Detailed Specifications & Technical Data

ENGLISH MEASUREMENT VERSION

8310 Multi-Conductor - Low Capacitance Computer Cable for EIA RS-232 Applications

Description:

22 AWG stranded (7x30) tinned copper conductors, semi-rigid PVC insulation, twisted pairs, overall Beldfoil® (100% coverage) + tinned copper braid shield (65% coverage), PVC jacket.

Physical Characteristics (Overall)

Conductor

AWG:

# Pairs	AWG	Stranding	Conductor Material
10	22	7x30	TC - Tinned Copper

Insulation

Insulation Material:

Insulation Material
S-R PVC - Semi-Rigid Polyvinyl Chloride

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	65

Outer Jacket

Outer Jacket Material:

Outer Jacket Material
PVC - Polyvinyl Chloride

Overall Cabling

Overall Nominal Diameter:	0.440 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

Pair Lay Length & Direction:

Lay Length (in.)	Twists/ft. (twist/ft)
1.000	12.000

Mechanical Characteristics (Overall)

Operating Temperature Range:	-30°C To +80°C
UL Temperature Rating:	80°C (UL AWM Style 2464)

8310 Multi-Conductor - Low Capacitance Computer Cable for EIA RS-232 Applications

Bulk Cable Weight:	110 lbs/1000 ft.
Min. Bend Radius (Install)/Minor Axis:	4.400 in.

Applicable Specifications and Agency Compliance (Overall)

Applicable Standards & Environmental Programs

NEC/(UL) Specification:	CMG
CEC/C(UL) Specification:	CMG
AWM Specification:	UL Style 2464 (300 V 80°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):	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

C(UL) Flame Test:	FT4

Plenum/Non-Plenum

Plenum (Y/N):	No

Electrical Characteristics (Overall)

Nom. Characteristic Impedance:

Impedance (Ohm)
70

Nom. Capacitance Conductor to Conductor:

Capacitance (pF/ft)
35

Nom. Capacitance Cond. to Other Conductor & Shield:

Capacitance (pF/ft)
63

Nominal Velocity of Propagation:

VP (%)
60

Nom. Conductor DC Resistance:

DCR @ 20°C (Ohm/1000 ft)
15.0

Nominal Outer Shield DC Resistance:

DCR @ 20°C (Ohm/1000 ft)
4.1

Max. Operating Voltage - UL:

Voltage
300 V RMS (UL AWM Style 2464)

Max. Recommended Current:

Current
1.5 Amps per conductor @ 25°C

Put Ups and Colors:

Item #	Putup	Ship Weight	Color	Notes	Item Desc

8310 Multi-Conductor - Low Capacitance Computer Cable for EIA RS-232 Applications

8310 060100	100 FT	11.100 LB	CHROME	C	10 PR #22 PVC SHLD PVC
8310 0601000	1,000 FT	121.000 LB	CHROME	C	10 PR #22 PVC SHLD PVC
8310 060500	500 FT	60.500 LB	CHROME	C	10 PR #22 PVC SHLD 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.

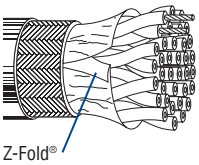
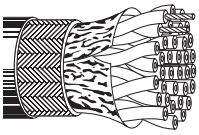
Most of our paired cables are available from stock. Many of these are available off the shelf from distributors. If you have a new or unusual application or you cannot find a paired cable in this catalog section that meets your technical requirements, contact Technical Support at 1-800-BELDEN-1.

