



Ethernet Interface Module

(Cat. No. 1785-ENET)

Introduction

Use these release notes with the series B, revision A of the Ethernet interface module

What these Release Notes Describe

Use this table to understand the module updates and enhancements and where to find the information in this document:

This Information:	Is Described on page:
Module Enhancements	1
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Enhancements

This release includes these enhancements:

- multihop messaging over Ethernet, so that processors can communicate over Ethernet with ControlLogix devices or through a ControlLogix Ethernet module (1756-ENET) to other PLC-5 and SLC processors. You need either:
 - a series E, revision D.1 or later Ethernet PLC-5 processor
 - or**
 - any series E, revision D or later PLC-5 processor with a series B, revision A 1785-ENET interface module.
- support for SLC Typed Read and Write MSG instructions through the Ethernet interface module to SLC 5/05 controllers

To take advantage of these enhancements, you need RSLogix 5 programming software, release 3.2 or later.

Using Multihop Messaging Over Ethernet

Keep in mind these considerations:

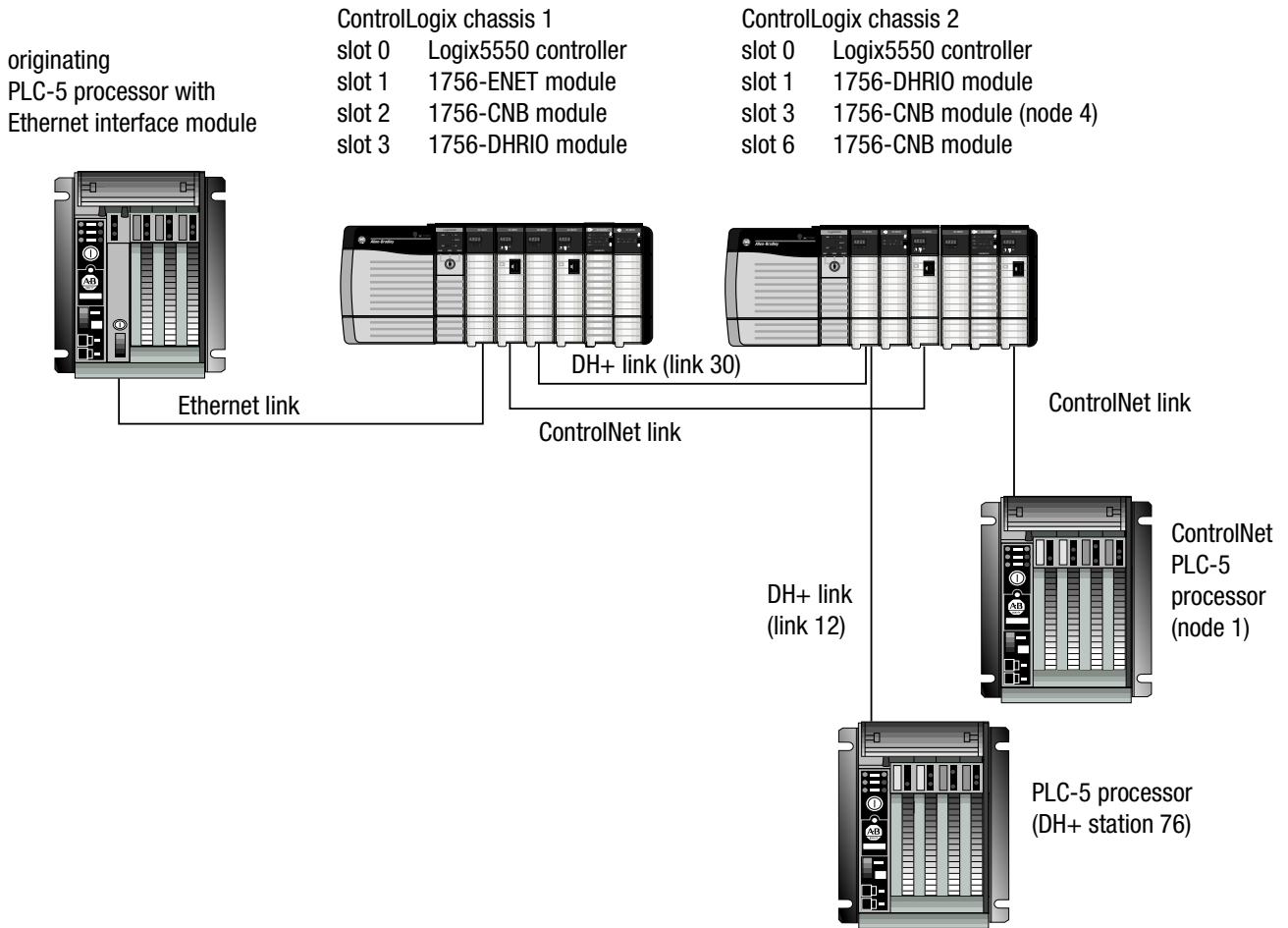
- RSLogix programming software on ControlNet and DH+ links cannot see the controllers on an Ethernet link.
- The RSLinx DDE server on a ControlNet link cannot poll data from the controllers on an Ethernet link.
- The RSLinx DDE server on a ControlNet link cannot accept unsolicited data from controllers on an Ethernet link.

