

ControlNet Router A-CNR

The A-CNR ControlNet Router provides an efficient method of bridging between ControlNet and Ethernet networks. The module provides intelligent routing between EtherNet/IP or Modbus TCP/IP and a ControlNet network. The module can be configured as a ControlNet Target or an Originator. As a ControlNet target, a Logix controller can own the ControlNet router using a scheduled connection. As a ControlNet originator, the module can be configured to own ControlNet I/O or exchange data with up to 10 ControlNet devices.

The module can also be configured as a PCCC Client (allows the module to emulate a PLC5 or SLC5 providing legacy interface to PanelViews), EtherNet/IP target or originator, and as Modbus TCP/IP client or server.

As an EtherNet/IP target, a Logix controller can own the router using a Class 1 connection. As an EtherNet/IP originator, the router supports class 1 connection or explicit messaging.

As a Modbus TCP/IP client, the router can map ControlNet data to Modbus registers for exchange with Modbus TCP/IP servers. As a Modbus TCP/IP server, the router can exchange the ControlNet data with Modbus TCP/IP clients.

The I/O data can be accessed via Ethernet using either the PCCC or EtherNet/IP™ or Modbus TCP/IP protocols. The support for PCCC protocol allows the module to emulate user-defined PLC5-type data files data simplifying the migration to Ethernet-only PanelViews. The module also provides a range of statistics on Ethernet and ControlNet to assist with fault finding.

A built-in webserver provides detailed diagnostics of system configuration and operation, including the display of ControlNet operation and communication statistics, without the need for any additional software.



Features

- ◆ Own ControlNet I/O enabling the migration from legacy Logix systems/controllers to newer EtherNet/IP Logix platforms, without replacing the existing ControlNet I/O.
- ◆ Can be configured as a ControlNet Target or Originator.
- ◆ Can operate as ControlNet Keeper.
- ◆ Supports Promiscuous Capture mode allowing the ControlNet Router to capture all traffic on the ControlNet network.
- ◆ Can be configured as an EtherNet/IP Target or Originator.
- ◆ Can be configured as a Modbus TCP/IP Client to exchange ControlNet data with Modbus TCP/IP servers.
- ◆ Can be configured as Modbus TCP/IP Server to exchange ControlNet data with Modbus TCP/IP clients.
- ◆ Connect Ethernet-only PanelViews to Logix via ControlNet.
- ◆ Supports Scheduled & Unscheduled ControlNet for PanelViews.
- ◆ Program Logix controllers via ControlNet.
- ◆ Supports Redundant ControlNet and Ethernet.
- ◆ Advanced Diagnostics, including packet capture and webserver.

Configuration

- ◆ The Slate Configuration Utility software is used for configuration and troubleshooting of the module. The stand-alone configuration utility allows users to define the setup and configuration of the ControlNet router, connections with controllers and devices.
- ◆ The configuration utility can be downloaded from www.prosoft-technology.com

