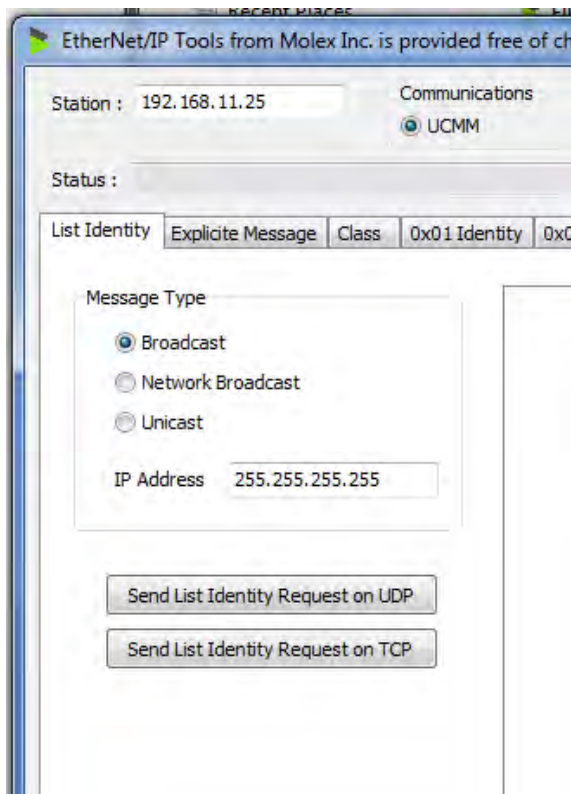


# Integration of Dimetix D Series Laser via Ethernet IP with Allen Bradley Systems PLC

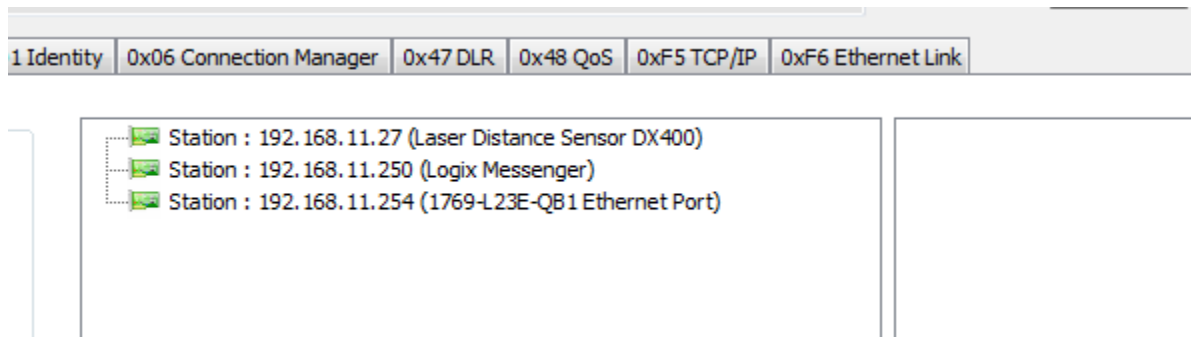
July 19, 2018

## How to find the IP address of your Dimetix Laser

1. By default, the IP address of Dimetix laser is 192.168.0.20. However, if the laser's IP address was changed and you do not know what the address is, you can use an Ethernet IP tool by Molex to find your device.
2. Attach the Ethernet IP cap to back of laser by attaching ribbon cable (Remove terminal blocks) and screwing on the cap to the body of the laser.
3. Connect your Dimetix laser via Ethernet cable to your PC or Ethernet switch on your PLC network
4. Run the EIP\_Tools.exe file that can be given to you by Laser-View Technologies upon request.
5. Run in administrator mode, by right clicking on the file and 'Run as Administrator'
6. Set your PC subnet mask to 255.255.0.0 and Set your IP address in the Molex software to 255.255.255.255, and set in Broadcast Mode. (The station IP address does not matter at this point).



