

How to Configure the CompactLogix L32E to Communicate with the MGate EIP3270

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Contents

- 1 Application Description 2
- 2 SLC 5/03 Settings 3
- 3 MGate EIP3270 Settings 3
- 4 CompactLogix L32E Settings 5
- 5 Communication Test 10
- 6 Other PLC Communication Path Settings..... 11

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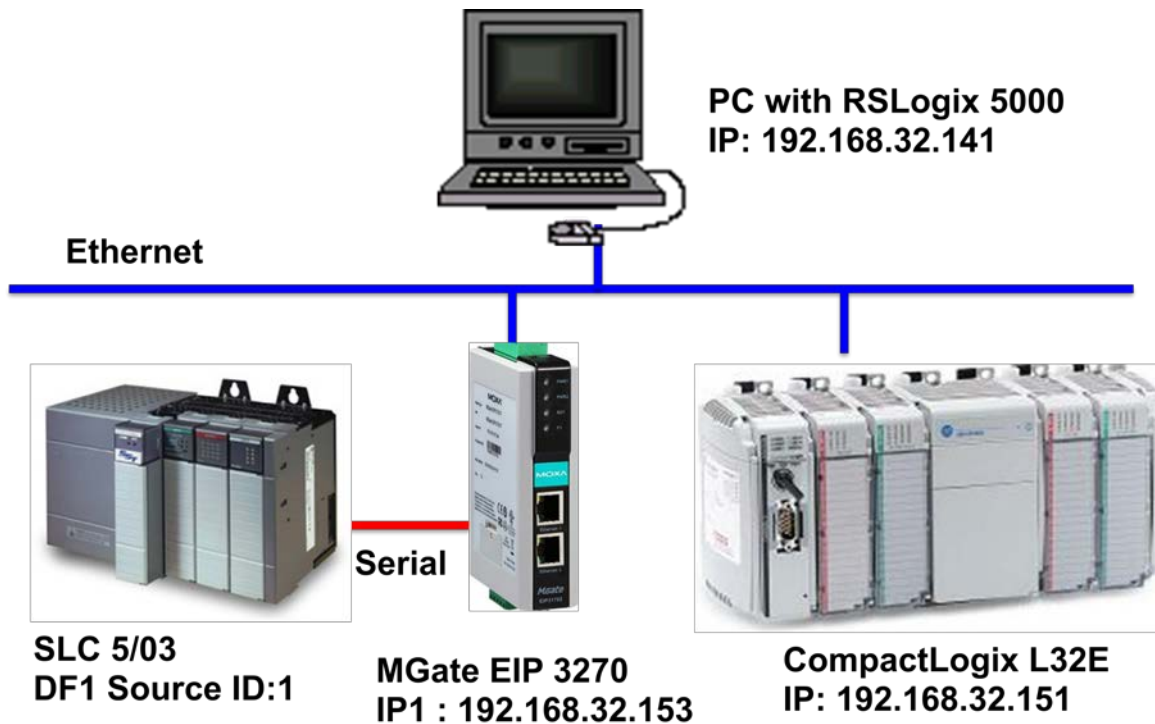


1 Application Description

This document illustrates how to use **PCCC** message commands for a **CompactLogix PLC** to communicate with DF1 devices through the **MGate EIP 3000** series gateway.

