

## 7400A Multi-Conductor - 600V FCC Control Cables for Moderate Flexing



### Description:

20 AWG stranded (10x30) bare copper conductors, PVC insulation, unshielded, oil- and abrasion-resistant PVC jacket.

### Physical Characteristics (Overall)

#### Conductor

##### AWG:

# Conductors	AWG	Stranding	Conductor Material
2	20	10x30	BC - Bare Copper

#### Insulation

##### Insulation Material:

Insulation Material	Wall Thickness (in.)
PVC - Polyvinyl Chloride	.022

##### Insulation Resistance:

6.1 Megaohms/1000 ft. minimum

#### Outer Shield

##### Outer Shield Material:

Outer Shield Material
Unshielded

#### Outer Jacket

##### Outer Jacket Material:

Outer Jacket Material	Nom. Wall Thickness (in.)
PVC - Polyvinyl Chloride	.040

#### Overall Cabling

##### Overall Nominal Diameter:

0.240 in.

### Mechanical Characteristics (Overall)

##### Operating Temperature Range:

-40°C To +90°C

##### Other Temperature Range:

Flexing: -5°C To +90°C

##### UL Temperature Rating:

90°C (UL AWM Style 2587)

##### Bulk Cable Weight:

24 lbs/1000 ft.

##### Max. Recommended Pulling Tension:

26 lbs.

##### Min. Bend Radius (Install)/Minor Axis:

2.400 in.

##### Min. Bend Radius (Continuous Flexing):

3.600 in.

##### Flex Cycle Rating:

1 Million Flexes

### Applicable Specifications and Agency Compliance (Overall)

#### Applicable Standards & Environmental Programs

##### AWM Specification:

UL Style 2587 (600 V 90°C)

##### CSA Specification:

AWM I A/B II A/B

##### EU Directive 2000/53/EC (ELV):

Yes

##### EU Directive 2002/95/EC (RoHS):

Yes

## 7400A Multi-Conductor - 600V FCC Control Cables for Moderate Flexing

EU RoHS Compliance Date (mm/dd/yyyy):	10/01/2005
EU Directive 2002/96/EC (WEEE):	Yes
EU Directive 2003/11/EC (BFR):	Yes
CA Prop 65 (CJ for Wire & Cable):	Yes
MII Order #39 (China RoHS):	Yes

### Flame Test

UL Flame Test:	UL1685 UL Loading, VW-1
CSA Flame Test:	FT1

### Suitability

Oil Resistance:	Yes
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### Plenum/Non-Plenum

Plenum (Y/N):	No
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## Electrical Characteristics (Overall)

### Nom. Conductor DC Resistance:

DCR @ 20°C (Ohm/1000 ft)

10.5

### Max. Operating Voltage - UL:

Voltage

600 V RMS (UL AWM Style 2587)

## Put Ups and Colors:

Item #	Putup	Ship Weight	Color	Notes	Item Desc
7400A 0081000	1,000 FT	36.000 LB	GRAY	C Z	2C 20 10/30 BC PVC,PVC
7400A 008250	250 FT	10.000 LB	GRAY	C Z	2C 20 10/30 BC PVC, PVC
7400A 008500	500 FT	20.000 LB	GRAY	C Z	2C 20 10/30 BC PVC,PVC

### Notes:

C = CRATE REEL PUT-UP.

Z = FINAL PUT-UP LENGTH MAY VARY (+ OR -) 10% FOR SPOOLS OR REELS AND(+ OR -) 5% FOR UNREEL CARTONS FROM LENGTH SHOWN.

# Belden Infinity® Flexible Automation Cable

## Overview and Application Guide

Belden Infinity is a complete line of control, data, video, and power 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.

When the application demands highly flexible cables offering exceptional cable life and performance, specify Belden Infinity.

### Belden Infinity Means More Performance And Longer Life

**Reduced Cable Memory** — Belden Infinity’s unique design and neutralized cabling, results in cables that are relaxed, with almost no memory.

**Greater Flex Life** — Belden Infinity cables offer superior flexibility and are able to handle the vigorous motions and high speeds encountered in automated equipment.

**Greater System Uptime** — 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** — 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. It’s safer for employees and operators and is less likely to contaminate solder joints or mechanical compounds.

**CE Conformity** — All Belden Infinity cables are CE marked per the Conformité Européenne low voltage directive, allowing trade of product in Europe.

**Custom Designs** — Other designs available upon request.

### Product Series Descriptions

- **C-TC+** — The C-TC+ series is designed for C-track and extreme flex applications up to 9 million flex cycles\*. This series utilizes super fine stranding and some of the tightest lay lengths allowed by UL, providing outstanding flex life.
- **FCC** — The FCC series is a cost effective alternative for C-track and moderate flexing applications rated up to 1 million flex cycles\*.
- **Flex Data Cables** — Belden Infinity Flex Data cables are designed for industrial applications where precise data transmission is combined with high-flexing. These cables are ideal for effective operation of computer controlled equipment or other automated production processes, even in harsh environments.
- **Flex Vision** — Belden Infinity Vision cables are continuous flex video cables designed for machine vision applications. They are ideal for motion-controlled video and with inspection and measurement equipment.

