



Paired Cables

5

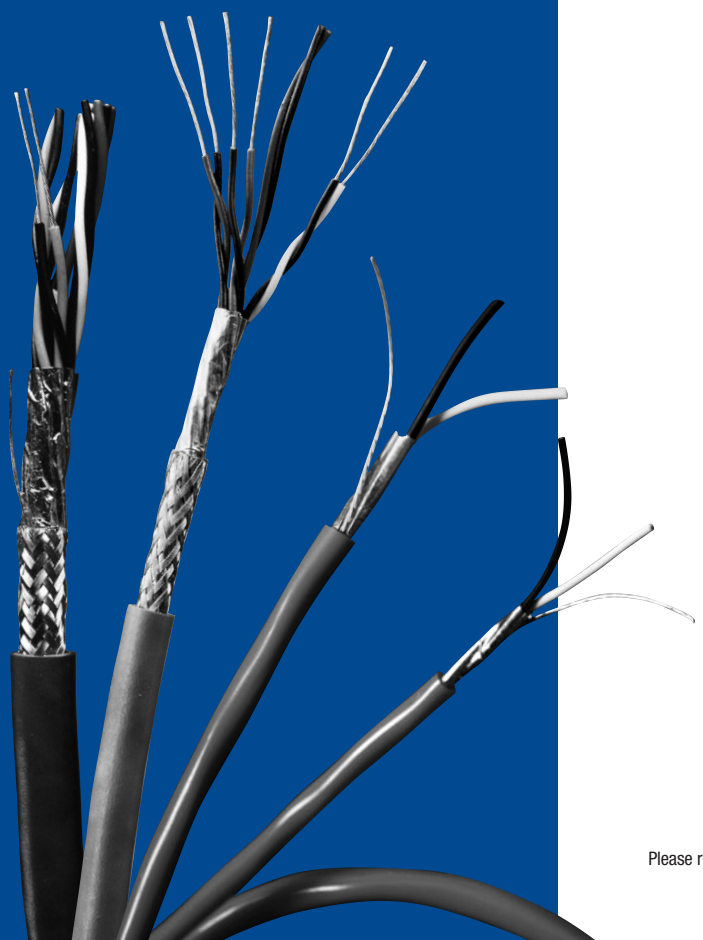


Table of Contents

Paired Cables	Page No.
Introduction	5.2
Selection Guide: Shielded Multi-Pair Computer Cables	5.3
Unshielded	5.4 – 5.5
Audio, Control and Instrumentation Cables	5.4 – 5.5
Overall Beldfoil® Shield	5.6 – 5.11
Cable Characteristics: Attenuation, Rise Time, Bit Rate	5.6
High-Temperature Control, Instrumentation Cables	5.7 – 5.8
Low-Capacitance Computer Cables	5.9
Audio, Control and Instrumentation Cables	5.10 – 5.11
Overall Foil/Braid Shield	5.12 – 5.18
Cable Characteristics: Attenuation, Rise Time, Bit Rate	5.12
Low-Capacitance Computer Cables	5.13 – 5.18
Individually Shielded	5.19 – 5.23
Cable Characteristics: Attenuation, Rise Time, Bit Rate	5.19
Low-Capacitance Computer Cables	5.20
Cable Characteristics: Attenuation, Rise Time, Bit Rate	5.21
Audio, Control and Instrumentation Cables	5.22 – 5.23
Individually Shielded Pairs with Overall Foil/Braid Shield	5.24 – 5.25
Cable Characteristics: Attenuation, Rise Time, Bit Rate	5.24
Low-Capacitance Computer Cables	5.25
Overall Braid Shield	5.26

Introduction

Pairing with Belden

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.

Partnership with Belden means solutions to problems with the right cables to provide the right performance for the right price.

Key Applications

- Transmitters (single ended)
- Devices
- Multipoint networks
- High impedance drives
- Micro processor controls
- Converters
- Repeaters

Special Features

- Belden paired cables are offered in many variations including plenum and high-temperature versions. Variations include:
 - Gage sizes
 - Dimensions
 - Insulation materials
 - Shielding configurations
 - Jacketing materials
- Paired 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.
- Temperature versions to meet the technical requirements of many different types of systems.

Availability

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 multi-conductor cable in this catalog section that meets your technical requirements, see our U.S. Master Catalog or contact technical support at +31-77-3875-414 or techsupport.venlo@belden.com.

Introduction

Selection Guide: Shielded Multi-Pair Computer Cables RS-232, RS-422, and RS-485 Applications*

Specifications		Cable Series**													
		9804	8132	9829	8332	9501	8102	9729	8162	9680	8302	8777	9873	9773	
Conductor Size: (AWG)	28	✓	✓												
	24			✓	✓	✓	✓	✓	✓	✓					
	22										✓	✓			
	20												✓		
	18													✓	
Page No.		5.13	5.14	5.16	5.15	5.7	5.17	5.20	5.25	5.9	5.18	5.22	5.23	5.23	
Insulation:	S-R PVC				✓	✓					✓				
	Polyethylene			✓						✓			✓	✓	
	Polypropylene	✓										✓			
	Datalene®†		✓				✓	✓	✓						
Shield:	Overall Foil					✓				✓					
	Individual Foil							✓	✓			✓	✓	✓	
	Overall Foil/Braid	✓	✓	✓	✓		✓		✓		✓				
	Braid Coverage	90%	65%	65%	65%		65%		65%		65%				
Drain Wire:	(see key below)	●	●	●	×	●	●	▲	▲	●	×	▲	▲	▲	
No. of Pairs Available:	1					✓									
	2	✓	✓	✓	✓	✓	✓	✓	✓		✓				
	3	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	4	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓				
	5	✓	✓	✓	✓	✓	✓		✓		✓				
	6			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
	7	✓		✓	✓	✓	✓		✓		✓				
	8		✓			✓	✓		✓		✓				
	9	✓		✓		✓		✓		✓		✓	✓	✓	
	10			✓	✓	✓	✓		✓		✓				
	11							✓				✓	✓		
	12	✓		✓				✓				✓	✓	✓	
	12.5		✓		✓		✓			✓	✓				
	13	✓													
	15				✓	✓	✓	✓	✓		✓	✓	✓	✓	
	17							✓				✓			
	18	✓	✓	✓	✓		✓		✓		✓				
	19					✓		✓				✓			
	25	✓	✓	✓	✓	✓	✓		✓		✓				
	27							✓				✓			
31	✓											✓			
37												✓			
50					✓										
Capacitance†† (pF/m)		50.8	36.1	50.8	98.4	98.4	41.0	41.0	41.0	50.8	114.8	98.4	98.4	98.4	

S-R = Semi-Rigid

* Refer to specifications for recommendations.

** All cables are UL-listed.

† Foam high density polyethylene.

†† Capacitance may vary on some cables.

