

## **Firmware update procedure for X-400 series products.**

Preface – The X-400 series products now support two methods for doing firmware updates. The traditional method requires the unit to be physically present and upon completion, does a factory reset of the device. The second method is found in new versions of the firmware and allows firmware updates to be done through the setup pages on the device. This method retains all the settings, scripts, and TLS certificates that have been loaded into the device. This method can also be done through the cloud if so desired.

### **Web-Based GUI Method**

#### **1. Requirements**

To update the firmware through the setup pages of the device, you must have firmware version 3.12 or higher installed on the device already. If a lower version is installed, the Traditional update method will need to be performed first.

You must have administrative access to the device and have a firmware image compatible with this method. Firmware images compatible with the web-based update method have the file extension frm2.

#### **2. Update procedure**

To update the firmware of the device through the setup pages, access the setup pages setup.html and navigate to the General Settings -> Firmware section. The administrator password is required to access this page and perform the update. Once there, click on the Browse button and find the desired firmware image to be loaded. Remember, the firmware image will end with .frm2. Once the firmware image has been selected, click the Upload Firmware button.

Once the Upload Firmware button is clicked, the firmware image will be uploaded to the device. The amount of time this takes will depend on how the device is being accessed. For local access to the device, the upload takes about 45 seconds. Over the cloud through an ethernet connection, the upload takes about 2 minutes. On cellular devices the upload can take between eight and ten minutes.

Once the firmware has been uploaded to the device a message will appear indicating a refresh of the setup pages should be done in a few seconds. The device will be in the process of updating the firmware and checking to make sure the firmware will run correctly with the current settings. If everything checks out the device will be accessible fairly quickly. The device might have to reconnect to the cloud if that was the method used for the update. This can take a few minutes, especially on cellular devices.

Once the device is accessible again, check the firmware revision to make sure the update was successful. If the device could not validate the firmware or run correctly using the device settings and the new firmware, the device will revert to the previous firmware. If this should occur, please reach out to our support team.

### **Traditional Method**

#### **1. Requirements**

The firmware update software requires a pc running windows XP or higher with the most

recent .Net framework installed for that operating system.

## 2. Setup

When updating the X-400 series device, the device will use the default ip address of 192.168.1.2. The computer used to run the update software will need to be configured with an ip address on the same subnet (192.168.1.50 for example). This is the same procedure used to initially communicate with the X-400 series device when it comes from the factory. See the quick-start guide or users manual for the device for more information on configuring the PC.

Note: It might be necessary to clear the arp cache on the computer for the update to work. To do this open up a command prompt and type: `arp -d`. (In windows vista and higher, run the command prompt as an administrator.)

## 3. Update procedure

Once the pc has been configured on the same subnet as the default ip address 192.168.1.2, run the program `bootloader.exe`. Once started, select the file menu and open the firmware image to be loaded on the X-400 series device. (X410\_V1.0.frm for example.) Before pressing the Upload Firmware button, the device must be placed into the bootstrap mode. Make sure the firmware file ends in the extension `.frm`. Firmware images with the extension `.frm2` are use when performing an update through the setup pages of the device.

To place the device in bootstrap mode, hold the reset button on the device down while powering up the device. (To press the reset button, insert a thin object such as a toothpick through the small hole in the bottom of the unit.) Keep the reset button down until you have pressed the Upload Firmware button and the program says it is alright to release it. When in bootstrap mode, the link and activity leds on the ethernet port will blink on and off continuously. If this does not occur, then the reset button was not held down correctly.

After loading the new firmware, the X-400 series device will be reset to the factory default values. This means you will still need to communicate with it using the IP Address 192.168.1.2, and configure it as if it were a new unit.

Note: Make sure to run the bootloader program from the same directory where the X-400 series firmware image files are. There are generally 2 firmware files with extensions `.frm` and `.wpb`. (X410\_V1.0.frm and X410\_V1.0.wpb for example.)