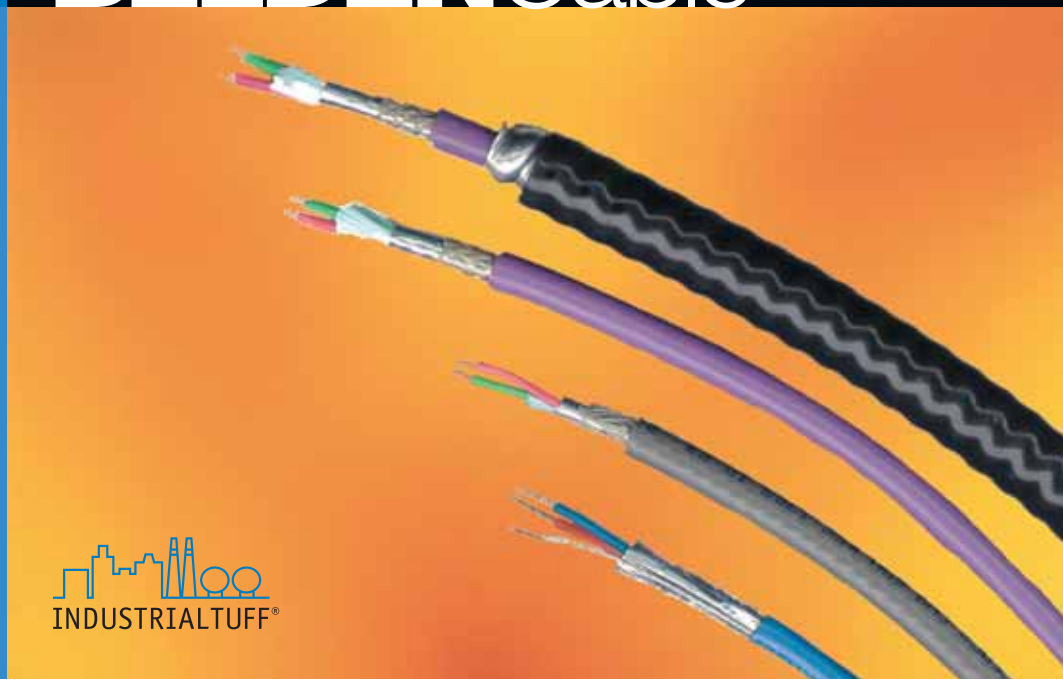
BELDENCable™

Belden's PROFIBUS cables provide maximum installation versatility while enabling a reduction in operating costs.



NEW PRODUCT BULETIN

NP 164

Belden® PROFIBUS Cables For Fieldbus Applications

About PROFIBUS

PROFIBUS is one of the largest open industrial fieldbusses in the world. As with most fieldbus systems, PROFIBUS can reduce operating costs, increase productivity, decrease time to market for new products, and improve product quality. And unlike standard 4-20mA controls, PROFIBUS can support up to 32 devices per segment — up to a total of 126 devices, depending on total system current.

PROFIBUS Features

Using shielded twisted pair cable, the PROFIBUS topologies utilized in the industrial environment include the following configurations: line, tree and star (and combinations of these topologies). The network can support up to 126 nodes by using repeaters, but the number of repeaters is limited to nine. Standard connections are made through use of a 9-pin D-Subminiature connector. Transmission speeds are selectable starting at 9.6kbs.

PROFIBUS has been developed on the International Standards Organization OSI (Open Systems Interconnect) seven-layer model. Access to the bus is defined in the second layer of the OSI model, allowing PROFIBUS the option of multiple masters on a single twisted pair cable.

PROFIBUS Applications

The PROFIBUS protocol applies to all applications, but it may be combined with industry-specific application profiles and relevant transmission technology to meet differing factory floor requirements.

