Technical Note

Sample Message Instructions for Processor to Processor Communications using the AN-X2-AB-DHRIO DH Plus Bridge

Document Code:TN130628-001
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Document Information

Author	Tom Lenigan & Daniel Roslan
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The AN-X2-AB-DHRIO gateway when operating with the AN-X2-DHP firmware selected emulates a ControlLogix Hardware Gateway. This gateway enables Programming Terminals, SCADA, DCS, HMIs, and processors to communicate through the gateway to various legacy processors on the DH+ network.

This TechNote will show samples of Processor to Processor communications via Message instructions, and how to configure the path to the devices on the DH+ network. The DH+ bridge firmware has been designed to take communications from the Ethernet interface and pass them to the devices on the DH+ network. Communications that originate from the DH+ network cannot be routed to devices on the Ethernet network.
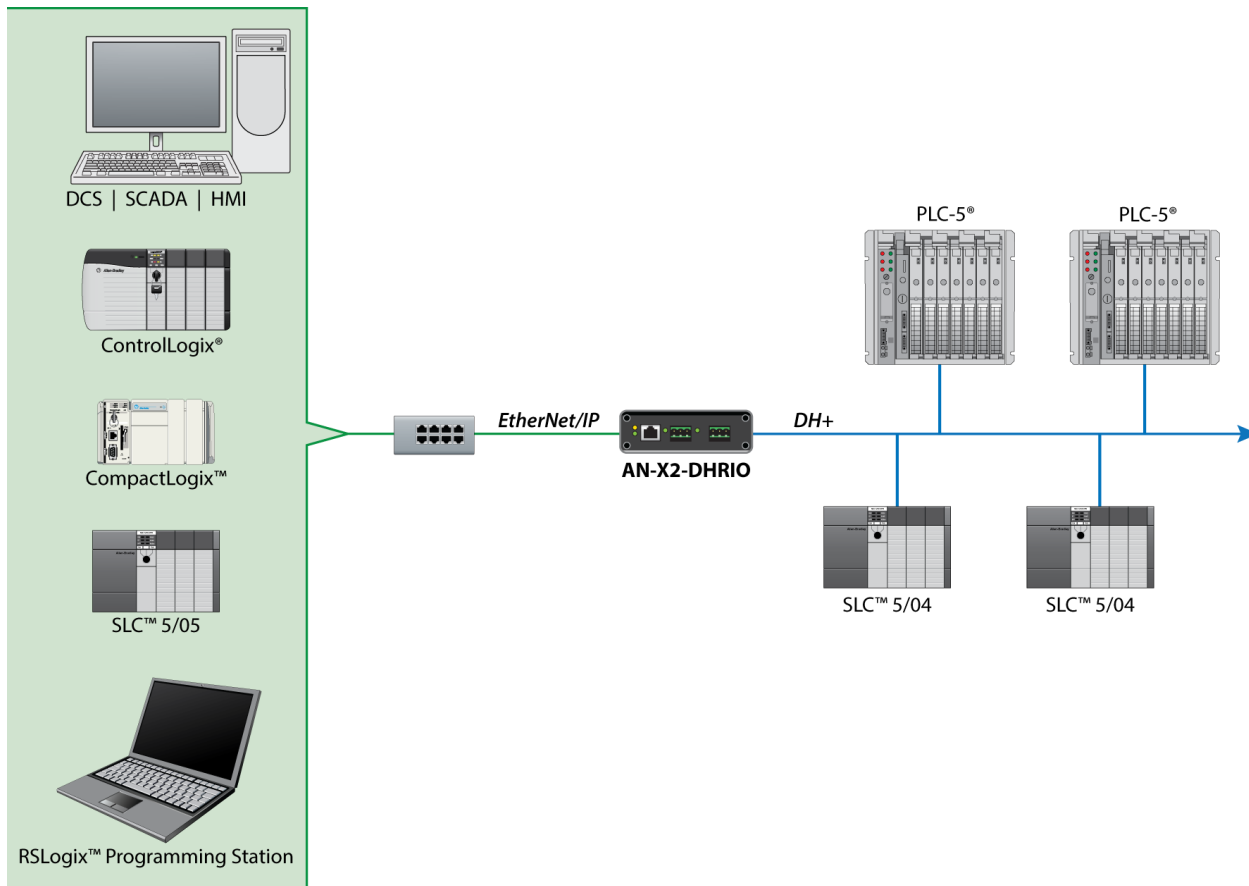
General Message Instruction Information:

1) When using CompactLogix™ or ControlLogix® processors:
    a. It is not possible to configure MSG instructions with binary data types
    b. It is not necessary to add in the AN-X2 gateway into the I/O tree when using MSG instructions

2) The Source and destination tags or data files data types must match

3) Cannot be continuously enabled, but must be enabled based upon some trigger condition

CIP Path Information:

Since the AN-X2 Gateway emulates a 4 slot ControlLogix® Hardware Gateway here is the breakdown of the CIP portion of a CompactLogix™ sample path:

To the backplane (Emulated by the gateway)

Out the Ethernet Port

AN-X2 IP Address (Emulated 1756-ENBT)

To Slot 1 (Emulated 1756-DHRIO Module)
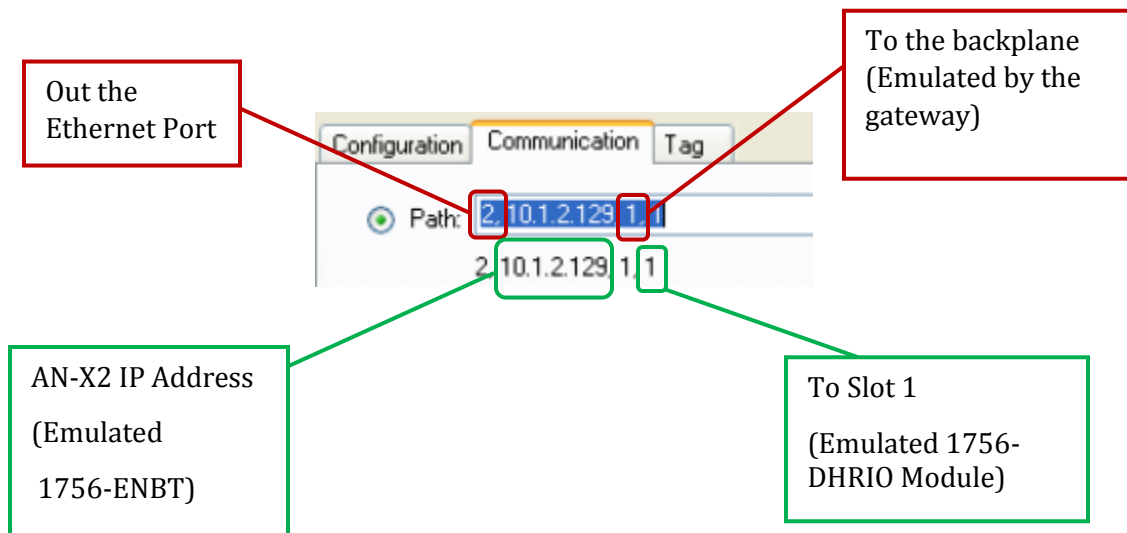
For some processors, the path may also require the name of the Ethernet device from the I/O Configuration, like "enbt" or "LocalENB".