Drain Wire Key:

● = Drain wire overall.

▲ = Drain wire each pair.

× = No drain wire.

Unshielded

Audio, Control and Instrumentation Cables

Description	Part No.	UL NEC / C(UL)CEC Type IEC	Standard Lengths		Standard Unit Weight		Conductor (Stranding) Diameter Nom. DCR	Nominal Insulation OD		Shielding Material Nom. DCR	Nominal OD		Color Code
			ft.	m	lbs.	kg		inch	mm		inch	mm	

20 AWG • Stranded (7x28) 1.0 mm Tinned Copper • Twisted Pair

PVC Insulation • Chrome PVC Jacket

300V RMS		NEC: CMG CEC: CMG FT4					0.96 mm 20 AWG (7x28) TC	0.064	1.62	Unshielded			see chart 3 (Tech Info Section)
----------	--	--------------------------------	--	--	--	--	--------------------------------	-------	------	------------	--	--	------------------------------------



8205	1-Pair	100	31	2.6	1.2						0.180	4.57		
		U-500	U-152	9.0	4.1									
		500	152	9.0	4.1									
		U-1000	U-305	18.1	8.2									
		1000	305	18.1	8.2									

300V 80°C UL AWM Style 2464	9750	3-Pair	500	152	26.5	12.0						0.299	7.59	
			1000	305	50.0	22.7								



9751	6-Pair	100	31	9.0	4.1							0.366	9.30	
		500	152	45.2	20.5									
		1000	305	89.3	40.5									

9752	9-Pair	100	31	13.0	5.9							0.429	10.90	
		500	152	65.7	29.8									
		1000	305	125.2	56.8									

9755	15-Pair	100	31	17.9	8.1							0.545	13.84	
		1000	305	194.4	88.2									

18 AWG • Stranded (7x26) 1.2 mm Tinned Copper • Twisted Pair

PVC Insulation • Chrome PVC Jacket

300V RMS	8461	NEC: CMG CEC: CMG FT4	100	31	3.1	1.4	1.22 mm 18 AWG (7x26) TC	0.092	2.34	Unshielded	0.234	5.94	Black, White
			U-500	U-152	14.1	6.4							
			500	152	13.4	6.1							
			U-1000	U-305	26.0	11.8							
			1000	305	26.9	12.2							



1-Pair

18 AWG • Stranded (16x30) 1.2 mm Tinned Copper • Twisted Pair

PVC Insulation • Chrome PVC Jacket

300V 80°C UL AWM Style 2464		NEC: CMG CEC: CMG FT4					1.20 mm 18 AWG (16x30) TC	0.076	1.92	Unshielded			see chart 3 (Tech Info Section)
--------------------------------	--	--------------------------------	--	--	--	--	---------------------------------	-------	------	------------	--	--	------------------------------------



9740	1-Pair	U-500	U-152	12.6	5.7							0.210	5.33	
		500	152	12.6	5.7									
		U-1000	U-305	24.0	10.9									
		1000	305	24.0	10.9									

For Plenum version of 9740, see 89740, 87740 or 82740.

9156	2-Pair	U-500	U-152	24.9	11.3							0.333	8.46	
		500	152	26.9	12.2									
		U-1000	U-305	48.9	22.2									
		1000	305	51.1	23.2									

TC = Tinned Copper • DCR = DC resistance

Unshielded

Audio, Control and Instrumentation Cables

De- scription	Part No.	UL NEC / C(UL)/CEC Type IEC	Standard Lengths		Standard Unit Weight		Conductor (Stranding) Diameter Nom. DCR	Nominal Insulation OD		Shielding Material Nom. DCR	Nominal OD		Color Code
			ft.	m	lbs.	kg		inch	mm		inch	mm	

18 AWG • Stranded (16x30) 1.2 mm Tinned Copper • Twisted Pair (continued)

PVC Insulation • Chrome PVC Jacket

300V 80°C UL AWM Style 2464	NEC: CMG CEC: CMG FT4						1.20 mm 18 AWG (16x30) TC	0.076	1.92	Unshielded			see chart 3 (Tech Info Section)
--------------------------------	--------------------------------	--	--	--	--	--	---------------------------------	-------	------	------------	--	--	------------------------------------



8690	3-Pair	100	31	7.1	3.2						0.347	8.81		
		500	U-152	32.6	14.8									
		1000	305	65.0	29.5									
9157	4-Pair	100	31	8.4	3.8						0.381	9.68		
		500	152	41.0	18.6									
		1000	305	83.1	37.7									
9159	5-Pair	500	152	50.0	22.7						0.391	9.93		
		1000	305	99.2	45.0									

18 AWG • Stranded (19x30) 1.2 mm Tinned Copper • Twisted Pair

Plenum • FEP Insulation • Natural Flamarrst® Jacket

300V RMS Non-conduit	82740	NEC: CMP CEC: CMP FT6	U-1000	U-305	17.0	7.7	1.24 mm 18 AWG (19x30) TC	0.061	1.54	Unshielded	0.147	3.73	Black, Red
-------------------------	--------------	--------------------------------	--------	-------	------	-----	---------------------------------	-------	------	------------	-------	------	------------



1-Pair

16 AWG • Stranded (19x29) 1.5 mm Tinned Copper • Twisted Pair

PVC Insulation • Chrome PVC Jacket

300V 60°C UL AWM Style 2598	8471	NEC: CMG CEC: CMG FT4	U-500	U-152	20.9	9.5	1.47 mm 16 AWG (19x29) TC	0.104	2.63	Unshielded	0.274	6.96	Black, White
--------------------------------	-------------	--------------------------------	-------	-------	------	-----	---------------------------------	-------	------	------------	-------	------	--------------



1-Pair

14 AWG • Stranded (41x30) 1.9 mm Tinned Copper • Twisted Pair

PVC Insulation • Chrome PVC Jacket

600V 90°C UL AWM Style 2587	8473	NEC: CL3 CEC: FAS 90 FT4	U-500	U-152	29.1	13.2	1.85 mm 14 AWG (41x30) TC	0.135	3.43	Unshielded	0.340	8.64	Black, White
--------------------------------	-------------	-----------------------------------	-------	-------	------	------	---------------------------------	-------	------	------------	-------	------	--------------



1-Pair

12 AWG • Stranded (65x30) 2.4 mm Tinned Copper • Twisted Pair

PVC Insulation • Chrome PVC Jacket

600V 90°C UL AWM Style 2587	8477	NEC: CL3R	U-500	U-152	41.4	18.8	2.41 mm 12 AWG (65x30) TC	0.159	4.03	Unshielded	0.386	9.80	Black, White
--------------------------------	-------------	--------------	-------	-------	------	------	---------------------------------	-------	------	------------	-------	------	--------------



