

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

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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



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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.



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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.







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



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:



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AB_ETHIP-XXX\192.168.101.59\Backplane\6\	
Device Name: PowerFlex 4 1P 110V .25HP	
Vendor: Allen-Bradley Company	
Product Type: 126	
Product Code: 295	
Revision: 5.001	
Serial Number: 20088812	
EDS File Name: 0001007E012705X.EDS	
Faults:	
Close Help	
	_

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.



Red X – DeviceNet Component –Left 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





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.



📲 DeviceNet_Network_File_011817.dnt - RSNetWo	orx for DeviceNet	March 14	National Computer	of the West of the Party	Statement of the local division of the local	
Eile Edit View Network Device Djagnostics	<u>I</u> ools <u>H</u> elp					
웥 🛎 🕶 🖶 🚭 🐰 🖻 🛍 😽						
⊕ Q E E ₩ - 品 🖊 🖾 🎬						
Hardware 🔜 🖬	1756-DNB/A 160-Pr	set PowerFlex 40	RightSight	871TM Stack Light		
Motor Starter	Speed	4.xx 1P 110V	Standard	Shielded 18mm DeviceNet Base		
🕀 👘 Photoelectric Sensor	DN1 v1	2 ODVA .50HP	Diffuse	with mini		
🗉 👘 PointBus Motor Starter			. ® .	- <u>-</u>		
PowerFlex 750-Series via De						
Programmable Logic Contra	00	02 07	10	20 25		
SCANport Adapter						
🕀 👘 Safety Analog I/O Device						
Safety Discrete I/O Device						
Softstart Starter						
Software Configured Safety						
🗈 🌔 Specialty I/O						
🖻 🌔 Vendor						
Benshaw Inc.						
Bochwell Automation / Dod						
Rockwell Automation/Allen						
Rockwell Automation/Entel						
Rockwell Automation/Relia						
۲ III ۲	H 🔸 🕨 🕅 Graph 🖉 Spreadshe	et 🚶 Master/Slave Configurat	ion 👌 Diagnostic:	8 . 4		1

Figure 11-A RSNetWorx Window With Configuration

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

1	*DeviceNet - RSNetWorx for DeviceNet							
	<u>F</u> ile	<u>E</u> dit	<u>V</u> iew	<u>N</u> etwork	<u>D</u> evice	D <u>i</u> agnostics	<u>T</u> ools	<u>H</u> elp
Ī	睝	New				Ct	rl+N	1
Ī	E	<u>σ</u> βen.				Ct	rl+O	
		Save				C	trl+S	1756-
Save <u>A</u> s								
<u>G</u> enerate Report								
	I	P <u>r</u> int S	etup					
Figure 12 A								

Figure 12-A Start New Network Configuration

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



New File			
Configuration Types	Description		
EtherNet/IP Configurat	EtherNet/IP Files (*.enet)		
ControlNet Configurati	ControlNet Files (*.xc)		
DeviceNet Configuration	DeviceNet Files (*.dnt)		
DeviceNet Configuration			
۰ III	4		
OK Cancel			

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 <u>www.ab.com/networks/EDS</u>.

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



Online From Menu Toolbar

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



ſ	Browse for network	J		
	Select a communications path to the desired network.			
	Autobrowse Refresh			
	□			
	표··· 器 Linx Gateways, Ethernet			
	□ 🚠 AB_DF1-1, Data Highway Plus			
	El···雷··雷······························			
	市 器 AB ETHIP-2, Ethernet			
	표··· 器 AB_ETHIP-3, Ethernet			
	표뀸 AB_ETHIP-31, Ethernet			
	효··· 윮 AB_ETHIP-6, Ethernet			
	⊕器 AB_ETHIP77, Ethernet			
	⊕ 岳 AB_ETHIP-XXX, Ethernet			
	Harris AD_ETH-AAA, Ethernet			
	Cancel Help			

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



Browse for network
Select a communications path to the desired network.
Autobrowse Refresh
University Workstation, NSCC-THINK
□
표··器 AB_DF1-1, Data Highway Plus
효··器 AB_ETH-1, Ethernet
표···器 AB_ETHIP-1, Ethernet
효··盎 AB_ETHIP-2, Ethernet
由···器 AB_ETHIP-3, Ethernet
⊡
⊡
□ 192 168 101 52 1756-EN2TR 1756-EN2TR/C 21702
Hand AB ETH-XXX. Ethernet
AB_VBP-1, 1789-A17/A Virtual Chassis
4
OK Cancel Help

