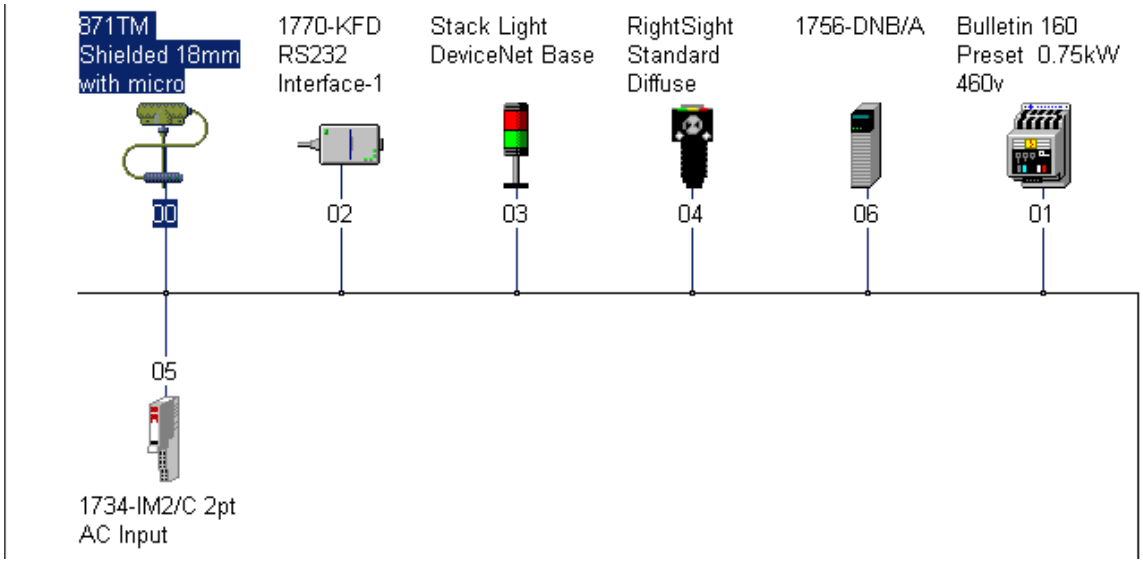
Module 4



Lab Exercise 9

DeviceNet Network Setup

Network Setup: RSLinx & RSNetWorx

Lesson Objective

By the end of this session, students should be able to:

1. Setup RSLinx to interface with a DeviceNet network.
2. Setup a network component (Proximity Switch, Stack Light and Photoeye) using RSNetWorx.
3. Using RSLogix / Studio 5000 connect to a DeviceNet Network

Page

ControlLogix Project File Required
PLC220_Lab Exercise_9_Module_4_Dnet.L5K

Introduction:

RSLinx is used as the communication driver between RSNetWorx and the Devicenet network. This similar to using RSlinx as a communication driver between a PLC processor and the programming and monitoring software for a processor (i.e. a 1756-L55 ControlLogix 5550 processor and RSLogix 5000 software).

A communication interface from a computer to a DeviceNet network allows RSNetWorx to configure and monitor devices on the network. In this Lab exercise Ethernet will be used to configure a DeviceNet network.

Equipment Required:

Computer with RSLogix 5000 / Studio 5000 software
RSLinx software
RSNetWorx for DeviceNet software
Ethernet Port
ControlLogix Demo board with 1756-DNB module, 1756-processor
1756-Ethernet Communication Module
Discrete Input / Output Modules
DeviceNet Demo Board with 871TM Prox switch
RightSight Standard Diffuse Photoelectric Sensor
855T – Stack Light
1791D 8B8P Compact Block I/O
PowerFlex 4 VFD

Note: Other components are also installed on DeviceNet Demo Board

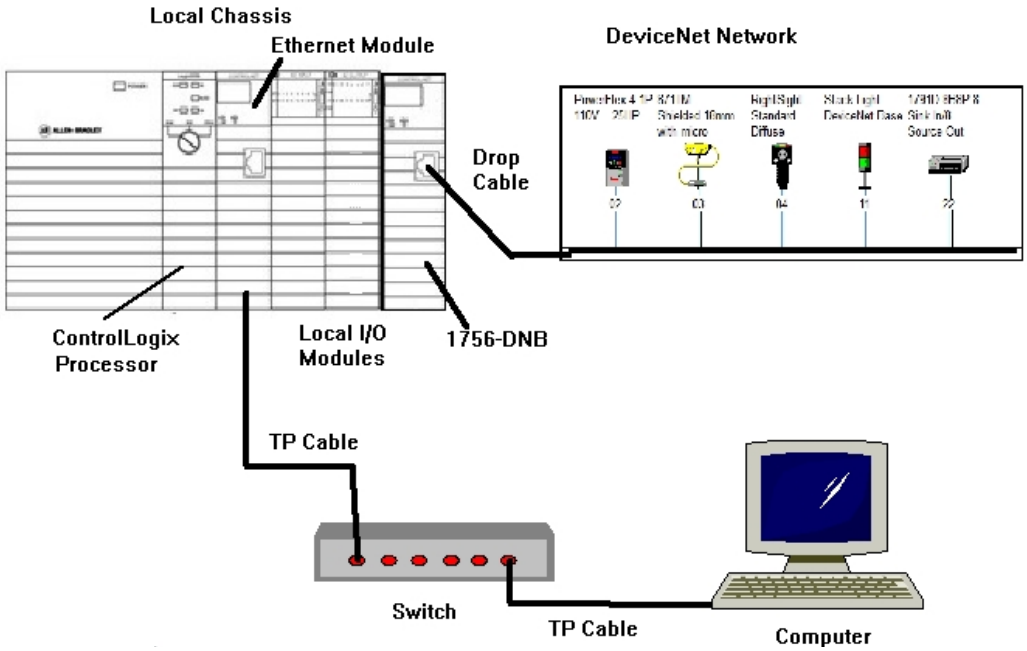


Figure 1-A. A devicenet connected to the DNB module.

Ensure all the DeviceNet component's cables are connected to the IDC taps on the bottom of the DeviceNet Demo Board

Twisted pair Ethernet cables from Computer Ethernet Port to the 1756-EtherNet Module
Note: the cable may be directly connected - no Switch required

DeviceNet drop cable to connect the DeviceNet Demo Board to the front port on the 1756-DNB Module located on the ControlLogix Demo Board.

Power-up ControlLogix and DeviceNet Demo Boards

Note: If the display on the 1756-DNB Module shows - No Network Power – the 1756-DNB Module is not receiving power from the DeviceNet network (drop cable) cable.

In the Lab exercise a connection will be made from the computer's Ethernet Port thru RSNetWorx for DeviceNet using a RSLinx, EtherNet/IP Driver to connect to the DeviceNet network

Ensure the Computer can connect to the ControlLogix Demo board using the 1756 – Ethernet Communication Module with an EtherNet/IP driver.

Note: DeviceNet Scanner Module - 1756-DNB – located in slot 6.

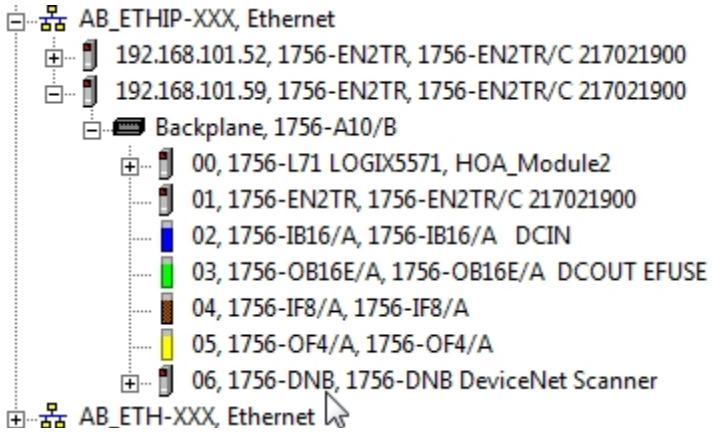


Figure 2-A
RSLinx Connection to ControlLogix Demo Board

Click the + sign to the left of the 1756-DNB Module icon.

The components connected to the DeviceNet network thru the 1756-DNB module will appear on the RSWho window in RSLinx.

See Figure 3-A

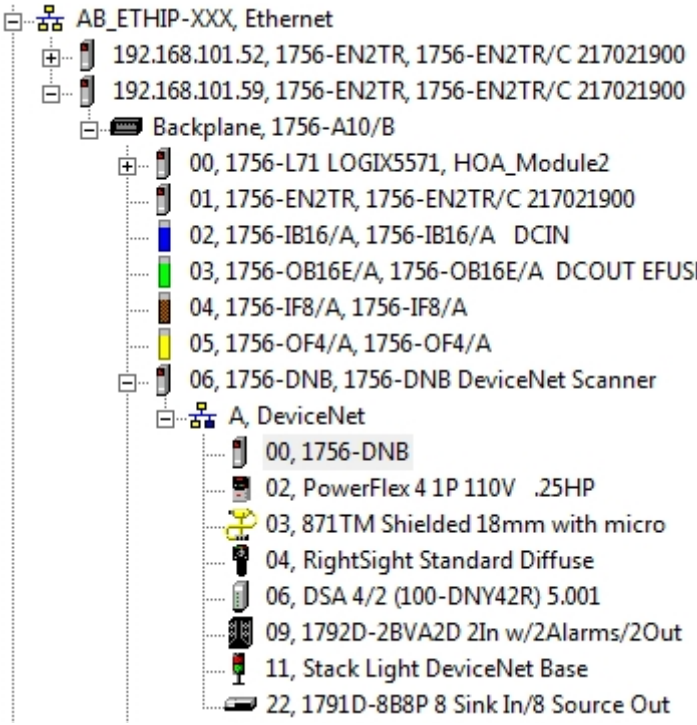


Figure 3-A
Components on DeviceNet Network
Left Side RSWho Window

Number to the left of the Device description represents the Node (MAC) address of the device.
02, PowerFlex 4 1P 110V .25HP - the VFD is Node 02 on the DeviceNet network

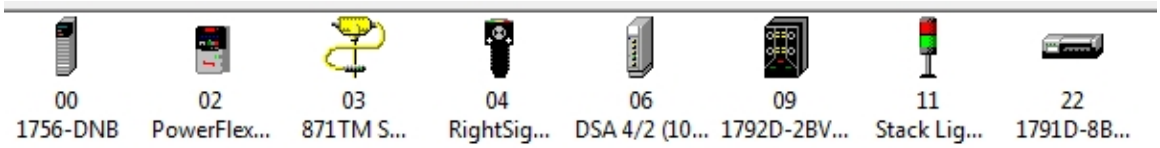


Figure 4-A
Components on DeviceNet Network
Right Side RSWho Window

Number below the Device icon represents the Node (MAC) address of the device.
02, PowerFlex 4 1P 110V .25HP - the VFD is Node 02 on the DeviceNet network

Note: DeviceNet Demo Board components addresses may be different than shown

Right click on a Device icon or description.
Click Device Properties on the context menu to view Properties window.
See Figure 5-A

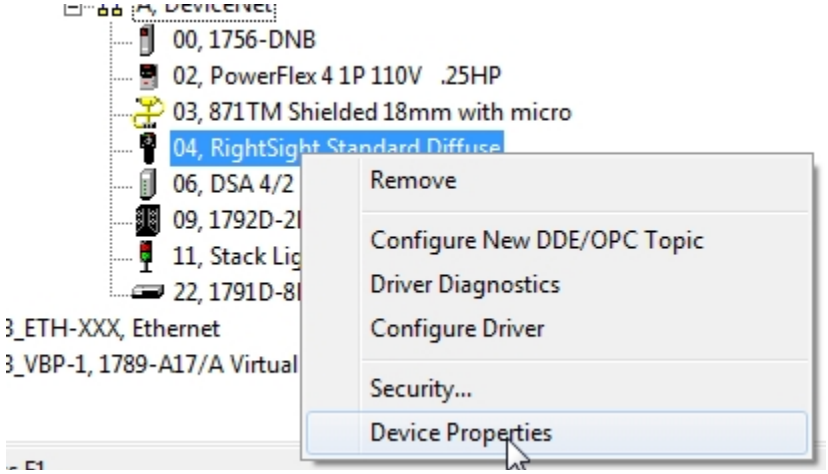


Figure 5-A
Component Context Mena

The Properties window shows : Device Name
Revision:
EDS File Name:

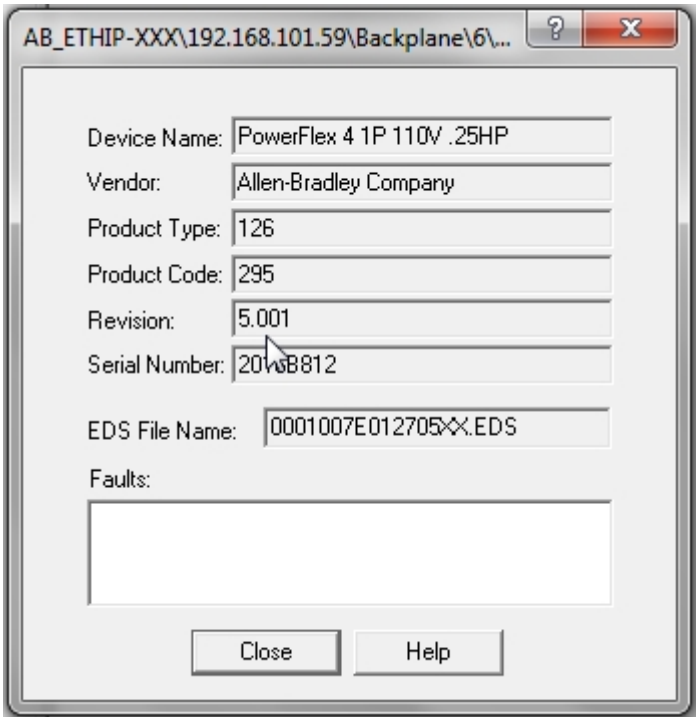


Figure 6-A
Component Properties Window

Note: DeviceNet components are required to have an EDS (Electronic Data Sheet) registered in RSNetWorx for DeviceNet software to configure the device on a DeviceNet network

A red X on an component's icon indicates a device failure or the device has been removed from the DeviceNet Network.

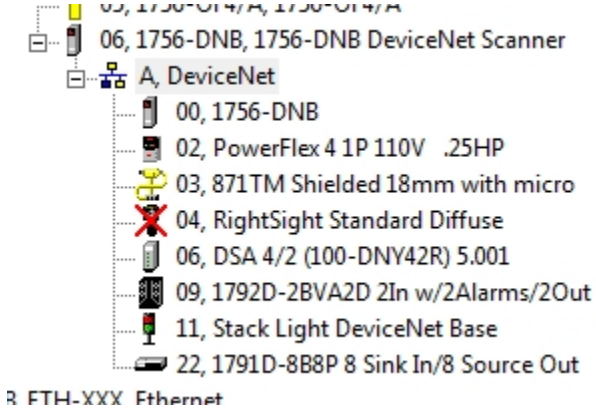


Figure 7-A
Red X – DeviceNet Component –Left Side RSWho Window

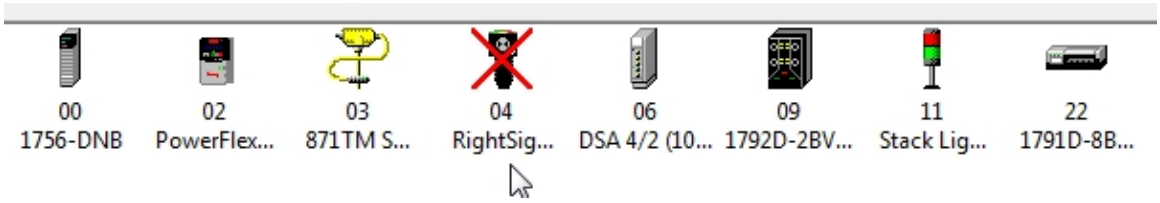


Figure 8-A
Red X – DeviceNet Component –Right Side RSWho Window

If there are problems connecting to the DeviceNet components on the DeviceNet Demo Board – Ask the instructor for assistance

RSNetWorx Set-up:

RSNetWorx is the software used to commission (set Baud Rate and Node Address) nodes, configure and monitor a DeviceNet network. A DeviceNet network can consist of 64 nodes (00-63).

Baud Rate – Speed of communication - 125Kbps, 250Kbps, and 500Kbps are valid DeviceNet network speeds depending on cable length.

Node Address - also called MAC Address – 0 thru 63

Node 63 should be left unused. New Devices (never used) have their addresses set to the default address 63.

Open RSNetWorx for DeviceNet.

