Firmware Flashing and Upgrading

Document Change Log

01st Jan 2011
Document created.

18th April 2011
Added in FwTool v1.10.exe to document

23th Aug 2011
Update the FwTool v1.11.exe

21st Oct 2011
Added in table content

08st May 2012
Format Changes
Minor adjustment

Contents

Introduction

EasyIO 30P controller comes with built in bootloader program. Built bootloader program will enable user to upgrade firmware without sending back to factory.

There a few ways of archiving flashing the firmware to another version.

1. Connection to the EasyIO via Ethernet Cable by using the **FWTool1.11.exe (recommended)**
2. Connection to the EasyIO via Ethernet cable. (10/100Mbps)
3. Connection to the EasyIO with a serial COM (RS-485).

The steps below are also applicable for formatting the controller by using the FormatRest.bin file.

FormatReset.bin file will do the following:

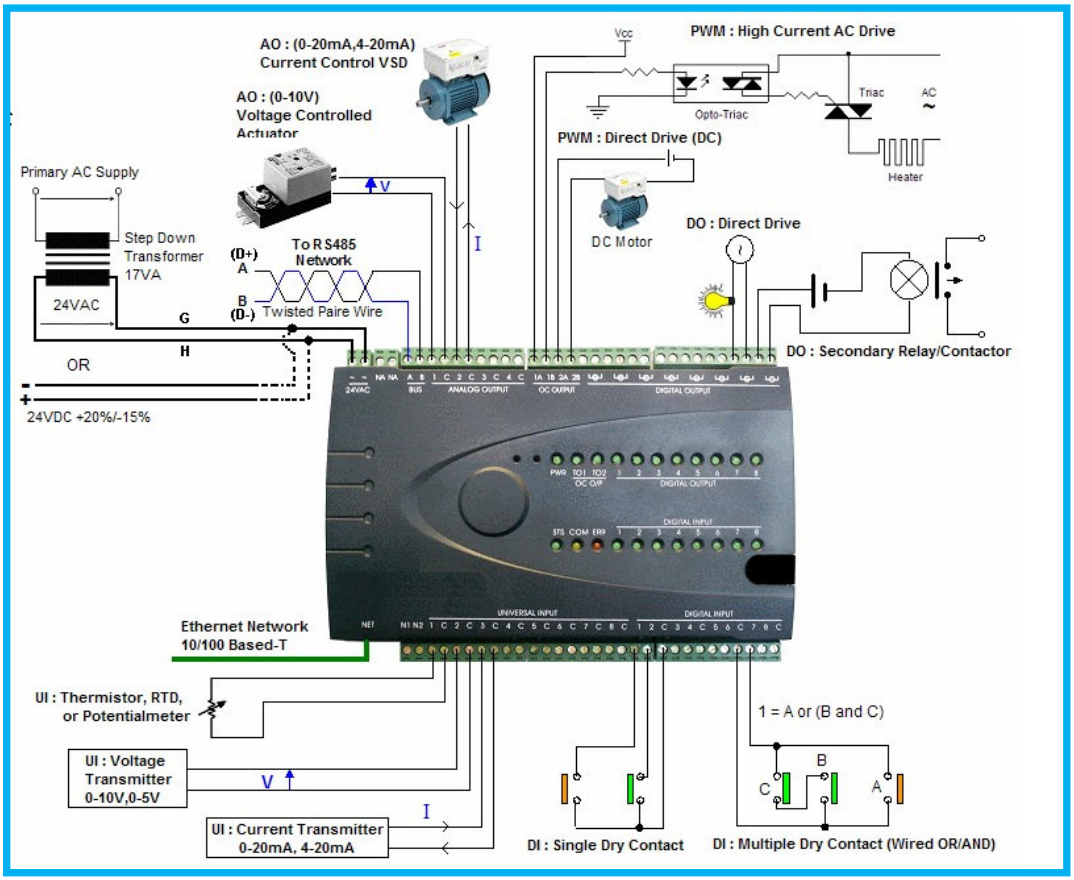
1. Reset the web browser login credentials to factory settings which is username : admin , password : 1234
2. Reset the web browser IP address and Sedona login IP address to factory settings which is 192.168.10.10.
3. Format the controller application file.

1. Bootloader Mode (Ethernet via FWTool.exe)

This is the fastest and most effective way of flashing a controller. As normal hyper terminal program sometime may have error and will cause the flashing process not properly done.

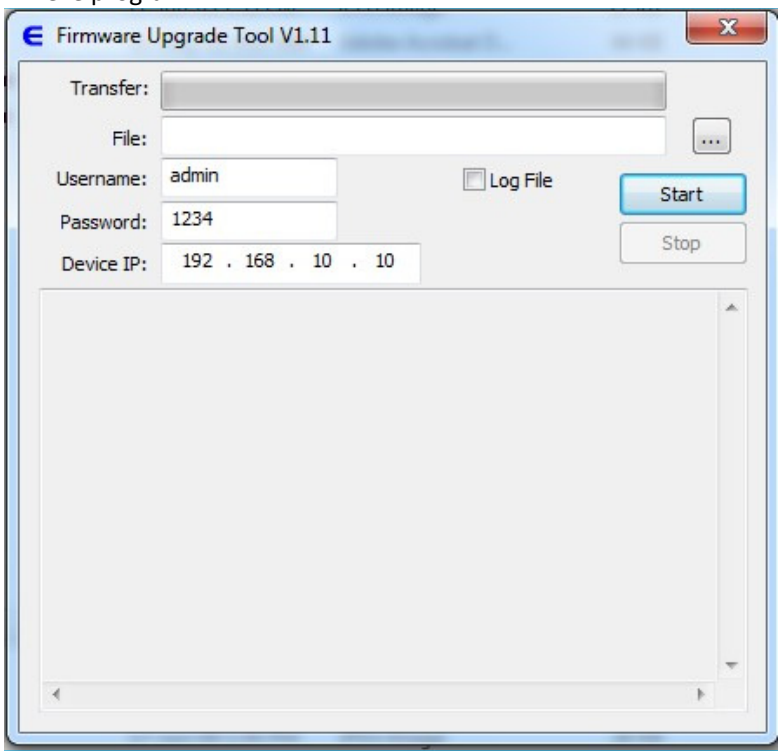
This is the recommended way of doing the firmware flashing or firmware upgrade.
Below are the steps for firmware upgrade with the **FwToolv1.11.exe**.

Step 1:
Hook up the controller wiring and connect to terminal BUS D+ and BUS D- .



Step 2:

Open the FWTool v1.11.exe program.

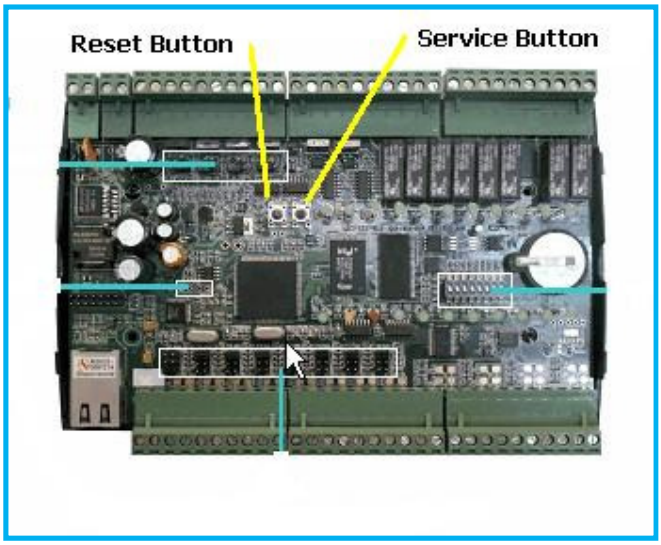


Step 3:

Select the desire firmware by clicking on the browser button, then hit OK.