Figure 20-A Browse for network Window

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

See Figure 21-A



Browse for network	x
Select a communications path to the desired network.	
Autobrowse Refresh	-
	<u>~</u>
🚊 🚠 AB_ETHIP-XXX, Ethernet	
⊕ 💥 192.168.101.52, 1756-EN2TR, 1756-EN2TR/C 21	
192.168.101.59, 1756-EN2TR, 1756-EN2TR/C 21	
Backplane, 1756-A10/B	_
🗈 🖞 00, 1756-L71 LOGIX5571, HOA_Module.	
01, 1756-EN2TR, 1756-EN2TR/C 217021	
02, 1756-IB16/A, 1756-IB16/A DCIN	
03, 1756-OB16E/A, 1756-OB16E/A DCC	_
04, 1/56-IF8/A, 1/56-IF8/A	-
05, 1750-0F4/A, 1750-0F4/A	
AP VPD 1 1790 A17/A Vietual Chaseis	
AD_VDP-1, 1769-A17/A Virtual Chassis	-
۰ III ا	
OK Cancel Help	

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

Browsing network	23
Found: Device at address 11	
Cancel	

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



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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



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Figure 27-A Device Menu

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



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💐 1756-DNB	? ×
General Modul	e Scanlist Input Output ADR Summary
17	56-DNB
Name:	1756-DNB
Description:	
Address:	0 -
Device Ident	ity [Primary]
Vendor:	Rockwell Automation/Allen-Bradley [1]
Туре:	Communications Adapter [12]
Device:	1756-DNB [14]
Catalog:	1756-DNB
Revision:	6.002
	OK Cancel Apply Help

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.



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2 X	
General Module Scanlist Input Output ADR Summary	
1756-DNB	
Name: 1756-DNB	1
Scanner Configuration Applet	3
Oo you want to upload the configuration from the device, updating the software's configuration; or download the software's configuration to the device, updating the device? For more information, press F1 Upload Download Cancel	,
Device: 1756-DNB [14]	T
Catalog: 1756-DNB	
Revision: 6.002	
OK Cancel Apply Help	

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



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🕞 1756-DNB	?
General Module Scanlist Input	Output ADR Summary
Available Devices:	Scanlist:
 03, 871TM Shielded 18m 04, Right Sight Standard 06, DSA 4/2 (100-DNY42 11, Stack Light DeviceNe 22, 1791D-8B8P 8 Sink I 	 02, PowerFlex 4 1P 110V 09, 1792D-2BVA2D 2ln w >>
Automap on Add	Node Active
Upload from Scanner	Electronic Key:
Download to Scanner	Vendor Product Code
Edit I/O Parameters	Major Revision
ок с	ancel Apply Help

Figure 30-A Scanlist – 1756-DNB Scanner Module



🥞 1756-DNB	? <mark>×</mark>
General Module Scanlist Input Available Devices: 02, PowerFlex 4 1P 110V > 03, 871TM Shielded 18m > 04, RightSight Standard > 06, DSA 4/2 (100-DNY42 > 09, 1792D-2BVA2D 2ln w > 11, Stack Light DeviceNe > 22, 1791D-8B8P 8 Sink I <	Output ADR Summary Scanlist:
Automap on Add Upload from Scanner Download to Scanner Edit I/O Parameters	Node Active Eectronic Key: Device Type Vendor Product Code Major Revision Minor or higher
OK Canc	el Apply Help

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



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🥞 1756-DNB		8 23
General Module Scanlist Input Out	tput ADR Sum	mary
Available Devices:	Scanlist:	
■ 02, PowerFlex 4 1P 110V → 03, 871TM Shielded 18m ● 04, Right Sight Standard		
Scanner Configuration Applet		×
Do you want to download th Yes	nese changes to th	ne device? Cancel
Upload from Scanner	🗖 Device Typ	
Download to Scanner Edit I/O Parameters	Vendor Product Co Major Revis	de iion or higher
OK Cancel	Apply	Help

