Installation Instructions

ControlLogix Ethernet Communication Interface Module

Catalog Number 1756-ENET/B

Use this manual as a guide to install the ControlLogix™ Ethernet Communication Interface Module. The following table identifies what this manual contains and where to find specific information.

Publication 1756-IN053B-EN-P - October 2000

Throughout this manual we use the following notes to make you aware of safety considerations:

WARNING

Identifies information about practices or circumstances that have the potential to create an explosion hazard.

ATTENTION

Identifies information about other practices or circumstances that can lead to personal injury or death, property damage or economic loss.

Warning and Attention statements help you to:

- identify a hazard
- avoid a hazard
- recognize the consequences

We use the following note to call attention to critical information:

IMPORTANT

Identifies information that is critical for successful application and understanding of the product.

European Communities (EC) Directive Compliance

If this product has the CE mark it is approved for installation within the European Union and EEA regions. It has been designed and tested to meet the following directives.

EMC Directive

This product is tested to meet the Council Directive 89/336/EC Electromagnetic Compatibility (EMC) by applying the following standards, in whole or in part, documented in a technical construction file:

- EN 50081-2 EMC — Generic Emission Standard, Part 2 — Industrial Environment
- EN 50082-2 EMC — Generic Immunity Standard, Part 2 — Industrial Environment

This product is intended for use in an industrial environment.

Low Voltage Directive

This product is tested to meet Council Directive 73/23/EEC Low Voltage, by applying the safety requirements of EN 61131-2 Programmable Controllers, Part 2 - Equipment Requirements and Tests. For specific information required by EN 61131-2, see the appropriate sections in this publication, as well as Allen-Bradley publication number 1770-4.1, Industrial Automation Wiring and Grounding Guidelines.

Environment

This product must be mounted within a suitable system enclosure to prevent personal injury resulting from accessibility to live parts. The interior of this enclosure must be accessible only by the use of a tool.

This industrial control equipment is intended to operate in a Pollution Degree 2 environment, in overvoltage category II applications, (as defined in IEC publication 664A) at altitudes up to 2000 meters without derating.

Preventing Electrostatic Discharge

The Ethernet Communication Interface module is sensitive to electrostatic discharge.

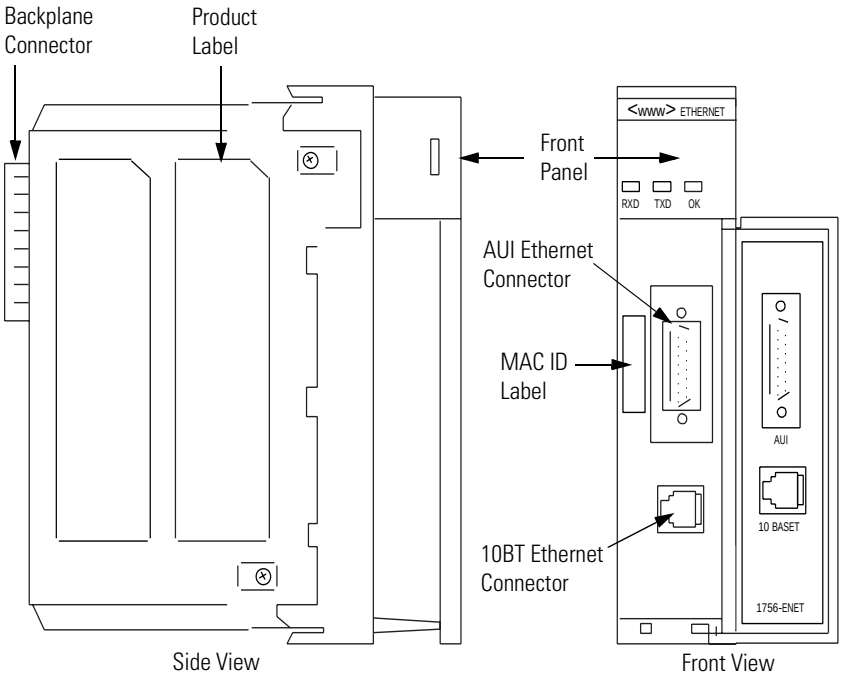
ATTENTION

This module is sensitive to electrostatic discharge. Electrostatic discharge can damage integrated circuits or semiconductors if you touch backplane connector pins. Follow these guidelines when you handle the module:

- Touch a grounded object to discharge static potential.
- Wear an approved wrist-strap grounding device.
- Do not touch the backplane connector or connector pins.
- Do not touch circuit components inside the module.
- If available, use a static-safe work station.
- When not in use, keep the module in its static-shield bag.