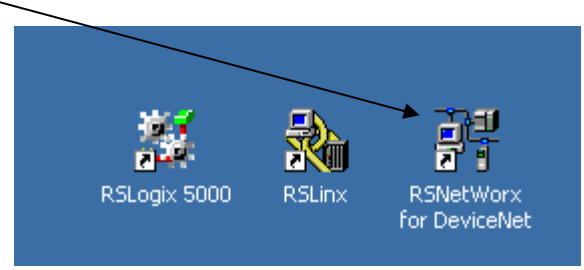


Figure 9-A
RSNetWorx Shortcut

Click the Window's Start Button
Navigate to Rockwell Software Folder -> RSNetWorx
Click RSNetWorx for DeviceNet

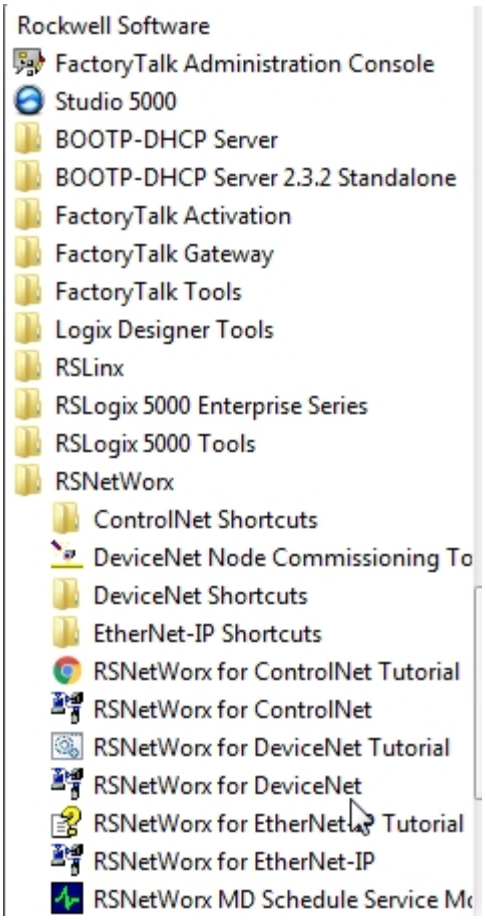


Figure 10-A
RSNetWorx Application Folder

The main network screen for RSNetWorx opens.
If there is a network configuration shown on the Network view (right side) window Start a new network layout.

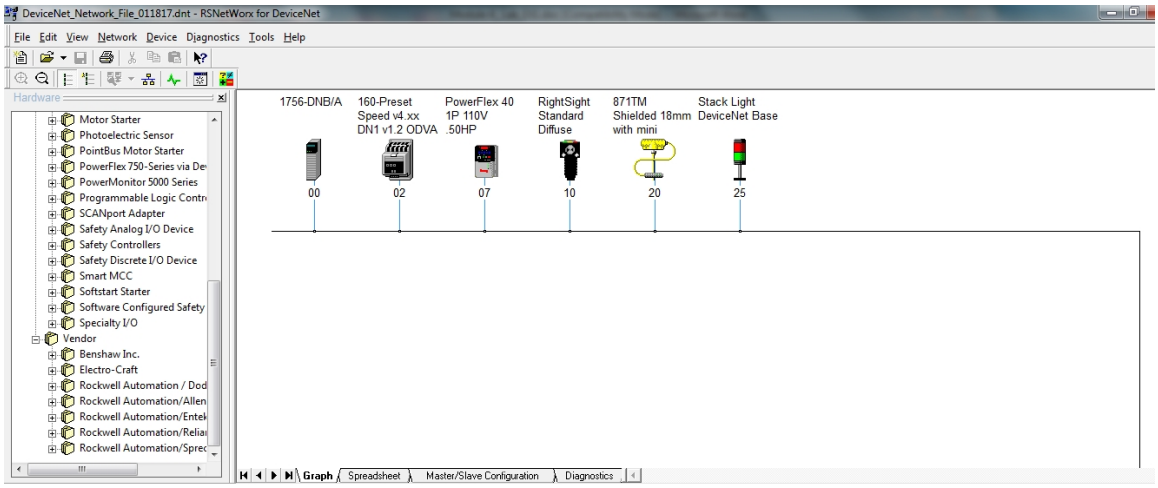


Figure 11-A
RSNetWorx Window With Configuration

Click File -> New from the Menu Toolbar to start a new Network Configuration.

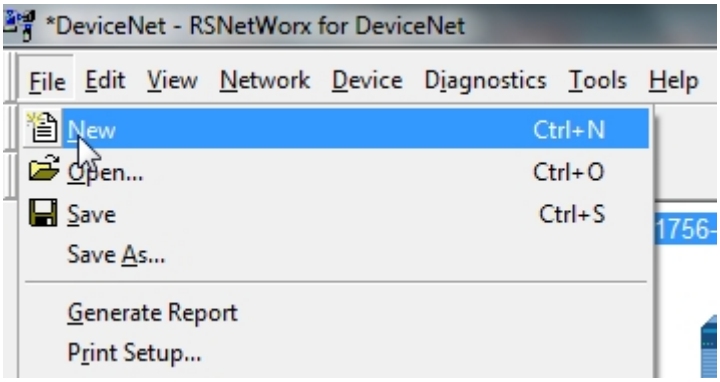


Figure 12-A
Start New Network Configuration

Select DeviceNetConfiguration DeviceNet Files (*.dnt) on the New File window

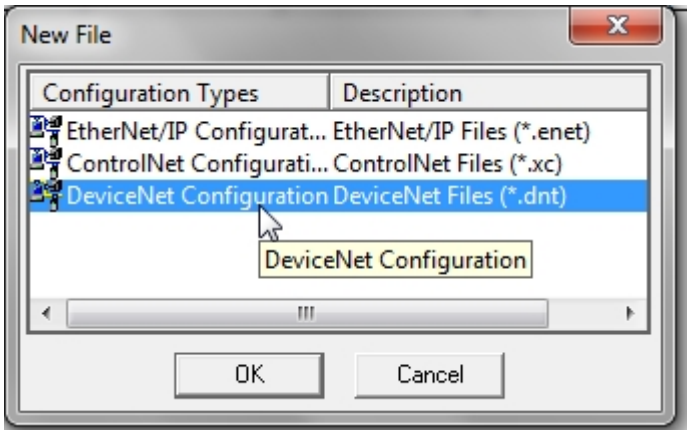


Figure 13-A
New DeviceNet File

Note: .dnt is the extension for a DeviceNet Configuration file for RSNetWorx

Click No button on RSNetWorx Window

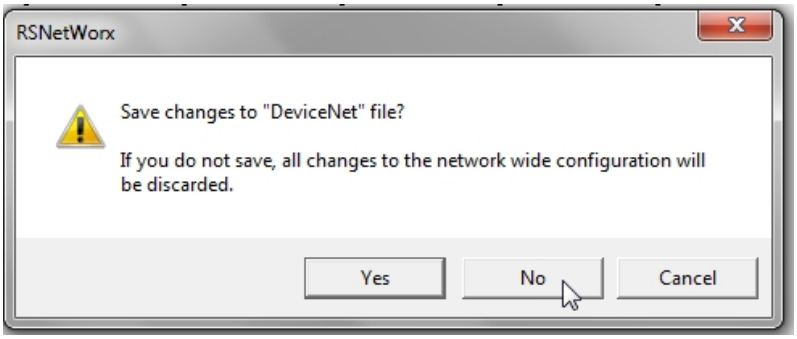


Figure 14-A

A new Network Configuration Screen opens

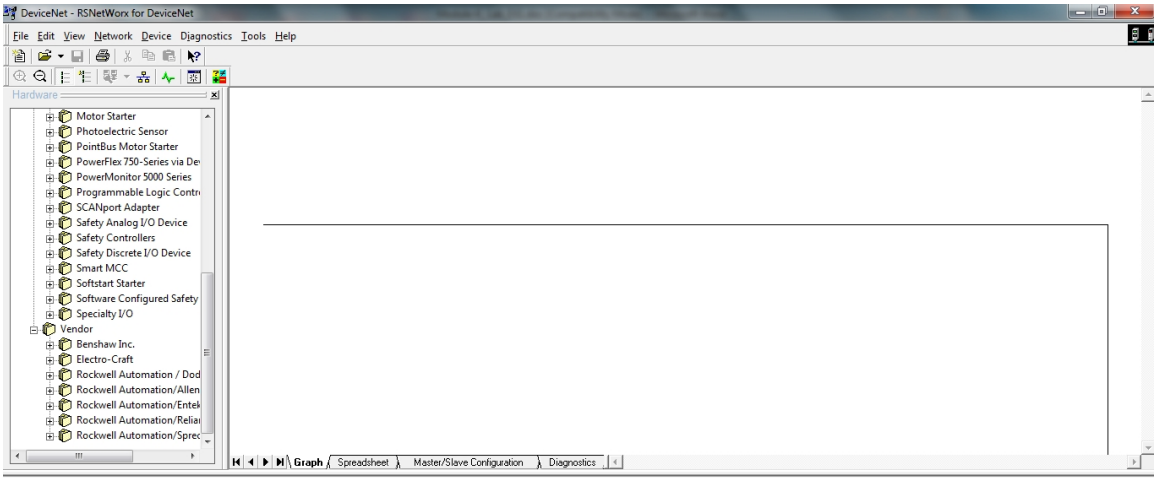


Figure 15-A
New Network Configuration (Layout) Window

Note: The Line in the right side window represents the DeviceNet cable

The left window contains DeviceNet hardware components.

Note: EDS files (Electronic Data Sheets) contain information for device configuration. Allen Bradley EDS files can be downloaded from www.ab.com/networks/EDS.

The bottom right corner of the application shows that RSNetWorx is not connected to a DeviceNet Network – Offline

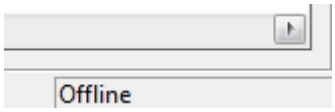


Figure 16-A
Bottom Right Corner of RSNetWorx Window

Going Online

Click the Online icon on the Tools Toolbar

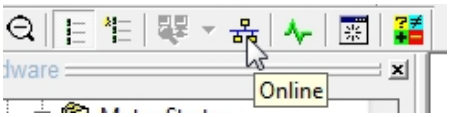


Figure 17-A
Online Icon RSNetWorx for DeviceNet

or

From the Menu Toolbar click Network -> Online from the Network Menu

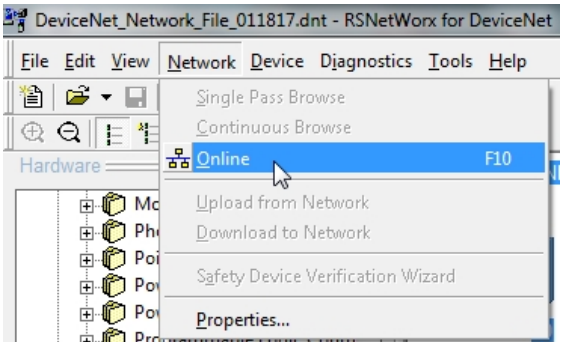


Figure 18-A
Online From Menu Toolbar

Browse for network window opens
Note: Greyed-Out OK button on the lower part of the window

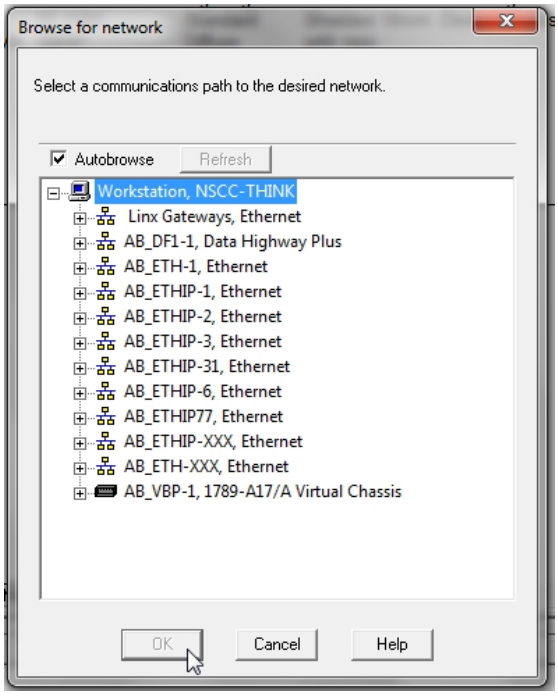


Figure 19-A
Browse for network Window

The Browse for network window shows the RSLinx's configured drivers, i.e. RSLinx RSWho left side window.

Click the + sign to the left of the RSLinx driver to use.

Choose the Ethernet Module for online connection

Click the + sign to expand the connection tree

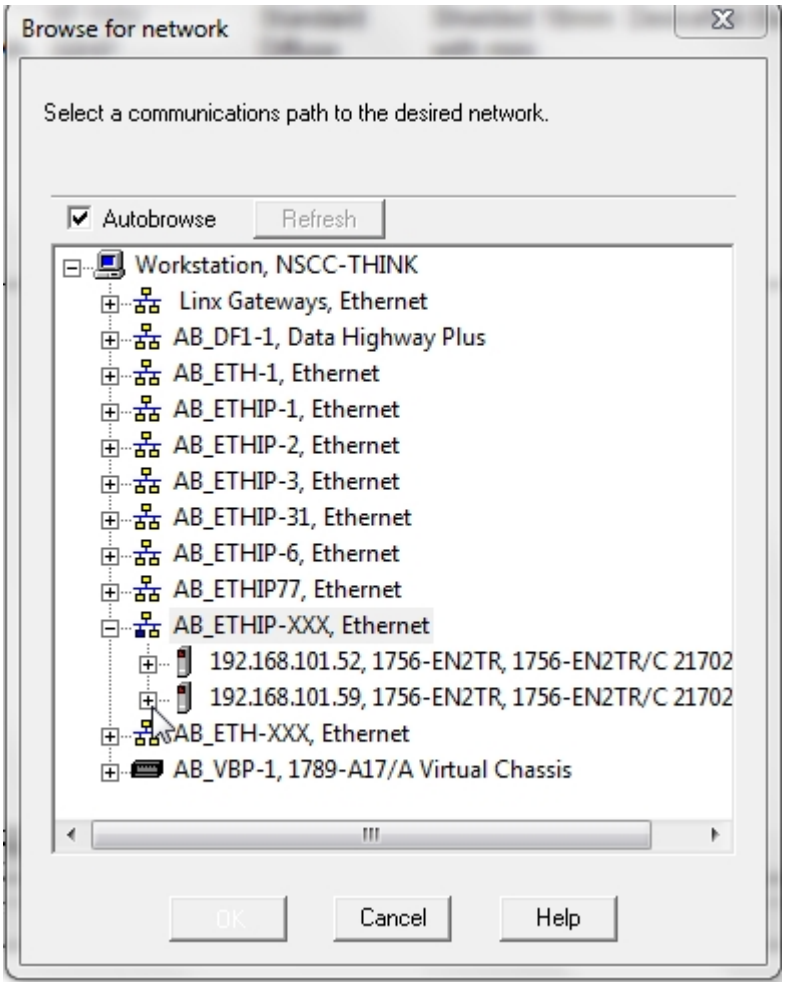


Figure 20-A
Browse for network Window

Click the + sign to the left of the 1756-DNB Module

See Figure 21-A

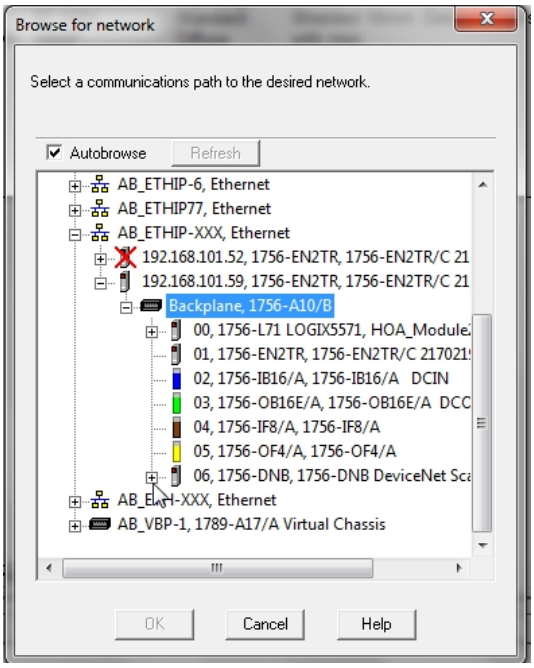


Figure 21-A
+ Sign to Left of 1756-DNB Module

Select A, DeviceNet – this represents the front port on the 1756-DNB Module
Note: OK Button is now active

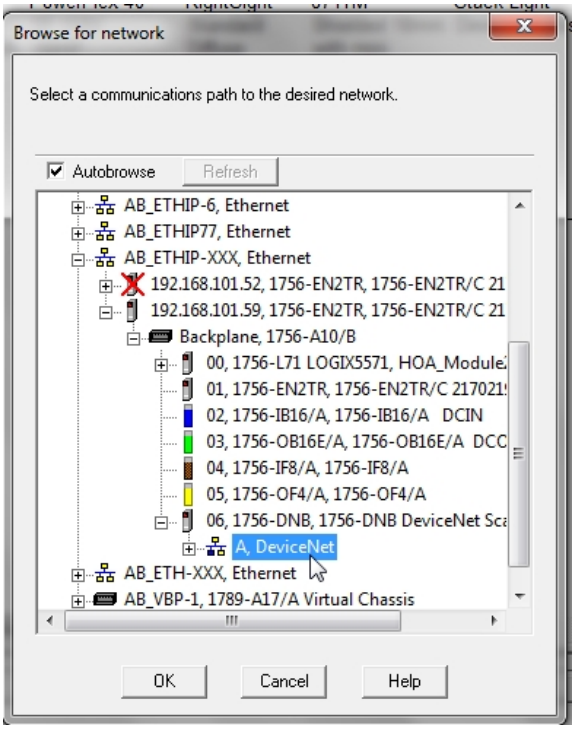


Figure 22-A
OK Button Active

Click the OK button on the RSNetWorx for DeviceNet window to start browsing the DeviceNet network for available components

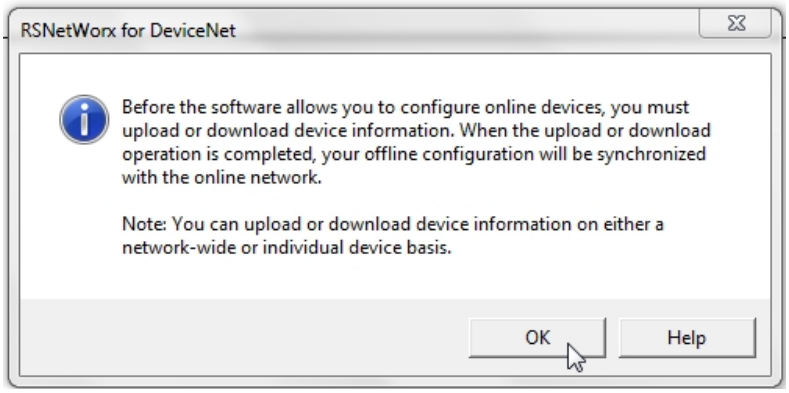


Figure 23-A

The Browsing network… window opens
The progress bar show the status of the network browse

