

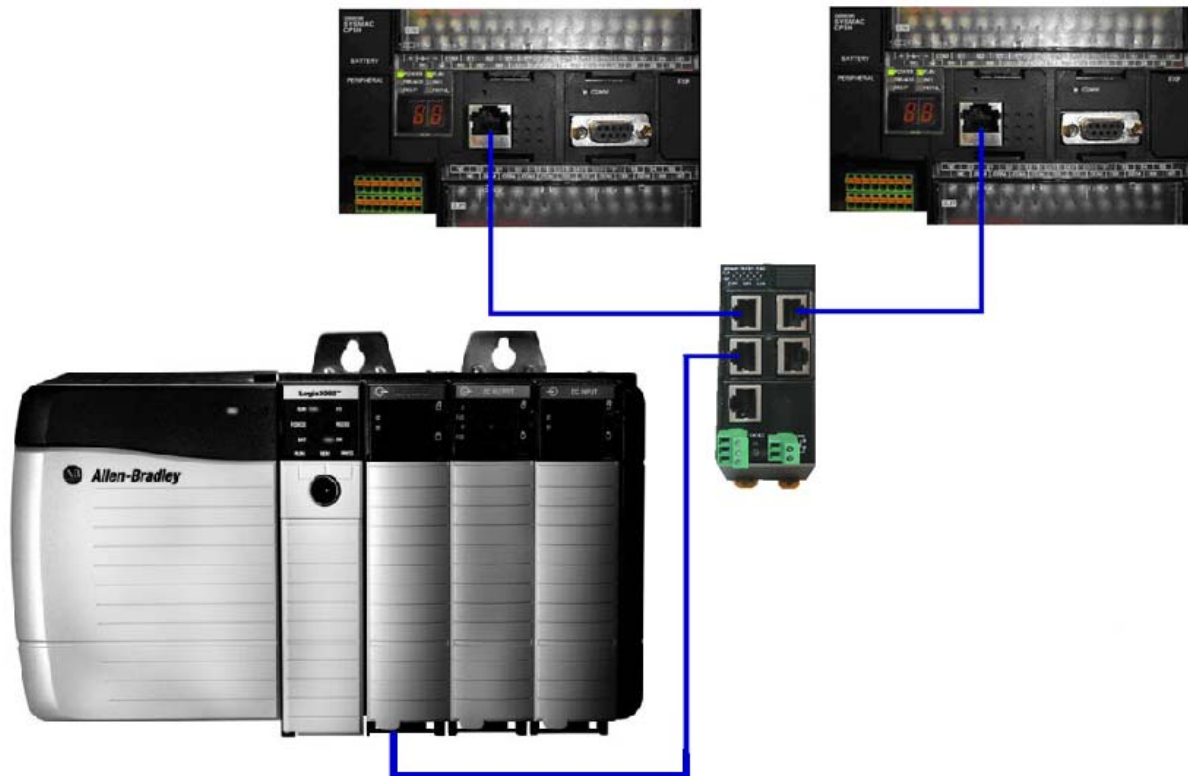


CP1W-EIP01-US

CP1L / CP1H EtherNet/IP Adapter

To Allen-Bradley ControlLogix or CompactLogix with EtherNet/IP

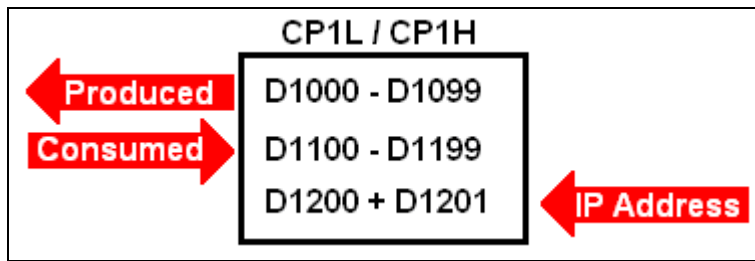
Setup Guide



Section 1: Introduction

This document explains the connectivity steps to connect an Omron CP1L / CP1H PLC configured with a CP1W-EIP01-US EtherNet/IP adapter to an Allen-Bradley ControlLogix Programmable Automation Controller (PAC).

For more detailed instructions regarding the operation of the CP1W-EIP01-US EtherNet/IP adapter, please refer to the CP1W-EIP01-US Application and Setup Guide. This guide is provided with the CP1W-EIP01-US EtherNet/IP adapter, and is also available from Omron.



CP1W-EIP01-US Fixed Addressing

Section 2: Throughput benchmark Data:

Shown below are the average response times for produced and consumed data connections between an Allen-Bradley ControlLogix PAC, and a CP1L / CP1H PLC using a CP1W-EIP01-US.

These values are based upon a 10 ms RPI setting, and an increased Peripheral Servicing time in the CP1L / CP1H. Other factors such as network bandwidth, PLC scan time, etc may affect the actual throughput.