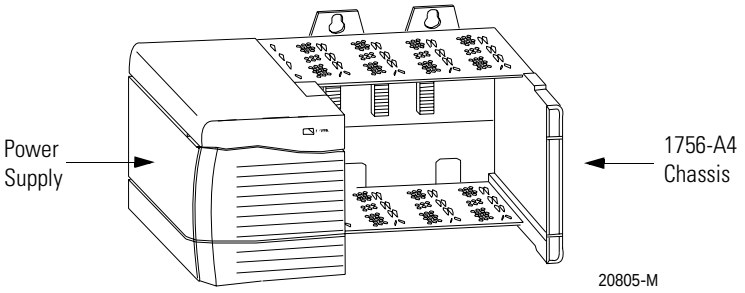
Identifying Module Components

Use the following illustration to identify the external features of the Ethernet module.



Preparing the Chassis for Module Installation

Before you install the Ethernet module, you must install and connect a ControlLogix chassis and power supply.



For information on installing these products, refer to the publications listed in the following table.

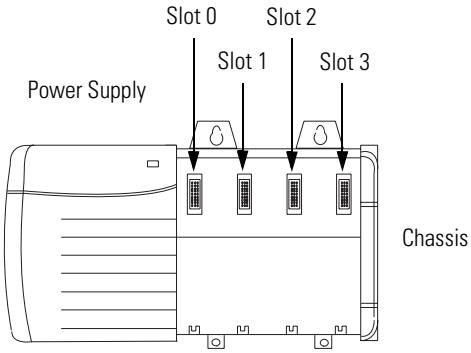
Chassis Type	Chassis Installation	Power Supply	Power Supply Installation
Series A: 1756-A4, -A7, -A10, -A13	Pub. No. 1756-5.69	1756-PA72/B(1)	Pub. No. 1756-5.67
		1756-PB72/B(1)	
Series B: 1756-A4, -A7, -A10, -A13	Pub. No. 1756-5.80	1756-PA75/A(2)	Pub. No. 1756-5.78
		1756-PB75/A(2)	

(1) Compatible with Series A chassis

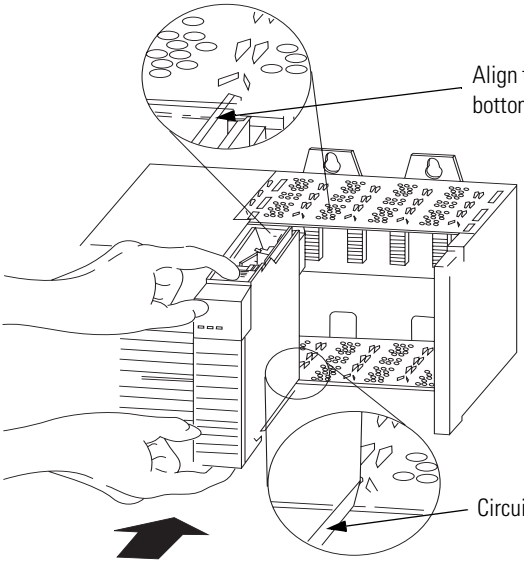
(2) Compatible with Series B chassis

Determining Module Slot Location

You can install the module in any slot in the ControlLogix chassis. You can also install multiple ENET modules in the same chassis. The figure below shows chassis slot numbering in a 4-slot chassis. Slot 0 is the first slot and is always the leftmost slot in the rack (the first slot to the right of the power supply).

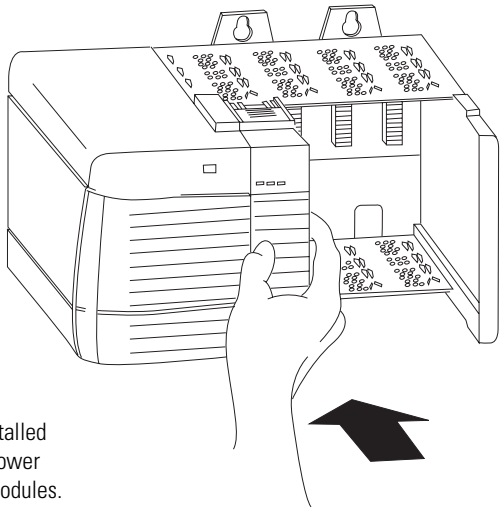


Installing the Module in the Chassis



2

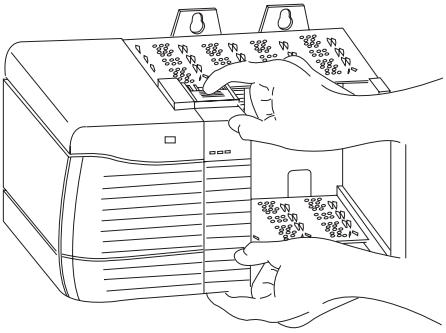
Slide the module into the chassis. Make sure the module backplane connector properly connects to the chassis backplane.



