

# ControlNet Foundation Fieldbus Linking Device, Firmware Revision 2.2.x

Catalog Numbers 1757-FFLDC2, 1757-FFLDC4

These release notes describe enhancements and anomalies in the 1757-FFLDC firmware, revision 2.2.x and earlier. For example, the linking device now supports unscheduled Class 1 connections on the ControlNet network for RSLogix 5000 programming software, version 17.

This document also describes firmware upgrade procedures and system requirements.

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## About the Linking Device

The ControlNet Foundation Fieldbus linking device bridges from the ControlNet network to either two or four H1 ports. Each H1 port can support 16 fieldbus devices (with 8...10 recommended). Each H1 network can support a maximum of 64 publisher and 64 subscriber virtual communication relationship (VCR) connections. The linking device enables RSFieldbus host communication to the H1 ports via the Fieldbus Foundation's High-speed Ethernet (HSE) network encapsulated on the ControlNet network. See the ControlNet Foundation Fieldbus Linking Device Installation Instructions, publication [1757-IN022](#), for specifications.

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By supporting H1 and ControlNet network protocols, the linking device is capable of bridging Rockwell Automation products on the ControlNet network to Foundation Fieldbus devices on H1 networks.

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### **IMPORTANT**

Before operating your linking device, consider these items:

- You must upgrade to RSLogix 5000 programming software version 17 to configure unscheduled Class 1 connections to the linking device on the ControlNet network. The upgrade is required if your system is running RSLogix 5000 software version 16 without redundancy. If you are using RSLogix 5000 software version 16 with redundancy, unscheduled Class 1 connections to the linking device are not available on the ControlNet network.
  - If you flash upgrade the linking device's firmware, do not cycle power until the flash upgrade is complete.
  - The 1757-FFLDC linking device is not a drop-in replacement for the 1788-CN2FF linking device.
  - We do not support using the 1757-FFLD and 1757-FFLDC linking devices in the same RSFieldbus project or allowing them to communicate with the same High-speed Ethernet (HSE) server (even if they are not in the same RSFieldbus project).
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The linking device supports the Logix5000 software Clock Update Tool to sync time.

### **TIP**

For future firmware upgrades, the linking device must be deleted and re-added in the Logix5000 Clock Update Tool in order to use the new Device ID.

## Before You Begin

Be sure your system meets these requirements before upgrading:

- RSLinx software, version 2.52 minimum
- RSFieldbus software, version 2.03

If your system meets the requirements above, follow these steps before upgrading.

1. Save and close all running RSFieldbus projects.

All data stored in the linking device will be lost during the upgrade.

2. Disconnect the linking device from the fieldbus network so that it is not controlling an active process.
3. Close all running programs.
4. Verify connectivity between your computer and all linking devices by using RSLinx software.
5. Obtain the firmware from the Flash Firmware Updates site:  
<http://support.rockwellautomation.com/ControlFlash/>.
6. Extract the .zip file to a folder on your hard drive.

Proceed to [Upgrade Firmware](#) to continue with the upgrade.

### Upgrade Firmware

After completing the preparations, follow these steps to install ControlFLASH software and upgrade your firmware. If you have another version of ControlFLASH software, you must install this version for compatibility.

1. Locate the new folder to which you extracted the .zip files and double-click the ControlFLASH.msi file to run the ControlFLASH setup wizard.
2. At the Welcome to ControlFLASH Setup window, do one of the following.
  - a. For an initial installation, click Next; proceed to [step 3](#).
  - b. If the ControlFLASH software is already installed, use the default Install ControlFLASH and click Finish; proceed to [step 6](#).
3. Click 'I Agree' and Next to accept the license agreement.
4. Click Next to accept the default location.
5. Click Next to start the installation.
6. At the Installation Complete window, click Close to exit.
7. To launch ControlFLASH software, choose Start>Programs>FLASH Programming Tools>ControlFLASH.
8. At the Welcome to ControlFLASH window, click Next.
9. Click 1757-FFLDC, and then click Next.
10. Browse to the linking device that you want to upgrade, select it, and click OK.
11. Select Revision number 2.2 and click Next.