The Datalink function of EtherNet/IP is a Producer / Consumer model function, as opposed to a Command and Response model. This makes the throughput from a single node not significantly different from the throughput of multiple nodes. Therefore, the data shown below holds true for 1 CP1L / CP1H PLC connected to 1 ControlLogix series PAC, or multiple CP1L / CP1H PLCs connected to 1 ControlLogix series PAC.

	20 Bytes	100 Bytes	200 Bytes
Produced	25 ms	35 ms	45 ms
Consumed	25 ms	35 ms	45 ms

Average Response Times

Section 3: Additional Documentation:

Additional literature can be obtained from www.omron247.com.

W450 CP1H Operation Manual

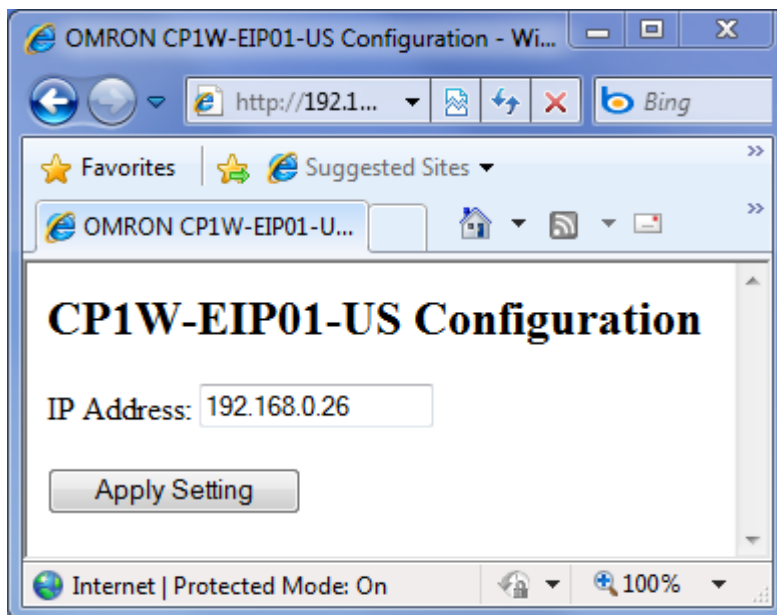
W451 CP1L / CP1H Programming Manual

W462 CP1L Operation Manual

V227 W4S Ethernet Switch

Section 4: EtherNet/IP Adapter Setup

The CP1W-EIP01-US is assigned a default IP address of 192.168.250.11. The IP address can be changed using a web browser pointed to the IP address of the adapter. A static IP address must be assigned to the PC's Ethernet card for this purpose. Simply enter the IP address of the adapter (192.168.250.11) in the web browser's address field to access the configuration page. Enter the desired new IP address (192.168.0.26 shown as an example), then click **Apply Setting**.



If the IP address is forgotten, use CX Programmer to view the IP address in D1200 + D1201 in the following format:

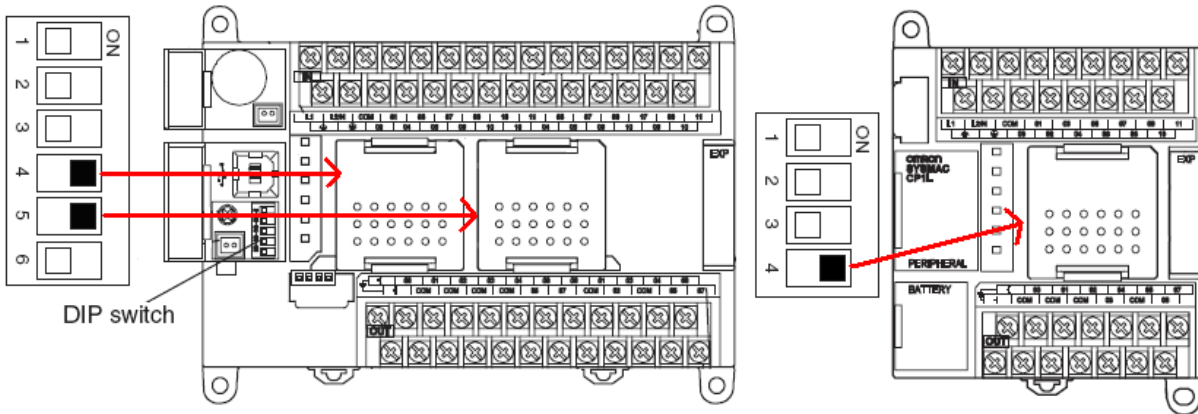
D1200 1st and 2nd Octets in Hexadecimal: EX D1200 = C0A8 = 192.168

