



Designed for use on Allen Bradley DeviceNet™ Systems these cables incorporate two differently sized pairs: pair A (smaller) for data transmission, pair B (larger) for power transmission.

The larger Trunk (thick) version is used as backbone wiring and the smaller Drop (thin) version to connect sensors, actuators and switching to the Trunk cable.

PUR (polyurethane), PE & CPE (chlorinated-polyethylene) sheathing is tougher than standard PVC (polyvinylchloride). The armoured (SWA) versions are suitable for direct burial and LSZH provides increased safety in the case of fire.

Construction

- stranded tinned copper conductors
- polyethylene (PE) insulation
- cores twisted into pairs
- individual aluminium/polyester foil tape (IAT)
- screens with common tinned copper drain wire
- overall tinned copper wire braid (TCWB) screen
- optional bedding and steel wire armour (SWA)
- violet or black outer sheath, material varies

<u>Technical</u>		all electrical characteristics @ 20°C
conductor sizes:	drop (thin) version = 24AWG pair A & 22AWG pair B	
	trunk (thick) version = 18AWG pair A & 15AWG pair B	
voltage rating:	300v (peak) operating	
	2000v (rms 50Hz 1min) test (wire/wire/screen)	
impedance pair A:	120 Ohm (±12 Ω) @ 1 MHz (characteristic)	
capacitance pair A:	39.8 nF/km @ 1kHz (wire/wire)	
signal run time pair A:	4.46 ns/m	
capacity pair A:	3938 pF/km unbalance to ground	
core resistance pair A:	drop (thin) ≤ 90ohm/km, trunk (thick) ≤ 22.6ohm/km	
core resistance pair B:	drop (thin) ≤ 55ohm/km, trunk (thick) ≤ 11.7ohm/km	
insulation resistance:	≥ 200 MOhm/km	
temperature range:	dependent on sheath material, please check if critical	
core identification:	pair A coloured red & black, pair B coloured white & blue	

Cable Description, Type and Outer Sheath Material	Conductor Stranding		Cable Overall	
	Pair A (mm)	Pair B (mm)	Diameter (mm)	Weight (kg/km)
DeviceNet Drop (thin) PVC Violet	19x 0.13	19x 0.16	7.0	65
DeviceNet Drop (thin) CPE Violet	19x 0.13	19x 0.16	7.1	68
DeviceNet Drop (thin) LSZH Violet	19x 0.13	19x 0.16	6.9	65



Cable Description, Type and Outer Sheath Material	Conductor Stranding		Cable Overall	
	Pair A (mm)	Pair B (mm)	Diameter (mm)	Weight (kg/km)
DeviceNet Drop (thin) Hi-flex* PUR Violet	19x 0.13	19x 0.16	64	7.0
* The addition of a polyurethane sheath to the standard stranding makes this cable highly flexible.				
DeviceNet Drop (thin) SWA/PE Black	19x 0.13	19x 0.16	250	11.9
DeviceNet Drop (thin) SWA/LSZH Black	19x 0.13	19x 0.16	250	12.2
DeviceNet Trunk (thick) PVC Violet	19x 0.25	19x 0.34	12.2	174
DeviceNet Trunk (thick) CPE Violet	19x 0.25	19x 0.34	12.1	174
DeviceNet Trunk (thick) LSZH Violet	19x 0.25	19x 0.34	12.2	174
DeviceNet Trunk (thick) Hi-flex PUR Violet	40x 0.18	84x 0.16	12.1	209
DeviceNet Trunk (thick) SWA/PE Black	19x 0.25	19x 0.34	16.1	248
DeviceNet Trunk (thick) SWA/LSZH Black	19x 0.25	19x 0.34	16.1	248

PE or CPE Properties: these compounds (polyethylene or chlorinated-polyethylene) have good resistance to UV, abrasion, tearing and organic solvents plus good electrical properties. They have excellent resistance to water, inorganic salts, acids and alkalis.

PVC or LSZH Properties: fairly tough & flexible materials resistant to a wide range of oils & chemicals. The primary difference between them is the levels of toxic chemicals produced in the case of a fire.

Standard polyvinylchloride (PVC) will emit around 28% HCL (hydrogen chloride) if burnt.

Low smoke zero halogen/halogen free (LSZH, LSOH, LSHF) guarantees max. 0.5% HCL emissions if burnt.

PUR Properties: UV resistant, inflammable material with excellent abrasion and tear resistance. Good resistance to water and mineral oils. Poor resistance to acids and alkalis and no resistance to organic solvents.

PUR (Polyurethane) is also halogen free so will produce less than 0.5% HCL (hydrogen chloride) if burnt.

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