3

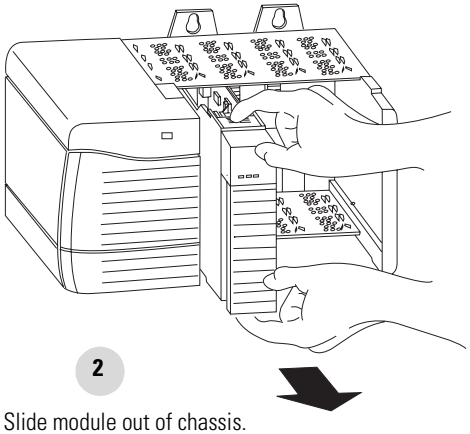
The module is properly installed when it is flush with the power supply or other installed modules.

Removing or Replacing the Module (when applicable)



1

Push on upper and lower module tabs to disengage them.



2

Slide module out of chassis.

IMPORTANT If you are replacing an existing module with an identical one, and you want to resume identical system operation, you must install the new module in the same slot.

Installing or Removing the Module While Power Is Applied

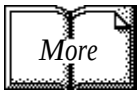
You can install or remove the module while chassis power is applied. Please observe the following precautions.

WARNING

When you insert or remove the module while backplane power is on, or you connect or disconnect the communications connectors, an electrical arc can occur. This could cause an explosion in hazardous location installations. Be sure that power is removed or the area is nonhazardous before proceeding.

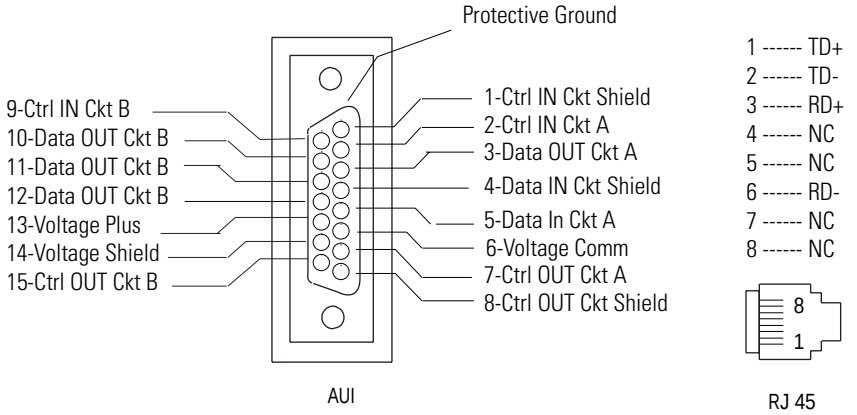
Wiring the Ethernet Connector

Use either an AUI or an RJ45 connector to connect to the Ethernet network.



For detailed Ethernet connection information, see the Ethernet/IP Media Planning and Installation Guide, publication number ENET-IN001A-EN-P.

Wire the appropriate connector according to the following illustrations:

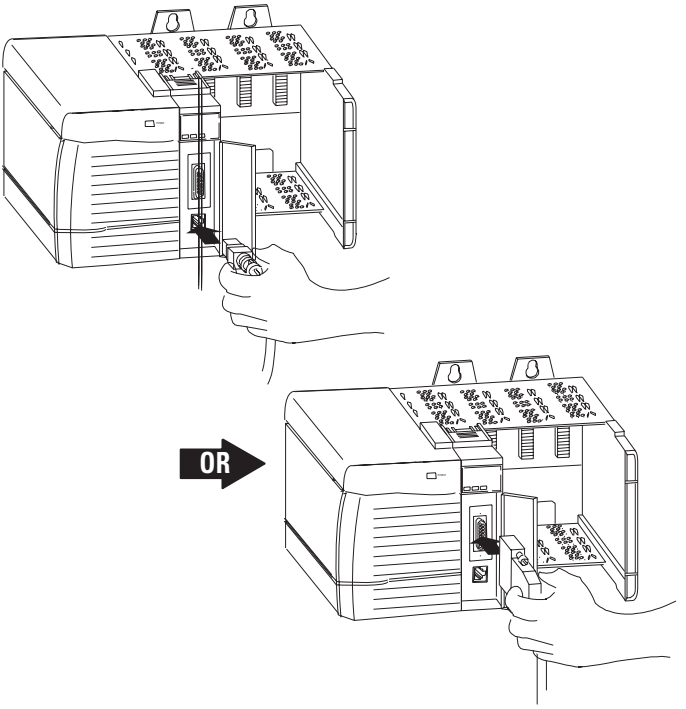


Connecting the Module to the Ethernet Network

WARNING

If you connect or disconnect the Ethernet cable with power applied to this module or any device on the network, an electrical arc can occur. This could cause an explosion in hazardous location installations. Be sure that power is removed or the area is nonhazardous before proceeding.

Attach the AUI or RJ45 connector to the matching Ethernet port:

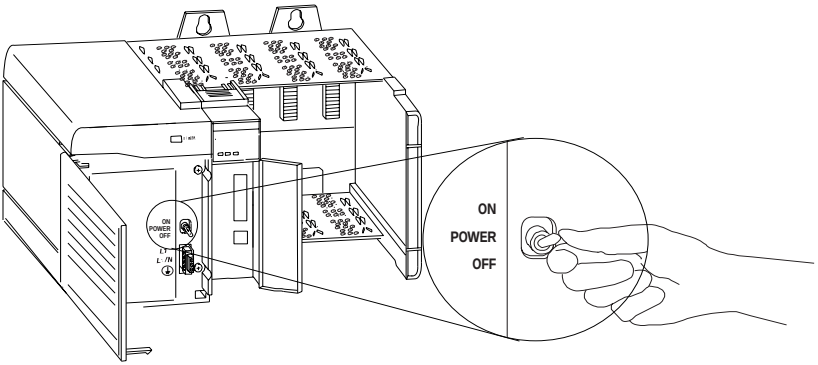


IMPORTANT Connecting the module to the network via an Ethernet switch will reduce collisions and lost packets and increase network bandwidth. See the Ethernet/IP Performance and Application Guide, publication ENET-AP001A-EN-P, for more information.

If your application requires the module door to be closed, use one of the custom AUI connector cables available in two lengths:

- 2 meters (catalog number 1756-TC02), or
- 15 meters (catalog number 1756-TC15).

Applying Chassis Power



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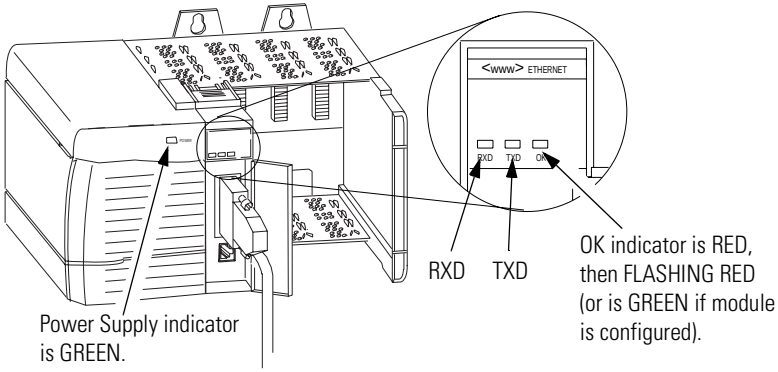
Checking Power Supply and Module Status

Check the LED indicators to determine if the power supply and module are operating properly.



If the Power Supply and OK indicators are not in the states described above refer to the following troubleshooting section.

Troubleshooting the Module

The following table describes module health (OK) indicator displays, module status, and recommended action:

If the OK indicator is	then module status is	take this action
Off	Not operating.	Apply chassis power. Verify module is completely inserted into chassis and backplane.
Red, then flashing red or flashing green	Performing powerup diagnostics.	None, normal operation.
Green	Operating.	None.
Red flashing	Not configured.	Configure the module (refer to the configuration chapter of the Ethernet Communication Interface User Manual, publication 1756-UM051B-EN-P).
Red	Unrecoverable fault.	Repair or replace module.