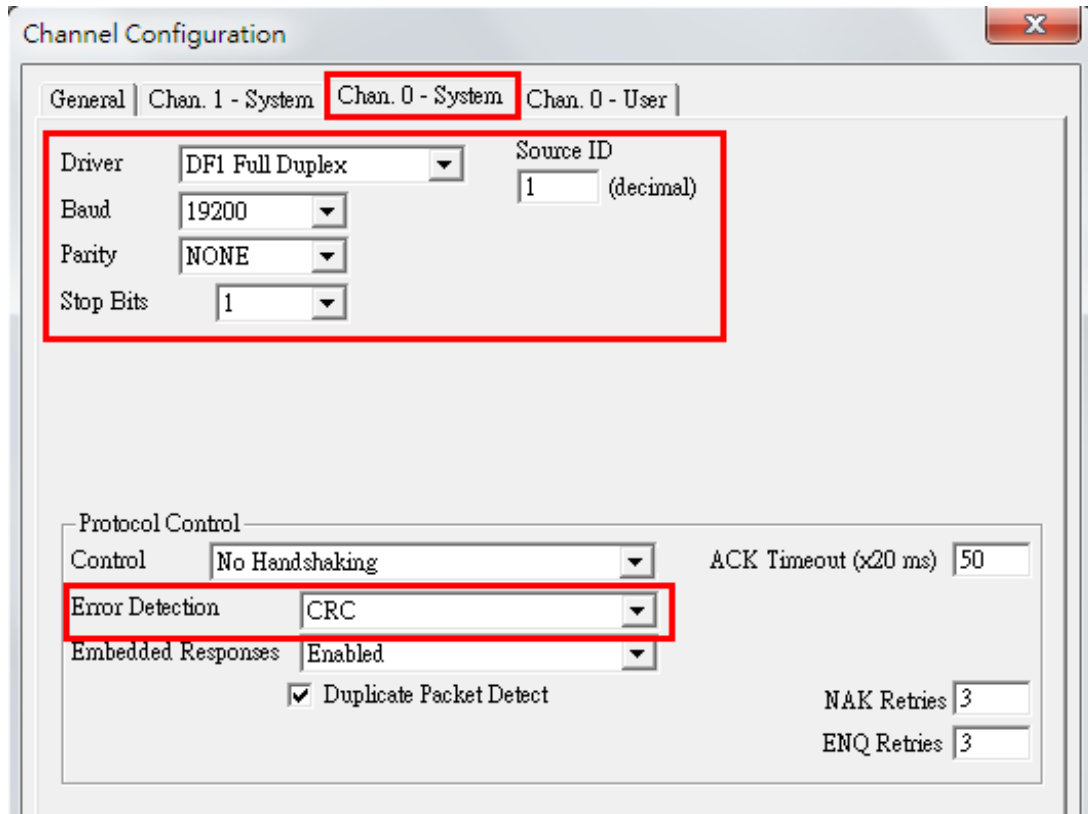
In this application, we configure the **CompactLogix L32E** to send an **SLC Typed Read/Write** command to the **MGate EIP3270**. The MGate EIP3270 sends this command to the **SLC 5/03**, which is a **DF1** device connected to port 1 on the MGate EIP3270. The SLC 5/03 then responds to the MGate EIP3270, which then routes this response to the CompactLogix L32E.

The system topology is shown in the following figure.



2 SLC 5/03 Settings

1. Create an SLC 5/03 project on the RSLogix 500.
2. Configure the SLC 5/03's channel 0 settings as shown in the following figure.