12. Click Finish.
13. Click Yes to confirm the upgrade.
14. Click OK.

The firmware upgrade begins and may take 10 minutes or more to complete. After the firmware upgrade is complete, the status window opens. The Status box is green if the upgrade is successful; red if unsuccessful. If unsuccessful, retry the upgrade procedures until the Status box is green.

15. Click OK.

The Welcome window opens again.

16. Once steps [9...15](#) have been completed on all linking devices, click Cancel, then Yes to exit the ControlFLASH upgrade process. ControlFLASH software automatically restarts after an update.

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**IMPORTANT**

If you need to restart a 1757-FFLDC linking device directly after a ControlFLASH update, do **not** cycle power until the H1 lights are blinking on the device.

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17. Reload the fieldbus configuration.  
For more information, see the RSFieldbus User Manual, publication [RSFBUS-UM001](#).

## Limitations

These limitations apply for the linking device:

- The first time you right-click the linking device in RSLinx software, selecting available menu options returns an error stating that the RSLinx software could not communicate with the module. Click OK to clear the error, and RSLinx software functions normally.
- In some cases, a time-out error may occur when assigning tags. In all known cases, this error is not accurate and you can verify that tags have been assigned.

### Enhancements

This revision of the 1757-FFLDC firmware contains the following enhancements.

#### 1757-FFLDC Firmware Enhancements

Firmware Revision	Enhancement	Description
2.2	Unscheduled Class 1 connections available on the ControlNet network.	The linking device now supports both scheduled and unscheduled connections on the ControlNet network when used with RSLogix 5000 programming software, version 17. This feature lets you add linking devices to your system without disruptions to existing ControlNet network configurations.
	The ability to view Logix Blocks configured in RSLogix 5000 software has been added in RSNetWorx software.	Logix Blocks that are added to a RSLogix 5000 software project will display next to the FFLDC when offline in RSNetWorx software. When online in RSNetWorx software, the logix blocks displayed next to the FFLDC correspond to the logix blocks downloaded to the FFLDC via RSFieldbus software.
2.1.24	ControlNet network connectivity added to the linking device functionality.	The linking device uses the ControlNet and H1 network protocols to link our products on the ControlNet network to Foundation Fieldbus devices on H1 networks.

## Known Anomalies

The following are known anomalies for the 1757-FFLDC linking device.

### 1757-FFLDC Anomalies

Firmware Revision	Known Anomaly	Description
2.2	When the RSNetWorx for ControlNet software configuration file is not created via the RSLogix 5000 software project containing the 1757-FFLDC module and Logix Blocks, RSNetWorx for ControlNet software cannot match the linking device's electronic data sheet (EDS) file with the 1757-FFLDC Logix Blocks. The Logix Blocks display as question marks when browsing the network online.	You have to manually install the updated EDS files (0001000C00BC0200.eds, 0001007300840100.eds, and 0001006C01480100.eds) that can be obtained from <a href="http://www.rockwellautomation.com/resources/eds/">http://www.rockwellautomation.com/resources/eds/</a> via RSLinx software (Tools>EDS Hardware Installation Tool) so that the 1757-FFLDC Logix Blocks display with the correct icon.  Dfcts00265062
	RSFieldbus software does not support the configuration of the linking device by using the 1784-PCC card.	The 1784-PCC card is not supported by RSFieldbus software. RSFieldbus software does support communication to the linking device via the 1784-U2CN cable attached to the linking device's Network Access Port (NAP).  Lgx00098347
	The linking device does not have Keeper functionality.	You can add a 1756-CNB or 1756-CNBR module or a 1756-CN2 or 1756-CN2R module to provide a keeper on the ControlNet network.  Lgx00086220

**1757-FFLDC Anomalies**

<b>Firmware Revision</b>	<b>Known Anomaly</b>	<b>Description</b>
2.2	The linking device cannot be scheduled offline if added to the RSLogix 5000 software project by using Major Revision 1.	RSLogix 5000 software defaults to Major Revision 2 when adding a linking device to the I/O configuration. However, if you add a new linking device and select Major Revision 1, you cannot schedule the ControlNet network offline.  Lgx00100246
	If Exact Match for electronic keying is selected for a Logix Block, the connection faults.	The linking device uses the major/minor revision of the firmware (revision 2.2) and not the Logix Block (revision 1.1) for verifying electronic keying. Therefore, Exact Match will fail when used with a Logix Block in RSLogix 5000 software. You can use Compatible or Disabled electronic keying options.  Lgx00100223
	When configuring unscheduled connections on the ControlNet network, exceeding 20 connections could result in dropped connections.	There is a limit of 20 buffers for unscheduled connections with the 1756-CNB/D and 1756-CNB/E modules. If you are scheduling between 21...64 connections there are possibilities of connection time outs for certain network parameters. You can use the 1756-CN2/B module to avoid connection time outs.  Lgx00100131



