DEVICENET NETWORK OVERVIEW

DeviceNet Network Overview

DeviceNet is a simple, open networking solution that reduces the cost and time required to wire and install industrial automation devices, while providing interchangeability of like components from multiple vendors.

Based on the Controller Area Network (CAN) technology, DeviceNet is a cost-effective solution for low-level industrial device networking and an effective way to provide access to the intelligence present in those devices. A DeviceNet network lets you connect devices directly to plant-floor controllers without hard-wiring each device into an I/O module.

Use a DeviceNet network to:

- reduce wiring and installation cost
- reduce start-up time
- significantly reduce downtime and the total cost of ownership with the aid of diagnostics, Auto Device Replacement, and other time- and cost-saving features
- support standard and safety applications on the same wire
- benefit from an open network
- control, configure, and collect data on a single network

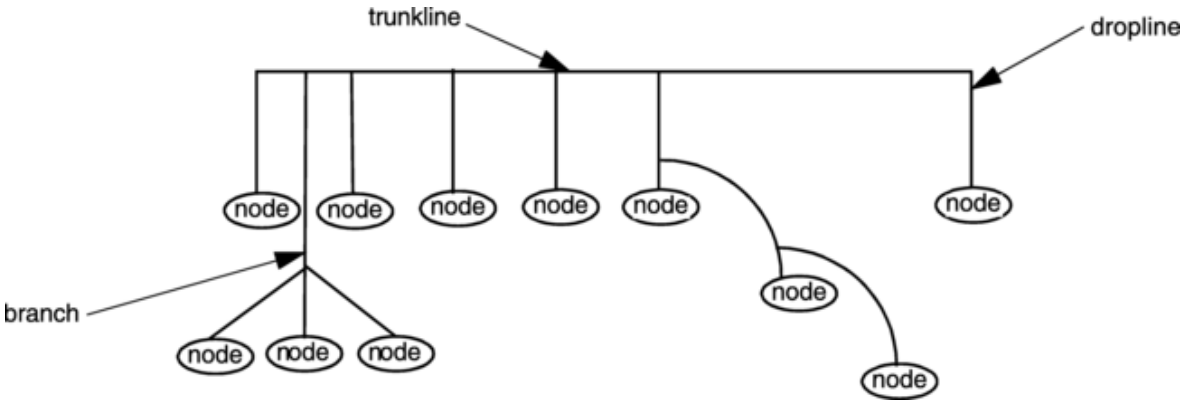
Rockwell Automation offers a complete line of DeviceNet products. Whatever you need-- controllers, I/O, sensors, operator interfaces, media, motor control, drives, motion control, or software-- we can supply it for your new DeviceNet application or an existing network.

Benefits

- An open device network standard provides common end-user solutions, reducing the need for vendors to support a variety of the device networks on the market.
- Diagnostics provide predictive failure warnings and troubleshooting.
- Reduction in plant wiring (eliminates hardwiring of I/O).
- Lower installation, start-up, and maintenance times. Superior device-level diagnostics.
- Ability to bridge to higher level networks.
- Device Plug and Play capabilities—add or remove nodes on the fly.
- Monitor your systems remotely; program and configure during run-time.

Topology

DeviceNet supports trunkline/dropline topology. You can daisy-chain or branch nodes along droplines up to a maximum of 20 ft (6m) from the trunk.



Example DeviceNet system topology.