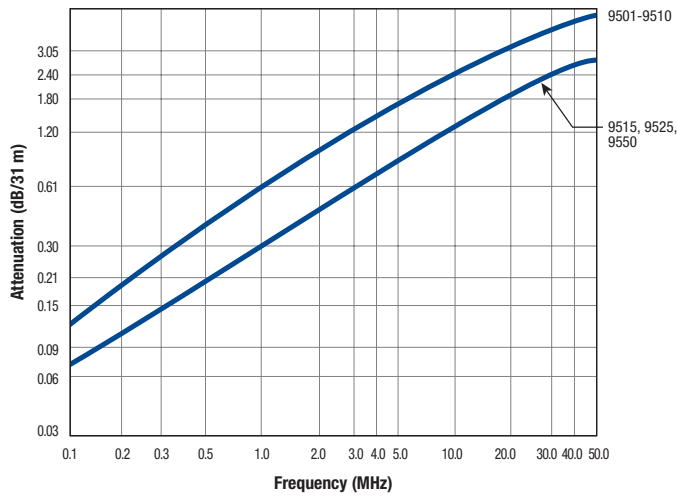
1-Pair

TC = Tinned Copper • DCR = DC resistance
† Spools are one piece, but length may vary ±10% from length shown.

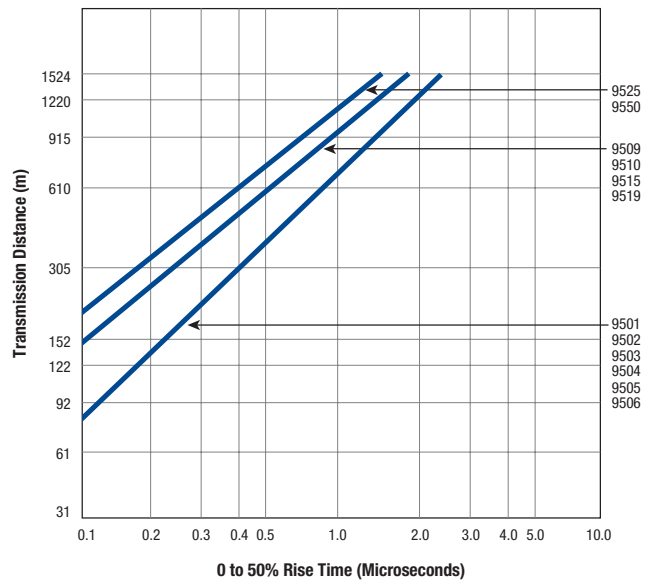
Overall Beldfoil® Shield

Cable Characteristics

Attenuation

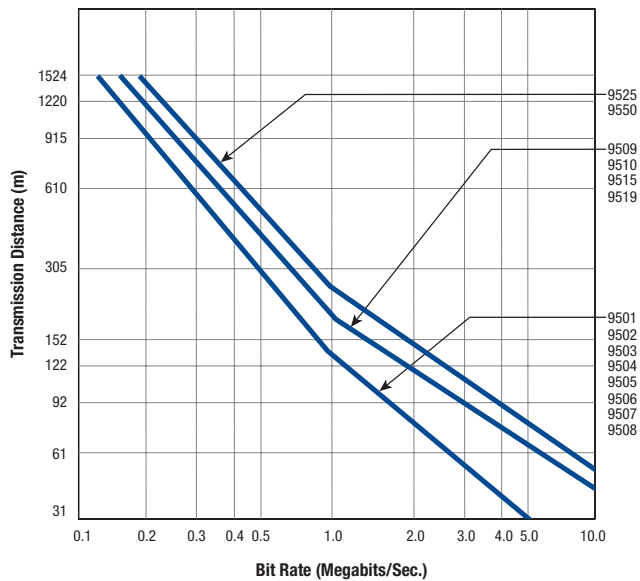


Rise Time



Cables are terminated in their characteristic impedance. Signal source electrical characteristics: 50 Ohm and 10% to 90% rise time less than 5 nanoseconds.

Bit Rate



Charts assume 5% peak-to-peak time jitter as determined by eye pattern measurements of pseudorandom NRZ code.

Overall Beldfoil® Shield

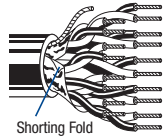
High-Temperature Control, Instrumentation Cables and Computer Cables
for EIA RS-232 Applications

De-scription	Part No.	UL NEC / C(UL)/CEC Type IEC	Standard Lengths		Standard Unit Weight		Conductor (Stranding) Diameter Nom. DCR	Nominal Insulation OD		Shielding Material Nom. DCR	Nominal OD		Nom. Imp. (Ω)	Nom. Vel. of Prop.	Nominal Capacitance		Color Code
			ft.	m	lbs.	kg		inch	mm		inch	mm			pF/ft.	pF/m	

24 AWG • Stranded (7x32) 0.6 mm Tinned Copper • Twisted Pair • Overall Beldfoil® Shield • 24 AWG Tinned Copper Drain Wire

Semi-Rigid PVC Insulation • Chrome PVC Jacket

300V 80°C UL AWM Style 2464 CSA AWM I A	NEC: CMG CEC: CMG FT4	0.61 mm 24 AWG (7x32) TC	0.044	1.12	Overall Beldfoil® + Drain Wire (24 AWG TC)	75	60%	see chart 3 (Tech Info Section)
---	--------------------------------	--------------------------------	-------	------	---	----	-----	---------------------------------------



