Allen-Bradley

# ControlLogix EtherNet/IP Module

Catalog Numbers 1756-EN2TR, 1756-EN3TR



## About This Publication

These release notes provide software compatibility requirements and other usage considerations for these modules, 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 | 3.09 or later |

## Enhancements

This firmware revision contains these enhancements.

| Revision | Enhancement | Description |
|---|---|---|
| 3.006 | Backplane communication | 1756-EN2TR module: Improved backplane communication between the controller and module (series B) when using the 1756-L7x controller (and later revisions).<br>1756-EN3TR module: Improved backplane communication between the 1756-L7x (and later revisions) controller and module. |
| 3.004 | 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).<br>**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.<br>Lgx00103681 |
| | ODVA compliance | Enhanced compliance with ODVA standards.<br>Lgx00104174, Lgx00104806 |

## Corrected Anomalies

This firmware revision contains these corrected anomalies.

| Revision | Anomaly | Description |
|---|---|---|
| 3.004 | 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.<br>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 can have malformed attributes, and can be malicious.<br>Lgx00102260 |
| | I/O states | Corrected an anomaly that prevents I/O in rack connections from entering the correct state during fault conditions.<br>Lgx00104816, Lgx00105037 |
| | Backplane communication | Corrected an anomaly in which certain modules do not communicate correctly across the backplane.<br>Lgx00106697 |
| | 1756-EN2TR module status indicator LNK2 reports false status | Corrected an anomaly in which the LNK2 module status indicator is solid green when the media is not in a physical ring.<br>Lgx00102746 |
| | Not enough connections | Corrected an anomaly that prevents more than 193 CIP connections from being made through the module.<br>Lgx00107086 |

## Known Anomalies

This firmware revision contains these known anomalies.

| Revision | Anomaly | Description |
|---|---|---|
| 3.004 | 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.<br>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 can cause the module to time out | Generic CIP messages that set instance attributes 3 and 5 of the module's TCP/IP object can 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 physical media of either or both ports of a 1756-EN2TR or 1756-EN3TR module is disconnected, 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-EN2TR and 1756-EN3TR 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 can result in significant reduction of system performance.

- 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' can be used instead of 'public'. With this firmware revision, the full community string must be used.
- Connection timeouts can occur between Quality of Service (QoS) enabled products (including the 1756-EN2TR and 1756-EN3TR modules) 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 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 other EtherNet/IP modules in that chassis must be at firmware revision 3.*x* or later.

  This restriction applies to these EtherNet/IP modules:

  – 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, make sure that all entries have a unique IP address.

## Install the Firmware Revision

Follow these steps to install the firmware revision.

1. 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.
   - You can also download the firmware files from http://www.rockwellautomation.com/support.
2. Use the ControlFlash utility that ships with RSLogix 5000 programming software to upgrade the firmware.

   Follow the instructions in the documentation accompanying the ControlFlash utility to upgrade the firmware.

## 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 and upgrade firmware, as well as 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. |

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