Step 4:

While the controller is in ON mode, hold down both buttons for 1 second and release the reset button(left side) , wait for the STS Led to flash fast and release the service button(right button).



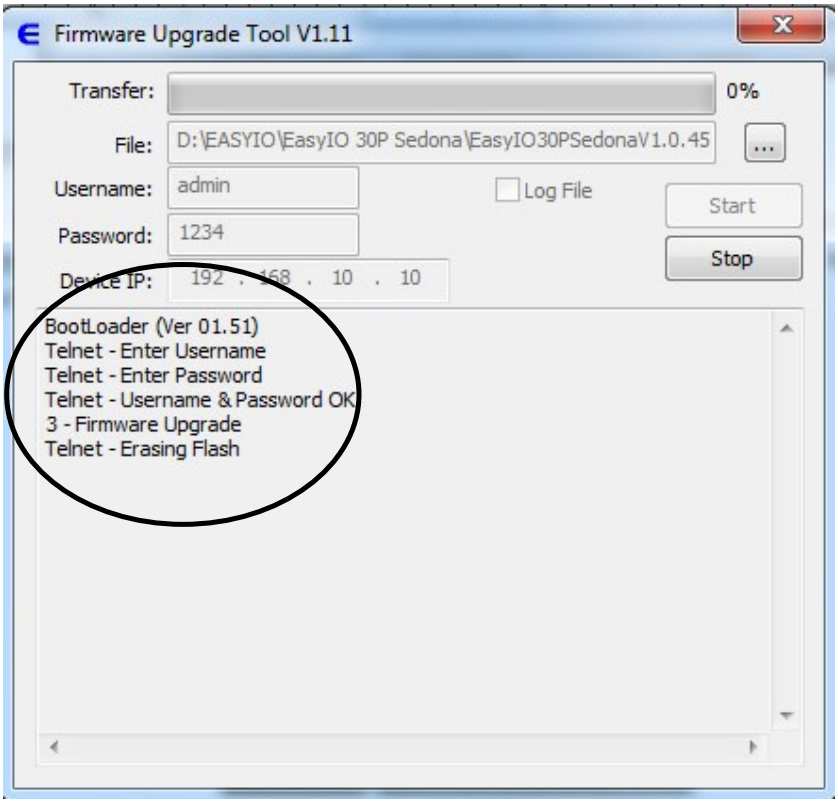
Step 5:

Hit the “Start” button. A pop up window will prompt you to make sure you have got the controller into bootloader mode. Hit “OK” if the controller is in bootloader mode.

If you did not get the controller into bootloader mode, the connection will not be successful.

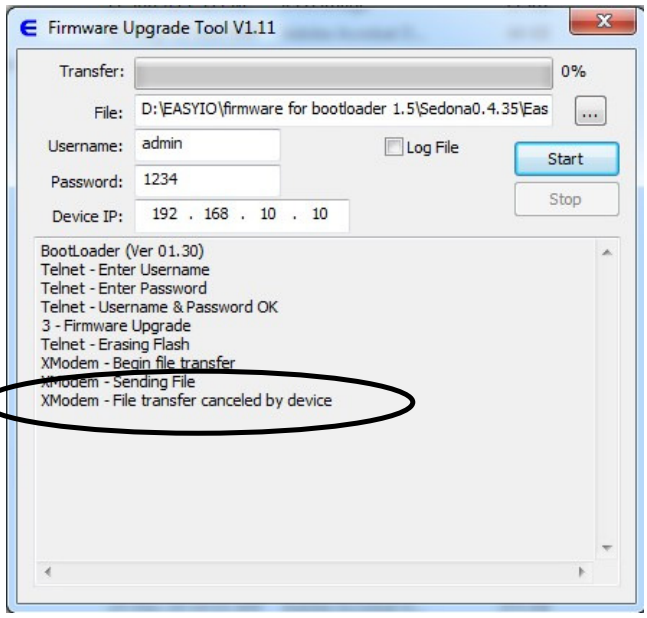
Step 6:

A successful session will show as below. It will show the bootloader version, telnet login details and the process of firmware flashing.



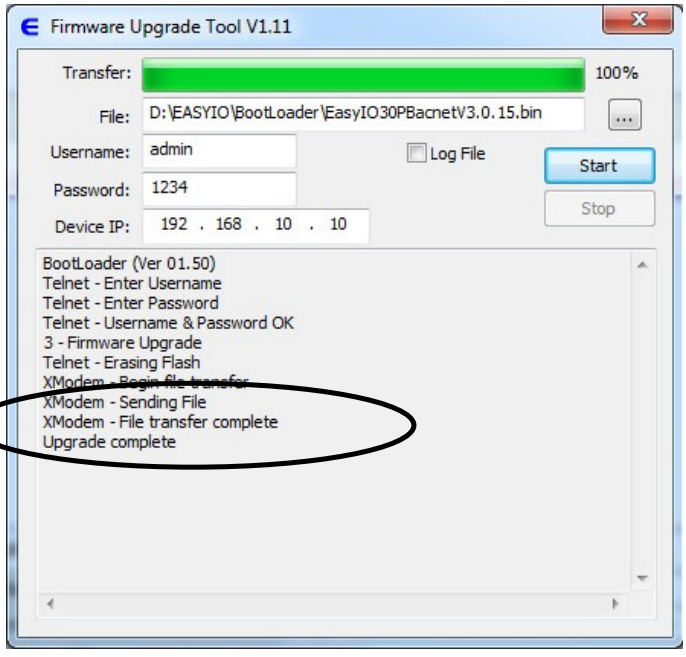
Step 7:

If during the process, the device has cancel the firmware transfer , please refer to document ***EasyIO General 03 – Bootloader Compatibility*** for a detail explanations.



Step 8:

If a successful transfer is done, details below are show in the FWTool.exe. The screen will flicker once.



Step 9:

After a successful firmware upgrade, you need to reset the controller by pressing the reset button or cycle the power of the controller.