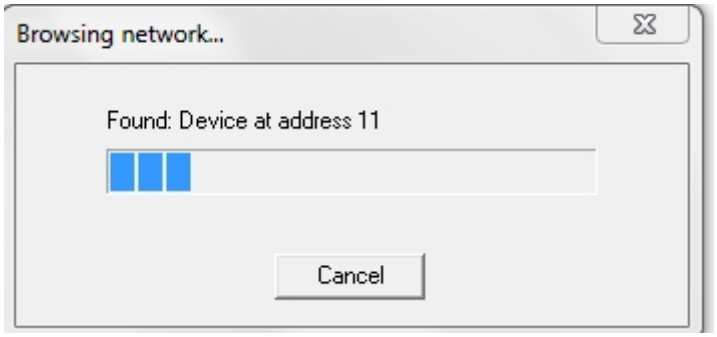


Figure 24-A
Status for Network Browse

Once the progress bar reaches address 63 – the DeviceNet network has been scanned (browsed)

The Browsing network… window closes and the network components are shown in the Network Layout window of RSNetWorx for DeviceNet

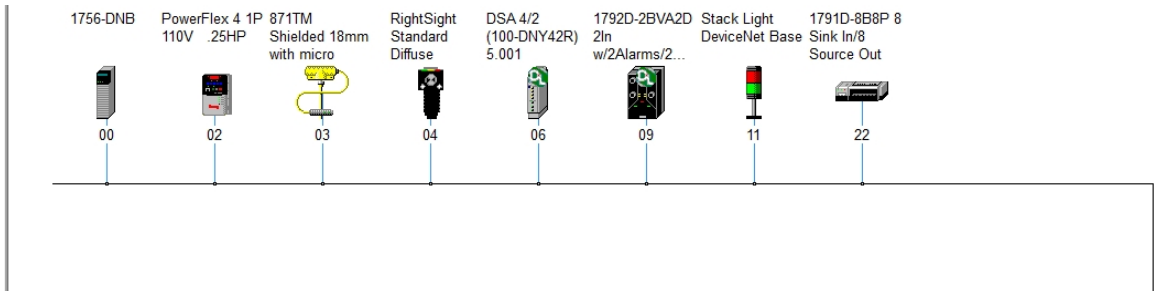


Figure 24-A
DeviceNet Network Components after Browse

The bottom right corner of the application shows that RSNetWorx is now connected to a DeviceNet Network – Online

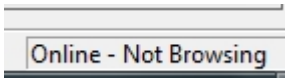


Figure 25-A
RSNetWorx Online – Not Browsing the Network

Information shown on Network Layout window

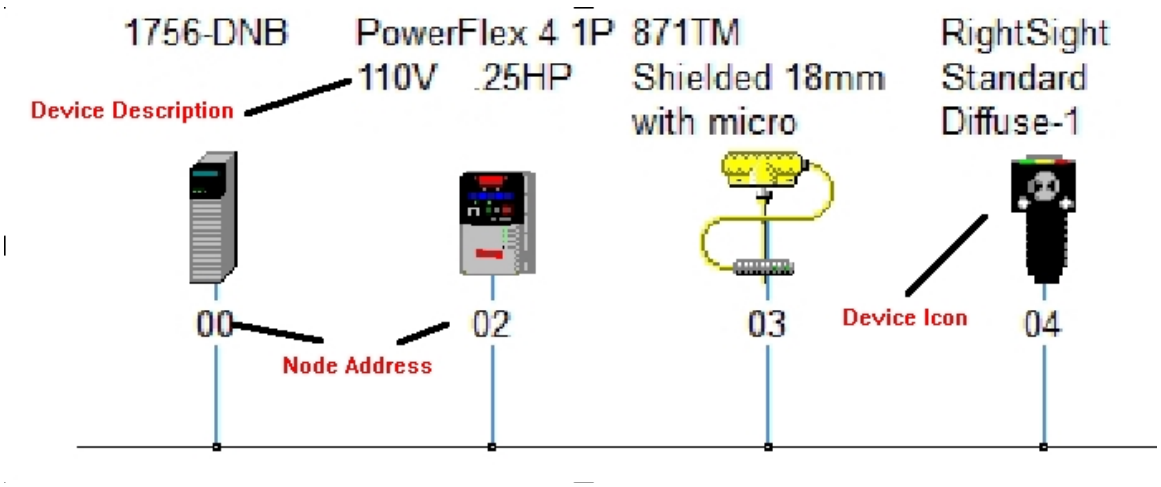


Figure 26-A
RSNetWorx Network Layout Window

To view device properties – right click on the device icon and choose Properties from the context menu

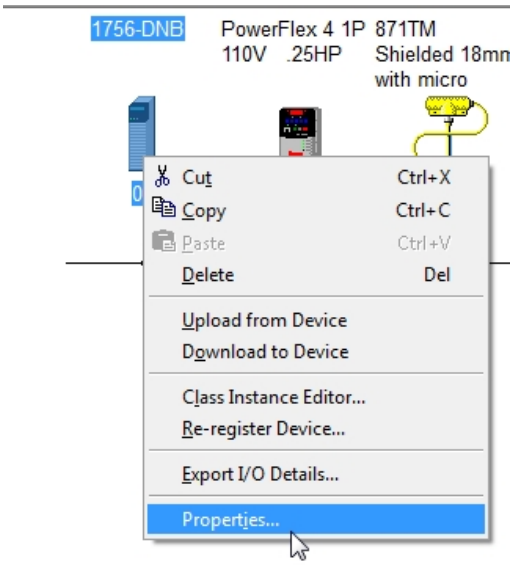


Figure 27-A
Device Menu

Right click on 1756-DNB to view Properties. See Figure 27-A

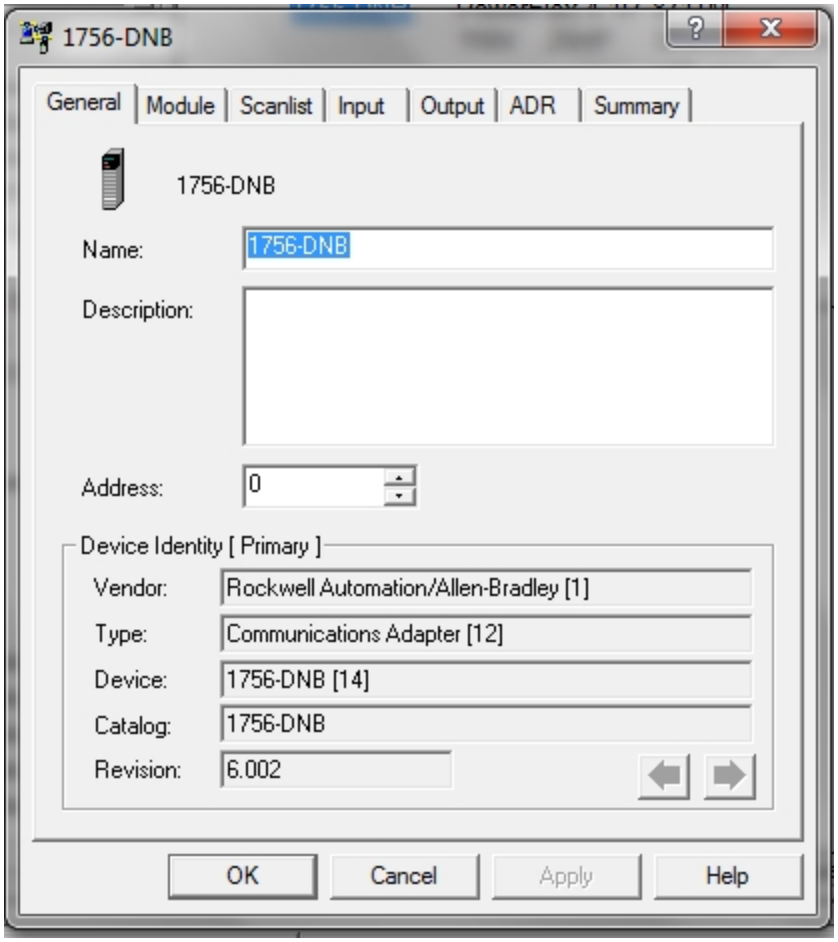


Figure 28-A. Settings for the DNB module.

Network Scanner Modules store network configuration settings
The 1756-DNB General tag shows
Name: 1756-DNB
Address: 0 – network Node (MAC) Address
Catalog: Device Part Number
Revision: Device Revision information

Click the Scanlist tab to show available and / or installed components for the 1756-DNB module.

Click Upload on the Scanner Configuration Applet window to upload the settings of the 1756-DNB Scanner module.
See Figure 29-A

This is similar to uploading a Ladder Logic file from a PLC.

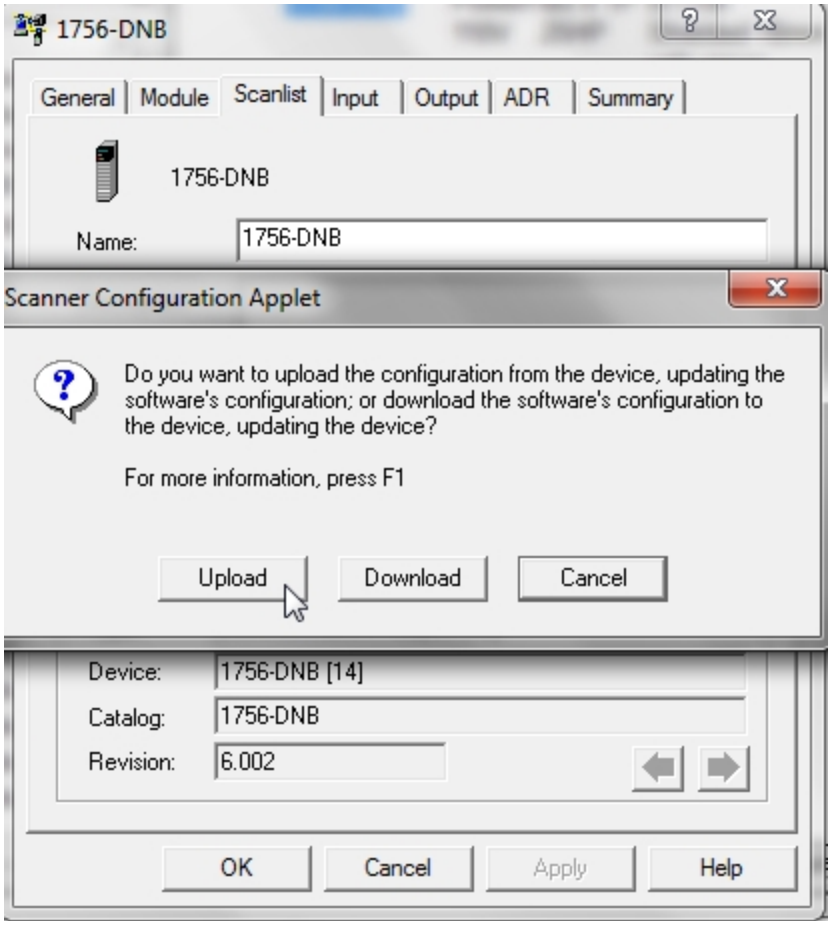


Figure 29-A
Scanner Configuration Applet Window

From the Scanlist tab - any components listed in the Scanlist: box are configured to exchange data to the 1756-DNB Scanner on the DeviceNet network.

Any devices that listed in the Available Devices: box are connected to the network but are not configured to exchange data with the 1756-DNB Scanner Module.

See Figure 30-A

Clear the 1756-DNB Scanlist

Click the << button in the center of the Scanlist window to move the components in the Scanlist box to the Available Devices box

See Figure 31-A

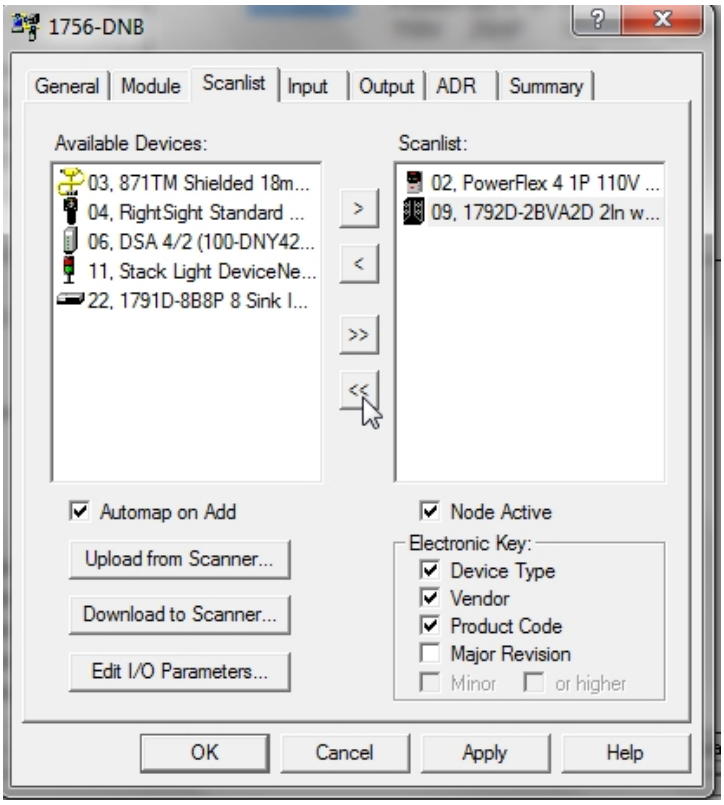


Figure 30-A
Scanlist – 1756-DNB Scanner Module

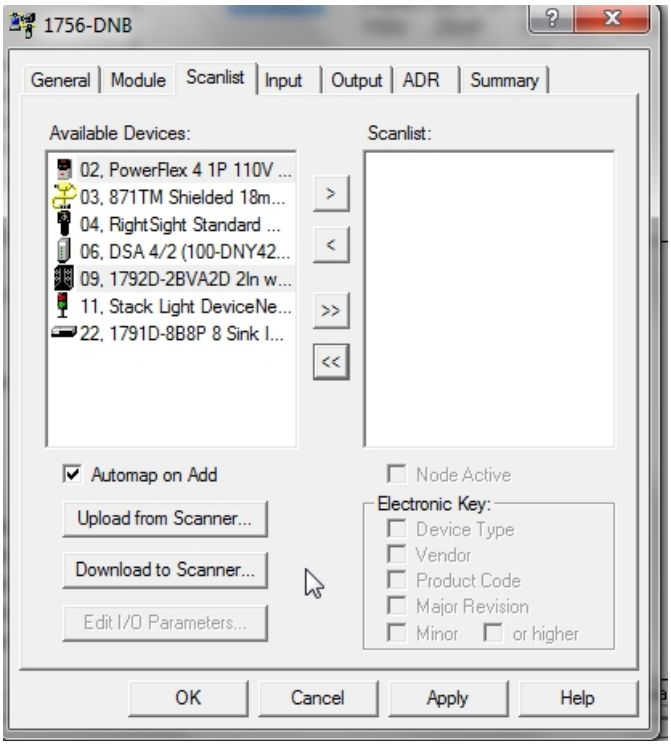


Figure 31-A
Scanlist Cleared– 1756-DNB Scanner Module

Click the Apply button on the Scanlist window to download the change to the 1756-DNB module

