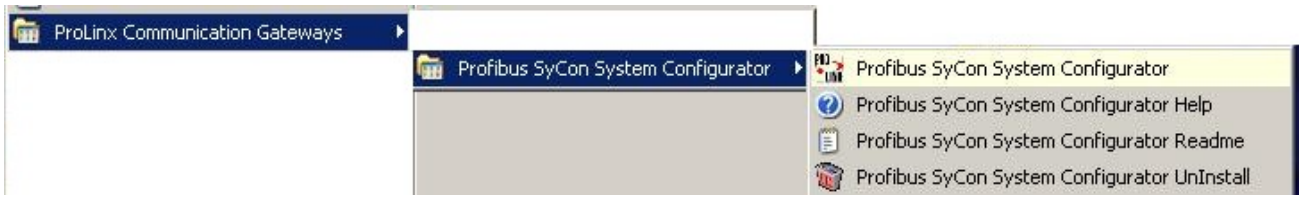
Configuration of ProLinx Profibus Master

Setup:

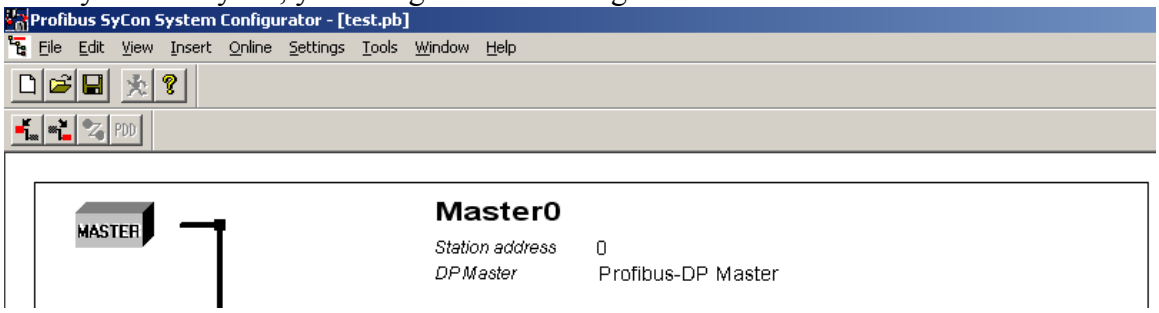
The following document will step you through the configuration of the ProLinx Profibus master configuration. The configuration of the module is done using Sycon. Connect a Null modem cable to the configuration port (the configuration port next to the ProFibus DB-9 connector).

After you have successfully installed Sycon on your computer, this is provided on the CD that ships with the module, you are now ready to setup the ProLinx module to communicate with your ProFibus DP slave.
The first step to allow you slave device to connect with the ProLinx master is the setup of the GSE/GSD file for your device. You will want to copy that GSE/GSD file into the appropriate directory for you slave device. Using the default settings, this directory is as follows:
C:\Program Files\ProLinx\Profibus SyCon System Configurator\Fieldbus\PROFIBUS\GSD

Once you have installed the GSE/GSD file for your slave device into this directory, you are now ready to begin. To start the Sycon program, you will follow the path shown below from you Start menu:



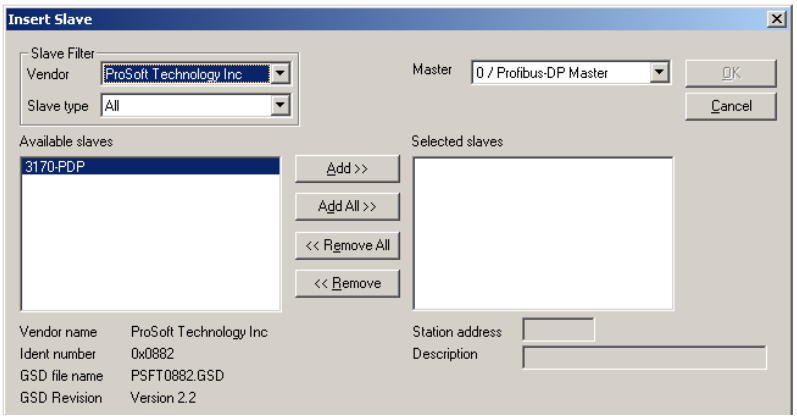
Once you start Sycon, you will get the following screen:



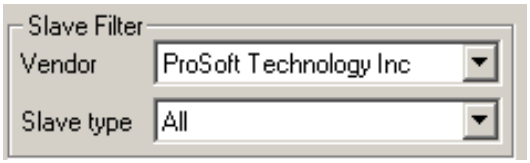
From the drop down menu you will need to do an Insert -> Slave, as shown:

This will now give you a drag and drop, drop the slave device onto the main work page.