### Application Guide

Belden Infinity Series	C-Track Systems	Multi-Axis Machining	Robotics	Automated Assembly Systems	Material Handling Systems	Pick & Place Systems	Automated Storage Retrieval	Gantry Systems	Machine Vision	Motion-Controlled Video	Inspection & Measure Equip.	Festooning	Servo	Power
<b>FCC</b> Oil & abrasion resistant 600V UL & CSA rated Life Expectancy: Over 1 million flex cycles*	●	●	●	●	●	●	●	●	●	●	●	●	●	●
<b>C-TC+</b> Oil & abrasion resistant 600V UL & CSA rated Life Expectancy: Over 9 million flex cycles*	★	★	●	★	★	★	★	★	●	●	★	★	★	★
<b>DATA</b> Oil & abrasion resistant 300V UL & CSA rated Life Expectancy: Over 1 million flex cycles*	●	●	●	●	●	●	●	●	●	●	●	●	●	●
<b>VISION</b> 30V UL & CSA rated Life Expectancy: Over 1 million flex cycles*	●	●	●	●	●	●	●	●	★	+	+	●	●	●

● Good    + Better    ★ Best

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

# Belden Infinity® Flexible Automation Cable

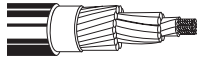
600V FCC Control Cables for Moderate Flexing

(1 Million Flex Cycles\*)

Description	Part No.	No. of Cond.	Standard Lengths		Standard Unit Weight		Insulation Thickness		Jacket Thickness		Nominal OD		Maximum Pull Tension	
			Ft.	m	Lbs.	kg	Inch	mm	Inch	mm	Inch	mm	Lbs.	N

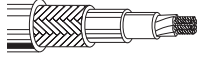
**20 AWG** Stranded (10x30) Bare Copper Conductors • Unshielded • Color Code: Black w/numbers + Green/Yellow ground

**PVC Insulation • Gray Oil- and Abrasion-resistant PVC Jacket**

	UL AWM Style 2587 (600V 90°C) CSA AWM I/II A/B	7400A	2	250 †	76.2	11.0	5.0	.022	.56	.040	1.02	.240	6.10	26	116	
				500 †	152.4	25.0	11.4									
				1000 †	304.8	44.0	20.0									
		7401A	3	250 †	76.2	13.0	5.9	.022	.56	.040	1.02	.250	6.35	39	173	
				500 †	152.4	30.0	13.6									
				1000 †	304.8	59.0	26.8									
		7402A	4	250 †	76.2	15.0	6.8	.022	.56	.040	1.02	.275	6.99	52	231	
				500 †	152.4	33.0	15.0									
				1000 †	304.8	64.0	29.1									
		7403A	5	250 †	76.2	17.5	8.0	.022	.56	.040	1.02	.300	7.62	65	289	
500 †				152.4	38.0	17.3										
1000 †				304.8	72.0	32.7										
	7404A	7	250 †	76.2	22.0	10.0	.022	.56	.040	1.02	.345	8.76	91	405		
			500 †	152.4	44.5	20.2										
			1000 †	304.8	86.0	39.0										
	7405A	9	250 †	76.2	29.5	13.4	.022	.56	.053	1.35	.410	10.41	117	520		
			500 †	152.4	71.5	32.5										
			1000 †	304.8	144.0	65.4										
	7406A	12	250 †	76.2	30.8	14.0	.022	.56	.053	1.35	.420	10.67	156	693		
			500 †	152.4	88.5	40.2										
			1000 †	304.8	177.0	80.4										
	7407A	18	250 †	76.2	53.5	24.3	.022	.56	.053	1.35	.500	12.70	234	1041		
			500 †	152.4	104.0	47.2										
			1000 †	304.8	208.0	94.4										
Temp Rating: -40° to 90°C (-5° to 90°C flexing)	7408A	25	250 †	76.2	65.3	29.6	.022	.56	.065	1.65	.615	15.62	325	1445		
			500 †	152.4	130.5	59.3										

**20 AWG** Stranded (10x30) BC Conductors • TC Braid Shield (85% Coverage) • Color Code: Black w/numbers + Green/Yellow ground

**PVC Insulation • PVC Inner Jacket • Gray Oil- and Abrasion-resistant PVC Outer Jacket**

	UL AWM Style 2587 (600V 90°C) CSA AWM I/II A/B	7401AS	3	500 †	152.4	54.0	24.5	.022	.56	Inner:	.320	8.13	45	200
										Outer:	.64			
											.89			
											.89			
											.89			
	7402AS	4	250 †	76.2	32.8	14.9	.022	.56	Inner:	.330	8.38	52	231	
									Outer:	.64				
										.89				
										.89				
										.89				
	7403AS	5	250 †	76.2	34.8	15.8	.022	.56	Inner:	.370	9.40	65	289	
									Outer:	.64				
										.89				
										.89				
										.89				
	7404AS	7	250 †	76.2	37.8	17.1	.022	.56	Inner:	.420	10.67	91	405	
									Outer:	.64				
										.89				
										.89				
										1.02				

Temp Rating: -40° to 90°C  
(-5° to 90°C flexing)

BC = Bare Copper • TC = Tinned Copper

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

†Final put-up length may vary ±10% from length shown.