enbt, 2, ip.ip.ip.ip, 1, 1
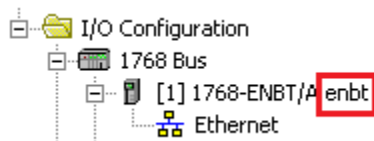
CompactLogix MSG samples to a SLC5/04
Read

The IP Address listed in the path below is the IP address of the AN-X2 Gateway

SLC5/04 DH+ Node Address

Note: 2,IP at the beginning of the path is used by newer L3x processors, like the L33ER, an older L32E would use 1,2,IP. A 5069 CompactLogix, like the L306ERM, use 2,IP if in DLR mode, or if not then 3,IP to talk out of port 1, 4,IP to talk out of port 2. In all cases the IP,1,1 and communication method remains the same.

Write

The IP Address listed in the path below is the IP address of the AN-X2 Gateway

SLC5/04 DH+ Node Address

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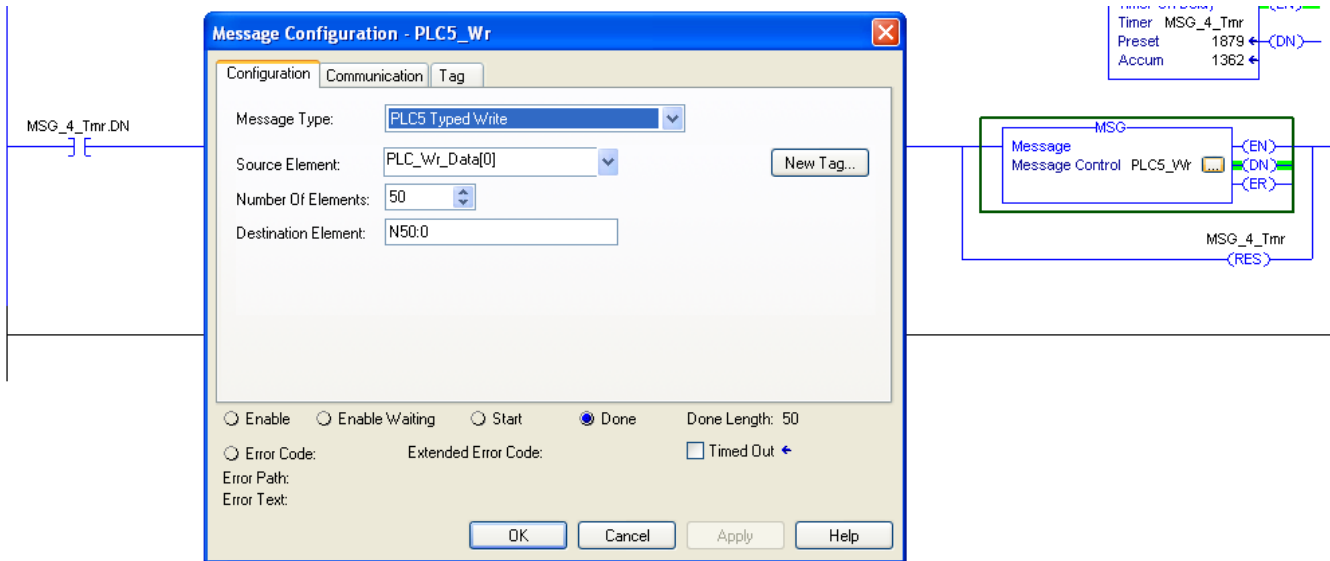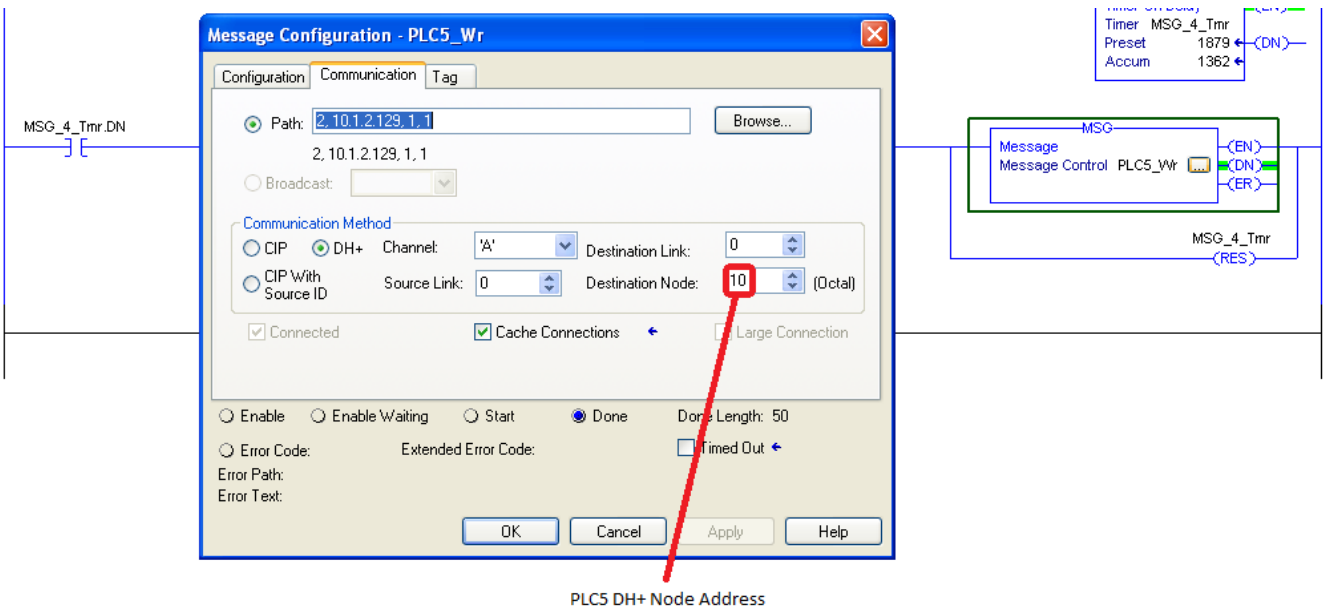
CompactLogix MSG samples to a PLC-5®
   Read

The IP Address shown in the Path statement is the IP Address of the AN-X2 Gateway