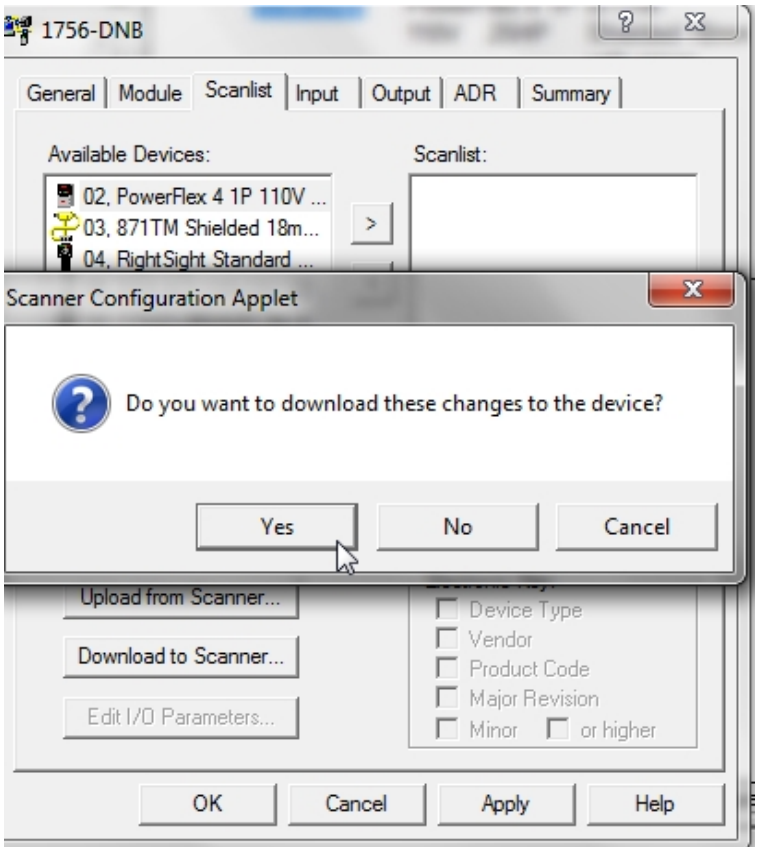


Figure 32-A
Download 1756-DNB Configuration Changes

Click Yes on Scanner Configuration Applet window to confirm download

Download to Scanner shows the progress of the download

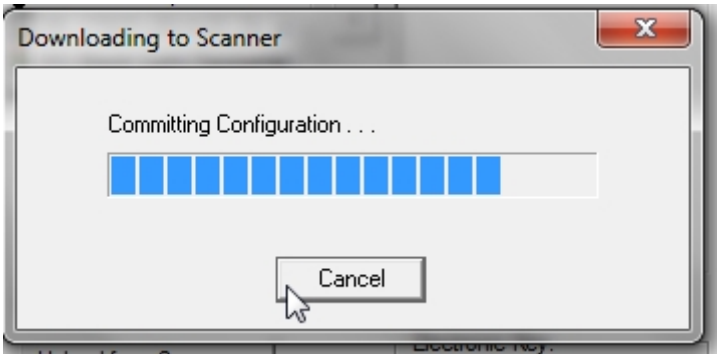


Figure 33-A
Downloading to Scanner

This similar to downloading a Project File to a PLC

Click the Input tab – Note no input devices in the 1756-DNB Scanlist

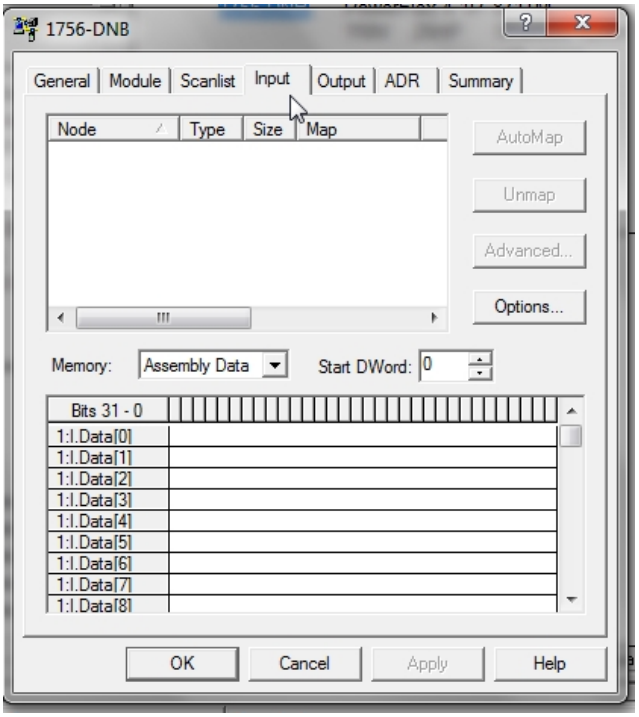


Figure 34-A
Input Tab Mapping

Click the Output tab – Note no output devices in the 1756-DNB Scanlist

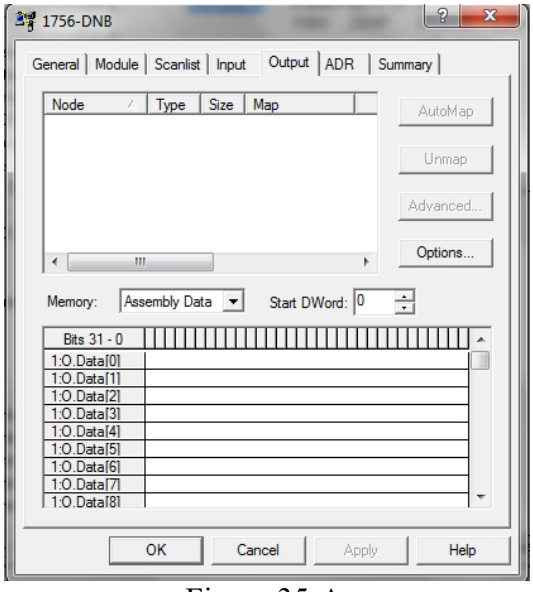


Figure 35-A
Output Tab Mapping

Viewing Device Properties – 871 TM Proximity Switch

Right click the 871TM Proximity Switch icon
Click Properties from the context menu

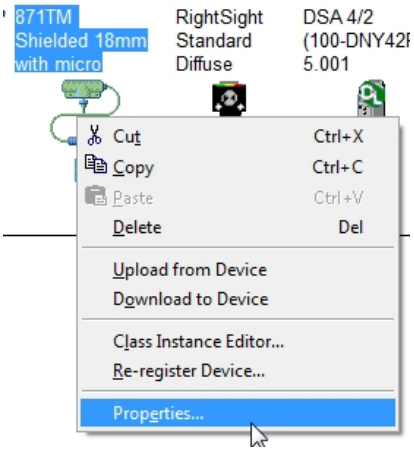


Figure 36-A – 871TM Proximity Switch Properties

View General tab information
Name:_____
Address: _____
Catalog:_____
Revision_____

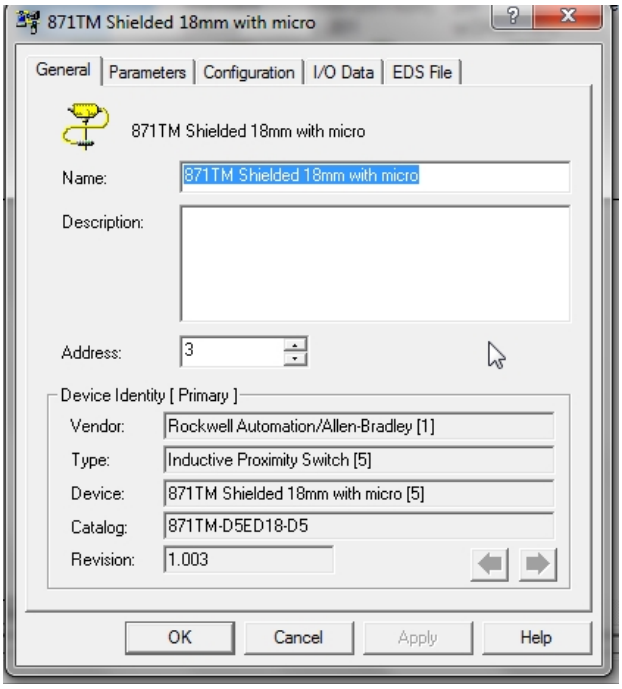


Figure 37-A – 871TM General Tab

Click the I/O Data tab

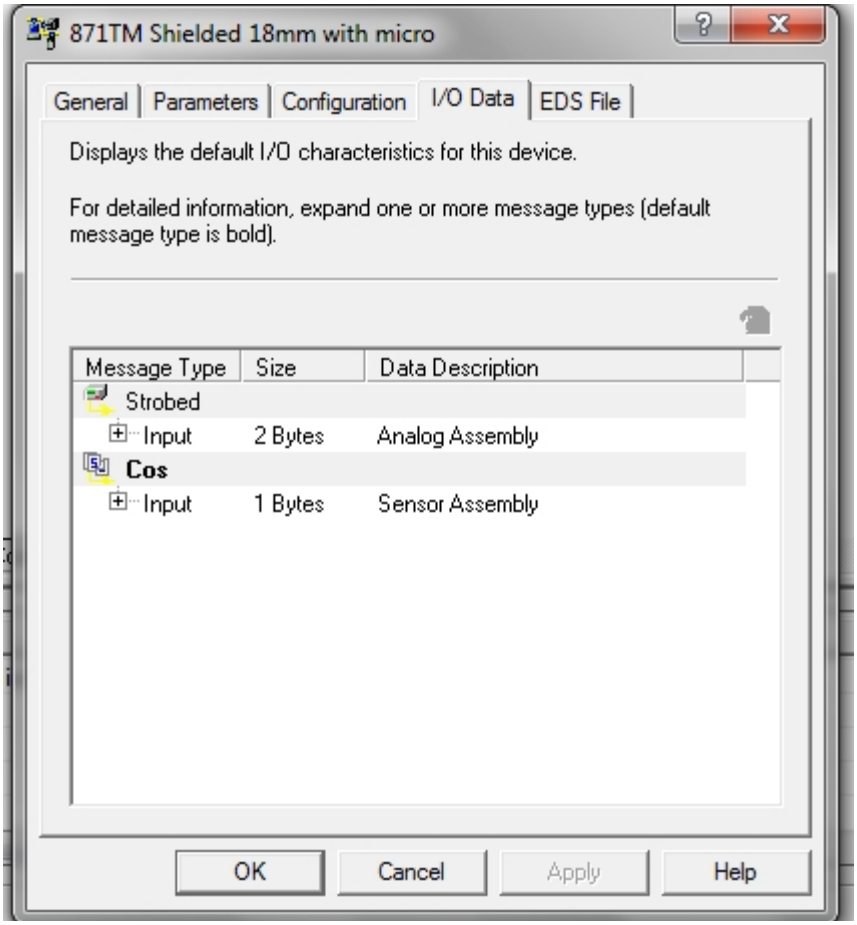


Figure 38-A
871TM Proximity Switch I/O Data

The I/O Data tab shows

Message Type : Method and Type of data exchange between the DeviceNet component and the Scanner Module

Default Message Type is in Bold
Cos (Change of State) for 871TM Proximity Switch

Type of data exchanged - Input

Size: Amount of data exchanged between the device and Scanner Module

871TM Proximity Switch sends one Byte (8 bits) of input data to the 1756-DNB Scanner Module

Note: Default data size for DeviceNet components is a Byte.

Click the + sign to the left of Cos Message Type to expand the Byte information.

This shows the function of each bit in the Byte of data the 871TM Proximity Switch sends to the 1756-DNB Scanner Module.

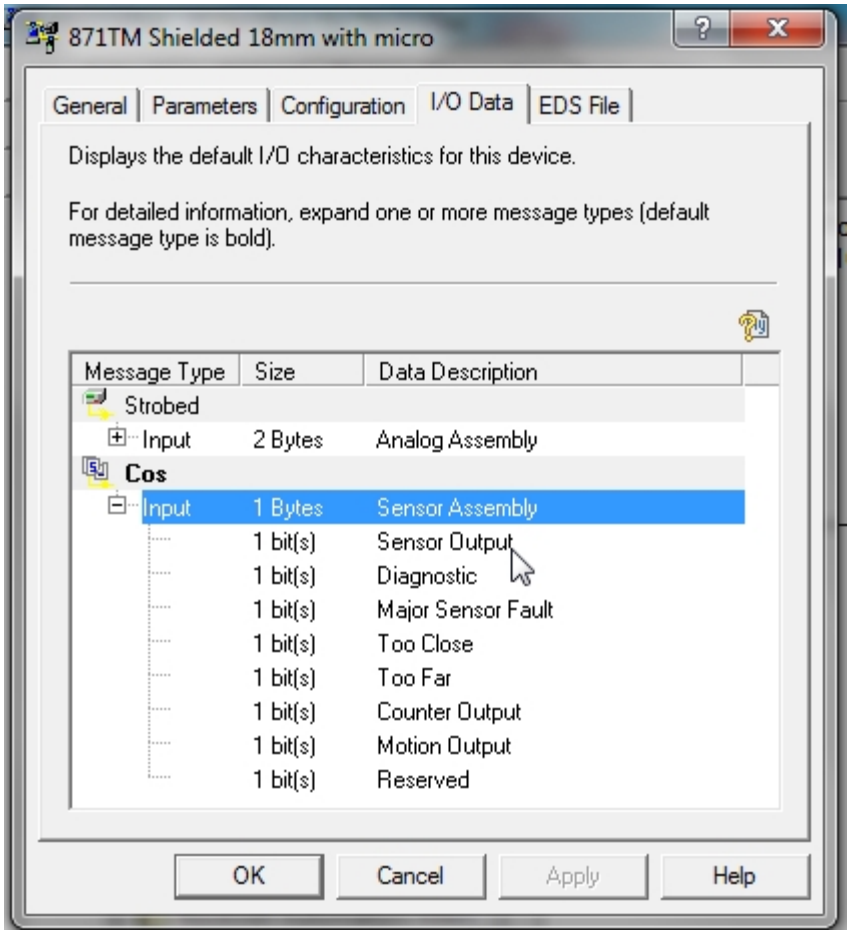


Figure 39-A
Bit Data Function -871TM Proximity Switch I/O Data

Bit 0 – determine the if the Proximity Switch detects a target – Sensor Output

Note: Some DeviceNet components do not have this information available in the RSNetWorx software.

Stack Light

Right click the Stack Light DeviceNet Base icon

Click Properties from the context menu

See Figure 40-A

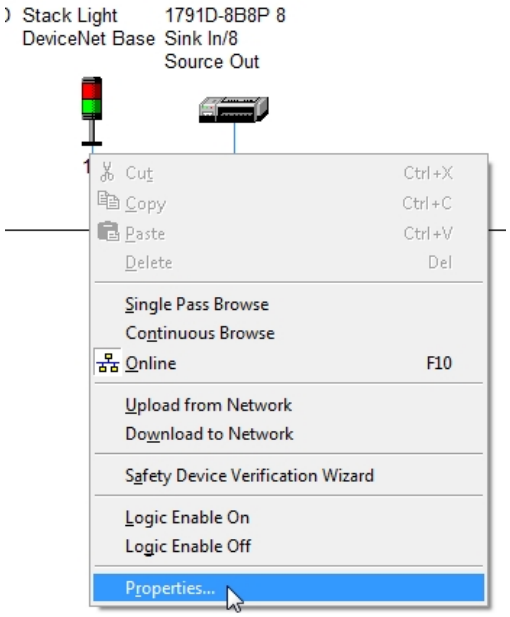


Figure 40-A – Stack Light DeviceNet Base

View General tab information
Name:_____
Address: _____
Catalog:_____
Revision_____

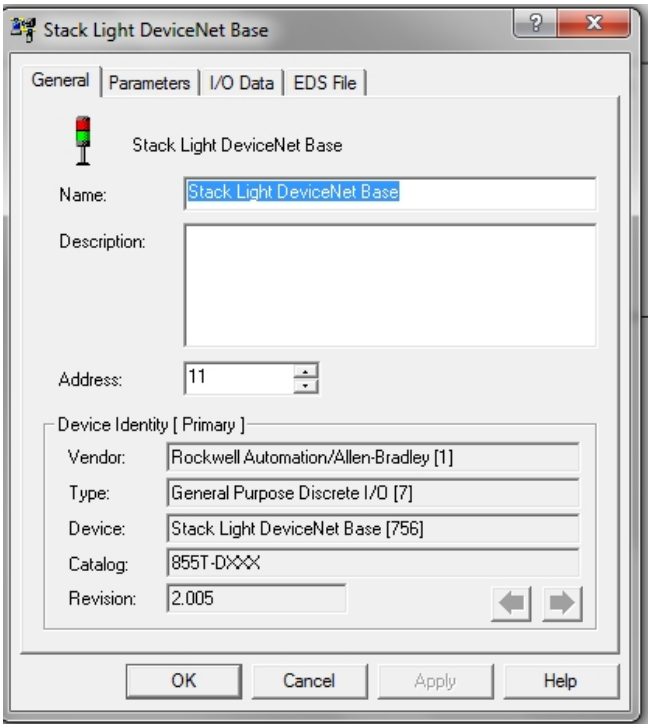


Figure 41-A
Stack Light DeviceNet Base – General Tab

Click the I/O Data tab

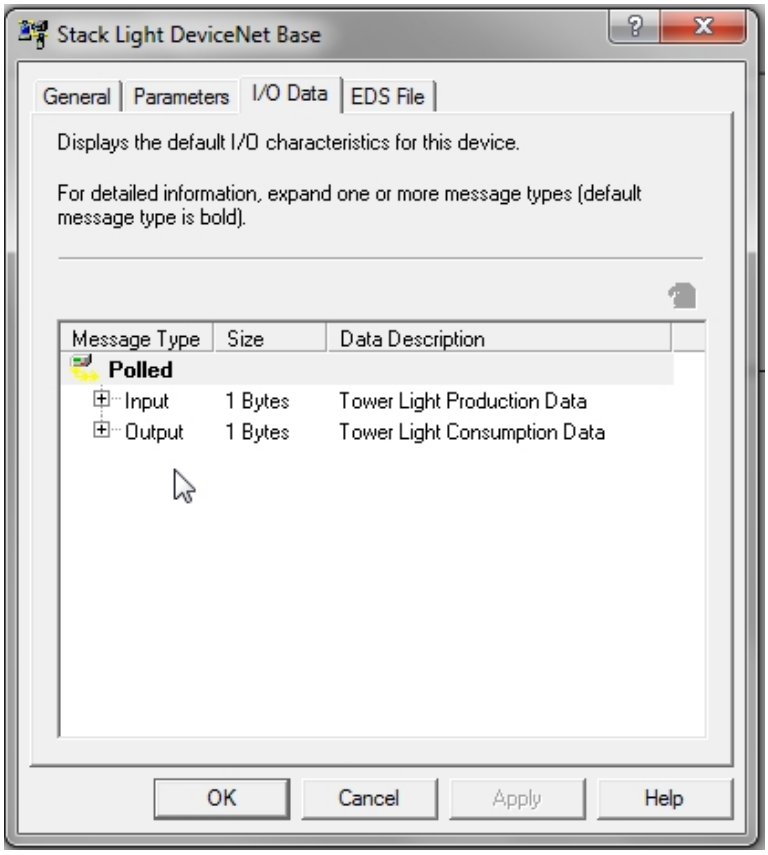


Figure 42-A
Stack Light DeviceNet Base I/O Data

The I/O Data tab shows

Message Type : Method and Type of data exchange between the DeviceNet component and the Scanner Module

Default Message Type is in Bold
Polled for Stack Light DeviceNet Base

Type of data exchanged - Input and Output

Size: Amount of data exchanged between the device and Scanner Module

Stack Light DeviceNet Base sends one Byte (8 bits) of input data (Production) to the 1756-DNB Scanner Module and receives one Byte (8 bits) of output data (Consumption) from the 1756-DNB Scanner Module

Note: Default data size for DeviceNet components is a Byte.

