Embedded EtherNet/IP Option Card for DriveLogix5730 Controller Firmware (2.1.4)

These release notes provide enhancement and anomaly information for the embedded EtherNet/IP option card for DriveLogix5730 controller. Use this document along with publication 20D-UM003…, *DriveLogix5730 Controller for PowerFlex 700S Drives with Phase II Control User Manual*, and publication 20D-RN007…, *PowerFlex 700S Drive & DriveLogix Firmware Release Notes*..

Firmware Revision 2.1.4

Corrected Anomalies

- The firmware was modified for compatibility with Logix5000 controllers using the integrated batch feature of RSLogix 5000 software, version 15.00.
- The DriveLogix5730 controller may appear to lock up during the power up process from short duration power cycles. The option card Module Status (MS) LED is solid green and all other LEDs are off. No communication is possible from the Ethernet port or from the backplane.
- A bad UDP checksum would be created when UDP “do not fragment” bit is set. This bit is only used when a user writes a custom EtherNet/IP driver.

Previous Revisions of Firmware

Enhancements

With this revision of firmware, the embedded EtherNet/IP option card supports:

- Embedded EDS (Electronic Data Sheet) file - the option card contains its own EDS file within its firmware. This feature requires RSNetWorx™, ver. 5.0 or later.
- DHCP (Dynamic Host Configuration Protocol) - when connected to a network with a DHCP server, that server automatically assigns an IP address to the option card. This feature requires RSLogix™ 5000 (ver. 13 or later) or RSLinx (ver. 2.43 or later) software.
- Email - using a MSG instruction, the DriveLogix5730 controller can send email through the option card.
- For more information, refer to the *DriveLogix5730 Controller for PowerFlex 700S Drives with Phase II Control User Manual*, publication 20D-UM003 . . . .
- The embedded web pages for the option card have been enhanced to make them easier to manage and to be more user-friendly.
- The option card supports duplicate IP address detection. When you change the IP address or connect the option card to an EtherNet/IP network, the option card checks to make sure that the IP address assigned to this option card is not the same as that for any other device on the network. If the option card determines that there is a conflict (some other device on the network already has the IP address), the EtherNet/IP port of the option card goes into conflict mode, where the:
  - Option card's Module Status LED is flashing red
  - Option card's Network Status (NS) indicator LED is solid red
  - HIM indicates a fault

  For more information on this feature, refer to chapter 6 of the *DriveLogix5730 Controller for PowerFlex 700S Drives with Phase II Control User Manual*, publication 20D-UM003. . . .

Corrected Anomaly

This version of the firmware may not work with certain versions of DriveLogix5730 controllers.

Important: The system may appear to be operating normally, with the controller's green LED on, but there is no communication between the controller and the option card.

Firmware Compatibility

If You Are Using This Revision Of Option Card Firmware	You Must Use This Revision Of DriveLogix5730 Controller Firmware
1.x	• 1.2 out-of-box • 10.x • 11.21 or previous
2.0 or higher	13.x or higher

To work around this anomaly, you can either:

- Flash upgrade the DriveLogix5730 controller to version 13.x or later, or
- Flash downgrade the option card to version 1.x.

Firmware Revision 1.23

Corrected Anomalies

- erroneous generation of UDP checksum
- the falsely-reported “module in use” error when the product is running near its capacity

Other Important Considerations for All Revisions of the Embedded EtherNet/IP Option Card

Ethernet Switch Port Configuration

The option card supports the following Ethernet™ settings:

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

Depending on the option card and firmware revision, different port configuration is required.

- **Option Cards with** Firmware Revision 1.28 or Earlier
  Based on the IEEE 802.3u autonegotiation protocol, it selects the mode automatically. If you connect a option card to a port on a 10/100Mbps switch, you must set this port to **autonegotiate.**

  If you set this port manually to one of the modes listed above, a mismatch between option card and switch modes of operation may occur. This will result in significant reduction of system performance.

- **Option Cards with** Firmware Revision 1.33 or Later
  Starting with version 12.0 of RSLogix™ 5000, you can manually configure the communication rate and duplex of the option card. Additionally, you can manually configure the communication rate and duplex on both the option card and the switch port that is connected to the option card. However, the configurations must match on both devices.

Changing Ports on an Ethernet Switch - Autonegotiation Setting Only

If you reconnect the option card from one port to another, regardless of whether the new port is on the same or a different switch (or a hub), follow these steps:

1. Disconnect the cable from the port to which the option card is currently connected.
2. Wait until the option card Link Status (LNK) LED is off.
3. Connect the cable to the new port.

   This procedure will restart the autonegotiation process at the option card side. You can also restart the option card itself.

DNS Addressing with NetLinx Embedded EtherNet/IP Option Cards

Depending on module configuration, DNS addressing of remote NetLinx™ embedded EtherNet/IP option cards may not function properly with RSLinx (ver 2.41) and RSLogix 5000 (ver 12 and earlier). If you experience this problem, refer to the Technical Support document A56128176, “How to Make DNS Addressing work with NetLinx products.” Download the document at http://support.rockwellautomation.com or contact Technical Support at 440-646-5800.

Connection Limitations

The embedded EtherNet/IP option card can support up to 32 I/O connections. However, if all connections are at a maximum packet size of 126 DINTS, the option card can only support up to 21 connections.

Connections are a measure of the number of devices with which a controller or communication card communicates. Some examples of devices that consume a connection include:

- a chassis of discrete I/O (rack-optimized)
- an analog module
- a produce/consume tag

For more information on how the embedded EtherNet/IP option card uses connections, refer to publication 20D-UM003…, *DriveLogix5730 Controller for PowerFlex 700S Drives with Phase II Control User Manual*.

Changing the Subnet Mask

After setting or changing the Subnet Mask on a configured embedded EtherNet/IP option card, you must cycle power on it for the Subnet Mask to take effect.

Diagnostic Counters

RSLogix 5000 software and RSLinx™ software display many diagnostic counters for the embedded EtherNet/IP option card. However, some of these fields are not supported by the embedded EtherNet/IP option card. The fields that are not supported are permanently displayed as 0.

IGMP Support

The option card supports the following versions of IGMP (Internet Group Management Protocol):

- Version 1.0 (firmware revision 1.33 and earlier)
- Version 2.0(firmware revision 2.1 and later)

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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.

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