DATASHEET

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 router 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 router to emulate user-defined PLC5-type data files data simplifying the migration to Ethernet-only PanelViews. The router 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

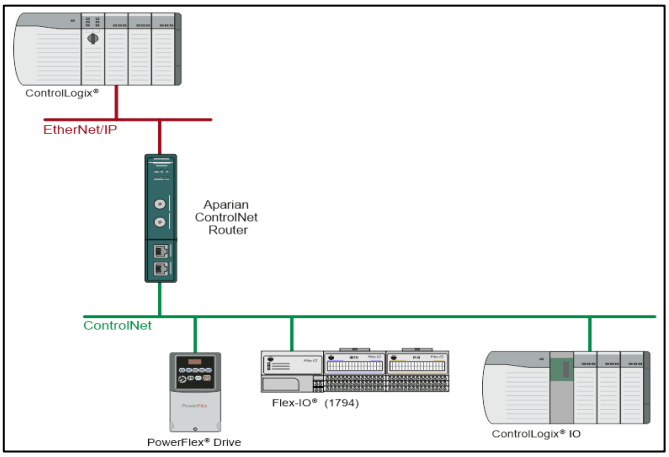

Figure 1 - Typical setup for EtherNet/IP Target to ControlNet I/O

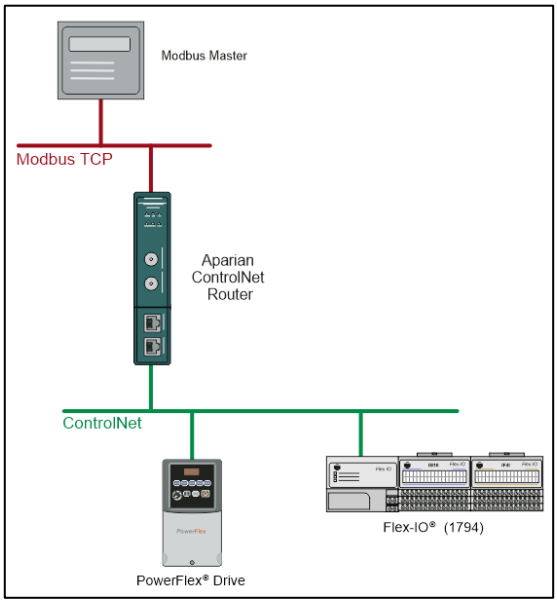

Figure 2 - Typical setup for Modbus TCP/IP server to ControlNet I/O

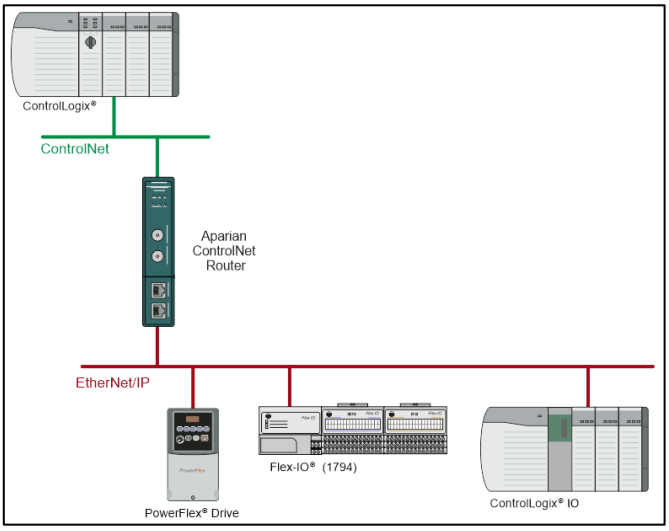

Figure 3 - Typical setup for ControlNet Target to EtherNet/IP I/O

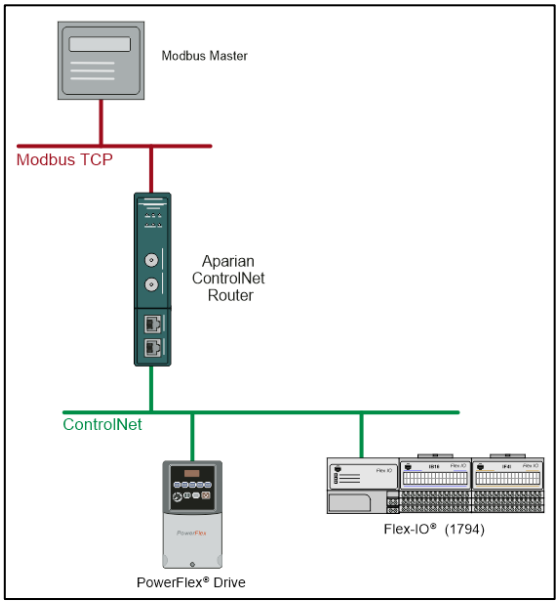

Figure 4 - Typical setup for Modbus TCP/IP server to ControlNet I/O

Specifications

Ethernet

Specification	Description
Connector	RJ45
Conductors	CAT5 STP/UTP
ARP Connections	100 max.
TCP Connections	100 max.
CIP Connections	50 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	**Input Connection Data:** Max. 500 bytes per connection. **Output Connection Data:** Max. 277 bytes for 1 connection. Max. 269 bytes for 2 connections. Max. 261 bytes for 3 connections. Max. 253 bytes for 4 connections. Max. 245 bytes for 5 connections. Max. 237 bytes for 6 connections. Max. 229 bytes for 7 connections. Max. 221 bytes for 8 connections. Max. 213 bytes for 9 connections.
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
UCMM Messaging Supported	Yes

EtherNet/IP Originator

Specification	Description
Class 1 Cyclic Connections Supported	Yes
Class 3 / UCMM Connections Supported	Yes
Class 1 Connection Count	10
Class 3 / UCMM Target Device 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)
Configurable Modbus TCP/IP Port	Yes
Data Re-formatting Supported	BB AA BB AA DD CC CC DD AA BB DD CC BB AA

Modbus TCP/IP Server

Specification	Description
Mapping Ranges	0 to 65535
Base Offset	Modbus (base 0), PLC (base 1)
Configurable Modbus TCP/IP Port	Yes

Hardware

Specification	Description
Power Supply	Input: 10 to 36 VDC, (85 mA @ 24 VDC)
Power Consumption	2.0 W (max)
Dimensions (H x W x D)	149.0 x 34.0 x 116.0 mm
Connector	3-way terminal
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

Please visit our website: www.prosoft-technology.com

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To order this product, please use the following:

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A-CNR

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