

## 9814 Multi-Conductor - Low Capacitance Computer Cable for EIA RS-232/422



### Description:

28 AWG stranded (7x36) TC conductors, polypropylene insulation, overall Beldfoil® (100% coverage) + TC braid shield (90% coverage), 28 AWG stranded TC drain wire, PVC jacket.

### Physical Characteristics (Overall)

#### Conductor

##### AWG:

# Pairs	AWG	Stranding	Conductor Material
31	28	7x36	TC - Tinned Copper

#### Insulation

##### Insulation Material:

Insulation Material
PP - Polypropylene

#### Outer Shield

##### Outer Shield Material:

Layer #	Outer Shield Trade Name	Type	Outer Shield Material	Coverage (%)
1	Beldfoil®	Tape	Aluminum Foil-Polyester Tape	100
2		Braid	TC - Tinned Copper	90

##### Outer Shield Drain Wire AWG:

AWG	Stranding	Drain Wire Conductor Material
28	7x36	TC - Tinned Copper

#### Outer Jacket

##### Outer Jacket Material:

Outer Jacket Material
PVC - Polyvinyl Chloride

#### Overall Cabling

Overall Nominal Diameter: 0.462 in.

#### Pair

##### Pair Color Code Chart:

Number	Color
1	Black & Red
2	Black & White
3	Black & Green
4	Black & Blue
5	Black & Yellow
6	Black & Brown
7	Black & Orange
8	Red & White
9	Red & Green
10	Red & Blue
11	Red & Yellow
12	Red & Brown
13	Red & Orange
14	Green & White
15	Green & Blue
16	Green & Yellow

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17	Green & Brown
18	Green & Orange
19	White & Blue
20	White & Yellow
21	White & Brown
22	White & Orange
23	Blue & Yellow
24	Blue & Brown
25	Blue & Orange
26	Brown & Yellow
27	Brown & Orange
28	Orange & Yellow
29	Purple & Orange
30	Purple & Red
31	Purple & White

**Pair Lay Length & Direction:**

Lay Length (in.)	Twists/ft. (twist/ft)
0.650	19.000

### Mechanical Characteristics (Overall)

<b>Operating Temperature Range:</b>	-20°C To +60°C
<b>UL Temperature Rating:</b>	60°C (UL AWM Style 2960)
<b>Bulk Cable Weight:</b>	115 lbs/1000 ft.
<b>Max. Recommended Pulling Tension:</b>	207 lbs.
<b>Min. Bend Radius (Install)/Minor Axis:</b>	4.600 in.

### Applicable Specifications and Agency Compliance (Overall)

**Applicable Standards & Environmental Programs**

<b>NEC/(UL) Specification:</b>	CL2
<b>AWM Specification:</b>	UL Style 2960 (30 V 60°C)
<b>EU CE Mark:</b>	Yes
<b>EU Directive 2000/53/EC (ELV):</b>	Yes
<b>EU Directive 2002/95/EC (RoHS):</b>	Yes
<b>EU RoHS Compliance Date (mm/dd/yyyy):</b>	01/01/2004
<b>EU Directive 2002/96/EC (WEEE):</b>	Yes
<b>EU Directive 2003/11/EC (BFR):</b>	Yes
<b>CA Prop 65 (CJ for Wire &amp; Cable):</b>	Yes
<b>MII Order #39 (China RoHS):</b>	Yes

**Flame Test**

<b>UL Flame Test:</b>	UL1685 UL Loading
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**Plenum/Non-Plenum**

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

**Nom. Characteristic Impedance:**

Impedance (Ohm)
100

**Nom. Inductance:**

Inductance (µH/ft)
.19

**Nom. Capacitance Conductor to Conductor:**

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**Capacitance (pF/ft)**

15.5

**Nom. Capacitance Cond. to Other Conductor & Shield:**

**Capacitance (pF/ft)**

27.5

**Nominal Velocity of Propagation:**

**VP (%)**

66

**Nom. Conductor DC Resistance:**

**DCR @ 20°C (Ohm/1000 ft)**

64.9

**Nominal Outer Shield DC Resistance:**

**DCR @ 20°C (Ohm/1000 ft)**

2.1

**Max. Operating Voltage - UL:**

**Voltage**

30 V RMS (UL AWM Style 2960); 150 V RMS

**Max. Recommended Current:**

**Current**

.5 Amps per conductor @ 25°C

### Put Ups and Colors:

Item #	Putup	Ship Weight	Color	Notes	Item Desc
9814 0601000	1,000 FT	127.000 LB	CHROME	C	31 PR #28 PP SH PVC

**Notes:**

C = CRATE REEL PUT-UP.

## Introduction

Belden® paired cable products are manufactured in a variety of gage sizes, dimensions, insulation materials, shielding configurations, and jacketing materials including Plenum and High-Temperature versions to meet the technical requirements of many different types of systems.

Paired cables allow balanced signal transmission, which results in lower crosstalk through common mode rejection. Due to the improved noise immunity of twisted pairs, they generally permit higher data speeds than multi-conductor cables.

As an aid to proper cable selection, both the suggested working voltages and the maximum temperature ratings are indicated for each applicable paired cable selection.

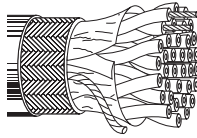
Most of our paired cables are available from stock. Many of these are available off the shelf from distributors. If you have a new or unusual application or you cannot find a paired cable in this catalog section that meets your technical requirements, contact Technical Support at 1-800-BELDEN-1.

