



FLEX I/O EtherNet/IP Adapter Module

Catalog Number 1794-AENT

Use these notes along with your FLEX I/O EtherNet/IP Adapter Installation Instructions, publication 1794-IN082, and the User Manual, publication 1794-UM006, which are available at <http://literature.rockwellautomation.com>.

These release notes pertain to 1794-AENT firmware revision 2.12 and 3.1.

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Enhancements to Firmware Revision 3.1

We included these enhancements in firmware revision 3.1:

- DHCP support added.

The adapter now supports DHCP dynamic-address configuration along with BOOTP or static address configuration.

- Duplicate IP address detection.

Before the adapter joins a new network, it checks that its IP address is not in use by following the duplicate IP-address protocol. If a duplicate IP node is found, the adapter remains off the network and sets its network status indicator to solid red, and the module status indicator to flashing red.

Not all IP address products support the duplicate IP-address protocol. Some products may fault in response to a duplicate IP address request.

- Embedded EDS files.

The adapter's EDS file can now be downloaded directly from the adapter with the appropriate software. The current version of RSNetworx software, 7.00.00 (build 32), is not able to download the adapter's EDS file. This feature is included in RSNetworx software, version 8.0, due for release by January 2007.

- Updated Web pages.

The adapter's Web pages now follow the common theme of other Rockwell Automation Ethernet products.

Corrected Anomalies in Firmware Revision 3.1

We included these enhancements in firmware revision 3.1:

- Support for HART modules' extended attributes.
With firmware revision 3.1, you can access all the HART modules' extended attributes.

Enhancements to Firmware Revision 2.12

We included these enhancements in firmware revision 2.12:

- Added the ability for you to modify the default passwords in SNMP by using SNMP management software.
- Added the ability to modify the TCP inactivity timeout value for a target. For more information on how to use this feature, refer to the Technical Support KnowledgeBase (search for keyword **inactivity**) or contact Technical Support at 1.440.646.3223.

IMPORTANT

This feature is for advanced users and specific applications only. Most applications would not require the modification of the factory-default TCP timeout value.

- Added support for the Media Counters attribute of the Ethernet Link Object.

Corrected Anomalies in Firmware Revision 2.12

With firmware revision 2.12, we corrected these anomalies:

- Corrected anomaly with incorrect values for input status fields of a 1794-IF4I module. The input status fields – underrange and overrange – were incorrect when a connection was first established to a 1794-IF4I module. If the connection was dropped and reestablished, (for example, inhibiting then uninhibiting connection, or removing and reinserting 1794-IF4I module), the input status bits were then correct.
- Corrected anomaly that occurred when Hold Last State in Program mode was selected on an output module connected to the 1794-AENT module and the controller was in Program mode. If there were direct writes to the output module's data tag, the new output data would be reflected on the output module instead of holding last state.
- Corrected anomaly where more than one controller would control the same output module. This anomaly would occur when two controllers were configured with Rack Optimized connections to the same output modules and the output modules were physically removed and then reinserted into their terminal blocks.
- Corrected indication in slot status of Rack Optimized connection that module is still present when module is removed.
- Corrected inability to reestablish connection with 1794-VHSC module after the 1794-VHSC module was physically removed and then reinserted.

- Improved auto-negotiation recovery.
- Corrected continued indication of fault in the module fault tag of direct connection to a 1797-OE8 module, after connection was lost and then reestablished to the 1797-OE8 module.
- Corrected TCP/IP connections from timing out at 60% of correct time-out.
- Corrected erroneous generation of IP/UDP checksum.
- Corrected Host Name operation to not default to using the IP address string.
- Corrected UDP checksum for packets with odd sizes.
- Added a back-off delay table so that the module would not flood the network with BOOTP requests when an error occurs setting the IP configuration from the BOOTP server.

Corrected Anomalies in Firmware Revision 2.8

With firmware revision 2.12, we corrected these anomalies:

- Loss of connection / Outputs stay in last state
The anomaly occurred when the 1794-AENT module was used with 1794 Combination Input/Output modules. When the I/O connections to a 1794-AENT module were dropped (for example, Enable/Disable BOOTP; Inhibit/Uninhibit connections; loss of Ethernet cable), the outputs on the 1794 combination input/output modules would remain in their last state. The 1794-AENT module has been modified to set the actual outputs to their configured safe state.
- Selection of incorrect output module in rack optimized connection / Outputs still updated with controller data
The anomaly occurred when creating a rack optimized connection to an output module. If a wrong output module was selected, the connection was rejected and the data was indicated as bad, but the 1794-AENT module still updated the actual outputs with the controller output data. The 1794-AENT module has been modified to leave the actual outputs off on the incorrectly identified module.