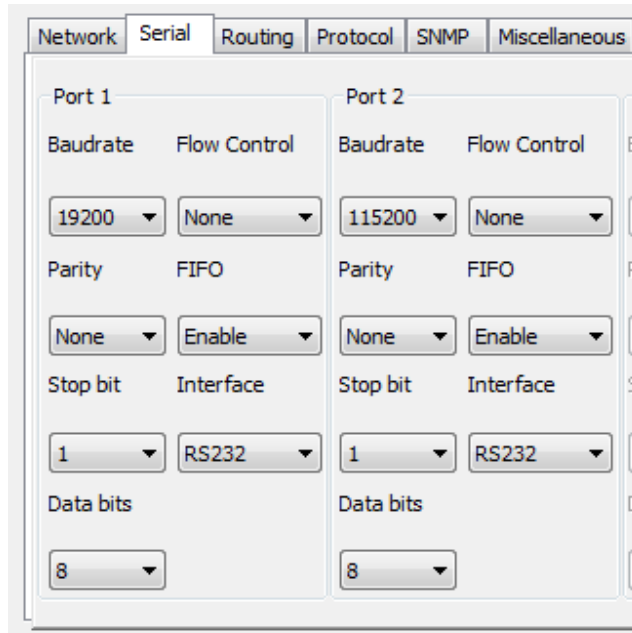


3. Download the program to the SLC 5/03.
4. Set the SLC 5/03 to Run mode.

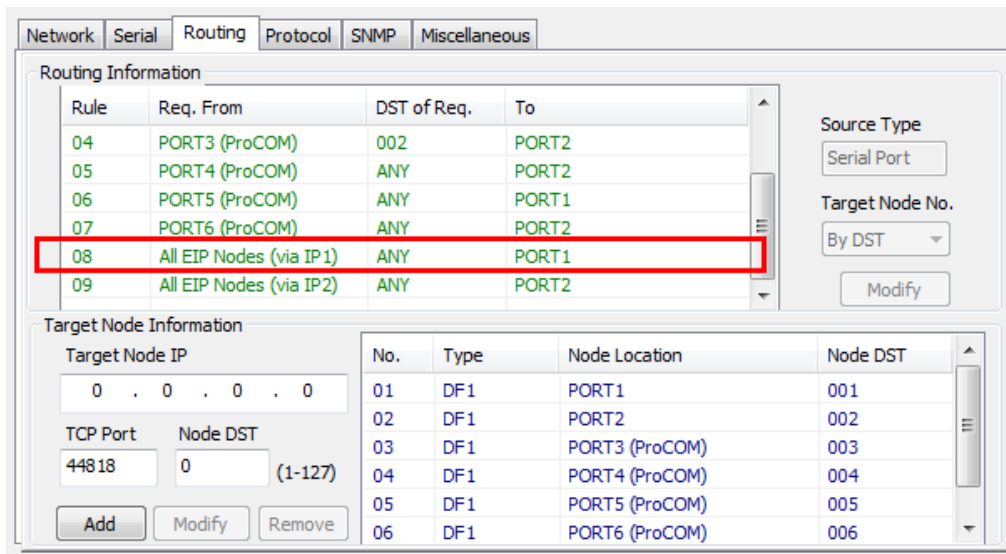
3 MGate EIP3270 Settings

1. Start **MGate Manager** to configure the MGate EIP3270.
2. In the **Serial** tab, configure the fields under **Port 1** as shown in the following figure.

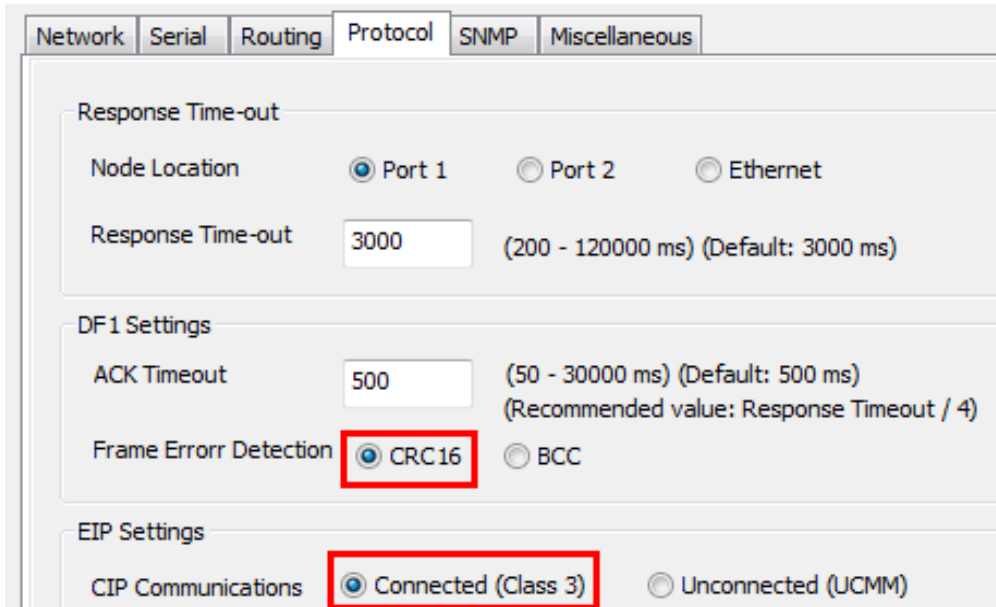
How to Configure the CompactLogix L32E to Communicate with the MGate EIP3270



- In the **Routing** tab, select **All EIP Nodes (via IP1)** in the **Routing Information** table and configure PORT1 routing settings as shown in the following figure.

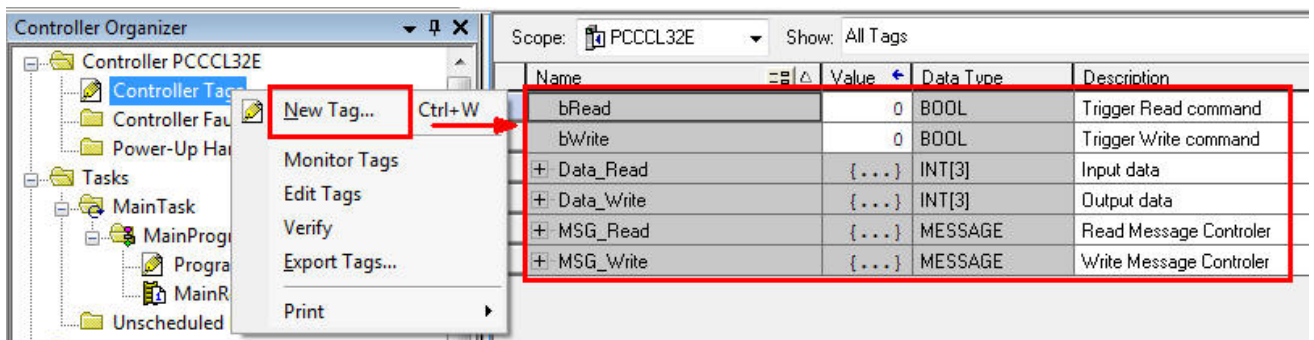


- In the **Protocol** tab, select **Port1** and configure DF1 settings as shown in the following figure.