D1201 3rd and 4th Octets in Hexadecimal: Ex. D1201 = 001A = 0.26

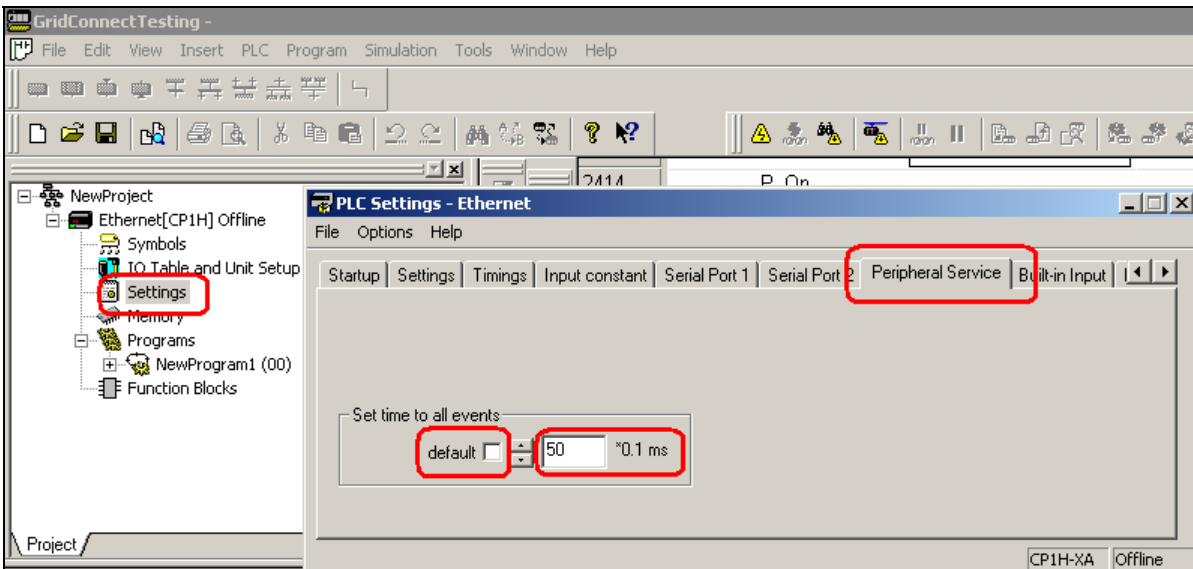
So, the IP address would be 192.168.0.26 based on the above values.

Section 4: PLC Setup

The CP1W-EIP01-US adapter uses the Toolbus (high speed binary) protocol. To configure the PLC port, simply turn ON the appropriate DIP switch on the CP1L or CP1H PLC. For CP1L PLCs with 1 Option Board, use DIP Switch 4. For CP1L PLCs with 2 Option Board Slots, or CP1H PLCs, use DIP Switch 4 for Slot 1, and DIP Switch 5 for Slot 2.



To maximize the throughput of the CP1W-EIP01-US, the amount of time per PLC scan that is allowed for servicing communications ports should be increased. This is accessed through the PLC Settings in CX Programmer. On the Peripheral Service tab, uncheck the 'default' option, and enter 50 (5.0 ms). Transfer these settings to the PLC and cycle power to apply the changes.

