Technical Bulletin	Bulletin #: V120909-01
	Issue Date: December 9, 2009

MicroLogix 1400 Firmware Problem

It is recommended to update to firmware version FRN 5 to avoid possible errors encountered with FRN 4.

The following is a list of known issues in FRN 4 firmware:

- Possible 02h or 08h hard fault (and memory clear) when channel 0 or 2 is configured for Modbus RTU Slave or DF1 Half-Duplex Slave Possible 08h hard fault (and memory clear) when plugging in Ethernet cable after power cycle.
- Possible 33h fault "BSL/BSR/FFL/FFU/LFL/LFU CROSSED DATA FILE SPACE") when bit shift and/or FIFO/LIFO instructions are programmed AND data table memory words used is >5k. Password for the "administrator" web server account can't be changed successfully.
- Data file memory protection when memory module is configured to transfer program at power-up (S:1/11=1) is not working (data table is always overwritten).
- If the gateway address is configured as all zeroes, the LCD displays the gateway address as 255.255.255.0 If the subnet mask is configured as all zeroes, the LCD displays the subnet mask as aaa.bbb.ccc.1, where aaa.bbb.ccc are the first three octets of the IP address.
- When the LCD screen is in User Display and the waiting for user input timer expires (LCD:0.TO=1), the User Display screen automatically goes back to the I/O Status screen as documented, but the LCD:0/WND bit remains set, which implies that the LCD screen is still in User Display. Poor accuracy of serial baud rate clocking at higher speeds (9600 and above). Possible 3Bh fault ("PTO error") with PTO error=4 ("Accel/Decel error") due to an underestimation of the S-curve limit for PTO Accel/Decel pulses.
- Several issues with Memory Module transfers initiated through the LCD display. Possible 02h hard fault (and memory clear) due to multiple power fail interrupts being accepted.
- DNP3 timestamp sometimes off by a day after power-up and before being synchronized with the DNP3 master time. Embedded analog input values can "freeze", requiring a power cycle to recover.

All these fixes are incorporated into firmware release FRN 5. To update to FRN 5, follow the procedure below.

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Micrologix 1400 Firmware Upgrade

STEP 1

Save and upload the current program**. Upgrading firmware will eradicate the program from the PLC memory.** You will have to download this uploaded program when the update is complete.

Select Go Offline and stay plugged in VIA Ethernet. If you try to do this upgrade via serial it will take roughly an hour. Creating a greater chance for power loss.

You will need a Cross Over Ethernet cable. You may also need to disable your Firewall during the upgrade.

STEP 2

Install Firmware upgrade from zip file. Double Click the following:

1766-LEC-FRN05.zip

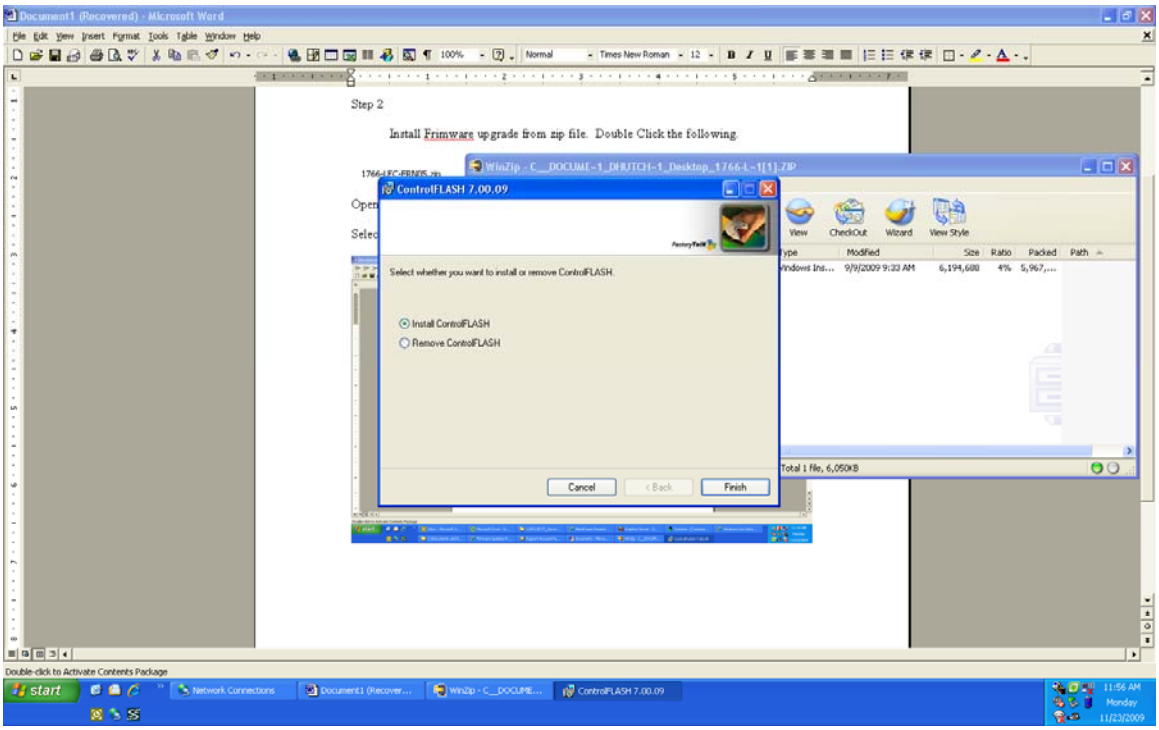
STEP 3

Select “Install Control Flash” and select “Finish”

