

DeviceNet Router

Datasheet

A-DNTR

Document No. D116-007

10/2017

Revision 1.1

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1. PREFACE

1.1. ABOUT THIS DOCUMENT

This document contains the technical data for the DeviceNet Router. The DeviceNet Router provides intelligent data routing between DeviceNet and EtherNet/IP or Ethernet PCCC (CSP). The later allows the module to emulate a PLC5 providing a legacy interface for PanelViews and other devices.

1.2. FEATURES

The DeviceNet Router is able to asynchronously exchange data between a DeviceNet polling master (scanner) and an Ethernet PCCC device. The sizes of the DeviceNet's produced and consumed data are independently configurable from 0 to 128 bytes each.

The consumed (DeviceNet) data can then be mapped to a PLC5 type address file, e.g. N33, and then read by an Ethernet device e.g. a PanelView. Similarly, the produced data (DeviceNet) can also be mapped to a PLC5 type address file, to which an Ethernet device could write.

In addition, the DeviceNet Router can be used to transfer parameters of a DeviceNet device directly to Logix tags. The scaling of the parameter values will either be extracted from the EDS file imported or can be manually updated by the user.

The module also provides a range of statistics and an on-board DeviceNet traffic analyser to assist with fault finding.

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

The DeviceNet Router is configured using the Aparian Slate application. This program can be downloaded from www.aparian.com free of charge.

1.3. ARCHITECTURE

The figure below provides an example of the typical network setup in PLC Emulation mode, where the DeviceNet Router acts as a DeviceNet slave device.

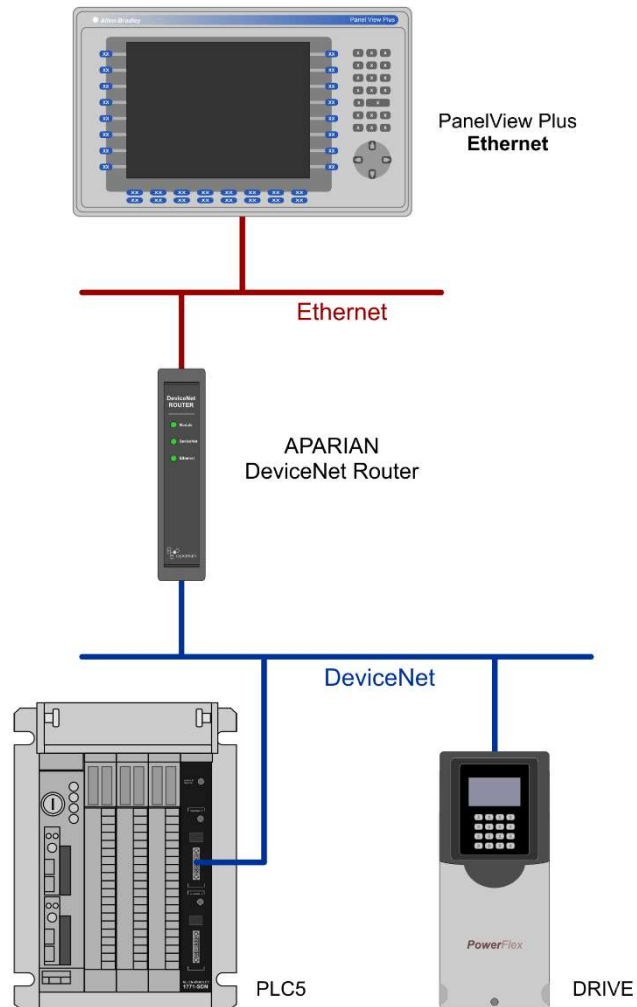


Figure 1.1. - Example of a typical network setup in PLC Emulation mode

In this example, the DeviceNet Router provides the PanelView data access to the PLC5's DeviceNet scanner module (SDN).