Allen-Bradley Spares

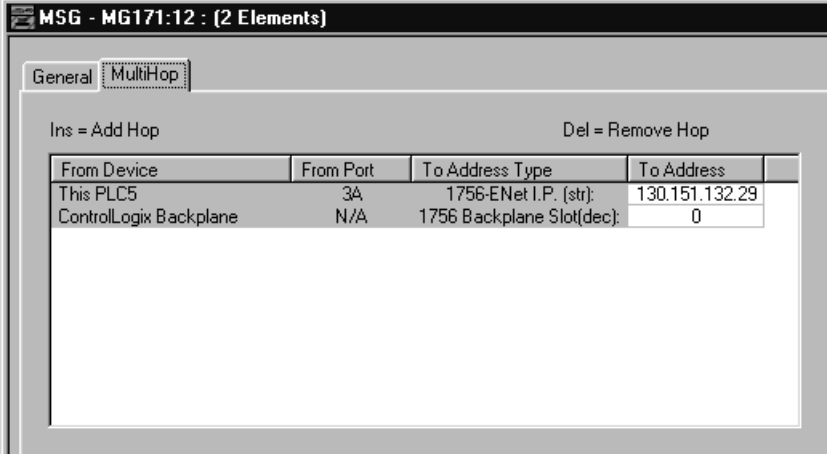
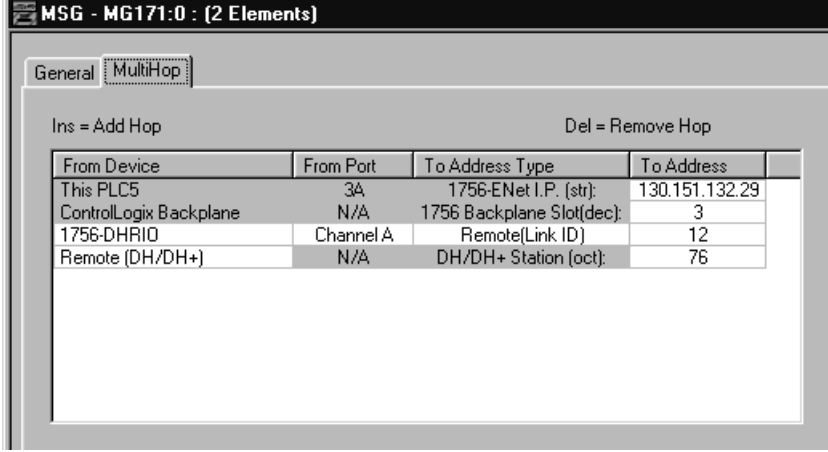
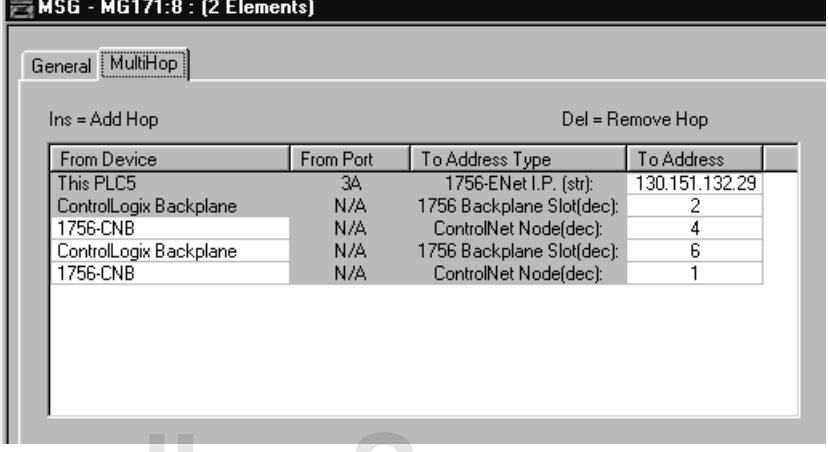
- Applications that register themselves as nodes on the RSLinx “Virtual Link” in workstations on ControlNet cannot accept unsolicited packets from controllers on Ethernet.
- Applications that register themselves as nodes on the RSLinx “Virtual Link” in workstations on an Ethernet link cannot accept unsolicited packets from the controllers on an Ethernet link.