If you get the following error message refer to step 40

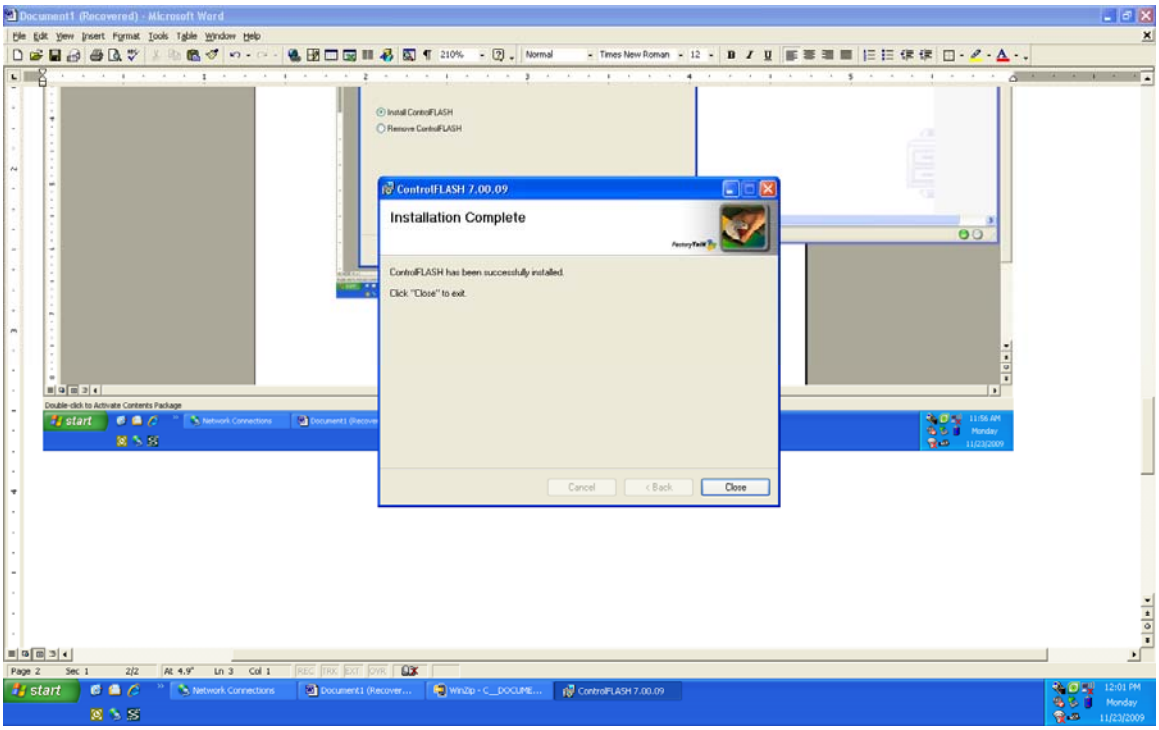
Error reading from file C:\Program Files\ControlFlash\vbsbackupmsikits.vbs

If you do not get this error continue on to step 4.



STEP 4

Select “Close” when installation is complete

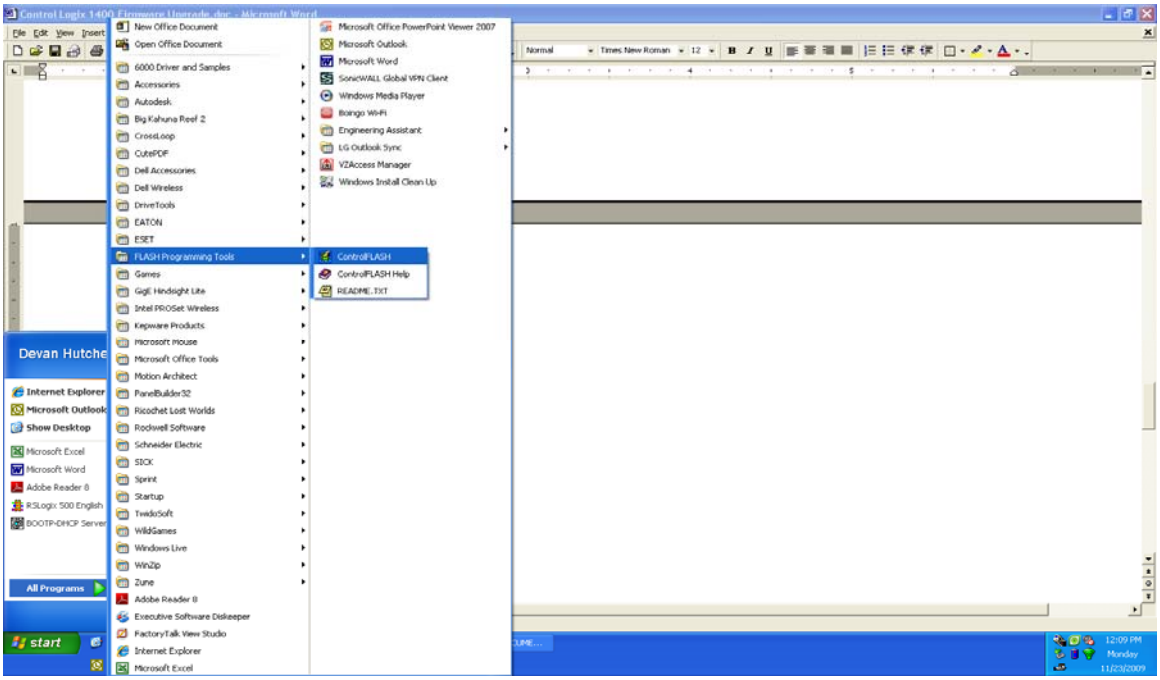


STEP 5

Installation of ControlFlash is now complete.