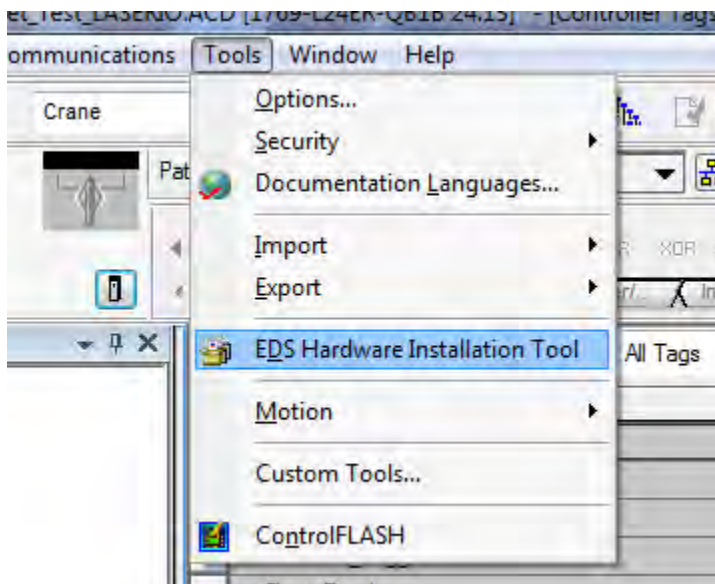
- Click on 'Send List Identity Request on UDP', you should see your laser sensor, and any other device that is on the same network as shown below.



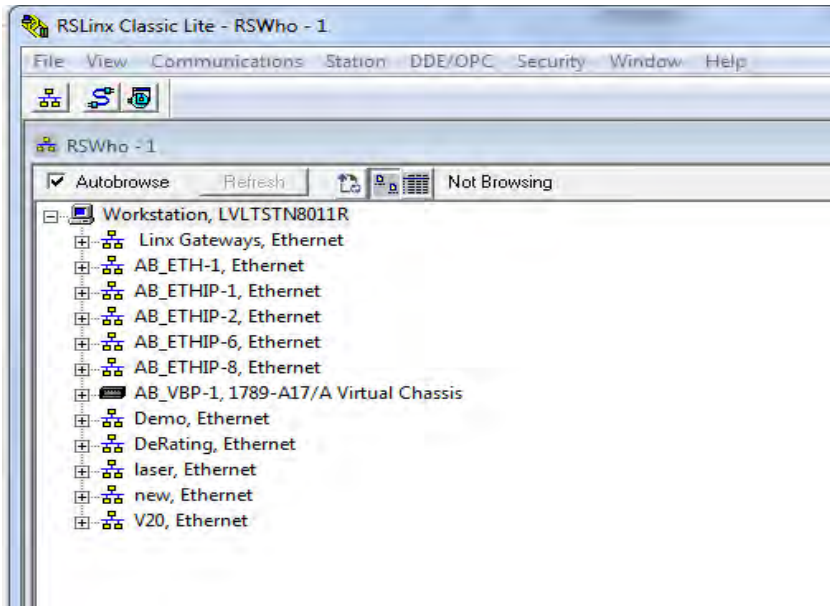
- For example, the laser found here is 192.168.11.27 (Laser Distance Sensor DX400). Now that we know the IP address, we can proceed with the following steps to change the IP address if needed.

## How to setup the IP address of your Dimetix Laser via RSLinx

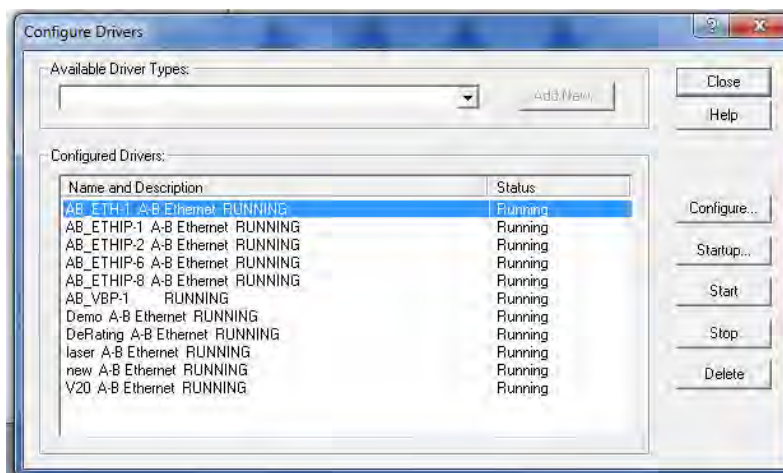
- Download the Dimetix D-series EDS file from Dimetix.com. Open the Rockwell Software and go to Tools>EDS Hardware Installation Tool. (Follow the commands of the wizard to add the EDS file)



2. For Windows 7 operating system, go to Control Panel>Network and Internet>Network and Sharing Center.
3. Go to 'Change adapter Settings'. Right click on 'Local Area Connection' and select 'Properties'
4. Double click on Internet Protocol Version 4.
5. Change your IP address to 192.168.0.130 for example (if the Ethernet card arrived to you in its default setting 192.168.0.20). The first 3 octets must be the same.
6. Set your subnet mask to 255.255.0.0
7. Go to RSlinx and select 'RSWho' under communications tab. This shows your current workstations