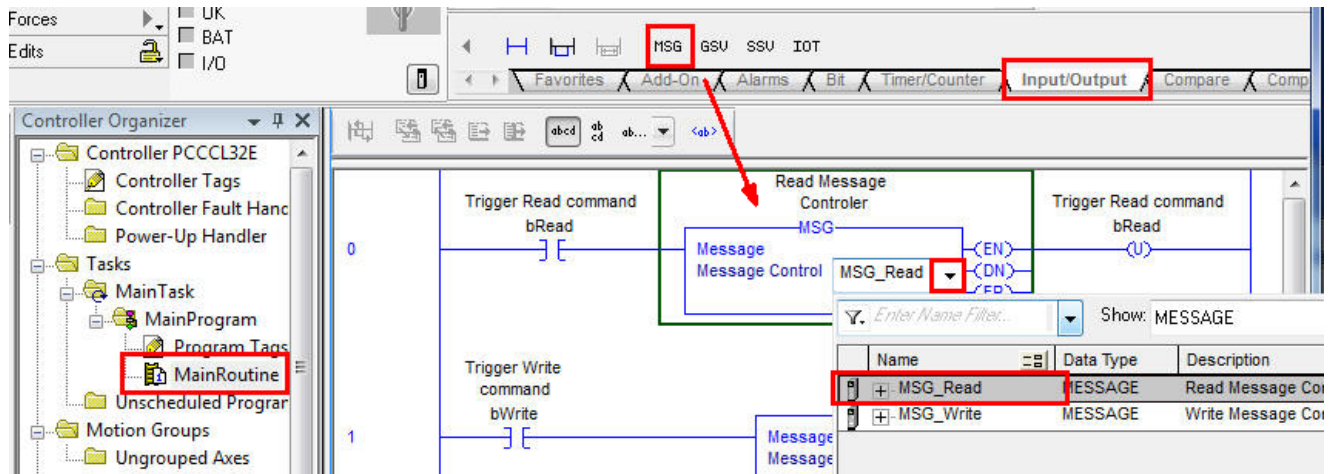
4 CompactLogix L32E Settings

1. Create a CompactLogix L32E project on the RSLogix 5000.
2. Create a new controller tag. Right-click **Controller Tags** and select **New Tag**.

