

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 |

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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. | Festooling | 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* | ● | ● | | ● | ● | ● | ● | ● | ★ | + | + | ● | | |

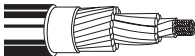
● Good + Better ★ Best

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

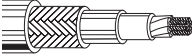
Belden Infinity® Flexible Automation Cable

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

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 | | | | | | | | | | | | | | |
|  | 7401AS | 3 | 500 † | 152.4 | 54.0 | 24.5 | .022 | .56 | Inner: .025 Outer: .035 | | .320 | 8.13 | 45 | 200 |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |
| | 7402AS | 4 | 250 † | 76.2 | 32.8 | 14.9 | .022 | .56 | Inner: .025 Outer: .035 | | .330 | 8.38 | 52 | 231 |
| | | | 500 † | 152.4 | 64.0 | 29.1 | | | | | | | | |
| | | | | | | | | | | | | | | |
| | 7403AS | 5 | 250 † | 76.2 | 34.8 | 15.8 | .022 | .56 | Inner: .025 Outer: .035 | | .370 | 9.40 | 65 | 289 |
| | | | 500 † | 152.4 | 68.0 | 30.9 | | | | | | | | |
| | | | | | | | | | | | | | | |
| | 7404AS | 7 | 250 † | 76.2 | 37.8 | 17.1 | .022 | .56 | Inner: .025 Outer: .040 | | .420 | 10.67 | 91 | 405 |
| | | | 500 † | 152.4 | 71.5 | 32.5 | | | | | | | | |
| | | | | | | | | | | | | | | |

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.