

Firmware Upgrade Instructions for Lexium MDrives

To properly upgrade your MDrive or LMD Integrated Stepper Motor Ethernet Firmware you need to follow the below steps to insure success:

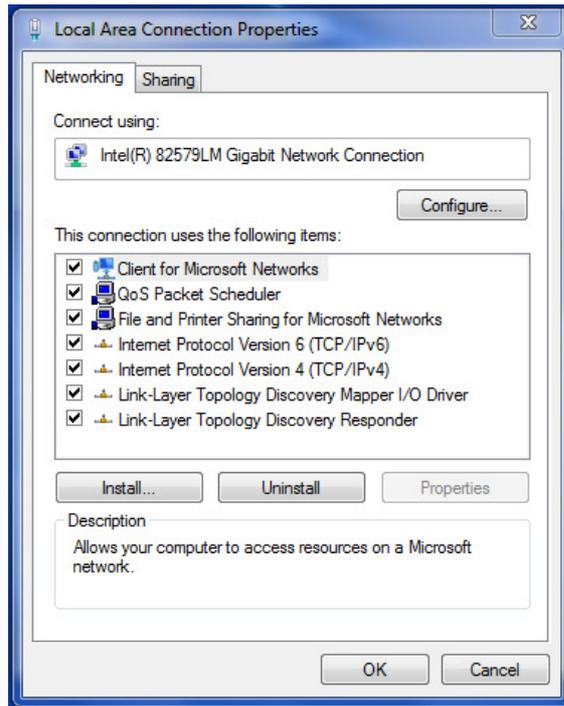
1. Understand, and write down, the IP Address structure of the LMD motor for which you plan to upgrade the Ethernet firmware. Your motor must have an IP address that matches the following structure for the upgrade to operate properly:
192.168.33.xxx
Where “xxx” can equal any number between 1 and 250 that doesn’t match the last octet of the IP address of your computer’s “Local Area Connection”.
2. Insure your computer “Local Area Connection” properties match the IP Address structure of the LMD motor you wish to upgrade. All LMD motors ship from the factory at a default of 192.168.33.1.
3. You have downloaded and opened the proper TCP/IP Utility from Schneider Electric Motion
4. You have located, and saved in an easy to access location, the proper Ethernet firmware upgrade file for both the LMD motors.
5. During the upgrade procedure, you must follow the onscreen instructions for the upgrade process precisely and only cycle power to the unit when instructed to do so.

Step 1: LMD IP Address Structure

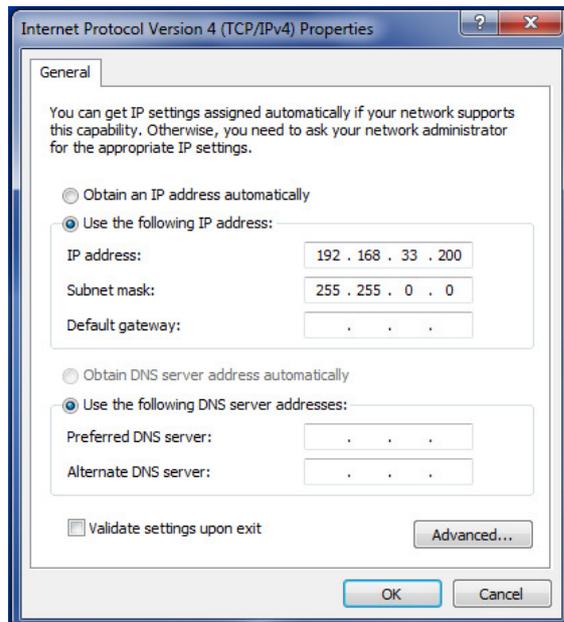
1. From the factory, Schneider Electric Motion Devices all have the same default IP Address:
 - a. 192.168.33.1
2. During initial trial operation of your LMD motor you may have changed the IP address structure to better suite your system network needs.
3. For upgrading the Ethernet firmware on your LMD motor please restore the IP Address on your to its default of 192.168.33.1 in order for the upgrade to work properly.