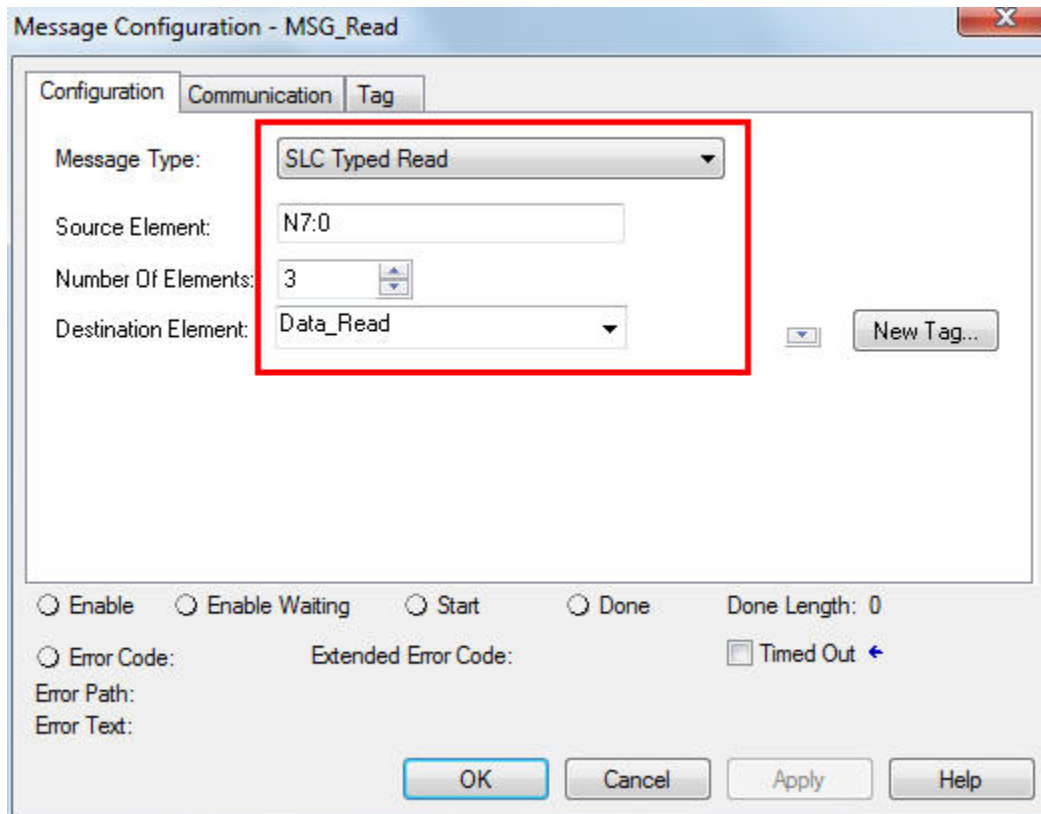


3. Click **MainProgram > MainRoutine** to edit a ladder program.
4. Add a message box to the program. Perform the following actions:
 - a. In the **Add-On Instruction** toolbar, click the **Input/Output** tab.
 - b. Click the **MSG** instruction.
 - c. Select a message tag from the **Message Control** drop-down list.

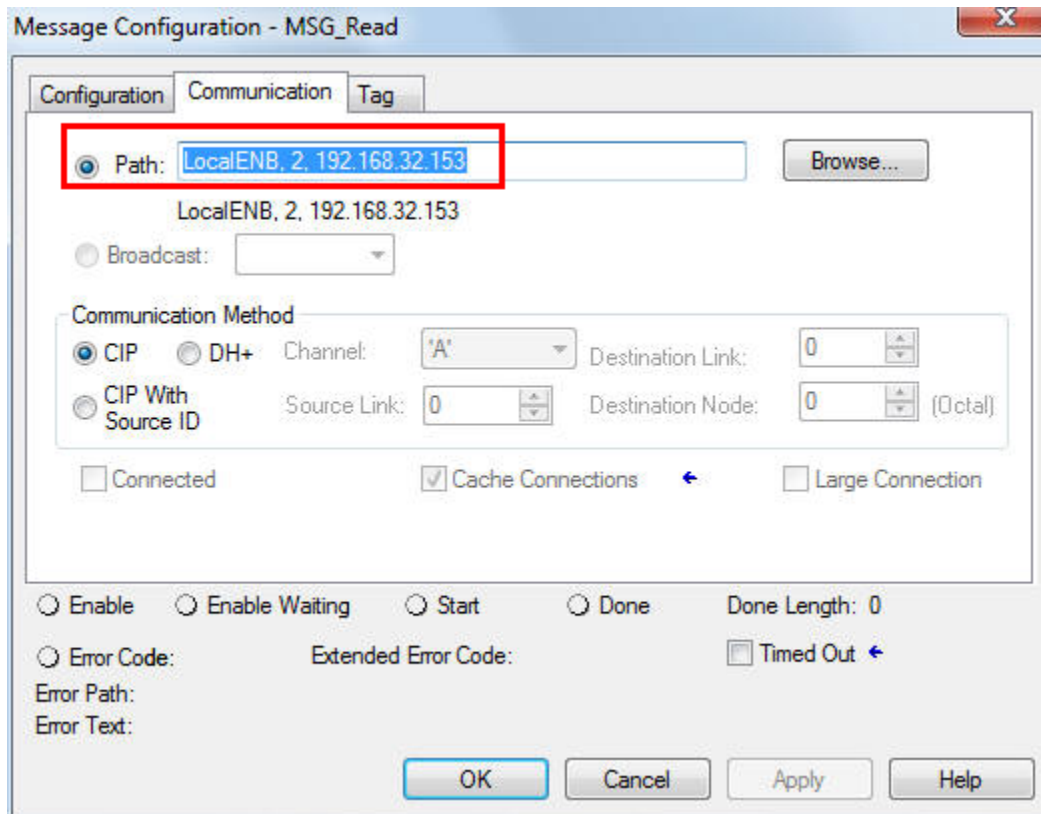
How to Configure the CompactLogix L32E to Communicate with the MGate EIP3270