Click the + sign to the left of Polled Output Message Type to expand the Byte information.

This shows the function of each bit in the Byte of data the Stack Light DeviceNet Base receives from the 1756-DNB Scanner Module.

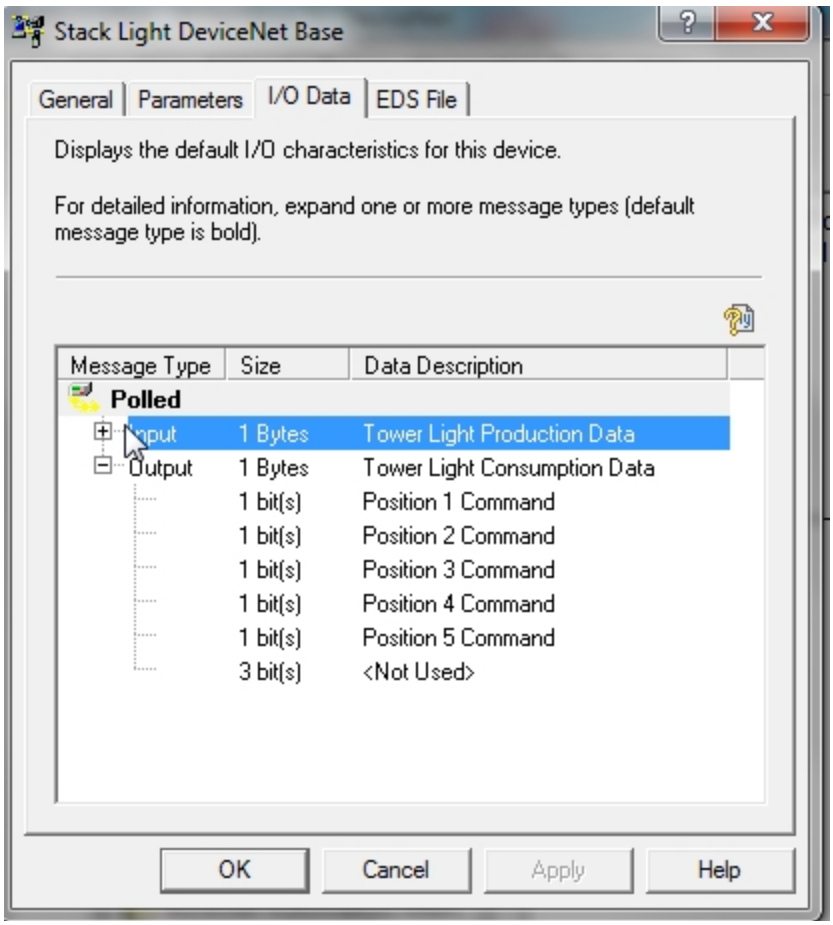


Figure 43-A
Bit Data Function –Stack Light DeviceNet Base Output Data

The Stack Light Base can have five (5) modules attached – 4 indicator lights and one sound type of module.

Each module uses one bit of output data

Note: one (1) bit each for Position Command 1 thru 5.
bits 5, 6 and 7 not used

Input Data shows status of each of the modules connected to the Stack Light Base

See Figure 44-A

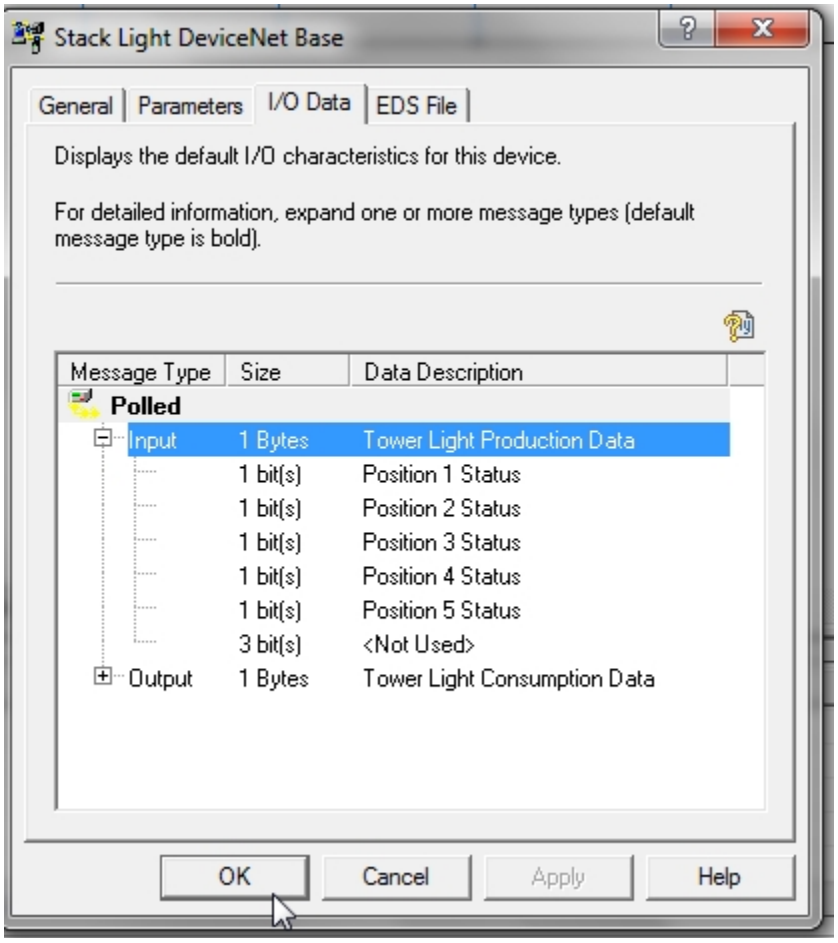


Figure 44-A
Bit Data Function –Stack Light DeviceNet Base Input Data

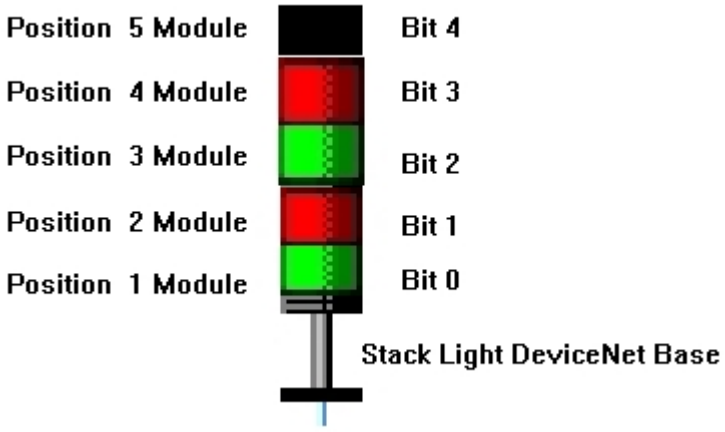


Figure 45 - A
Stack Light Module Position / Bit Assignments

RightSight Standard Diffuse Photoelectric Sensor

Right click the RightSight Standard Diffuse icon

Click Properties from the context menu

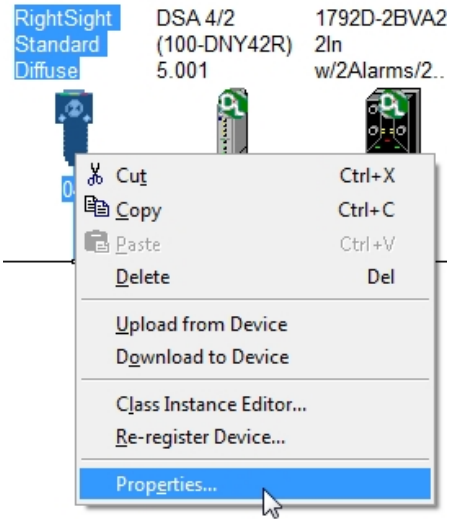


Figure 46-A – RightSight Standard Diffuse Photoeye

View General tab information
Name:_____
Address: _____
Catalog:_____
Revision_____

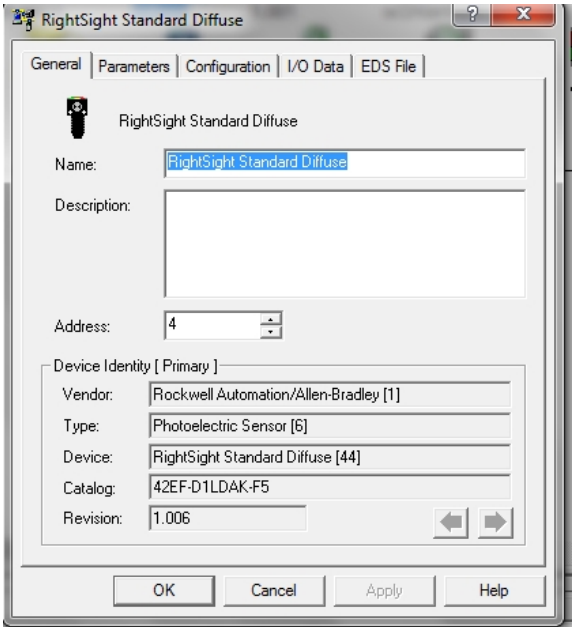


Figure 41-A
RightSight Standard Diffuse Photoeye – General Tab

Click the I/O Data tab

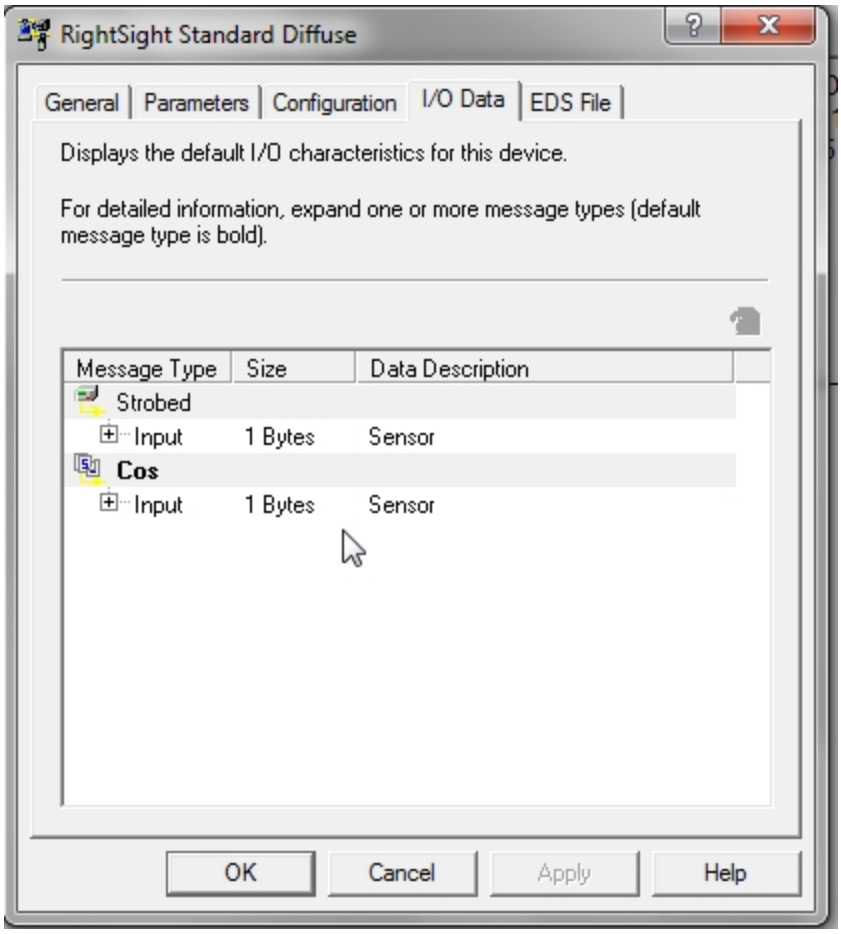


Figure 42-A
RightSight Standard Diffuse Photoeye – I/O Data Tab

The I/O Data tab shows

Message Type : Method and Type of data exchange between the DeviceNet component and the Scanner Module

Default Message Type is in Bold
Cos (Change of State) for RightSight Standard Diffuse Photoeye

Type of data exchanged - Input

Size: Amount of data exchanged between the device and Scanner Module

RightSight Standard Diffuse Photoeye sends one Byte (8 bits) of input data to the 1756-DNB Scanner Module

Note: Default data size for DeviceNet components is a Byte.

Click the + sign to the left of Cos Message Type to expand the Byte information.

This shows the function of each bit in the Byte of data the RightSight Standard Diffuse Photoelectric Sensor (Photoeye) sends to the 1756-DNB Scanner Module.

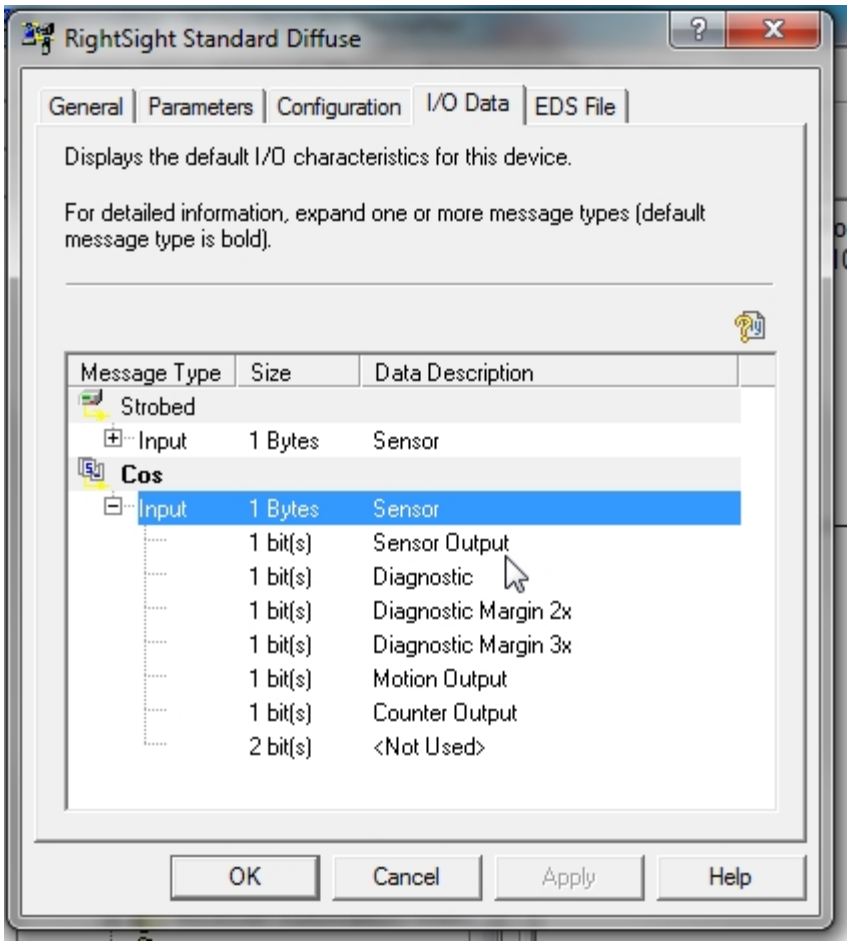


Figure 43-A
RightSight Standard Diffuse Photoeye – I/O Data Tab

Bit 0 – determine the if the Photoeye detects a target – Sensor Output

Note: Some DeviceNet components do not have this information available in the RSNetWorx software.

Configure 1756-DNB Scanlist and I/O Mapping

Ensure the RSNetWorx is still connected to the DeviceNet Demo Board.

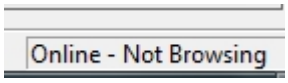


Figure 44-A
RSNetWorx Online – Not Browsing the Network

Navigate to the 1756-DNB module icon – right click on the device and choose Properties from the context menu

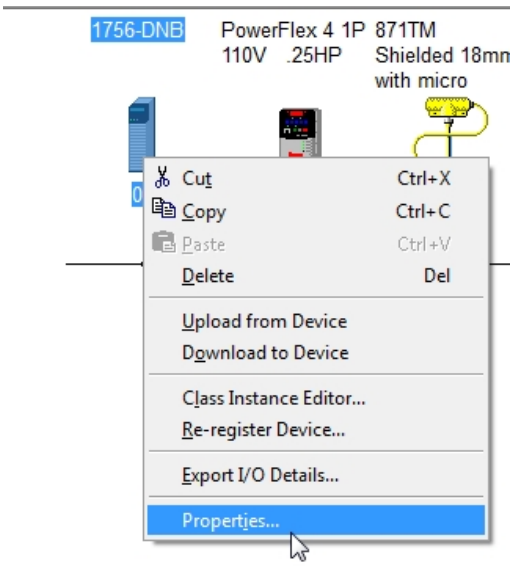


Figure 45-A – 1756-DNB Device Menu

From the General tab – Navigate to the Scanlist tab

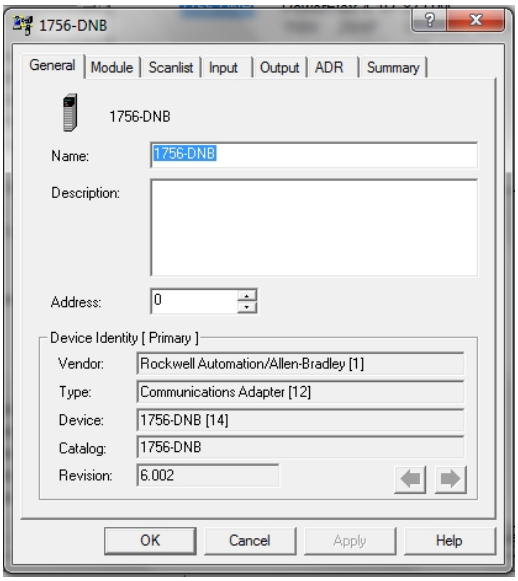


Figure 46-A – 1756-DNB General Tab

Note: If required, Upload from 1756-DNB. See Figure 29-A page 17.