**1757-FFLDC Anomalies**

<b>Firmware Revision</b>	<b>Known Anomaly</b>	<b>Description</b>
2.2	If the RPI is much less than the Foundation Fieldbus macrocycle, the ControlLogix processor may be delayed in establishing connections immediately after the linking device powers up.	Make sure the RPI is no less than half of the Foundation Fieldbus macrocycle to avoid delays in establishing connections after a power cycle.  Lgx00099746
	The linking device does not allow unscheduled connections to Logix Blocks for out-of-box ControlNet network configuration.	The linking device requires RSNetWorx for ControlNet software to be run initially to schedule the network whether or not Logix Blocks will be scheduled.  Lgx00099262
	Default configuration values change when adding Logix Blocks online to the linking device.	When adding Logix Blocks online, the defaults, including the RPI value, do not refresh on the Module Properties Connection tab when entering subsequent Logix Blocks to the linking device. This does not prevent the Logix Block from establishing a connection by using default values.  Lgx00099259

### 1757-FFLDC Anomalies

Firmware Revision	Known Anomaly	Description
2.1.24	<p>During a download from RSFieldbus software, version 2.03, to the linking device, you may receive download failures. After performing a device update to correct download failures, devices in the project may go offline or remain dimmed in the Live List.</p>	<p>This download procedure causes loss of control of your devices and anything linked to them. Do these steps to correct download problems.</p> <ol style="list-style-type: none"> <li>1. Cycle power to the linking device, H1 network, and devices.</li> <li>2. After you are back online, download the project to the linking device.</li> </ol> <p style="text-align: right;">Lgx00081886</p>
	<p>When actively monitoring fieldbus device data via RSFieldbus software online characterization, strategy monitoring, or the RSFieldbus HSE OPC server, the server may fail to recover from repeated communication disruptions (multiple disruptions per hour) over an extended period of time (1 or 2 days).</p>	<p>Do these steps to restart a server after communication disruptions.</p> <ol style="list-style-type: none"> <li>1. Close RSFieldbus software and all programs accessing the OPC server.</li> <li>2. Restart the computer hosting the server.</li> <li>3. Resolve all network communication issues/disruptions.</li> <li>4. Restart RSFieldbus software and any programs accessing the OPC server.</li> </ol> <p style="text-align: right;">Lgx00079734</p>

## Additional Resources

These documents contain additional information concerning related Rockwell Automation products.

Resource	Description
ControlNet Foundation Fieldbus Linking Device Installation Instructions, publication <a href="#">1757-IN022</a>	Provides details on how to install the 1757-FFLDC linking device.
ControlNet Foundation Fieldbus Linking Device User Manual, publication <a href="#">1757-UM011</a>	Provides information on using the 1757-FFLDC linking device and the associated web pages.
RSFieldbus Installation Guide, publication <a href="#">RSFBUS-IN001</a>	Provides details on how to install the RSFieldbus software.
RSFieldbus User Manual, publication <a href="#">RSFBUS-UM001</a>	Provides information on using RSFieldbus software to configure a Foundation Fieldbus network.
Industrial Automation Wiring and Grounding Guidelines, publication <a href="#">1770-4.1</a>	Provides general guidelines for installing a Rockwell Automation industrial system.
Product Certifications website, <a href="http://ab.com">http://ab.com</a>	Provides declarations of conformity, certificates, and other certification details.

You can view or download publications at <http://literature.rockwellautomation.com>. 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 <a href="#">Worldwide Locator</a> at <a href="http://www.rockwellautomation.com/support/americas/phone_en.html">http://www.rockwellautomation.com/support/americas/phone_en.html</a> , 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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