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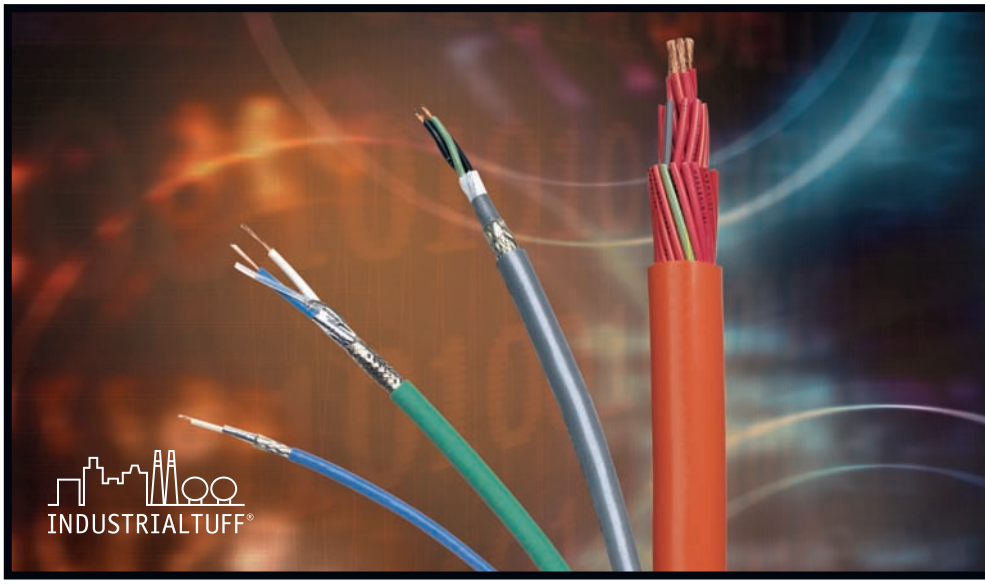
New Product Bulletin

NP 218

Infinity Cables

Belden® Infinity is a complete line of cables specifically designed to handle the rigorous speeds and near-constant motion encountered in automated equipment such as robots, pick-and-place machines, automatic handling systems, multi-axis machine tools and conveyor systems.



Belden Infinity Cables Are a No-Fail Solution For Factory Automated Systems

If your industrial application demands highly flexible control, power, video or data cables that offer exceptional cable life and performance — even in the harshest of environments — there's only one brand to specify: Belden Infinity.

Cable Types and Applications

The Belden Infinity cable line includes the following cable types: C-TC+, FCC, Data and Vision.

- Belden Infinity C-TC+ oil-and abrasion-resistant cables are ideal for use in extreme flexing situations such as C-track systems, multi-axis machining, automated assembly systems, material handling systems, pick-and-place retrieval, automated storage systems and gantry systems. C-TC+ cables are UL and CSA rated at 600V. They have a life expectancy of over 9-million flex cycles.*
- Belden Infinity FCC cables are a cost-effective oil- and abrasion-resistant alternative for C-track and moderate flexing applications such as machine tool, assembly lines, and control systems. FCC cables are UL and CSA rated at 600V. They have a life expectancy of over 1-million flex cycles.*
- Belden Infinity Data cables are ideal for the effective operation of computer-controlled equipment or other automated production processes, even in harsh environments.
- Belden Infinity Vision cables are a continuous flex video cable designed for machine vision applications such as inspection and measurement devices, automated warehouse equipment and automated production processes — as well as motion-controlled video applications.

* Based on proper installation techniques in a C-Track cable guide.

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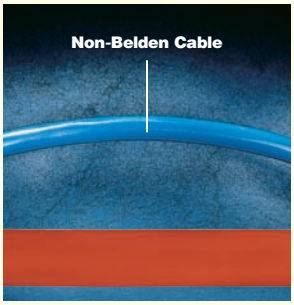
More Performance, Longer Life

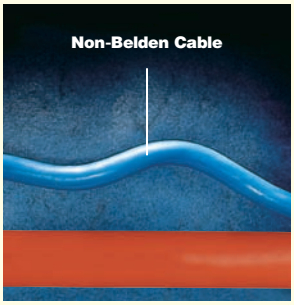
Belden's long-standing commitment to the design and manufacture of high quality cables is unmatched in the industry. And Belden® Infinity cables are no exception since they offer exceptional design-related benefits to the end-user.



Reduced Cable Memory

Belden Infinity cables are relaxed, nearly eliminating memory, while memory is inherent in conventional cables and cordage.

Only Belden utilizes unique processing methods to produce cables in a neutralized and relaxed state. Each layer of insulated conductors is cabled in an opposite direction from the preceding layer to ensure torque is not induced. Belden Infinity control cables do not contain central core conductors which are the most susceptible to fatigue and failure due to the intense forces placed on them. So, unlike competitive products, Belden Infinity cables can flex more easily and are easier to use.



Greater Flex Life

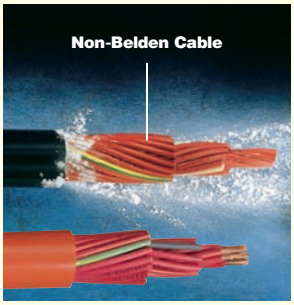
Belden Infinity cables remain relaxed through millions of flex cycles. The inherent twist induced in other cables causes internal conductors to torque and the cable to corkscrew.

Drawing on both our product engineering and manufacturing experts, Belden Infinity Cables offer superior flexibility and the ability to handle the vigorous motions and high speeds encountered in automated equipment.