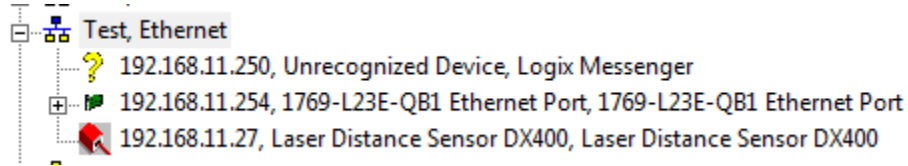


8. In RSlinx select 'Configure Drivers' under communications tab.



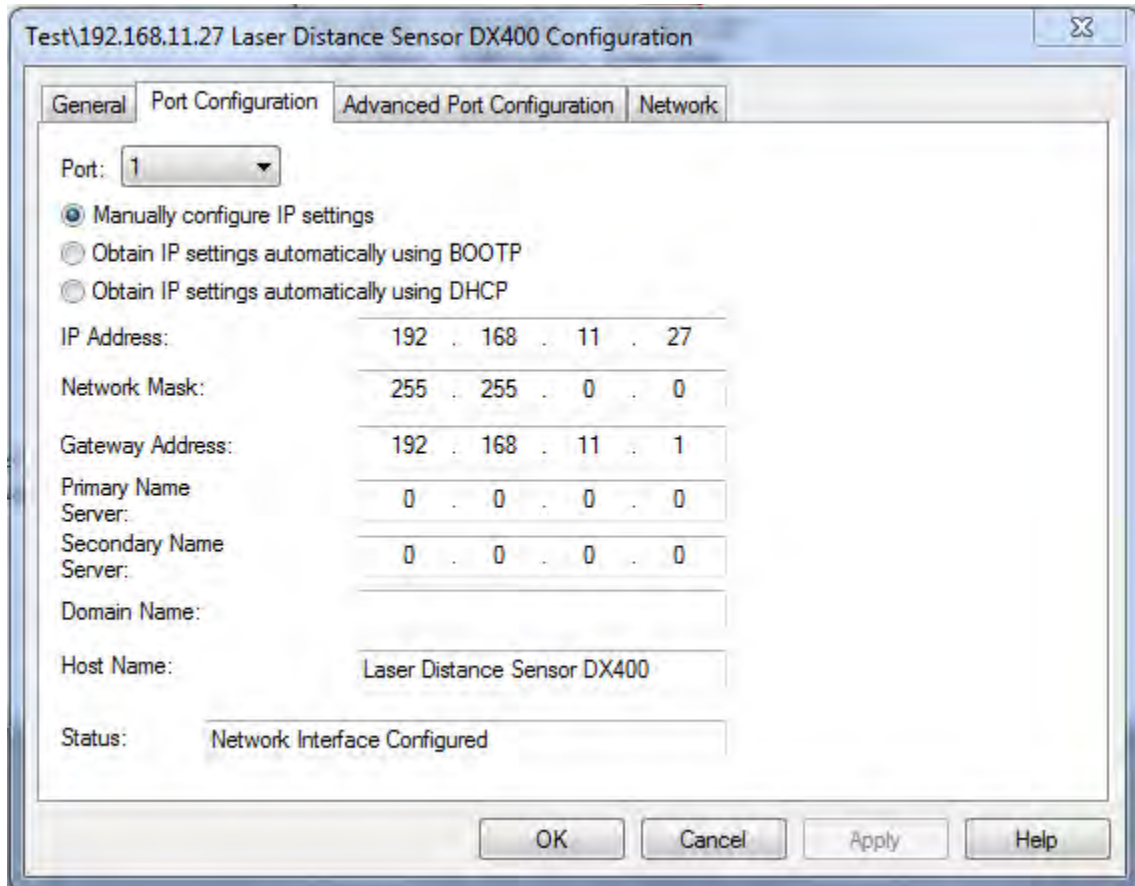
9. On the drop down menu for 'Available Driver Types' select 'Ethernet/IP' driver then 'Add new'
10. Give the new Driver a name you will recognize and then select 'Gigabit Network Connection'

11. You should now see your Dimetix Laser under the driver you just created.



12. To change the IP address to 192.168.11.251 for example, Right click on the laser and select 'Module Configuration' then go to Port Configuration.