PLC5 DH+ Node Address

Note: 2,IP at the beginning of the path is used by newer L3x processors, like the L33ER, an older L32E would use 1,2,IP. A 5069 CompactLogix, like the L306ERM, use 2,IP if in DLR mode, or if not then 3,IP to talk out of port 1, 4,IP to talk out of port 2. In all cases the IP,1,1 and communication method remains the same.
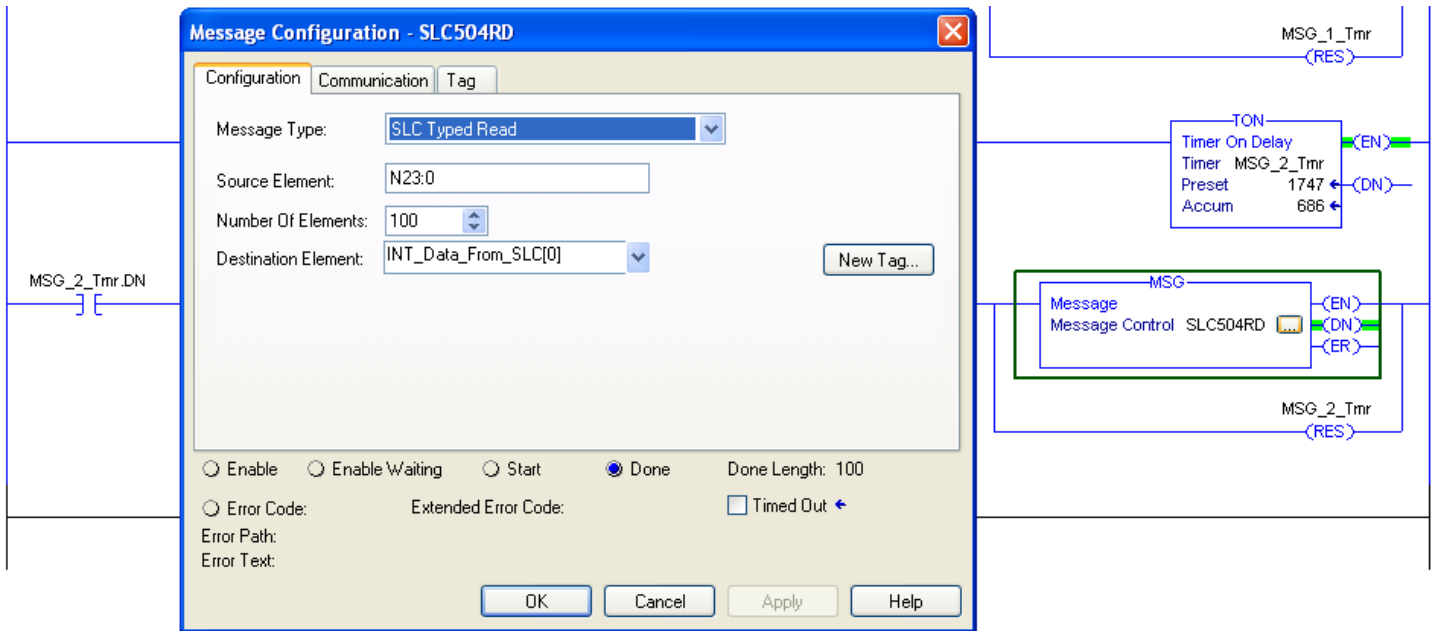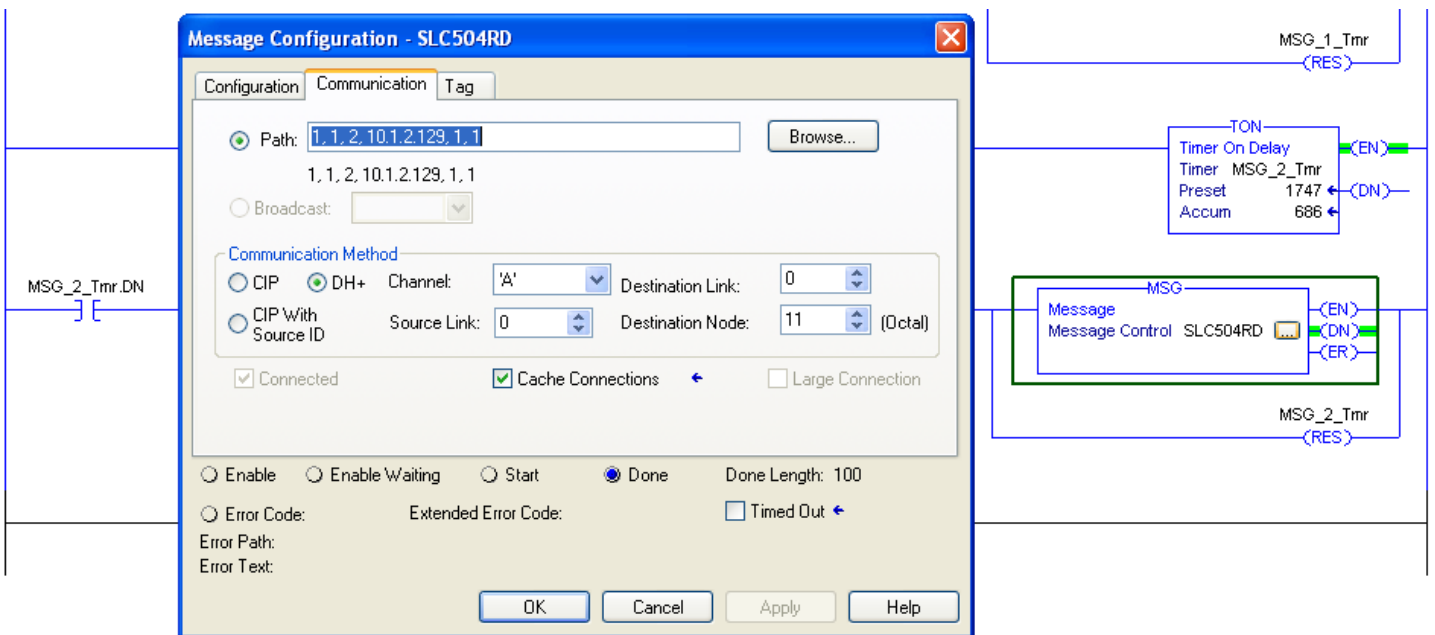
Write

The IP Address shown in the Path statement is the IP Address of the AN-X2 Gateway