Multihop Examples

The following examples use this system configuration:



The following table shows the multihop path you enter to communicate over these scenarios:

Scenario:	Multihop Path:																								
originating PLC-5 with Ethernet interface to ControlLogix controller in chassis 1	 <p>MSG - MG171:12 : (2 Elements)</p> <p>General MultiHop</p> <p>Ins = Add Hop Del = Remove Hop</p> <table border="1"> <thead> <tr> <th>From Device</th> <th>From Port</th> <th>To Address Type</th> <th>To Address</th> </tr> </thead> <tbody> <tr> <td>This PLC5</td> <td>3A</td> <td>1756-ENet I.P. (str):</td> <td>130.151.132.29</td> </tr> <tr> <td>ControlLogix Backplane</td> <td>N/A</td> <td>1756 Backplane Slot(dec):</td> <td>0</td> </tr> </tbody> </table>	From Device	From Port	To Address Type	To Address	This PLC5	3A	1756-ENet I.P. (str):	130.151.132.29	ControlLogix Backplane	N/A	1756 Backplane Slot(dec):	0												
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originating PLC-5 with Ethernet interface to PLC-5 (station 76) on DH+ link (link 12) Note: Both 1756-DHRIO modules need routing tables that show a path to both link 12 and the link ID that is configured for the Ethernet port of the originating PLC-5 processor.	 <p>MSG - MG171:0 : (2 Elements)</p> <p>General MultiHop</p> <p>Ins = Add Hop Del = Remove Hop</p> <table border="1"> <thead> <tr> <th>From Device</th> <th>From Port</th> <th>To Address Type</th> <th>To Address</th> </tr> </thead> <tbody> <tr> <td>This PLC5</td> <td>3A</td> <td>1756-ENet I.P. (str):</td> <td>130.151.132.29</td> </tr> <tr> <td>ControlLogix Backplane</td> <td>N/A</td> <td>1756 Backplane Slot(dec):</td> <td>3</td> </tr> <tr> <td>1756-DHRIO</td> <td>Channel A</td> <td>Remote(Link ID):</td> <td>12</td> </tr> <tr> <td>Remote (DH/DH+)</td> <td>N/A</td> <td>DH/DH+ Station (oct):</td> <td>76</td> </tr> </tbody> </table>	From Device	From Port	To Address Type	To Address	This PLC5	3A	1756-ENet I.P. (str):	130.151.132.29	ControlLogix Backplane	N/A	1756 Backplane Slot(dec):	3	1756-DHRIO	Channel A	Remote(Link ID):	12	Remote (DH/DH+)	N/A	DH/DH+ Station (oct):	76				