The following table describes the states of the transmit (TXD) and receive (RXD) indicators:

If this indicator	is	the module is
TXD	Green	Transmitting data
	Off	Not active
RXD	Green	Receiving data
	Off	Not active

Configuring the Ethernet Module

Now that you have installed your Ethernet module, you must configure it. Refer to the configuration chapter of your ControlLogix Ethernet Communication Interface Module User Manual, publication 1756-UM051B-EN-P.

Hazardous Location Approval

The following information applies when operating this equipment in hazardous locations:

Products marked "CL I, DIV 2, GP A, B, C, D" are suitable for use in Class I Division 2 Groups A, B, C, D, Hazardous Locations and nonhazardous locations only. Each product is supplied with markings on the rating nameplate indicating the hazardous location temperature code. When combining products within a system, the most adverse temperature code (lowest "T" number) may be used to help determine the overall temperature code of the system. Combinations of equipment in your system are subject to investigation by the local Authority Having Jurisdiction at the time of installation.

WARNING

EXPLOSION HAZARD -

- Do not disconnect equipment unless power has been removed or the area is known to be nonhazardous.
- Do not disconnect connections to this equipment unless power has been removed or the area is known to be nonhazardous. Secure any external connections that mate to this equipment by using screws, sliding latches, threaded connectors, or other means provided with this product.
- Substitution of components may impair suitability for Class I, Division 2.
- If this product contains batteries, they must only be changed in an area known to be nonhazardous.

Informations sur l'utilisation de cet équipement en environnements dangereux:

Les produits marqués « CL I, DIV 2, GP A, B, C, D » ne conviennent qu'à une utilisation en environnements de Classe I Division 2 Groupes A, B, C, D dangereux et non dangereux. Chaque produit est livré avec des marquages sur sa plaque d'identification qui indiquent le code de température pour les environnements dangereux. Lorsque plusieurs produits sont combinés dans un système, le code de température le plus défavorable (code de température le plus faible) peut être utilisé pour déterminer le code de température global du système. Les combinaisons d'équipements dans le système sont sujettes à inspection par les autorités locales qualifiées au moment de l'installation.

AVERTISSEMENT

RISQUE D'EXPLOSION –

- Couper le courant ou s'assurer que l'environnement est classé non dangereux avant de débrancher l'équipement.
- Couper le courant ou s'assurer que l'environnement est classé non dangereux avant de débrancher les connecteurs. Fixer tous les connecteurs externes reliés à cet équipement à l'aide de vis, loquets coulissants, connecteurs filetés ou autres moyens fournis avec ce produit.
- La substitution de composants peut rendre cet équipement inadapté à une utilisation en environnement de Classe 1, Division 2.
- S'assurer que l'environnement est classé non dangereux avant de changer les piles.

Specifications

Module Location	Any slot in the ControlLogix chassis
Maximum Backplane Current Load	900mA @ 5.1V DC 350mA @ 24V DC from I/O chassis backplane
Power Dissipation	13.3W maximum
Environmental Conditions:(1) Operating Temperature Storage Temperature Relative Humidity	 0 to 60° C (32 to 140° F) -40 to 85° C (-40 to 185° F) 5 to 95%, non-condensing
Shock (Unpackaged)	30g operational 50g non-operational
Vibration (Unpackaged)	5g from 10 to 150 Hz
Conductors Wiring Category	802.3 compliant - twisted pair or AUI 2
Agency Certifications When product is marked	UL Listed Industrial Control Equipment Certified Process control Equipment Certified Class I, Division 2, Group A,B,C,D FM APPROVED Approved class I, Division 2, Group A,B,C,D CE Marked for all applicable directives C-Tick N223 Marked for all applicable acts
User Manual	Publication 1756-IN053B-EN-P

(1) This product must be mounted within a suitable system enclosure to prevent personal injury resulting from accessibility to live parts. The interior of this enclosure must be accessible only by the use of a tool.

This industrial control equipment is intended to operate in a Pollution Degree 2 environment, in overvoltage category II applications, (as defined in IEC publication 664A) at altitudes up to 2000 meters without derating.

Americas Headquarters, 1201 South Second Street, Milwaukee, WI 53204, USA, Tel: (1) 414 382-2000, Fax: (1) 414 382-4444
European Headquarters SA/NV, avenue Herrmann Debroux, 46, 1160 Brussels, Belgium, Tel: (32) 2 663 06 00, Fax: (32) 2 663 06 40
Asia Pacific Headquarters, 27/F Citicorp Centre, 18 Whitfield Road, Causeway Bay, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846

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