9501	1-Pair	100	31	2.2	1.0	0.156	3.96	CDR/CDR CDR/SCR	40	131
		U-500	U-152	7.5	3.4					
		500	152	7.1	3.2					
		U-1000	U-305	14.1	6.4					
		1000	305	14.1	6.4					
9502†	2-Pair	100	31	3.7	1.7	0.222	5.64	CDR/CDR CDR/SCR	30	98
		U-500	U-152	15.0	6.8					
		500	152	14.6	6.6					
		U-1000	U-305	28.0	12.7					
		1000	305	30.0	13.6					
10000	3048	290.6	131.8	For Plenum version of 9502, see 82502.						
9503	3-Pair	100	31	3.3	1.5	0.232	5.89	CDR/CDR CDR/SCR	30	98
		U-500	U-152	15.0	6.8					
		500	152	14.6	6.6					
		U-1000	U-305	28.0	12.7					
		1000	305	30.0	13.6					
9504	4-Pair	100	31	4.0	1.8	0.265	6.73	CDR/CDR CDR/SCR	30	98
		U-500	U-152	18.1	8.2					
		500	152	16.5	7.5					
		U-1000	U-305	35.1	15.9					
		1000	305	35.9	16.3					
9505	5-Pair	100	31	4.6	2.1	0.289	7.34	CDR/CDR CDR/SCR	30	98
		U-500	U-152	21.6	9.8					
		500	152	22.9	10.4					
		U-1000	U-305	41.0	18.6					
		1000	305	43.0	19.5					
9506	6-Pair	100	31	5.1	2.3	0.289	7.34	CDR/CDR CDR/SCR	30	98
		U-500	U-152	22.9	10.4					
		500	152	24.9	11.3					
		U-1000	U-305	45.0	20.4					
		1000	305	47.2	21.4					
9507	7-Pair	100	31	5.5	2.5	0.294	7.47	CDR/CDR CDR/SCR	30	98
		U-500	U-152	24.9	11.3					
		500	152	27.1	12.3					
		U-1000	U-305	49.2	22.3					
		1000	305	50.9	23.1					
9508	8-Pair	100	31	6.4	2.9	0.324	8.23	CDR/CDR CDR/SCR	30	98
		500	152	30.4	13.8					
		1000	305	60.0	27.2					
9509	9-Pair	100	31	6.8	3.1	0.334	8.48	CDR/CDR CDR/SCR	30	98
		500	152	33.5	15.2					
		1000	305	67.0	30.4					
9510	10-Pair	100	31	7.5	3.4	0.368	9.34	CDR/CDR CDR/SCR	30	98
		500	152	36.6	16.6					
		1000	305	74.1	33.6					
9515	15-Pair	100	31	10.4	4.7	0.417	10.60	CDR/CDR CDR/SCR	30	98
		500	152	52.0	23.6					
		1000	305	102.3	46.4					
9519	19-Pair	100	31	12.8	5.8	0.449	11.40	CDR/CDR CDR/SCR	30	98
		500	152	61.7	28.0					
		1000	305	122.4	55.5					

TC = Tinned Copper • DCR = DC resistance • SCR = Capacitance between one conductor and other conductors connected to shield. • CDR = Capacitance between conductors
† Pennsylvania Department of Environmental Resources and United States Mine Safety and Health Administration certification. Request quotations of RG/U cables not listed.



Overall Beldfoil® Shield

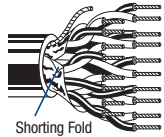
High-Temperature Control, Instrumentation Cables and Computer Cables
for EIA RS-232 Applications

De- scription	Part No.	UL NEC/ C(UL)CEC Type IEC	Standard Lengths		Standard Unit Weight		Conductor (Stranding) Diameter Nom. DCR	Nominal Insulation OD		Shielding Material Nom. DCR	Nominal OD		Nom. Imp. Vel. of Prop.	Nominal Capacitance		Color Code
			ft.	m	lbs.	kg		inch	mm		inch	mm		pF/ft.	pF/m	

24 AWG • Stranded (7x32) 0.6 mm Tinned Copper • Twisted Pair • Overall Beldfoil® Shield • 24 AWG Tinned Copper Drain Wire (continued)

Semi-Rigid PVC Insulation • Chrome PVC Jacket

300V 80°C UL AWM Style 2464 CSA AWM 1 A	NEC: CMG CEC: CMG FT4		0.61 mm 24 AWG (7x32) TC	0.044	1.12	Overall Beldfoil® + Drain Wire (24 AWG TC)		75	60%							see chart 3 (Tech Info Section)
---	--------------------------------	--	--------------------------------	-------	------	---	--	----	-----	--	--	--	--	--	--	---------------------------------------



9525	25-Pair	100	31	16.1	7.3	0.504	12.80	CDR/CDR	30	98			
		500	152	79.6	36.1						CDR/SCR	50	164
		1000	305	155.0	70.3								
9550	50-Pair	100	31	32.0	14.5	0.709	18.00	CDR/CDR	30	98			
		† 500	152	153.9	69.8						CDR/SCR	50	164
		† 1000	305	311.7	141.4								

24 AWG • Stranded (7x32) 0.6 mm Tinned Copper • Twisted Pair • Overall Beldfoil® Shield • 24 AWG Tinned Copper Drain Wire

Plenum • FEP Insulation • Natural Flamarrest® Jacket

300V RMS	NEC: CMP CEC: CMP FT6		0.61 mm 24 AWG (7x32) TC	0.036	0.91	Overall Beldfoil® + Drain Wire (24 AWG TC)				see chart 3 (Tech Info Section)
----------	--------------------------------	--	--------------------------------	-------	------	---	--	--	--	---------------------------------------



82641	1-Pair	†† U-1000	U-305	9.0	4.1	0.106	2.69	CDR/CDR	31	102			
		†† 1000	305	7.9	3.6						CDR/SCR	59	194
82502	2-Pair	†† U-500	U-152	7.9	3.6	0.162	4.11	CDR/CDR	25	82			
		†† U-1000	U-305	16.1	7.3						CDR/SCR	45	148
		†† 1000	305	14.1	6.4								
82503	3-Pair	†† U-1000	U-305	19.0	8.6	0.169	4.29	CDR/CDR	25	82			
		†† 1000	305	18.1	8.2						CDR/SCR	45	148
82504	4-Pair	†† U-1000	U-305	24.0	10.9	0.193	4.90	CDR/CDR	25	82			
		†† 1000	305	26.0	11.8						CDR/SCR	45	148
82505	5-Pair	†† U-1000	U-305	29.1	13.2	0.196	4.98	CDR/CDR	25	82			
		†† 1000	305	30.9	14.0						CDR/SCR	45	148
82506	6-Pair	†† U-500	U-152	17.6	8.0	0.209	5.31	CDR/CDR	25	82			
		†† U-1000	U-305	34.2	15.5						CDR/SCR	45	148
		†† 1000	305	35.1	15.9								
82509	9-Pair	†† 1000	305	49.2	22.3	0.246	6.25	CDR/CDR	23	75			
								CDR/SCR	42	138			

TC = Tinned Copper • DCR = DC resistance • SCR = Capacitance between one conductor and other conductors connected to shield. • CDR = Capacitance between conductors

† Spools are one piece, but length may vary 0% to +20% from length shown.

†† Spools and/or UnReel® cartons are one piece, but length may vary ±10% for spools and ±5% for UnReel® from length shown.