PLC5 DH+ Node Address

Note: 2,IP at the beginning of the path is used by newer L3x processors, like the L33ER, an older L32E would use 1,2,IP. A 5069 CompactLogix, like the L306ERM, use 2,IP if in DLR mode, or if not then 3,IP to talk out of port 1, 4,IP to talk out of port 2. In all cases the IP,1,1 and communication method remains the same.
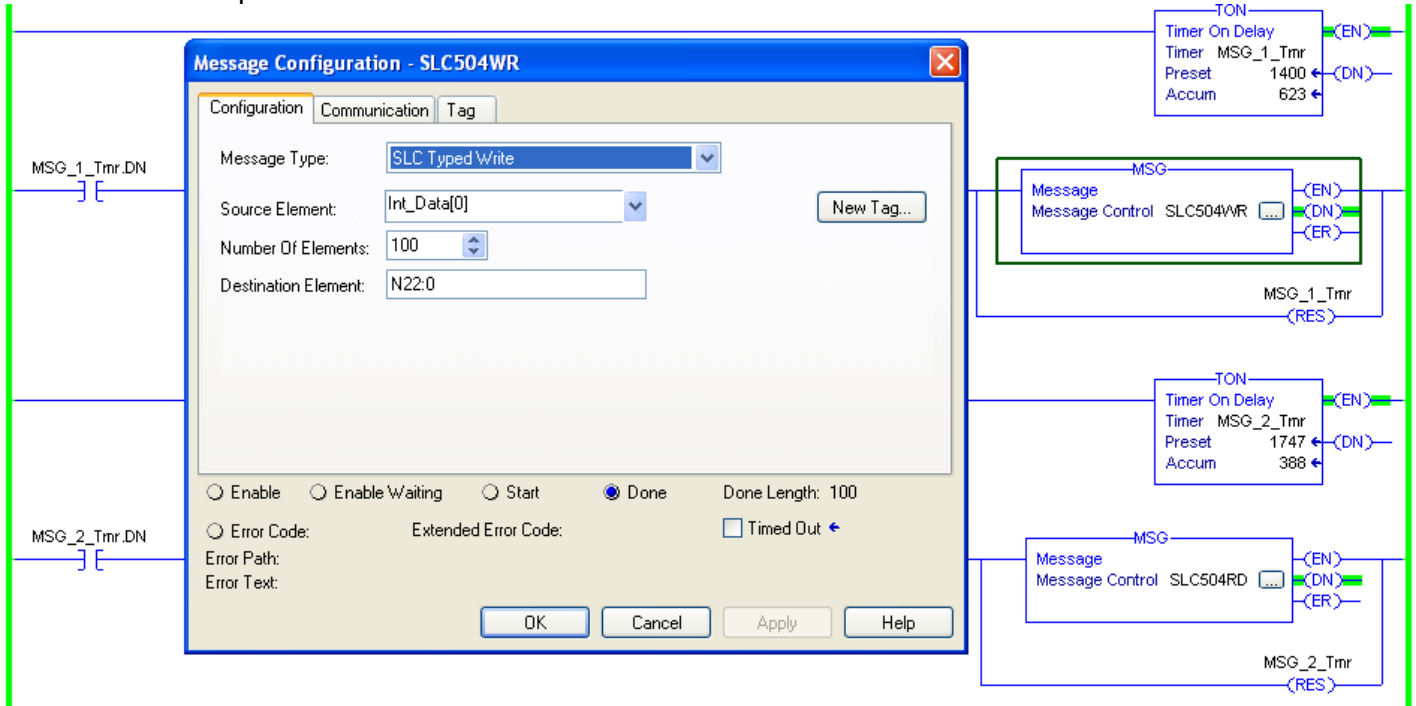
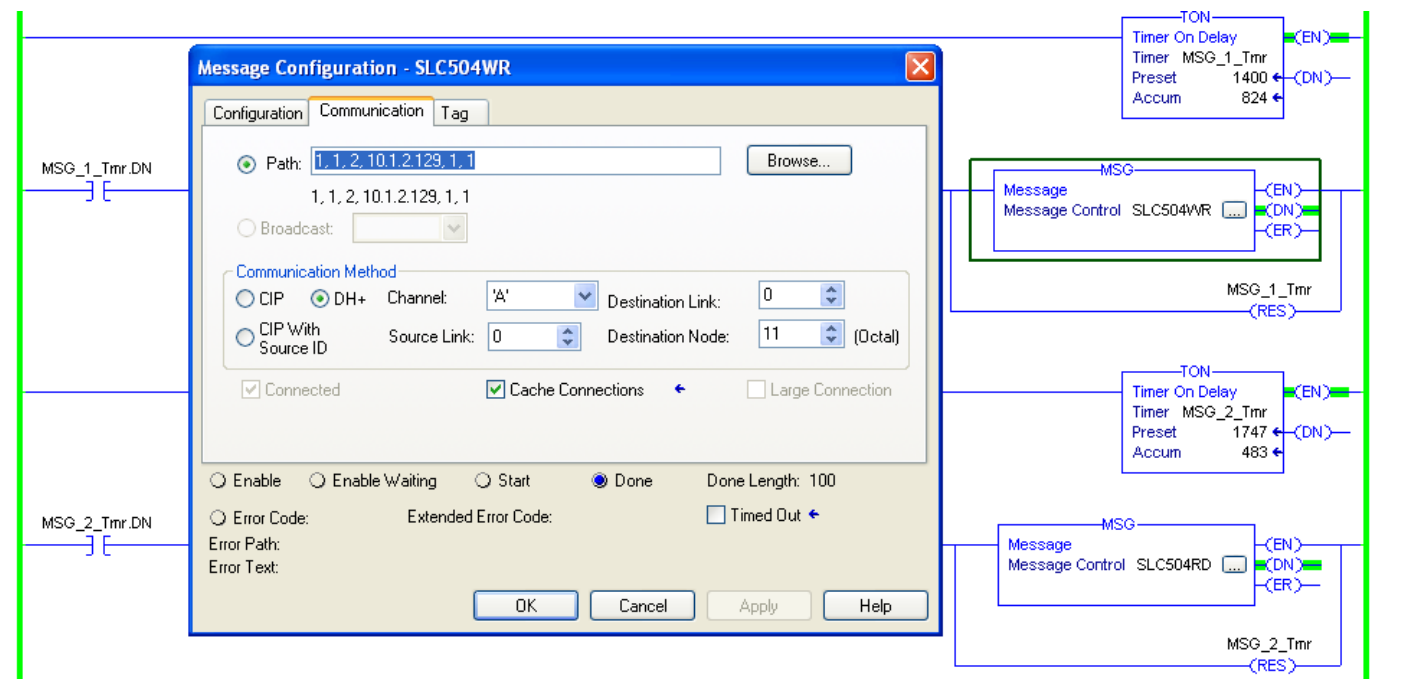**ControlLogix MSG Samples to a SLC5/04**
   Read