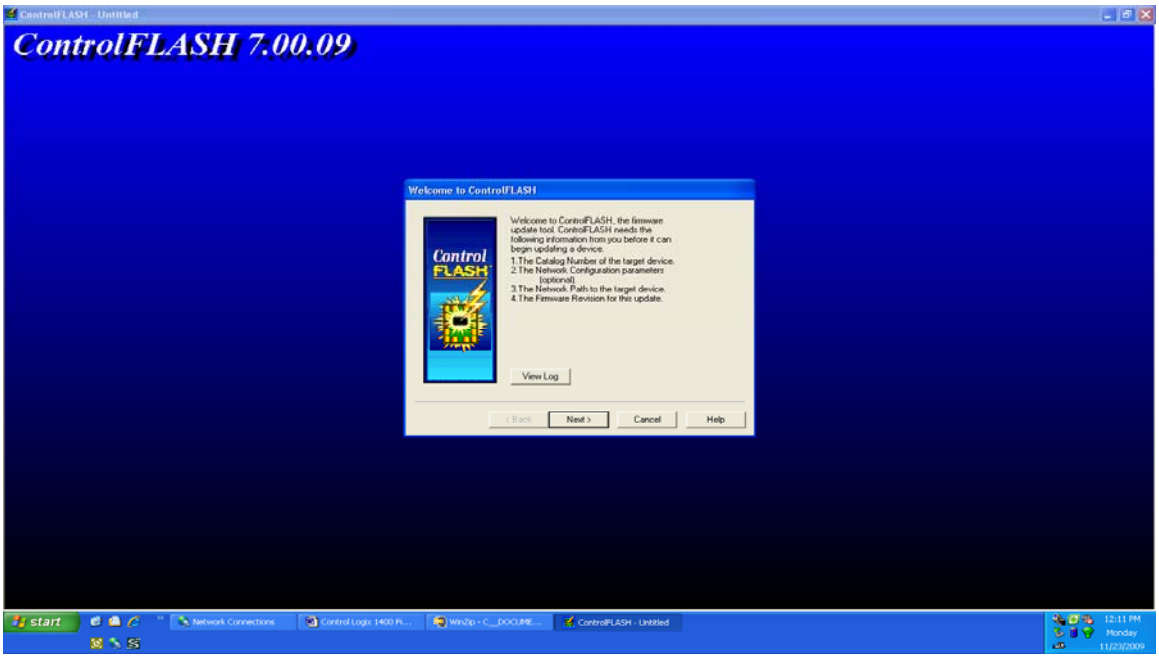
*****BEFORE CONTINUING-MAKE SURE YOU ARE ABLE TO FINISH WITHOUT INTERUPTING POWER TO THE PLC OR YOUR PC!!! IF POWER IS LOST ON EITHER YOUR PC OR THE PLC WHILE FLASHING THE FIRMWARE YOU MAY CAUSE IRREVERSIBLE DAMAGE TO THE PLC!!!!!*****

Go to "Start" Menu
Select "Flash Programming Tools>ControlFlash"



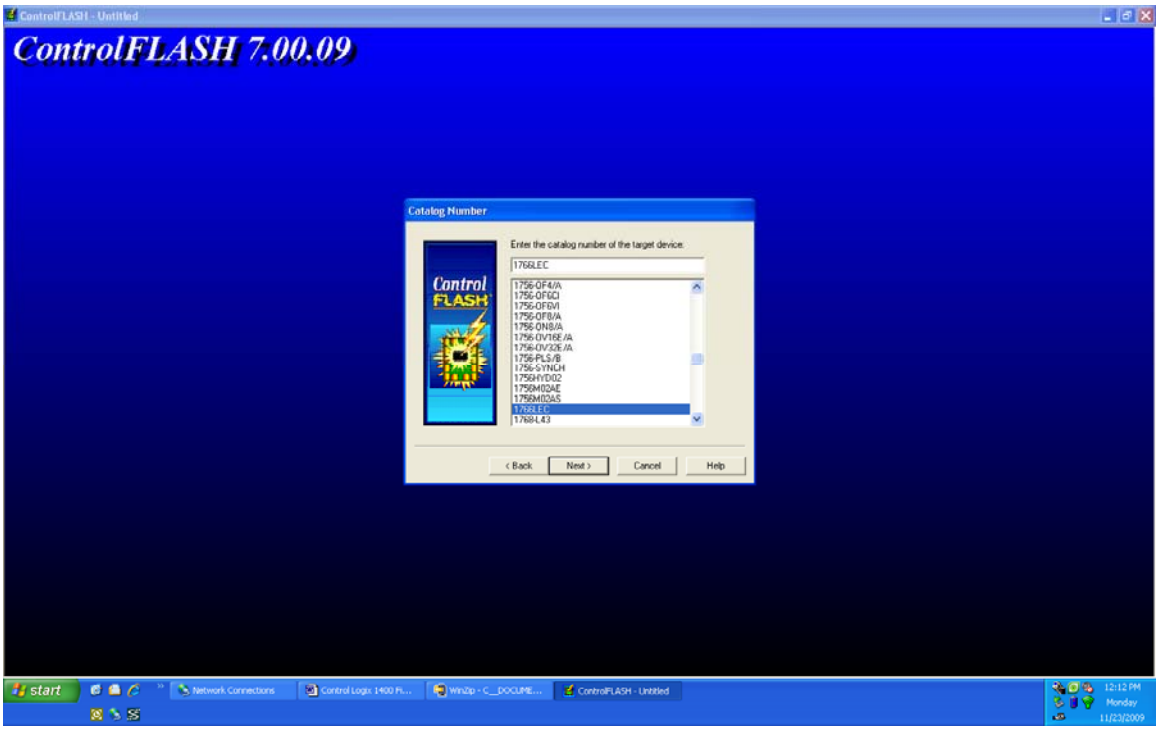
STEP 6

When Software loads select "Next"



