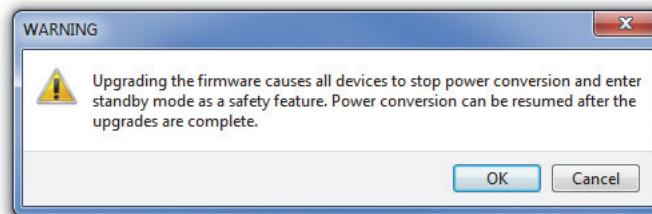

⚠WARNING

LIMITATIONS ON USE

During the firmware upgrade process (in this case, it is actually a downgrade) of any device on the Xanbus network, all units on the network will cease output of power.

Do not use any device on the Xanbus network in connection with life support systems or other medical equipment or devices.
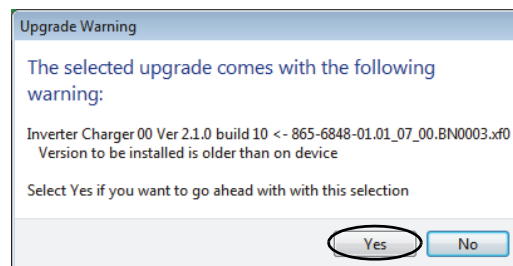
Failure to follow these instructions can result in death or serious injury.

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6. Navigate to the location where you extracted the **Downgrade Conext XW+ package** file.

    Take note that you are being asked to select a directory and not an individual file.

7. After choosing the directory, the Conext Configuration Tool will ask you to select the devices that need to be downgraded. Select the Conext XW+ unit/s and related accessories.

    Note: If you have the Conext AGS and the Conext SCP accessories, you will also need to downgrade them to a version that is compatible with the downgraded Conext XW+ firmware.

8. A warning box appears as shown below

Figure 1 Warning Message

9. To proceed with the firmware change, click **OK**.

10. To proceed "upgrading" (technically, it is downgrading) the selected device, click **Upgrade**. Because you will have selected an older firmware version, a warning message may prompt you to proceed.

Figure 2 Upgrade Warning

11. Click **Yes** to proceed.

    You can now run the Conext XW+ and Xanbus accessories in tandem with the XW units on your multi-unit system.

Required Downgrades to Xanbus Accessories

The following XW accessories must be downgraded with compatible firmware in order to function properly with the XW firmware.

- Conext System Control Panel (SCP) (part number: 865-1050-01) – see Step 7.
- Conext Automatic Generator Start (AGS) module (part number: 865-1060-01) – see Step 7.

Note: Third party monitoring accessories may not be compatible with the XW firmware. Please consult with the manufacturer of the accessory.

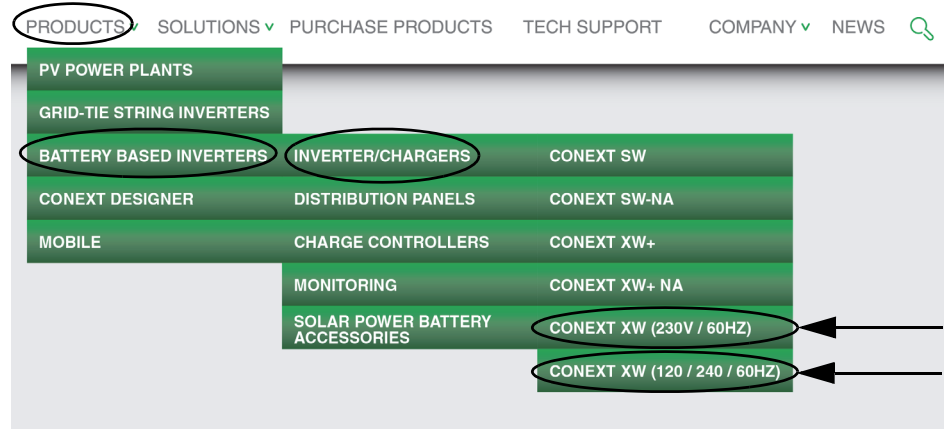# Procedure to Upgrade XW Firmware with Conext XW+ Firmware

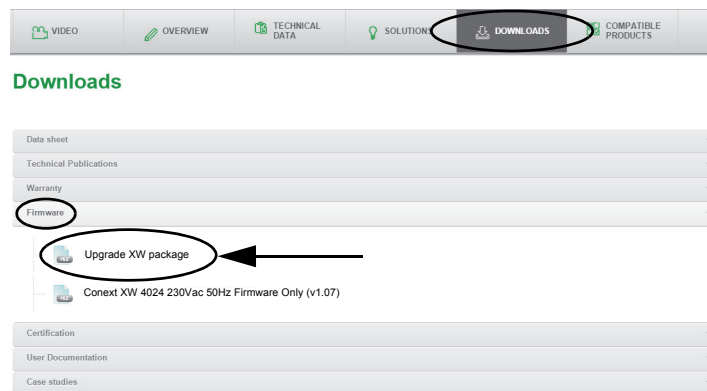| *NOTICE* |
| --- |
| **NEW SETTINGS MUST BE CONFIGURED AND SOME FEATURES WILL NOT BE AVAILABLE**

• Battery charger maximum output on the XW4548 will increase from 85A to 100A and on the XW6048, it will increase from 100A to 140A at 100% max charge rate setting.
Adjust the max charge rate setting to compensate in order not to exceed the maximum charger rate of the battery bank.