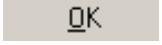
Once you have done this, the following window will appear:



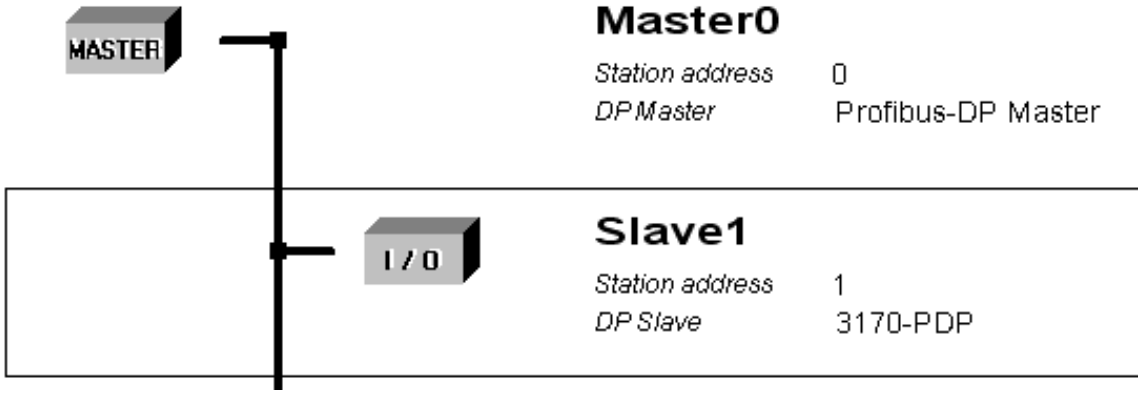
Use the Slave filter, to pick your slave device.



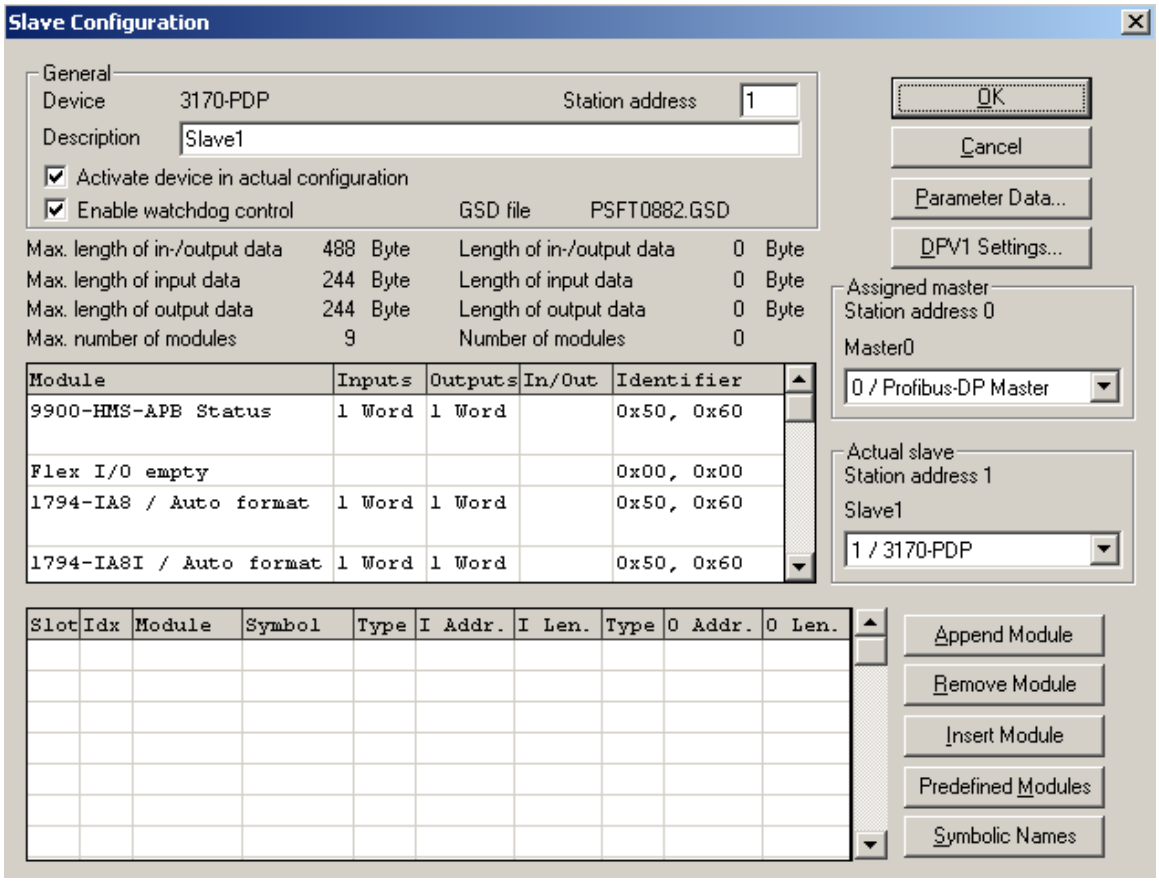
Once you have selected your slave device (by highlighting on it) you will then need to press the  button to move the slave over to the Selected Slaves window, as shown below:

Here you can set the station address, and description. Once these are configured how you wish, press the  button.