Step 2: Local Area Connection Properties for Motor IP Address Structure

1. When upgrading Ethernet firmware for your LMD motor, you must have your computer’s Local Area Connection Properties set properly in order to complete the upgrade.
2. On a Windows 7, 64 bit computer, you can access the Local Area Connection Properties by doing the following:
 - a. From the “Start” Icon in the lower left hand corner of your desktop, locate your Control Panel
 - b. Open the Control Panel and locate the “Network Sharing Center”
 - c. Open the Network Sharing Center and select “Change Adapter Settings”
 - d. Locate the “Local Area Connection” and double click
 - e. Select “Properties” from the “Local Area Connection Status” pop-up box



- f. Double click on “Internet Protocol Version 4 (TCP/IPv4)”
- g. Select the “Use The Following IP Address” radio button and enter the following information:



- h. After entering in the above IP Address and Subnet Mask information select “OK”
- i. You have now configured your computer to talk to other devices on a network that have an IP structure that starts with 192.168

Step 3: TCP/IP Utility for use with LMD Motors

1. Locate the two following zip folders sent to you by Schneider Electric Motion:
 - a. MDrive_TCP_Config_GUI
 - b. StandAlone_Lexium_LMDxE_Installer
2. These folders include the TCP/IP Utilities for their respective motor type:
 - a. MDrive_TCP_Config_GUI contains the proper software tool for the Classic MDrive motors
 - b. StandAlone_Lexium_LMDxE_Installer contains the proper software tool for the LMD motors
3. Double click the zip folder MDrive_TCP_Config_GUI and select the “setup” application file
4. Follow the screen prompts for downloading the TCP/IP Configuration Tool for the Classic MDrive motors and create an easy to access icon on your desktop
5. Double click the zip folder StandAlone_Lexium_LMDxE_Installer and select the “setup” application file
6. Follow the screen prompts for downloading the TCP/IP Configuration Tool for the LMD motors and create an easy to access icon on your desktop
7. You should now have two icons on your desktop that look like this:



Step 4: Locate and Save Ethernet Firmware Files for Classic MDrive and LMD motors

1. Locate the two following Ethernet Firmware files from Schneider Electric Motion
 - a. MDrive_FLEXLINK_ETHERNET_IP.elf.S19
 - b. LexiumMdrive_FLEXLINK.elf.S19
2. These are the Ethernet firmware files we will be using for upgrade for the respective motor type:
 - a. MDrive_FLEXLINK_ETHERNET_IP.elf.S19 is for use with the Classic MDrive motors
 - b. LexiumMdrive_FLEXLINK.elf.S19 is for use with the new LMD motors
3. Please store these files within an accessible location on your desktop as you will be referring to them often throughout the upgrade process
- 4.

Step 5: Completing the Firmware Upgrade Process for Lexium MDrive Motors

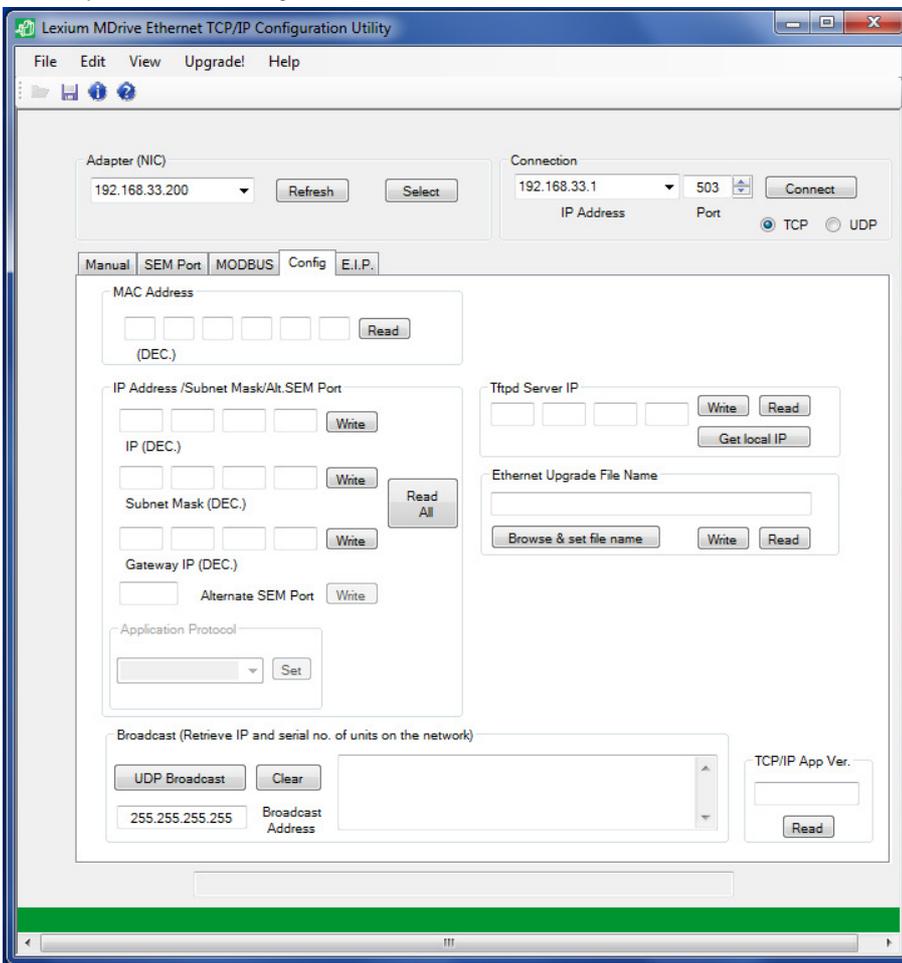
1. In this section we will go through a complete firmware upgrade on the Lexium MDrive (LMD) motors, it is very important that all of the screen prompts are followed throughout this process as the failure to do so could create a fault within the motor that is difficult to recover from.