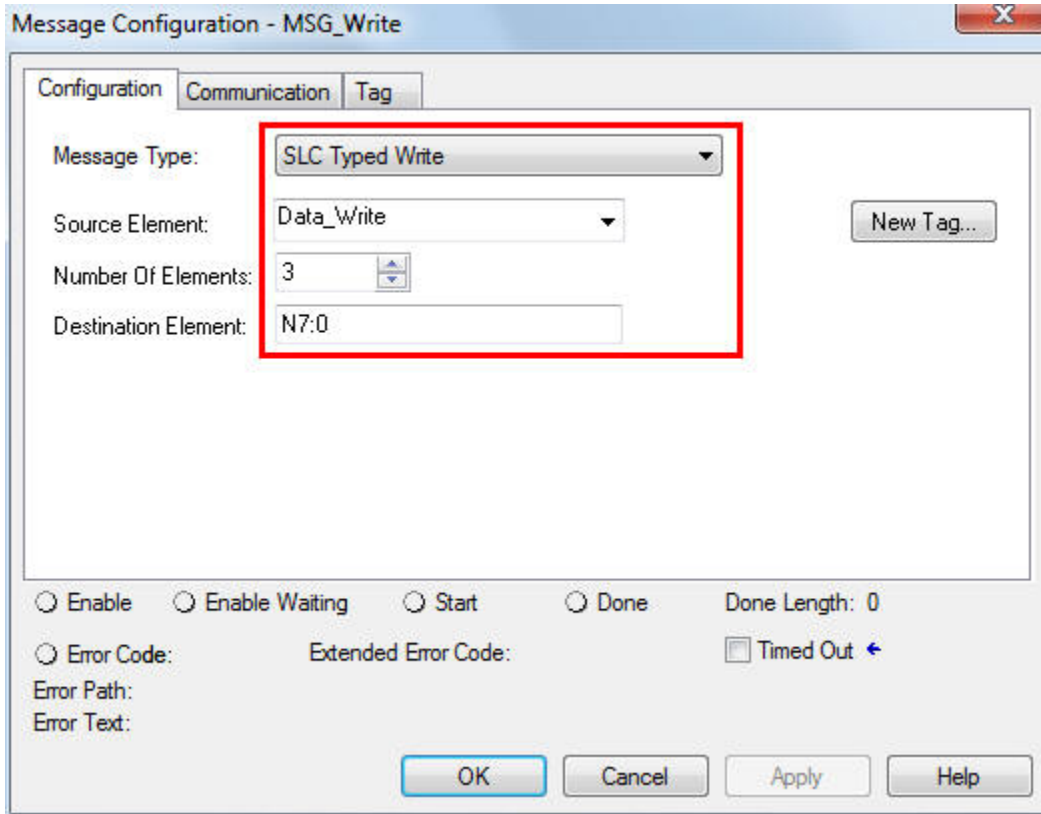
5. In the message box, click the ... button. The **Message Configuration** dialog box appears.
6. Configure the following fields for a PCCC Read command:
 - **Message Type:** Select **SLC Typed Read** from the drop-down list.
 - **Source Element:** Enter "N7:0" as the starting address of the registers to be read.
 - **Number Of Elements:** Set this field to **3** to read three addresses (in this example, N7:0, N7:1, and N7:2).
 - **Destination Element:** Select **Data_Read** from the drop-down list to store the data.



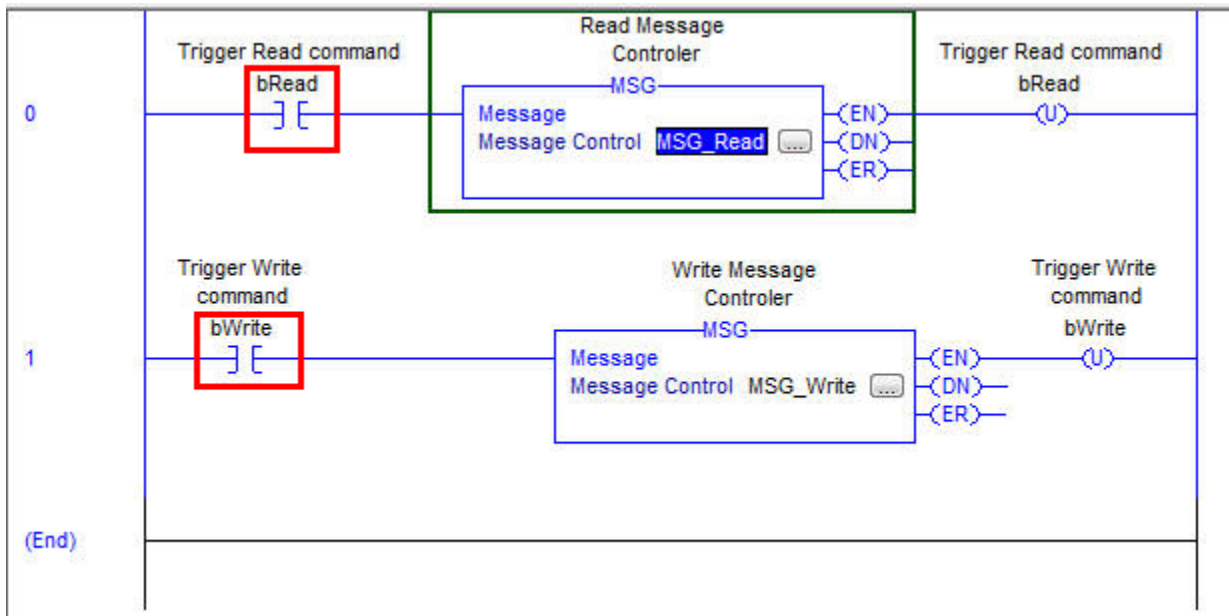
7. Click the **Communication** tab.
8. Select **Path** and enter "LocalENB,2,192.168.32.153" in the text box. The following describes the input value:
 - **LocalENB**: The name of the 1769-L32E in the local chassis.
 - **2**: The port number of the Ethernet port in the local chassis.
 - **192.168.32.153**: The IP address of the MGate EIP3270.



