Detailed Specifications & Technical Data

ENGLISH MEASUREMENT VERSION

9539 Multi-Conductor - Computer Cable for EIA RS-232 Applications

Description:

24 AWG stranded (7x32) tinned copper conductors, conductors cabled, semi-rigid PVC insulation, overall Beldfoil® shield (100% coverage), 24 AWG stranded tinned copper drain wire, PVC jacket.

Physical Characteristics (Overall)

Conductor

AWG:

# Conductors	AWG	Stranding	Conductor Material
9	24	7x32	TC - Tinned Copper

Insulation

Insulation Material:

Insulation Material	Wall Thickness (in.)
PVC - Polyvinyl Chloride	.010

Outer Shield

Outer Shield Material:

Outer Shield Trade Name	Type	Outer Shield Material	Coverage (%)
Beldfoil®	Tape	Aluminum Foil-Polyester Tape	100

Outer Shield Drain Wire AWG:

AWG	Stranding	Drain Wire Conductor Material
24	7x32	TC - Tinned Copper

Outer Jacket

Outer Jacket Material:

Outer Jacket Material	Nom. Wall Thickness (in.)
PVC - Polyvinyl Chloride	.032

Overall Cabling

Overall Cabling Lay Length & Direction:

Length (in.)
2.125

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

Overall Nominal Diameter:	0.244 in.

Mechanical Characteristics (Overall)

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

Bulk Cable Weight:	37.300 lbs/1000 ft.
Max. Recommended Pulling Tension:	49.500 lbs.
Min. Bend Radius (Install)/Minor Axis:	2.500 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):	04/01/2005
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. Capacitance Conductor to Conductor:

Capacitance (pF/ft)
30

Nom. Capacitance Cond. to Other Conductor & Shield:

Capacitance (pF/ft)
55

Nom. Conductor DC Resistance:

DCR @ 20°C (Ohm/1000 ft)
25

Nominal Outer Shield DC Resistance:

DCR @ 20°C (Ohm/1000 ft)
18

Max. Operating Voltage - UL:

Voltage
300 V RMS (UL AWM Style 2464)

Max. Recommended Current:

Current
1.75 Amps per conductor @ 25°C

Put Ups and Colors:

Item #	Putup	Ship Weight	Color	Notes	Item Desc
9539 060U1000	1,000 FT	34.000 LB	CHROME		9 #24 PVC FS PVC
9539 060U500	500 FT	18.000 LB	CHROME		9 #24 PVC FS PVC
9539 060100	100 FT	4.000 LB	CHROME		9 #24 PVC FS PVC
9539 0601000	1,000 FT	36.000 LB	CHROME	C	9 #24 PVC FS PVC
9539 060500	500 FT	18.500 LB	CHROME	C	9 #24 PVC FS PVC

9539 Multi-Conductor - Computer Cable for EIA RS-232 Applications

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

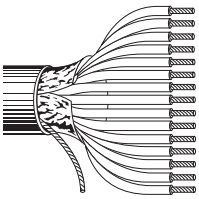
Shielded Multi-Conductor Computer Cables for RS-232 Applications