13. This is where you enter in the new IP address. Select OK. **Then power cycle the laser.**

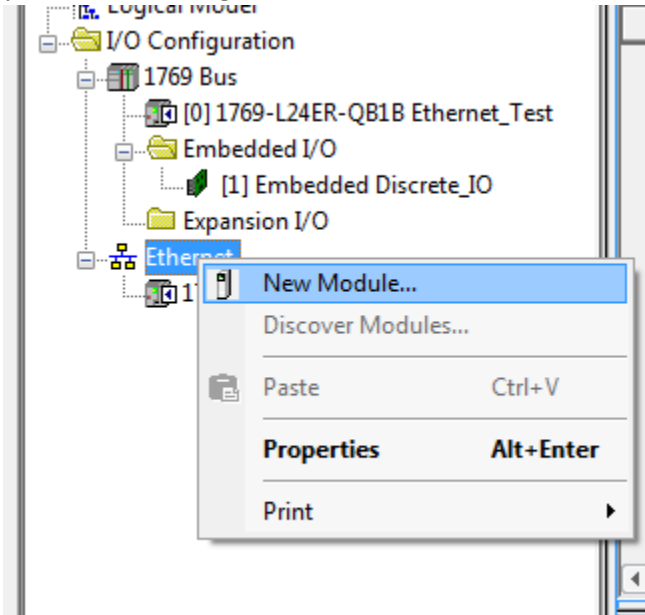


14. Change your Local Area Connection IP address to match the first 3 octets of the new laser IP address.

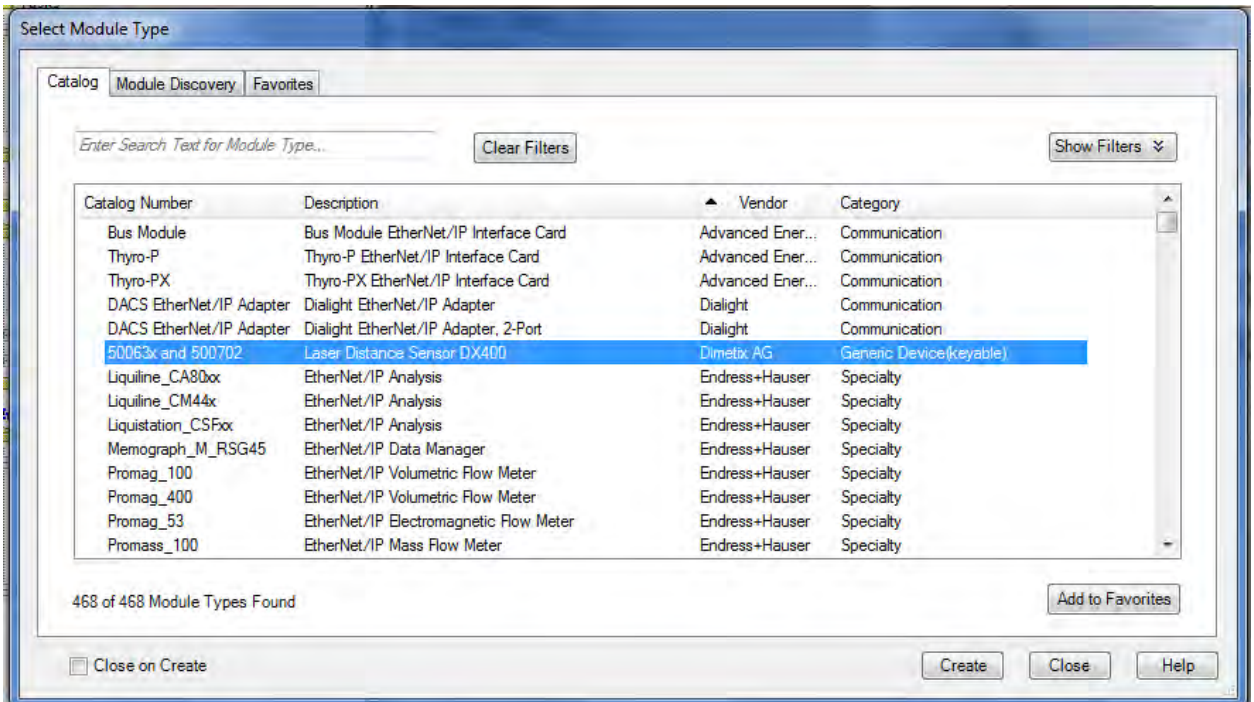
15. You should now see the laser with its new IP address online.

# Getting Readings in RSLogix

1. Open up the Ethernet IP laser demo Software.
2. On the left hand side of the RSLogix software navigate to the I/O configuration folder, and locate your controller. Right click and add new module. (You must be offline to add a new module).



3. Find the Dimetix sensor in the module list, which should appear if the EDS file has been installed successfully, and click Create. If you sort by Vendor, it will be shown under 'Dimetix AG'.



