Detailed Specifications & Technical Data

ENGLISH MEASUREMENT VERSION

9831 Multi-Conductor - Low Capacitance Computer Cable for EIA RS-232/422

Description:

24 AWG stranded (7x32) TC conductors, polyethylene insulation, twisted pairs, overall Beldfoil® (100% coverage) + TC braid shield (65% coverage), 24 AWG stranded TC drain wire, PVC jacket.

Physical Characteristics (Overall)

Conductor

AWG:

# Pairs	AWG	Stranding	Conductor Material
4	24	7x32	TC - Tinned Copper

Insulation

Insulation Material:

Insulation Material
PE - Polyethylene

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 Shield Drain Wire AWG:

AWG	Stranding	Drain Wire Conductor Material
24	Stranded	TC - Tinned Copper

Outer Jacket

Outer Jacket Material:

Outer Jacket Material
PVC - Polyvinyl Chloride

Overall Cabling

Overall Nominal Diameter:	0.330 in.

Pair

Pair Color Code Chart:

Number	Color
1	White/Blue & Blue/White
2	White/Orange & Orange/White
3	White/Green & Green/White
4	White/Brown & Brown/White

Pair Lay Length & Direction:

Lay Length (in.)	Twists/ft. (twist/ft)
1.500	8.000

Mechanical Characteristics (Overall)

Operating Temperature Range:	-30°C To +80°C
UL Temperature Rating:	80°C (UL AWM Style 2919)
Bulk Cable Weight:	53 lbs/1000 ft.
Min. Bend Radius (Install)/Minor Axis:	3.500 in.

9831 Multi-Conductor - Low Capacitance Computer Cable for EIA RS-232/422

Applicable Specifications and Agency Compliance (Overall)

Applicable Standards & Environmental Programs

NEC/(UL) Specification:	CM
CEC/C(UL) Specification:	CM
AWM Specification:	UL Style 2919 (30 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):	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

Plenum/Non-Plenum

Plenum (Y/N):	No

Electrical Characteristics (Overall)

Nom. Characteristic Impedance:

Impedance (Ohm)
100

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

Nominal Delay:

Delay (ns/ft)
1.6

Nom. Conductor DC Resistance:

DCR @ 20°C (Ohm/1000 ft)
24

Nominal Outer Shield DC Resistance:

DCR @ 20°C (Ohm/1000 ft)
3.9

Max. Operating Voltage - UL:

Voltage
30 V RMS (UL AWM Style 2919)
300 V RMS (CM)

Max. Recommended Current:

Current
1.68 Amps per conductor @ 25°C

Put Ups and Colors:

9831 Multi-Conductor - Low Capacitance Computer Cable for EIA RS-232/422

Item #	Putup	Ship Weight	Color	Notes	Item Desc
9831 060100	100 FT	6.200 LB	CHROME		4 PR #24 PER SH PVC
9831 0601000	1,000 FT	58.000 LB	CHROME	C	4 PR #24 PER SH PVC
9831 060500	500 FT	30.000 LB	CHROME		4 PR #24 PER 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.

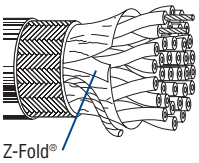
Most of our paired cables are available from stock. Many of these are available off the shelf from distributors. If you have a new or unusual application or you cannot find a paired cable in this catalog section that meets your technical requirements, contact Technical Support at 1-800-BELDEN-1.

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
24 AWG Stranded (7x32) TC Conductors • Twisted Pairs • Overall Beldfoil® (100% Coverage) + TC Braid Shield (65% Coverage) • TC Drain Wire†																		
Polyethylene Insulation • Chrome PVC Jacket																		
UL AWM Style 2919 (30V 80°C)  Z-Fold®	**9829**	NEC: CM CEC: CM	2	See Chart 5 (Tech Info Section)	100 500 1000	30.5 152.4 304.8	4.7 22.0 43.0	2.1 10.0 19.5	24.0Ω/M′ 78.7Ω/km	4.4Ω/M′ 14.4Ω/km	.291	7.39	100	66%	15.5	50.9	27.5	90.2
	9830	NEC: CM CEC: CM	3	See Chart 5 (Tech Info Section)	500 1000	152.4 304.8	26.5 53.0	12.0 24.1	24.0Ω/M′ 78.7Ω/km	4.4Ω/M′ 14.4Ω/km	.305	7.74	100	66%	15.5	50.9	27.5	90.2
	9831	NEC: CM CEC: CM	4	See Chart 5 (Tech Info Section)	100 500 1000	30.5 152.4 304.8	6.2 30.0 58.0	2.8 13.6 26.4	24.0Ω/M′ 78.7Ω/km	3.9Ω/M′ 12.8Ω/km	.330	8.38	100	66%	15.5	50.9	27.5	90.2
	9832	NEC: CM CEC: CM	5	See Chart 5 (Tech Info Section)	100 500 1000	30.5 152.4 304.8	6.6 32.5 65.0	3.0 14.8 29.5	24.0Ω/M′ 78.7Ω/km	3.9Ω/M′ 12.8Ω/km	.338	8.59	100	66%	15.5	50.9	27.5	90.2
	9839	NEC: CM CEC: CM	6	See Chart 5 (Tech Info Section)	500 1000	152.4 304.8	35.5 69.0	16.1 31.4	24.0Ω/M′ 78.7Ω/km	2.1Ω/M′ 6.9Ω/km	.364	9.25	100	66%	15.5	50.9	27.5	90.2
	9833	NEC: CM CEC: CM	7	See Chart 5 (Tech Info Section)	500 1000	152.4 304.8	38.5 77.0	17.5 35.0	24.0Ω/M′ 78.7Ω/km	3.7Ω/M′ 12.1Ω/km	.370	9.40	100	66%	15.5	50.9	27.5	90.2
	9834	NEC: CM CEC: CM	9	See Chart 5 (Tech Info Section)	500 1000	152.4 304.8	47.0 93.0	21.4 42.3	24.0Ω/M′ 78.7Ω/km	3.0Ω/M′ 9.8Ω/km	.419	10.64	100	66%	15.5	50.9	27.5	90.2
	9835	NEC: CM CEC: CM	10	See Chart 5 (Tech Info Section)	500 1000	152.4 304.8	51.5 102.0	23.4 46.4	24.0Ω/M′ 78.7Ω/km	2.8Ω/M′ 9.2Ω/km	.451	11.46	100	66%	15.5	50.9	27.5	90.2
	9836	NEC: CM CEC: CM	12	See Chart 5 (Tech Info Section)	100 500 1000	30.5 152.4 304.8	10.4 57.0 114.0	4.7 25.9 51.8	24.0Ω/M′ 78.7Ω/km	2.8Ω/M′ 9.2Ω/km	.464	11.79	100	66%	15.5	50.9	27.5	90.2
	9837	NEC: CM CEC: CM	18	See Chart 5 (Tech Info Section)	500 1000	152.4 304.8	87.5 174.0	39.8 79.1	24.0Ω/M′ 78.7Ω/km	2.0Ω/M′ 6.6Ω/km	.567	14.40	100	66%	15.5	50.9	27.5	90.2
	9838	NEC: CM CEC: CM	25	See Chart 5 (Tech Info Section)	500	152.4	113.0	51.4	24.0Ω/M′ 78.7Ω/km	1.9Ω/M′ 6.2Ω/km	.670	17.02	100	66%	15.5	50.9	27.5	90.2

†24 AWG stranded TC drain wire.

DCR = DC Resistance • TC = Tinned Copper

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