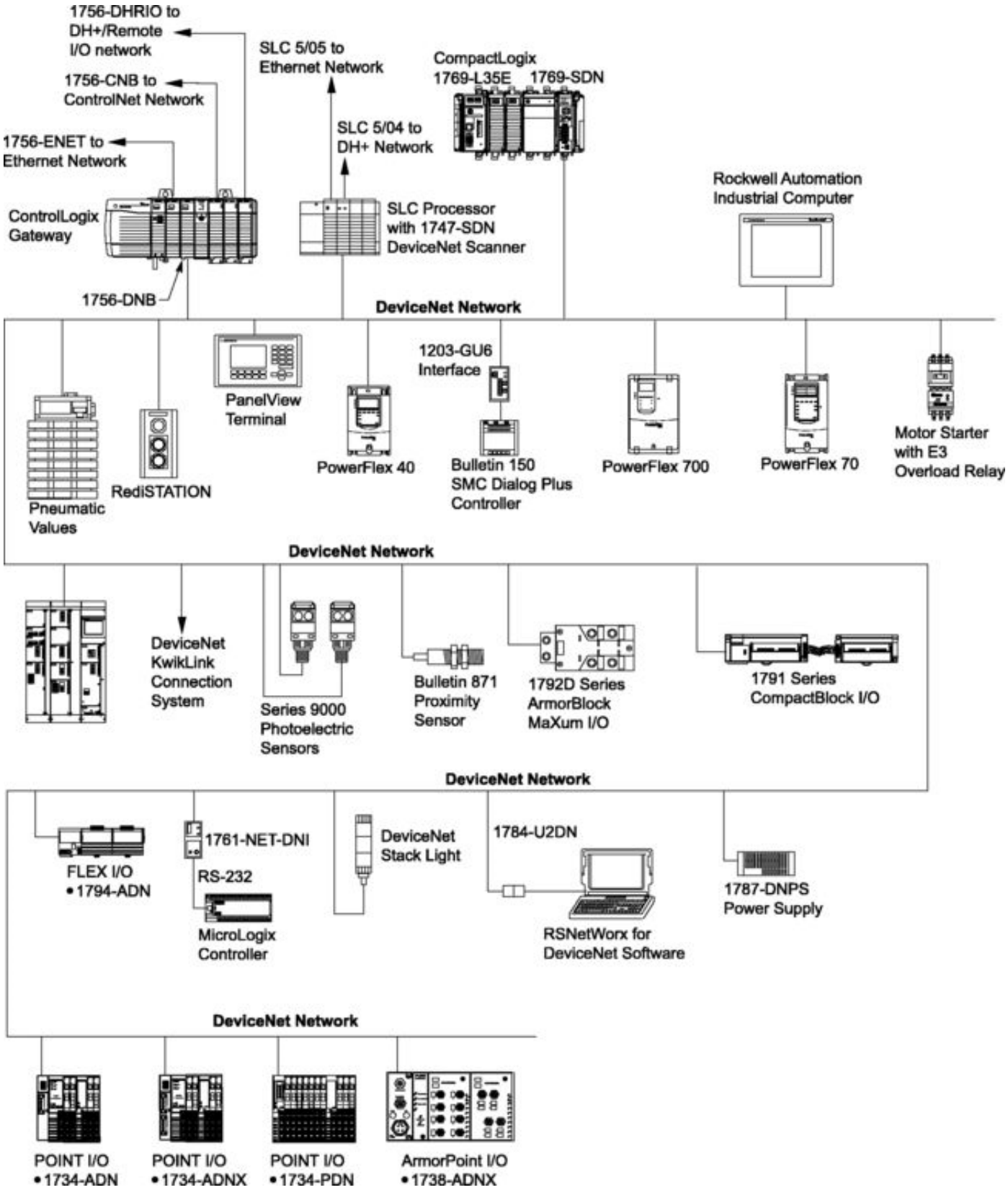
See the DeviceNet Media Design and Installation Guide, publication DNET-UM072, for more information.

Typical Applications

The DeviceNet network is ideal for applications such as:

- Automotive transfer lines, paint shops, and assembly lines
- Food processing/packaging
- Sectional conveyors
- Discrete-part machines
- Applications requiring fast response times
- Applications requiring safety systems such as robust media, automatic duplicate node address checking, built-in retries at the data link layer, connection-based messaging, error counters for each network connection, and a bit error rate of £10-7 under stress
- Most other high-speed applications that require high throughput and speed, high I/O count, distribution across large geographic distances, and real-time performance

DeviceNet Typical Configuration



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