

PLC220 Hands-On Assessment, Module 4

Student Name: _____ N# _____ Date: _____

This hands-on assessment requires that each student successfully demonstrates each of these tasks to the instructor's satisfaction. There is no grade for this assessment.

Prior to taking this assessment, the student must pass (minimum of 80%) the Knowledge and Application Assessment.

The student cannot proceed to the HOA for the next module without completing this HOA

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-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

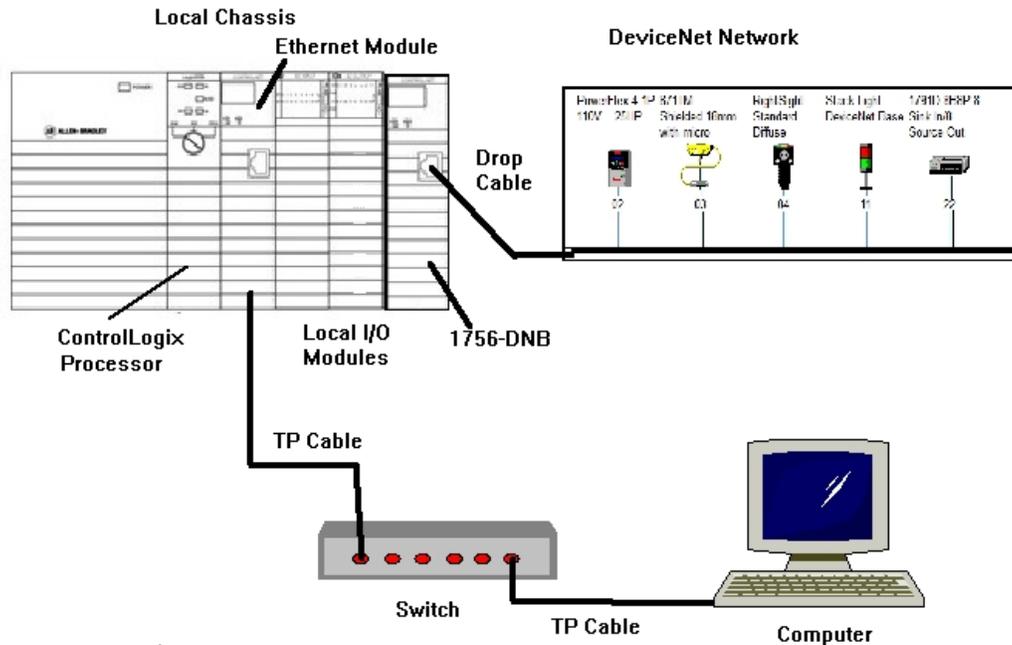


Figure 1-A. Hardware configuration for the HOA.

Ensure on 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.

For this HOA 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.

- _____ 1. Using RSLinx verify connection to ControlLogix Demo Board
- _____ 2. Using RSLinx verify connection to DeviceNet Demo Board

Determine Node Address and Revision of the following DeviceNet Network components

	Node Address	Revision
RightSight Photoeye	_____	_____
1756 – DNB Module	_____	_____
Stack Light	_____	_____
871TM Prox	_____	_____

- _____ 3. Open RSNetWorx for DeviceNet application
Go Online and Browse the Network
- _____ 4. Clear the Network Configuration in the 1756-DNB Module
- _____ 5. Assign the following components to the 1756-DNB Scanlist in the following order

Ensure Automap on Add box is checked on Scanlist tab – 1756- DNB Properties

- 1. RightSight Standard Diffuse Photoeye
- 2. 871TM Proximity Switch
- 3. Stack Light DeviceNetBase

Determine Input and Output mapping for

RightSight Photoeye – Input Mapping: _____
Output Mapping: _____

871TM Proximity Switch – Input Mapping: _____
Output Mapping: _____

Stack Light DeviceNetBase – Input Mapping: _____
Output Mapping: _____

_____ 6. Download Configuration File to the 1756-DNB Module

Ensure ControlLogix processor is in PROGRAM Mode

_____ 7 Save the DeviceNet Configuration File as HOA_Module4.dnt

_____ 8. Import ControlLogix Project File HOA_Module4.L5K in to Studio 5000

Download ControlLogix Project File HOA_Module4.ACD in to ControlLogix Processor

Which Output turns ON when the Photoeye senses a target? _____

Which device changes the mode of the 1756-DNB _Mode? _____

Which device controls Module One of the Stack Light? _____

Which device controls Module Two of the Stack Light? _____

Which Output turns ON when the Prox Switch senses a target? _____

How many elements are included in the 1756-DNB Modules Input Data Array?

How many elements are included in the 1756-DNB Modules Output Data Array?

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