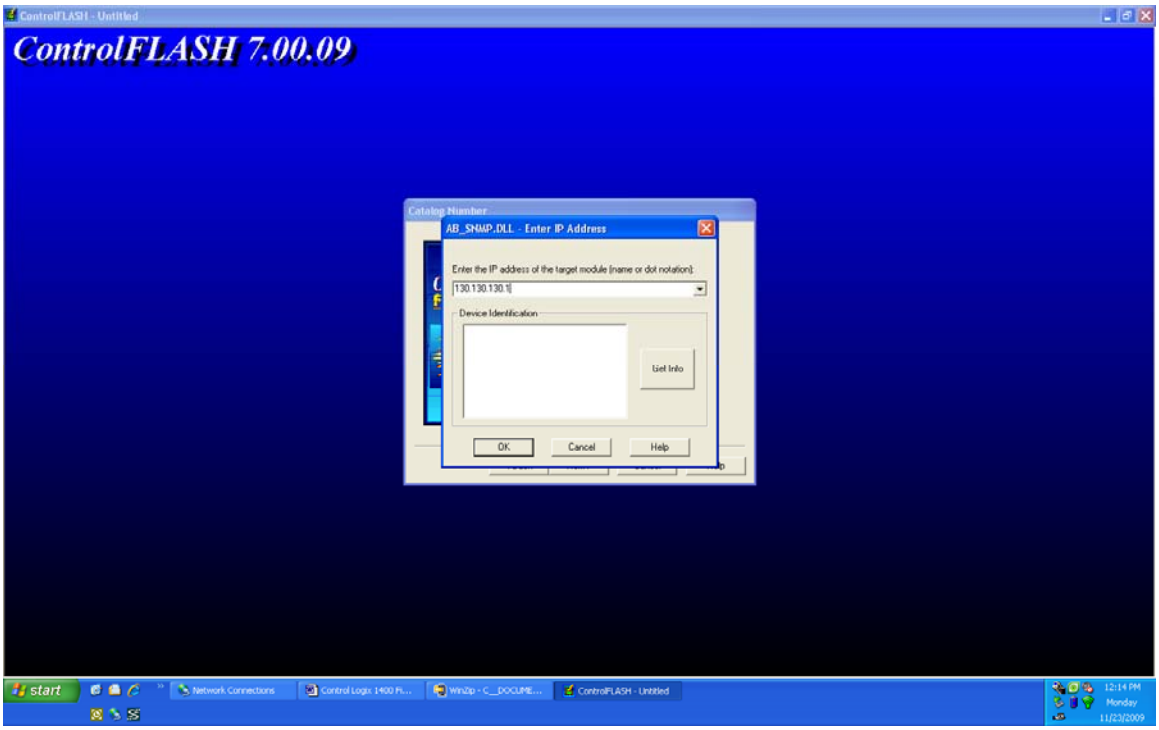
STEP 7

Scroll Down and select “1766LEC” then select “Next”



STEP 8

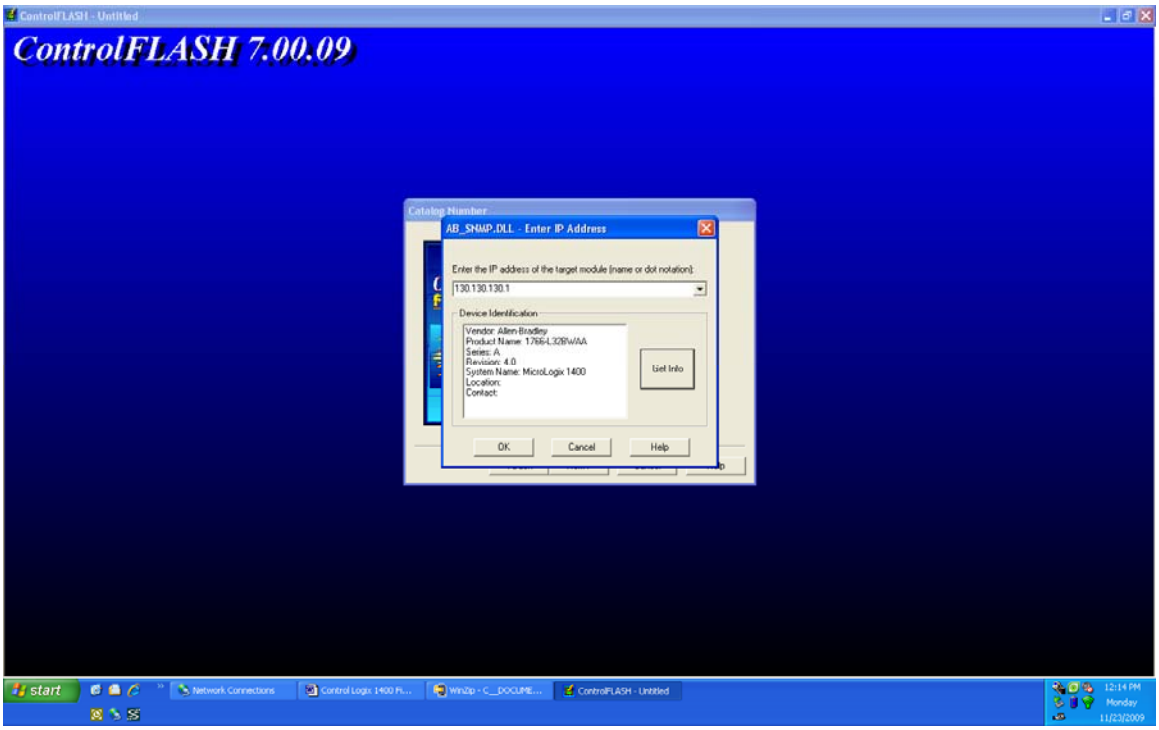
Enter the I.P. Address of the PLC (For this Scenario we used 130.130.130.1)