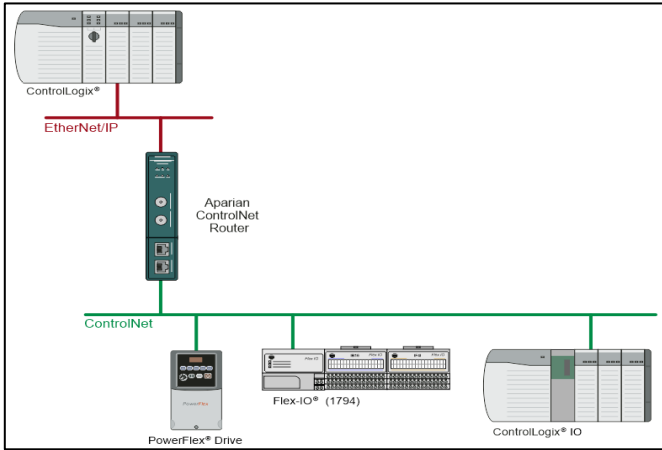


Figure 1 - Typical setup for EtherNet/IP Target to ControlNet I/O

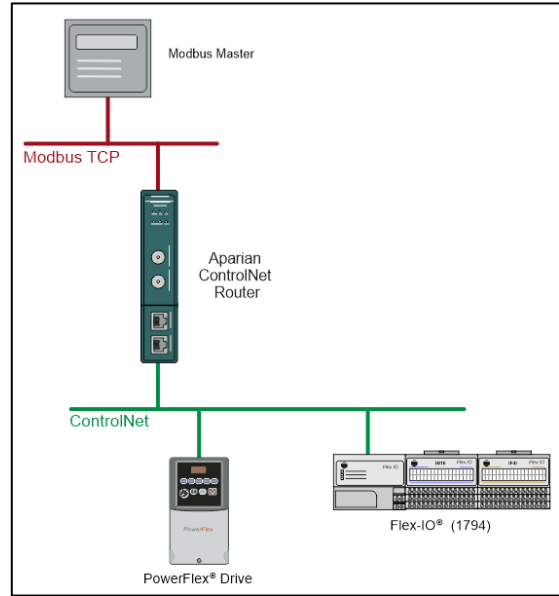


Figure 2 - Typical setup for Modbus TCP/IP server to ControlNet I/O

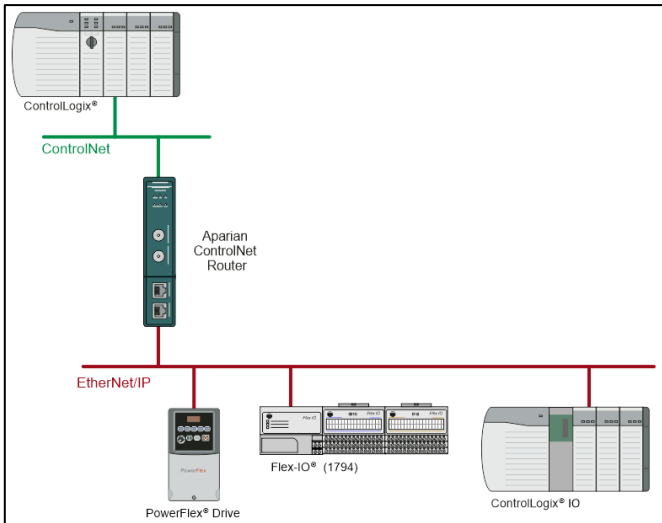


Figure 3 - Typical setup for ControlNet Target to EtherNet/IP I/O

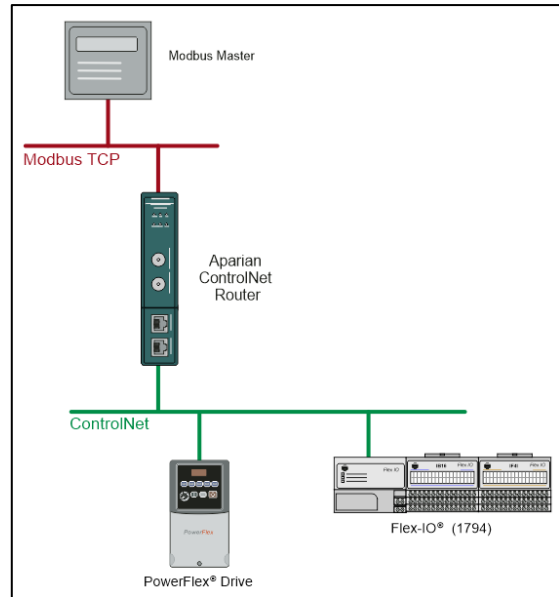


Figure 4 - Typical setup for Modbus TCP/IP server to ControlNet I/O

Specifications

Ethernet

Specification	Description
Connector	RJ45
Conductors	CAT5 STP/UTP
ARP Connections	40 max.
TCP Connections	40 max.
CIP Connections	10 max.
Communication Rate	10/100 Mbps
Duplex Mode	Full / Half
Auto-MDIX Support	Yes
Embedded Switch	Yes, 2 x Ethernet ports
Device Level Ring (DLR)	Yes
Network Time Protocol	Yes

ControlNet Network

Specification	Description
Connectors	2 x BNC (ControlNet A, B)
Conductors	Quad shield RG-6 coaxial cable
Routing (via RSLinx programming)	Yes
Redundancy	Yes

ControlNet Target

Specification	Description
Scheduled Connection Size	Max. Input size – 408 bytes (400 bytes of mapped data) Max. Output size – 404 bytes (400 bytes of mapped data)
Unscheduled Routed Clients	40 max.
Scheduled Connection Count	1

ControlNet Originator

Specification	Description
Scheduled Connection Count	10 max.
Scheduled Connection Data	570 bytes (input and output) maximum
Explicit Unscheduled Connections	10 max.
Multiple ControlNet Connection Originators	Supported

PCCC

Specification	Description
PCCC Connections	10 max.
PCCC Payload	1000 bytes max.



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EtherNet/IP Target

Specification	Description
Class 1 Connection Size	Max. Input size – 500 bytes (492 bytes of mapped data) Max. Output size – 496 bytes (492 bytes of mapped data)
Class 1 Connection Count	1
Class 3 Messaging Support	Yes
Direct-to-Tag Logix Support	Yes

EtherNet/IP Originator

Specification	Description
Class 1 Cyclic Connection Supported	Yes
Class 3 UCMM Connections Supported	Yes
Class 1 Connection Count	10
Class 3 UCMM Connection Count	10
Class 3 UCMM Mapping Count	50
Direct-To-Tag Logix Support	Yes

Modbus TCP/IP Client

Specification	Description
Server Devices	20 max.
Modbus Mappings	100 max. per server device
Mapping Ranges	0 to 65535
Base Offset	Modbus (base 0); PLC (base 1)

Modbus TCP/IP Server

Specification	Description
Mapping Ranges	0 to 65535
Base Offset	Modbus (base 0); PLC (base 1)

Hardware

Specification	Description
Power Supply	Input: 10 to 36 VDC, (85 mA @ 24VDC)
Power Consumption	2.0 W
Dimensions (H x W x D)	101.0 x 22.5 x 120.0 mm
Connector	3-way terminal, 5.08 mm pitch.
Conductors	24 to 18 AWG
Enclosure Rating	IP20, NEMA/UL Open Type
Temperature	-20 to 70 °C
Earth Connection	Yes, terminal based
Emissions	IEC 61000-6-4
ESD Immunity	EN 61000-4-2
Radiated RF Immunity	IEC 61000-4-3
EFT/B Immunity	IEC 61000-4-4
Surge Immunity	IEC 61000-4-5
Conducted RF Immunity	IEC 61000-4-6

Agency Approvals & Certifications

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A-CNR

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