Overall Beldfoil® Shield

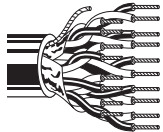
Low-Capacitance Computer Cables for EIA RS-232 and EIA RS-422 Applications

De- scription	Part No.	UL NEC/ C(UL)/CEC Type IEC	Standard Lengths		Standard Unit Weight		Conductor (Stranding) Diameter Nom. DCR	Nominal Insulation OD		Shielding Material Nom. DCR	Nominal OD		Nom. Imp. (Ω)	Nom. Vel. of Prop.	Nominal Capacitance		Color Code
			ft.	m	lbs.	kg		inch	mm		inch	mm			pF/ft.	pF/m	

24 AWG • Stranded (7x32) 0.6 mm Tinned Copper • Twisted Pair • Overall Beldfoil® Shield • 24 AWG Tinned Copper Drain Wire

Polyethylene Insulation • Chrome PVC Jacket

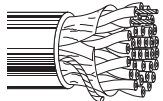
30V 80°C UL AWM Style 2919	NEC: CM CEC: CM						0.61 mm 24 AWG (7x32) TC	0.054	1.37	Overall Beldfoil® + Drain Wire (24 AWG TC)			100	66%			see chart 5 (Tech Info Section)
-------------------------------	--------------------------	--	--	--	--	--	--------------------------------	-------	------	---	--	--	-----	-----	--	--	---------------------------------------



9680	3-Pair	500	152	17.0	7.7	0.282	7.16	CDR/CDR	15	51
		1000	305	38.1	17.3					
9681	4-Pair	500	152	24.0	10.9	0.307	7.80	CDR/CDR	15	51
		1000	305	45.2	20.5					
9682	6-Pair	500	152	29.5	13.4	0.342	8.69	CDR/CDR	15	51
		1000	305	56.2	25.5					
9683	9-Pair	500	152	37.9	17.2	0.398	10.10	CDR/CDR	15	51
		1000	305	79.1	35.9					
9684	12.5-Pair (12 pairs + 1 single)	500	152	49.8	22.6	0.445	11.30	CDR/CDR	15	51
		1000	305	97.2	44.1					

Datalene® Insulation • Chrome PVC Jacket

30V 80°C UL AWM Style 2919	NEC: CM CEC: CM						0.61 mm 24 AWG (7x32) TC	0.049	1.24	Overall Beldfoil® + Drain Wire (24 AWG TC)			100	78%			see chart 5 (Tech Info Section)
-------------------------------	--------------------------	--	--	--	--	--	--------------------------------	-------	------	---	--	--	-----	-----	--	--	---------------------------------------



1419A	2-Pair	500	152	13.4	6.1	0.248	6.30	CDR/CDR	13	43		
		1000	305	30.0	13.6						22	72
		10000	3048	310.6	140.9							
1420A	3-Pair	500	152	15.0	6.8	0.261	6.63	CDR/CDR	13	43		
		1000	305	34.2	15.5						22	72
		10000	3048	340.6	154.5							
1421A	4-Pair	500	152	16.5	7.5	0.280	7.11	CDR/CDR	13	43		
		1000	305	37.0	16.8						22	72
1422A	5-Pair	500	152	23.1	10.5	0.294	7.47	CDR/CDR	13	43		
		1000	305	43.0	19.5						22	72
1423A	6-Pair	500	152	25.1	11.4	0.319	8.10	CDR/CDR	13	43		
		1000	305	48.1	21.8						22	72
		10000	3048	501.1	227.3							
1424A	12.5-Pair (12 pairs + 1 single)	500	152	43.0	19.5	0.418	10.62	CDR/CDR	13	43		
		1000	305	85.1	36.6						22	72
1425A	15-Pair	500	152	53.1	24.1	0.473	12.01	CDR/CDR	13	43		
		1000	305	99.2	45.0						22	72

TC = Tinned Copper • DCR = DC resistance • SCR = Capacitance between one conductor and other conductors connected to shield. • CDR = Capacitance between conductors

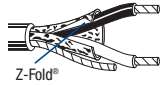
Overall Beldfoil® Shield

Audio, Control and Instrumentation Cables

De- scription	Part No.	UL NEC/ C(UL)CEC Type IEC	Standard Lengths		Standard Unit Weight		Conductor (Stranding) Diameter Nom. DCR	Nominal Insulation OD		Shielding Material Nom. DCR	Nominal OD		Nom. Imp. (Ω)	Nom. Vel. of Prop.	Nominal Capacitance		Color Code
			ft.	m	lbs.	kg		inch	mm		inch	mm			pF/ft.	pF/m	

22 AWG • Solid 0.6 mm Tinned Copper • Twisted Pair • Overall Beldfoil® Shield • 22 AWG Tinned Copper Drain Wire

Polyethylene Insulation • Chrome PVC Jacket																				
300V 60°C	8761	NEC:	U-500	U-152	9.0	4.1	0.64 mm	0.057	1.46	Overall Beldfoil® + Drain Wire (22 AWG TC)	0.175	4.45	-	-	CDR/CDR	24	79	Black, Clear		
UL AWM Style 2092		CM:	500	152	9.0	4.1	22 AWG								CDR/SCR	47	154			
		CEC:	U-1000	U-305	17.0	7.7	Solid TC													
		CM:	1000	305	18.1	8.2														
			2000	610	35.9	16.3														
			5000	1524	90.2	40.9														
			† 10000	3048	170.4	77.3														

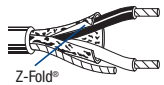


For Plenum versions of 8761, see 88761, 87761 or 82761.

1-Pair

20 AWG • Stranded (7x28) 1.0 mm Tinned Copper • Twisted Pair • Overall Beldfoil® Shield • 22 AWG Tinned Copper Drain Wire

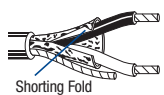
PVC Insulation • Beige PVC Jacket																				
300V 80°C	9154	NEC:	U-500	U-152	11.5	5.2	0.96 mm	0.066	1.68	Overall Beldfoil® + Drain Wire (22 AWG TC)	0.198	5.03	-	-	CDR/CDR	60	197	Black, Red		
UL AWM Style 2464		CMG:	500	152	12.1	5.5	20 AWG								CDR/SCR	100	328			
		CEC:	U-1000	U-305	22.0	10.0	(7x28) TC													
		CMG FT4:	1000	305	23.1	10.5														



1-Pair

20 AWG • Stranded (7x28) 1.0 mm Tinned Copper • Twisted Pair • Overall Beldfoil® Shield • 20 AWG Tinned Copper Drain Wire

Polyethylene Insulation • Chrome PVC Jacket																				
300V 60°C	8762	NEC:	100	31	3.3	1.5	0.96 mm	0.070	1.78	Overall Beldfoil® + Drain Wire (20 AWG TC)	0.204	5.18	-	-	CDR/CDR	27	89	Black, Clear		
UL AWM Style 2092		CM:	250	76	6.2	2.8	20 AWG								CDR/SCR	49	161			
		CEC:	U-500	U-152	12.1	5.5	(7x28) TC													
		CM:	500	152	12.1	5.5														
			U-1000	U-305	23.1	10.5														
			1000	305	23.1	10.5														
			2000	610	46.1	20.9														
			10000	3048	240.5	109.1														



1-Pair

Polyethylene Insulation • Chrome PVC Jacket																				
300V 60°C	9464	NEC:	U-500	U-152	17.0	7.7	0.96 mm	0.070	1.78	Overall Beldfoil® + Drain Wire (20 AWG TC)	0.214	5.44	-	-	CDR/CDR	27	89	Black, Clear		
UL AWM Style 2092		CM:	U-1000	U-305	32.0	14.5	20 AWG								CDR/SCR	49	161			
		CEC:					(7x28) TC													
		CM:																		

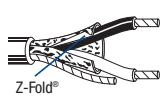


The jacket and shield are bonded so both can be removed with automatic stripping equipment. Drain wire is on the inside of foil shield.