- Once added, give the laser name "laser001", enter its new IP address, and click on 'Change...' at the bottom of the window. It is important to use "laser001" as the name so the controller tags will match.

General | Connection | Module Info | Parameters | Internet Protocol | Port Configuration | Network

Type: 50063x and 500702 Laser Distance Sensor DX400  
Vendor: Dimetix AG  
Parent: LocalENB  
Name: laser001  
Description:  
Module Definition  
Revision: 1.001  
Electronic Keying: Compatible Module  
Connections: I/O Basic, Assembly Instance Input Basic=...

Ethernet Address  
 Private Network: 192.168.1.  
 IP Address: 192 . 168 . 11 . 27  
 Host Name:

Change ...

Status: Offline

OK Cancel Apply Help

- Select Basic I/O, and click OK.

Module Definition

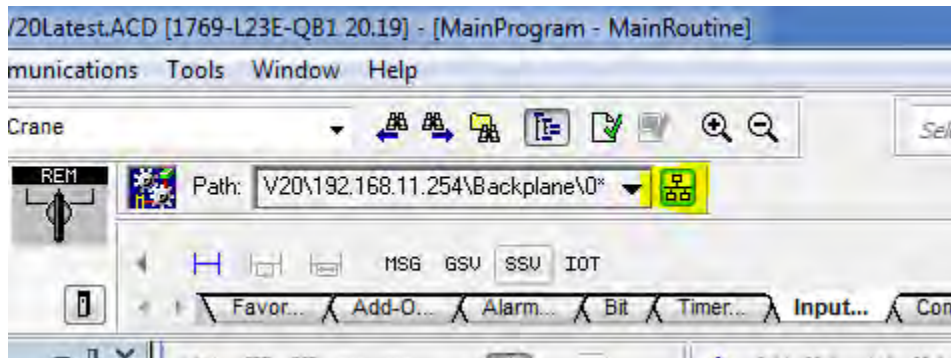
Revision: 001  
Electronic Keying: Compatible Module  
Connections:

Name		Remote Data
VO Basic	Input:	Assembly 150
	Output:	Assembly 100

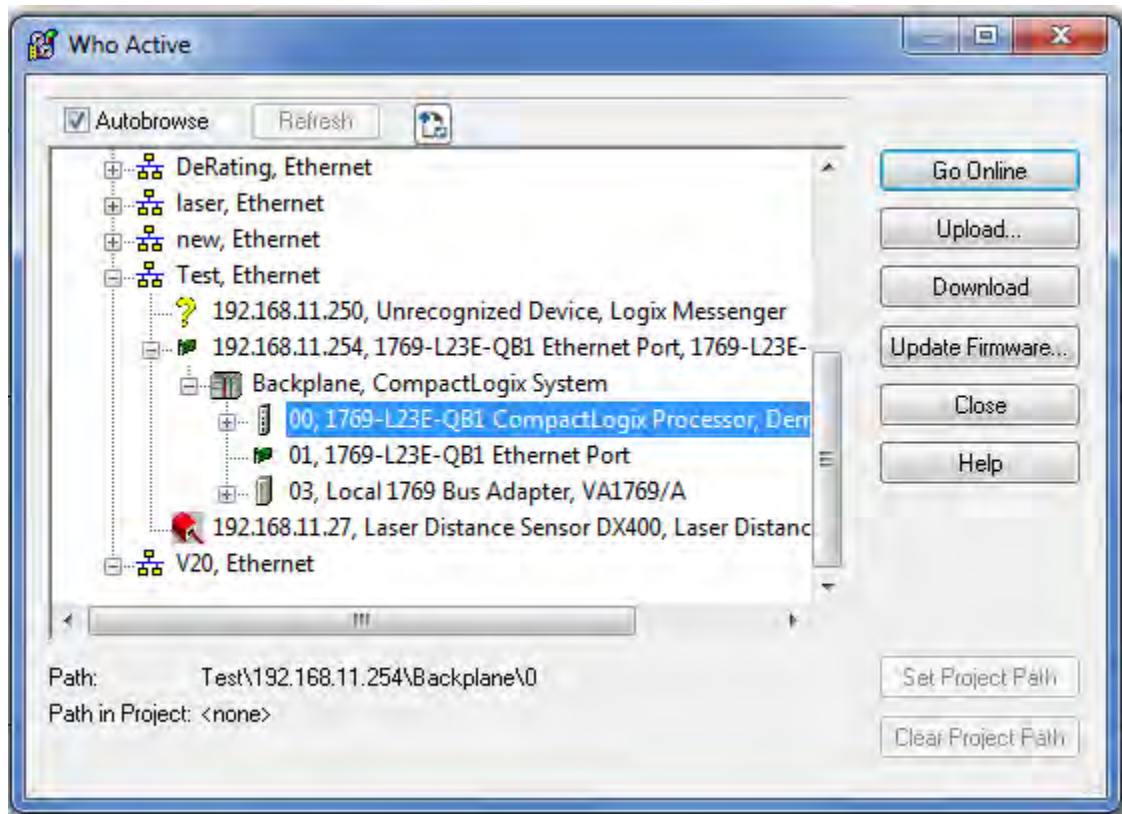
The disabled controls cannot be changed while online.