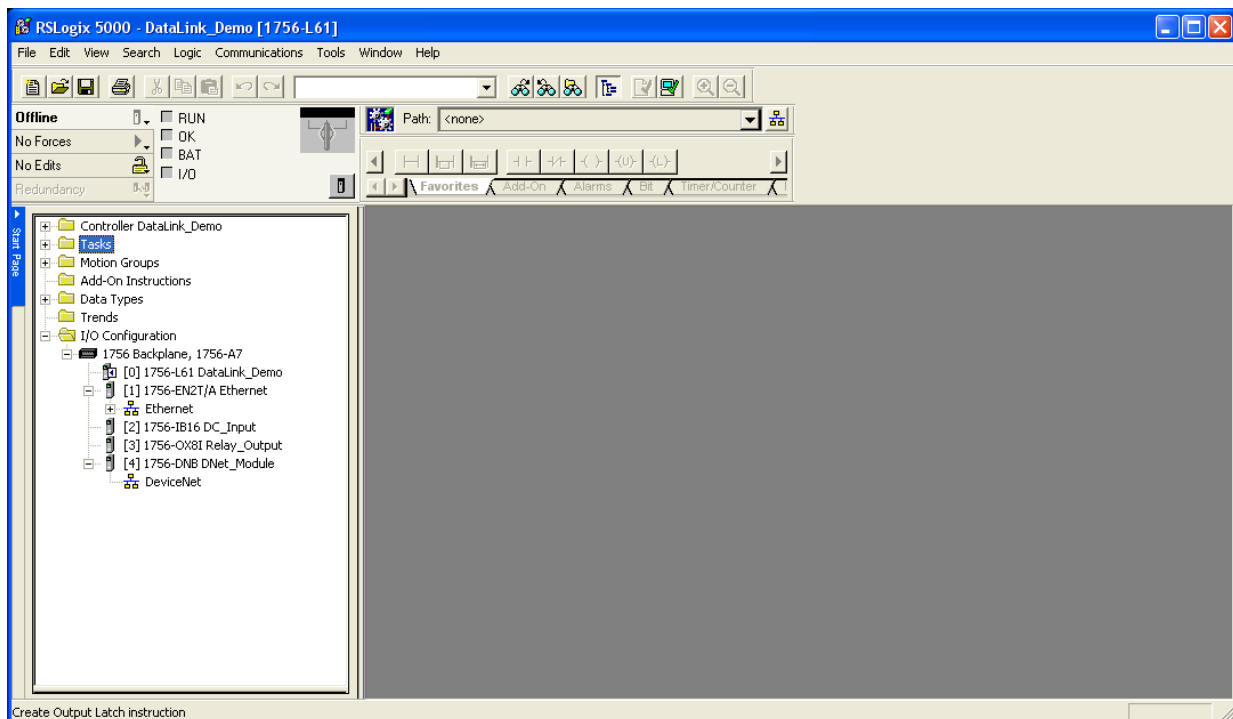


Section 5: Establishing a Connection: Example

A 100 byte (50 word) produced and consumed connection will be established between a ControlLogix PAC and a CP1L PLC, as shown.

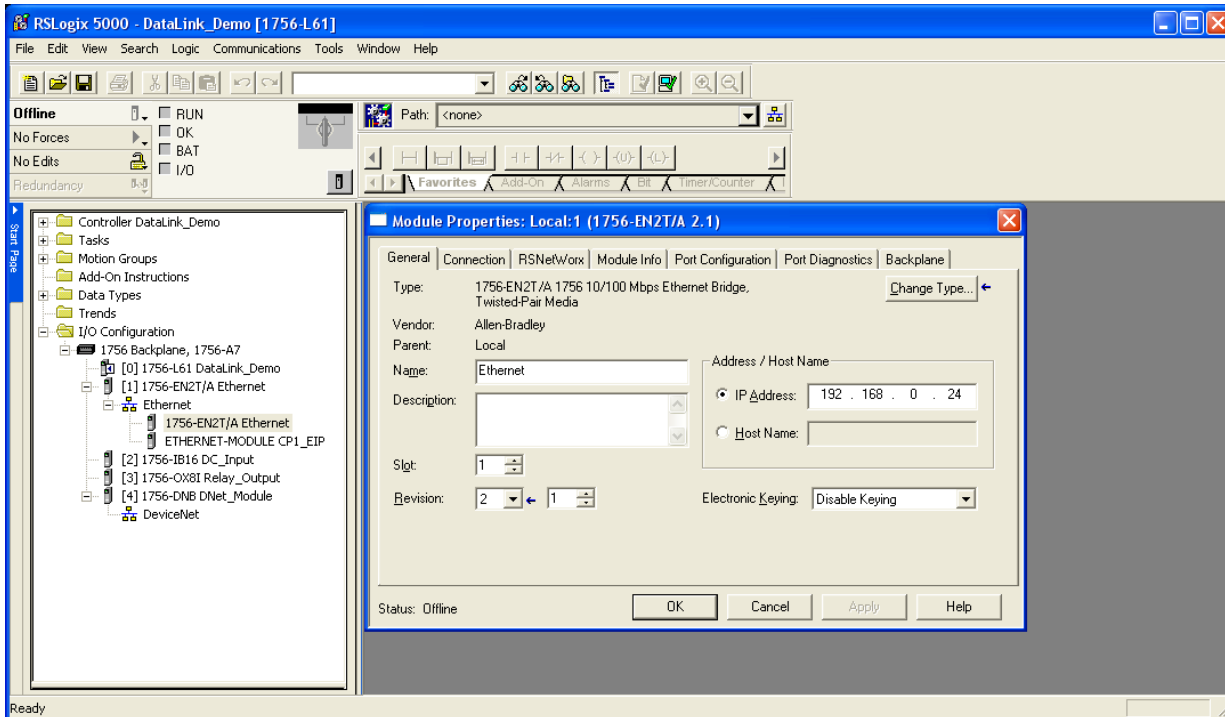
5-1 Configure the Rockwell Control Logix Processor.

