Allen-Bradley

ControlLogix EtherNet/IP Module

Catalog Numbers 1756-EN2T, 1756-EN2F

Topic	Page
About This Publication	1
Before You Begin	2
Enhancements	2
Corrected Anomalies	3
Application Notes	5
Install the Firmware Revision	7
Additional Resources	7

About This Publication

These release notes provide software compatibility requirements and other usage considerations for these modules (firmware revision 3.004), as well as corrected anomalies.

Before You Begin

To use the modules, you need the correct versions of the following software.

Software	Compatible Version
RSLogix 5000	18.00 or later
RSLinx Classic	2.56 or later
RSNetWorx for EtherNet/IP	10.0 or later
ControlFlash	4.0 or later
USB CIP Driver	3.03 or later

Enhancements

This firmware revision contains these enhancements.

Enhancement	Description
Unicast	Added support for unicast I/O for rack-optimized connections.
CIP Sync	Added support for CIP Sync for time synchronization applications.
CIP motion	Enhanced module performance for greater throughput with CIP motion.
Utilization reporting	Enhanced the manner in which the module's communication capacity is calculated and reported (from packets per second to a percentage of utilization). **Important:** To best calculate utilization, use RSNetWorx for EtherNet/IP software to plan your network.
Fault recovery	Enhanced modules' ability to recover after various types of hardware faults. Lgx00103681
ODVA compliance	Enhanced compliance to ODVA standards. Lgx00104174, Lgx00104806

Corrected Anomalies

This firmware revision contains these corrected anomalies.

Anomaly	Description
Memory loss	Corrected an anomaly in which navigating to the Application Connections or Bridge Connections Web pages from the main tree results in loss of memory. Navigating to these same pages through the System Data menu does not result in memory loss. Lgx00104323
Module asserts	Corrected an anomaly in which the module asserts when it receives a specially crafted CIP message. 'Specially crafted' means that the message may have malformed attributes, and may be malicious. Lgx00102260
I/O states	Corrected an anomaly that prevented I/O in rack connections from entering the correct state during fault conditions. Lgx00104816, Lgx00105037
Backplane communication	Corrected an anomaly in which certain modules do not communicate correctly across the backplane. Lgx00106697
Not enough connections	Corrected an anomaly that prevented more than 193 CIP connections from being made through the module. Lgx00107086

Known Anomalies

This firmware revision contains these known anomalies.

Anomaly	Description
RPI appears as 0 in Web pages	Connections with an RPI of less than 1 μs are listed as having an RPI of 0 in the Application Connections and Bridge Connections Web pages. To view the RPI in μs, open the detailed pages by clicking Diagnostics> Advanced Diagnostics> Miscellaneous > System Data. Click Connection Manager, followed by either Application Connections - Detailed Info, or Bridge Connections - Detailed Info.
Setting attributes of TCP/IP may cause the module to time out	Generic CIP messages that set instance attributes 3 and 5 of the module's TCP/IP object may time out. To work around this, confirm the attributes' values by reading them and comparing them with the values to be set.
Interface speed of Ethernet link object	When the network cable is disconnected from a 1756-EN2T or 1756-EN2F module, the Ethernet Link object (class code 0xF6) Interface Speed instance attribute (attribute 1) reports 10 rather than 0. To determine the state of the Ethernet link through CIP messaging, use the Link Status bit of the Interface Flags instance attribute (attribute 2).

Application Notes

Observe the following when using the module.

IMPORTANT

Be sure that the speed and duplex settings on the 1756-EN2T and 1756-EN2F modules are configured identically to the settings on the switch port to which the module is connected. Both the module and the switch should be configured to autonegotiate, or both manually set to 100/Full. A mismatch in speed and duplex settings could result in significant reduction of system performance.

The 1756-ENBT module with firmware version 1.40 or earlier only supports autonegotiation. You must set the connected switch port to autonegotiation.

- With this firmware revision, you can no longer use abbreviations of the SNMP (Simple Network Management Protocol) community strings. For example, with earlier firmware revisions, 'pub' could be used instead of 'public'. With this firmware revision, the full community string must be used.
- Connection timeouts could occur between Quality of Service (QoS) enabled products and older products that do not support QoS. Rockwell Automation has released firmware in various products to address this incompatibility.

  Visit the Knowledgebase at http://www.rockwellautomation.com/knowledgebase/ and download Tech Note 66325 for a listing of compatible product firmware.

- If you use various 1756 EtherNet/IP communication modules in the same chassis, for example, a 1756-ENBT module with a 1756-EN2TR module, do not use the Rack Optimized communication format.