OK Cancel Help

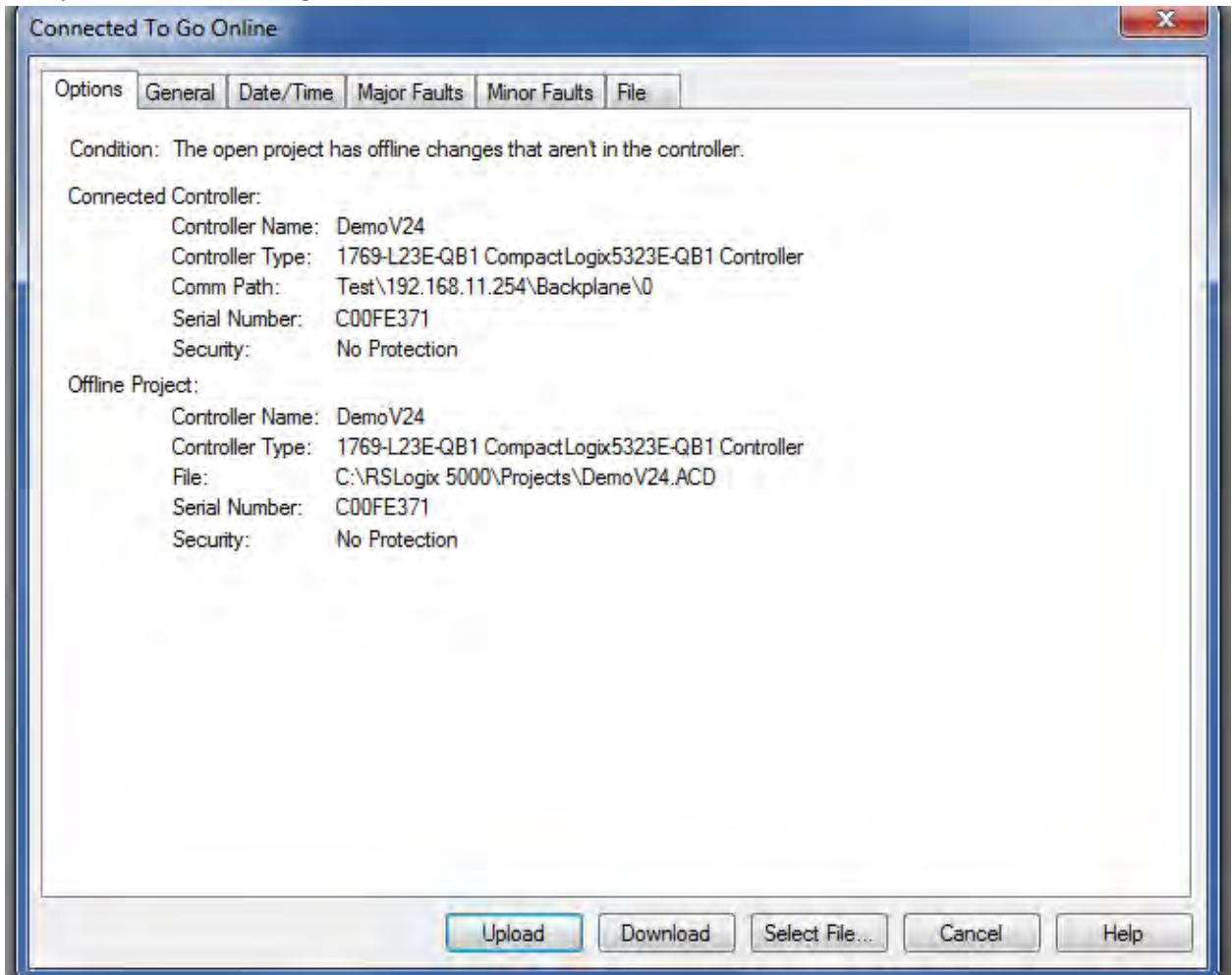
- To Map you network to the program, click on the icon highlighted in yellow near the top of the program screen.