- When upgrading Ethernet firmware you will be cycling power on the drive twice, when prompted, throughout the process. While completing this process it is very beneficial to have a remote power supply sourcing power to the motor that you can easily switch on and off so you do not have to continuously pull out, and plug back in the power connector to the motor.
- Open the following icon from your desktop for the Lexium MDrive TCP/IP Configuration tool:



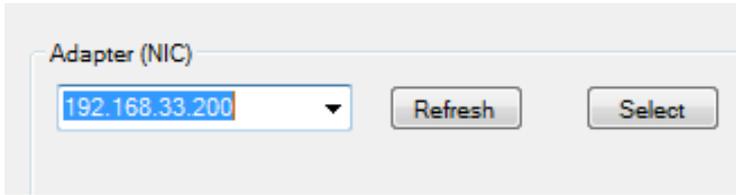
Even though this is the Lexium MDrive Configuration Tool, it can be used very effectively for upgrading firmware for both the Lexium and Classic MDrives.

- Once opened, the configuration tool environment will look like this:

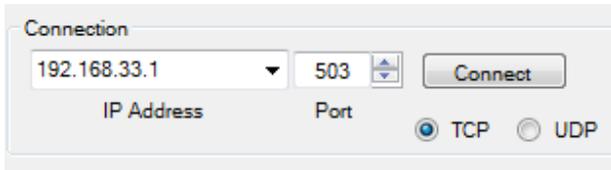


- In the upper left hand corner of the configuration tool, select the “Refresh” button. Once you have done this, use the drop down menu to the left of the “Refresh” button to select the IP Address of your computer’s NIC (network interface card). This will be the IP Address you configured for your Local Area Connection Properties in Step 2 from above.

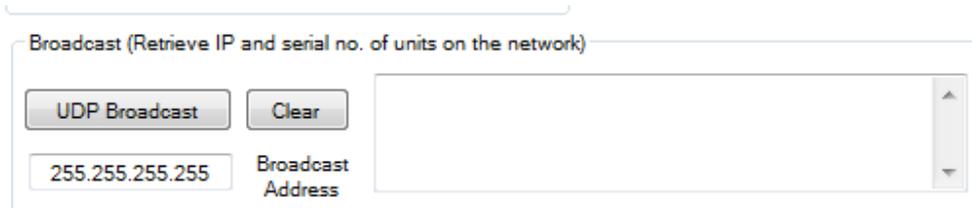
- Once you have selected your IP Address in the drop down, click the “Select” button to the right of the “Refresh” button to select this IP Address connection.



