

9813 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
13	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: 0.336 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

Pair Lay Length & Direction:

Lay Length (in.)	Twists/ft. (twist/ft)
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0.600	20.000
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Mechanical Characteristics (Overall)

Storage Temperature Range:	-35°C To +60°C
Operating Temperature Range:	-30°C To +60°C
UL Temperature Rating:	60°C (UL AWM Style 2960)
Bulk Cable Weight:	64 lbs/1000 ft.
Max. Recommended Pulling Tension:	116 lbs.
Min. Bend Radius (Install)/Minor Axis:	3.400 in.

Applicable Specifications and Agency Compliance (Overall)**Applicable Standards & Environmental Programs**

NEC/(UL) Specification:	CL2
AWM Specification:	UL Style 2960 (30 V 60°C)
EU CE Mark:	Yes
EU Directive 2000/53/EC (ELV):	Yes
EU Directive 2002/95/EC (RoHS):	Yes
EU RoHS Compliance Date (mm/dd/yyyy):	01/01/2004
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
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Plenum/Non-Plenum

Plenum (Y/N):	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:

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)
2.2

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Max. Operating Voltage - UL:

Voltage

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

Max. Recommended Current:

Current

.65 Amps per conductor @ 25°C

Put Ups and Colors:

Item #	Putup	Ship Weight	Color	Notes	Item Desc
9813 060100	100 FT	7.000 LB	CHROME		13 PR #28 PP SH PVC
9813 0601000	1,000 FT	66.000 LB	CHROME	C	13 PR #28 PP SH PVC
9813 060500	500 FT	34.000 LB	CHROME	C	13 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.

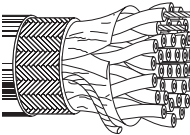
Most of our paired cables are available from stock. Many of these are available off the shelf from distributors. If you have a new or unusual application or you cannot find a paired cable in this catalog section that meets your technical requirements, contact Technical Support at 1-800-BELDEN-1.

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
28 AWG Stranded (7x36) TC Conductors • Overall Beldfoil® (100% Coverage) + TC Braid Shield (90% Coverage) • 28 AWG Stranded TC Drain Wire																		
Polypropylene Insulation • Chrome PVC Jacket																		
	9804	NEC: CL2	2	See Chart 3 (Tech Info Section)	100	30.5	3.9	1.8	64.9Ω/M'	4.9Ω/M'	.214	5.44	100	66%	15.5	50.9	27.5	90.2
					500	152.4	14.5	6.6	212.9Ω/km	16.1Ω/km								
					1000	304.8	32.0	14.5										
	9805	NEC: CL2	3	See Chart 3 (Tech Info Section)	100	30.5	4.2	1.9	64.9Ω/M'	4.2Ω/M'	.222	5.64	100	66%	15.5	50.9	27.5	90.2
					500	152.4	15.5	7.0	212.9Ω/km	13.8Ω/km								
					1000	304.8	35.0	15.9										
	9806	NEC: CL2	4	See Chart 3 (Tech Info Section)	100	30.5	4.3	2.0	64.9Ω/M'	4.0Ω/M'	.237	6.02	100	66%	15.5	50.9	27.5	90.2
					500	152.4	17.5	7.9	212.9Ω/km	13.1Ω/km								
					1000	304.8	39.0	17.7										
	9807	NEC: CL2	5	See Chart 3 (Tech Info Section)	100	30.5	4.3	2.0	64.9Ω/M'	4.2Ω/M'	.240	6.10	100	66%	15.5	50.9	27.5	90.2
500					152.4	18.0	8.2	212.9Ω/km	13.8Ω/km									
1000					304.8	39.0	17.7											
9808	NEC: CL2	7	See Chart 3 (Tech Info Section)	100	30.5	4.9	2.2	64.9Ω/M'	3.7Ω/M'	.256	6.50	100	66%	15.5	50.9	27.5	90.2	
				500	152.4	20.5	9.3	212.9Ω/km	12.1Ω/km									
				1000	304.8	44.0	20.0											
9809	NEC: CL2	9	See Chart 3 (Tech Info Section)	100	30.5	5.7	2.6	64.9Ω/M'	3.1Ω/M'	.290	7.37	100	66%	15.5	50.9	27.5	90.2	
				500	152.4	25.0	11.3	212.9Ω/km	10.2Ω/km									
				1000	304.8	53.0	24.1											
9812	NEC: CL2	12	See Chart 3 (Tech Info Section)	100	30.5	6.7	3.0	64.9Ω/M'	2.8Ω/M'	.319	8.10	100	66%	15.5	50.9	27.5	90.2	
				500	152.4	31.0	14.1	212.9Ω/km	9.2Ω/km									
				1000	304.8	62.0	28.2											
9813	NEC: CL2	13	See Chart 3 (Tech Info Section)	100	30.5	7.0	3.2	64.9Ω/M'	2.2Ω/M'	.336	8.53	100	66%	15.5	50.9	27.5	90.2	
				500	152.4	34.0	15.5	212.9Ω/km	7.2Ω/km									
				1000	304.8	66.0	30.0											
9819	NEC: CL2	18	See Chart 3 (Tech Info Section)	100	30.5	8.3	3.8	64.9Ω/M'	2.0Ω/M'	.365	9.27	100	66%	15.5	50.9	27.5	90.2	
				500	152.4	41.0	18.6	212.9Ω/km	6.7Ω/km									
				1000	304.8	82.0	37.3											
9825	NEC: CL2	25	See Chart 3 (Tech Info Section)	100	30.5	9.9	4.5	64.9Ω/M'	1.9Ω/M'	.429	10.90	100	66%	15.5	50.9	27.5	90.2	
				500	152.4	54.5	24.8	212.9Ω/km	6.2Ω/km									
				1000	304.8	108.0	49.1											
9814	NEC: CL2	31	See Chart 3 (Tech Info Section)	100	30.5	11.8	5.4	64.9Ω/M'	2.1Ω/M'	.462	11.73	100	66%	15.5	50.9	27.5	90.2	
				500	152.4	64.0	29.1	212.9Ω/km	6.9Ω/km									
				1000	304.8	127.0	57.7											

DCR = DC Resistance • TC = Tinned Copper

*Capacitance between conductors.

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