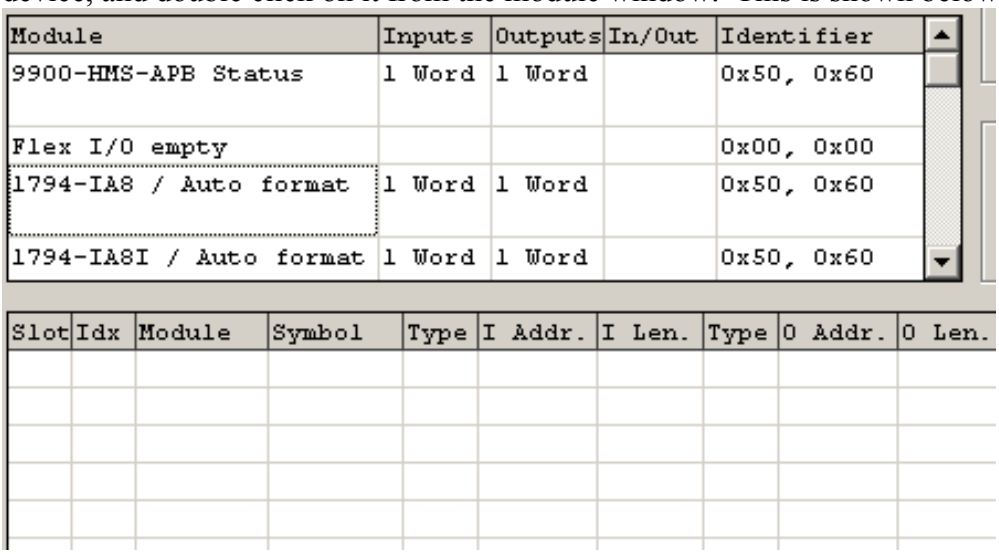
Your main window will now show the new slave, as shown below:



To configure the number of I/O points for the ProLinx module to obtain from this slave device, you will need to double click on that slave, and you will get the following window:



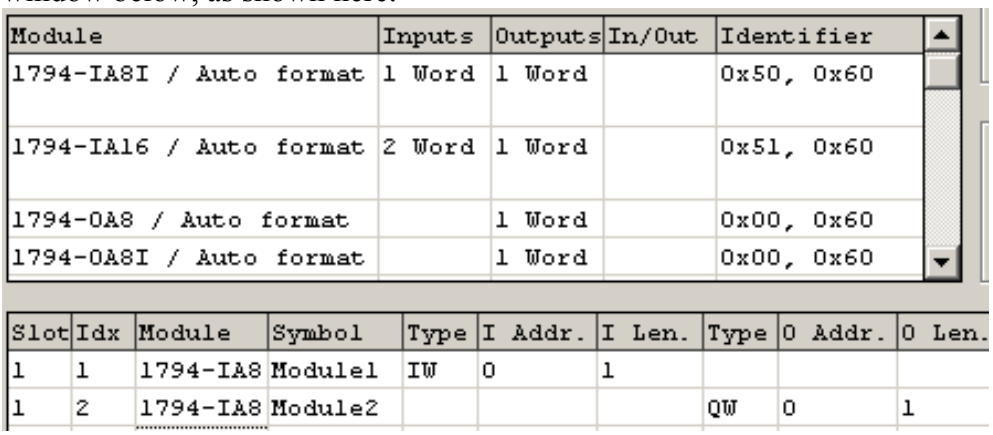
From this view, you will select the I/O you want the ProLinx module to obtain from that device, and double click on it from the module window. This is shown below:



Module	Inputs	Outputs	In/Out	Identifier
9900-HMS-APB Status	1 Word	1 Word		0x50, 0x60
Flex I/O empty				0x00, 0x00
1794-IA8 / Auto format	1 Word	1 Word		0x50, 0x60
1794-IA8I / Auto format	1 Word	1 Word		0x50, 0x60

Slot	Idx	Module	Symbol	Type	I Addr.	I Len.	Type	O Addr.	O Len.

Once you have double clicked on the appropriate module, you will see it go into the window below, as shown here:



Module	Inputs	Outputs	In/Out	Identifier
1794-IA8I / Auto format	1 Word	1 Word		0x50, 0x60
1794-IA16 / Auto format	2 Word	1 Word		0x51, 0x60
1794-OA8 / Auto format		1 Word		0x00, 0x60
1794-OA8I / Auto format		1 Word		0x00, 0x60

Slot	Idx	Module	Symbol	Type	I Addr.	I Len.	Type	O Addr.	O Len.
1	1	1794-IA8	Module1	IW	0	1			
1	2	1794-IA8	Module2				QW	0	1

As you add multiple modules for this slave, you will need to make sure you use a unique **I Addr.** and **O Addr.** for each device. This I and O Addr is the offset into the ProLinx module Input and Output database. The ProLinx module Input database occupies registers 0-255 of the module memory, and the Output database occupies 300-555 of the ProLinx module memory. For more information on this please reference the PDPM driver manual:

Below is a Slave #1, with two modules defined.

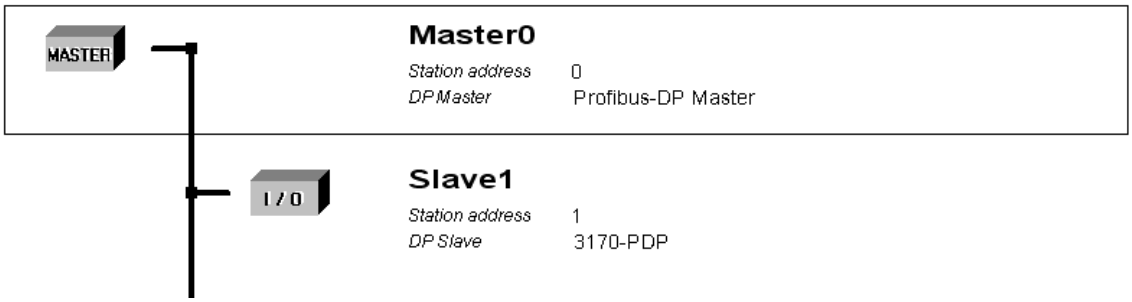
Slot	Idx	Module	Symbol	Type	I Addr.	I Len.	Type	O Addr.	O Len.
1	1	1794-IA8	Module1	IW	0	1			
1	2	1794-IA8	Module2				QW	0	1
2	1	1794-OA8	Module3				QW	1	1

You can see by this configuration that slot 1 has both 1 input and 1 output. Slot 2 has only 1 output.