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

Downloadir	ng to Scanner	x
Cor	mmitting Configuration	
	Cancel	
	Eiguro 22 A	

Figure 33-A Downloading to Scanner

This similar to downloading a Project File to a PLC



[
Node	△ Type Size M	ap	AutoMap
			Unmap
			Advanced
•		۴	Options
Memory: As	ssembly Data 🔻	Start DWord: 0	-
moniory. pre			
Bits 31 - 0		,	
Bits 31 - 0			
Bits 31 - 0 1:1.Data[0] 1:1.Data[1]			
Bits 31 - 0 1:1.Data[0] 1:1.Data[1] 1:1.Data[2]			
Bits 31 - 0 1:1.Data[0] 1:1.Data[1] 1:1.Data[2] 1:1.Data[3] 1:1.Data[3]		,	
Bits 31 - 0 1:1.Data[0] 1:1.Data[1] 1:1.Data[2] 1:1.Data[3] 1:1.Data[5]		, 111111111111	
Bits 31 - 0 1:I.Data[0] 1:I.Data[1] 1:I.Data[2] 1:I.Data[3] 1:I.Data[4] 1:I.Data[5] 1:I.Data[6]		,	
Bits 31 - 0 1:1.Data[0] 1:1.Data[1] 1:1.Data[2] 1:1.Data[3] 1:1.Data[4] 1:1.Data[5] 1:1.Data[6] 1:1.Data[7]		,	

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

a∰ 1756-DNB	? ×
General Module Scanlist Input Output ADR Su	ummary
Node / Type Size Map	AutoMap
	Unmap
	Advanced
۲	Options
Memory: Assembly Data 💌 Start DWord: 0	3
Bits 31 - 0	
1:0.Data[1]	
1:0.Data[2]	
1:0.Data[3]	
1:0.Data[5]	
1:0.Data[6]	
1:0.Data[7]	
1:0.Data181	
OK Cancel Apply	Help

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



💐 871TM Shield	led 18mm with micro	? ×
General Param	eters Configuration I/O Data EDS File	
87	1TM Shielded 18mm with micro	
Name:	871TM Shielded 18mm with micro	
Description:		
Address:	3 *	₽.
Device Ident	ity [Primary]	
Vendor:	Rockwell Automation/Allen-Bradley [1]	
Type:	Inductive Proximity Switch [5]	
Device:	871TM Shielded 18mm with micro [5]	
Catalog:	871TM-D5ED18-D5	
Revision:	1.003	
	OK Cancel Apply	Help

Figure 37-A – 871TM General Tab

Click the I/O Data tab



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💐 871TM Shielded 1	L8mm with	micro	? ×
General Parameters	Configura	ation I/O Data EDS File	
Displays the default	1/0 charact	teristics for this device.	
For detailed informat message type is bol	tion, expand d).	l one or more message types (defa	ault
Message Type	Size	Data Description	
式 Strobed			
⊡⊡nput :	2 Bytes	Analog Assembly	
🖳 Cos			
⊡nput	1 Bytes	Sensor Assembly	
0	K	Cancel Apply	Help

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.

🕞 871TM Shielde	d 18mm with	n micro	? ×
General Paramet	ters Configur	ation I/O Data EDS File	
Displays the defa	ault I/O charac	teristics for this device.	
For detailed infor message type is	mation, expan bold).	d one or more message types (defa	ult
			1
Message Type	Size	Data Description	
式 Strobed			
±⊡Input	2 Bytes	Analog Assembly	
	1 Dutos	Consor Assembly	
	1 bit(s)	Sensor Assembly	
	1 bit(s)	Diagnostic	
	1 bit(s)	Major Sensor Fault	
	1 bit(s)	Too Close	
	1 bit(s)	Too Far	
	1 bit(s)	Counter Output	
	1 bit(s)	Motion Output	
i	1 bit(s)	Reserved	
	ОК	Cancel Apply	Help

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

) Stack Lig DeviceNe	ght 1791D-8B8P 8 et Base Sink In/8 Source Out	
	.	
1	Х Cu <u>t</u>	Ctrl+X
	B Copy	Ctrl + C
	🔁 <u>P</u> aste	Ctrl+V
	Delete	Del
	<u>S</u> ingle Pass Browse Continuous Browse	
ſ	 몲 <u>O</u> nline	F10
	Upload from Network	
	Do <u>w</u> nload to Network	
	Safety Device Verification Wizard	
	<u>L</u> ogic Enable On	
	Logic Enable Off	
	P <u>r</u> operties	

