

ControlLogix EtherNet/IP Module

Catalog Numbers 1756-EN2TR, 1756-EN3TR, 1756-EN2TRXT

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About This Publication

These release notes provide software compatibility requirements and other usage considerations, as well as known and corrected anomalies for these ControlLogix[®] modules.

Before You Begin

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

Software	Compatible Version
RSLogix [™] 5000	20.01.00 or later
RSLin [®] Classic	2.56.00 or later
RSNetWorx [™] for EtherNet/IP	10.00.00 or later
ControlFLASH [™]	11.00.00 or later
USB CIP Driver	3.09.00 or later

Enhancements

This firmware revision contains these enhancements:

- [Enhancements with Revision 5.028 on page 2](#)
- [Enhancements with Revision 5.008 on page 3](#)
- [Enhancements with Revision 4.002 on page 3](#)
- [Enhancements with Revision 3.006 on page 3](#)
- [Enhancements with Revision 3.004 on page 3](#)

Table 1 - Enhancements with Revision 5.028

Revision	Adds support for
5.028	Digitally signed firmware option for additional security When installing the firmware into your module, the Control FLASH utility will give warnings that proceeding will make your module incompatible with some revisions of firmware. Once the upgrade is complete, your module will only accept upgrade attempts that include signed firmware. Any unsigned firmware updates will be rejected by the module. To allow backward compatibility, modules ship with unsigned firmware installed and must be upgraded to take advantage of this feature.

Table 2 - Enhancements with Revision 5.008

Revision	Adds support for
5.008	Default gateway address for devices with IP address switches

Table 3 - Enhancements with Revision 4.002

Revision	Adds support for
4.002	Redundant I/O (does not apply to the 1756-EN3TR module)

Table 4 - Enhancements with Revision 3.006

Revision	Adds support for
3.006	Backplane double data rate (DDR) communication 1756-EN2TR and 1756-EN2TRXT modules: Improved backplane communication between the controller and module (series B) when using the 1756-L7x controller (and later revisions). 1756-EN3TR module: Improved backplane communication between the 1756-L7x (and later revisions) controller and module.

Table 5 - Enhancements with Revision 3.004

Revision	Adds support for
3.004	Precision Time Protocol (PTP)
	CIP Sync

Corrected Anomalies

This firmware revision contains these corrected anomalies:

- [Anomalies Corrected with Revision 4.004 on page 4](#)
- [Anomalies Corrected with Revision 4.003 on page 4](#)
- [Anomalies Corrected with Revision 4.002 on page 4](#)
- [Anomalies Corrected with Revision 3.004 on page 5](#)

Table 6 - Anomalies Corrected with Revision 4.004

Revision	Anomaly
4.004	CORRECTED: Corrected an anomaly to close an open UDP port. Lgx00123465

Table 7 - Anomalies Corrected with Revision 4.003

Revision	Anomaly
4.003	CORRECTED: Corrected an anomaly that could cause the module's performance to degrade (possibly dropping connections and eventually asserting) when operating under heavy HMI load (close to 100% CPU) for a long period of time. Lgx00114874

Table 8 - Anomalies Corrected with Revision 4.002

Revision	Anomaly
4.002	CORRECTED: Improved compatibility between IGMP reports and switches (IGMP reports created at a faster rate than some switches could process). Lgx00114187
	CORRECTED: Restored third-party device support from firmware revision 2.x. With firmware revisions later than 2.x, TCP window size limit would prevent some third-party products (with smaller TCP windows) from connecting to the system. Lgx00112096

Table 9 - Anomalies Corrected with Revision 3.004

Revision	Anomaly
3.004	<p>CORRECTED: 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.</p> <p style="text-align: right;">Lgx00104323</p>
	<p>CORRECTED: 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.</p> <p style="text-align: right;">Lgx00102260</p>
	<p>CORRECTED: Corrected an anomaly that prevents I/O in rack connections from entering the correct state during fault conditions.</p> <p style="text-align: right;">Lgx00104816, Lgx00105037</p>
	<p>CORRECTED: Corrected an anomaly in which certain modules do not communicate correctly across the backplane.</p> <p style="text-align: right;">Lgx00106697</p>
	<p>CORRECTED: Corrected an anomaly in which the LNK2 module status indicator is solid green when the media is not in a physical ring.</p> <p style="text-align: right;">Lgx00102746</p>
	<p>CORRECTED: Corrected an anomaly that prevents more than 193 CIP connections from being made through the module.</p> <p style="text-align: right;">Lgx00107086</p>

Known Anomalies

This firmware revision contains these known anomalies:

Table 10 - Known Anomalies with Revision 4.004

Revision	Anomaly
4.004	To perform the firmware update of an Ethernet module in the secondary chassis of a redundant chassis pair, do not perform the update directly through the Ethernet port of that module. The update must be done either through a different bridge module in the chassis and then to the module being updated via the backplane or the module must be removed from the chassis and updated in a separate chassis. During the update process, Ethernet communication with the module being updated in the secondary chassis is lost.

Table 11 - Known Anomalies with Revision 3.004

Revision	Anomaly
3.004	Connections with an RPI of less than 1 μ s are listed as having an RPI of 0 in the Application Connections and Bridge Connections web pages. To view the RPI in microseconds, 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.
	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 comparing them with the values to be set.
	When the physical media of either or both ports of a 1756-EN2TR, 1756-EN2TRXT, 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, 1756-EN2TRXT, 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.

- The firmware of both the primary and secondary Ethernet modules can be upgraded when the redundant chassis pair is disqualified. Neither the primary or secondary Ethernet modules can be flashed when the redundancy chassis pair is qualifying or already synchronized.

To upgrade the module, do one of the following:

- Use a module in the secondary chassis other than the EtherNet/IP module to perform the upgrade through the backplane.
- Remove the EtherNet/IP module from the secondary chassis and place it in a separate chassis to upgrade it.

TIP During the upgrade, communication with the EtherNet/IP module is lost.

- Do not allow an EtherNet/IP driver configured with RSLinx software to auto-browse the Ethernet link. Instead, configure these drivers as Ethernet devices in RSLinx software.
- Do not manually browse a subnet by using an EtherNet/IP driver configured with RSLinx software when you are cycling power to a secondary 1756-EN2T module.

- 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, 1756-EN2TRXT, 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 or 1756-EN2TRXT 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 or 1756-EN2TRXT module in a separate chassis from the 1756-ENBT module.

- Do not 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-EN2TRXT
- 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 disk 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 products from Rockwell Automation.

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 Allen-Bradley distributor or Rockwell Automation 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, 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. You can also visit our Knowledgebase at <http://www.rockwellautomation.com/knowledgebase> for FAQs, technical information, support chat and forums, software updates, and to sign up for product notification updates.

For an additional level of technical phone support for installation, configuration, and troubleshooting, we offer TechConnectSM 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/rockwellautomation/support/overview.page , or contact your local Rockwell Automation representative.

New Product Satisfaction Return

Rockwell Automation tests all of its products to help 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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