Chapter 2 – Overview

Overview

This chapter contains a short description of a DeviceNet bus topology, the NDNA-02 Adapter Module, a delivery checklist, and warranty information.

Further information can be obtained from *www.odva.org*.

DeviceNet Bus Topology

The DeviceNet network has a linear bus topology. Terminating resistors are required on each end of the trunk line. Drop lines as long as 6 metres (20 feet) each are permitted, allowing one or more nodes to be attached. DeviceNet allows branching structures only on drop lines. An example of an allowable topology is shown in Figure 2-1.

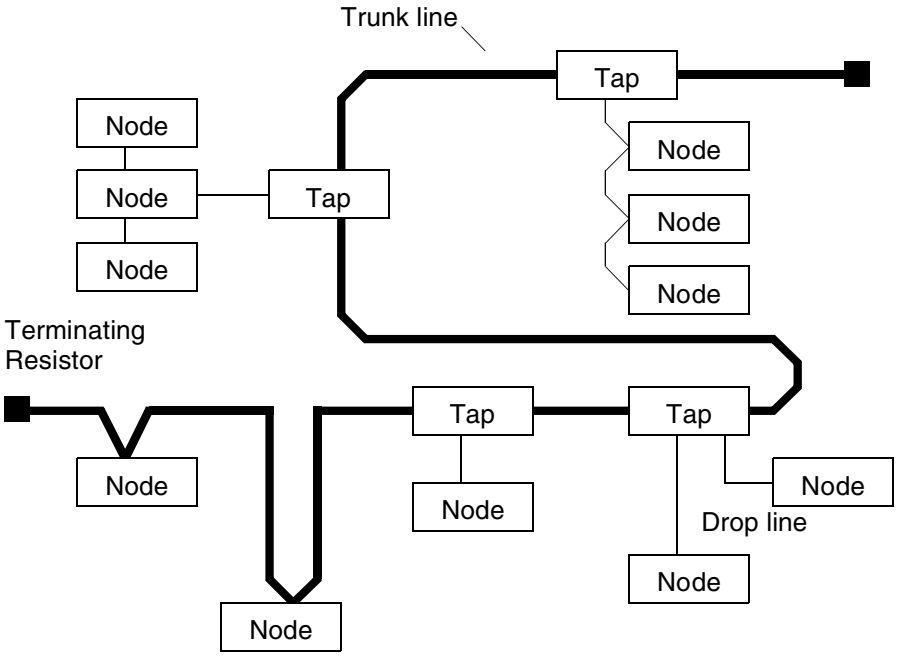

Figure 2-1 DeviceNet bus topology.

The maximum length of trunk cable depends on the data rate and on the type of the cable used (see Appendix A).

Terminating Resistor

The DeviceNet network should be terminated at both ends of the trunk cable with a 121 Ω, ¼ W, 1% Metal Film resistor. Connect this resistor between the two signal wires (CAN_H, CAN_L) on the DeviceNet cable.

The NDNA-02 DeviceNet Adapter Module

The NDNA-02 DeviceNet Adapter Module is an optional device for ABB drives which enables the connection of the drive to a DeviceNet system. The drive is considered as a slave in the DeviceNet network. Through the NDNA-02 DeviceNet Adapter Module it is possible to:

- Give control commands to the drive (Start, Stop, Run enable, etc.)
- Feed a motor speed or torque reference to the drive
- Give a process actual value or a process reference to the PID controller of the drive
- Read status information and actual values from the drive
- Read and write drive parameter values
- Reset a drive fault.

The NDNA-02 acts as a Class 2 slave only with predefined master-slave connection set services. These include the Explicit Messaging, the Poll-Response service, the Bit-Strobe service and the Change of State/Cyclic service. The DeviceNet commands and services supported by the NDNA-02 DeviceNet Adapter Module are discussed in Chapter 6. Please refer to the user documentation of the drive as to which commands are supported by the drive.

The adapter module is mounted onto a standard mounting rail inside or outside the drive unit, depending on drive type and configuration. See the user's manual of the drive for module placement options.

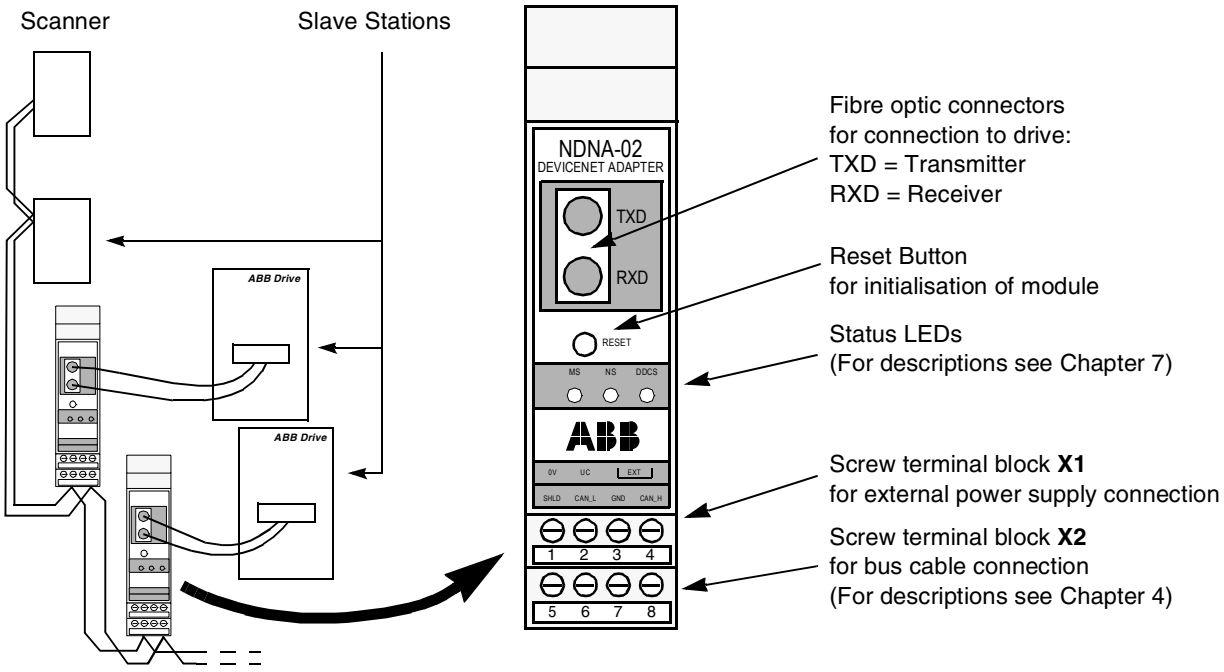

Figure 2-2 The construction of the DeviceNet link and the NDNA-02 Adapter Module.