

Detailed Specifications & Technical Data



ENGLISH MEASUREMENT VERSION

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 Megohms/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

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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

Plenum/Non-Plenum

Plenum (Y/N): No

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
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*	●	●		●	●	●	●	●	★	+	+	●		

● Good + Better ★ Best

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

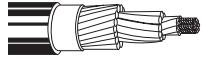
Belden Infinity® Flexible Automation Cable

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

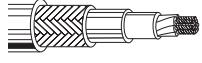
20 AWG Stranded (10x30) Bare Copper Conductors • Unshielded • Color Code: Black w/numbers + Green/Yellow ground

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								
	7408A	25	250 †	76.2	65.3	29.6	.022	.56	.065	1.65	.615	15.62	325	1445
Temp Rating: -40° to 90°C (-5° to 90°C flexing)			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: .025	.320	8.13	45	200
									Outer: .64				
									.035	.89			
	7402AS	4	250 †	76.2	32.8	14.9	.022	.56	Inner: .025	.330	8.38	52	231
			500 †	152.4	64.0	29.1			Outer: .64				
									.035	.89			
	7403AS	5	250 †	76.2	34.8	15.8	.022	.56	Inner: .025	.370	9.40	65	289
			500 †	152.4	68.0	30.9			Outer: .64				
									.035	.89			
	7404AS	7	250 †	76.2	37.8	17.1	.022	.56	Inner: .025	.420	10.67	91	405
			500 †	152.4	71.5	32.5			Outer: .64				
									.040	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.