Planning to Use Your ControlNet Adapter Module

Chapter Objectives

This chapter explains how the adapter operates on ControlNet and provides information to assist in configuring your system. This includes:

- compatible 1746 and 1747 I/O modules
- overview of adapter operation
- software requirements
- rack and module connections
- optimizing SLC ControlNet Adapter connections
- module keying
- output operation during Fault and Idle modes
- understanding ControlNet I/O
- scheduled Data-Transfer connections on a ControlNet network

Compatible 1746 and 1747 I/O Modules

The majority of 1746 and 1747 discrete, analog and specialty modules are compatible with the 1747-ACN15 and 1747-ACNR15 adapters. Exceptions include any modules that require G file configuration. These include:

- 1747-SN Remote I/O Scanner module
- 1747-BSN Back-Up Remote I/O Scanner module
- 1746-QV Open Loop Velocity Control module
- 1203-SM1 Scanport module (Class 4 operation) (This module is compatible when configured for class 1 operation.)
- 1747-SCNR ControlNet Scanner module (G files not required, however, this module is not supported by the 1747-ACN15/ACNR15)

A small number of 1746 modules are currently not supported by the adapter due to lack of an EDS (electronic data sheet) file. These modules will be supported once EDS development is completed. A complete list of compatible 1746 and 1747 modules can be found on the Allen-Bradley Technical Support Knowledge Base at: **http://www.ab.com/support/kbhome.html.**

Overview of Adapter Operation

Connections are established between a scanner and an adapter to exchange input and output data on the network. Status information is transferred along with the I/O data and status.

1747-ACN15/ACNR15 adapters support connections to individual modules and rack connections to a group of modules. The adapters support multiple rack and group connections to the same modules, as long as only one scanner controls any module's outputs. Up to 64 connections per adapter are possible with 240 words (max) supported per connection. An adapter can control up to 30 slots of 1746 I/O (3 chassis max). The input data attributes correspond directly to the read area of the I/O module's data table image. The output attributes correspond directly to the write area of the I/O module's data table image.

RSNetWorx is the software tool that is used to schedule network bandwidth for all scheduled traffic originators that reside on a ControlNet network segment. RSLinx is the communication software tool used by RSNetWorx to access the ControlNet network. A 1784-KTCX15 PC card or 1784-PCC ControlNet card can be used as the hardware interface to the network.

Software Requirements

RSNetWorx for ControlNet version 2.23.00 or greater is required to configure the 1747-ACN15/ACNR15 adapters. If you only have RSNetWorx for ControlNet version 2.22.18, it is necessary to add the Service Pack in order to configure connections with the 1747-ACNR15 adapter. To add the Service Pack, follow the steps below.

1. Access the Rockwell Software support page at:
   http://www.software.rockwell.com/support

2. Click **Downloads** form the list of choices in the left column.

3. Locate section 2, "Choose a Product".

4. Click the down arrow and select RSNetWorx from the drop down list.

5. In section 4, click **Search**.

6. Click Service Pack 1, or click a later version for the Service Pack if it is not the only Service Pack available.

7. After the download is completed, close all programs and run the installation of the software. Follow the screen prompts to guide you through the installation process. If you experience problems performing the install, contact Rockwell Software Technical Support.

When Service Pack 1 is installed, the version of RSNetWorx for ControlNet is 2.23.00 or greater.