1-Pair

18 AWG • Stranded (19x30) 1.2 mm Tinned Copper • Twisted Pair • Overall Beldfoil® Shield • 20 AWG Tinned Copper Drain Wire

Plenum • FEP Insulation • Natural Flamarrst® Jacket																				
300V RMS	82760	NEC:	†† U-500	U-152	11.9	5.4	1.24 mm	0.063	1.60	Overall Beldfoil® + Drain Wire (20 AWG TC)	0.150	3.81	-	-	CDR/CDR	51	167	Black, Red		
		CMP	†† U-1000	U-305	22.0	10.0	18 AWG								CDR/SCR	97	318			
		CEC:	†† 1000	305	20.9	9.5	(19x30) TC													
		CMP FT6:																		



1-Pair

TC = Tinned Copper • DCR = DC resistance • SCR = Capacitance between one conductor and other conductors connected to shield. • CDR = Capacitance between conductors
 † Length may vary -10% to +20% and may contain 2 pieces. Minimum length of any piece is 460 m (1500 ft).
 †† Spools and/or UnReel® cartons are one piece, but length may vary ± 10% for spools and ± 5% for UnReel® from length shown.

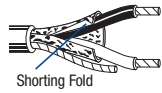
Overall Beldfoil® Shield

Audio, Control and Instrumentation Cables

De- scription	Part No.	UL NEC/ C(UL)/CEC Type IEC	Standard Lengths		Standard Unit Weight		Conductor (Stranding) Diameter Nom. DCR	Nominal Insulation OD		Shielding Material Nom. DCR	Nominal OD		Nom. Imp. (Ω)	Nom. Vel. of Prop.	Nominal Capacitance		Color Code
			ft.	m	lbs.	kg		inch	mm		inch	mm			pF/ft.	pF/m	

16 AWG • Stranded (19x29) 1.5 mm Tinned Copper • Twisted Pair • Overall **Beldfoil®** Shield • 18 AWG Tinned Copper Drain Wire

Polyethylene Insulation • Chrome PVC Jacket																		
600V 80°C	8719	NEC:	U-500	U-152	24.5	11.1	1.47 mm	0.122	3.09	Overall	0.313	7.95	-	-	CDR/CDR	23	75	Black, Clear
UL AWM Style 20253		CM CL2	500	152	25.6	11.6	16 AWG			Beldfoil®					CDR/SCR	44	144	
		CEC:	U-1000	U-305	47.0	21.3	(19x29) TC			+ Drain Wire								
		CM	1000	305	50.0	22.7				(18 AWG TC)								
			2000	610	100.3	45.5												
			5000	1524	245.6	111.4												
			10000	3048	509.9	231.3												

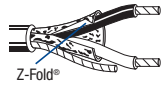


Shorting Fold

1-Pair

14 AWG • Stranded (19x27) 1.9 mm Tinned Copper • Twisted Pair • Overall **Beldfoil®** Shield • 16 AWG Tinned Copper Drain Wire

Polyethylene Insulation • Chrome PVC Jacket																		
600V 80°C	8720	NEC:	U-500	U-152	34.0	15.4	1.85 mm	0.137	3.47	Overall	0.355	9.02	-	-	CDR/CDR	24	79	Black, Clear
UL AWM Style 20253		CM CL2	500	152	35.1	15.9	14 AWG			Beldfoil®					CDR/SCR	47	154	
			1000	305	71.2	32.3	(19x27) TC			+ Drain Wire								
			2000	610	138.2	62.7				(16 AWG TC)								

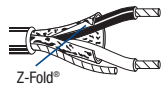


Z-Fold®

1-Pair

12 AWG • Stranded (19x25) 2.4 mm Tinned Copper • Twisted Pair • Overall **Beldfoil®** Shield • 14 AWG Tinned Copper Drain Wire

Polyethylene Insulation • Chrome PVC Jacket																		
600V 80°C	8718	NEC:	U-500	U-152	47.6	21.6	2.36 mm	0.167	4.24	Overall	0.400	10.16	-	-	CDR/CDR	25	82	Black, Clear
UL AWM Style 20253		CL2	500	152	50.5	22.9	12 AWG			Beldfoil®					CDR/SCR	49	161	
			1000	305	100.3	45.5	(19x25) TC			+ Drain Wire								
			2000	610	198.4	90.0				(14 AWG TC)								



Z-Fold®

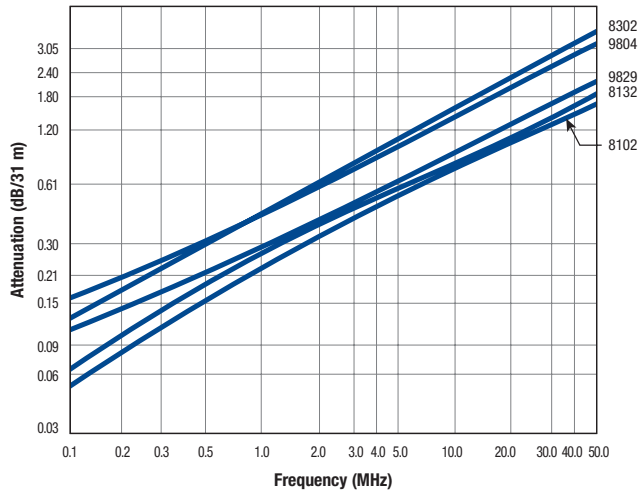
1-Pair

TC = Tinned Copper • DCR = DC resistance • SCR = Capacitance between one conductor and other conductors connected to shield. • CDR = Capacitance between conductors