• AC coupling in an off grid installation requires a PV inverter which will start to derate its output at 60.2 Hz and have zero output at 60.5 Hz as well as being UL1741 certified.

• Multi-clustering is NOT AVAILBLE on the XW after the firmware upgrade due to hardware differences. If multi-clustering is needed, consider replacing your XW control board with a Conext XW+ control board that has the latest Conext XW+ firmware.

• Load shave has been modified to help prevent the over-discharge of batteries. The XW will normally exit LOAD SHAVE when the battery voltage falls to the LBCO setting of the inverter. With the new firmware, the XW will exit load shave at ½ volt above the programmed ReCharge Volts setting.

• External contactor option is NOT AVAILBLE on the XW after the firmware upgrade due to hardware differences. If an external contactor is needed, consider replacing your XW control board with a Conext XW+ control board that has the latest Conext XW+ firmware.

• For information, contact Schneider Electric at solar.schneider-electric.com.

Failure to follow these instructions may cause equipment damage. |

1. Obtain and install the *Conext Configuration Tool* software and included dongle (Part # 865-1155-01) if not already installed in the system. The upgrade process below requires these tools.

2. From the Products menu item of http://solar.schneider-electric.com, select either Conext XW (230V / 60HZ) or Conext XW NA (120 / 240 / 60HZ).

3. Click **Downloads**, then click **Firmware** and then select the **Upgrade XW package** file.

4. Choose a location in your computer to download the **Upgrade XW package** file and unzip (extract) it. Remember this location.

5. Using the Conext Configuration Tool, Click **Configure -> Firmware Upgrade**.

⚠ WARNING

LIMITATIONS ON USE

During the firmware upgrade process of any device on the Xanbus network, all units on the network will cease output of power.
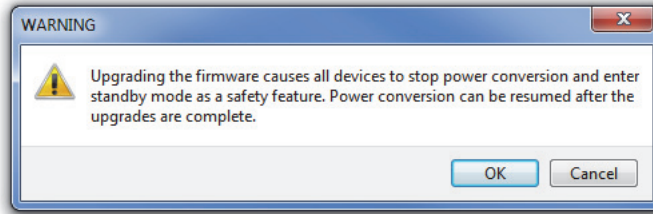
Do not use any device on the Xanbus network in connection with life support systems or other medical equipment or devices.

Failure to follow these instructions can result in death or serious injury.

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6. Navigate to the location where you extracted the **Upgrade XW package** file.

    Take note that you are being asked to select a directory and not an individual file.

7. After choosing the directory, the Conext Configuration Tool will ask you to select the devices that need to be upgraded. Select the XW unit/s and related accessories.

Note: If you have the Conext AGS and the Conext SCP accessories, you will also need to upgrade them to a version that is compatible with the upgraded XW firmware.

8. A warning box appears as shown below.

Figure 3 Warning Message

9. To proceed with the firmware change, click **OK**.

10. To proceed upgrading the selected device, click **Upgrade**.

You can now run the XW and Xanbus accessories in tandem with the Conext XW+ units on your multi-unit system.

With some limitations, the XW4548 will function similarly to the Conext XW+ 5548. The XW6048 will function similarly to the Conext XW+ 6848. Please refer to the *Conext XW+ 5548/6848 Owner's Guide* (document part number: 975-0240-01-01) and *Conext XW+ 7048/8548 Owner's Guide* (document part number: 975-0713-01-01) from http://solar.schneider-electric.com for complete information on the added features of the next generation inverters.

Read the NOTICE above carefully, the following features summary, and the list of required updates to Xanbus accessories.

Summary of Added Features

Conext XW+ Added Features Summary

Rating	5500 W (Conext XW+ 5548/7048) continuous @ 25 °C ambient
	6800 W (Conext XW+ 6848/8548) continuous @ 25 °C ambient
Charger	110 A (Conext XW+ 5548/7048)
	140 A (Conext XW+ 6848/8548)
AC Coupling	Variable positive frequency shift to control PV inverter power (only works with modern IEC PV inverters)
Battery banks	Multiple battery bank "connections" supported
Multi-unit	On grid: 6 in 3-ph
	Off grid: 3 in 3ph, More with multi-clusters with ComBoxes
New battery type	Lithium Ion
Active Power	Not used in North America.
	Can inject current into the grid in various ways as requested by the utility.
Inverter settings	Added LBCO Hysteresis

Conext XW+ Added Features Summary

Charger settings	Added LithiumIon option
	Added Charge cycle for LithiumIon -> Ext BMS option
	Fixed Charge block to only block AC1
Grid Support	Added 'SELL BLOCK' option
	Load shave: Enter at LBCO, exit to AC pass at Recharge Volts + 0.5V, charge at LBCO +1V
Aux Settings	Added SOC, HighHSTemp, Time of Day triggers
	Added BulkExit and AbsExit options
Adv Feaures	Added AC_COUPLING, BATT_BALANCE, EXT_CONTACT, PLS DLY 2h, TOV_DISCNCT

Required Updates to Xanbus Accessories

The following XW accessories must be updated with new firmware in order to function properly with the XW+ firmware.

- XW System Control Panel (SCP) (part number: 865-1050) – see Step 7.
- XW Automatic Generator Start (AGS) module (part number: 865-1060) – see Step 7.

Note: Third party monitoring accessories may not be compatible with the Conext XW+ firmware. Please consult with the manufacturer of the accessory.

Exclusion for Documentation

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Date: March 2015

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