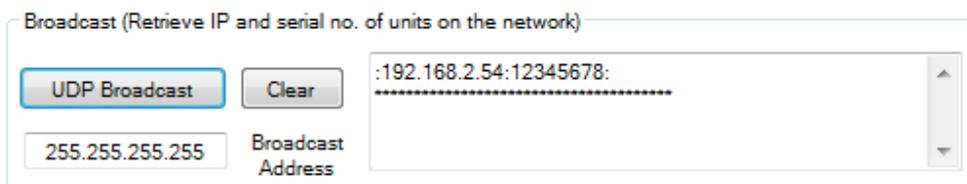
- If you already know the IP Address of the motor you are working with, you can type it in on the upper right hand side of the configuration tool in the “Connection” box above the text “IP Address”.



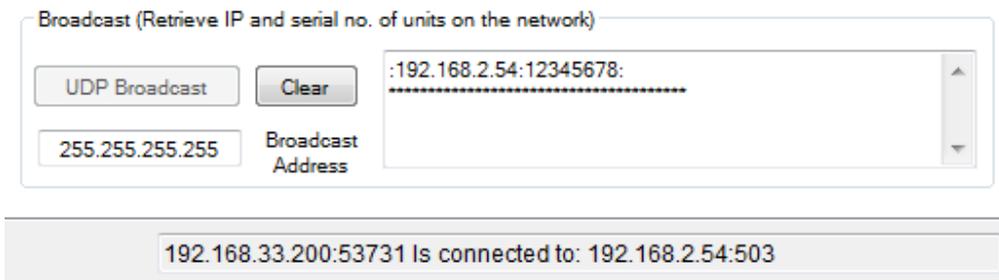
- If you do not know the specific IP Address of the motor you are working with but know it is on the same network as your LAN settings, 192.168.xxx.xxx, you can use the “Broadcast” section of the configuration tool to search the network for the drive that is connected matching the LAN IP settings of your computer.



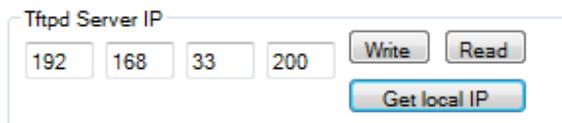
By selecting “UDP Broadcast”, the configuration tool will look on the network and retrieve the IP address and serial number of the drive connected to your computer. If a motor is found, this information is displayed to the right of the “Clear” button in the “Broadcast” section. An example is below:



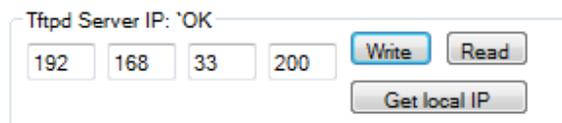
- Once the IP Address of the motor you are working with has been typed into the “Connection” box, and you have insured that the port setting to the right of the “Connection” box is set to 503, select the “Connect” button to establish a connection with the device. You should see a connection dialog at the bottom of the page, below the “Broadcast” section, which looks similar to this:



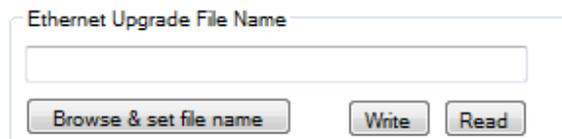
10. You have now established communication with the Lexium MDrive you wish to upgrade the firmware for.
11. To start the firmware upgrade procedure select the “Get local IP” button from the “Tftpd Server IP” section:



12. Once the IP address has been populated to the Tftpd Server IP, select the “Write” button to the right of the IP Address. A successful write condition will return an “OK” indication by the “Tftpd Server IP” text and will look like this:



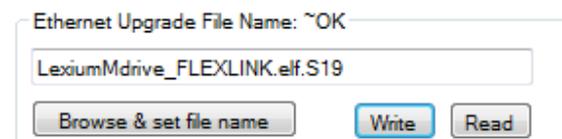
13. You next want to now select the firmware file for upgrade. This is done by selecting the “Browse & set file name” button in the “Ethernet Upgrade File Name” section:



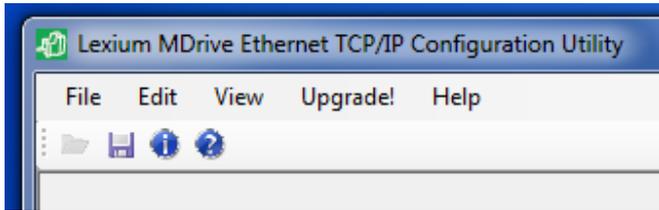
- a. Point the browsing tool to the Lexium MDrive Ethernet Firmware file you had received from Schneider Electric Motion and saved in Step 4 of this document. The Lexium MDrive Ethernet Firmware file name is **LexiumMdrive_FLEXLINK.elf.S19**.