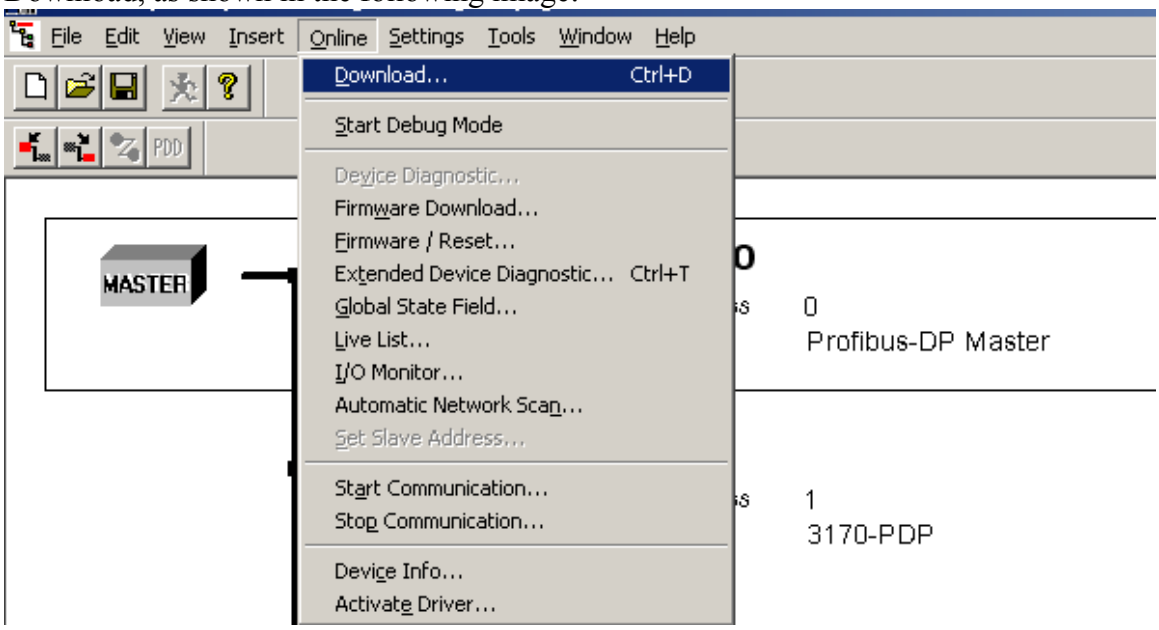
Step through the configuration of your device, then save this file. Once you have saved this file, you are ready to Download

Downloading the configuration file

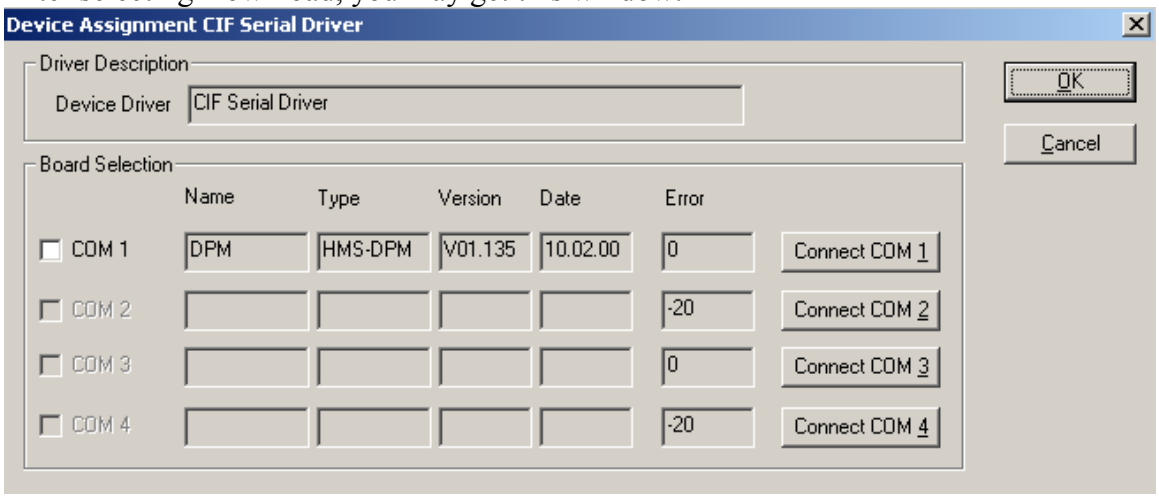
Make sure that you have the square box selected around the master device, as shown here:



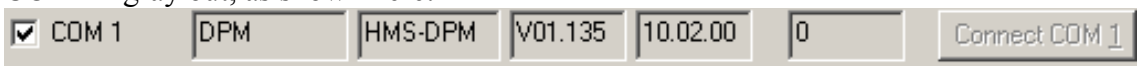
Now that the master device is selected, go to the pull-down menu and select Online -> Download, as shown in the following image:



After selecting Download, you may get this window:

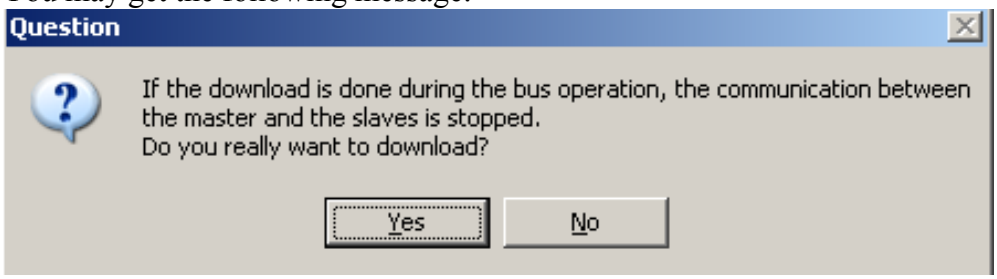


Select the Com port of your PC that is currently attached to the ProLinx module. Click on the Connect COM 1, if you do not see the DPM under the name field. If you do see this information, then this means that Sycon has found the ProLinx module.
Make sure that the box for the Com port is checked, and then you will see the "Connect COM 1" gray out, as shown here:



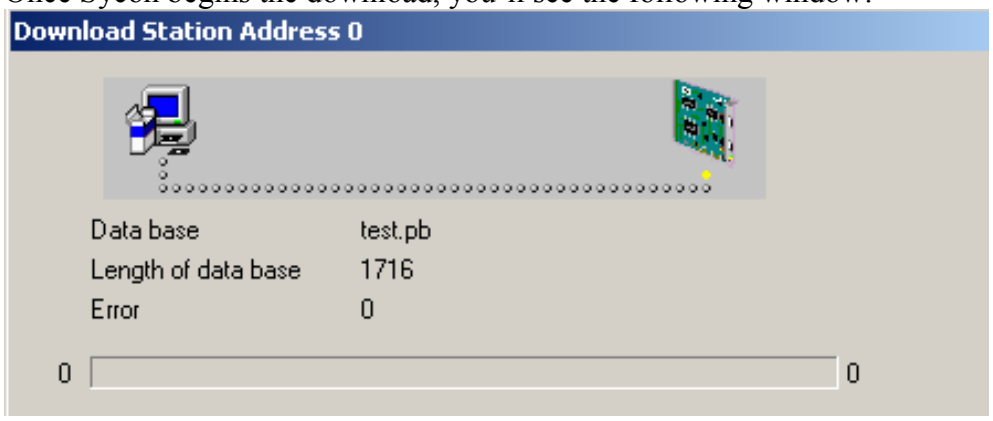
Next press the OK button to begin the download.

You may get the following message:



If you do, press Yes. This message will only be shown when the module is running on the ProFibus network.

Once Sycon begins the download, you'll see the following window:

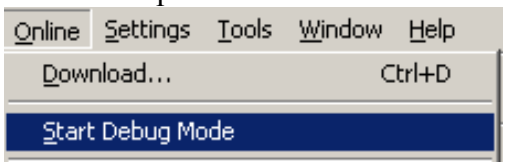


Once the download has completed, you have now configured you network…

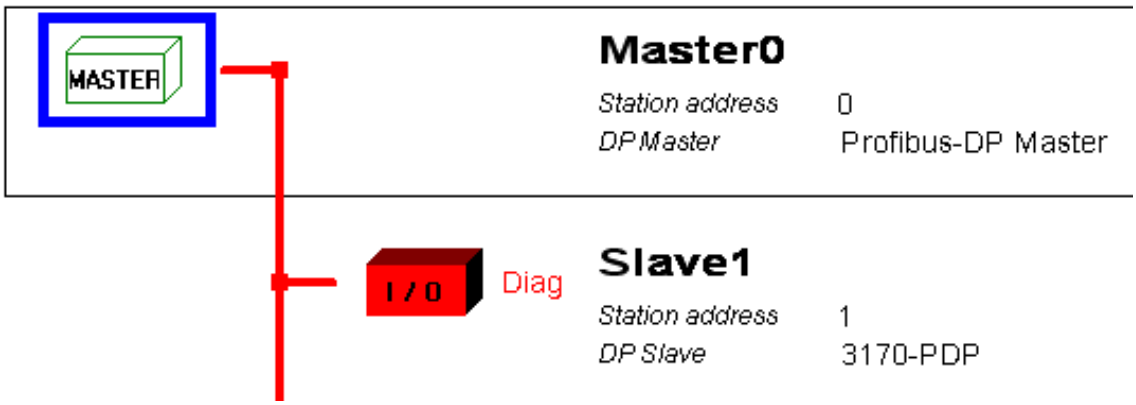
Troubleshooting

In some cases, you may get an error on the configuration of you ProFibus network. This usually occurs when you have configured the ProLinx module to look at the slave device in one manner, and the slave device has another configuration.
The easiest way to correct this issue is to use the Debug feature of the module.