1. Open the RS-Logix Programming Software using the current project that is in the PLC.



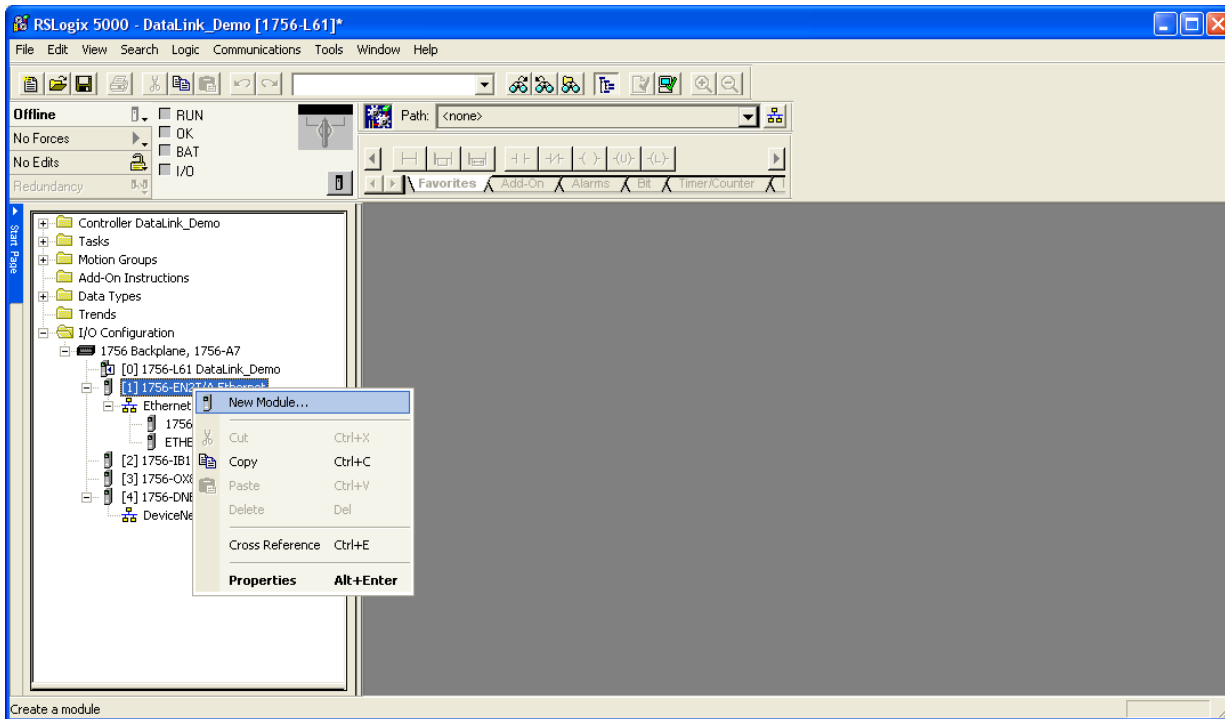
Note: The PLC I/O Configuration should match the actual Hardware installed.

2. Right Click the 1756-EN2T/A Ethernet Module in the I/O Configuration section of the Project Workspace and Select Properties. Verify the correct IP Address (192.168.0.24) and Set the Electronic Keying property to "Disable Keying".

