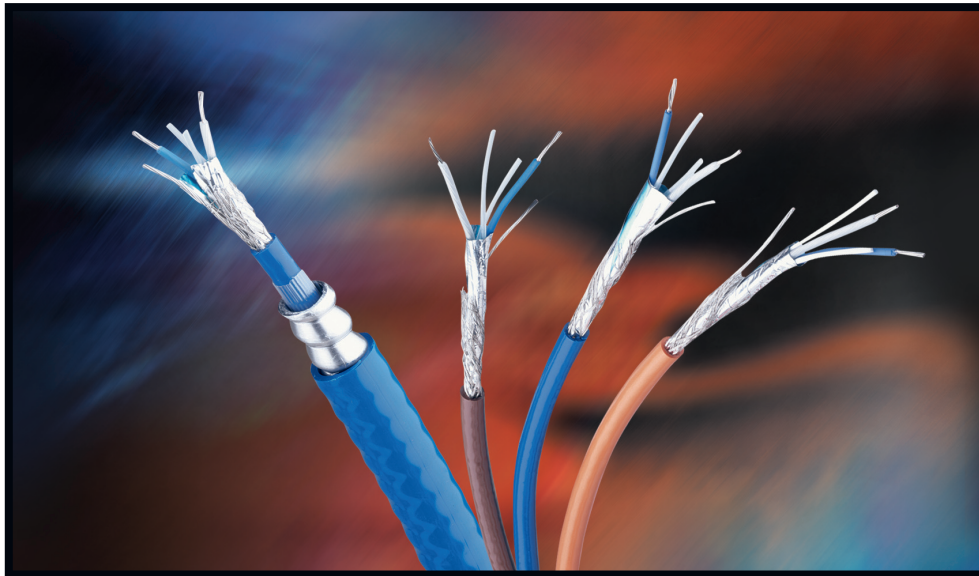# BELDEN

PB 158

Blue Hose® Cables

Belden® Blue Hose cables provide the interface between programmable logic control (PLC) processors, I/O devices, operator interfaces, computers and other intelligent devices utilized on the factory floor.

Belden Blue Hose Cable Line Meets A Variety of Installation Needs

Belden Blue Hose cable is a robust physical media for the transmission of PLC/DCS signals across the factory floor. A wide variety of Blue Hose constructions are available, allowing for installation flexibility unlike any other family of industrial communication cables.

Control Layer Applications

Blue Hose cables are typically utilized in the Control Layer, handling a wide range of automation and control data on the same cable. Examples include:

- PLC Processor Interlocking
- Peer-To-Peer Messaging
- Remote Programming
- Troubleshooting
- I/O Updates

The needs of real-time, high-throughput industrial applications such as automotive transfer lines, paint shops, assembly lines, sectional conveyors, water/wastewater processing, food processing and pharmaceutical production can be routinely met by the control network and the use of Belden Blue Hose cable.

Cable Attributes

Backed by years of research and development, each Belden Blue Hose cable is manufactured to exacting quality standards. An overview of attributes pertaining to Blue Hose Standard cable follows:

- Blue PVC Jacket
- NEC CM CL2, UL 2464, 300V, C(UL) CM
- P-7K-SC-182141-MSHA
- Allen-Bradley Part No. 1770 CD
- Conductor: 20 AWG (7x28) tinned copper
- Insulation: Polyethylene, colored Clear & Blue
- Insulation O.D.: 0.076"
- Shield: Overall Beldfoil® with tinned copper drain wire and 55% tinned copper braid
- Jacket: PVC, 80°C
- Nominal Cable O.D.: 0.238"
- Nominal Impedance: 78 ohms
- Nominal Velocity of Propagation: 66%
- Nominal Capacitance: 19.7pF/ft, 64.6 pF/m
- Nominal Attenuation:

MHz	dB/100 ft.	dB/100m
1	.6	2.0
10	2.1	6.9
50	5.0	16.4
100	7.5	24.6
200	11.0	36.1
400	16.0	52.5

The table on page 2 gives full descriptions of both standard and special-construction Blue Hose cables. These cables can also be supplied with CPE jackets. The minimum purchase requirement for a cable with a CPE jacket is 5,000 feet.