Once this file has been selected and populates the box under the “Ethernet Upgrade File Name” text, select “Write” to the right of the “Browse & set file name” button.

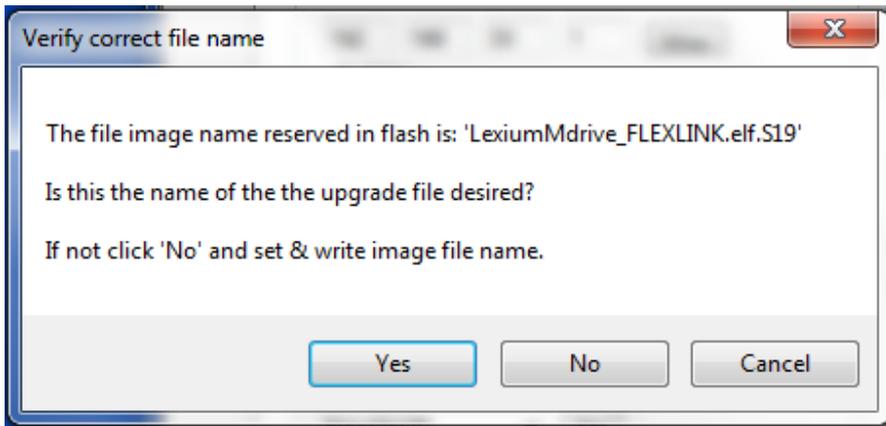
14. You have now successfully written the Ethernet Firmware file into the configuration tool for the start of the upgrade. If you did so successfully, you will see an “OK” printed to the right of the “Ethernet Upgrade File Name” text. An example is below:



15. You now may start the upgrade of the Classic MDrive Ethernet Firmware by selecting the “Upgrade!” Menu option on the top of the configuration tool:

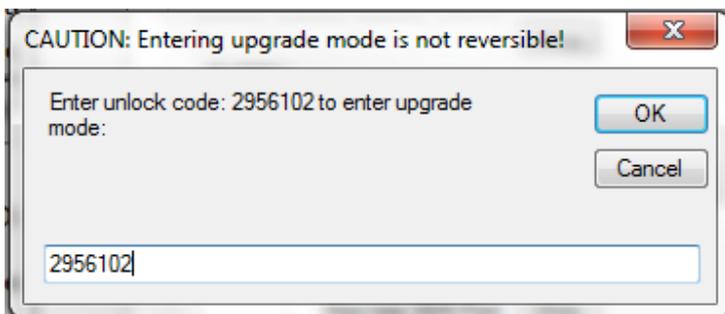


16. Once the “Upgrade!” menu has been selected, the configuration tool will check the Tftpd Server IP and Ethernet Upgrade File Name, and then prompt the user with the below text box:

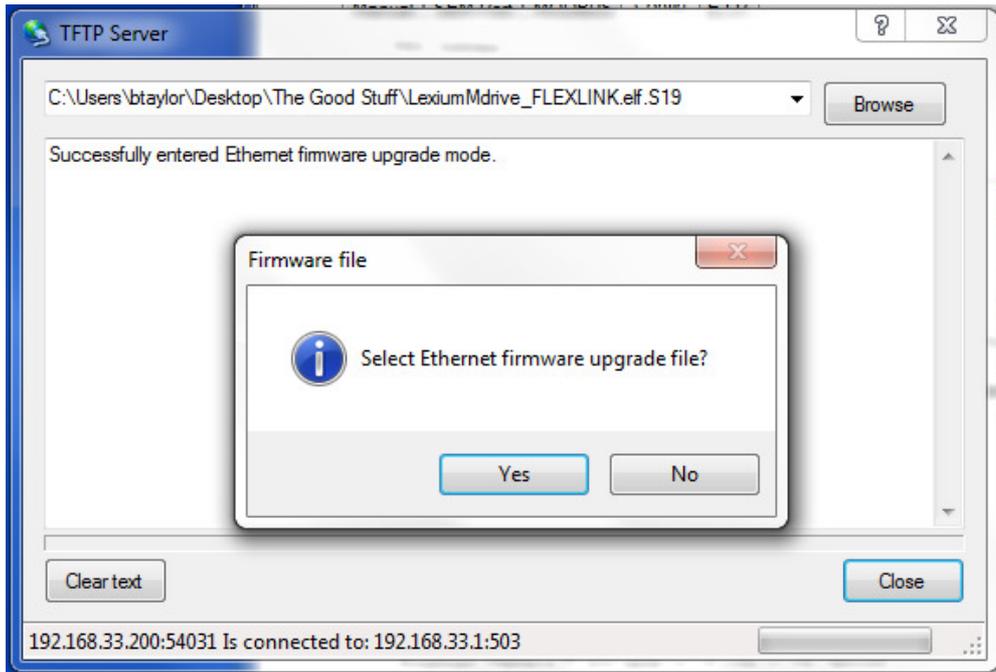


Insure the file in the text box matches the file you had previously selected and select “Yes”.

17. The user will now be prompted with an “Unlock Code” text box. This will enter the motor in upgrade mode and is not reversibile at this point. The unlock code is 2956102. Enter this in the text box and select “OK”.

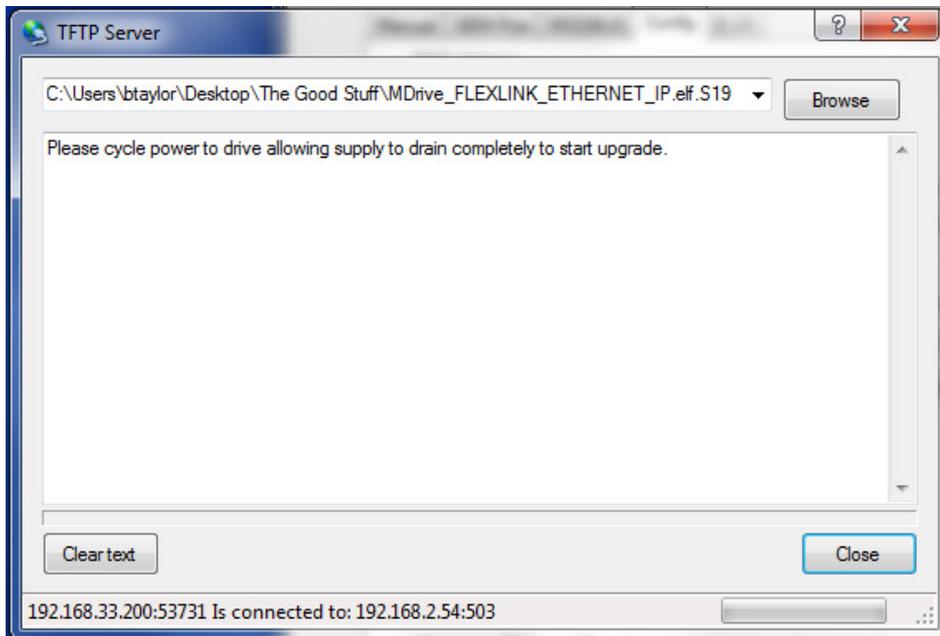


18. Before upgrading the firmware the configuration tool prompts the user one last time to insure you have selected the proper file with the below text box:



Select **"No"** to the "Firmware file" alert box as you have already selected the Ethernet firmware file.

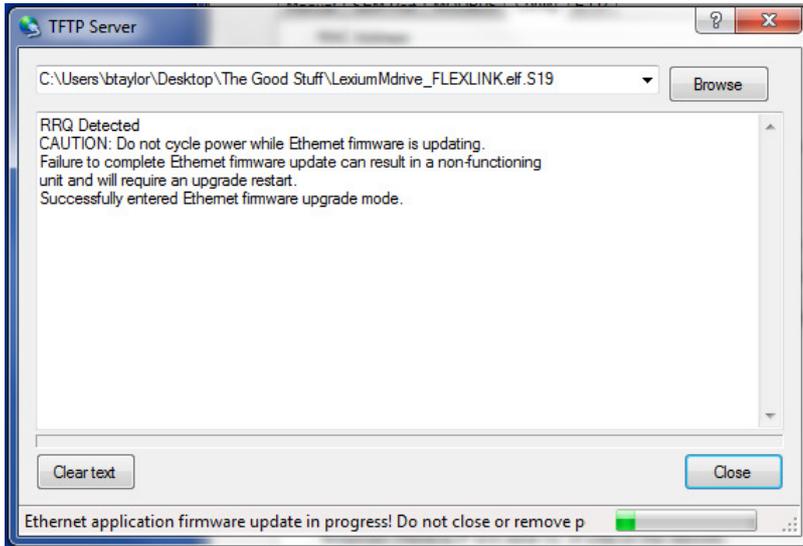
19. The user will now be prompted to "Please cycle power to drive allowing supply to drain completely to start upgrade":