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 Beldfoil® 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		Insulation Thickness		Jacket Thickness		Nominal OD		Nominal Capacitance			
					Ft.	m	Lbs.	kg	Inch	mm	Inch	mm	Inch	mm	* pF/ Ft.	* pF/ m	** pF/ Ft.	** pF/ m
24 AWG Stranded (7x32) TC Conductors • Conductors Cabled • Overall Beldfoil Shield (100% Coverage) • 24 AWG Stranded TC Drain Wire																		
Semi-rigid PVC Insulation • Chrome PVC Jacket																		
UL AWM Style 2464 (300V 80°C) 	**9533**	NEC: CMG CEC: CMG FT4	3	See Chart 1 (Tech Info Section)	100 U-500 500 U-1000 1000	30.5 U-152.4 152.4 U-304.8 304.8	2.7 9.5 9.0 18.0 18.0	1.2 4.3 4.1 8.2 8.2	.010	.25	.032	.81	.162	4.11	33	108	65	213
	9534	NEC: CMG CEC: CMG FT4	4	See Chart 1 (Tech Info Section)	100 U-500 500 U-1000 1000	30.5 U-152.4 152.4 U-304.8 304.8	3.0 11.0 11.5 21.0 22.0	1.4 5.0 5.2 9.5 10.0	.010	.25	.032	.81	.184	4.67	33	108	65	213
	9535	NEC: CMG CEC: CMG FT4	5	See Chart 1 (Tech Info Section)	100 U-500 500 U-1000 1000	30.5 U-152.4 152.4 U-304.8 304.8	3.2 12.0 11.0 23.0 22.0	1.5 5.4 5.0 10.4 10.0	.010	.25	.032	.81	.189	4.80	33	108	65	213
	9536	NEC: CMG CEC: CMG FT4	6	See Chart 1 (Tech Info Section)	100 U-500 500 U-1000 1000	30.5 U-152.4 152.4 U-304.8 304.8	3.6 14.5 12.5 27.0 29.0	1.6 6.6 5.7 12.3 13.2	.010	.25	.032	.81	.209	5.31	33	108	65	213
	9537	NEC: CMG CEC: CMG FT4	7	See Chart 1 (Tech Info Section)	100 U-500 500 U-1000 1000	30.5 U-152.4 152.4 U-304.8 304.8	3.7 15.0 13.5 29.0 30.0	1.7 6.8 6.2 13.2 13.7	.010	.25	.032	.81	.209	5.31	33	108	65	213
	9538	NEC: CMG CEC: CMG FT4	8	See Chart 1 (Tech Info Section)	100 U-500 500 U-1000 1000	30.5 U-152.4 152.4 U-304.8 304.8	3.8 17.0 15.0 32.0 34.0	1.7 7.7 6.8 14.6 15.4	.010	.25	.032	.81	.224	5.69	33	108	65	213
	9539	NEC: CMG CEC: CMG FT4	9	See Chart 1 (Tech Info Section)	100 U-500 500 U-1000 1000	30.5 U-152.4 152.4 U-304.8 304.8	4.2 20.0 17.0 37.0 38.0	1.9 9.1 7.8 16.9 17.3	.010	.25	.032	.81	.244	6.20	30	98	55	180
	9540	NEC: CMG CEC: CMG FT4	10	See Chart 1 (Tech Info Section)	100 U-500 500 U-1000 1000	30.5 U-152.4 152.4 U-304.8 304.8	4.3 19.5 18.0 38.0 36.0	2.0 8.9 8.2 17.2 16.4	.010	.25	.032	.81	.244	6.20	30	98	55	180
	9541	NEC: CMG CEC: CMG FT4	15	See Chart 2R (Tech Info Section)	100 U-500 500 U-1000 1000	30.5 U-152.4 152.4 U-304.8 304.8	5.9 27.5 28.0 54.0 56.0	2.7 12.5 12.7 24.5 25.4	.010	.25	.032	.81	.284	7.21	30	98	55	180
	9542	NEC: CMG CEC: CMG FT4	20	See Chart 2R (Tech Info Section)	100 U-500 500 1000	30.5 U-152.4 152.4 304.8	7.3 34.0 35.5 69.0	3.3 15.4 16.1 31.3	.010	.25	.032	.81	.314	7.98	30	98	55	180
	9543	NEC: CMG CEC: CMG FT4	25	See Chart 2R (Tech Info Section)	100 500 1000	30.5 152.4 304.8	8.7 44.0 86.0	4.0 20.0 39.0	.010	.25	.032	.81	.339	8.61	30	98	55	180
	9544	NEC: CMG CEC: CMG FT4	30	See Chart 2R (Tech Info Section)	100 500 1000	30.5 152.4 304.8	10.3 51.5 102.0	4.7 23.4 46.3	.010	.25	.040	1.02	.380	9.65	30	98	55	180
	9545	NEC: CMG CEC: CMG FT4	40	See Chart 2R (Tech Info Section)	100 500 1000	30.5 152.4 304.8	13.5 65.0 130.0	6.1 29.5 59.0	.010	.25	.040	1.02	.430	10.92	30	98	55	180
	9546	NEC: CMG CEC: CMG FT4	50	See Chart 2R (Tech Info Section)	100 500 1000	30.5 152.4 304.8	16.4 81.5 168.0	7.4 37.0 76.3	.010	.25	.045	1.14	.490	12.45	30	98	55	180

TC = Tinned Copper

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