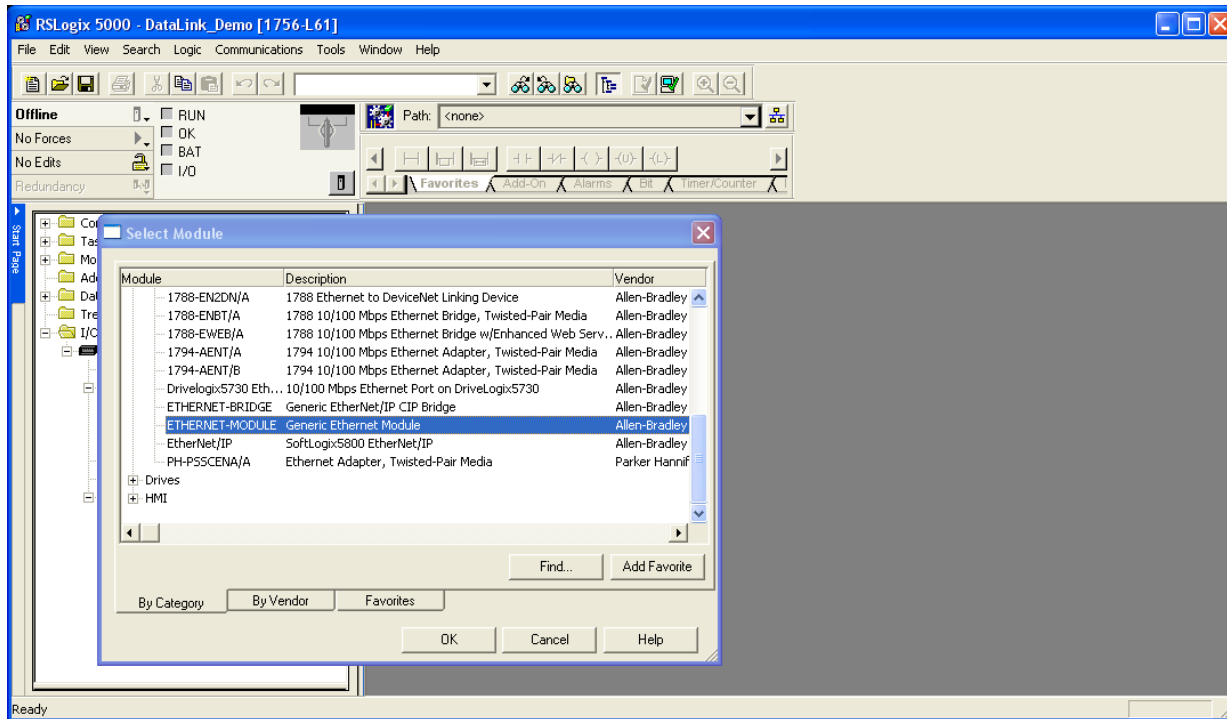


3. Click the **OK** Button.

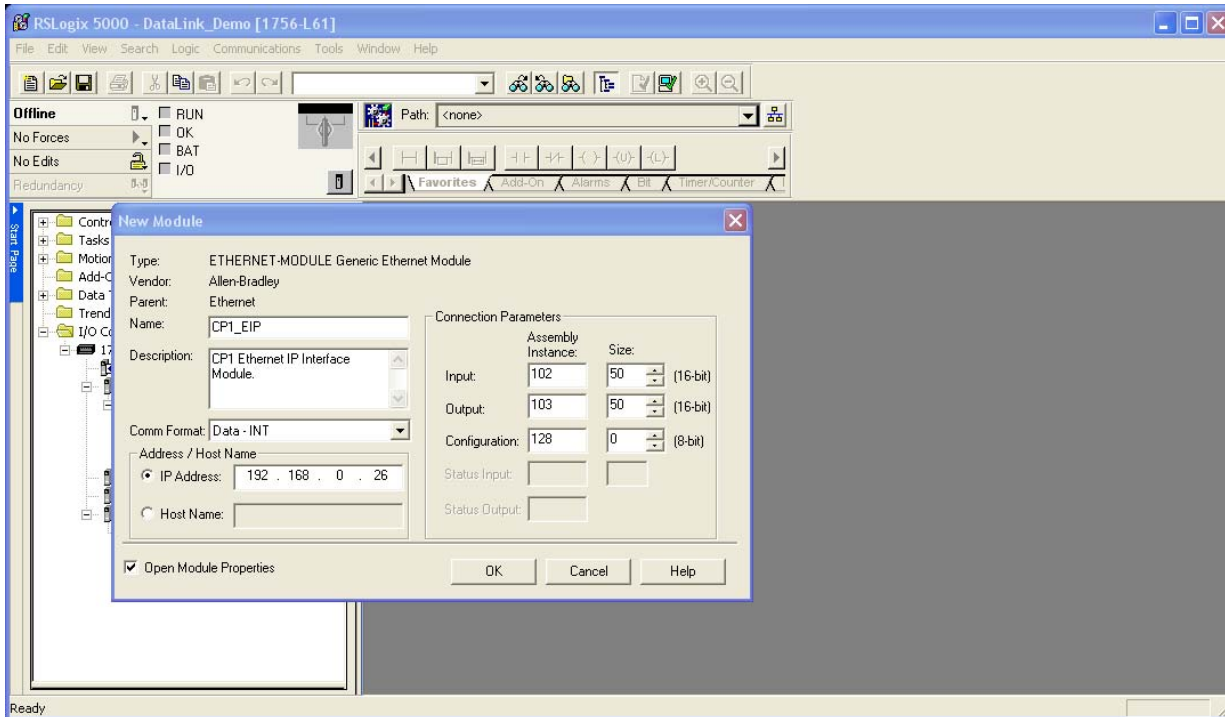
4. Right Click on the 1756-EN2T/A Module and Select “New Module”.