Scanlist box should have no components listed.

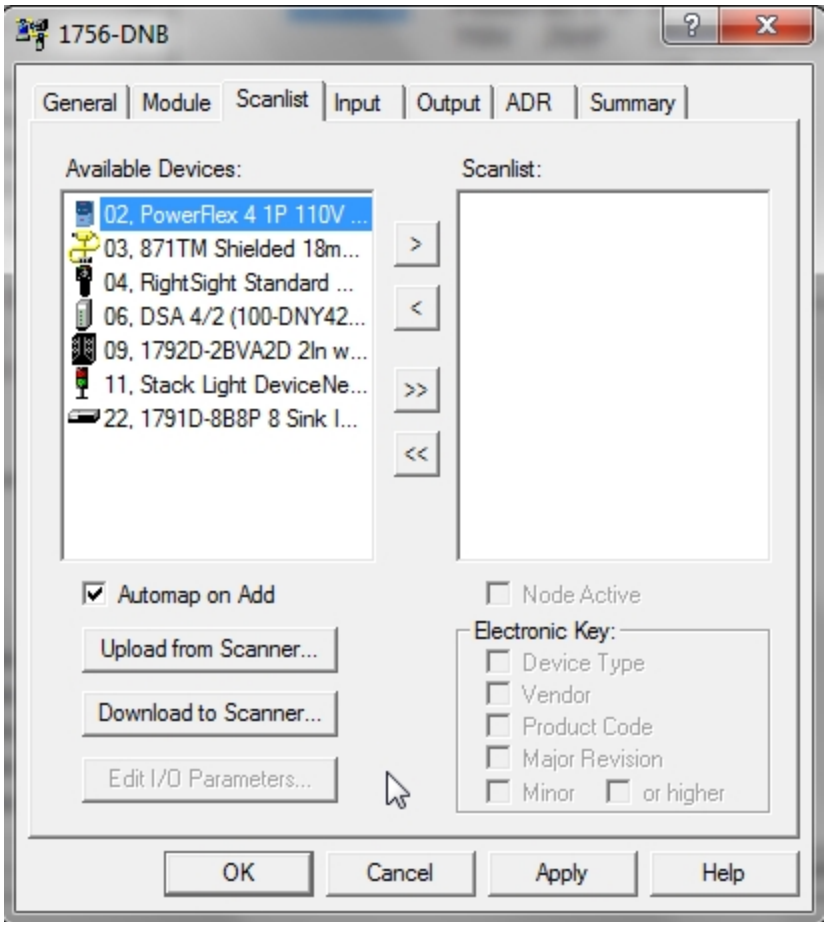


Figure 47-A
1756-DNB Scanlist Tab

871TM Proximity Switch, RightSight Standard Diffuse photoeye and Stack Light DeviceNet Base components should be list in the Available Devices: box

Note: Other Demo Board devices also listed in the Available Devices: box

Ensure the Automap on Add Checkbox, below the Available Devices: box is Checked

Add the RightSight Standard Diffuse photoeye to the Scanlist box

HighLight the RightSight Standard Diffuse photoeye in the Available Devices box.

See Figure 48-A

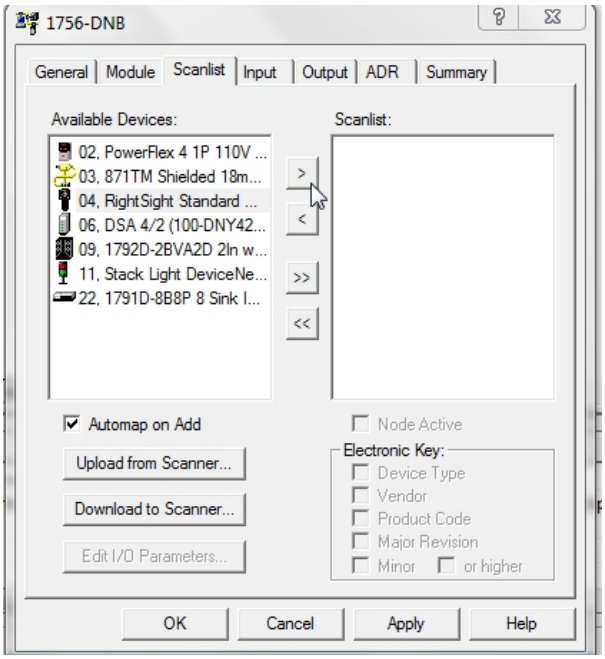


Figure 48-A
1756-DNB Scanlist Tab

Click the > button, between the Available Devices and Scanlist boxes to move the RightSight Standard Diffuse Photoeye to the Scanlist box

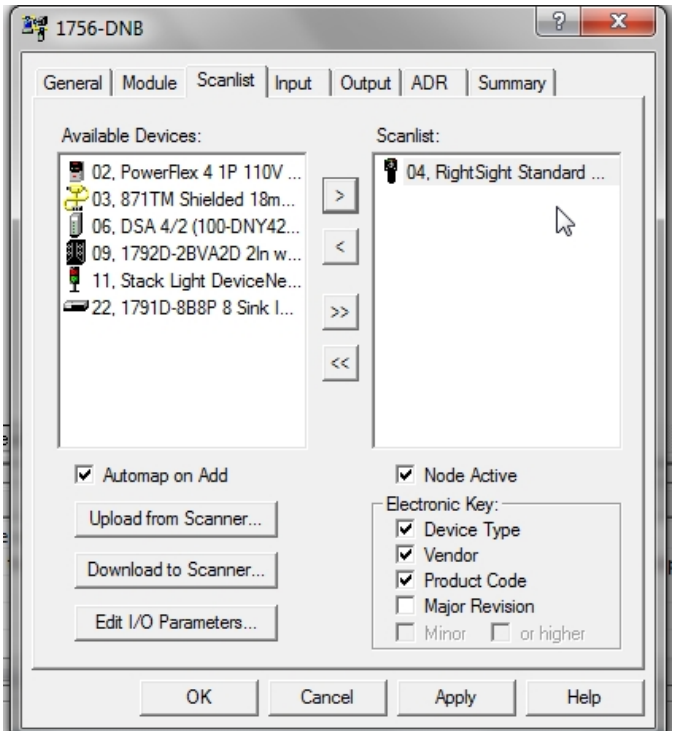


Figure 49-A
RightSight Standard Diffuse Photoeye in Scanlist Box

Click the Input tab to navigate to 1756-DNB Input Properties

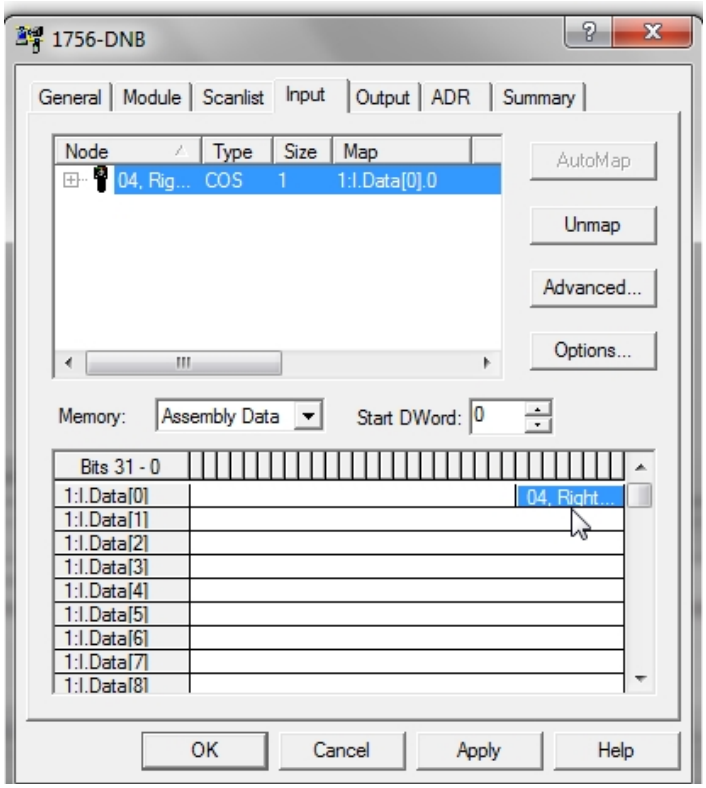


Figure 50-A
1756-DNB Input Tab

The RightSight Standard Diffuse Photoeye is mapped to Input Data Element 0 (I:Data[0]) bits 0 thru 7 – One (1) Byte Input data

Bit 0 (I:Data[0].0) – determines if the RightSight Standard Diffuse Photoeye detects a target – Sensor Output

Automapping selects first available location in Input memory of 1756-DNB Module

Use the scroll bar to the right of the data elements portion of the Input Mapping window to scroll to the bottom of the Input Data Element Array.

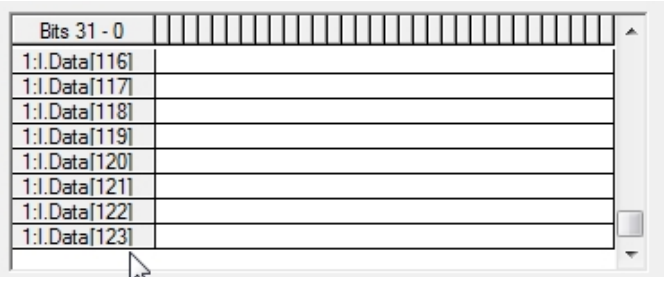


Figure 51-A
1756-DNB Input Data Elements

Note: Input Data Elements Array range from I:Data[0] thru I:Data[123] - 124 total elements for Inputs in 1756-DNB module
Each element – 32 bits

Click the Output tab to navigate to 1756-DNB Output Properties

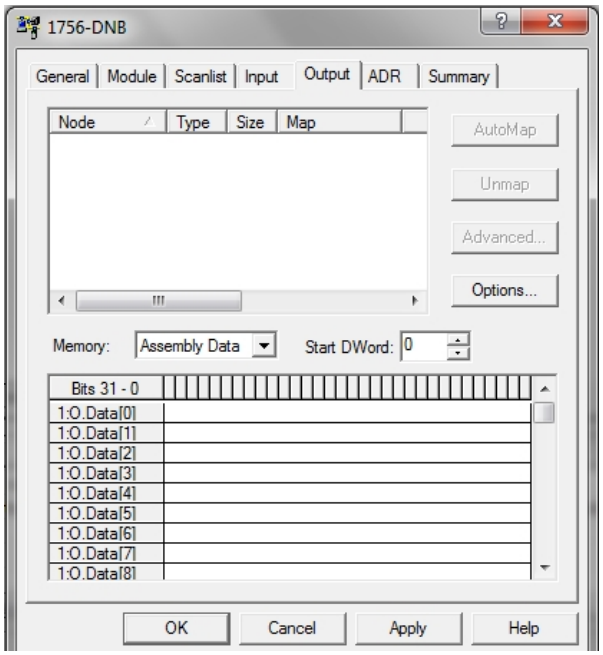


Figure 52-A
1756-DNB Output Tab

The RightSight Standard Diffuse Photoeye has no Output Data

Use the scroll bar to the right of the data elements portion of the Output Mapping window to scroll to the bottom of the Output Data Element Array.

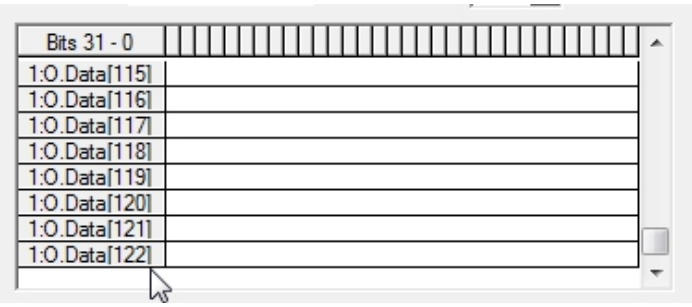


Figure 53-A
1756-DNB Output Data Elements

Note: Output Data Elements Array range from O:Data[0] thru O:Data[122] - 123 total elements for Outputs in 1756-DNB module

Click Scanlist tab on 1756-DNB Properties window

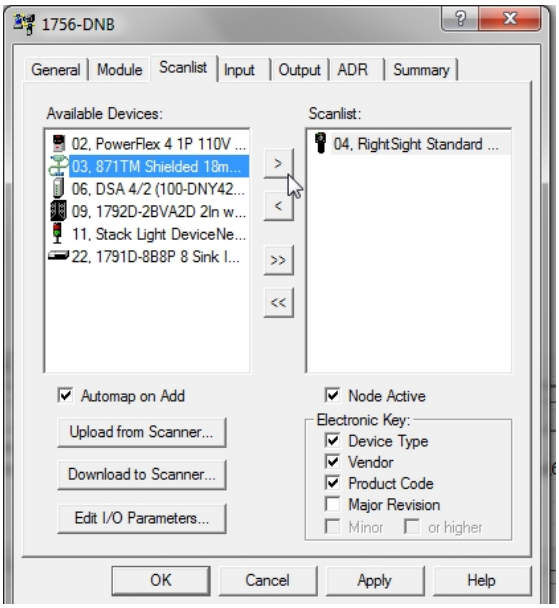


Figure 54-A
1756-Scanlist Tab

Ensure the Automap on Add Checkbox, below the Available Devices: box is checked

Add the 871TM Proximity Switch to the Scanlist box

HighLight the 871TM Proximity Switch in the Available Devices box – Click > button

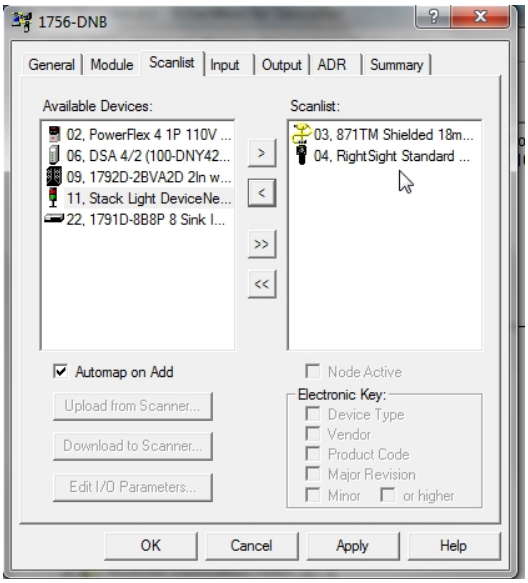


Figure 55-A
871TM Proximity Switch in Scanlist Box

Click the Input tab to navigate to 1756-DNB Input Properties

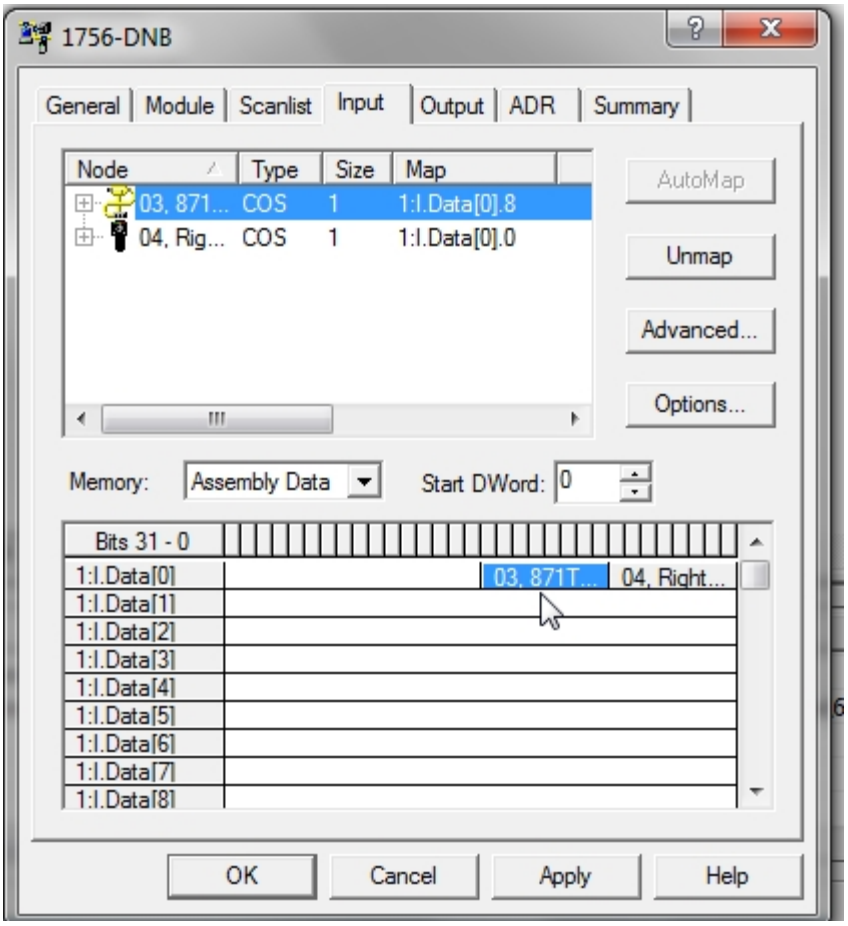


Figure 56-A
1756-DNB Input Tab

The 871TM Proximity Switch is mapped to Input Data Element 0 (I:Data[0]) bits 8 thru 15 – One (1) Byte Input data

Bits 8 – 15 (1 Byte) is the next available location in Input memory of 1756-DNB Module

Automapping selects first available location in Input memory of 1756-DNB Module

Note: bits 0-7 are used by RightSight Standard Diffuse Photoeye.