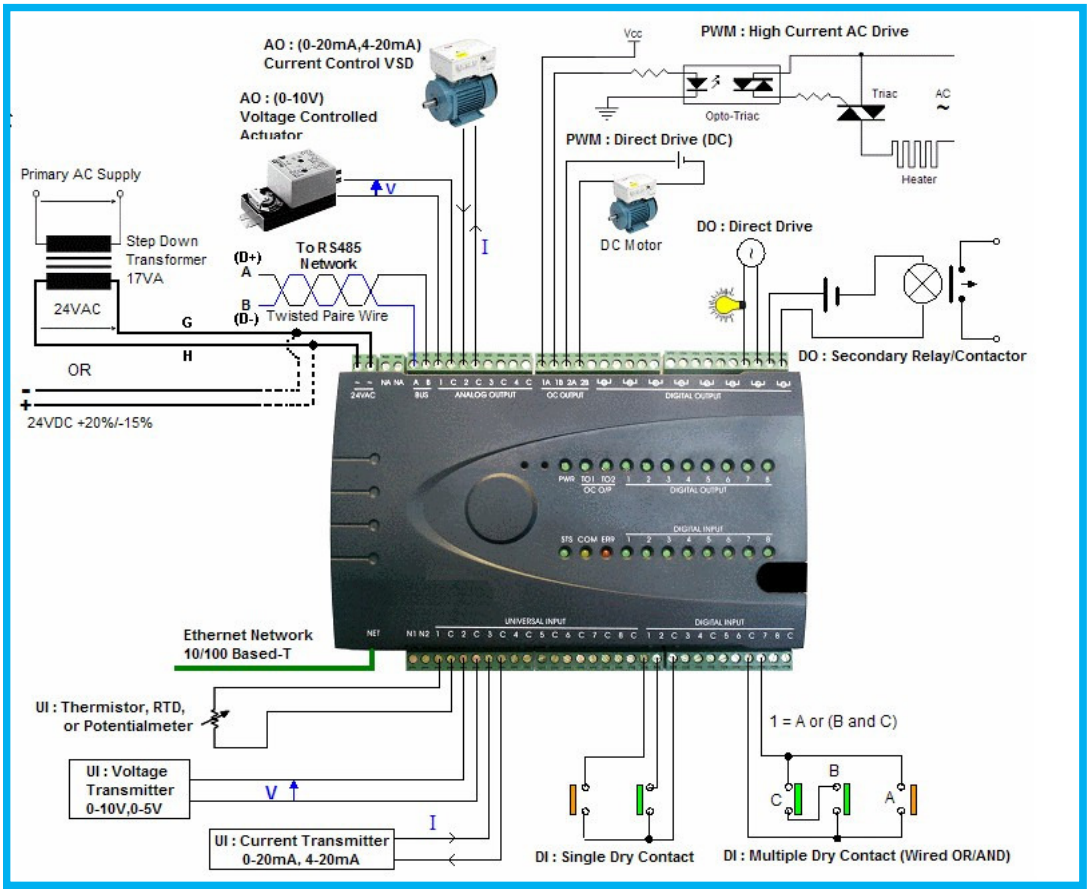
2. Bootloader Mode (Ethernet, TCP)

You will need HyperTerminal program in order to run this procedure. For Window Vista and Window & user , you need a third part terminal program as these mention OS does not have it.

You may download from EasyIO FTP website, ftp://www.easyio.com

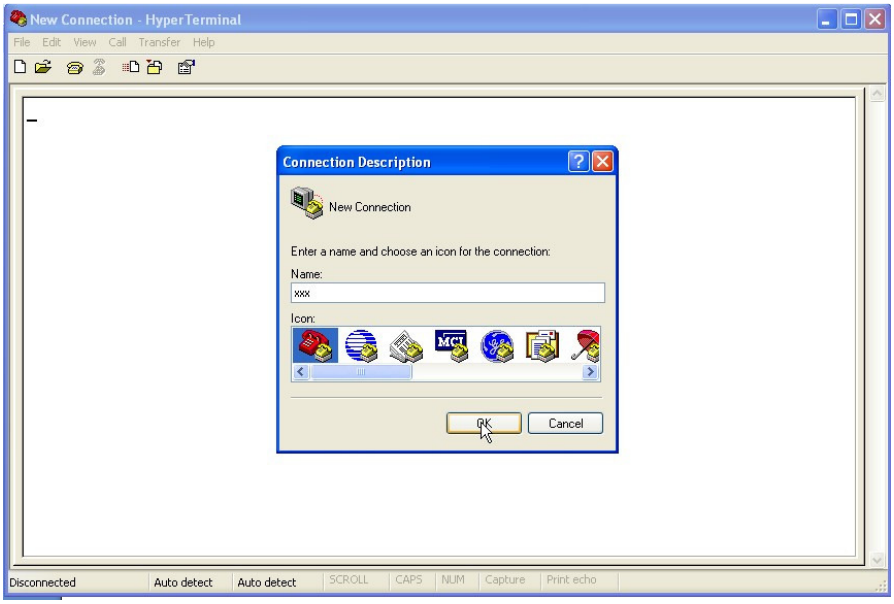
Step 1:

Hook up the controller wiring and connect to terminal BUS D+ and BUS D- .



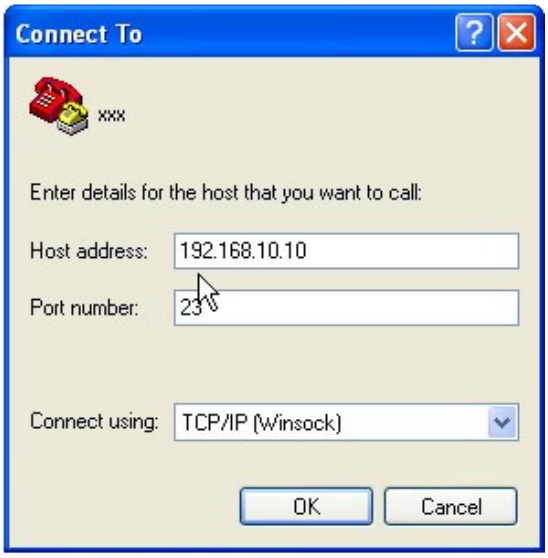
Step 2:

Open a new connection and rename to xxx



Step 3:

Select TCP/IP connection. Key in the Bootloader IP address by default is 192.168.10.10



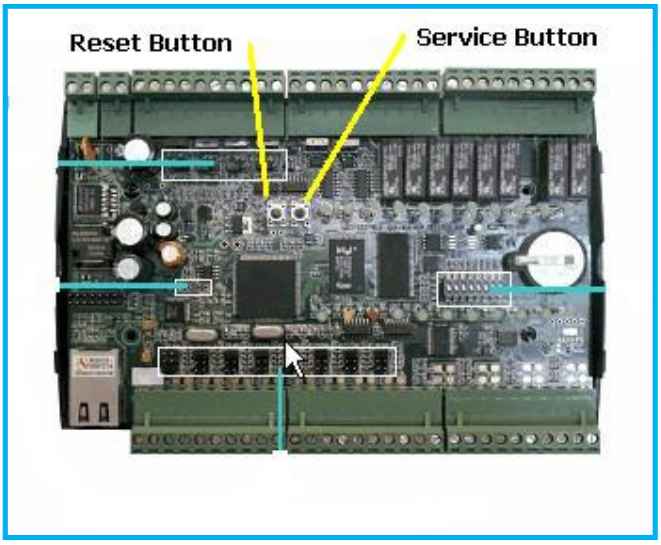
Step 4:

Click Connect.

Step 5:

While the controller is in ON mode, press the reset and service button together hold for 1 second , and release the reset button(left side) , wait for the STS Led to flash fast and release the service button.

When the status LED is flashing at approx 5Hz, this mean that the controller is in bootloader mode.



