

## 9939 Multi-Conductor - Computer Cable for EIA RS-232 Applications



### Description:

22 AWG stranded (7x30) TC conductors, S-R PVC insulation, overall Beldfoil® (100% coverage) + TC braid shield (65% coverage), PVC jacket.

### Physical Characteristics (Overall)

#### Conductor

##### AWG:

# Conductors	AWG	Stranding	Conductor Material
3	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 Cabling Color Code Chart:

Number	Color
1	Black
2	White
3	Red

Overall Nominal Diameter: 0.202 in.

### Mechanical Characteristics (Overall)

Operating Temperature Range:	-30°C To +80°C
UL Temperature Rating:	80°C (UL AWM Style 2464)
Bulk Cable Weight:	27.800 lbs/1000 ft.
Min. Bend Radius (Install)/Minor Axis:	2 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

## 9939 Multi-Conductor - Computer Cable for EIA RS-232 Applications

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
MIL Order #39 (China RoHS):	Yes

### Flame Test

UL Flame Test:	UL1685 FT4 Loading
C(UL) Flame Test:	FT4

### Plenum/Non-Plenum

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

### Nom. Capacitance Conductor to Conductor:

Capacitance (pF/ft)

37

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

Capacitance (pF/ft)

67

### Nom. Conductor DC Resistance:

DCR @ 20°C (Ohm/1000 ft)

14.7

### Nominal Outer Shield DC Resistance:

DCR @ 20°C (Ohm/1000 ft)

6.2

### Max. Operating Voltage - UL:

Voltage

300 V RMS (UL AWM Stype 2464)

### Max. Recommended Current:

Current

3 Amps per conductor @ 25°C

## Put Ups and Colors:

Item #	Putup	Ship Weight	Color	Notes	Item Desc
9939 060100	100 FT	3.300 LB	CHROME		3 #22 PVC SH PVC
9939 0601000	1,000 FT	27.000 LB	CHROME	C	3 #22 PVC SH PVC
9939 060500	500 FT	14.000 LB	CHROME	C	3 #22 PVC 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
<b>Conductor Size:</b> (AWG)	28				
	24	✓	✓	✓	
	22				✓
	20				
	18				
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<b>Insulation:</b>	S-R PVC		✓	✓	✓
	Polyethylene				
	Polypropylene				
	Datalene®†	✓			
<b>Shield:</b>	Overall Foil			✓	
	Drain Wire	✓		✓	
	Overall Foil/Braid	✓	✓		✓
	Braid Coverage	65%	65%		65%
<b>Drain Wire Overall:</b>		Yes	No	Yes	No
<b>No. of Cond. Available:</b>	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		✓	✓	✓	
<b>Capacitance ** (pF/ft.)</b>		12.0	30.0	30.0	35.0

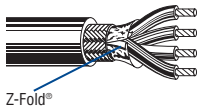
\*All cables are UL-listed.

\*\*Capacitance may vary on some cables.

† Foam high density polyethylene.

