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# Preface

## Introduction

This manual describes how to install your programmable controller and how to plan for, configure, and use the features of a 1785-L20C15, 1785-L40C15, 1785-L46C15 or 1785-L80C15 programmable controller that are unique to the ControlNet network.

When we refer to ControlNet PLC-5 programmable controllers (or “processors”) in this manual, we mean the phase 1.5 programmable controllers:

- Catalog number 1785-L20C15 (or PLC-5/20C)
- Catalog number 1785-L40C15 (or PLC-5/40C)
- Catalog number 1785-L46C15 (or PLC-5/46C)
- Catalog number 1785-L80C15 (or PLC-5/80C)

For detailed information about features that the ControlNet PLC-5 processors share with Ethernet and Enhanced processors, see the Enhanced and Ethernet PLC-5 Programmable Controllers User Manual, publication 1785-6.5.12.

## Audience

The information in this manual is intended for engineers and technicians who are installing, programming, and maintaining a control system that includes a ControlNet PLC-5 programmable controller.

You should have a background in control-system applications and a basic knowledge of:

- programmable real-time control systems
- the PLC-5 control system
- your operation’s required systems and applications

## Terminology

Term	Description
Actual Packet Interval (API)	the actual time it takes for the ControlNet network to update the requested data. The largest binary multiple of the Network Update Time (NUT), smaller or equal to the Requested Packet Interval (RPI). For more information, see Scheduled Data-Transfer Operations on a ControlNet Network on page 2-2.
ControlNet network	communication architecture that allows the exchange of data between Allen-Bradley Company, Inc. products and certified third-party products
ControlNet PLC-5 processors	references PLC-5/20C, PLC-5/40C, PLC-5/46C and PLC-5/80C programmable controllers phase 1.5
connection	opened communication path between two nodes on a ControlNet network
DData Input File (DIF)	integer file used by ControlNet PLC-5 processors to store discrete and non-discrete input data. The DIF cannot be forced
Data Output File (DOF)	integer file used by ControlNet PLC-5 processors to store discrete and non-discrete output data. The DOF cannot be forced
discrete I/O data transfer	type of data transfer in which single units of I/O have discrete relationships with values in the processor's data table; uses the processor's input- and output-image tables (I and O files); configured on a per-node basis in the ControlNet I/O map table
frame	single data transfer on a ControlNet link
drop cable	cable that connects a ControlNet node to the trunk cable; integral part of 1786 taps
I/O map table (scanlist configuration)	table that you configure using the programming software to map data from an I/O chassis and other devices on the ControlNet network to particular data table file addresses
keeper	device that stores and distributes ControlNet configuration data to all nodes on the network. A minimum of one keeper device is required on each ControlNet network.
link	collection of ControlNet nodes with unique network addresses in the range of 01-99; segments connected by repeaters make up a link; links connected by bridges make up a network
map table entry (scanlist entry)	one entry in the I/O map table that you configure using the programming software to map data from one I/O chassis or other device on ControlNet to particular data table file addresses
network access port (NAP)	port that provides a temporary ControlNet-network connection through an RJ45 connector
network address	node's address on the ControlNet network
network update interval (NUI)	single occurrence of the ControlNet Network Update Time (NUT)
network update time (NUT)	smallest repetitive time interval in which data can be sent on the ControlNet network
node	port of a physical device connecting to the ControlNet network that requires a network address in order to function on the network; a link may contain a maximum of 99 nodes
non-discrete I/O data transfer	type of data transfer in which blocks of data transferred to or from a single I/O module use integer input and output data table files that you specify; scheduled transfers are configured in the ControlNet I/O map table, unscheduled transfers make use of ControlNet I/O Transfer (CIO) instructions
owner	device that controls the outputs of an adapter
processor	any one of the ControlNet PLC-5 programmable controllers
redundant media	dual-cable system that allows you to receive the best signal over a ControlNet network