### Paired Cables Packaging

Belden's unique UnReel® cable dispenser is available for many of the paired cable products listed in this section. The letter "U" before the specified put-up length denotes UnReel packaging.

# Overall Foil/Braid Shield

Low-Capacitance Computer Cables for EIA RS-232 and EIA RS-422 Applications

Description	Part No.	UL NEC/ C(UL) CEC Type	No. of Pairs	Color Code	Standard Lengths		Standard Unit Weight		Nom. DCR		Nominal OD		Nom. Imp. (Ω)	Nom. Vel. of Prop.	Nom. Capacitance			
					Ft.	m	Lbs.	kg	Cond.	Shield	Inch	mm			* pF/ Ft.	* pF/ m	** pF/ Ft.	** pF/ m
<b>28 AWG Stranded (7x36) TC Conductors • Overall Beldfoil® (100% Coverage) + TC Braid Shield (90% Coverage) • 28 AWG Stranded TC Drain Wire</b>																		
<b>Polypropylene Insulation • Chrome PVC Jacket</b>																		
	UL AWM Style 2960 (30V 60°C)	<b>9804</b>	NEC: CL2	2	See Chart 3 (Tech Info Section)	100 500 1000	30.5 152.4 304.8	3.9 14.5 32.0	1.8 6.6 14.5	64.9Ω/M' 212.9Ω/km	4.9Ω/M' 16.1Ω/km	.214 5.44	100	66%	15.5	50.9	27.5	90.2
	<b>9805</b>	NEC: CL2	3	See Chart 3 (Tech Info Section)	100 500 1000	30.5 152.4 304.8	4.2 15.5 35.0	1.9 7.0 15.9	64.9Ω/M' 212.9Ω/km	4.2Ω/M' 13.8Ω/km	.222 5.64	100	66%	15.5	50.9	27.5	90.2	
	<b>9806</b>	NEC: CL2	4	See Chart 3 (Tech Info Section)	100 500 1000	30.5 152.4 304.8	4.3 17.5 39.0	2.0 7.9 17.7	64.9Ω/M' 212.9Ω/km	4.0Ω/M' 13.1Ω/km	.237 6.02	100	66%	15.5	50.9	27.5	90.2	
	<b>9807</b>	NEC: CL2	5	See Chart 3 (Tech Info Section)	100 500 1000	30.5 152.4 304.8	4.3 18.0 39.0	2.0 8.2 17.7	64.9Ω/M' 212.9Ω/km	4.2Ω/M' 13.8Ω/km	.240 6.10	100	66%	15.5	50.9	27.5	90.2	
	<b>9808</b>	NEC: CL2	7	See Chart 3 (Tech Info Section)	100 500 1000	30.5 152.4 304.8	4.9 20.5 44.0	2.2 9.3 20.0	64.9Ω/M' 212.9Ω/km	3.7Ω/M' 12.1Ω/km	.256 6.50	100	66%	15.5	50.9	27.5	90.2	
	<b>9809</b>	NEC: CL2	9	See Chart 3 (Tech Info Section)	100 500 1000	30.5 152.4 304.8	5.7 25.0 53.0	2.6 11.3 24.1	64.9Ω/M' 212.9Ω/km	3.1Ω/M' 10.2Ω/km	.290 7.37	100	66%	15.5	50.9	27.5	90.2	
	<b>9812</b>	NEC: CL2	12	See Chart 3 (Tech Info Section)	100 500 1000	30.5 152.4 304.8	6.7 31.0 62.0	3.0 14.1 28.2	64.9Ω/M' 212.9Ω/km	2.8Ω/M' 9.2Ω/km	.319 8.10	100	66%	15.5	50.9	27.5	90.2	
	<b>9813</b>	NEC: CL2	13	See Chart 3 (Tech Info Section)	100 500 1000	30.5 152.4 304.8	7.0 34.0 66.0	3.2 15.5 30.0	64.9Ω/M' 212.9Ω/km	2.2Ω/M' 7.2Ω/km	.336 8.53	100	66%	15.5	50.9	27.5	90.2	
	<b>9819</b>	NEC: CL2	18	See Chart 3 (Tech Info Section)	100 500 1000	30.5 152.4 304.8	8.3 41.0 82.0	3.8 18.6 37.3	64.9Ω/M' 212.9Ω/km	2.0Ω/M' 6.7Ω/km	.365 9.27	100	66%	15.5	50.9	27.5	90.2	
	<b>9825</b>	NEC: CL2	25	See Chart 3 (Tech Info Section)	100 500 1000	30.5 152.4 304.8	9.9 54.5 108.0	4.5 24.8 49.1	64.9Ω/M' 212.9Ω/km	1.9Ω/M' 6.2Ω/km	.429 10.90	100	66%	15.5	50.9	27.5	90.2	
<b>9814</b>	NEC: CL2	31	See Chart 3 (Tech Info Section)	100 500 1000	30.5 152.4 304.8	11.8 64.0 127.0	5.4 29.1 57.7	64.9Ω/M' 212.9Ω/km	2.1Ω/M' 6.9Ω/km	.462 11.73	100	66%	15.5	50.9	27.5	90.2		

DCR = DC Resistance • TC = Tinned Copper

\*Capacitance between conductors.

\*\*Capacitance between one conductor and other conductors connected to shield.