  If you must use the Rack Optimized communication format, we recommend that you place the 1756-EN2TR module in a separate chassis from the 1756-ENBT module.

- Do not flash upgrade the firmware for more than one module simultaneously through the USB port.

- When you cycle power to a secondary 1756-EN2T module, do not manually browse a subnet by using an EtherNet/IP configured driver.

  If you fail to follow this recommendation, an operating 1756-EN2T module may fault with a duplicate IP address error if power is applied to another device on the network that has an identical IP address.

- When using time synchronization with a Logix5000 controller and RSLogix 5000 software, version 18 or later, or one of the following EtherNet/IP modules in a chassis, any others of these EtherNet/IP modules in that chassis must be at firmware revision 3.*x* or later.

  EtherNet/IP modules that this restriction applies to include:

  – 1756-EN2T
  – 1756-EN2F
  – 1756-EN2TXT
  – 1756-EN2TR
  – 1756-EN3TR

- Although you can create two entries in the RSLogix 5000 software controller organizer for the same remote Ethernet modules, one by specifying an IP address and one by specifying a host name that resolves to the same IP address, you will see a module in use error (16#0100) when you go online with the controller. To avoid IP address duplication, ensure that all entries have a unique IP address.

Install the Firmware Revision

Follow these steps to install the firmware revision.

Locate the appropriate firmware and copy all of the files to a temporary subdirectory on your hard drive.

- Firmware files are available on the RSLogix 5000 software CD.

  Use the ControlFlash utility that ships with RSLogix 5000 programming software.

- You can also download the firmware files from http://www.rockwellautomation.com/support.

Additional Resources

These documents contain additional information concerning related Rockwell Automation products.

Resource	Description
ControlLogix EtherNet/IP Bridge Module Installation Instructions, publication 1756-IN603	Provides details about how to install the module, how to upgrade firmware, and controller technical specifications.
EtherNet/IP Modules in Logix5000 Control Systems User Manual, publication ENET-UM001	Provides information about how to use your module after installation.
Industrial Automation Wiring and Grounding Guidelines, publication 1770-4.1	Provides general guidelines for installing a Rockwell Automation industrial system.
Product Certifications website, http://www.ab.com	Provides declarations of conformity, certificates, and other certification details.

You can view or download publications at http://www.rockwellautomation.com/literature. To order paper copies of technical documentation, contact your local Rockwell Automation distributor or sales representative.

Rockwell Automation Support

Rockwell Automation provides technical information on the Web to assist you in using its products. At http://www.rockwellautomation.com/support/, you can find technical manuals, a knowledge base of FAQs, technical and application notes, sample code and links to software service packs, and a MySupport feature that you can customize to make the best use of these tools.

For an additional level of technical phone support for installation, configuration, and troubleshooting, we offer TechConnect support programs. For more information, contact your local distributor or Rockwell Automation representative, or visit http://www.rockwellautomation.com/support/.

Installation Assistance

If you experience a problem within the first 24 hours of installation, please review the information that's contained in this manual. You can also contact a special Customer Support number for initial help in getting your product up and running.

United States or Canada	1.440.646.3434
Outside United States or Canada	Use the Worldwide Locator at http://www.rockwellautomation.com/support/americas/phone_en.html, or contact your local Rockwell Automation representative.

New Product Satisfaction Return

Rockwell Automation tests all of its products to ensure that they are fully operational when shipped from the manufacturing facility. However, if your product is not functioning and needs to be returned, follow these procedures.

United States	Contact your distributor. You must provide a Customer Support case number (call the phone number above to obtain one) to your distributor to complete the return process.
Outside United States	Please contact your local Rockwell Automation representative for the return procedure.

Documentation Feedback

Your comments will help us serve your documentation needs better. If you have any suggestions on how to improve this document, complete this form, publication RA-DU002, available at http:/www.rockwellautomation.com/literature.

www.rockwellautomation.com

Power, Control and Information Solutions Headquarters

Americas: Rockwell Automation, 1201 South Second Street, Milwaukee, WI 53204 USA, Tel: (1) 414.382.2000, Fax: (1) 414.382.4444
Europe/Middle East/Africa: Rockwell Automation, Vorstlaan/Boulevard du Souverain 36, 1170 Brussels, Belgium, Tel: (32) 2 663 0600, Fax: (32) 2 663 0640
Asia Pacific: Rockwell Automation, Level 14, Core F, Cyberport 3, 100 Cyberport Road, Hong Kong, Tel: (852) 2887 4788, Fax: (852) 2508 1846

Publication 1756-RN674A-EN-P - January 2010 PN-66505