

DeviceNet™ is a low-cost communications link that both connects and powers industrial devices (switches, starters, sensors, drives, displays, etc.). Up to 64 devices can be controlled over a DeviceNet. Like ControlNet, DeviceNet components are manufactured by a broad range of affiliated suppliers.

**CommScope's 5070 and 5080 power/data cables** meet or exceed specific performance and construction standards established by the Open DeviceNet Vendors Association (ODVA). DeviceNet traditionally runs over a **two-pair shielded cable** (one power pair, one data pair) with a "thick" **trunk** cable (15 AWG power/18 AWG data) and a "thin," more flexible **drop** cable (22 AWG power/24 AWG data), although the trunk cable may be used as a drop cable as well. Both pairs are individually foil-shielded and covered with an overall braid shield.

Network length is dependent upon network speed. Using thick trunk cable:

- 125 kbps networks should not exceed 1,640 ft/500 meters with a cumulative drop length of 512 ft/156 meters
- 250 kbps should not exceed 820 ft/250 meters with a cumulative drop length of 256 ft/78 meters
- 500 kbps should not exceed 328 ft/100 meters with a cumulative drop length of 128 ft/39 meters.

Drop cables are limited to an overall length of 328 ft/100 meters regardless of network speed. The above cumulative drop length limits apply. Drop cables may not exceed 20 ft/6 meters in length for either network.

### DeviceNet Cable Connection and Termination

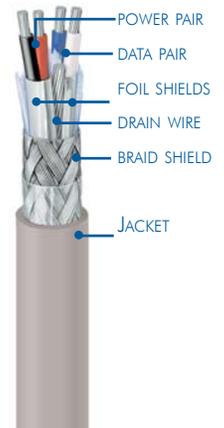
A number of manufacturers produce closed-style mini and micro five-pin connectors for DeviceNet cables - open-style connectors are available as well. Consult the DeviceNet product catalog for vendors. Trunk cable ends should be terminated with the proper terminating resistors.

### DeviceNet Cable Installation Tips

The power pair of a DeviceNet cable is rated for 300V - therefore, keep them away from higher voltage cables unless they can be physically isolated in the conduit or cable tray. A minimum distance of 3 in/76 mm is recommended.

The network should be grounded at one location only.

**5070/5080  
DEVICENET CABLE**



**Shielded data/power pairs engineered specifically for DeviceNet Meets Open DeviceNet Vendors Association (ODVA) specifications**  
**Cable-in-conduit (CIC) versions are available**

**Approved by Allen-Bradley as Encompass Program Products**

Part Number	Conductors Size & Type Nom DCR kft / km	Insulation Type & Color Conductor OD in / mm	Shields Type & Coverage Type & Coverage Nom DCR kft / km	Jacket Color & Type Cable OD in / mm	Nominal Capacitance pF/ft pF/m	Nom Vel. of Prop.	Nom Imp.	Nom Attenuation		
								MHz	dB/100'	dB/100m
<b>5070 trunk cable (thick)</b>    <b>NEC/CEC PLTC SUN RES</b>	Data pair: 18 AWG (19x30 AWG) TC 6.9Ω/22.7Ω	Data: Foam PE Blue/white .150/3.81	Each pair: AL foil 100%  Overall: 65% TC braid 1.75Ω/5.7Ω	Gray PVC .480/12.2	12.0 39.4	78%	120Ω	.125 .500 1.000	0.13 0.25 0.40	0.41 0.82 1.31
	Power pair: 15 AWG (19x28 AWG) TC 3.6Ω/11.8Ω	Power: PVC Black/red .098/2.49								
<b>5080 drop cable (thin)</b>    <b>NEC/CEC CM/CL2 SUN RES</b>	Data pair: 24 AWG (19x36 AWG) TC 28Ω/91.8Ω	Data: Foam PE Blue/white .077/1.96	Each pair: AL foil 100%  Overall: 65% TC braid 3.2Ω/10.5Ω	Gray PVC .275/7.0	12.0 39.4	78%	120Ω	.125 .500 1.000	0.29 0.50 0.70	0.95 1.64 2.30
	Power pair: 22 AWG (19x34 AWG) TC 17.5Ω/57.4Ω	Power: PVC Black/red .055/1.40								
<b>5070CP trunk cable (thick) chemical/oil resistant</b>    <b>NEC/CEC CM/CL2 DIR BUR</b>	Data pair: 18 AWG (19x30 AWG) TC 6.9Ω/22.7Ω	Data: Foam PE Blue/white .150/3.81	Each pair: AL foil 100%  Overall: 65% TC braid 1.75Ω/5.7Ω	Yellow CPE .480/12.2	12.0 39.4	78%	120Ω	.125 .500 1.000	0.13 0.25 0.40	0.41 0.82 1.31
	Power pair: 15 AWG (19x28 AWG) TC 3.6Ω/11.8Ω	Power: PVC Black/red .098/2.49								
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	Power pair: 22 AWG (19x34 AWG) TC 17.5Ω/57.4Ω	Power: PVC Black/red .055/1.40								
<b>5070AI trunk cable (thick) interlocked aluminum armor</b>    <b>NEC/CEC CM</b>	Data pair: 18 AWG (19x30 AWG) TC 6.9Ω/22.7Ω	Data: Foam PE Blue/white .150/3.81	Each pair: AL foil 100%  Overall: 65% TC braid 1.75Ω/5.7Ω  Protective Armor: Interlocked AL	Inner: Gray PVC  Outer: Blue PVC	12.0 39.4	78%	120Ω	.125 .500 1.000	0.13 0.25 0.40	0.41 0.82 1.31
	Power pair: 15 AWG (19x28 AWG) TC 3.6Ω/11.8Ω	Power: PVC Black/red .098/2.49								
<b>5080AI drop cable (thin) interlocked aluminum armor</b>    <b>NEC/CEC CM</b>	Data pair: 24 AWG (19x36 AWG) TC 28Ω/91.8Ω	Data: Foam PE Blue/white .077/1.96	Each pair: AL foil 100%  Overall: 65% TC braid 3.2Ω/10.5Ω  Protective Armor: Interlocked AL	Inner: Gray PVC  Outer: Blue PVC	12.0 39.4	78%	120Ω	.125 .500 1.000	0.29 0.50 0.70	0.95 1.64 2.30
	Power pair: 22 AWG (19x34 AWG) TC 17.5Ω/57.4Ω	Power: PVC Black/red .055/1.40								

Industrial