In the next example the DeviceNet Router is used to extract parameters from various DeviceNet devices (running in conjunction with the DeviceNet Scanner – e.g. DNB).

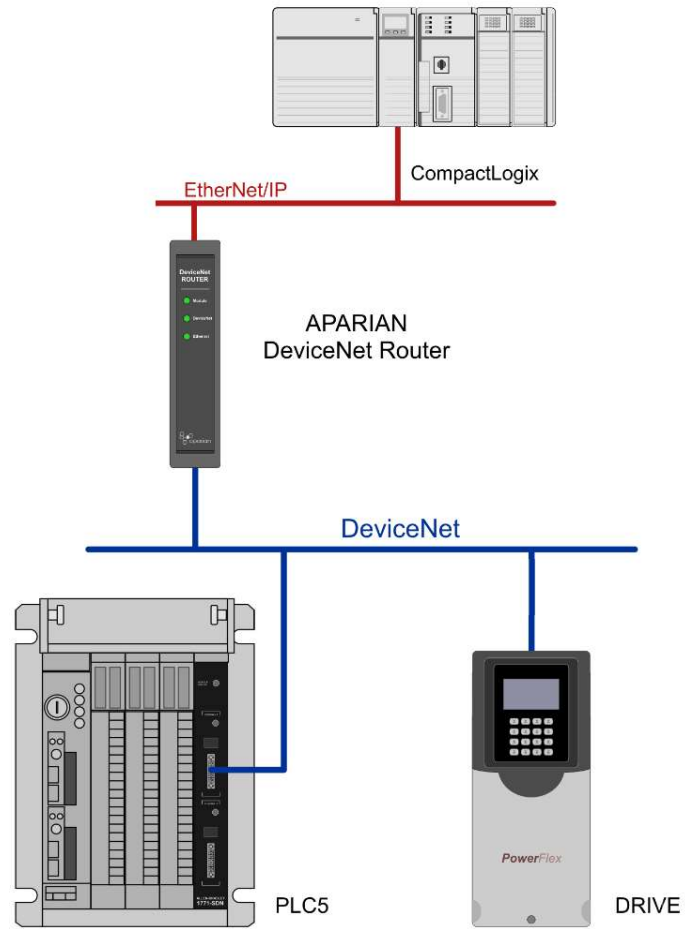


Figure 1.2. - Example of a typical network setup in Scheduled Parameter Mode

2. ETHERNET/IP NETWORK

Specification	Rating
Connector	RJ45
Conductors	CAT5 STP/UTP
ARP connections	Max 20
TCP connections	Max 20
CIP connections	Max 10
Communication rate	10/100Mbps
Duplex mode	Full / Half
Auto-MDIX support	Yes

Table 2.1 - Ethernet specification

3. DEVICENET NETWORK

Specification	Rating
Connector	5-way terminal, 5.08mm pitch.
Conductors	12 – 30 AWG
BAUD	125k 250k 500k
IO Messaging	Polled Change of State (COS)
Unconnected Message Manager (UCMM)	Yes
Max Explicit Connections	5

Table 3.1 – DeviceNet network specification

4. PCCC NETWORK

Specification	Rating
Max PCCC Connections	10

Max PCCC Payload	1000 bytes
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Table 4.1 – PCCC specification

5. ELECTRICAL SPECIFICATIONS

Specification	Rating
Power requirements	Input: 10 – 28V DC, (70 mA @ 24 VDC)
Power consumption	1.7 W
Connector	5-way terminal, 5.08mm pitch.
Conductors	24 – 18 AWG
Enclosure rating	IP20, NEMA/UL Open Type
Temperature	-20 – 70 °C
Earth connection	Yes, terminal based
Emissions	IEC61000-6-4
ESD Immunity	EN 61000-4-2
Radiated RF Immunity	IEC 61000-4-3
EFT/B Immunity	EFT: IEC 61000-4-4
Surge Immunity	Surge: IEC 61000-4-5
Conducted RF Immunity	IEC 61000-4-6

Table 5.1 - Electrical specification

6. CERTIFICATIONS

Certification	Mark
RoHS2 Compliant	RoHS2
CE Mark	CE

UL Mark
File: E494895



Table 6.1 – Certifications

7. DIMENSIONS

Below are the enclosure dimensions as well as the required DIN rail dimensions.