This sample assumes that a 1756-ENBT/ EN2T/EN3T module is in Slot 1 which is the second parameter listed in the path below. The IP Address is the IP Address of the AN-X2 Gateway.
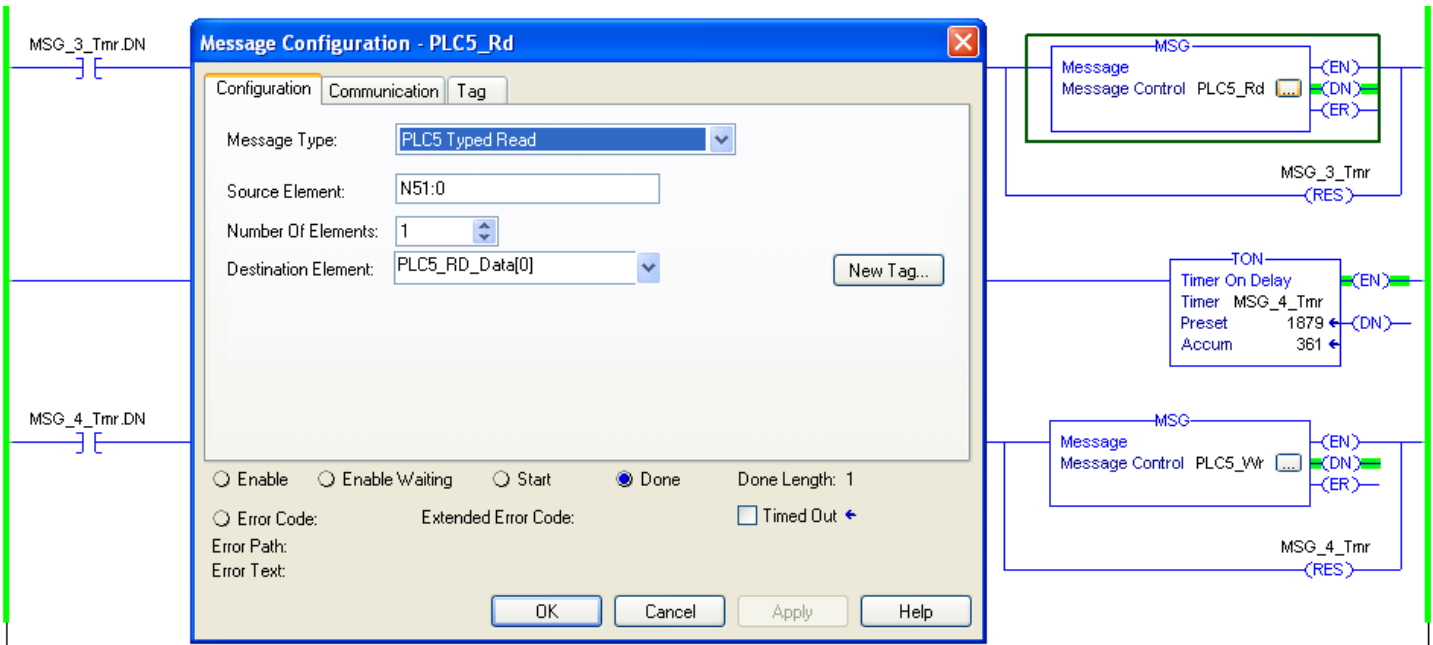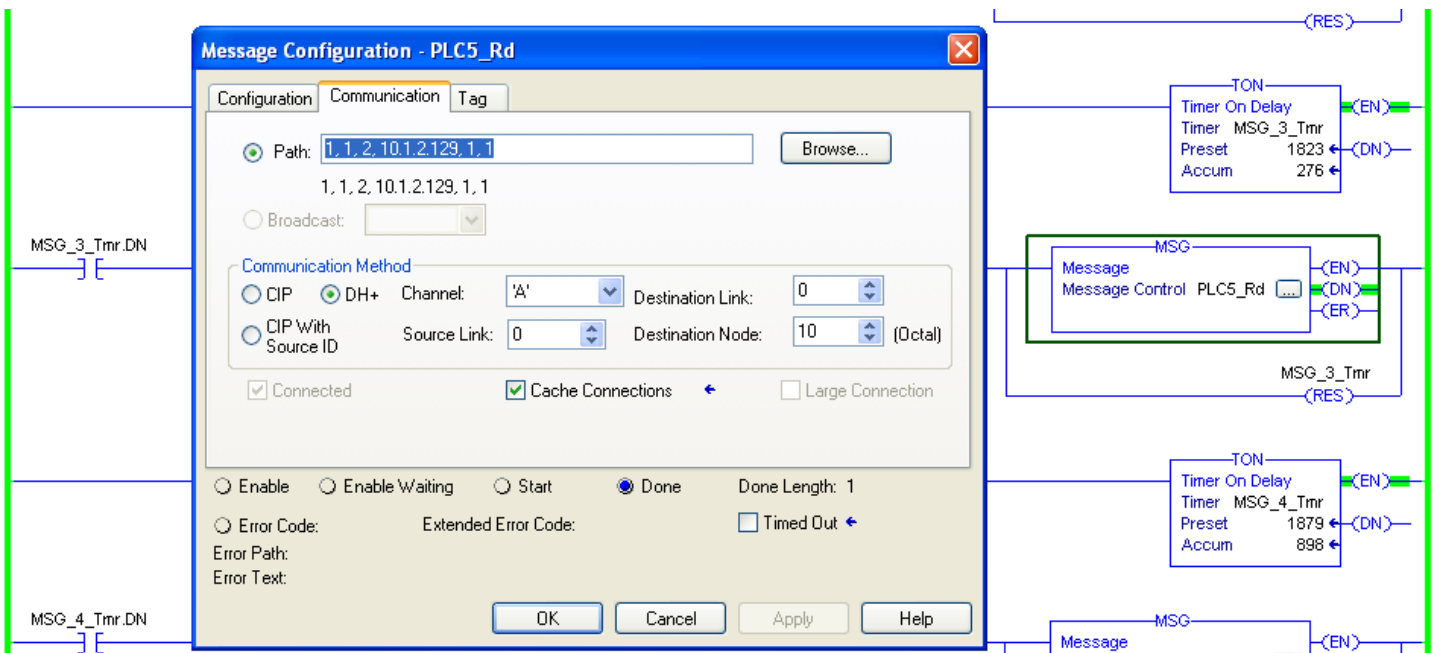
Write Example