Figure 40-A – Stack Light DeviceNet Base

View General tab information
Name:
Address:
Catalog:
Revision



💐 Stack Light De	eviceNet Base
General Parame	eters I/O Data EDS File
Star	ck Light DeviceNet Base
Name:	Stack Light DeviceNet Base
Description:	
Address:	11 .
Device Identit	y [Primary]
Vendor:	Rockwell Automation/Allen-Bradley [1]
Type:	General Purpose Discrete I/O [7]
Device:	Stack Light DeviceNet Base [756]
Catalog:	855T-DXXX
Revision:	2.005
	OK Cancel Apply Help

Figure 41-A Stack Light DeviceNet Base – General Tab

Click the I/O Data tab



Stack Light DeviceNet Base
General Parameters I/O Data EDS File
Displays the default I/O characteristics for this device.
For detailed information, expand one or more message types (default message type is bold).
2
Message Type Size Data Description
⊕… Input 1 Bytes Tower Light Production Data ⊕… Output 1 Bytes Tower Light Consumption Data
8
OK Cancel Apply Help

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.

💐 Stack Light DeviceNet	t Base	? ×	
General Parameters 1/	O Data EDS File		
Displays the default I/O	characteristics for this device.		
For detailed information, expand one or more message types (default message type is bold).			
		<u>1</u>	
Message Type Size	Data Description		
🖏 Polled			
Difference 1 Byl	tes Tower Light Production Data		
⊡‴0°utput 1 Byl	tes Tower Light Consumption Data	ı –	
1 bit(s) Position 1 Command		
1 bit(s) Position 2 Command		
1 bit(s) Position 3 Command		
1 bit(s) Position 4 Command		
1 bit(s) Position 5 Command		
i 3 bit(s) <notused></notused>		
ОК	Cancel Apply	Help	

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

💐 Stack Light DeviceN	let Base		? ×
General Parameters	I/O Data ED	S File	
Displays the default I/	0 characteristic	s for this device.	
For detailed information, expand one or more message types (default message type is bold).			
			<u>®</u>
Message Type Si	ze Data	Description	
S Polled			
P‴ <mark>Input 1</mark>	Bytes Tow	er Light Production Data	a 🔰
	bit(s) Posit	ion 1 Status	
	Dit(s) Posit	ion 2 Status	
	Dit(S) POSit bit(s) Posit	ion 3 Status ion 4 Status	
- 1	bit(s) Posit bit(s) Posit	ion 5 Status	
3	bit(s) ≀0sid bit(s) ∠Not	llseds	
	Bytes Town	er Light Consumption D/	ata
ОК	Canc	Apply	Help

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	



RightSight St	andard Diffuse		
General Parameters Configuration 1/0 Data EDS File			
Big	RightSight Standard Diffuse		
Name: RightSight Standard Diffuse			
Description:			
Address:	4 •		
Device Ideni	ity [Primary]		
Vendor:	Rockwell Automation/Allen-Bradley [1]		
Type:	Photoelectric Sensor [6]		
Device:	RightSight Standard Diffuse [44]		
Catalog:	42EF-D1LDAK-F5		
Revision:	1.006		
	OK Cancel Apply Help		

Figure 41-A RightSight Standard Diffuse Photoeye – General Tab

Click the I/O Data tab



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📽 RightSight Standard Diffuse	? ×		
General Parameters Configuration I/O Data EDS File			
Displays the default I/O characteristics for this device.			
For detailed information, expand one or more message types (default message type is bold).			
	-		
Message Type Size Data Description			
💐 Strobed			
⊞… Input 1 Bytes Sensor			
🖳 Cos			
⊞⊡Input 1 Bytes Sensor			
OK Cancel Apply	Help		

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.

RightSight Stan	dard Diffuse	?	
General Parameters Configuration I/O Data EDS File			
Displays the default I/O characteristics for this device.			
For detailed information, expand one or more message types (default message type is bold).			
		1	
Message Type	Size	Data Description	
式 Strobed			
tt⊡Input	1 Bytes	Sensor	
⊡" Input	1 Bytes	Sensor	
	1 bit(s)	Sensor Uutput	
	I Dit(s)		
	I Dit(S)	Diagnostic Margin 2x	
	I Dit(S) 1 EX(a)	Diagnostic Margin 3x	
	1 Did(S) 1 Did(S)	Motion Output	
	7 Dit(s) 2 bit(a)	(Not Llood)	
	z Did2)	(140(-0360)	
	ок	Cancel Apply Help	
1 2	Г	Ciguno 42 A	

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.