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 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
22 AWG Stranded (7x30) Tinned Copper Conductors • Twisted Pairs • Overall Beldfoil® (100% Coverage) + TC Braid Shield (65% Coverage)																		
Semi-rigid PVC Insulation • Chrome PVC Jacket																		
UL AWM Style 2464 (300V 80°C)  Z-Fold®	**8302**	NEC: CMG CEC: CMG FT4	2	See Chart 3 (Tech Info Section)	100 500 1000	30.5 152.4 304.8	4.5 19.0 41.0	2.0 8.6 18.6	15.0Ω/M′ 49.2Ω/km	5.7Ω/M′ 18.7Ω/km	.260	6.60	70	60%	40	131	72	236
	8303	NEC: CMG CEC: CMG FT4	3	See Chart 3 (Tech Info Section)	100 500 1000	30.5 152.4 304.8	5.2 25.5 48.0	2.4 11.6 21.8	15.0Ω/M′ 49.2Ω/km	6.2Ω/M′ 20.3Ω/km	.270	6.86	70	60%	35	115	63	207
	8304	NEC: CMG CEC: CMG FT4	4	See Chart 3 (Tech Info Section)	100 500 1000	30.5 152.4 304.8	6.7 32.5 65.0	3.0 14.7 29.5	15.0Ω/M′ 49.2Ω/km	4.9Ω/M′ 16.1Ω/km	.320	8.13	70	60%	35	115	63	207
	8305	NEC: CMG CEC: CMG FT4	5	See Chart 3 (Tech Info Section)	100 500 1000	30.5 152.4 304.8	7.2 35.0 67.0	3.3 15.9 30.4	15.0Ω/M′ 49.2Ω/km	4.8Ω/M′ 15.7Ω/km	.322	8.18	70	60%	35	115	63	207
	8306	NEC: CMG CEC: CMG FT4	6	See Chart 3 (Tech Info Section)	100 500 1000	30.5 152.4 304.8	8.0 39.5 79.0	3.6 18.0 35.8	15.0Ω/M′ 49.2Ω/km	5.0Ω/M′ 16.4Ω/km	.348	8.84	70	60%	35	115	63	207
	8307	NEC: CMG CEC: CMG FT4	7	See Chart 3 (Tech Info Section)	100 500 1000	30.5 152.4 304.8	8.6 42.0 85.0	3.9 19.0 38.6	15.0Ω/M′ 49.2Ω/km	5.0Ω/M′ 16.4Ω/km	.348	8.84	70	60%	35	115	63	207
	8308	NEC: CMG CEC: CMG FT4	8	See Chart 3 (Tech Info Section)	100 500 1000	30.5 152.4 304.8	10.4 50.0 101.0	4.7 22.7 46.0	15.0Ω/M′ 49.2Ω/km	4.4Ω/M′ 14.4Ω/km	.384	9.75	70	60%	35	115	63	207
UL AWM Style 2464 (300V 80°C) 	**8310**	NEC: CMG CEC: CMG FT4	10	See Chart 3 (Tech Info Section)	100 500 1000	30.5 152.4 304.8	11.1 60.5 121.0	5.0 27.4 54.9	15.0Ω/M′ 49.2Ω/km	4.1Ω/M′ 13.4Ω/km	.440	11.18	70	60%	35	115	63	207
	8312	NEC: CMG CEC: CMG FT4	12	See Chart 3 (Tech Info Section)	100 500 1000	30.5 152.4 304.8	12.9 72.0 140.0	5.9 32.8 63.8	15.0Ω/M′ 49.2Ω/km	4.2Ω/M′ 13.8Ω/km	.455	11.56	70	60%	35	115	63	207
	8315	NEC: CMG CEC: CMG FT4	15	See Chart 3 (Tech Info Section)	100 500 1000	30.5 152.4 304.8	15.7 85.5 167.0	7.1 39.0 76.1	15.0Ω/M′ 49.2Ω/km	3.8Ω/M′ 12.5Ω/km	.502	12.75	70	60%	35	115	63	207
	8318	NEC: CMG CEC: CMG FT4	18	See Chart 3 (Tech Info Section)	100 500 1000	30.5 152.4 304.8	17.7 97.5 196.0	8.0 44.2 89.1	15.0Ω/M′ 49.2Ω/km	3.0Ω/M′ 9.8Ω/km	.535	13.59	70	60%	35	115	63	207
	8325	NEC: CMG CEC: CMG FT4	25	See Chart 3 (Tech Info Section)	100 500 1000	30.5 152.4 304.8	23.1 126.0 246.0	10.5 57.4 112.1	15.0Ω/M′ 49.2Ω/km	2.9Ω/M′ 9.5Ω/km	.620	15.75	70	60%	35	115	63	207

DCR = DC Resistance • TC = Tinned Copper

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