This sample assumes that a 1756-ENBT/ EN2T/EN3T module is in Slot 1 which is the second parameter listed in the path below. The IP Address is the IP Address of the AN-X2 Gateway.
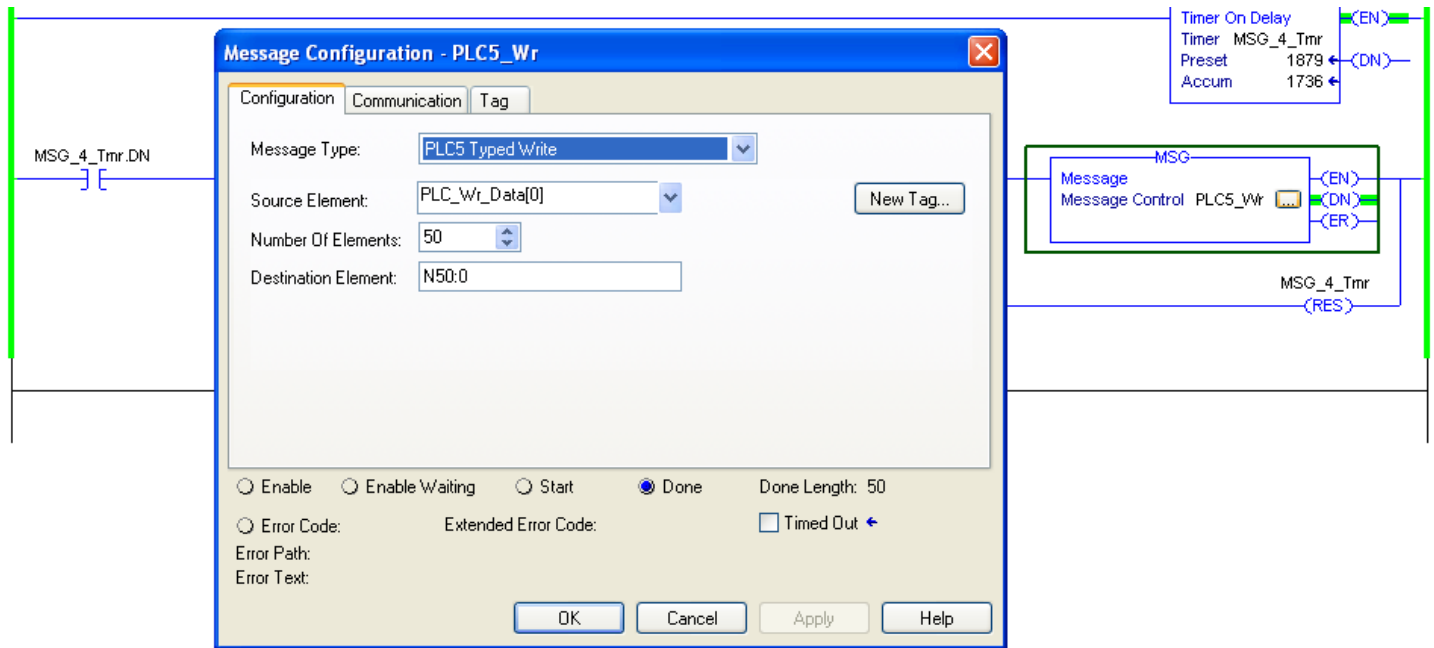
**ControlLogix® MSG Samples to a PLC-5®**
   Read

This sample assumes that a 1756-ENBT/ EN2T/EN3T module is in Slot 1 which is the second parameter listed in the path below. The IP Address is the IP Address of the AN-X2 Gateway.
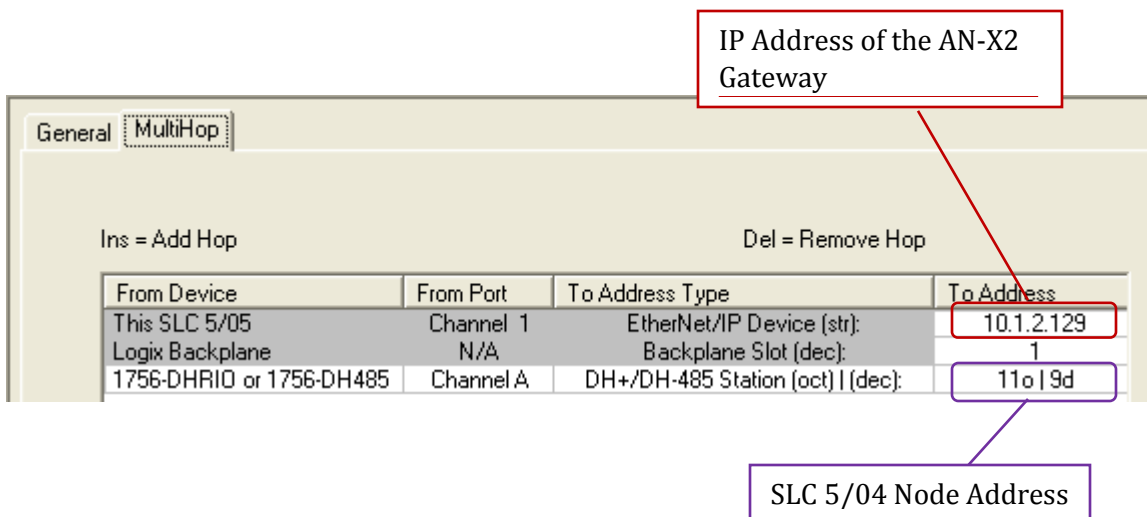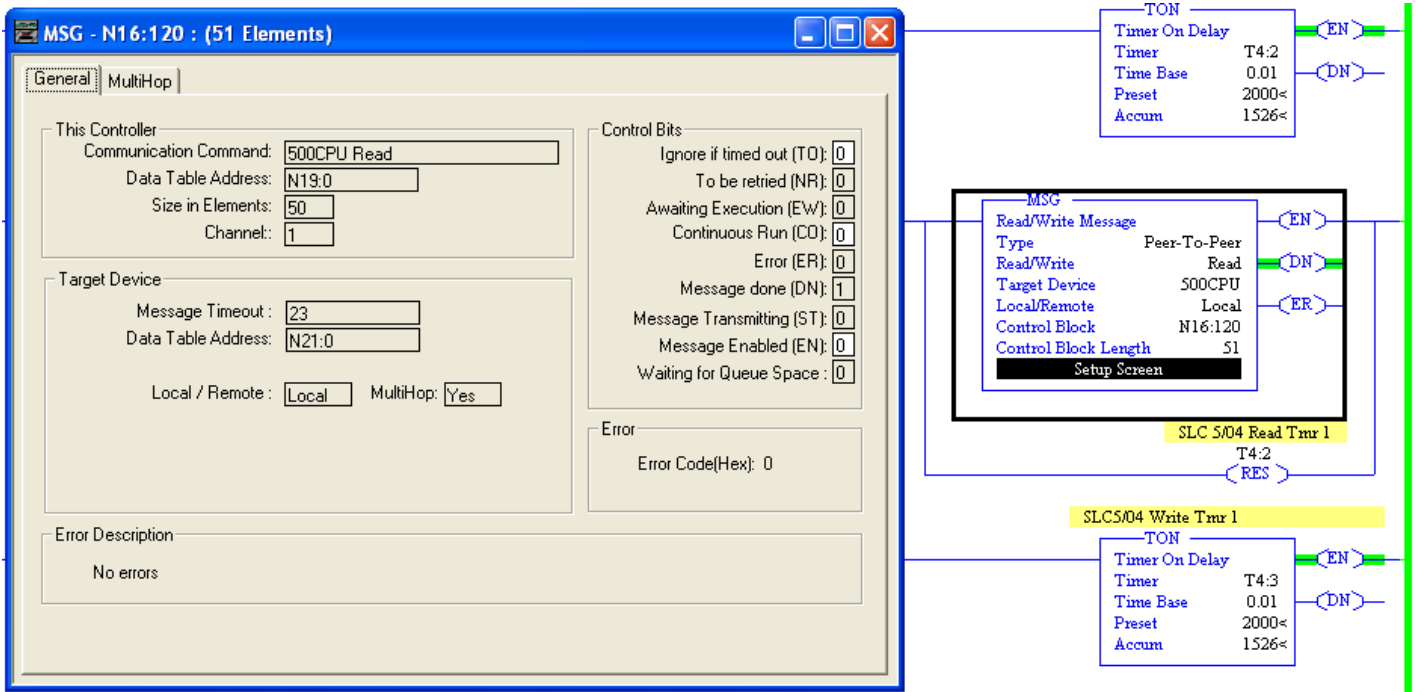
Write