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



💐 1756-DNB	?
General Module	Scanlist Input Output ADR Summary
175	6-DNB
Name:	1756-DNB
Description:	
Address:	0 +
Device Identit	y [Primary]
Vendor:	Rockwell Automation/Allen-Bradley [1]
Type:	Communications Adapter [12]
Device:	1756-DNB [14]
Catalog:	1756-DNB
Revision:	6.002
	OK Cancel Apply Help

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.



📲 1756-DNB	? 🔀
General Module Scanlist Input	Output ADR Summary
Available Devices:	Scanlist:
Automap on Add Upload from Scanner Download to Scanner Edit I/O Parameters	 Node Active Electronic Key: Device Type Vendor Product Code Major Revision Minor ☐ or higher
OK Cano	el Apply Help

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



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eneral Module Scaniist Inpu	t Output ADR Summary
Available Devices:	Scanlist:
 02, PowerFlex 4 1P 110V 03, 871TM Shielded 18m 04, RightSight Standard 06, DSA 4/2 (100-DNY42 09, 1792D-2BVA2D 2In w 11, Stack Light DeviceNe 22, 1791D-8B8P 8 Sink I 	× × ×
Automap on Add	🗖 Node Active
	Electronic Very
Upload from Scanner	
Upload from Scanner Download to Scanner	Electronic Key: Device Type Vendor Product Code
Upload from Scanner Download to Scanner Edit I/O Parameters	Device Type Vendor Product Code Major Revision Minor Or higher

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

📲 1756-DNB	? ×
General Module Scanlist Input	Output ADR Summary
Available Devices:	Scanlist:
 02, PowerRex 4 1P 110V 03, 871TM Shielded 18m 06, DSA 4/2 (100-DNY42 09, 1792D-28VA2D 2ln w 11, Stack Light DeviceNe 22, 1791D-888P 8 Sink I 	Image: Wight Sight Standard Image: Wight Sight Standard Image: Wight Sight Sight Standard Image: Wight Sight Sight Standard Image: Wight Sight Sight Sight Standard Image: Wight Sight
Automap on Add	Node Active
Download to Scanner	Device Type Vendor Product Code
Edit I/O Parameters	Major Revision
ок с	ancel Apply Help



Figure 49-A
RightSight Standard Diffuse Photoeye in Scanlist Box

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

ම් 1756-DNB	? ×		
General Module Scanlist Input Output ADR Summary			
Node ∠ Type Size Map :::	AutoMap		
	Unmap		
	Advanced		
۰ III ا	Options		
Memory: Assembly Data 💌 Start DWord: 0	•		
Bits 31 - 0 04, Right 1:I.Data[0] 04, Right 1:I.Data[1] 3			
1:1.Data[3] 1:1.Data[4] 1:1.Data[5]			
1:1.Data[6] 1:1.Data[7] 1:1.Data[8]			
OK Cancel Apply	Help		
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.



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Bits 31 - 0	*
1:I.Data[116]	
1:I.Data[117]	
1:I.Data[118]	
1:I.Data[119]	
1:I.Data[120]	
1:I.Data[121]	
1:I.Data[122]	
1:I.Data[123]	
	Ŧ

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

🥞 1756-DNB	? ×	
General Module Scanlist Input Output ADR Si	ummary	
Node 🛆 Type Size Map	AutoMap	
	Unmap	
	Advanced	
	Options	
Memory: Assembly Data Start DWord: 0 Bits 31 - 0 I O D D (10)	: 	
1:0.Data 0 1:0.Data 1 1:0.Data 2 1:0.Data 3		
1:O.Data[4] 1:O.Data[5] 1:O.Data[6]		
1:0.Data[7] 1:0.Data[8]		
OK Cancel Apply	Help	
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.