5. Scroll down and Select “ETHERNET MODULE Generic Ethernet Module”.



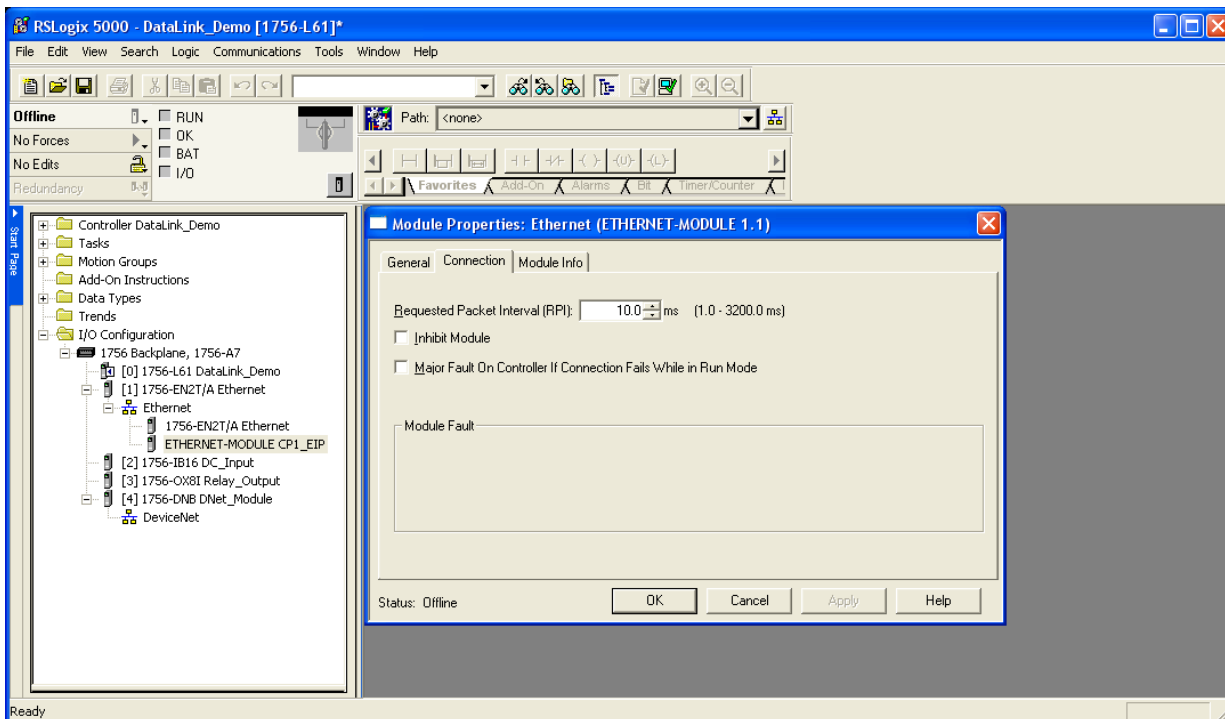
6. Click the **OK** Button.
7. Double Click on the Generic Ethernet Module.
8. Enter “CP1_EIP” for the Name.
9. Select Data-Int for the Comm Format.
10. Enter “192.168.0.26” for the IP Address of the CP1W-EIP Module.
11. Enter “102” for the Input Assembly Instance. Size = 50
 Note: Use “100” for the 20 Byte Instance. Size = 10.
 Use “102” for the 100 Byte Instance. Size = 50.
 Use “104” for the 200 Byte Instance. Size = 100.
12. Enter “103” for the Output Instance.
 Note: Use “101” for the 20 Byte Instance. Size = 10.
 Use “103” for the 100 Byte Instance. Size = 50.
 Use “105” for the 200 Byte Instance. Size = 100.
13. Enter “128” for the Configuration Instance. Size = 0.
 Note: This is defined in the product and these settings must be used.