9. Insert an MSG Box on Rung 1 for the PCCC **Write** command. Configure the following fields in the **Configuration** tab:
 - **Message Type**: Select **SLC Typed Write** from the drop-down list.
 - **Source Element**: For an INT tag array, make sure that the number of array slots is equal to the number of elements written to.
 - **Destination Element**: Specify the starting element to be written to.
 - **Number Of Elements**: Set the number of addresses to be written to. In this example, the addresses are from N7:0 to N7:2.

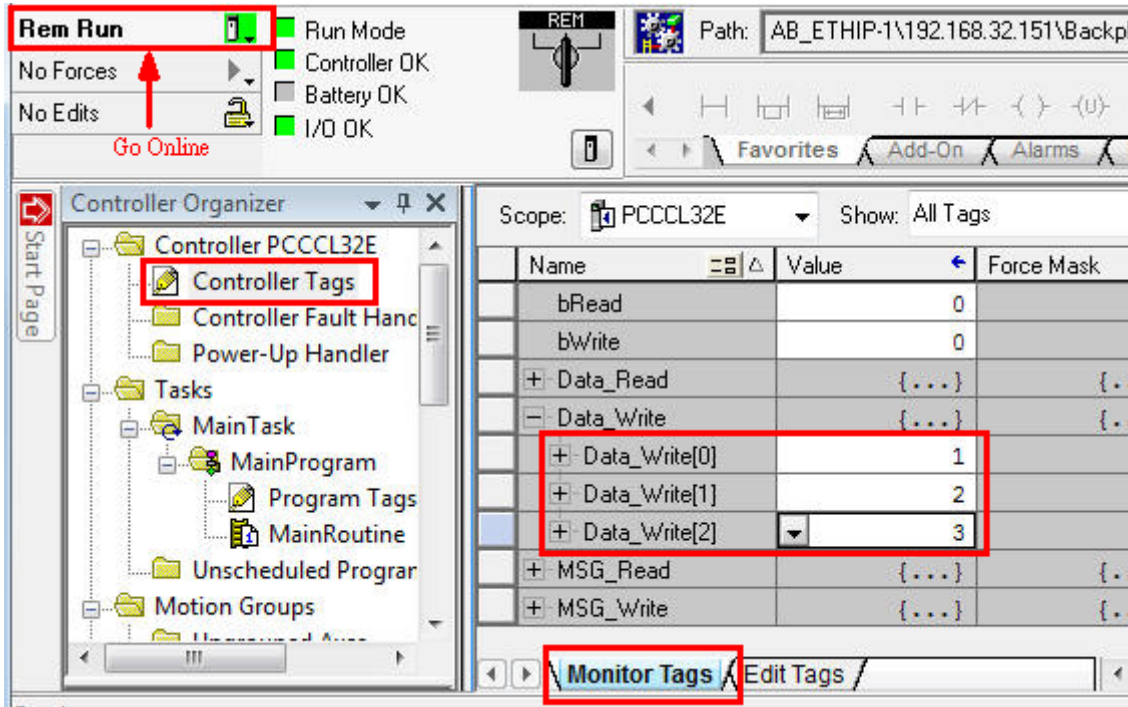


10. Verify that the **bRead** bit is set to trigger a read command on Rung 0 and that the **bWrite** bit is set to trigger a write command on Rung 1 as shown in the following figure.