Bit 8 (I:Data[0].8) – determines if the 871TM Proximity Switch detects a target – Sensor Output

Click the Output tab to navigate to 1756-DNB Output Properties

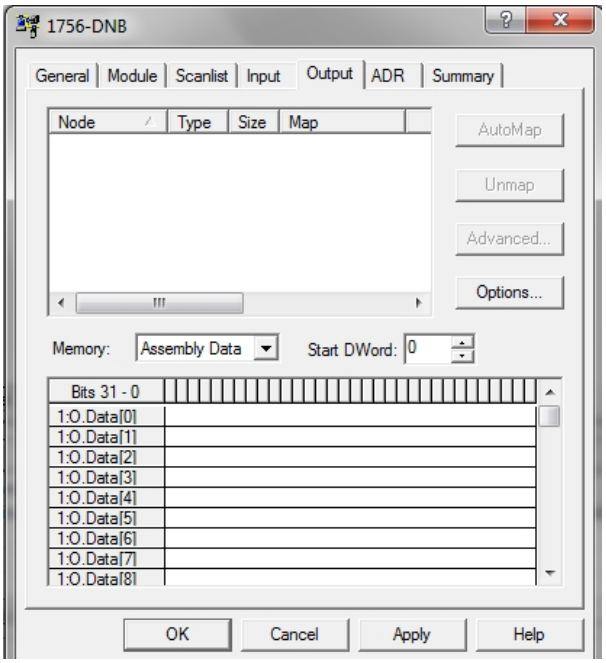


Figure 57-A
1756-DNB Output Tab

The 871TM Proximity Switch has no Output Data

Click Scanlist tab on 1756-DNB Properties window

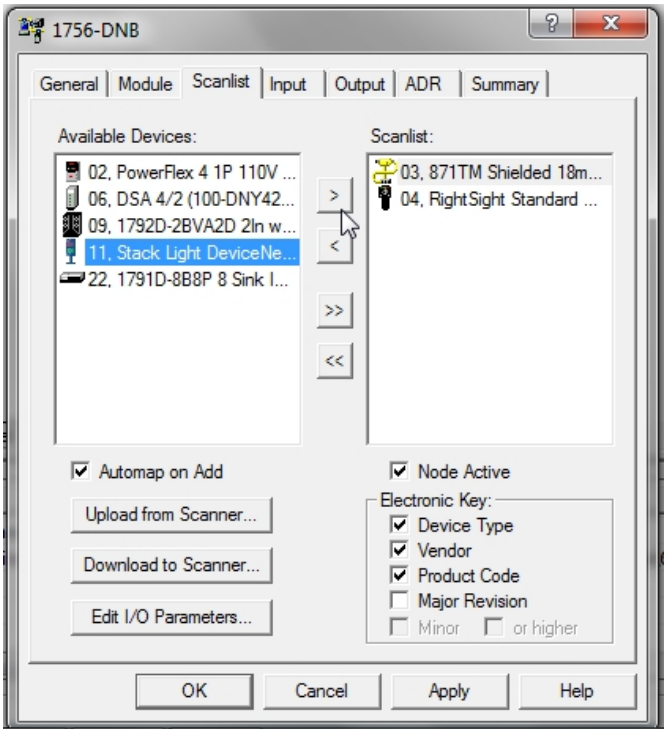


Figure 58 -A
1756-Scanlist Tab

Ensure the Automap on Add Checkbox, below the Available Devices: box is checked

Add the Stack Light DeviceNet Base to the Scanlist box

Highlight the Stack Light DeviceNet Base in the Available Devices box –
Click > button

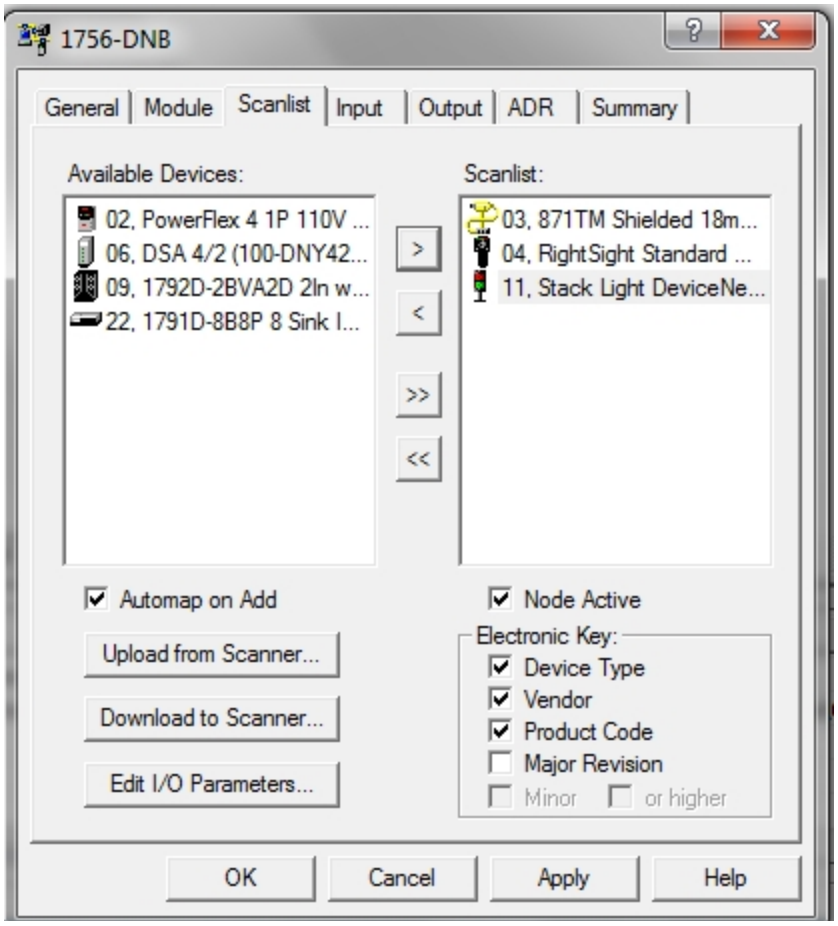


Figure 59 -A
1756-Scanlist Tab

Stack Light DeviceNet Base is added to the Scanlist box

Click the Input tab to navigate to 1756-DNB Input Properties

See Figure 60-A

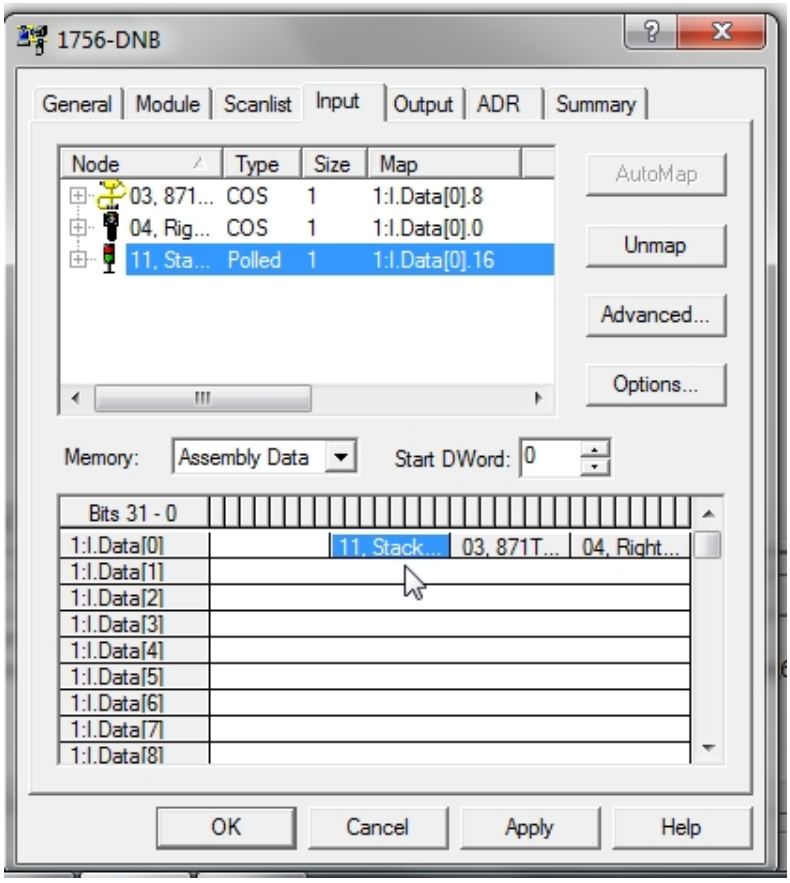


Figure 60 –A
1756-DNB Input Tab

The Stack Light DeviceNet Base is mapped to Input Data Element 0 (I:Data[0]) bits 16 thru 23 – One (1) Byte Input data

Bits 16 -23 (1 Byte) is the next available location in Input memory of 1756-DNB Module

Automapping selects first available location in Input memory of 1756-DNB Module

For this Lab Exercise none of the Input bits will be used.

Click the Output tab to navigate to 1756-DNB Output Properties

Since the Stack Light DeviceNet Base has both Inputs and Outputs associated with the device there are mappings for the Stack Light DeviceNet Base in both the Input and Output memory of the 1756-DNB module.

The Output Data for the Stack Light DeviceNet Base is mapped to Output Data Element 0 (O:Data[0]) bits 0 thru 7 – One (1) Byte Output data – first available location

See Figure 61-A

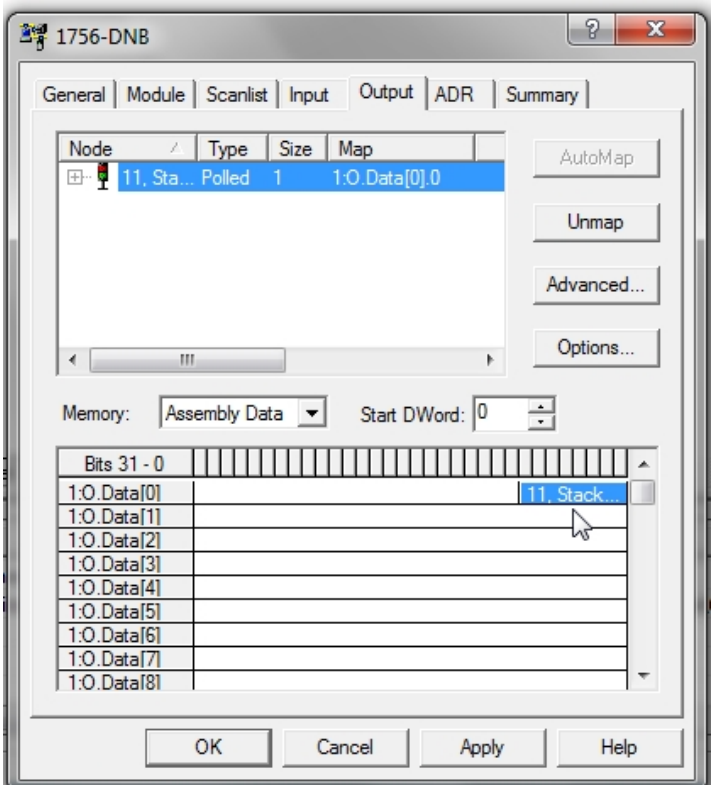


Figure 61 –A
1756-DNB Output Tab

Bits 0 (O:Data[0].0) and Bit 1 (O:Data[0].1) will represent the two modules connected to the Stack Light DeviceNet Base.

The three devices that are mapped will be the components used for this Lab exercise

The changes that were made to the Network Configuration need to be Downloaded to the 1756-DNB Scanner Module.

A DeviceNet Network Configuration is stored in the DeviceNet Scanner Module. This is similar to a Ladder Logic file being store in a PLC processor

Note: A DeviceNet Scanner module also contains the memory interface (Input / Output Mapping) between the PLC processor and the DeviceNet Network components.

Click the Scanlist tab to return to the Scanlist Properties window.

Ensure the processor in the ControlLogix Demo Board is in Program Mode.

Click the Apply Button on the Scanlist tab to download the Network Configuration to the 1756-DNB Scanner Module.

See Figure 62-A

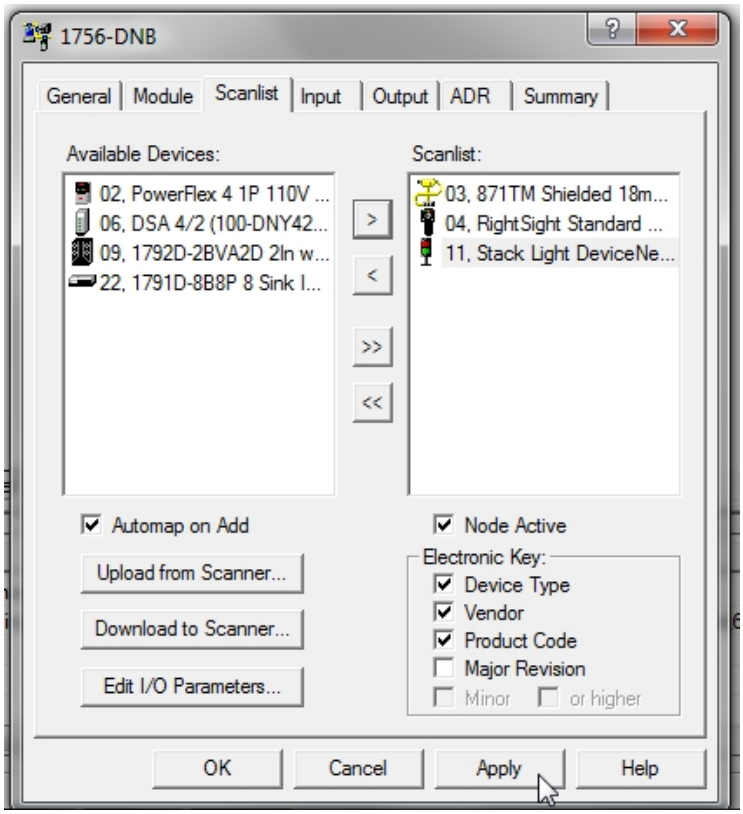


Figure 62 –A
Scanlist tab

The Downloading to Scanner window opens showing the progress of the download.

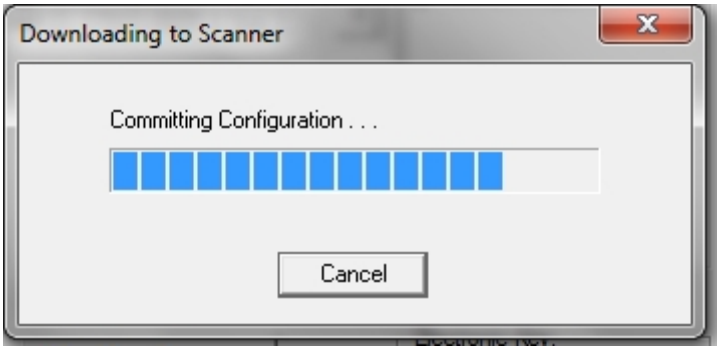


Figure 63-A

The Network Configuration is downloaded to the 1756-Scanner Module when the Downloading to Scanner window closes.

From the Menu Toolbar select File -> Save As… to save the DeviceNet network configuration to the computer.

See Figure 64-A

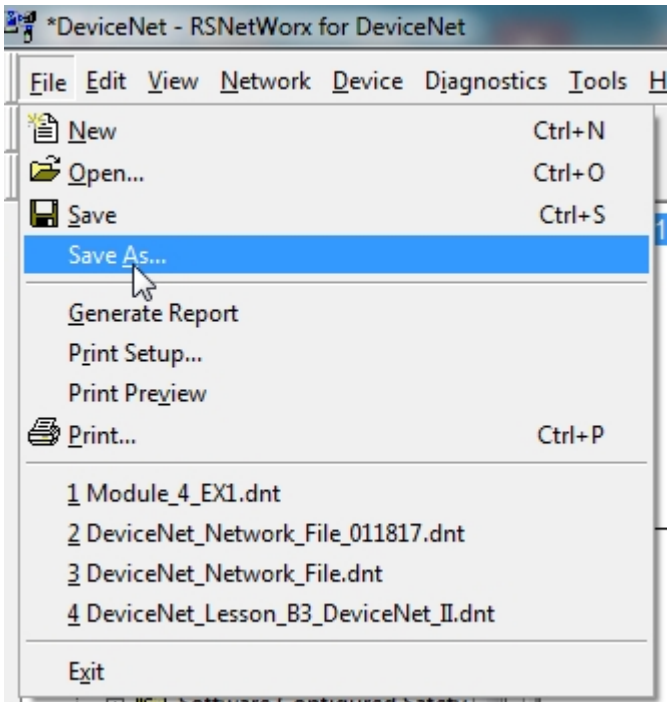


Figure 64-A. Save the RSNetWorx for Devicenet settings.