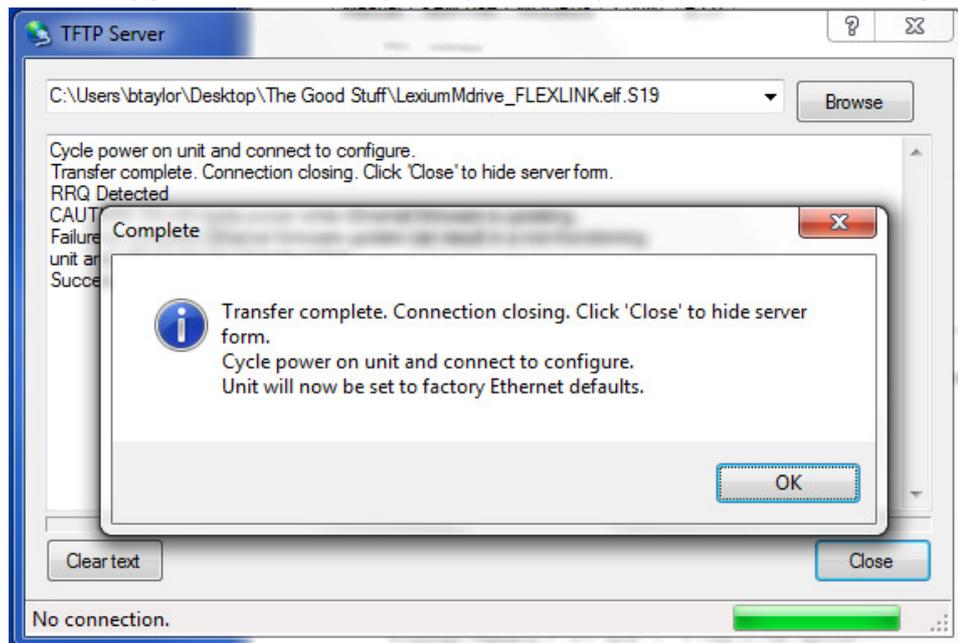
Note: Please remove power to the drive allowing a 6-10 second time elapse before reapplying power. This allows the power supply to drain completely and will allow the motor to gracefully power cycle.

All power to the motor, including the 24VDC Auxiliary Power wired into the I/O terminal block on the motor, must be removed for a full 6-10 seconds before reapplying.

20. After reapplying power the configuration tool will now proceed with the firmware upgrade and show the following status indication:

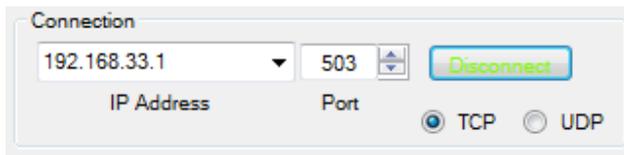


21. After the upgrade has been completed you will be prompted with the following:

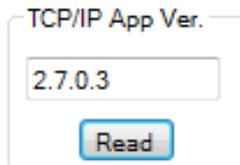


Select "OK" in the "Complete" box, then select "Close" in the "Tftp Server" box, then cycle power to the motor one additional time.

22. You have now successfully upgraded the Ethernet Firmware on your Lexium MDrive. By doing so, the default parameters have been restored to the drive for its IP Address configuration. The motor IP Address is now 192.168.33.1
23. To reconnect to the drive to make changes to the motor IP Address, as well as its Ethernet IP configuration, you will now need to enter the motor default IP Address into the "Connection" box and select "Connect".



24. You have now successfully upgraded the Classic MDrive firmware and have reestablished communication with the MDrive using its default IP Address. If you would like to check to insure the firmware has been upgraded you can do so by selecting the “Read” button in the “TCP/IP App Ver.” Section. The proper version of Ethernet firmware for the Classic MDrive is version 2.7.0.3. See below:



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