Northwest State
Community College

PLC220 Hands-On Assessment, Module 5

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 Standand Diffuse Photoelectric Sensor
　　　　　　　　855T – Stack Light
　　　　　　　　1791D 8B8P Compact Block I/O
　　　　　　　　PowerFlex 4 VFD

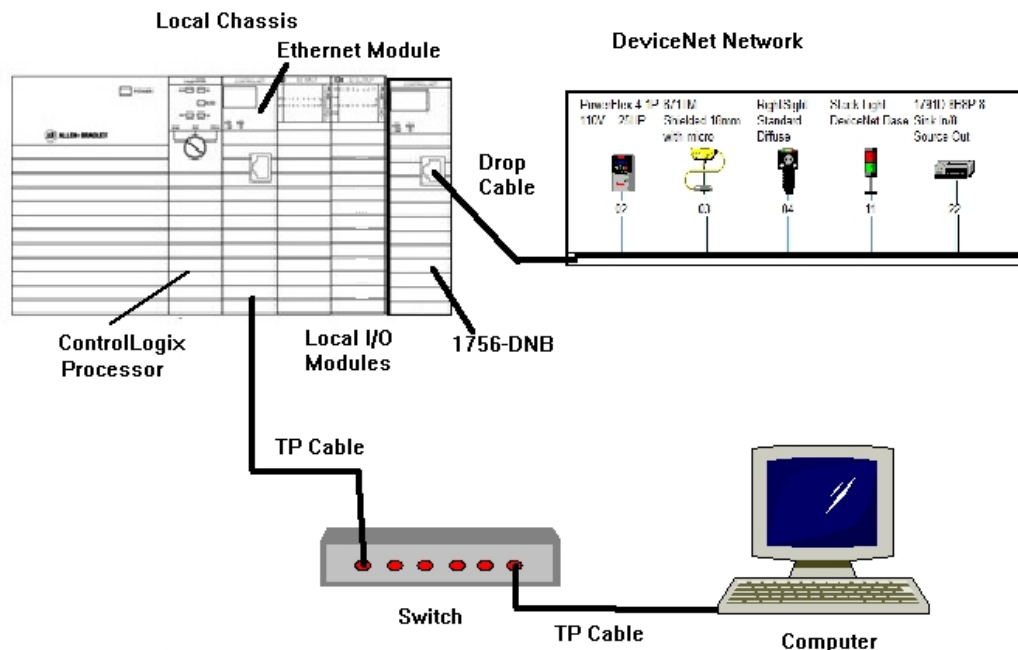Note: Other components are also installed on DeviceNet Demo Board

Figure 1-A. Hardware configuration for this 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 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

_____   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

_____   6. Add the 1791D-8B8P Compact I/O Block to the 1756-DNB Scanlist
              Do Not use Automap on Add

              Map the Inputs and Outputs of the 1791D-8B8P Compact I/O Block to Data
              Element 5 (both the Input and Output Mappings)
              Download DeviceNet Network Configuration to the 1756-DNB Module

_____   7   Save the DeviceNet Configuration File as HOA_Module5.dnt

_____   8. Import ControlLogix Project File PLC220 Module 5_HOA_020417.L5Kin to Studio
              5000

              Download ControlLlogix Project File HOA_Module5.ACD in to ControlLogix
              Processor

              Monitor tags for 1791D-8B8P Compact I/O Block
              Verify operation of 1791D-8B8P Compact I/O Block

_____ 9.   Using RSNetworx for DeviceNet software:

Change the Node Addresses Setting of the RightSight Photoeye to an
available Address less than 10.

Reconfigure Scanlist of the 1756-DNB module to use the RightSight Photoeye
with its modified Address setting

_____ 10.   Using RSNetworx for DeviceNet software:

Download DeviceNet Network Configuration to the 1756-DNB Module

Verify operation

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