From the Save As window – name the Network Configuration File as PLC220_Module4.dnt

Note: .dnt is the extension that associates the file to the RSNetWorx for DeviceNet application software

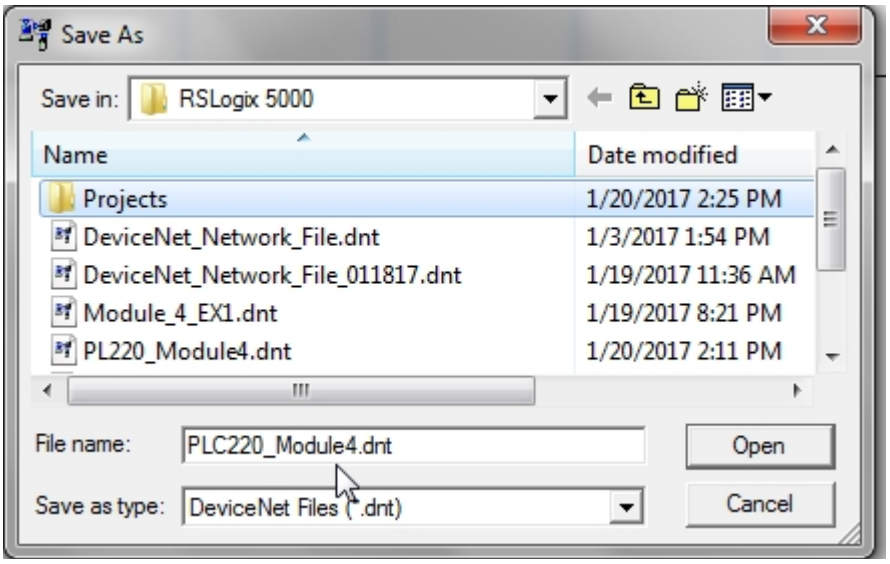


Figure 65-A
Saving Network Configuration File

Opening a Saved Network Configuration File.

From the Menu Toolbar File -> New to open a blank network configuration screen.

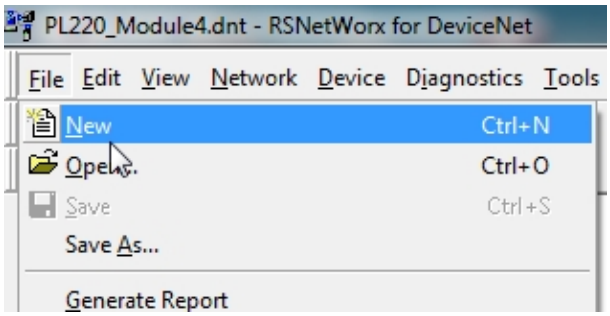


Figure 66-A

Select DeviceNet Configuration DeviceNet Files (*.dnt) from the New File window

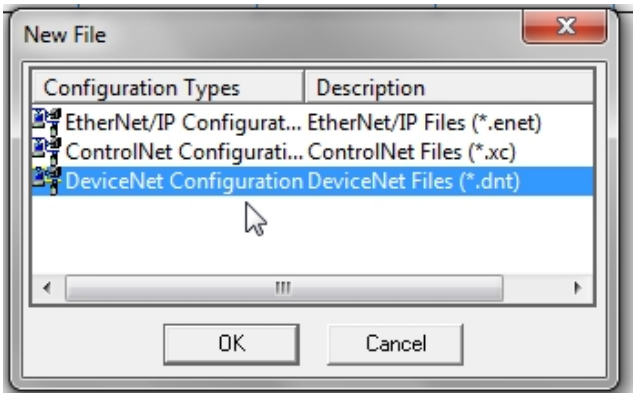


Figure 67 –A
New DeviceNet Configuration File

A blank Configuration window opens

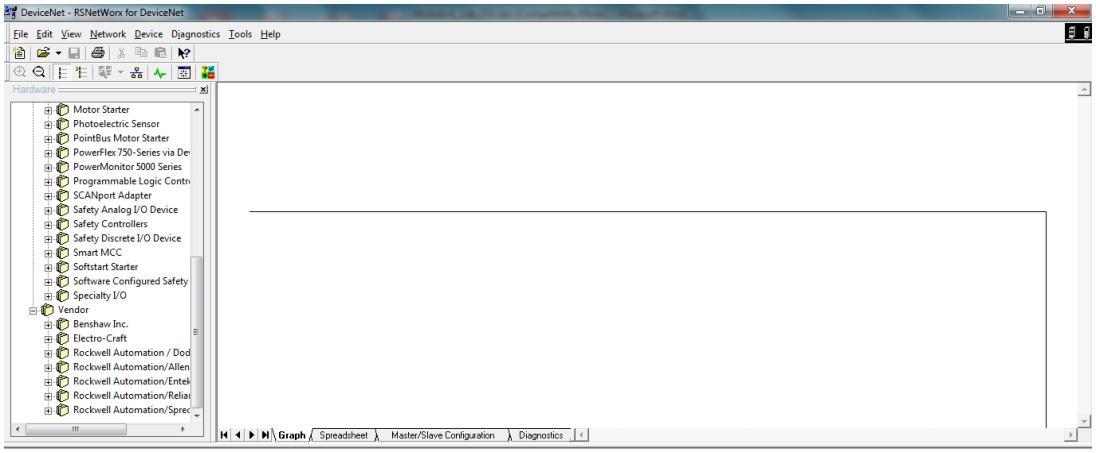


Figure 68 –A
Blank Configuration Window

From the Menu Toolbar File -> Open

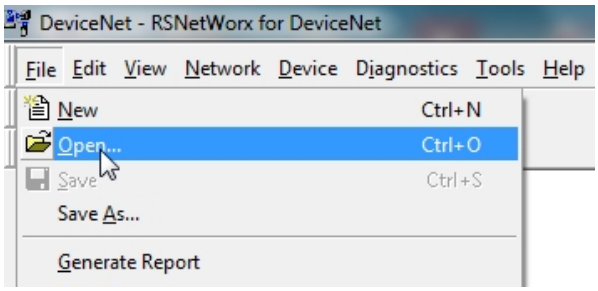


Figure 69 –A
Open a DeviceNet Configuration File

Select the PLC220_Module4.dnt file in the Open window

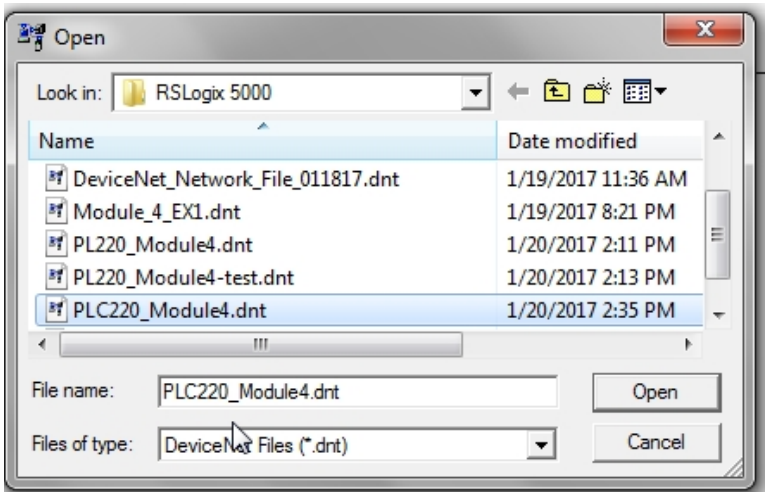


Figure 70 –A
Selecting a DeviceNet Configuration File to Open

Click the Open button.

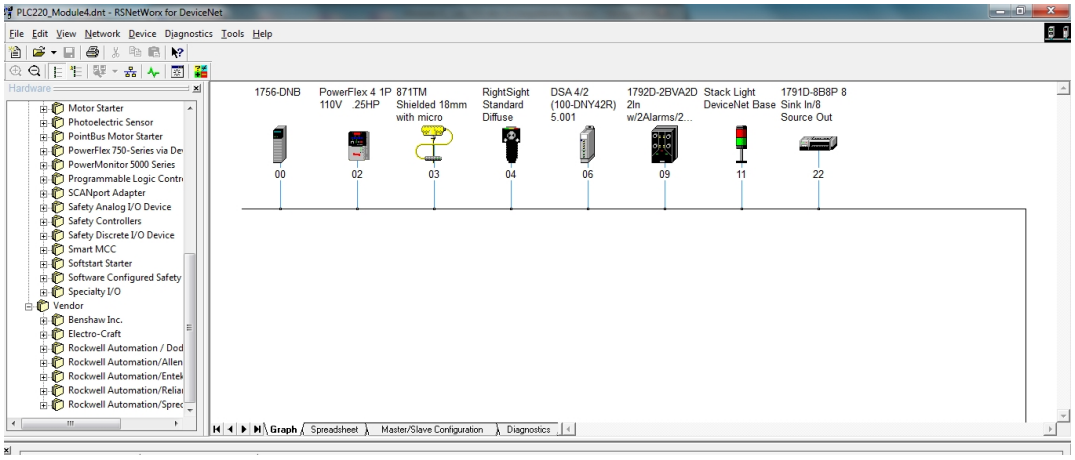


Figure 71-A
Network Configuration File

Verify Network settings

Right click the 1756-DNB Module and select Properties from the context menu

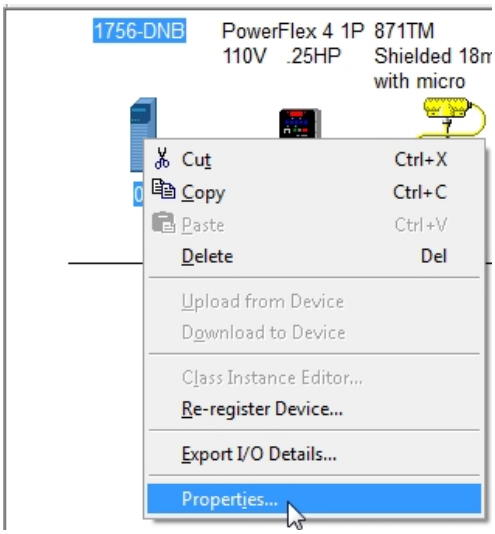


Figure 72-A
1756-DNB Properties

Navigate to Scanlist tab to verify the three (3) Scanlist devices – 871TM Prox Switch, RightSight Photoeye and Stack Light DeviceNet Base are in the Scanlist.

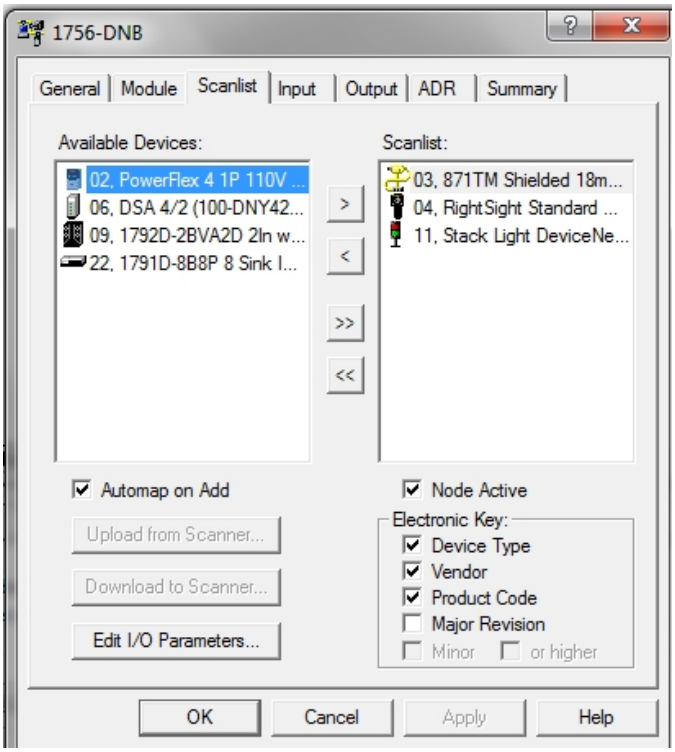


Figure 73-A
1756-DNB Scanlist

Import the file PLC220_Module_4_Dnet.L5K to Studio 5000 software to convert to an .ACD file.

Ensure DeviceNet Demo Board and ControlLogix Demo Board are powered.

Download the PLC220_Module_4_Dnet.ACD to the processor in the ControlLogix Demo Board

Ensure all selector switches on the ControlLogix Demo Board are OFF (left position)

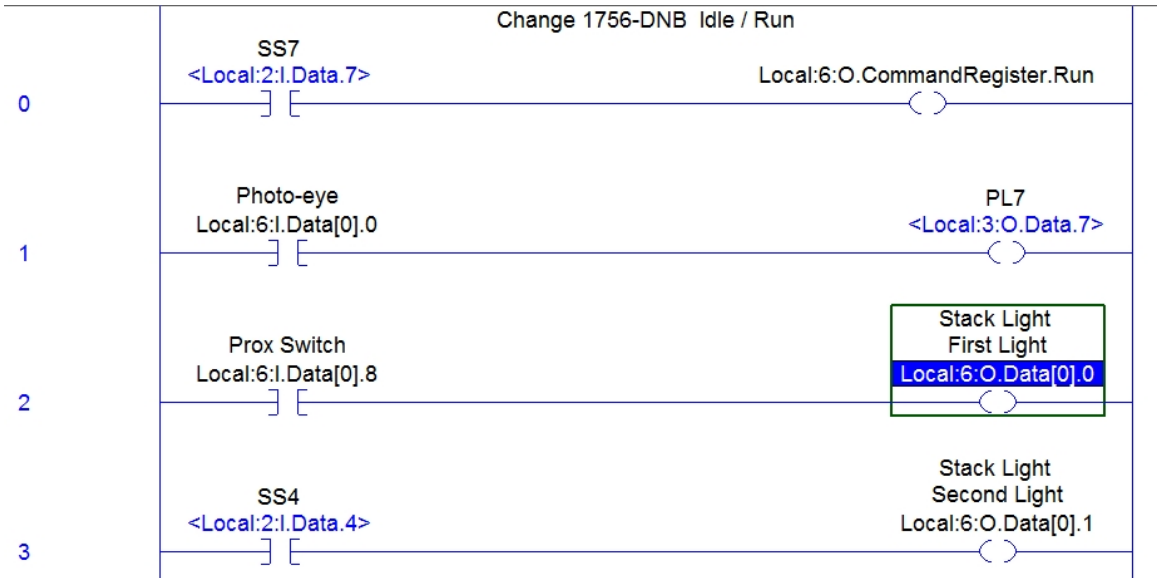


Figure 74-A
Ladder File

Place the processor in RUN Mode
Verify cable connection (drop cable) from DeviceNet Demo Board to front port on 1756-DNB in the Contrologix Chassis

Verify Ladder Logic File Operation

1. What information is shown on the 1756-DNB module's display?

_____

_____

2. Toggle SS7 Selector Switch ON (right position)

What information is shown on the 1756-DNB module's display?

_____

_____

Note: IDLE and RUN are modes of the 1756-DNB Module
IDLE is similar to a PLC in PROGRAM Mode
RUN is similar to a PLC in RUN Mode

A# XX – DeviceNet Node (MAC)Address of the 1756-DNB Module
Example: A#00 – Node (MAC) Address of 1756-DNB is 00.

3. What is the slot location of the 1756-DNB Module?_____

4. Based on Rung 0 –which tag from the 1756-DNB places the module into or out of RUN Mode:_____

5. Toggle SS4 Switch ON (right position)

Rung location of SS4 Switch Instruction?_____

Which Output turns ON?_____

Explain:_____

Note: Review mapping information of Stack Light DeviceNet Base.in
Network Configuration File (RSNetWorx)

6. Turn the SS7 Switch OFF (left position)
What happen to the Output on Rung 3?_____

Explain:_____

_____

7. Place the 1756-DNB Module back in RUN Mode – SS7 Switch ON (right position)

8. Trigger the RightSight Standard Diffuse Photoeye

Which output turns ON?_____

What tag monitors state of the RightSight Standard Diffuse Photoeye?

_____

Explain:_____

_____

Note: Review mapping information of RightSight Standard Diffuse Photoeye in Network Configuration File (RSNetWorx).

9. Trigger the 871TM Proximity Switch

Which output turns ON?_____

Explain: _____

What tag monitors state of the 871TM Proximity Switch?_____

Explain:_____

_____

Note: Review mapping information of 871TM Proximity Switch and Stack Light DeviceNet Base in Network Configuration File (RSNetWorx).

Safety Alert

10. Place the 1756-DNB Module in IDLE Mode – SS7 Switch OFF (left position)

Trigger the RightSight Standard Diffuse Photoeye

Does any outputs turn ON?_____

Explain:_____

_____

Note: The Mode of the 1756-DNB module controls the state of DeviceNet Network outputs.

Inputs are being monitored with the 1756-DNB in IDLE Mode.

This similar to a ControlLogix processor - still monitors Inputs while in PROGRAM Mode.

11. Place the 1756-DNB Module in RUN Mode – SS7 Switch ON (right position)

    Change the ControlLogix processor to PROGRAM Mode

    What is the mode of the 1756-DNB Module?_____

Review Questions

1. T F RSNetWorx can save DeviceNet Configuration Files

2. The default data size for DeviceNet:

    a) Word

    b) DINT

    c) Byte

    d) INT

3. Valid DeviceNet speeds are:

    a) 500K

    b) 125K.

    c) 250K

    d) 230K.

4. T F RSNetWorx does not require RSLinx to go Online to a DeviceNet network.

5. Stack Light DeviceNet Base can have as many as ___ modules installed

    a) 10

    b) 16

c) 5

d) 8

6. T F A 1756-DNB Module monitors network inputs while in IDLE Mode.

7. T F A DeviceNet component can have both Input and Output I/O Data.

8. T F RSLinx allows you to view DeviceNet components' revision information.

9. T F RSNetWorx has an Offline mode.

10. The file extension used by RSNetWorx for DeviceNet is: :

a) .ACD

b) .L5K

c) .dnt

d) .xc

Review Question Answers

1) T

2) c

3) a, b, c

4) F

5) c

6) T

7) T

8) T

9) T

10) c

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