This sample assumes that a 1756-ENBT/ EN2T/EN3T module is in Slot 1 which is the second parameter listed in the path below. The IP Address is the IP Address of the AN-X2 Gateway.
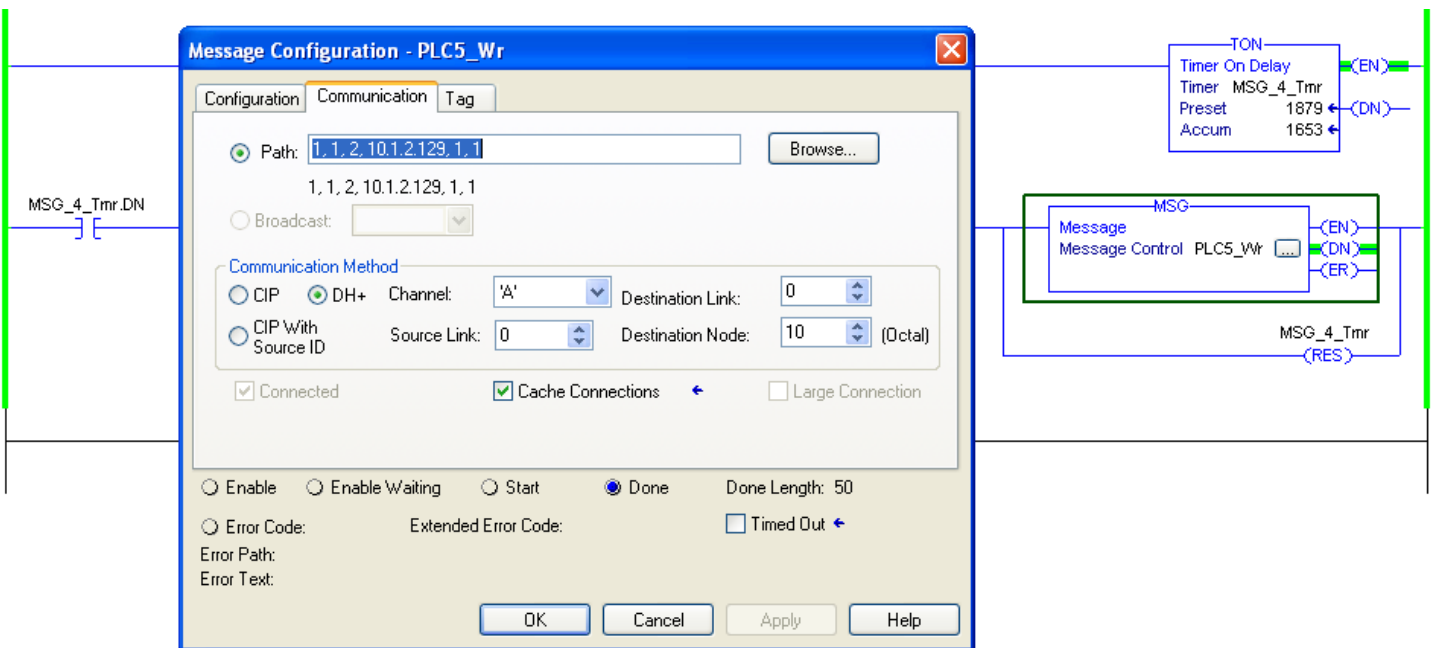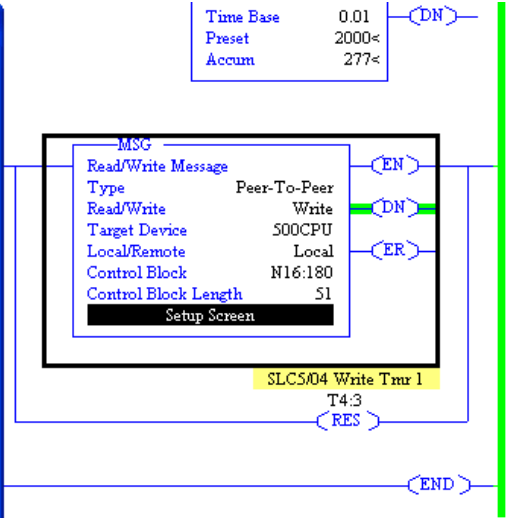
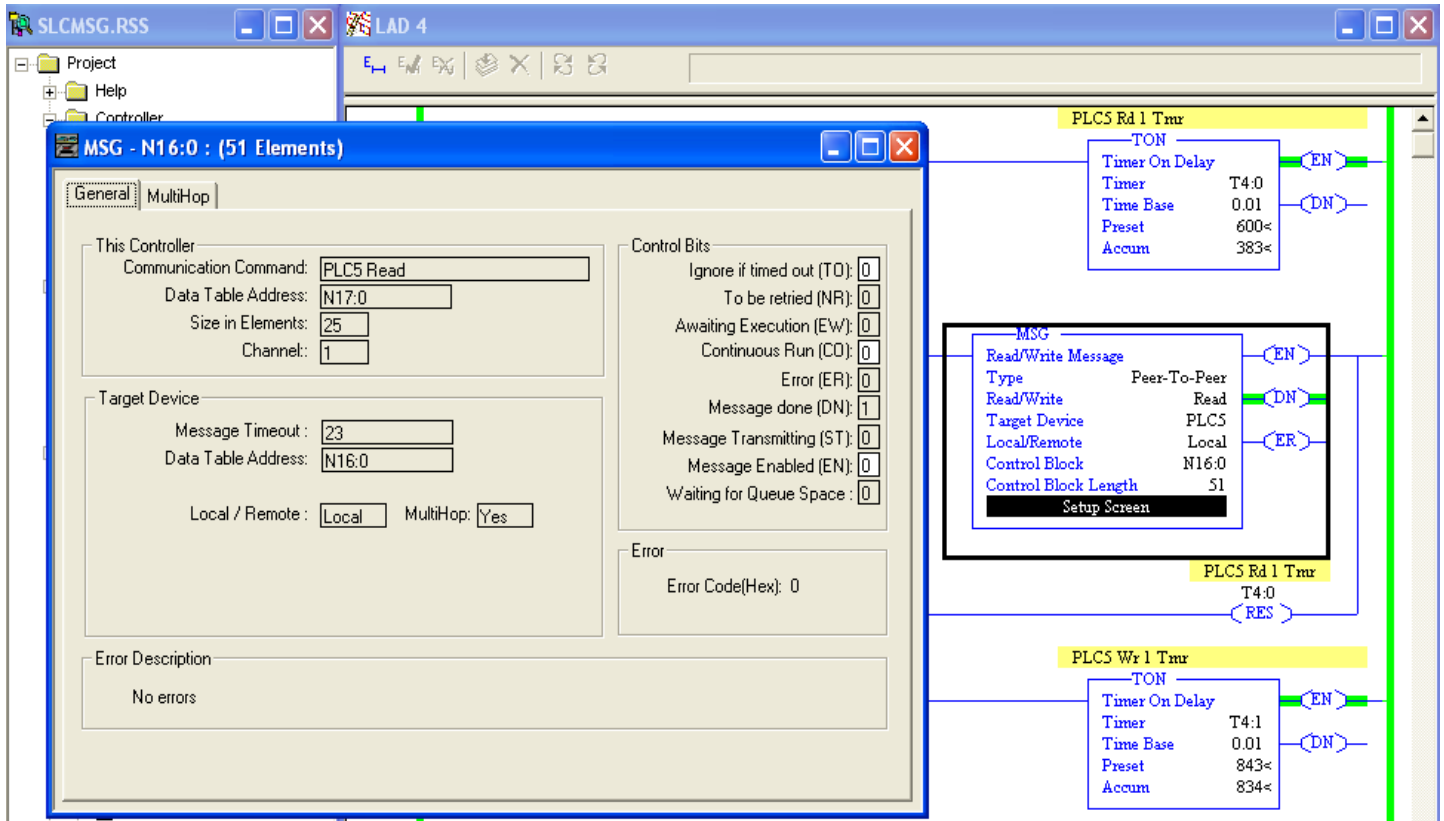**Message Instruction Samples from a SLC5/05 to a SLC5/04**