Greater System Uptime

Belden Infinity cables maintain performance and system uptime, while other cables corkscrew, resulting in premature cable failure and system downtime.

Specifically designed for continuous flex applications, Belden Infinity cables combine specialized manufacturing techniques, with precision copper stranding and rugged insulation and jacketing compounds, to maximize flex life and reliability.



No Talc Problems

Belden Infinity cables use an inert slipper compound to reduce friction. Cables which contain airborne contaminants, such as talc, can be toxic, irritating and may contaminate systems, components, or machinery.

Unlike the potentially harmful talc used in other cables, Belden's non-toxic, non-irritating slipper compound facilitates flexing, and also complies with OSHA regulations. Belden Infinity cables are safer for employees and operators plus they are less likely than cables containing talc to contaminate solder joints, electronic instrumentation or mechanical components.

Belden Infinity Cable Selection Guide

	FCC (1mm Flex Life)				**C-TC+** (9mm Flex Life)			
	Non-Shielded		**85% Braid Shielded**		**Non-Shielded**		**85% Braid Shielded**	
	Part No.	**No. of Conductors**	**Part No.**	**No. of Conductors**	**Part No.**	**No. of Conductors**	**Part No.**	**No. of Conductors**
20 Gauge	7400A	2			7101A	3		
	7401A	3	7401AS	3	7102A	4		
	7402A	4	7402AS	4	7105A	9		
	7403A	5	7403AS	5	7106A	12	7106AS	12
	7404A	7	7404AS	7	7107A	18		
	7405A	9			7108A	25		
	7406A	12						
	7407A	18						
	7408A	25						
18 Gauge	7409A	2			7110A	3	7111AS	4
	7410A	3			7113A	7		
	7411A	4	7411AS	4	7115A	12	7115AS	12
	7412A	5			7116A	18		
	7413A	7	7413AS	7	7117A	25		
	7414A	9						
	7415A	12	7415AS	12				
	7416A	18	7416AS	18				
	7417A	25	7417AS	25				
	7418A	34						
	7419A	41						
	7420A	50						
16 Gauge	7421A	2			7122A	3		
	7422A	3			7125A	7	7123AS	4
	7423A	4	7423AS	4	7126A	9		
	7424A	5			7127A	12		
	7425A	7			7128A	18		
	7426A	9			7129A	25		
	7427A	12	7427AS	12				
	7428A	18	7428AS	18				
	7429A	25						
	7430A	34						
14 Gauge	7434A	2			7136A	4	7136AS	4
	7435A	3						
	7436A	4	7436AS	4				
	7438A	7	7438AS	7				
	7439A	9						
	7440A	12						
	7442A	25						
12 Gauge	7444A	3			7145A	4		
	7445A	4	7445AS	4				
10 Gauge	7447A	4	7447AS	5				
8 Gauge	7450A	4	7450AS	4				
6 Gauge	7453A	4						

Flex Data 24 AWG (41x40) Beldfoil® + 85% Braid Shielded

	Part No.	No. of Pairs	RS-Type	Impedance (Ω)
24 Gauge	7200A	1	232, 485	120
	7201A	2	232, 485	120
	7202A	3	232, 485	120
	7203A	4	232, 485	120
	7205A	1	232, 422	100
	7206A	1	232, 485	150

Vision 75 Ohm Coax 95% Braid Shielded

Part No.	RG-Type	AWG	Stranding
7500A	Sub-Mini	30	7x38
7501A	Mini	26	19x38
7502A	59	22	19x34
7503A	6	20	7x15x40
7504A	11	16	7x37x40

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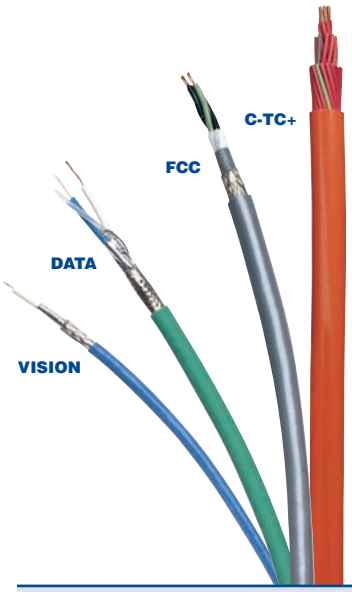

Select the Right Cable For Your Application

The Belden® Infinity Cable Selection Guide (page 3) and this Application Guide will assist in your selection of the right type of cable for your application.

For more complete technical information, refer to Belden's e-catalog at www.belden.com.

And for special or custom cable constructions, call 1.800.BELDEN.1.

Belden Infinity Application Guide

	C-Track System	Multi-Axis Machining	Robotics	Automated Assembly Systems	Material Handling System	Pick & Place Retrieval	Automated Storage	Gantry Systems	Machine Vision	Motion-Controlled Video	Inspection & Measurement Equipment	Festooning	Servo	Power
FCC Oil & Abrasion Resistant 600V UL & CSA Rated Life Expectancy: Over 1 million flex cycles*	●	●		●	●	●	●	●			●	●	●	●
C-TC+ Oil & Abrasion Resistant 600V UL & CSA Rated Life Expectancy: Over 9 million flex cycles*	★	★	●	★	★	★	★	★			★	★	★	★
Data Oil & Abrasion Resistant 300V UL & CSA Rated Life Expectancy: Over 1 million flex cycles*	●	●	●	●	●	●	●	●			●	●		
Vision 30V UL & CSA Rated Life Expectancy: Over 1 million flex cycles*	●	●		●	●	●	●	●	★	+	+	●		

*Based on proper installation techniques in a C-Track cable guide.

● Good + Better ★ Best

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