STEP 9

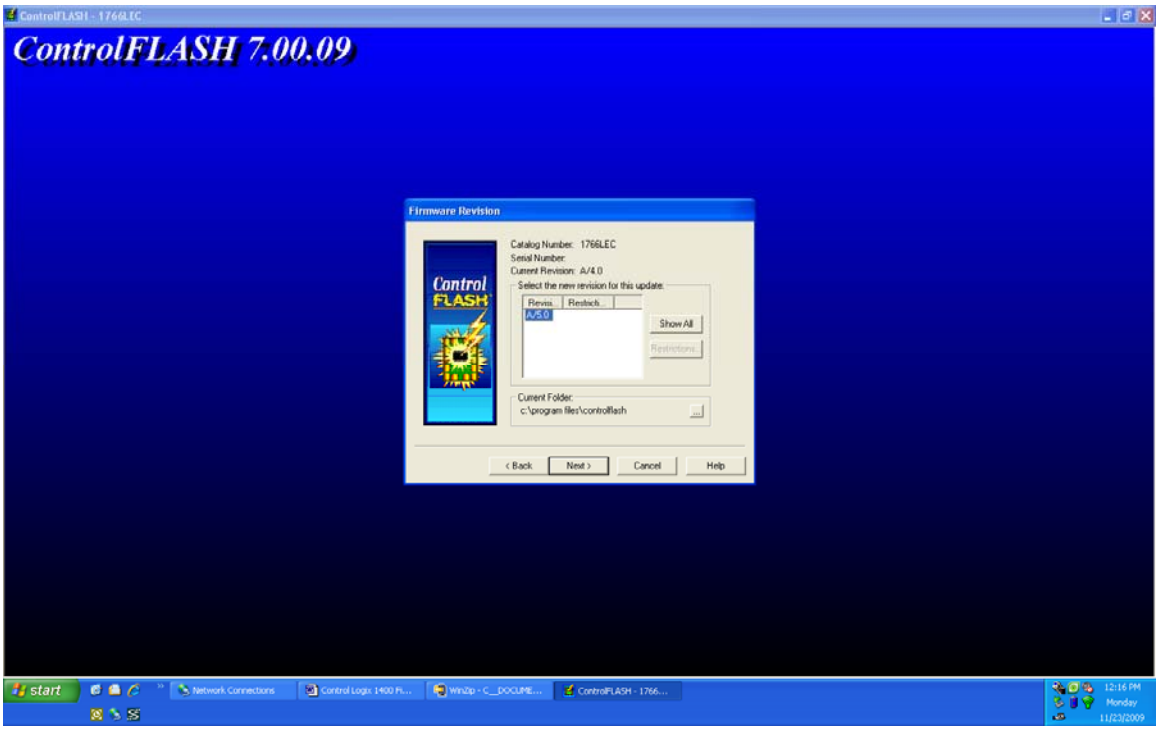
Once IP address is entered select “Get Info” button. This will import the PLC information from the PLC. Once the information appears Select “OK”

Note: If current revision shows 5.0 this upgrade has already been performed and there is no need to continue.



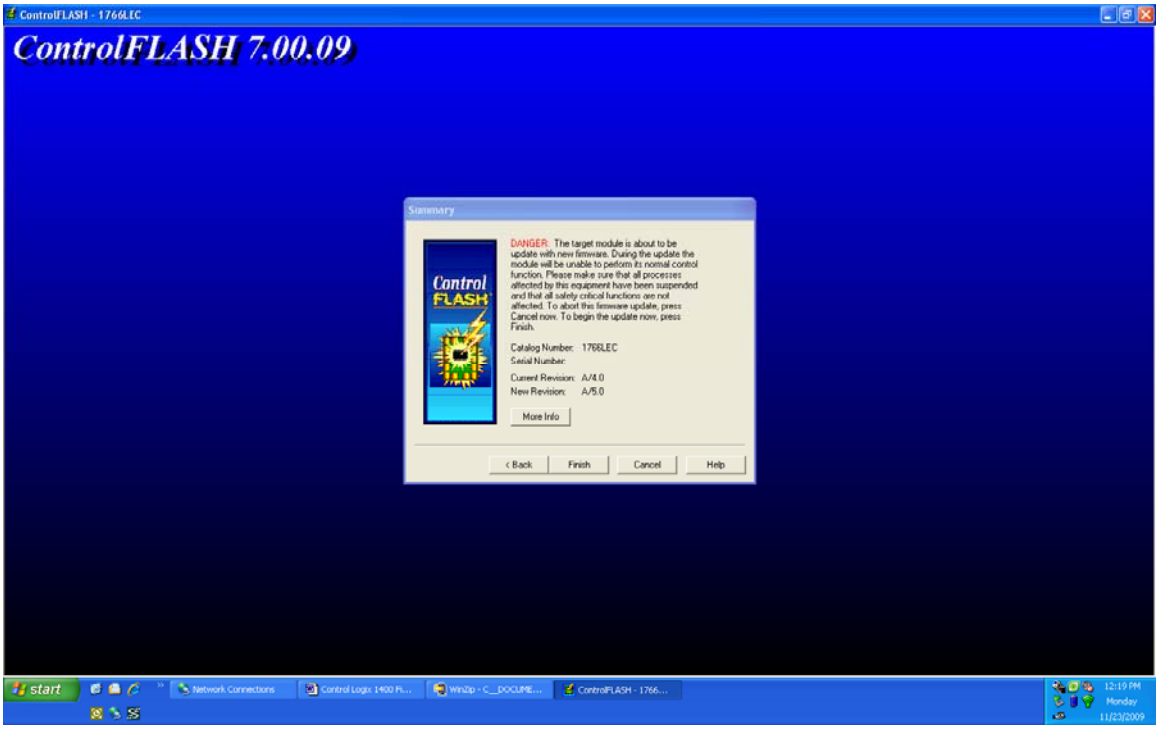
STEP 10

Select “Next”