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originating PLC-5 with Ethernet interface to ControlNet PLC-5 (node 1)	 <p>MSG - MG171:8 : (2 Elements)</p> <p>General MultiHop</p> <p>Ins = Add Hop Del = Remove Hop</p> <table border="1"> <thead> <tr> <th>From Device</th> <th>From Port</th> <th>To Address Type</th> <th>To Address</th> </tr> </thead> <tbody> <tr> <td>This PLC5</td> <td>3A</td> <td>1756-ENet I.P. (str):</td> <td>130.151.132.29</td> </tr> <tr> <td>ControlLogix Backplane</td> <td>N/A</td> <td>1756 Backplane Slot(dec):</td> <td>2</td> </tr> <tr> <td>1756-CNB</td> <td>N/A</td> <td>ControlNet Node(dec):</td> <td>4</td> </tr> <tr> <td>ControlLogix Backplane</td> <td>N/A</td> <td>1756 Backplane Slot(dec):</td> <td>6</td> </tr> <tr> <td>1756-CNB</td> <td>N/A</td> <td>ControlNet Node(dec):</td> <td>1</td> </tr> </tbody> </table>	From Device	From Port	To Address Type	To Address	This PLC5	3A	1756-ENet I.P. (str):	130.151.132.29	ControlLogix Backplane	N/A	1756 Backplane Slot(dec):	2	1756-CNB	N/A	ControlNet Node(dec):	4	ControlLogix Backplane	N/A	1756 Backplane Slot(dec):	6	1756-CNB	N/A	ControlNet Node(dec):	1
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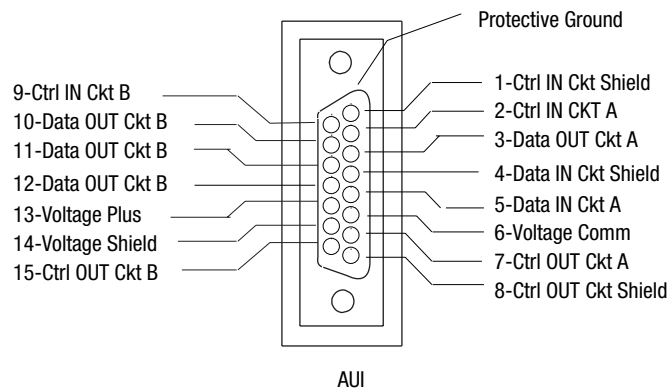
Comparing Multihop and Non-Multihop Messages Over Ethernet

When an outbound connection's inactivity timer has expired and a MSG is pending on that connection, the MSG receives an error. On a multihop connection, the error is 0x18 (Broken Connection). On a non-multihop connection, the error is 0x16 (Connection Timeout).

For non-multihop connections, the Connection Inactivity Timeout is user configurable. For multihop connections, it is not configurable. Instead, it uses a default timeout value of 17 seconds.

Wiring the AUI Connector







Wire the AUI connector as shown below. Cable assemblies connected to this port must be ANSI/IEEE 802.3 compliant.



Module Specifications

This release includes additions to the module specifications:

Backplane Current	Series A - 5V@ 2.2A Series B - 5V@ 1.0A
Fuse Replacement	1A 250V type AGC
Conductors	802.3 compliant AUI - Category 2*
* Use this conductor category information for planning conductor routing as described in publication 1770-4.1, Industrial Automation Wiring and Grounding Guidelines.	