Application-specific profiles include the following:

- > PROFIBUS DP — optimized for factory automation
- > PROFIBUS PA — optimized for process automation
- > PROFIsafe — PROFIBUS for safety-related systems
- > PROFIdrive — PROFIBUS for motion control

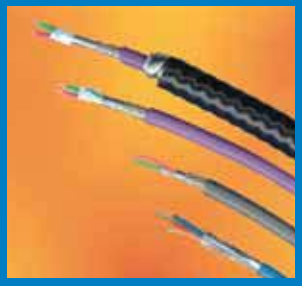
Belden Cables for PROFIBUS

Belden has developed a cable for PROFIBUS DP that is in accordance with the PROFIBUS specifications. The cable, Product No. 3079A, is a 150-ohm twinax (twisted pair) cable that matches the impedance of the factory automation system, allowing for maximum signal transmission. The cable incorporates an overall Beldfoil® shield plus a 65% tinned copper braid for maximum shielding effectiveness. It also carries a UL NEC Type PLTC listing to achieve maximum installation versatility.

Belden also offers Product No. 3076F, a cable made to the ISA/SP-50 Type A fieldbus specifications for PROFIBUS PA application. It is an 18 AWG stranded, foil shielded, twisted pair cable with an intrinsically safe, blue PVC jacket.

As always with Belden industrial cables, there are special jacket compounds, coloring, and armoring options to fit your exact application requirements.

PROFI PROCESS FIELD BUS



Description	Part No.	UL NEC/ C(UL) CEC Type	Standard Lengths		Standard Unit Weight		Conductor (stranding) Diameter Nom. DCR	Nominal Core OD		Shielding Materials Nom. DCR	Nominal OD		Nom. Imp. (Ω)	Nom. Vel. of Prop.	Nominal Capacitance		Nominal Attenuation		
			Ft.	m	Lbs.	kg		Inch	mm		Inch	mm			pF/Ft.	pF/m	MHz	dB/ 100 Ft.	dB/ 100m

PROFIBUS DP • 22 AWG Solid Bare Copper • Beldfoil® + 65% Tinned Copper Braid Shield (100% Shield Coverage)

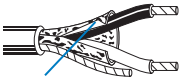
Cellular Polyolefin Insulation • Chrome or Purple PVC Jacket (Color Code: Red, Green)

300V 75°C  600V AWM 20201 Siemens Sinec L2 cable.	3079A	NEC: PLTC CMG CEC: CMG FT4	1000† 2000† 3600†	304.8 609.6 1097.6	49.0 100.0 176.4	22.2 45.4 80.1	(2) 22 AWG (solid) .026? Bare Copper 16.0Ω/M? 52.5Ω/km	.099	2.52	Beldfoil + 65% TC Braid Shield (100% Coverage) 3.9Ω/M? 12.8Ω/km	.315	8.00	150	78%	8.5 16.0 100.0 300.0	29.5 52.5 164.0 328.1	.2 4.0 .67 16.0 1.37 100.0 3.75 300.0 6.52	.27 4.5 12.3 21.4	.9 2.2

123079A — Aluminum Interlocked Armor
133079A — Steel Interlocked Armor
YR45047 — CPE Jacketed Version
YR44731 — LSOH (FRNC) Jacketed Version
YR46665 — Stranded Version (printed 3079E)

PROFIBUS PA • 18 AWG Stranded (7x26) Tinned Copper • Beldfoil (100% Shield Coverage) • Tinned Copper Drain Wire

Polyolefin Insulation • Intrinsically Safe Blue PVC Jacket (Color Code: Blue, Orange)

Type A* 300V 105°C (31.25 KBits/sec)  Shorting Fold	3076F	NEC: PLTC CM ITC CEC: CM	1000†	304.8	34.0	15.4	(2) 18 AWG (7x26) .048? Tinned Copper 7.3Ω/M? 24.0Ω/km	.088	2.24	100% Beldfoil Shield 7.5Ω/M? 24.6Ω/km	.253	6.43	100 @ 31.25 KHz	66%	24.0	78.7	.039	.08	.26

123076F — Aluminum Interlocked Armor
133076F — Steel Interlocked Armor
CPE and LSOH Jacket Optional

DCR = DC Resistance • FRNC = Flame Retardant Non-Corrosive • TC = Tinned Copper
† Final put-up may vary -0 to +10% from length shown