Bits 31 - 0		*
1:0.Data[115]		
1:0.Data[116]		
1:0.Data[117]		
1:0.Data[118]		
1:0.Data[119]		
1:0.Data[120]		
1:0.Data[121]		
1:0.Data[122]		
	>	Ŧ
N		

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

🥞 1756-DNB	? <mark>×</mark>	
General Module Scanlist Input	Output ADR Summary	
Available Devices:	Scanlist:	
 02. PowerRex 4 1P 110V 03. 871TM Shielded 18m 06. DSA 4/2 (100-DNY42 09. 1792D-2BVA2D 2ln w 11. Stack Light DeviceNe 22. 1791D-888P 8 Sink I 	> 04. RightSight Standard >> >> >>>	
Automap on Add	Node Active	
Upload from Scanner	Electronic Key:	
Download to Scanner	Vendor Product Code	
Edit I/O Parameters	Major Revision	
ОКС	ancel Apply Help	
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



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27 1756-DNB	? <mark>×</mark>
General Module Scanlist Input	Output ADR Summary
Available Devices:	Scanlist:
02, PowerFlex 4 1P 110V 06, DSA 4/2 (100-DNY42 09, 1792D-2BVA2D 2h w 11, Stack Light DeviceNe 22, 1791D-888P 8 Sink I	 03, 871TM Shielded 18m 04, Right Sight Standard S>
Automap on Add	Node Active
Upload from Scanner	Electronic Key:
Download to Scanner	Vendor Product Code
Edit I/O Parameters	☐ Major Revision ☐ Minor ☐ or higher
OK Can	cel Apply Help

Figure 55-A 871TM Proximity Switch in Scanlist Box

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



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🥞 1756-DNB	? ×	
General Module Scanlist Input Output ADR Su	immary	
Node ∠ Type Size Map	AutoMap	
⊕ ¶ 04, Rig COS 1 1:I.Data[0].0	Unmap	
	Advanced	
4	Options	
Memory: Assembly Data Start DWord: 0		
Bits 31 - 0		
1:I.Data[0] 03, 871T	04, Right	
1:1 Data[2]		
1:1.Data[3]		
1:1.Data[4]		
1:I.Data[5]		
1:1.Data[6]		
1:1.Data [7]	_	
1:1.Data181		
OK Cancel Apply	Help	
Eigung 56 A		

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



ar 1756-DNB	? ×	
General Module Scanlist Input Output ADR Summary		
Node / Type Size Map	AutoMap	
	Unmap	
	Advanced	
۰ III ا	Options	
Memory: Assembly Data 💌 Start DWord: 0	. I	
Bits 31 - 0 1:0. Data[0] 1:0. Data[1] 1:0. Data[2] 1:0. Data[2] 1:0. Data[4] 1:0. Data[5] 1:0. Data[6] 1:0. Data[7] 1:0. Data[8]		
OK Cancel Apply Help		
Figure 57-A		
1756-DNB Output Tab		

The 871TM Proximity Switch has no Output Data

Click Scanlist tab on 1756-DNB Properties window



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1756-DNB	? ×
General Module Scanlist Input	t Output ADR Summary
Available Devices:	Scanlist:
 02, PowerFlex 4 1P 110V 06, DSA 4/2 (100-DNY42 09, 1792D-28VA2D 2ln w 11. Stack Light DeviceNe 22, 1791D-888P 8 Sink I 	>> >> <
Automap on Add	✓ Node Active
Upload from Scanner	Electronic Key:
Download to Scanner	Vendor Product Code
Edit I/O Parameters	☐ Major Revision ☐ Minor ☐ or higher
ОК С	ancel Apply Help

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



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💐 1756-DNB		
General Module Scanlist Input Available Devices: 02, PowerFlex 4 1P 110V 106, DSA 4/2 (100-DNY42 106, DSA 4/2 (100-DNY42 109, 1792D-28VA2D 2ln w 109, 1792D-28VA2D 2ln w 109, 1792D-28VA2D 2ln w 109, 1791D-888P 8 Sink I 100, 1791D-888P 8 Sink 1 100, 1791D-888P 8 Sink 1 </th <th>Output ADR Summary Scanlist: 03, 871TM Shielded 18m 04, Right Sight Standard 11, Stack Light DeviceNe</th>	Output ADR Summary Scanlist: 03, 871TM Shielded 18m 04, Right Sight Standard 11, Stack Light DeviceNe	
 Automap on Add Upload from Scanner Download to Scanner Edit I/O Parameters 	 ✓ Node Active Electronic Key: ✓ Device Type ✓ Vendor ✓ Product Code Major Revision Minor □ or higher 	
OK Cano	el Apply Help	