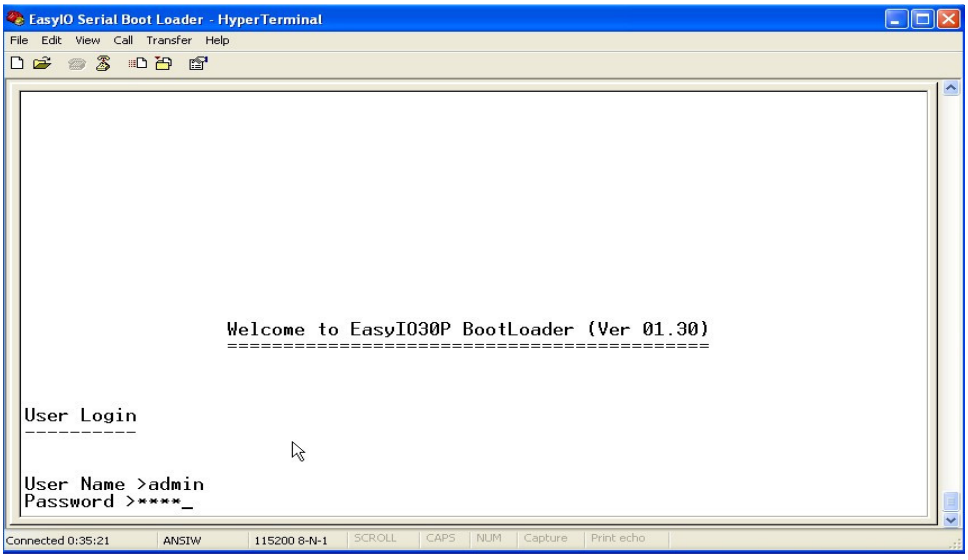
Step 6:

In the Hyper Terminal window , you should see as image below if the connection is successful.

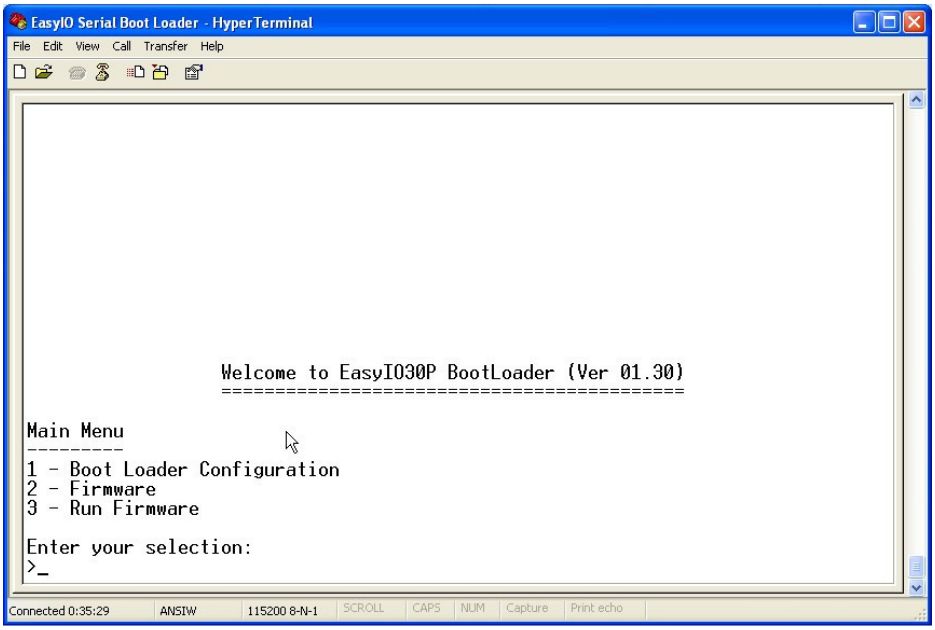
Step 7:

Key in user : **admin** and pass : **1234**

This is the default bootloader username and password. Please DO NOT change this.



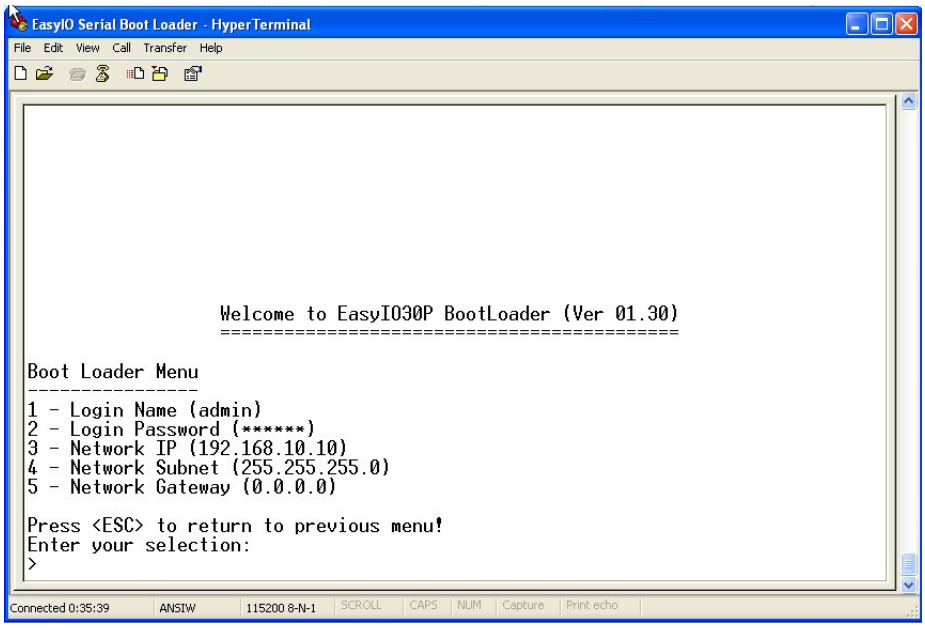
A successful login will show as below.



Step 8:

From this root menu you can select any menu to view or modified the bootloader or firmware.

Bootloader menu, this screen is showing the information about the Bootloader Mode settings.



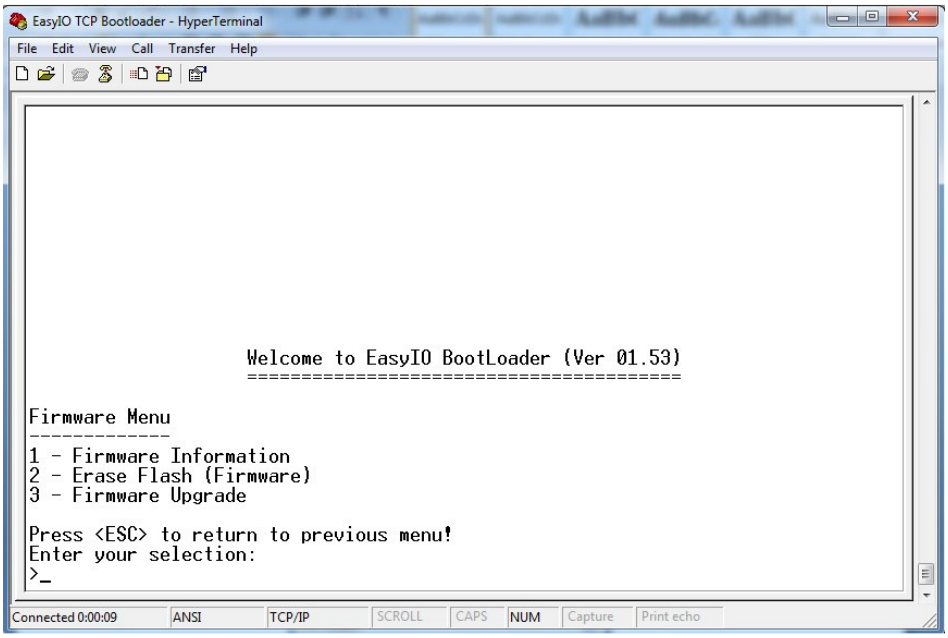
BootLoaderConfiguration Menu Property

- Login Name

  admin (default , do not attempt to change this)

