



ControlNet 1.5 PLC-5 Programmable Controllers

(Cat. No. 1785-L20C15, -L40C15, -L46C15, -L80C15)

Series F Revision A.1

Introduction

Use these release notes with the following PLC-5® processors

Processor	Series	Revision
PLC-5/20C™	F	A.1
PLC-5/40C™		
PLC-5/46C™		
PLC-5/80C™		

What these Release Notes Contain

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Software Requirements

This release of the ControlNet PLC-5 processors requires the following software:

- RSNetWorx for ControlNet - release 1.80 or later
- RSLogix5 - version 3.21 or later

To get these versions, contact Rockwell Software at 440.646.7800.

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Maintaining ControlNet Compatibility

Replacing an Existing Processor

If you are using this processor to replace an existing processor in a distributed keeper system, you need RSLogix5 - version 3.02 or later to restore the program. If you want to modify or restore your ControlNet configuration using RSNetWorx, you must upgrade to RSNetWorx 1.8.

Distributed Keeper Considerations

You **must** upgrade the ControlNet PLC-5 processor **at node 1** to one of the following releases:

- series F, revision A.1
- series E, revision C.1 or later
- series D, revision D.1 or later
- series C, revision M.1 or later

To take advantage of the merged-save and distributed keeper functionality, you **must** upgrade **all** of your ControlNet PLC-5 processors to one of the above releases.

Previous Release Communication

The series E, revision D and series F, revision A ControlNet PLC-5 processors could not communicate with the 1770-KFC15 and -KFCD15 modules. This release has been corrected to allow communication.

Important: If you have ControlNet PLC-5 processors at previous releases, contact technical support for information about flash update kits: 440.646.6800.

ControlNet 1.5 Processor Enhancement

With this release, the processor no longer supports the use of a “back door” password as a default password to gain access to privilege classes when passwords are enabled.

Download or Order a User Manual

You can download an electronic version or order a printed copy of the ControlNet PLC-5 Programmable Controllers User Manual, publication 1785-6.5.22:

- download a free electronic version from the internet at:
www.ab.com/manuals or
www.theautomationbookstore.com
- order a printed manual by:
 - contacting your local distributor or Rockwell Automation representative
 - visiting **www.theautomationbookstore.com** to place your order
 - calling 1.800.963.9548 (USA/Canada) or 001.330.725.1574 (outside USA/Canada)

New Features of this Release

This release contains the following features. More information on how to use these features is described in the user manual, publication 1785-6.5.22. To get a copy of the user manual, refer to page 2.

ControlNet Hot Backup

You can pair together two ControlNet processors (either a PLC-5/40C or -5/80C), and assign one of the processors as the primary controller and the other as a secondary (backup) controller. If the primary controller fails or goes out of Run mode, the backup controller will automatically take over as the primary controller.

The 1785-CHBM ControlNet Backup Cartridge is required for each processor. For more information, refer to the ControlNet PLC-5 Hot Backup System User Manual, publication 1785-6.5.24.

ControlNet MSGs to DH+ Devices

This feature allows you to configure a ControlNet ladder MSG instruction to a Data Highway Plus device by bridging across the 1756-CNB(R) and 1756-DHRIO modules.

ControlNet MSGs to Ethernet Devices

This feature allows you to configure a ControlNet ladder MSG instruction to an Ethernet device by bridging across the 1756-CNB(R) and 1756-ENET modules

ControlNet Unsolicited MSGs to RSLinx

This feature allows you to configure a ControlNet ladder MSG instruction to send “typed write” data across a ControlNet bridge to RSLinx (and onto your software applications). RSLinx can be connected to either ControlNet or Ethernet.

Option to Close Connection when MSG is Done

The option to close the connection when a ControlNet MSG is completed is not functional with this firmware release. When using this firmware, do not set the MSG instruction’s ‘No Cache’ (.NC) status bit.

Unconnected Server Capacity Increased

This release can manage an increased number of unconnected requests. This improves system performance when using a device such as a PanelView.

Communications Diagnostics Added

The ControlNet channel diagnostic file now contains twenty-three additional diagnostic counters.

The current diagnostic file is 40 words. Once you enter a file number into the Diagnostic File field on the I/O map table entry screen in RSNetWorx, an integer data table file of 40 words is automatically created. To access the additional counters, you must first use RSLogix5 to increase the size of the ControlNet diagnostic integer file from 40 to 63 words.

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Guidelines When Using ControlNet Hot Backup Mode

Output Ownership Verification

When operating in hot backup mode, the ControlNet PLC-5 has output ownership verification - a feature designed to notify the system operator that output ownership has become divided between the primary and secondary processors.

It is important to use this feature because it is possible for the redundant connection between a primary processor and an output module or adapter to become corrupted - possible causes could be a high noise level environment and/or an improper network installation. When this happens, the adapter will turn control of the output over to the secondary processor without notifying the primary processor that it has lost the connection. This puts the system in a state where the secondary processor controls some outputs and the primary processor controls the remaining outputs. This system state may not be acceptable in certain applications.



ATTENTION: To be notified of this system state, you must use the output ownership verification feature.

Output ownership verification is done via a round-robin poll that runs in the background of the primary processor.

For example, if there are 20 redundant connections in a system, the primary processor polls these connections starting with redundant connection 1, then 2, then 3 and so on, until it has polled all 20 connections. If the primary processor has lost any of these 20 connections, output ownership verification places this value in register 08 of the ControlNet Backup Integer File. This register is written over at the completion of every polling cycle, and contains a count related only to the last polling cycle. The value in register 08 will always be -1 (FFFF Hex) in the secondary processor.

To be notified of this value, the user application must poll register 08 in the ControlNet Backup Integer File on a continuous basis in the primary processor. If the value in this register is non-zero, the application should notify the system operator to cycle power to the secondary processor which restores output control to the primary processor.

For more information, refer to the ControlNet Hot Backup User Manual, publication 1785-6.5.24.

Changing Operating Mode from Remote Program to Remote Run

When changing the operating mode from Remote Program to Remote Run on either the primary or secondary processor in a ControlNet PLC-5 Hot Backup System, your RSLogix5 programming software will display this warning:



Select Mode failed: Ext Stst = 0x0c

Resource Not Available - condition cannot be generated

Ignore this warning by clicking on the OK button in the current dialog. The processor will go into Remote Run as requested. RSLogix5 will properly display Remote Run as the current operating mode.

Inhibiting ControlNet I/O

If you want to inhibit the ControlNet I/O via the ControlNet status file, first set the inhibit bit on the secondary processor, then set the bit on the primary processor.

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