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



1756-DNB	? <mark>×</mark>	
General Module Scanlist Input Output ADR Su	mmary	
Node / Type Size Map	AutoMap	
□ · · · · · · · · · · · · · · · · · · ·	Unmap	
	Advanced	
	Ontiona	
Memory: Assembly Data Start DWord: 0	╧	
Bits 31 - 0 11, Stack 03, 871T 1:I.Data[0] 11, Stack 03, 871T	04, Right	
1:1.Data[2] 1:1.Data[3]		
1:1.Data[4] 1:1.Data[5]		
1:1.Data[6] 1:1.Data[7] 1:1.Data[8]	,	
OK Cancel Apply Help		
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

27 1756-DNB	? ×	
General Module Scanlist Input Output ADR S	ummary	
Node ✓ Type Size Map ⊞… ¶ 11, Sta Polled 1 1:O.Data[0].0	AutoMap	
	Unmap	
	Advanced	
۰ III ا	Options	
Memory: Assembly Data 💌 Start DWord: 0		
Bits 31 - 0		
1:0.Data[1] 1:0.Data[1] 1:0.Data[2]		
1:0.Data[3] 1:0.Data[4]		
1:0.Data[5] 1:0.Data[6]		
1:0.Data[7] 1:0.Data[8]		
OK Cancel Apply	Help	
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

📲 1756-DNB	?	
General Module Scanlist Input (Dutput ADR Summary	
Available Devices:	Scanlist:	
¹	O3, 871TM Shielded 18m O4, RightSight Standard I11, Stack Light DeviceNe	
Automap on Add		
Upload from Scanner	Electronic Key:	
Download to Scanner	Vendor Product Code	
Edit I/O Parameters	Major Revision	
OK Cance	Help	
Figure 62 –A		

Scanlist tab

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

Downloading to Scanner	×
Committing Configuration	
Cancel	



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



📲 Save As	×
Save in: 📔 RSLogix 5000 💌	← 🗈 📸 📰 ▾
Name	Date modified
Projects	1/20/2017 2:25 PM
DeviceNet_Network_File.dnt	1/3/2017 1:54 PM
DeviceNet_Network_File_011817.dnt	1/19/2017 11:36 AM
Module_4_EX1.dnt	1/19/2017 8:21 PM
PL220_Module4.dnt	1/20/2017 2:11 PM 🚽
•	۰.
File name: PLC220_Module4.dnt	Open
Save as type: DeviceNet Files (*.dnt)	Cancel

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.

	Ctrl+	N
	Ctrl+	0
	Ctrl -	+S
(e 66-A	Ctrl+ Ctrl- e 66-A

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

New File	X	
Configuration Types	Description	
EtherNet/IP Configurat EtherNet/IP Files (*.enet)		
DeviceNet Configuration DeviceNet Files (*.dnt)		
•	•	
ОК	Cancel	



Figure 67 –A New DeviceNet Configuration File

A blank Configuration window opens



Figure 68 – A

Blank Configuration Window

From the Menu Toolbar File -> Open

2	PeviceNet - RSNetWorx for DeviceNet							
	<u>F</u> ile	<u>E</u> dit	<u>V</u> iew	<u>N</u> etwork	<u>D</u> evice	D <u>i</u> agnostics	<u>T</u> ools	<u>H</u> elp
	眢!	<u>V</u> ew				Ctrl+	N	
Ī	É	Dpen.				Ctrl+	0	
1		Savehi	5			Ctrl -	-S	
	5	ave <u>A</u>	s					
	(<u>G</u> enera	ate Rep	ort				

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



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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.

📲 1756-DNB	? ×			
General Module Scanlist Input	Output ADR Summary			
Available Devices:	Scanlist: > 03, 871TM Shielded 18m 04, RightSight Standard 11, Stack Light DeviceNe >> <<			
Automap on Add Upload from Scanner Download to Scanner Edit I/O Parameters	✓ Node Active Electronic Key: ✓ Device Type ✓ Vendor ✓ Product Code ✓ Major Revision ✓ Minor or higher			
OK Ca	ncel Apply Help			
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)



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).
Sat	fety Alert
1	0. 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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