- Login Password
  1234 (default , do not attempt to change this)
- Network IP address
  192.168.10.10 (default IP address for bootloader mode. This IP address is different from web browser)
- Network Subnet :
  255.255.255.0 (default subnet address for bootloader mode. This subnet address is different from web browser)
- Network Gateway :
  0.0.0.0 (default gateway for bootloader mode. This gateway is different from web browser)

Firmware Menu



Firmware Menu Property

- Firmware Information
  This will show the firmware that is currently running in the controller. If the screen show No Firmware Information , this means that there is no firmware running in it , probably cause of interrupted firmware uploading process , corrupted file transfer or uploading process being cancel by user

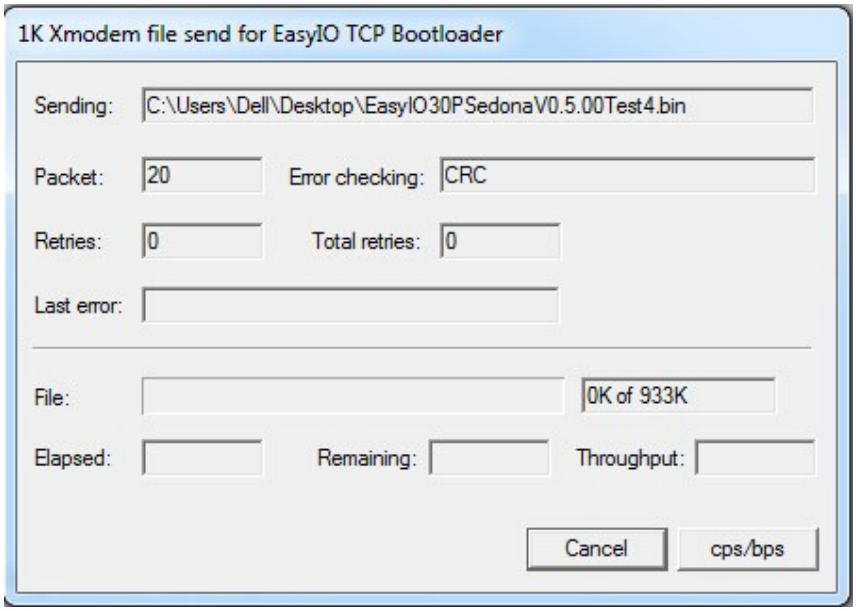
- Erase Firmware
  This selection will erase the firmware inside the controller only.

- Firmware upgrade
  This selection is to upgrade the firmware. Before upgrading/uploading firmware it will prompt for erasing firmware before uploading new firmware. Usually select "YES" , if erase firmware is not selected.

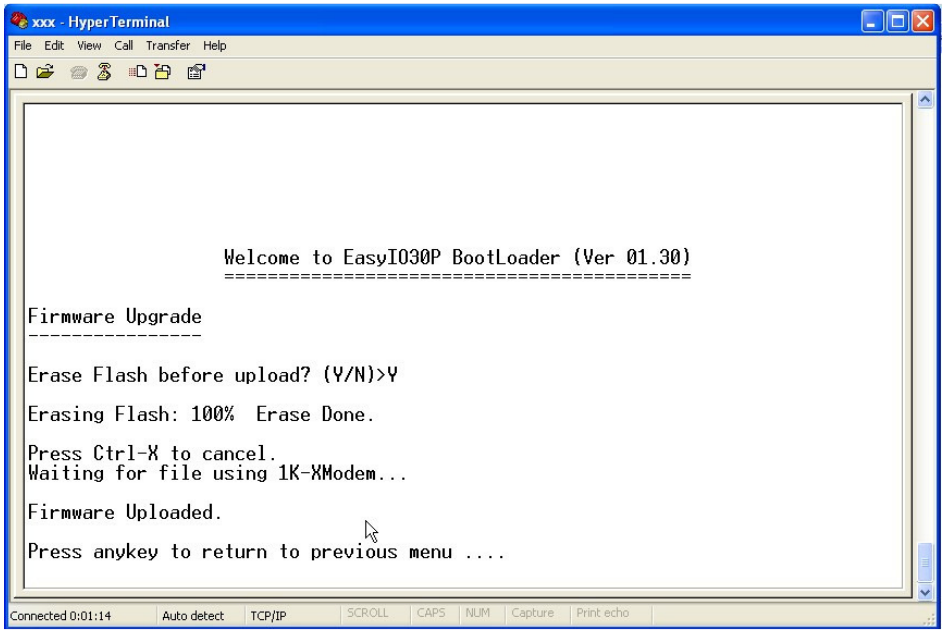
Step 9:
Select firmware upgrade, number 3 from the Firmware Menu. User will be prompt for erasing the existing firmware. Hit Yes and the controller will start the flashing process.

Step 10:
When the screen prompt for file, go to drop down menu of HyperTerminal program > Transfer > select Send File, then select the firmware file .bin from the computer directory and click OK.

The file .bin will begin transfer. If the uploading is successful, the screen will show as below.
Image below show the .bin file is transferring to the controller.

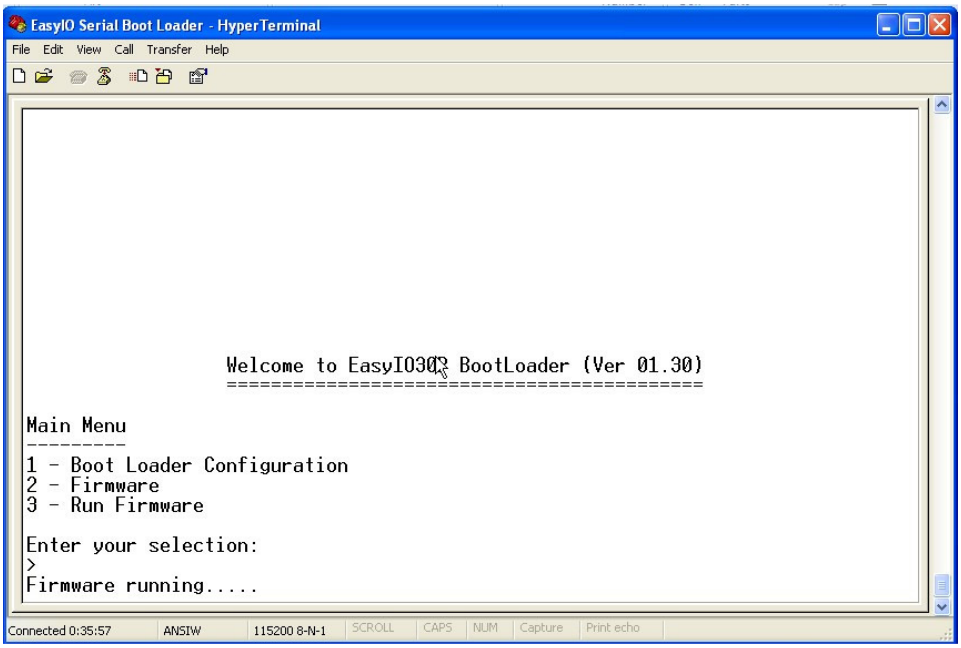


A successful transfer will indicate as below.