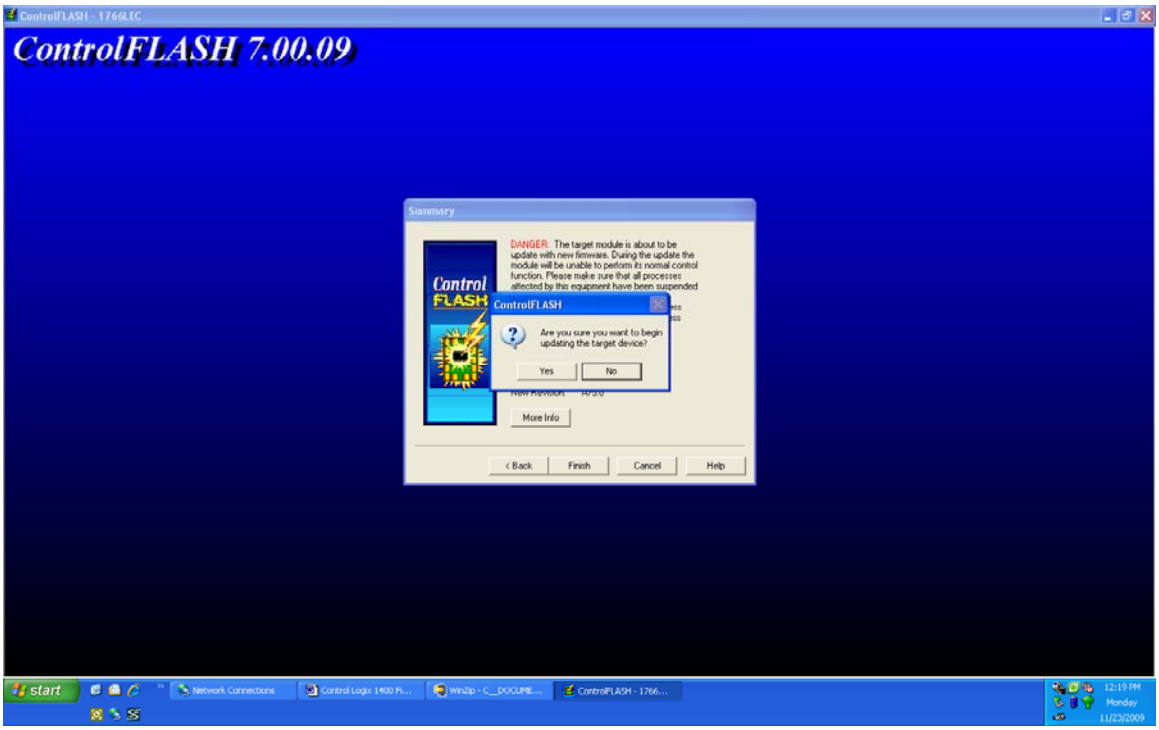
STEP 11

The next screen contains a message explaining that downloading the Firmware will interrupt PLC operation. Make sure the machine is not running and an E-Stop is pressed. Then select "Finish"



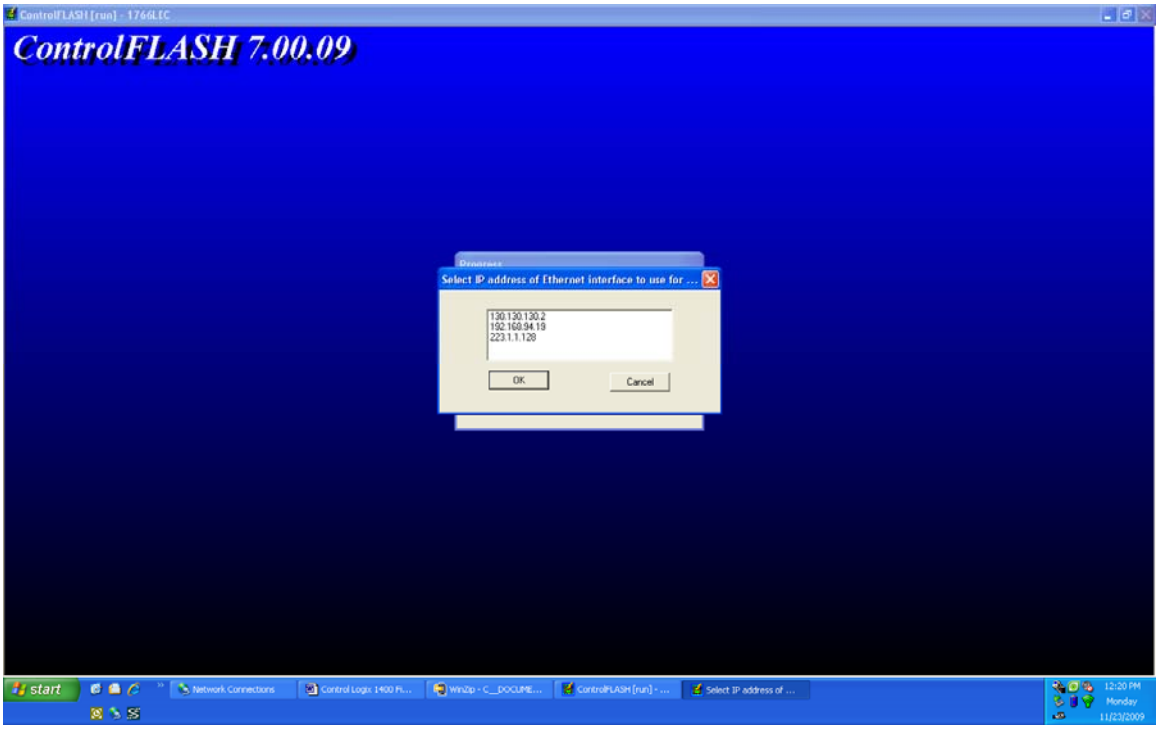
STEP 12

You will get a dialogue box asking if you want to continue select "Yes"