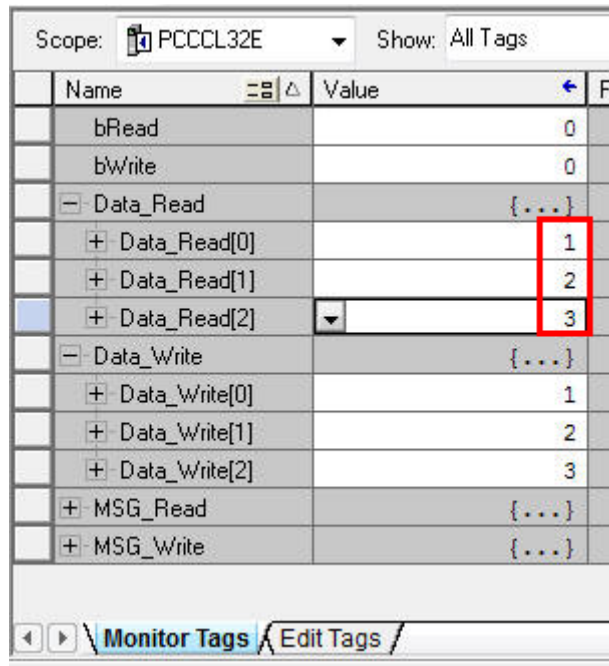
5 Communication Test

1. After downloading the program to the CompactLogix, run **Go Online** to monitor the program and tags.
2. Select **Controller Tags** to view all the tags that you have created. In the **Monitor Tags** tab, set **Data_Write[0]** through **Data_Write[2]** to 1, 2, and 3, respectively.



3. Set the **bWrite** tag value to '1' to trigger a write command.
4. Set the **bRead** tag value to '1' to trigger a read command.

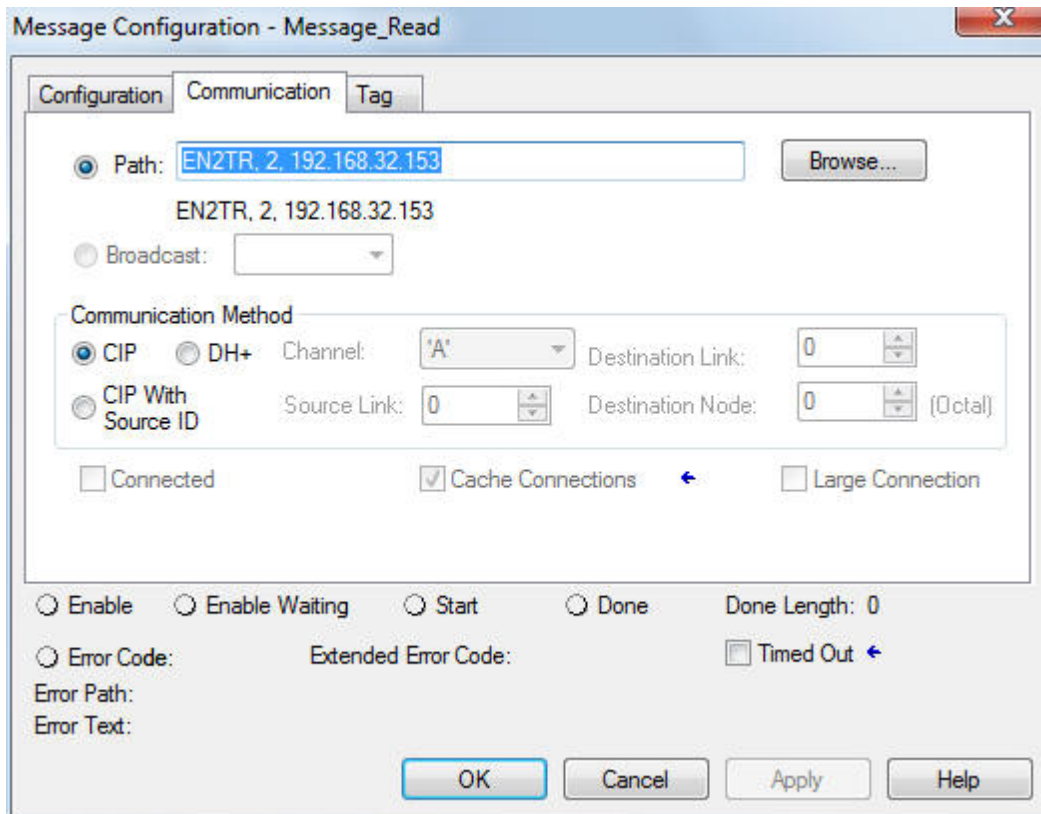
Because the destination element of the Write command and the source element of the Read command are in the same block, the values of **Data_Read[0]** to **Data_Read[2]** are changed to 1, 2, and 3, as shown in the following figure.



6 Other PLC Communication Path Settings

When you use **MSG Box** for PCCC communications, the communication path settings of the CompactLogix/ControlLogix PLC may be different. You can configure the **ControlLogix L71** to use the same PLC communication path as the CompactLogix L32:

- **EN2TR**: The name of the ControlLogix L71 Ethernet port in the local chassis.
- **2**: The port number of the Ethernet port in the local chassis
- **192.168.32.153**: The IP address of the MGate EIP3270.



However, you do not need to set the name of the Ethernet port on the CompactLogix L16ER. In this case, you can configure the path for the L16ER processor in the format 2,xxx.xxx.xxx.xxx where:

2: The port number of the Ethernet port in the local chassis.

192.168.32.153: The IP address of the MGate EIP3270.