Read Sample

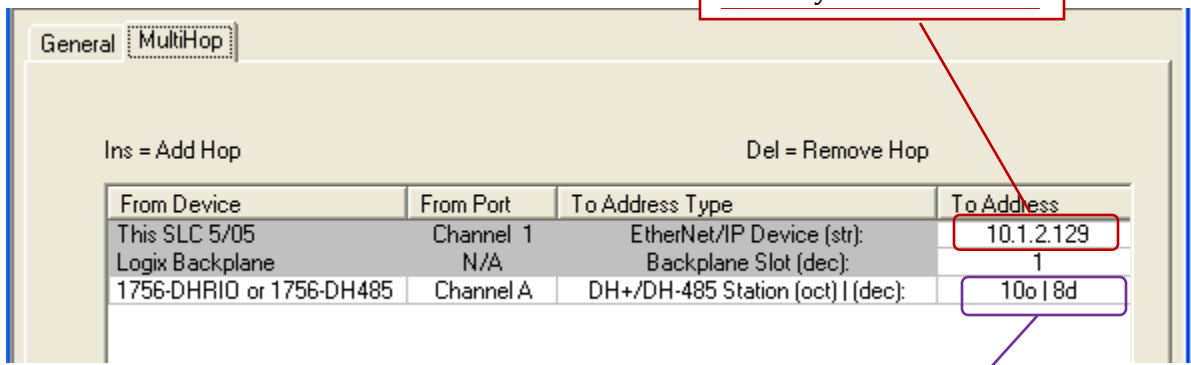IP Address of the AN-X2 Gateway

SLC 5/04 Node Address

Write Sample

IP Address of the AN-X2 Gateway

SLC 5/04 Node Address

SLC5/05 PLC to a PLC-5®

Here is a sample Read MSG instruction in RSLogix 500
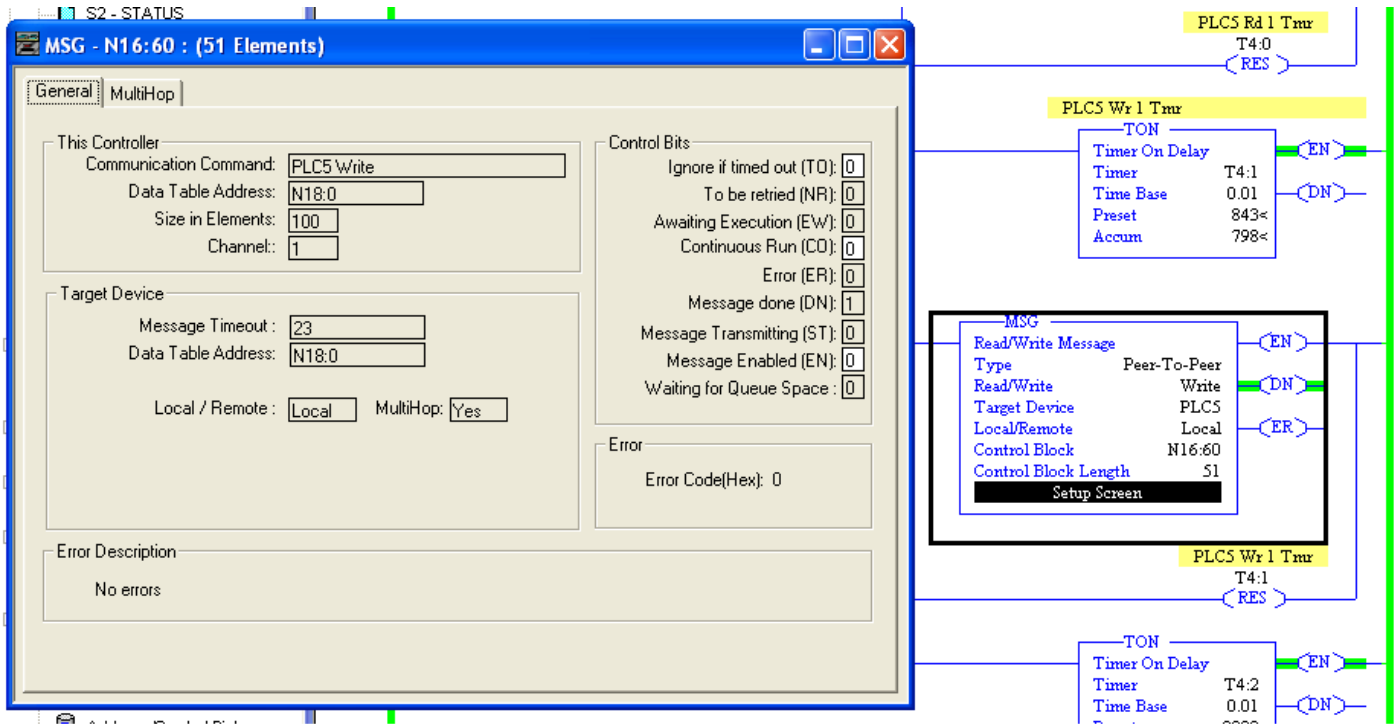

IP Address of the AN-X2 Gateway

PLC5 Node Address

Sample Write MSG instruction in RSLogix 500

IP Address of the AN-X2 Gateway

PLC5 Node Address

Conclusion

This document has shown samples of various Processor to Processor Message instructions for use with the AN-X2-Ab-DHRIO gateway when running the Data Highway Plus firmware. If you have any additional questions please contact your regional support center listed below.

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