Step 11:

Now hit ESC key to return to root menu and run the firmware.



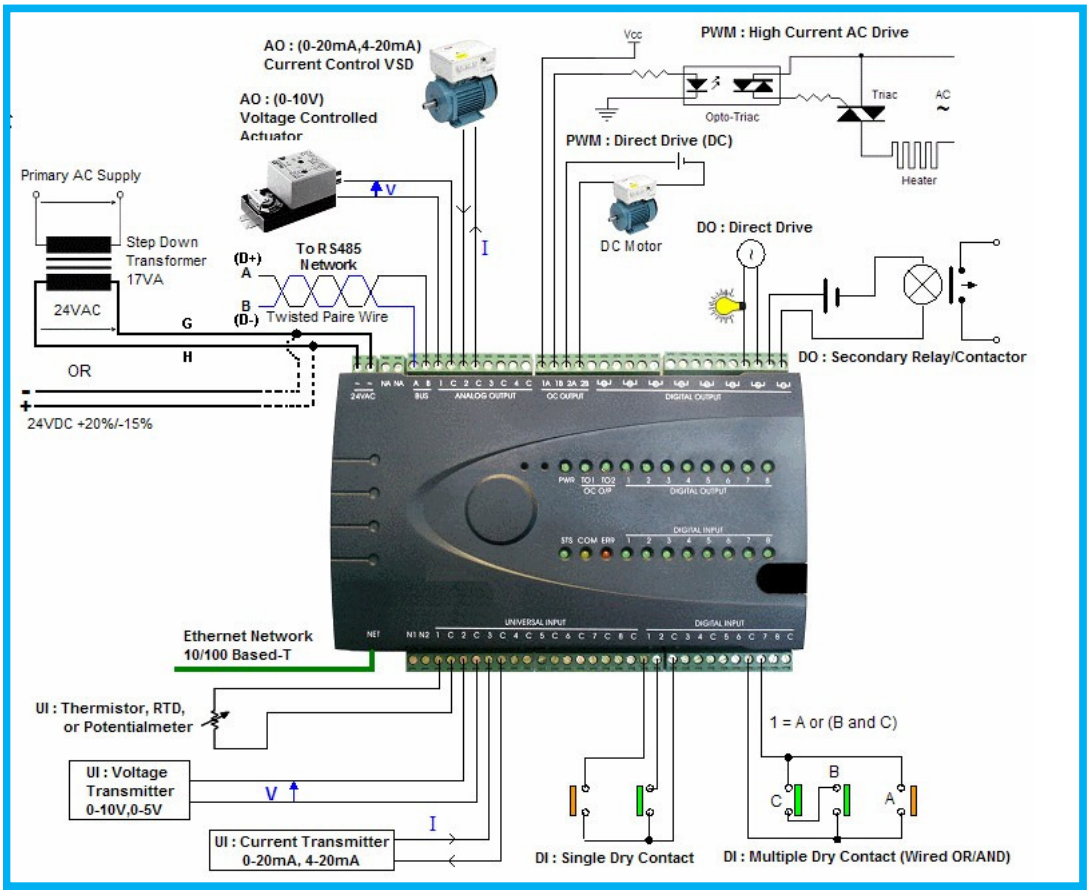
3. Bootloader Mode (Serial Communication, RS485)

You will need HyperTerminal program in order to run this procedure. For Window Vista and Window & user, you need a third part terminal program as these mention OS does not have it.

We do not recommend this method as chances of packet lost is high.

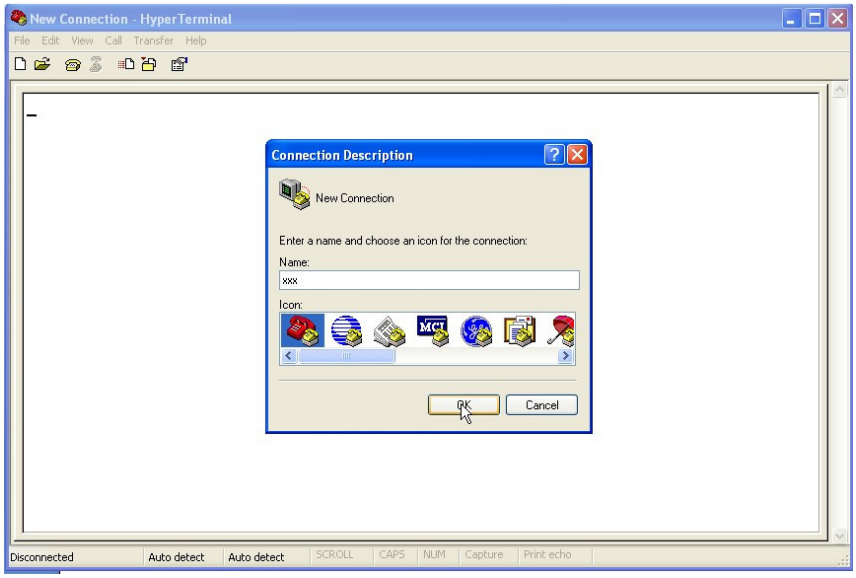
You may download from EasyIO FTP website, ftp://www.easyio.com

Step 1:
Hook up the controller wiring and connect to terminal BUS D+ and BUS D- .



Step 2:

Open a new connection and rename to xxx

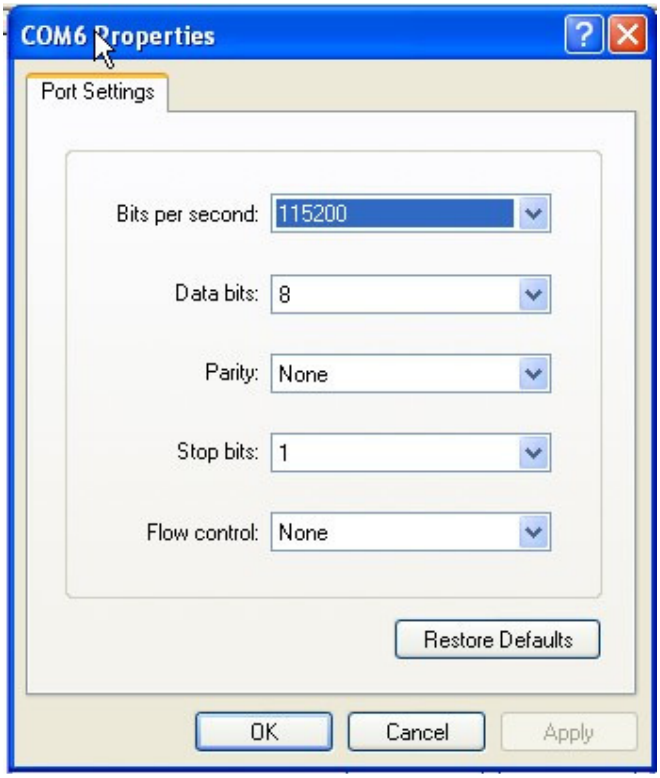


Step 3:

Select COM port that is connected to the controller.

Step 4:

Select the COM port properties as image below.