14. Click the **OK** Button.

15. Select the Connection Tab of the Ethernet Module

16. Enter "10.0 ms. for the RPI (Requested Packet Interval)

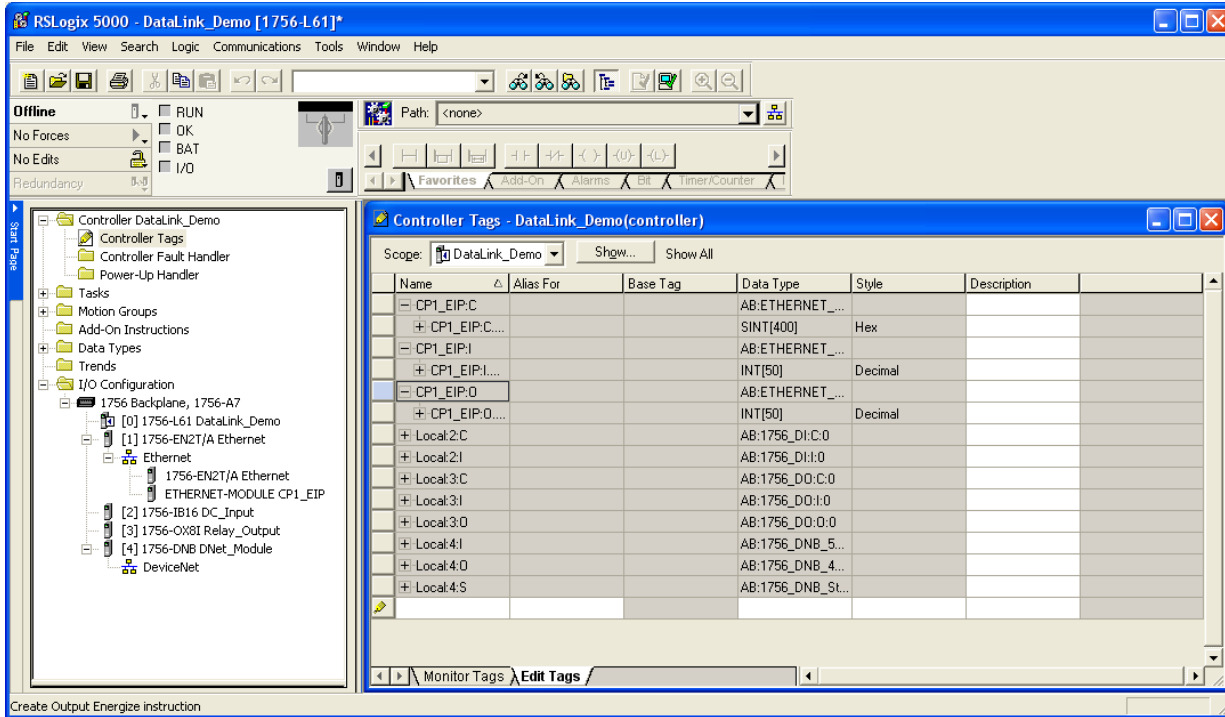


17. Click the **OK** Button.

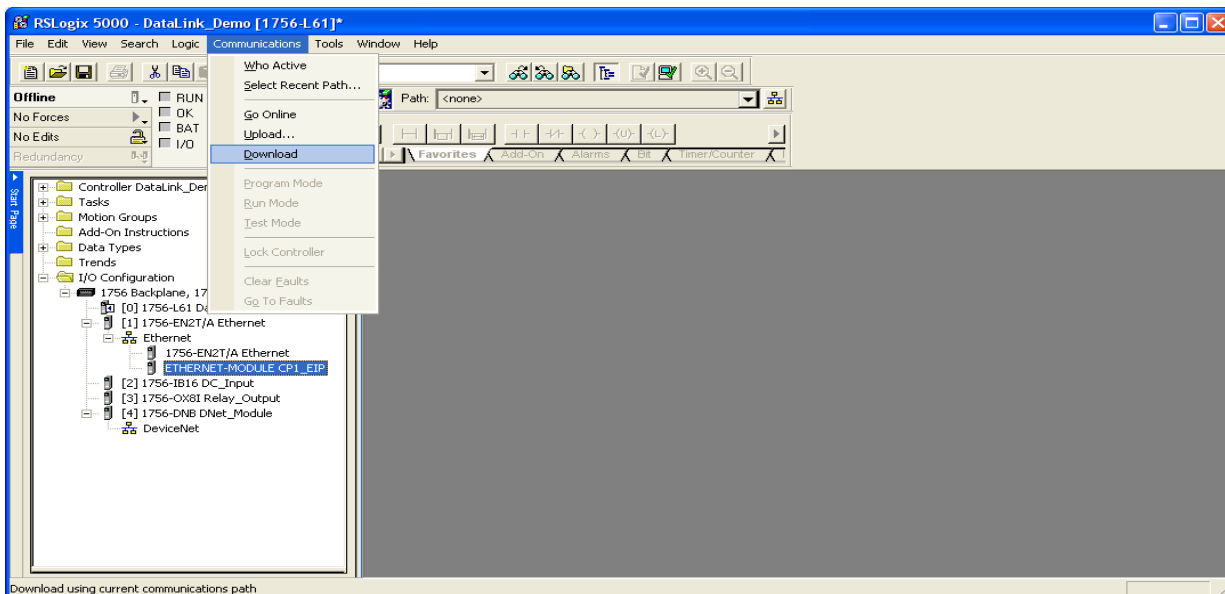
18. The Control Logix Configuration is complete.

Note: The Software as automatically generated Input, Output, and Configuration Tags:

Configuration Tags: CP1_EIP.C
 Input Tags: CP1_EIP.I
 Output Tags: CP1_EIP.O



19. Select "Communications" and "Download" to send this configuration to the PLC.



OMRON

OMRON ELECTRONICS LLC • THE AMERICAS HEADQUARTERS

Schaumburg, IL USA • 847.843.7900 • 800.556.6766 • www.omron247.com

OMRON CANADA, INC. • HEAD OFFICE

Toronto, ON, Canada • 416.286.6465 • 866.986.6766 • www.omron247.com

OMRON ELETRÔNICA DO BRASIL LTDA • HEAD OFFICE

São Paulo, SP, Brasil • 55.11.2101.6300 • www.omron.com.br

OMRON ELECTRONICS MEXICO SA DE CV • HEAD OFFICE

Apodaca, N.L. • 52.811.156.99.10 • 001.800.556.6766 • mela@omron.com

OMRON ARGENTINA • SALES OFFICE

Cono Sur • 54.11.4783.5300

OMRON CHILE • SALES OFFICE

Santiago • 56.9.9917.3920

OTHER OMRON LATIN AMERICA SALES

54.11.4783.5300