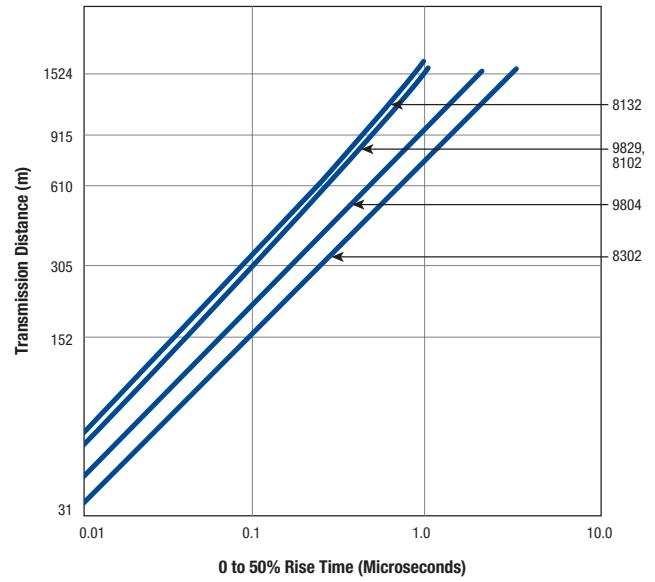
Overall Foil/Braid Shield

Cable Characteristics

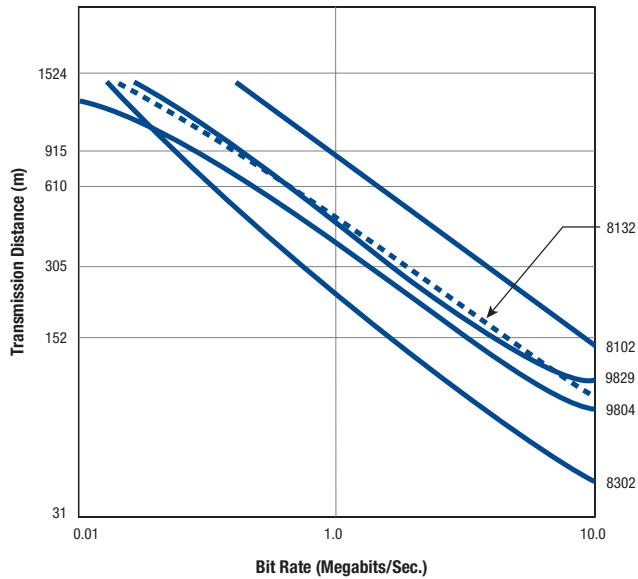
Attenuation



Rise Time

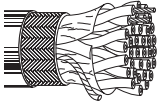


Bit Rate



Overall Foil/Braid Shield

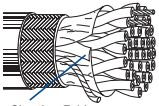
Low-Capacitance Computer Cables
for EIA RS-232 and EIA RS-422 Applications

De- scription	Part No.	UL NEC/ C(UL)/CEC Type IEC	Standard Lengths		Standard Unit Weight		Conductor (Stranding) Diameter Nom. DCR	Nominal Insulation OD		Shielding Material Nom. DCR	Nominal OD		Nom. Imp. (Ω)	Nom. Vel. of Prop.	Nominal Capacitance		Color Code
			ft.	m	lbs.	kg		inch	mm		inch	mm			pF/ft.	pF/m	
28 AWG • Stranded (7x36) 0.4 mm Tinned Copper • Twisted Pair • Overall Beldfoil® Shield + 90 % TC Braid • 28 AWG TC Drain Wire Polypropylene Insulation • Chrome PVC Jacket																	
30V 60°C UL AWM Style 2960		NEC: CL2					0.38 mm 28 AWG (7x36) TC	0.033	0.84		Overall Beldfoil® + Overall 90% TC Braid + Drain Wire (28 AWG TC)		100	66%			see chart 3 (Tech Info Section)
																	
9804	2-Pair		100 500 1000	31 152 305	4.0 14.6 32.0	1.8 6.6 14.5					0.214	5.44			CDR/CDR CDR/SCR	16 28	51 90
9805	3-Pair		100 500 1000	31 152 305	4.2 15.4 35.1	1.9 7.0 15.9					0.222	5.64			CDR/CDR CDR/SCR	16 28	51 90
9806	4-Pair		100 500 1000	31 152 305	4.4 17.4 39.0	2.0 7.9 17.7					0.237	6.02			CDR/CDR CDR/SCR	16 28	51 90
9807	5-Pair		100 500 1000	31 152 305	4.4 19.6 39.0	2.0 8.9 17.7					0.240	6.10			CDR/CDR CDR/SCR	16 28	51 90
9808	7-Pair		100 500 1000	31 152 305	4.9 20.5 44.1	2.2 9.3 20.0					0.256	6.50			CDR/CDR CDR/SCR	16 28	51 90
9809	9-Pair		100 500 1000	31 152 305	5.7 24.9 53.1	2.6 11.3 24.1					0.290	7.37			CDR/CDR CDR/SCR	16 28	51 90
9812	12-Pair		100 500 1000	31 152 305	6.6 31.1 62.2	3.0 14.1 28.2					0.319	8.10			CDR/CDR CDR/SCR	16 28	51 90
9813	13-Pair		100 500 1000	31 152 305	7.1 34.2 66.1	3.2 15.5 30.0					0.336	8.53			CDR/CDR CDR/SCR	16 28	51 90
9819	18-Pair		100 500 1000	31 152 305	8.4 41.0 82.2	3.8 18.6 37.3					0.365	9.27			CDR/CDR CDR/SCR	16 28	51 90
9825	25-Pair		100 500 1000	31 152 305	9.9 54.7 108.2	4.5 24.8 49.1					0.429	10.90			CDR/CDR CDR/SCR	16 28	51 90
9814	31-Pair		100 500 1000	31 152 305	11.9 64.2 127.2	5.4 29.1 57.7					0.462	11.73			CDR/CDR CDR/SCR	16 28	51 90

TC = Tinned Copper • DCR = DC resistance • SCR = Capacitance between one conductor and other conductors connected to shield. • CDR = Capacitance between conductors

Overall Foil/Braid Shield

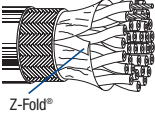

Low-Capacitance Computer Cables
for EIA RS-232 and EIA RS-485 Applications

De- scription	Part No.	UL NEC/ C(UL)CEC Type IEC	Standard Lengths		Standard Unit Weight		Conductor (Stranding) Diameter Nom. DCR	Nominal Insulation OD		Shielding Material Nom. DCR	Nominal OD		Nom. Imp. (Ω)	Nom. Vel. of Prop.	Nominal Capacitance		Color Code	
			ft.	m	lbs.	kg		inch	mm		inch	mm			pF/ft.	pF/m		
28 AWG • Stranded (7x36) 0.4 mm Tinned Copper • Twisted Pair • Overall Beldfoil® Shield + 65% TC Braid • 28 AWG TC Drain Wire Datalene® Insulation • Chrome PVC Jacket																		
30V 80°C UL AWM Style 2919	NEC: CL2						0.38 mm 28 AWG (7x36) TC	0.044	1.12	Overall Beldfoil® + Overall 65% TC Braid + Drain Wire (28 AWG TC)			120	78%			see chart 5 (Tech Info Section)	
	Shorting Fold																	
8132	2-Pair		100 500 1000	31 152 305	3.5 14.6 29.1	1.6 6.6 13.2						0.220	5.59			CDR/CDR CDR/SCR	11 20	36 66
8133	3-Pair		100 500 1000	31 152 305	3.7 15.0 34.2	1.7 6.8 15.5						0.270	6.86			CDR/CDR CDR/SCR	11 20	36 66
8134	4-Pair		100 500 1000	31 152 305	4.4 18.1 39.0	2.0 8.2 17.7						0.290	7.37			CDR/CDR CDR/SCR	11 20	36 66
8135	5-Pair		100 1000	31 305	4.6 42.1	2.1 19.1						0.300	7.62			CDR/CDR CDR/SCR	11 20	36 66
8138	8-Pair		100 500 1000	31 152 305	5.5 27.1 52.0	2.5 12.3 23.6						0.330	8.38			CDR/CDR CDR/SCR	11 20	36 66
8142	12.5-Pair (12 pairs + 1 single)		100 500 1000	31 152 305	6.8 33.1 65.9	3.1 15.0 29.9						0.375	9.53			CDR/CDR CDR/SCR	11 20	36 66
8148	18-Pair		100 500 1000	31 152 305	8.6 47.6 92.2	3.9 21.6 41.8						0.465	11.81			CDR/CDR CDR/SCR	11 20	36 66
8155	25-Pair		100 500 1000	31 152 305	11.0 64.2 121.3	5.0 29.1 55.0						0.565	14.35			CDR/CDR CDR/SCR	11 20	36 66