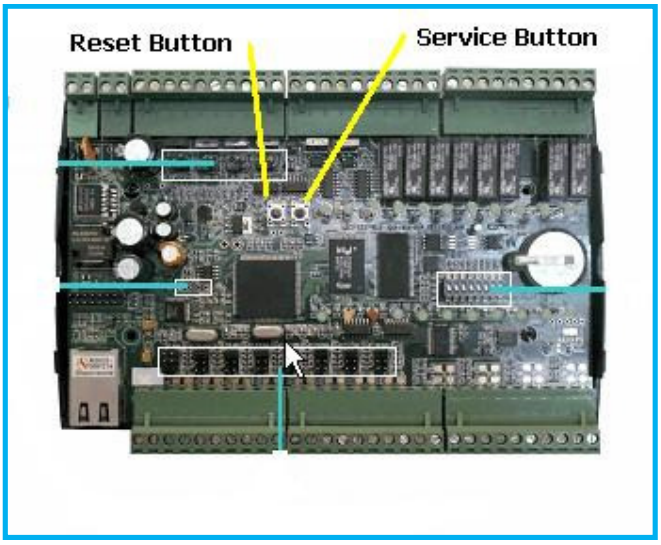
Step 5:

Click Connect.

Step 5:

While the controller is in ON mode, press the reset and service button together hold for 1 second , and release the reset button(left side) , wait for the STS Led to flash fast and release the service button.

When the status LED is flashing at approx 5Hz, this mean that the controller is in bootloader mode.



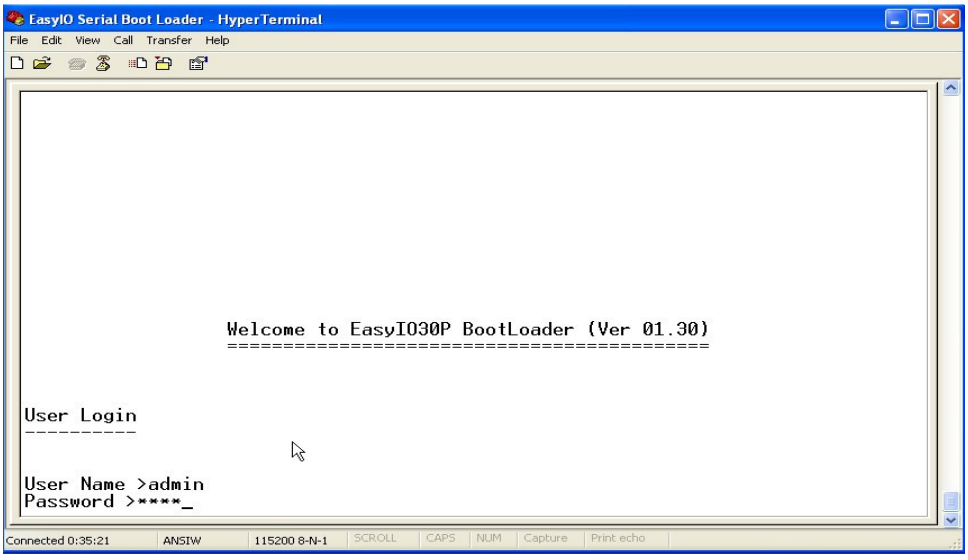
Step 6:

In the Hyper Terminal window , you should see as image below if the connection is successful.

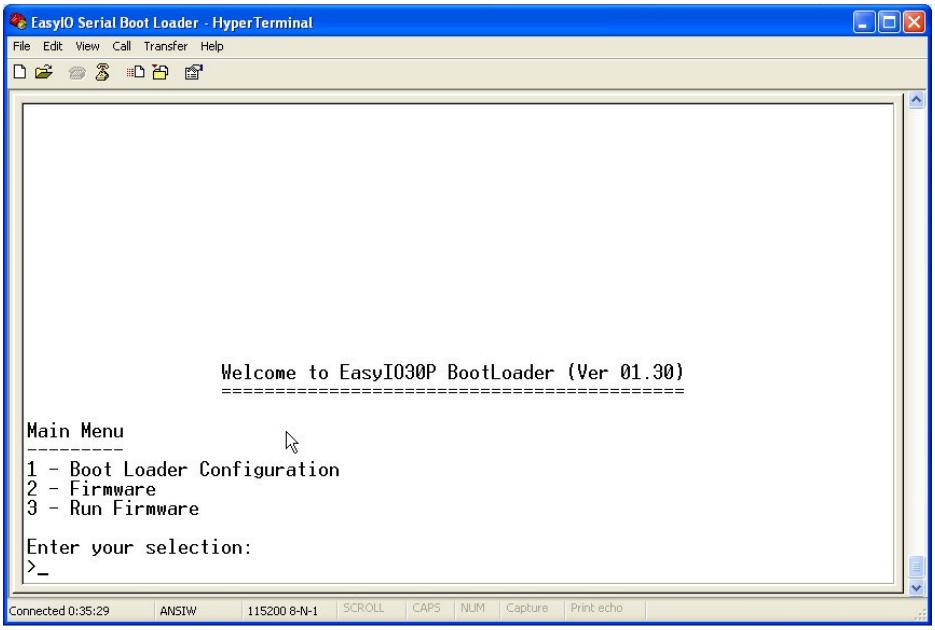
Step 7:

Key in user : **admin** and pass : **1234**

This is the default bootloader username and password. Please DO NOT change this.



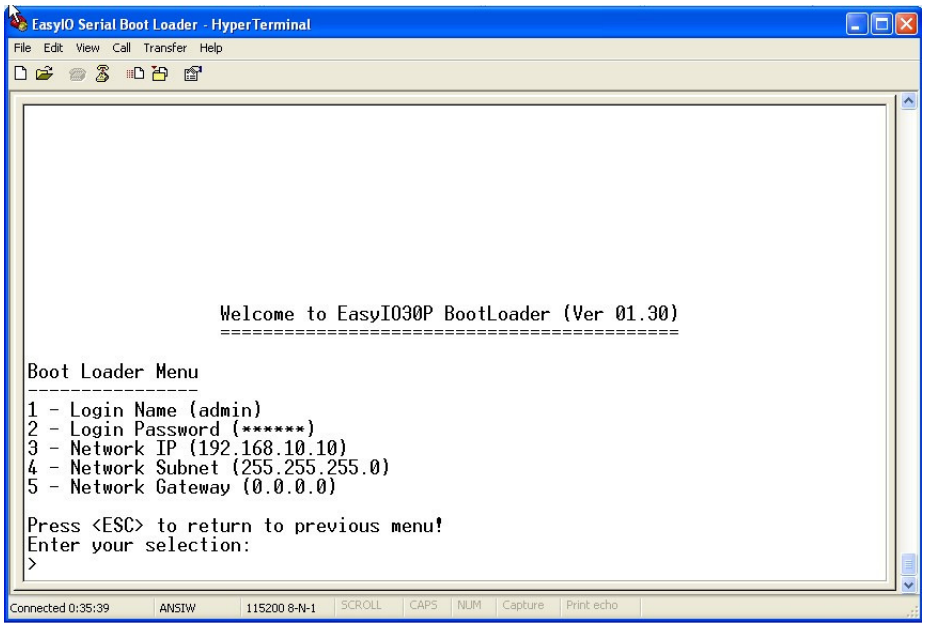
A successful login will show as below.