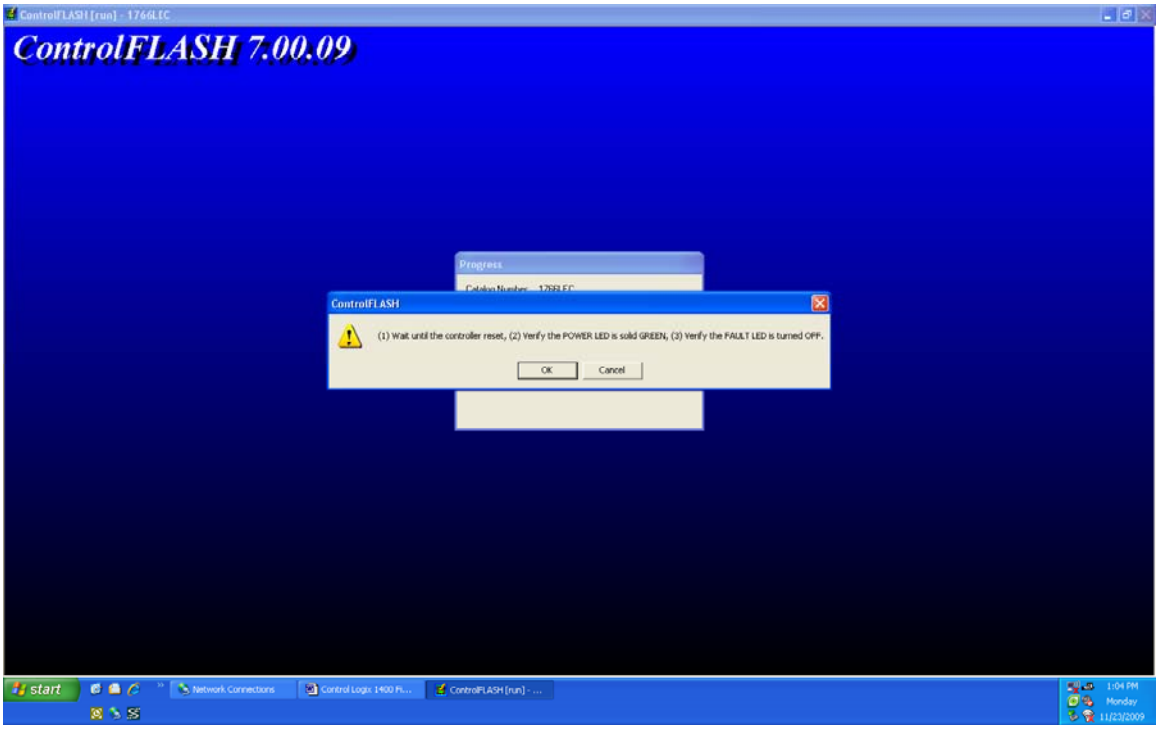
STEP 13

It will ask for the IP address to use for the Ethernet interface. This should be the same as the IP address as your computer. I set mine for 130.130.130.2. There will be other IP addresses that appear. Be sure to use the one your PC is set to.



STEP 14

When update is finished you will be asked to verify the PLC restarted. Select "OK" when you have verified the 3 items in the dialogue box.



STEP 15

Once verification is complete you will get an update complete message. Select "OK"

You may now close ControlFlash. Updating the firmware has eradicated the program. You will now have to download the program that you previously uploaded from Step 1.

Steps 40-44 are intended for the following error message when trying to install ControlFlash
Error reading from file C:\Program Files\ControlFlash\vbsbackupmsikits.vbs

STEP 40

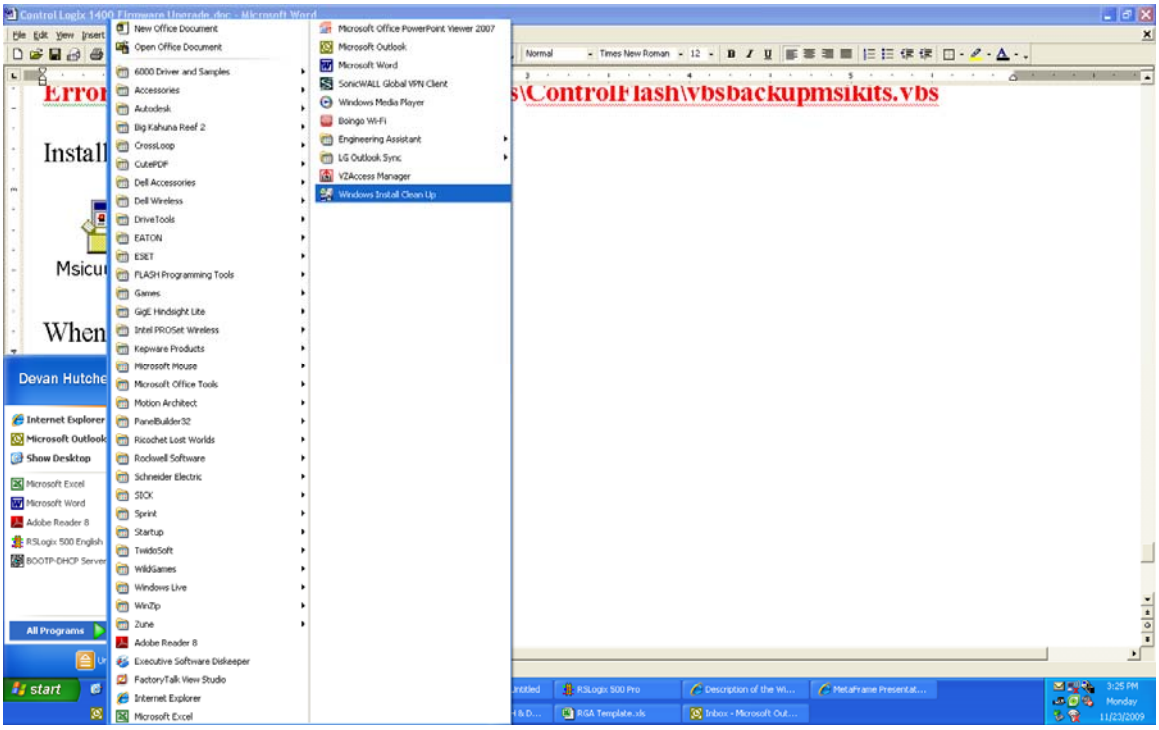
Install the following software: This software is from Microsoft.