Blue Hose Selection Guide for PLC and DCS Applications

Part No.	Description	Specifications
9463	**Blue Hose Standard Cable** Designed to be used in light industrial environments. Available in Blue, Brown, Orange or Violet up to 10,000 ft. special lengths.	1-pair, 20 AWG stranded (7x28) tinned copper, polyethylene insulation (color coded Blue, Clear), Beldfoil + 55% tinned copper braid and drain wire, Blue sunlight-resistant PVC jacket. Nominal diameter: .238".
3072F	**600V Blue Hose Cable — UL Type TC** A DataTray® cable designed for cable tray use in industrial applications. Cable can occupy same tray or conduit as 600V power cables.	1-pair, 18 AWG stranded (7x26) tinned copper, flame-retardant polyolefin insulation (color coded Blue, White), Beldfoil + 55% tinned copper braid and drain wire, Blue sunlight-resistant PVC jacket. Nominal diameter: .324". UL-1277 600V TC/PLTC/ITC/CMG.
9463F	**High-Flexibility Blue Hose Cable** A highly flexible version of the standard Blue Hose cable. The cable also has heavier braid coverage for better noise immunity.	1-pair, 20 AWG stranded (42x36) tinned copper, polyethylene insulation (color coded Blue, Clear), Beldfoil + 85% tinned copper braid, Blue sunlight-resistant PVC jacket. Nominal diameter: .243".
YR28826*	**Dual Blue Hose Cable** Dual Data Highway/Remote I/O cable has two Twinax pairs individually shielded with an overall braid. Designed for use in daisy chain applications or applications requiring two Blue Hose cables.	2-pair, 20 AWG stranded (7x28) tinned copper, polyethylene insulation (color coded Blue, Clear), each pair Beldfoil shielded (1 pair Blue tape and 1 pair Green tape), 85% tinned copper braid and drain wire, Blue PVC jacket. Nominal diameter: .382".
YC39151*	**Dual Armored Blue Hose Cable** Features two twinax pairs individually shielded with an overall braid, an inner PVC jacket, aluminum interlocked armor, with an outer PVC jacket. Designed for use in daisy chain applications or applications requiring two Blue Hose cables, with the extra mechanical protection and electrical shielding provided by the armor.	2-pair, 20 AWG stranded (7x28) tinned copper, polyethylene insulation (color coded Blue, Clear), each pair Beldfoil shielded, 55% tinned copper braid and drain wire, Blue PVC inner jacket, aluminum interlocked armor, Blue sunlight-resistant PVC outer jacket. Nominal diameter: .820".
9463DB	**Gel-Filled Direct Burial Cable** A gel-filled Blue Hose cable featuring a low-density polyethylene (LDPE) jacket. Especially suited for high-moisture environments and burial applications.	1-pair, 20 AWG stranded (7x28) tinned copper, polyethylene insulation (color coded Blue, Clear), Beldfoil + 55% tinned copper braid and drain wire, CoreGuard® flooding compound, Blue sunlight-resistant low-density polyethylene jacket. Nominal diameter: .240".
89463	**Plenum Cable** A plenum, 200°C grade cable that is suitable for installations where high and low temperatures, as well as corrosive environments, are encountered.	1-pair, 20 AWG stranded (7x28) tinned copper, FEP insulation (color coded Blue, Clear), Beldfoil + 76% tinned copper braid and drain wire, Blue FEP jacket. Nominal diameter: .203".
YR28764*	**Thick-Wall, Heavy-Duty Cable — UL Type PLTC** A rugged, heavy-duty cable specially designed for abusive environments. A .069" thick jacket provides extra protection against cuts and abrasion.	1-pair, 20 AWG stranded (7x28) tinned copper, polyethylene insulation (color coded Blue, Clear), Beldfoil + 55% tinned copper braid and drain wire, Blue sunlight-resistant PVC jacket. Nominal diameter: .380".
YR41104*	**Low Smoke, Zero Halogen Cable** For applications concerned with smoke emissions, toxicity and electronic component corrosion.	1-pair, 20 AWG stranded (7x28) tinned copper, polyethylene insulation (color coded Blue, Clear), Beldfoil + 55% tinned copper braid and drain wire, Blue Haloarrest® jacket. Nominal diameter: .256".
129463	**Aluminum Interlocked Armor Blue Hose Cable** Features interlocked aluminum armor combined with a PVC jacket and is an ideal alternative to conduit installation. Provides both mechanical protection and electrical shielding. Up to 25 Data Highway cables can be bundled under one sheath.	1-pair, 20 AWG stranded (7x28) tinned copper, polyethylene insulation (color coded Blue, Clear), Beldfoil + 55% tinned copper braid and drain wire, Blue PVC inner jacket, aluminum interlocked armor, Blue sunlight-resistant PVC outer jacket. Nominal overall diameter: .563".
139463	**Steel Interlocked Armor Blue Hose Cable** Features interlocked galvanized steel armor combined with a PVC jacket. Provides mechanical protection and electrical shielding, as well as prevention against the low-frequency 60 Hz magnetic noise from power lines. Up to 25 cables can be bundled under one sheath.	1-pair, 20 AWG stranded (7x28) tinned copper, polyethylene insulation (color coded Blue, Clear), Beldfoil + 55% tinned copper braid and drain wire, Blue PVC inner jacket, steel interlocked armor, Blue sunlight-resistant PVC outer jacket. Nominal overall diameter: .563".
189463	**Continuously Corrugated Aluminum Armor Blue Hose Cable** Features continuously corrugated aluminum armor combined with a PVC jacket. Provides mechanical protection, electrical shielding, and is impervious to moisture.	1-pair, 20 AWG stranded (7x28) tinned copper, polyethylene insulation (color coded Blue, Clear), Beldfoil + 55% tinned copper braid and drain wire, Blue PVC inner jacket, continuously corrugated aluminum armor, Blue sunlight-resistant PVC outer jacket. Nominal overall diameter: .500".
YR29565*	**Colored Blue Hose** When your application calls for multiple Blue Hose cables you can rest assured that Belden has the solution. This special construction is available in Red, Yellow, Green, White or Pink.	1-pair, 20 AWG stranded (7x28) tinned copper, polyethylene insulation (color coded Blue, Clear), Beldfoil + 55% tinned copper braid and drain wire, sunlight-resistant PVC jacket. Nominal diameter: .238".

*Custom made product. Minimum order quantity may apply.

PB158 Rev2