Step 8:

From this root menu you can select any menu to view or modified the bootloader or firmware.

Bootloader menu, this screen is showing the information about the Bootloader Mode settings.



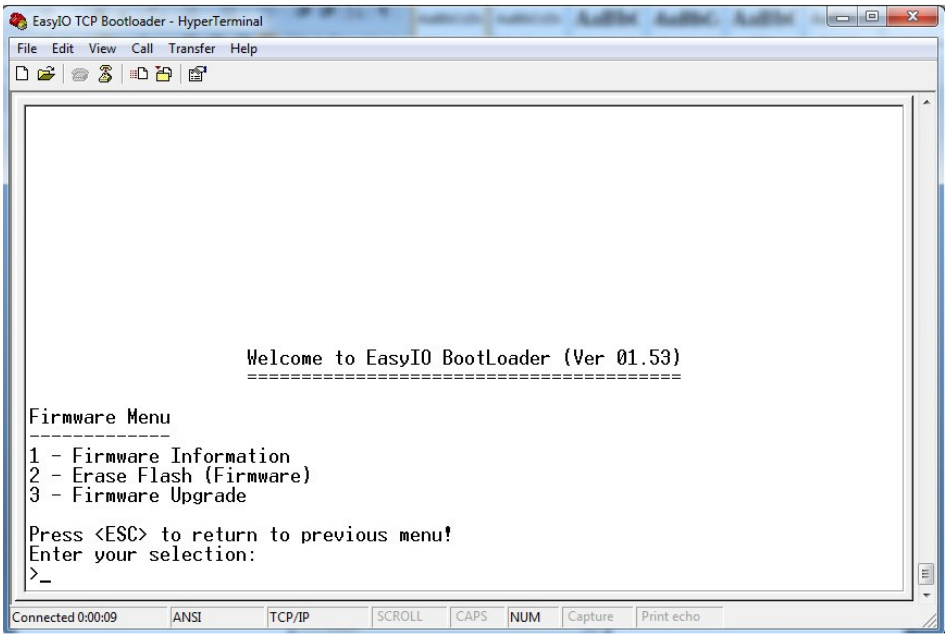
BootLoaderConfiguration Menu Property

- Login Name

  admin (default , do not attempt to change this)

- Login Password
  1234 (default , do not attempt to change this)
- Network IP address
  192.168.10.10 (default IP address for bootloader mode. This IP address is different from web browser)
- Network Subnet :
  255.255.255.0 (default subnet address for bootloader mode. This subnet address is different from web browser)
- Network Gateway :
  0.0.1.0 (default gateway for bootloader mode. This gateway is different from web browser)

Firmware Menu



Firmware Menu Property

- Firmware Information
  This will show the firmware that is currently running in the controller. If the screen show No Firmware Information , this means that there is no firmware running in it , probably cause of interrupted firmware uploading process , corrupted file transfer or uploading process being cancel by user

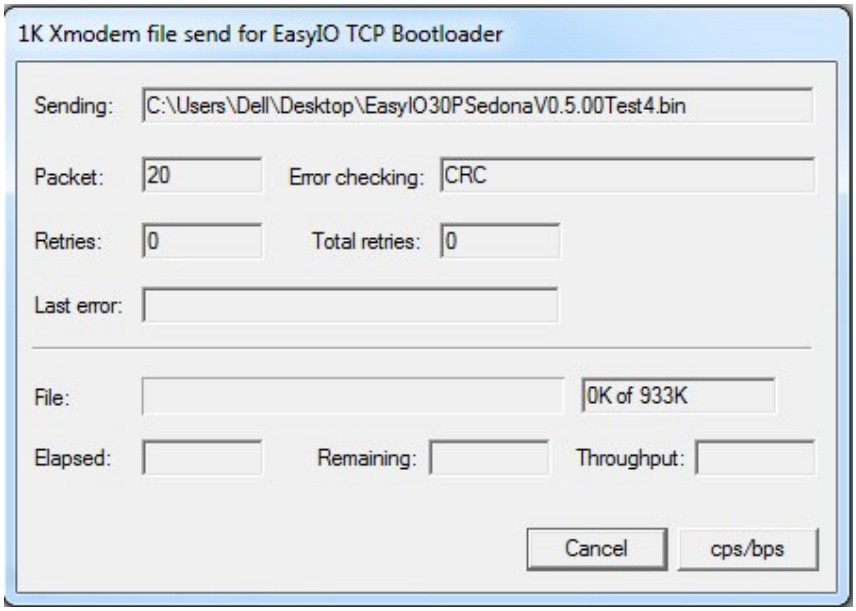
- Erase Firmware
  This selection will erase the firmware inside the controller only.

- Firmware upgrade
  This selection is to upgrade the firmware. Before upgrading/uploading firmware it will prompt for erasing firmware before uploading new firmware. Usually select "YES" , if erase firmware is not selected.

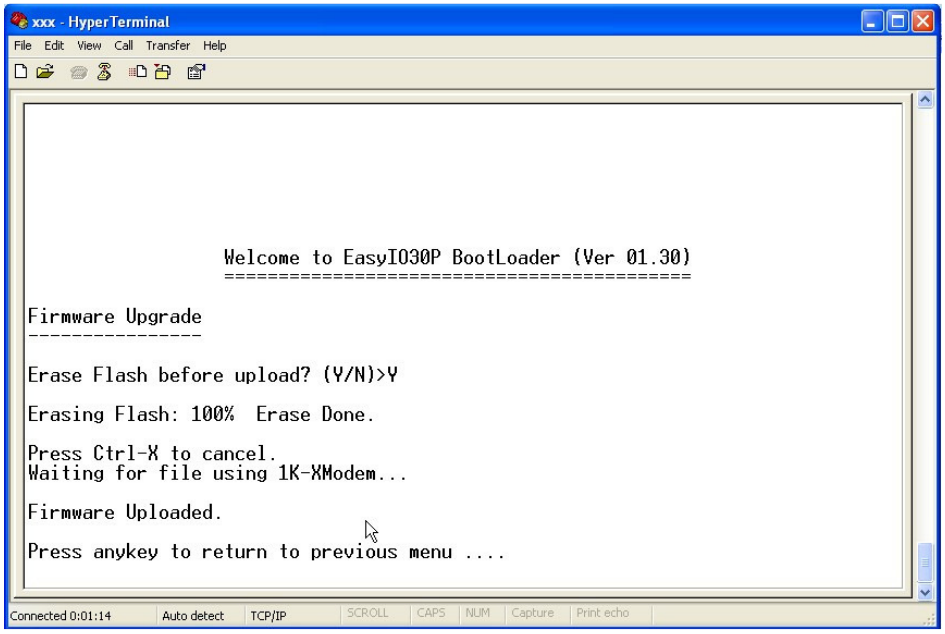
Step 9:
Select firmware upgrade, number 3 from the Firmware Menu. User will be prompt for erasing the existing firmware. Hit Yes and the controller will start the flashing process.

Step 10:
When the screen prompt for file, go to drop down menu of HyperTerminal program > Transfer > select Send File, then select the firmware file .bin from the computer directory and click OK.

The file .bin will begin transfer. If the uploading is successful, the screen will show as below.
Image below show the .bin file is transferring to the controller.



A successful transfer will indicate as below.



Step 11:

Now hit ESC key to return to root menu and run the firmware.