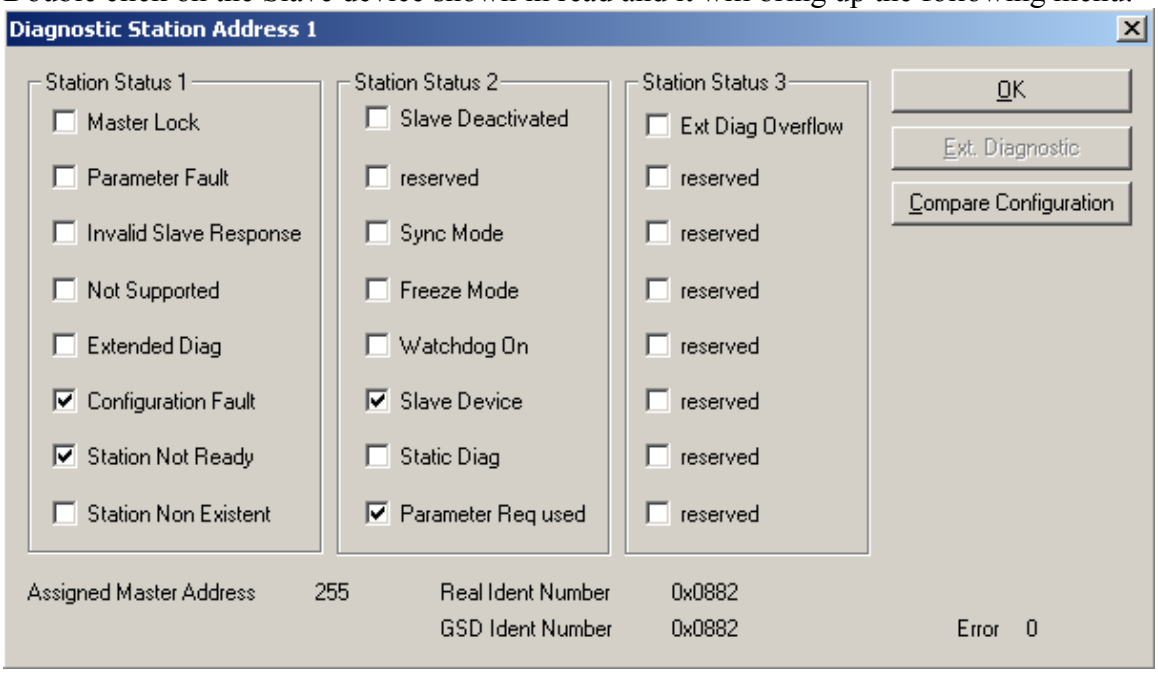
The first step is to use the Online -> Start Debug Mode, as shown here:



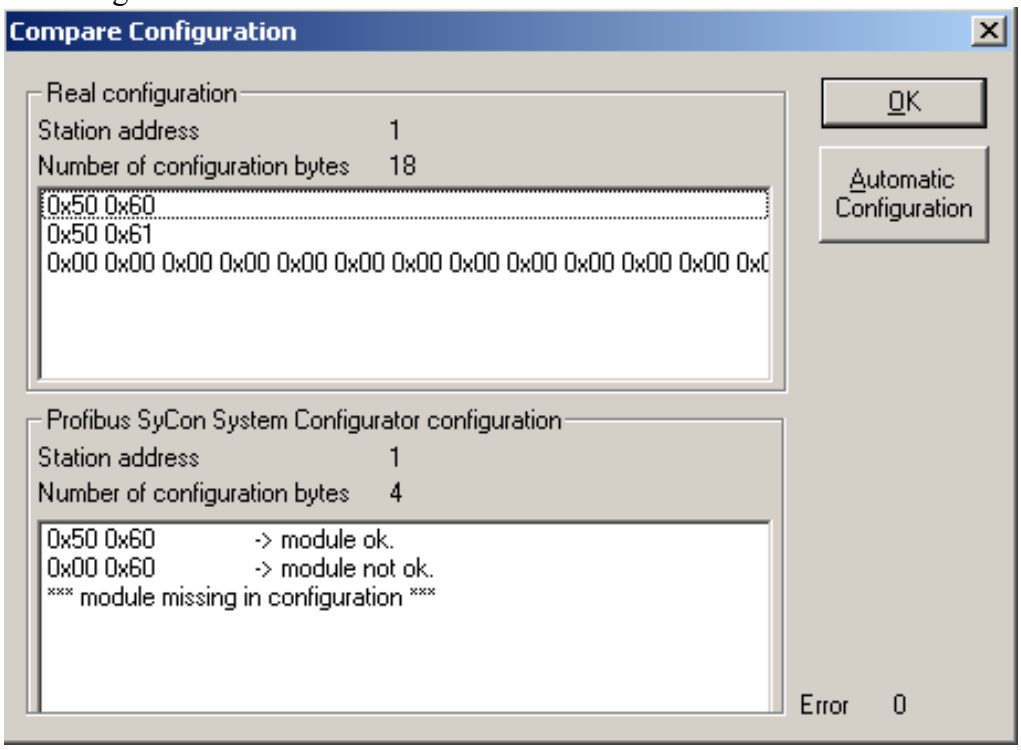
Once Sycon is in debug mode with the ProLinx module you will see the network, and Diag if there is an issue, as shown here:



Double click on the Slave device shown in read and it will bring up the following menu:

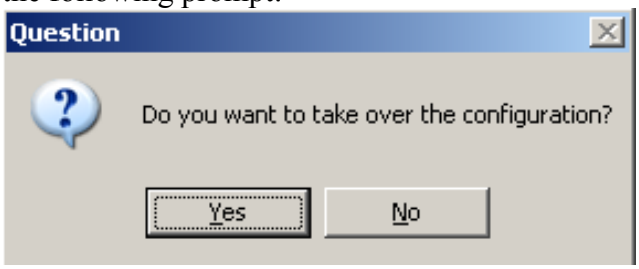


From the above menu click on the Compare Configuration button. This will bring up the following menu:



The "Real Configuration is the configuration of the slave device as it sits on the ProFibus network. The "Profibus SyCon System Configurator configuration" is the configuration that was given to the ProLinx ProFibus module as done in the Setup section of this guide.

If the two don't match, then you will want to press the Automatic Configuration button to take the configuration from the device on the ProFibus network and pull that configuration into the SyCon software. Upon pressing the "Automatic Configuration" button you will get the following prompt:



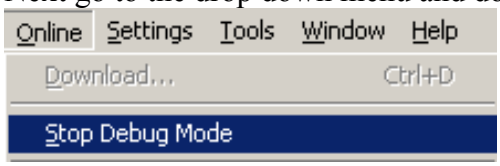
Press Yes

You will then be returned to the "Compare Configuration" window, from here press OK.

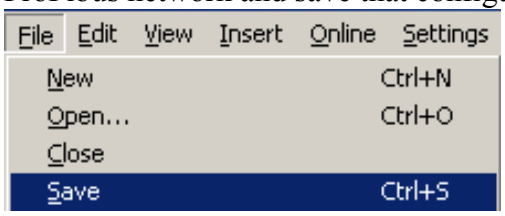
From the “Diagnostic Station Address xx” screen also press 

.

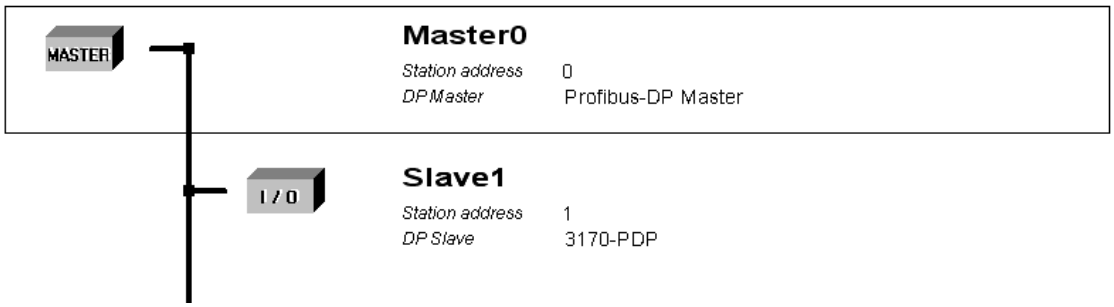
Next go to the drop down menu and do an Online -> Stop Debug Mode, as shown below:



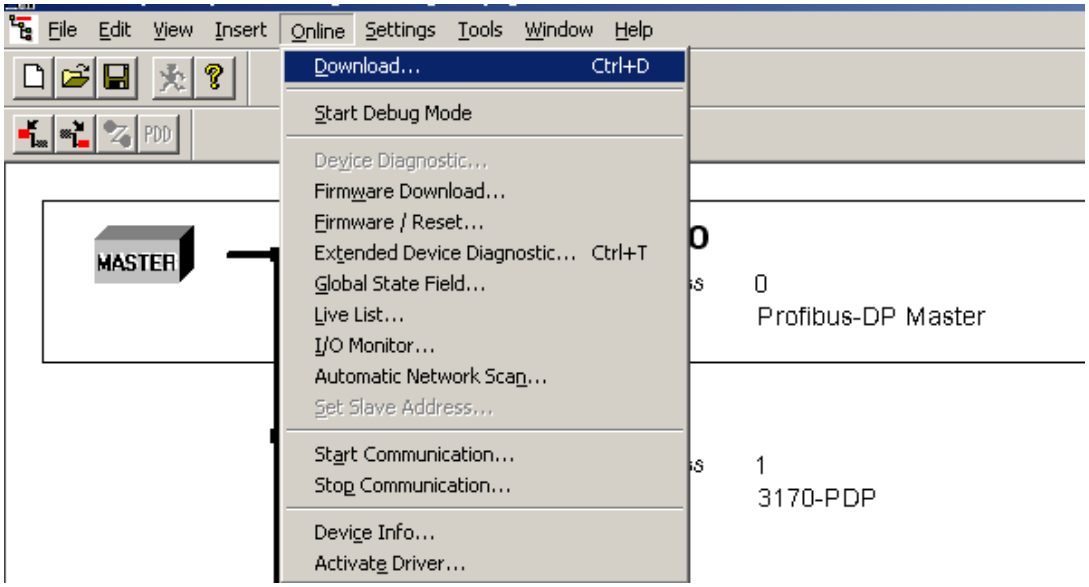
Next do a File -> Save, this will take the configuration that has been uploaded from the ProFibus network and save that configuration to the .pb file. This step is shown below:



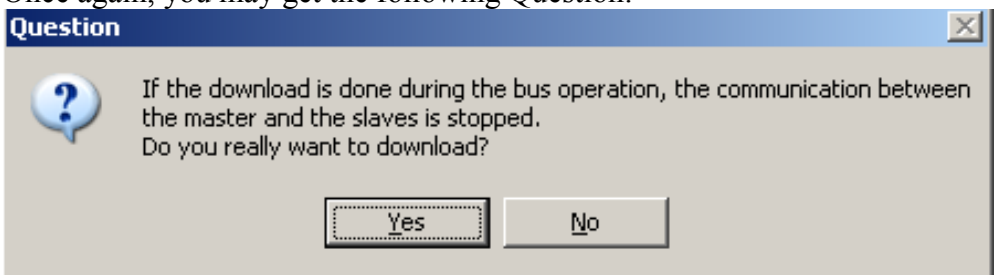
Next make move the box to the Master device, by clicking on the master within the SyCon’s main program window:



Next do an Online -> Download, and move this new configuration to the ProLinx ProFibus module. As shown:

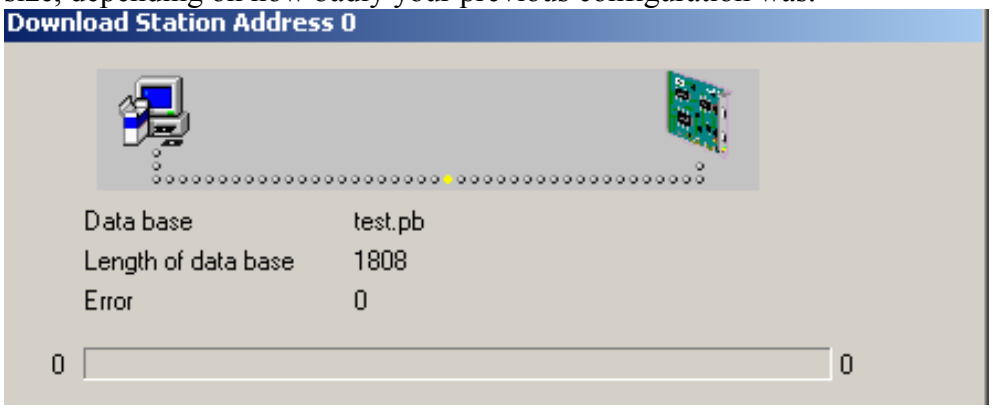


Once again, you may get the following Question:

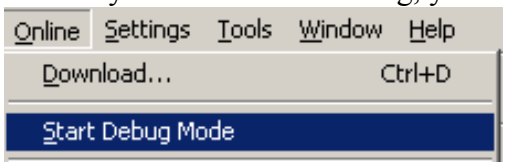


Press 

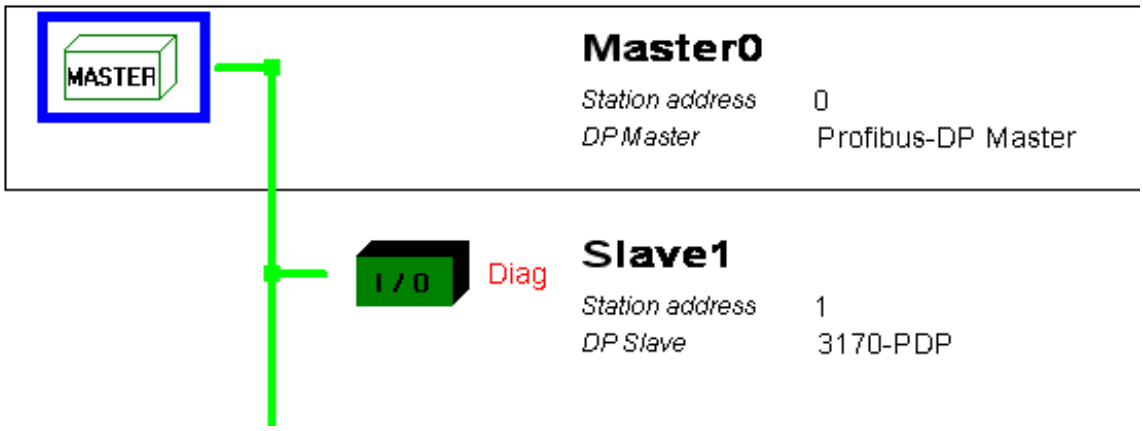
Once again you will get the following window, notice that this time the size of the database has changed. In your application, you may, or may not get a different database size, depending on how badly your previous configuration was.



To verify that it is now working, you can now do an Online -> Start Debug mode again:



You should now see the network show in Green to indicate that everything is healthy, as shown here:



NOTE: You may still have “Diag” information, like shown here, you can double click on the slave to see this “Diag” information, then acknowledge this information by clicking on each Diagnostic alarm and this will remove the “Diag” from the main screen.