- Then select the Network you configured, find the controller, and select 'Go online'

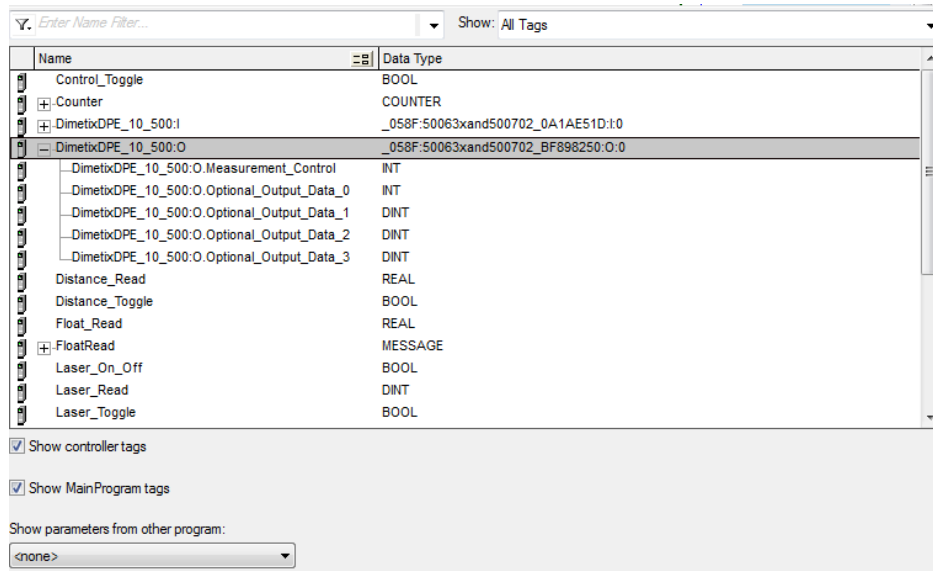


8. It will then ask you to Download, once downloaded, you will be online with the program and ready to see Laser readings.

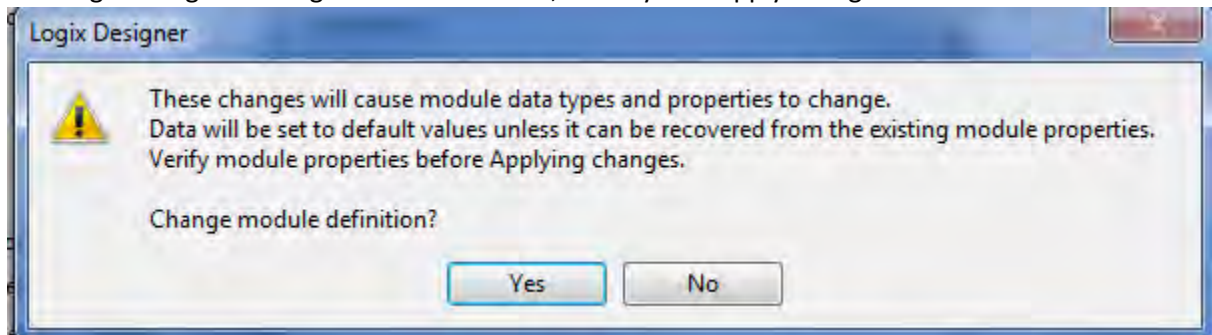




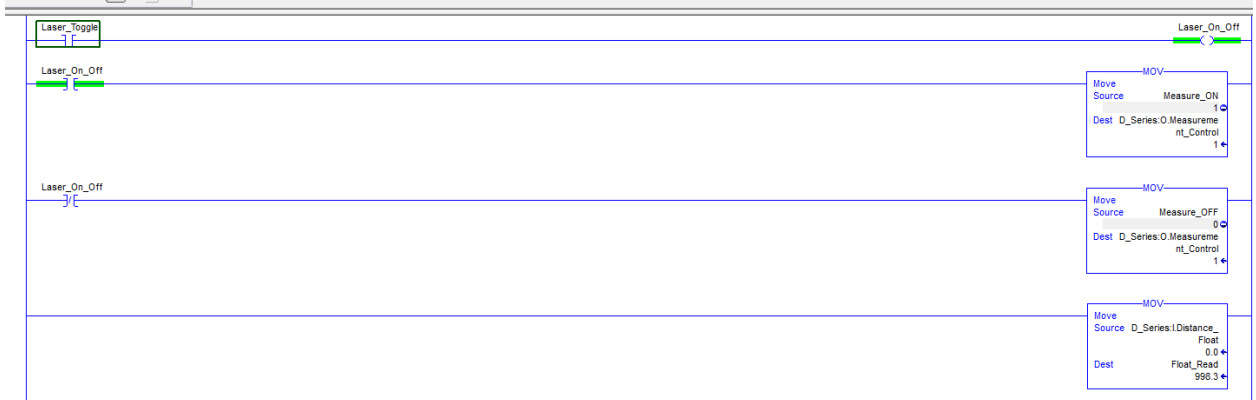
9. All of the Laser tags will be automatically populated. You can view these in the “Controller tags” menu on the top left hand side.