- Inability to obtain rack optimized connection when missing module

When creating a rack optimized connection to a module, if the module was physically missing, all rack optimized connections on that 1794-AENT module were rejected. The 1794-AENT module has been modified to permit rack optimized connections to all other appropriate modules present.

- Calibrating 1794 analog modules

The 1794-AENT module did not support calibration of 1794 analog modules. The 1794-AENT module has been modified to support calibration.

- Autonegotiation

The 1794-AENT module has been modified to continually attempt to autonegotiate until communication is established.

Compatible Releases

To use the 1794-AENT module, you need the correct versions of RSLogix 5000 and RSLinx software.

- RSLogix 5000 software, version 8.02 or later
- RSLinx software, version 2.30.01 or later

Software version 2.30.01 requires that you manually load the 1794-AENT EDS file. RSLinx software version 2.30.02 and later, already include the 1794-AENT EDS file; no manual installation is required.

Incompatibility with Previous Firmware

ATTENTION



Do not backflash program firmware revision 1.8 (1.80) or 1.9 (1.90) into a 1794-AENT module with part number 96344073 or later. A 1794-AENT module with part number 96344073 or later requires firmware revision 2.4 or later.

The module will no longer function if it is backflashed with firmware revisions 1.8 (1.80) or 1.9 (1.90) firmware.

Output Connections and Input-only Connections to the Same Device

A connection originator (typically a controller) that is controlling outputs via the FLEX EtherNet/IP Adapter will not detect a loss of connection under specific conditions. As a result, the connection originator does not control the outputs. The specific conditions include the following:

- Connection originator communicates to a FLEX I/O module using the FLEX EtherNet/IP Adapter.
- Connection originator has a connection to control outputs of the FLEX I/O module (connection point pair: 0x01 and 0x02).
- The same connection originator or other connection originators have one or more input-only connections (connection point pair: 0x06 and 0x02) to the same FLEX I/O module.

An RSLogix 5000 software/ControlLogix controller does not permit an input-only connection to be made to a FLEX I/O module when the same module has an output connection. Specifically, RSLogix 5000 software/ControlLogix controllers do not permit input-only connections (connection point pair: 0x06 and 0x02) to FLEX output modules and do not allow output connections (connection point pair: 0x01 and 0x02) to FLEX I/O input modules.

- The FLEX I/O EtherNet/IP Adapter no longer receives data from the connection originator on the output connection.
- The output connection originator, however, still receives data from the FLEX I/O EtherNet/IP Adapter on the input-only connection.

To resolve this anomaly, use listen-only connections (connection point pair: 0x02 and 0x04) for input when controlling outputs on the same FLEX I/O module.

Auto Negotiation

See below for information on manual configuration and changing ports on Ethernet switches.

Manual Configuration on an Ethernet Switch

The FLEX I/O EtherNet/IP Adapter supports these Ethernet settings:

- 10 Mbps half-duplex
- 10 Mbps full-duplex
- 100 Mbps half-duplex
- 100 Mbps full-duplex

Mode selection is done automatically based on the IEEE 802.3u auto negotiation protocol.

If a module is connected to a port on a 10/100 Mbps switch, you must set this port to auto negotiate. If this port is set manually to one of the modes listed above, a mismatch between module and switch modes of operation may occur. This will result in a significant reduction of system performance.

Changing Ports on an Ethernet Switch

If you reconnect the module from one port to another one, regardless of whether the new port is located on the same or a different switch (or a hub), do the following steps.

1. Disconnect the cable from the port to which the module is currently connected.
2. Wait until the module Link Status LED indicator is off.
3. Connect the cable to the new port.

This procedure will restart the auto negotiation process at the module side. Another option is to restart the module itself.

Minimum Load

The 1794-AENT Series A adapter no longer requires a minimum load on the FLEX I/O rail.

Rockwell Automation Support

Rockwell Automation provides technical information on the Web to assist you in using its products. At <http://support.rockwellautomation.com>, 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://support.rockwellautomation.com>.

Installation Assistance

If you experience a problem with a hardware module 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 module up and running.

United States	1.440.646.3223 Monday – Friday, 8am – 5pm EST
Outside United States	Please contact your local Rockwell Automation representative for any technical support issues.

New Product Satisfaction Return

Rockwell 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, it may need to be returned.

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

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