CSA Hazardous Location Approval	Approbation d'utilisation dans des emplacements dangereux par la CSA
<p>CSA certifies products for general use as well as for use in hazardous locations. Actual CSA certification is indicated by the product label as shown below, and not by statements in any user documentation.</p>	<p>La CSA certifie les produits d'utilisation generale aussi bien que ceux qui s'utilisent dans des emplacements dangereux. La certification CSA en vigueur est indiquee par l'etiquette du produit et non par des affirmations dans la documentation a l'usage des utilisateurs.</p>
<p>Example of the CSA certification product label</p> 	<p>Exemple d'etiquette de certification d'un produit par la CSA</p> 
<p>To comply with CSA certification for use in hazardous locations, the following information becomes a part of the product literature for this CSA-certified industrial control product.</p> <ul style="list-style-type: none"> This equipment is suitable for use in Class I, Division 2, Groups A, B, C, D, or non-hazardous locations only. The products having the appropriate CSA markings (that is, Class I, Division 2, Groups A, B, C, D) are certified for use in other equipment where the suitability of combination (that is, application or use) is determined by the CSA or the local inspection office having jurisdiction. 	<p>Pour satisfaire a la certification de la CSA dans des endroits dangereux, les informations suivantes font partie integrante de la documentation ce produit industriel de controle certifie par la CSA.</p> <ul style="list-style-type: none"> Cet equipement convient a l'utilisation dans des emplacements de Classe 1, Division 2, Groupes A, B, C, D, ou ne convient qu'a l'utilisation dans des endroits non dangereux. Les produits portant le marquage approprie de la CSA (c'est a dire, Classe 1, Division 2, Groupes A, B, C, D) sont certifies a l'utilisation pour d'autres equipements ou la convenance de combinaison (application ou utilisation) est determinee par la CSA ou le bureau local d'inspection qualifie.
<p>Important: Due to the modular nature of a programmable control system, the product with the highest temperature rating determines the overall temperature code rating of a programmable control system in a Class I, Division 2, location. The temperature code rating is marked on the product label as shown.</p>	<p>Important: Par suite de la nature modulaire du systeme de controle programmable, le produit ayant le taux le plus eleve de temperature determine le taux d'ensemble du code de temperature du systeme de controle d'un programmable dans un emplacement de Classe 1, Division 2. Le taux du code de temperature est indique sur l'etiquette du produit.</p>
<p>Temperature code rating</p> 	<p>Taux du code de temperature</p> 
<p>The following warnings apply to products having CSA certification for use in hazardous locations.</p>	<p>Les avertissements suivants s'appliquent aux produits ayant la certification CSA pour leur utilisation dans des emplacements dangereux.</p>
 <p>ATTENTION: Explosion hazard –</p> <ul style="list-style-type: none"> Substitution of components may impair suitability for Class I, Division 2. Do not replace components unless power has been switched off or the area is known to be non-hazardous. Do not disconnect equipment unless power has been switched off or the area is known to be non-hazardous. Do not disconnect connectors unless power has been switched off or the area is known to be non-hazardous. Secure any user-supplied connectors that mate to external circuits on this equipment by using screws, sliding latches, threaded connectors, or other means such that any connection can withstand a 15 Newton (3.4 lb.) separating force applied for a minimum of one minute. Batteries must only be changed in an area known to be non-hazardous. 	 <p>AVERTISSEMENT: Risque d'explosion –</p> <ul style="list-style-type: none"> La substitution de composants peut rendre ce materiel inacceptable pour les emplacements de Classe I, Division 2. Couper le courant ou s'assurer que l'emplacement est designe non dangereux avant de remplacer les composants. Avant de debrancher l'equipement, couper le courant ou s'assurer que l'emplacement est designe non dangereux. Avant de debrancher les connecteurs, couper le courant ou s'assurer que l'emplacement est reconnu non dangereux. Attacher tous connecteurs fournis par l'utilisateur et relies aux circuits externes de cet appareil a l'aide de vis, loquets coulissants, connecteurs filetes ou autres moyens permettant aux connexions de resister a une force de separation de 15 newtons (3,4 lb. - 1,5 kg) appliquee pendant au moins une minute. Afin d'eviter tout risque d'explosion, s'assurer que l'emplacement est designe non dangereux avant de changer la batterie.

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