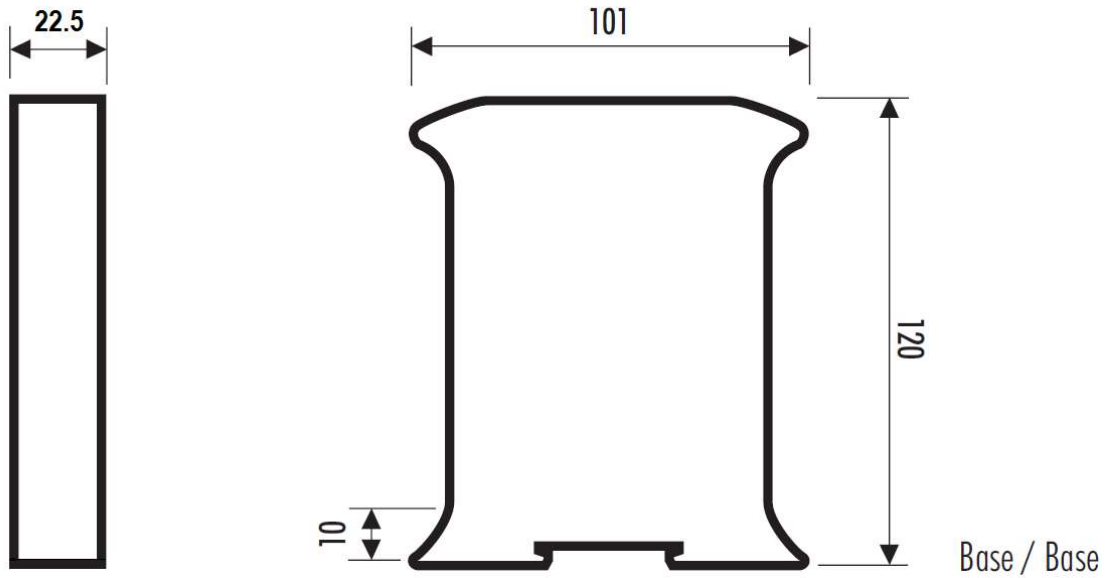


Figure 7.1 – DeviceNet Router enclosure dimensions

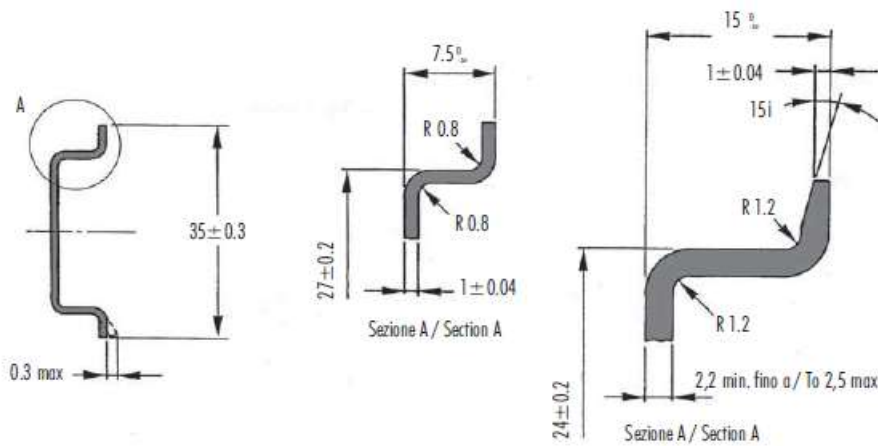


Figure 7.2 - Required DIN dimensions