Detailed Specifications & Technical Data

ENGLISH MEASUREMENT VERSION

9935 Multi-Conductor - Low-Capacitance Computer Cable for EIA RS-232/423

Description:

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

Physical Characteristics (Overall)

Conductor

AWG:

# Conductors	AWG	Stranding	Conductor Material
10	24	7x32	TC - Tinned Copper

Insulation

Insulation Material:

Insulation Trade Name	Insulation Material
Datalene®	FPE - Foam Polyethylene

Outer Shield

Outer Shield Material:

Outer Shield Trade Name	Type	Outer Shield Material	Coverage (%)
Beldfoil®	Tape	Aluminum Foil-Polyester Tape	100
	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 Cabling Color Code Chart:

Number	Color
1	Black
2	White
3	Red
4	Green
5	Brown
6	Blue
7	Orange
8	Yellow
9	Purple
10	Gray

Overall Nominal Diameter:	0.306 in.

Mechanical Characteristics (Overall)

Operating Temperature Range:	-30°C To +80°C
UL Temperature Rating:	80°C (UL AWM Style 2919)
Bulk Cable Weight:	56 lbs/1000 ft.

Min. Bend Radius (Install)/Minor Axis:	3.100 in.

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. Capacitance Conductor to Conductor:

Capacitance (pF/ft)
12

Nom. Capacitance Cond. to Other Conductor & Shield:

Capacitance (pF/ft)
22

Nominal Velocity of Propagation:

VP (%)
78

Nom. Conductor DC Resistance:

DCR @ 20°C (Ohm/1000 ft)
24

Nominal Outer Shield DC Resistance:

DCR @ 20°C (Ohm/1000 ft)
3.18

Max. Operating Voltage - UL:

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

Max. Recommended Current:

Current
1.5 Amps per conductor @ 25°C

Notes (Overall)

Notes:

handling. Physical properties include good crush resistance and light weight.

Put Ups and Colors:

Item #	Putup	Ship Weight	Color	Notes	Item Desc

9935 Multi-Conductor - Low-Capacitance Computer Cable for EIA RS-232/423

9935 060100	100 FT	5.700 LB	CHROME		10 #24 FHDPE SH PVC
9935 0601000	1,000 FT	53.000 LB	CHROME	C	10 #24 FHDPE SH PVC
9935 060500	500 FT	28.000 LB	CHROME		10 #24 FHDPE SH PVC

Notes:
C = CRATE REEL PUT-UP.

Introduction

Belden® multi-conductor cables are manufactured in a wide variety of gage sizes, dimensions, insulation materials, shielding configurations, and jacketing materials including Plenum and High-Temperature versions. These cables meet the technical requirements of many different types of systems. In fact, Belden offers one of the broadest lines of UL Listed, NEC and CEC multi-conductor cables available from any single source.

Applications for multi-conductor cables include computers, communications, instrumentation, sound, control, audio, and data transmission. Each of these cables is designed to protect signal integrity under critical conditions by reducing hum, noise, and crosstalk.

To assist you in selecting the proper cable for your application, both the suggested working voltages and the maximum temperature ratings are indicated for each applicable product in this section.

Most of our multi-conductor 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 multi-conductor cable in this catalog section that meets your technical requirements, contact Technical Support at 1-800-BELDEN-1.

Multi-Conductor Cables Packaging

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

Selection Guide

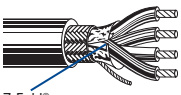
Shielded Multi-Conductor Computer Cables for RS-232 Applications

Specifications			Cable Series* 9925	9608	9533	9939
Conductor Size: (AWG)		28				
		24	✓	✓	✓	
		22				✓
		20				
		18				
		Page No.	4.18	4.17	4.11	4.19
Insulation:	S-R PVC			✓	✓	✓
	Polyethylene					
	Polypropylene					
	Datalene®†		✓			
Shield:	Overall Foil				✓	
	Drain Wire		✓		✓	
	Overall Foil/Braid		✓	✓		✓
	Braid Coverage		65%	65%		65%
Drain Wire Overall:			Yes	No	Yes	No
No. of Cond. Available:		1				
		2				
		3	✓	✓	✓	✓
		4	✓	✓	✓	✓
		5	✓	✓	✓	✓
		6	✓	✓	✓	✓
		7	✓	✓	✓	✓
		8	✓	✓	✓	✓
		9	✓	✓	✓	✓
		10	✓	✓	✓	✓
		11				
		12				
		13				
		15	✓	✓	✓	✓
		17				
		18				
		19				
		20			✓	
		25	✓	✓	✓	✓
		27				
		30			✓	
		31				
		37	✓	✓		✓
		40			✓	
		50		✓	✓	✓
Capacitance ** (pF/ft.)			12.0	30.0	30.0	35.0

*All cables are UL-listed.
**Capacitance may vary on some cables.
†Foam high density polyethylene.

