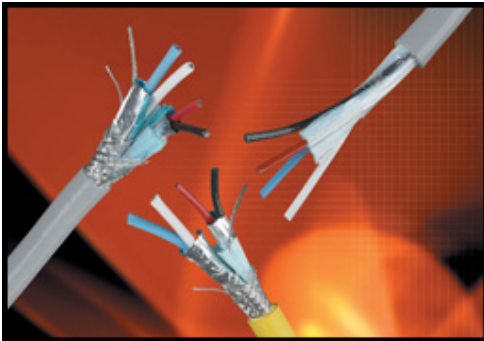


## Belden® Offers an Extensive Line-up of Products for DeviceNet® Application



DeviceNet is an ODVA™ device-level communication protocol for industrial automation. A DeviceNet network is an open, low-cost system link between industrial devices such as sensors and actuators and higher-level devices such as programmable logic controllers and PCs. DeviceNet networks use the network-independent protocol called Common Industrial Protocol (CIP) to provide its control, configure and data collection capabilities. Additional flexibility is offered via the network's ability to work with devices from multiple vendors - and, unlike other protocols, the user can add a power tape at any point (with a maximum power pair ampacity of 8 amps using Thick cable), allowing for redundant power supplies.



A DeviceNet network can support up to 64 nodes and the network end-to-end distance is variable, based on network speed. At 125 Kbps, the maximum network distance is up to 500m. At the highest speed, 500 Kbps, the maximum network distance is up to 100m. The bus topology is a trunkline-dropline linear bus.

### Belden Offers an Extensive Cable Line Up

As an active member of ODVA, Belden provides an extensive line of DeviceBus® cables which are typically designated as either [Class 1](#) (600V) or [Class 2](#) (300V) "Thick," "Thin," or "Mid" cable. They can be used for either trunk or drop applications, dependent on the system speed and overall end-to-end distance.

### Exceptional Performing DeviceBus Cables

Belden DeviceBus cables provide the following features and benefits:

- Full compliance with ODVA specifications
- TC-ER and PLTC-ER ratings are applicable on certain cables
- Data and power functionality in one cable
- Reduced cable and installation costs
- New Red jackets on products designating DeviceNet Safety (allows users to place safety devices on the same network as their standard controls)
- Full compliance with ROHS Directive



To get complete technical information on our DeviceBus cables for DeviceNet application, select one of the cables listed below and you'll access a Belden technical data sheet. For an overview of these DeviceNet products, you can also download [Belden Product Bulletin 243](#).

### DeviceBus Cables for ODVA DeviceNet: Class 1

[7897A](#) 600V Class 1 Thick, 15 & 18 AWG Stranded TC

[7896A](#) 600V Class 1 ODVA Cable V, 16 & 18 AWG Stranded TC

[7900A](#) 600V Class 1 ODVA Cable IV, 16 & 18 AWG Stranded TC

DeviceBus Cables for ODVA DeviceNet; Class 2 Thick

[3082A](#) 300V Class 2 Thick, 15 & 18 AWG Stranded TC

[3082F](#) 300V Class 2 Thick, 15 & 18 AWG Stranded TC, High-flex

[1345F](#) 300V Class 2 Thick, 15 & 18 AWG Stranded TC, High-flex, 75°C, Oil Res I

[3083A](#) 300V Class 2 Thick, 15 & 18 AWG Stranded TC, 75°C

DeviceBus Cables for ODVA DeviceNet; Class 2 Thin

[3084A](#) 300V Class 2 Thin, 22 & 24 AWG Stranded TC, 75°C

[3084F](#) 300V Class 2 Thin, 22 & 24 AWG Stranded TC, 75°C, High-flex

[1346F](#) 300V Class 2 Thin, 22 & 24 AWG Stranded TC, 75°C, High-flex, Oil Res I

[3085A](#) 300V Class 2 Thin, 22 & 24 AWG Stranded TC, 75°C, CPE Jacket

DeviceBus Cables for ODVA DeviceNet; Class 2 ODVA Cable III

[7895A](#) 300V Class 2 ODVA Cable III, 20 & 18 AWG Stranded TC, Mid, 75°C

#### DeviceNet Communications Rate Table

Communications Rate	Maximum Distance													
	7897A		7896A		7900A		3082A		3082F		1345F		3083A	
	Ft.	m	Ft.	m	Ft.	m	Ft.	m	Ft.	m	Ft.	m	Ft.	m
125 Kbps	1640	500	1378	420	328	100	1640	500	1640	500	1640	500	1640	500
250 Kbps	820	250	656	200	328	100	820	250	820	250	820	250	820	250
500 Kbps	328	100	328	100	328	100	328	100	328	100	328	100	328	100

Communications Rate	Maximum Distance											
	3084A		3084F		1346F		3085A		7895A		3082K	
	Ft.	m	Ft.	m	Ft.	m	Ft.	m	Ft.	m	Ft.	m
125 Kbps	328	100	328	100	328	100	328	100	984	300	1378	420
250 Kbps	328	100	328	100	328	100	328	100	820	250	656	200
500 Kbps	328	100	328	100	328	100	328	100	328	100	246	75

Custom cables are available upon request which can utilize any number of construction features such as:

- Armoring: Aluminum Interlock, Steel Interlock, and Continuous Corrugated Aluminum
- Armor Tapes: Corrugated Copper, Aluminum, and Steel
- Jackets: PVC, CPE, LDPE, TPE, HDPE, Fluorocopolymer, Oil Res II, Low Smoke Zero Halogen (LSZH), Haloarrest®, and Polyurethane
- Shielding: Overall Beldfoil®, Duofoil®, TC Braid, TC Double Braid, Individual Beldfoil Copper Tape Shields, and “French Braid”
- Insulations: Datalene®, XLPE, FEP, Polypropylene, Foam FEP, HDPE, PVC, TPE, and PVC-Nylon
- Conductors: Solid BC, Stranded BC, Solid Bare Copper-covered Steel, and Stranded TC

#### Lumberg Automation Connectivity

Lumberg offers the following connectivity products for DeviceNet application:

- Centralized I/O distribution systems
  - e2c 20, IP20 rated
- Decentralized I/O distribution systems
  - LioN-Link, IP67 rated

- Fieldbus I/O modules
  - LioN-S
- Field-attachable connectors

See also [Lumberg Automation](#).

For more information on ODVA/DeviceNet, go to [www.odva.org](http://www.odva.org). For information on other protocols see our [Industrial PLC/DCS Cable Cross-reference](#).