# Overall Foil/Braid Shield

## Computer Cables for EIA RS-232 Applications

Description	Part No.	UL NEC/ C(UL) CEC Type	No. of Cond.	Color Code	Standard Lengths		Standard Unit Weight		Nominal OD		Nominal DCR		Nominal Capacitance				
					Ft.	m	Lbs.	kg	Inch	mm	Cond.	Shield	* pF/ Ft.	* pF/ m	** pF/ Ft.	** pF/ m	
<b>22 AWG Stranded (7x30) Tinned Copper Conductors • Overall Beldfoil® (100% Coverage) + Tinned Copper Braid Shield (65% Coverage)</b>																	
<b>Semi-rigid PVC Insulation • Chrome PVC Jacket</b>																	
 <p>Z-Fold®</p>	9939	NEC:	3	See Chart 1 (Tech Info Section)	100	30.5	3.6	1.6	.202	5.13	14.7Ω/M'	6.2Ω/M'	37	121	67	220	
		CMG:			500	152.4	14.0	6.4	48.2Ω/km	20.3Ω/km							
		CEC:			1000	304.8	27.0	12.3									
		CMG FT4															
	9940	NEC:	4	See Chart 1 (Tech Info Section)	100	30.5	4.0	1.8	.215	5.46	14.7Ω/M'	5.0Ω/M'	37	121	67	220	
		CMG:			500	152.4	16.5	7.5	48.2Ω/km	16.4Ω/km							
		CEC:			1000	304.8	32.0	14.5									
		CMG FT4															
	9941	NEC:	5	See Chart 1 (Tech Info Section)	100	30.5	4.2	1.8	.230	5.84	14.7Ω/M'	7.1Ω/M'	37	121	67	220	
		CMG:			500	152.4	19.0	8.6	48.2Ω/km	23.3Ω/km							
		CEC:			1000	304.8	38.0	17.3									
		CMG FT4															
	9942	NEC:	6	See Chart 1 (Tech Info Section)	100	30.5	4.7	2.1	.245	6.22	14.7Ω/M'	7.9Ω/M'	35	115	63	207	
		CMG:			500	152.4	22.0	10.0	48.2Ω/km	25.9Ω/km							
		CEC:			1000	304.8	43.0	19.5									
		CMG FT4															
	9943	NEC:	7	See Chart 1 (Tech Info Section)	100	30.5	5.0	2.3	.245	6.22	14.7Ω/M'	7.0Ω/M'	35	115	63	207	
		CMG:			500	152.4	23.5	10.8	48.2Ω/km	23.0Ω/km							
		CEC:			1000	304.8	46.0	20.9									
		CMG FT4															
	9944	NEC:	8	See Chart 1 (Tech Info Section)	100	30.5	5.5	2.5	.260	6.60	14.7Ω/M'	6.0Ω/M'	35	115	63	207	
		CMG:			500	152.4	26.0	11.8	48.2Ω/km	19.7Ω/km							
		CEC:			1000	304.8	52.0	23.6									
		CMG FT4															
	9945	NEC:	9	See Chart 1 (Tech Info Section)	100	30.5	6.1	2.8	.280	7.11	14.7Ω/M'	5.1Ω/M'	35	115	63	207	
		CMG:			500	152.4	28.5	12.9	48.2Ω/km	16.7Ω/km							
		CEC:			1000	304.8	57.0	25.9									
		CMG FT4															
	9946	NEC:	10	See Chart 1 (Tech Info Section)	100	30.5	6.6	3.0	.300	7.62	14.7Ω/M'	4.6Ω/M'	35	115	63	207	
		CMG:			500	152.4	31.5	14.3	48.2Ω/km	15.1Ω/km							
		CEC:			1000	304.8	62.0	28.1									
		CMG FT4															
	9947	NEC:	15	See Chart 2R (Tech Info Section)	100	30.5	8.7	4.0	.340	8.64	14.7Ω/M'	4.1Ω/M'	35	115	63	207	
		CMG:			500	152.4	42.5	19.3	48.2Ω/km	13.5Ω/km							
		CEC:			1000	304.8	83.0	37.7									
		CMG FT4															
	9948	NEC:	25	See Chart 2R (Tech Info Section)	100	30.5	13.3	6.0	.410	10.41	14.7Ω/M'	3.1Ω/M'	35	115	63	207	
		CMG:			500	152.4	66.5	30.2	48.2Ω/km	10.2Ω/km							
		CEC:			1000	304.8	132.0	59.9									
		CMG FT4															
	9949	NEC:	37	See Chart 2R (Tech Info Section)	100	30.5	16.1	7.3	.460	11.68	14.7Ω/M'	2.7Ω/M'	35	115	63	207	
		CMG:			500	152.4	87.5	39.7	48.2Ω/km	8.9Ω/km							
		CEC:			1000	304.8	180.0	81.7									
		CMG FT4															
	9950	NEC:	50	See Chart 2R (Tech Info Section)	100	30.5	25.2	11.4	.555	14.10	14.7Ω/M'	2.3Ω/M'	35	115	63	207	
		CMG:			500	152.4	118.0	53.6	48.2Ω/km	7.5Ω/km							
		CEC:			1000	304.8	238.0	108.1									
		CMG FT4															

DCR = DC Resistance

\*Capacitance between conductors.

\*\*Nominal capacitance conductor to conductor and shield.