Overall Foil/Braid Shield

Low-Capacitance Computer Cables for EIA RS-232 and EIA RS-423 Applications

Description	Part No.	UL NEC/ C(UL) CEC Type	No. of Cond.	Color Code	Standard Lengths		Standard Unit Weight		Nominal OD		Nominal DCR		Nom. Vel. of Prop.	Nominal Capacitance			
					Ft.	m	Lbs.	kg	Inch	mm	Cond.	Shield		* pF/ Ft.	* pF/ m	** pF/ Ft.	** pF/ m
24 AWG Stranded (7x32) TC Conductors • Overall Beldfoil® (100% Coverage) + TC Braid Shield (65% Coverage) • Drain Wire††																	
Datalene® Insulation • Chrome PVC Jacket																	
UL AWM Style 2919 (30V 80°C)  Z-Fold®	**9925**	NEC: CM CEC: CM	3	See Chart 1 (Tech Info Section)	100 500 1000	30.5 152.4 304.8	3.5 12.0 24.0	1.6 5.5 10.9	.215	5.46	24.0Ω/M′ 78.7Ω/km	5.2Ω/M′ 17.0Ω/km	78%	12	39.4	22	72.2
	9927	NEC: CM CEC: CM	4	See Chart 1 (Tech Info Section)	100 500 1000	30.5 152.4 304.8	3.6 14.5 32.0	1.6 6.6 14.5	.230	5.84	24.0Ω/M′ 78.7Ω/km	5.3Ω/M′ 17.4Ω/km	78%	12	39.4	22	72.2
	9929	NEC: CM CEC: CM	5	See Chart 1 (Tech Info Section)	100 500 1000	30.5 152.4 304.8	4.0 16.0 36.0	1.8 7.3 16.3	.246	6.25	24.0Ω/M′ 78.7Ω/km	4.2Ω/M′ 13.9Ω/km	78%	12	39.4	22	72.2
	9931	NEC: CM CEC: CM	6	See Chart 1 (Tech Info Section)	100 500 1000 10000	30.5 152.4 304.8 3048.0	4.2 17.5 39.0 410.0	1.9 8.0 17.7 186.1	.265	6.73	24.0Ω/M′ 78.7Ω/km	4.4Ω/M′ 14.4Ω/km	78%	12	39.4	22	72.2
	9932	NEC: CM CEC: CM	7	See Chart 1 (Tech Info Section)	100 500 1000	30.5 152.4 304.8	4.5 18.5 41.0	2.0 8.4 18.6	.265	6.73	24.0Ω/M′ 78.7Ω/km	4.4Ω/M′ 14.4Ω/km	78%	12	39.4	22	72.2
	9933	NEC: CM CEC: CM	8	See Chart 1 (Tech Info Section)	100 500 1000 10000†	30.5 152.4 304.8 3048.0	4.9 21.0 46.0 480.0	2.2 9.6 20.9 217.9	.280	7.11	24.0Ω/M′ 78.7Ω/km	4.4Ω/M′ 14.4Ω/km	78%	12	39.4	22	72.2
	9934	NEC: CM CEC: CM	9	See Chart 1 (Tech Info Section)	100 500 1000	30.5 152.4 304.8	5.2 22.0 48.0	2.4 10.0 21.8	.300	7.62	24.0Ω/M′ 78.7Ω/km	3.9Ω/M′ 12.6Ω/km	78%	12	39.4	22	72.2
	9935	NEC: CM CEC: CM	10	See Chart 1 (Tech Info Section)	100 500 1000	30.5 152.4 304.8	5.7 28.0 53.0	2.6 12.7 24.1	.306	7.77	24.0Ω/M′ 78.7Ω/km	3.2Ω/M′ 10.4Ω/km	78%	12	39.4	22	72.2
	9936	NEC: CM CEC: CM	15	See Chart 2R (Tech Info Section)	100 500 1000	30.5 152.4 304.8	7.2 35.0 68.0	3.3 15.9 30.9	.350	8.89	24.0Ω/M′ 78.7Ω/km	3.6Ω/M′ 11.7Ω/km	78%	12	39.4	22	72.2
	9937	NEC: CM CEC: CM	25	See Chart 2R (Tech Info Section)	100 500 1000	30.5 152.4 304.8	9.9 54.5 108.0	4.5 24.8 49.0	.445	11.30	24.0Ω/M′ 78.7Ω/km	2.8Ω/M′ 9.1Ω/km	78%	12	39.4	22	72.2
	9938	NEC: CM CEC: CM	37	See Chart 2R (Tech Info Section)	100 500 1000	30.5 152.4 304.8	12.9 71.5 139.0	5.9 32.5 63.1	.500	12.7	24.0Ω/M′ 78.7Ω/km	2.4Ω/M′ 7.8Ω/km	78%	12	39.4	22	72.2

†24 AWG Stranded TC Drain Wire

DCR = DC Resistance • TC = Tinned Copper

*Capacitance between conductors.
**Nominal capacitance conductor to conductor and shield.

††Final put-up may vary -10% to +20%. May contain two pieces, minimum length of any one piece is 1500 ft.

Datalene insulation features include a low dielectric constant and a low dissipation factor for high-speed, low-distortion data handling. Physical properties include good crush resistance and light weight.