Msicuu2.exe

When install is complete Select "Finish"

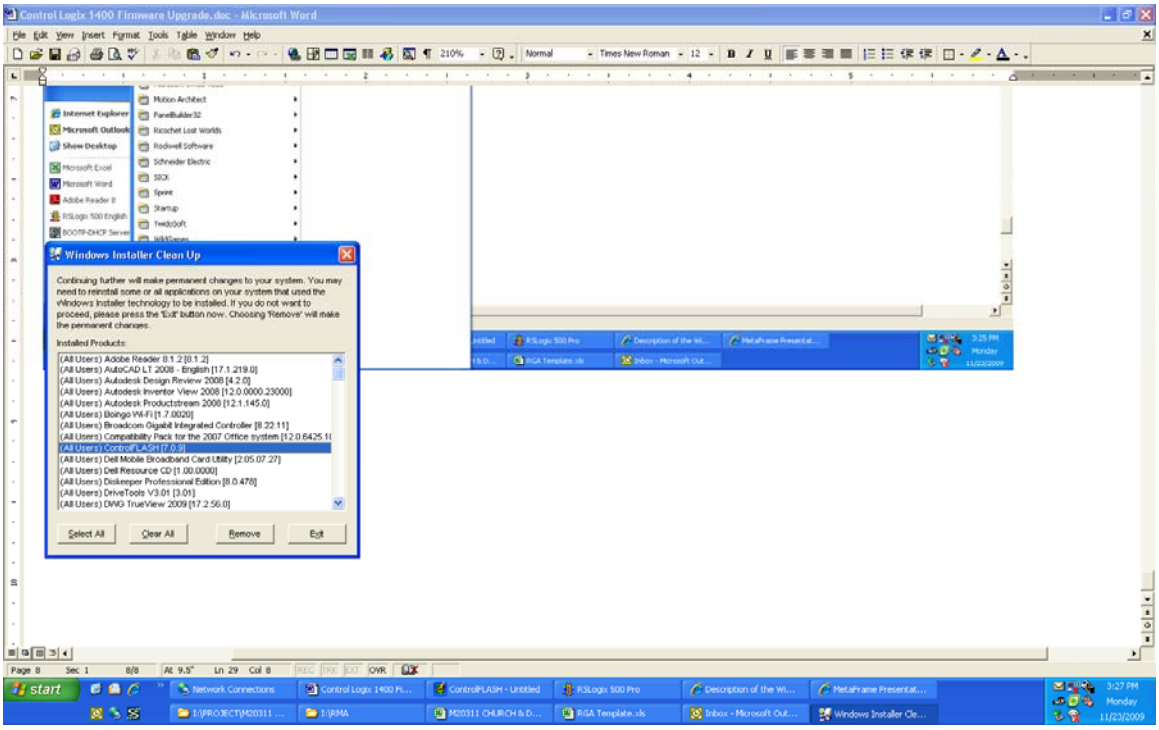
STEP 41

Go to “Start” menu Select “Windows Install Cleanup”



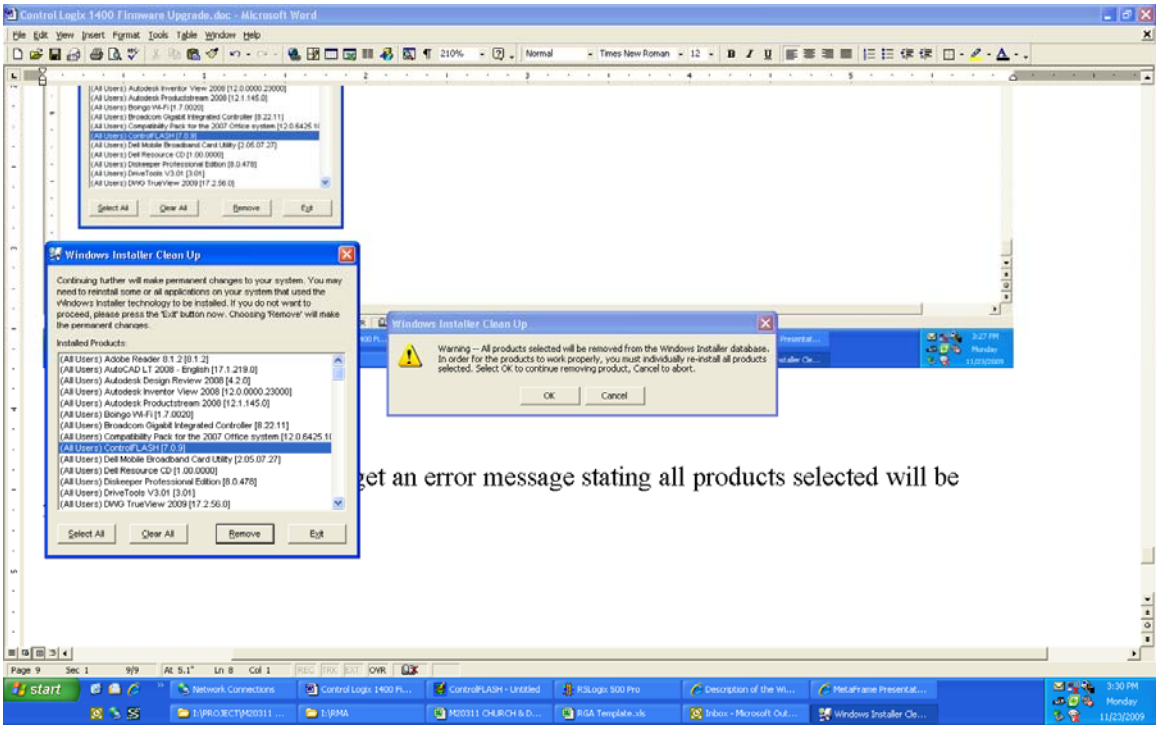
STEP 42

Select (all users) ControlFlash *the brackets after ControlFlash refer to the version that is installed, this number may vary*



STEP 43

Select “Remove”. You will get an error message stating all products selected will be removed. Select “OK”



STEP 44

Once the installer clean up finishes you may Select “Exit” on the Windows Installer Clean Up Utility. Once the Utility closes return to STEP 2 and install the ControlFlash upgrade.