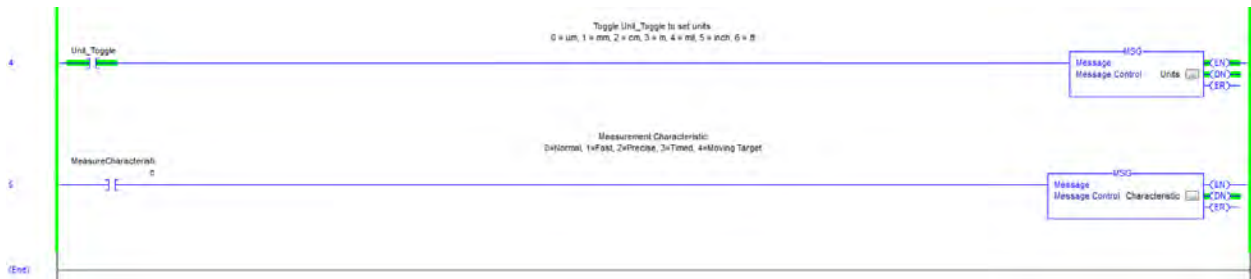
10. When you make a module configuration change (Such as RPI), you will be prompted with a warning message to change module definition, select yes to apply changes.



11. Toggle “Laser\_Toggle” in the Main Routine to turn the laser reading. The readings will be shown in the D series Distance\_Float Register.



12. To change the units and measurement characteristic, toggle ‘Unit\_Toggle’ and ‘MeasureCharacteristic’ to send a message to the laser with an integer that corresponds to a unit or measurement characteristic as described in the rung comment. In Controller tags, ‘Laser\_unit’ changes the units, and ‘Laser\_Characteristic’ changes the laser characteristic.



13. You can also view all of the lasers inputs and outputs via Controller tags as shown below.

[-] DimetixDPE_10_500:1	{...}	{...}		_058F:50063xan...		<input type="checkbox"/>
[-] DimetixDPE_10_500:1.ConnectionFaulted	0		Decimal	BOOL		
[+] DimetixDPE_10_500:1.Distance_Integer	229000		Decimal	DINT		
[-] DimetixDPE_10_500:1.Distance_Float	229000.0		Float	REAL		
[+] DimetixDPE_10_500:1.Signal_Strength	4187		Decimal	DINT		
[+] DimetixDPE_10_500:1.Temperature	355		Decimal	INT		
[+] DimetixDPE_10_500:1.Distance_Unit	0		Decimal	SINT		
[+] DimetixDPE_10_500:1.Measurement_Actuality	0		Decimal	SINT		
[+] DimetixDPE_10_500:1.Measurement_Reserved	0		Decimal	INT		
[+] DimetixDPE_10_500:1.Sensor_State	0		Decimal	SINT		
[+] DimetixDPE_10_500:1.Sensor_Output_Data_Limit_Exce...	2#0000_0000		Binary	SINT		
[-] DimetixDPE_10_500:1.Measurement_Control	0		Decimal	BOOL		
[-] DimetixDPE_10_500:1.Optional_Output_Data_0	0		Decimal	BOOL		
[-] DimetixDPE_10_500:1.Optional_Output_Data_1	0		Decimal	BOOL		
[-] DimetixDPE_10_500:1.Optional_Output_Data_2	0		Decimal	BOOL		
[-] DimetixDPE_10_500:1.Optional_Output_Data_3	0		Decimal	BOOL		
[-] DimetixDPE_10_500:1.Not_used1	0		Decimal	BOOL		
[-] DimetixDPE_10_500:1.Not_used2	0		Decimal	BOOL		
[-] DimetixDPE_10_500:1.Not_used3	0		Decimal	BOOL		
[+] DimetixDPE_10_500:1.Sensor_Error_Code	0		Decimal	INT		
[+] DimetixDPE_10_500:1.Optional_Input_Data_0	0		Decimal	INT		
[+] DimetixDPE_10_500:1.Optional_Input_Data_1	0		Decimal	DINT		
[+] DimetixDPE_10_500:1.Optional_Input_Data_2	0		Decimal	DINT		
[+] DimetixDPE_10_500:1.Optional_Input_Data_3	0		Decimal	DINT		