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:

m ProLinx Communication Gateways	• 7 ·	
	🛗 Profibus SyCon System Configurator	Profibus SyCon System Configurator
		🌒 Profibus SyCon System Configurator Help
		📋 Profibus SyCon System Configurator Readme
		🍿 Profibus SyCon System Configurator UnInstall

Profibus-DP Master

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

	2			2			0		<u> </u>					
Prof	ibus S	yCon 9	iystem	Configu	rator - [t	est.pb]]							
រឹង <u>F</u> ile	Edit	⊻iew	Insert	<u>O</u> nline	<u>S</u> ettings	<u>T</u> ools	<u>W</u> indow	Help						
		火	?											
- f *ì	2	PDD												
	HAC	TED	Τ				Ма	ster0						
	mнэ	red (Static	in address	0					

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

DPMaster



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

-			0	11			
		Insert Slave					×
		Slave Filter Vendor	roSoft Technology Inc	.	Master 0 / Profibu	s-DP Master	<u>OK</u> Cancel
		Available slaves			Selected slaves		
		3170-PDP		<u>A</u> dd >>			
				Add All >>]		
				<< Remove All			
				<< <u>R</u> emove] [
		Vendor name	ProSoft Technology I	nc	Station address		
		GSD file name GSD Revision	PSFT0882.GSD Version 2.2		Description		
				Slave Filter			_
				Vendor	ProSoft Tec	hnology Inc	
Use the Slav	e filter to nick	your slav	e device	Slave type	All		•

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 $\underline{A}dd >>$ button to move the slave over to the Selected Slaves window, as press the shown below:

Selected slaves	
3170-PDP	
1	
Station address	1
Description	Slave1

Here you can set the station address, and description. Once these are configured how you <u>0</u>K 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:

Slave Configurat	ion								×
- General Device	3170-PDP			Statio	on addres	:s 1			<u>O</u> K
Activate de Enable wat Max. length of in- Max. length of ou Max. length of ou	istave i vice in actual con chdog control /output data 4 uut data 2 tput data 2 vodules	figuration 188 Byte 244 Byte 244 Byte	GSD fil Length Length Length Numbe	e PS of in-/outp of input da of output (r of module	SFT0882 put data ata data	.GSD 0 0 0	Byte Byte Byte	Assign	Cancel Parameter Data DPV1 Settings ed master address 0
Module 9900-HMS-APP Flex I/O emp 1794-IA8 / J	3 Status oty Auto format	Inputs 1 Word 1 Word 1 Word	Outputs 1 Word 1 Word 1 Word	In/Out	Ident: 0x50, 0x00, 0x50, 0x50,	0 ifier 0x60 0x00 0x60 0x60		Actual Station Slave1	0 ofibus-DP Master slave address 1 70-PDP
Slot Idx Mod	ule Symbol	Type I	Addr.	I Len. 1	Type 0	Addr.	0 Ler	h. •	Append Module Bemove Module Insert Module Predefined Modules Symbolic Names

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	Input	:s 0	utputs	In/Out	Iden	tifier	
9900-HMS-APB Status	l Wor	:d 1	. Word		0x50	, 0x60	
Flex I/O empty					0x00	, 0x00	
1794-IA8 / Auto format	1 Woı	:d 1	. Word		0x50	, 0x60	
1794-IA8I / Auto format	1 Wor	:d 1	. Word		0x50	, 0x60	-
Slot Idx Module Symbol	Тур	e I	Addr.	I Len.	Type	0 Addr.	0 Len.
		-					
	_	_					

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

Modu	ıle			Ir	nputs	0υ	atputs	In/Out	Ider	it:	ifier		
1794	-IA8	I / Auto	format	1	Word	1	Word		0x50),	0x60		
1794	-IAl	6 / Auto	format	2	Word	1	Word		0x51	.,	0x60		
1794	-0A8	/ Auto i	format			1	Word		0x00),	0x60		
1794	-0A8	I / Auto	format			1	Word		0x00),	0x60		•
Slot	Idx	Module	Symbol		Type	IJ	Addr.	I Len.	Type	0	Addr.	0	Len
1	1	1794-IA8	Modulel		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:

Slot	Idx	Module	Symbol	Type	I	Addr.	I	Len.	Type	0	Addr.	0	Len.
1	1	1794-IA8	Modulel	IW	0		1						
1	2	1794-IA8	Module2						QW	0		1	
2	1	1794-0A8	Module3						QW	1		1	

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

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:

MASTER		Master0 Station address DPMaster	0 Profibus-DP Master
	1/0	Slave1 Station address DP Slave	1 3170-PDP

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



1 1		5 2 0 mmo	aa, joa m	m, 5000	mb wind(····		
D	evice Assignme	nt CIF Serial	Driver					×
	Driver Descriptio	n CIF Serial Dri	ver					<u>K</u>
	- Board Selection -							<u>C</u> ancel
		Name	Туре	Version	Date	Error		
	🗖 СОМ 1	DPM	HMS-DPM	V01.135	10.02.00	0	Connect COM 1	
	🗖 СОМ 2					-20	Connect COM 2	
	🗖 СОМ З					0	Connect COM 3	
	🗖 СОМ 4					-20	Connect COM 4	

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 <u>Connect COM 1</u>, 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:

COM 1 DPM HMS	DPM V01.135 10.02.00	Connect COM 1
---------------	----------------------	---------------

Next press the $\underline{\square K}$ button to begin the download.

You may get the following message:



If you do, press <u>Yes</u>. 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:

		Ū
Data base	test.pb	
Data base Length of data base	test.pb 1716	

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:

<u>O</u> nline	<u>S</u> ettings	<u>T</u> ools	<u>W</u> indow	<u>H</u> elp
Download			Ctrl+D	
<u>S</u> tart Debug Mode				

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: Diagnostic Station Address 1



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

Real configuration Station address 1 Number of configuration bytes 18 0x50 0x60 0x50 0x61 0x50 0x00 0x00 0x00 0x00 0x00 0x00 0x00	<u>O</u> K <u>A</u> utomatic Configuration
Profibus SyCon System Configurator configuration Station address 1 Number of configuration bytes 4	
0x50 0x60 -> module ok. 0x00 0x60 -> module not ok. *** module missing in configuration ***	

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 configuration button to take the configuration from the device on the ProFibus network and pull that configuration into the SyCon software. Upon pressing the "<u>A</u>utomatic Configuration" button you will get the following prompt:

Question			×
2	Do you want to t	ake over the co	nfiguration?
	<u>Y</u> es	No	
Press	Yes		

You will then be returned to the "Compare Configuration" window, from here press $\underline{O}K$

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:

<u>0</u>K



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:

File	<u>E</u> dit	⊻iew	Insert	<u>O</u> nline	<u>S</u> ettings
N	ew			Ctrl+N	
<u>o</u>	pen			Ctrl+O	
⊆	ose				
<u></u>	<u>S</u> ave Ctrl+S		Itrl+S		

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 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.

wnload Station Addres	; 0	
1		
Data base	test.pb	
Length of data base	1808	
Error	0	
0		0

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

<u>O</u> nline	<u>S</u> ettings	<u>T</u> ools	<u>W</u> indow	Help	
Download			Ctrl+D		
Start Debug Mode					

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.