TC = Tinned Copper • DCR = DC resistance • SCR = Capacitance between one conductor and other conductors connected to shield. • CDR = Capacitance between conductors

Overall Foil/Braid Shield

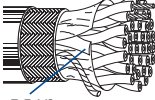
Low-Capacitance Computer Cables for EIA RS-232 Applications

Description	Part No.	UL NEC/ C(UL)CEC Type IEC	Standard Lengths		Standard Unit Weight		Conductor (Stranding) Diameter Nom. DCR	Nominal Insulation OD		Shielding Material Nom. DCR	Nominal OD		Nom. Imp. (Ω)	Nom. Vel. of Prop.	Nominal Capacitance		Color Code
			ft.	m	lbs.	kg		inch	mm		inch	mm			pF/ft.	pF/m	
24 AWG • Stranded (7x32) 0.6 mm Tinned Copper • Twisted Pair • Overall Beldfoil® Shield + 65% Tinned Copper Braid Semi-Rigid PVC Insulation • Chrome PVC Jacket																	
300V 80°C UL AWM Style 2464 CSA AWM I A		NEC: CMG CEC: CMG FT4					0.61 mm 24 AWG (7x32) TC	0.044	1.12	Overall Beldfoil® + Overall 65% TC Braid			75	60%			see chart 5 (Tech Info Section)
	8332	2-Pair	100	31	4.2	1.9					0.250	6.35			CDR/CDR	30	98
			500	152	16.5	7.5										CDR/SCR	50
			1000	305	37.0	16.8											
	8333	3-Pair	100	31	4.9	2.2					0.265	6.73			CDR/CDR	30	98
			500	152	20.5	9.3									CDR/SCR	50	164
			1000	305	44.3	20.1											
	8334	4-Pair	100	31	5.3	2.4					0.288	7.32			CDR/CDR	30	98
			500	152	22.5	10.2									CDR/SCR	50	164
			1000	305	49.2	22.3											
	8335	5-Pair	100	31	6.0	2.7					0.295	7.49			CDR/CDR	30	98
			500	152	29.5	13.4									CDR/SCR	50	164
			1000	305	57.1	25.9											
	8336	6-Pair	100	31	6.6	3.0					0.310	7.87			CDR/CDR	30	98
			500	152	31.5	14.3									CDR/SCR	50	164
			1000	305	62.2	28.2											
	8337	7-Pair	100	31	6.8	3.1					0.321	8.15			CDR/CDR	30	98
			500	152	32.8	14.9									CDR/SCR	50	164
			1000	305	65.0	29.5											
	8340	10-Pair	100	31	9.0	4.1					0.385	9.78			CDR/CDR	30	98
			500	152	43.4	19.7									CDR/SCR	50	164
			1000	305	90.2	40.9											
	8342	12.5-Pair (12 pairs + 1 single)	100	31	11.0	5.0					0.405	10.29			CDR/CDR	30	98
			500	152	55.1	25.0									CDR/SCR	50	164
			1000	305	109.1	49.5											
	8345	15-Pair	500	152	61.7	28.0					0.445	11.30			CDR/CDR	30	98
			1000	305	123.2	55.9									CDR/SCR	50	164
300V 80°C UL AWM Style 2464	8348	18-Pair	100	31	14.1	6.4					0.480	12.19			CDR/CDR	30	98
			500	152	78.9	35.8									CDR/SCR	50	164
			1000	305	152.8	69.3											
	8355	25-Pair	500	152	96.8	43.9					0.550	13.97			CDR/CDR	30	98
			1000	305	195.3	88.6									CDR/SCR	50	164

TC = Tinned Copper • DCR = DC resistance • SCR = Capacitance between one conductor and other conductors connected to shield. • CDR = Capacitance between conductors

Overall Foil/Braid Shield

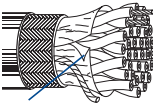
Low-Capacitance Computer Cables
for EIA RS-232 and EIA RS-422 Applications

De- scription	Part No.	UL NEC/ C(UL)CEC Type IEC	Standard Lengths		Standard Unit Weight		Conductor (Stranding) Diameter Nom. DCR	Nominal Insulation OD		Shielding Material Nom. DCR	Nominal OD		Nom. Imp. (Ω)	Nom. Vel. of Prop.	Nominal Capacitance		Color Code		
			ft.	m	lbs.	kg		inch	mm		inch	mm			pF/ft.	pF/m			
24 AWG • Stranded (7x32) 0.6 mm TC • Twisted Pair • Overall Beldfoil® Shield + 65% Tinned Copper Braid • 24 AWG TC Drain Wire																			
Polyethylene Insulation • Chrome PVC Jacket																			
30V 80°C UL AWM Style 2919		NEC: CM CEC: CM					0.61 mm 24 AWG (7x32) TC	0.054	1.37	Overall Beldfoil® + Overall 65% TC Braid + Drain Wire (24 AWG TC)			100	66%			see chart 5 (Tech Info Section)		
																			
	9829	2-Pair	100	31	4.6	2.1					0.291	7.39			CDR/CDR	16	51		
			500	152	22.0	10.0									CDR/SCR	28	90		
			1000	305	43.0	19.5													
	9830	3-Pair	500	152	26.5	12.0					0.305	7.74			CDR/CDR	16	51		
			1000	305	53.1	24.1									CDR/SCR	28	90		
	9831	4-Pair	100	31	6.2	2.8					0.330	8.38			CDR/CDR	16	51		
			500	152	30.0	13.6									CDR/SCR	28	90		
			1000	305	58.2	26.4													
	9832	5-Pair	100	31	6.6	3.0					0.338	8.59			CDR/CDR	16	51		
			500	152	32.6	14.8									CDR/SCR	28	90		
			1000	305	65.0	29.5													

TC = Tinned Copper • DCR = DC resistance • SCR = Capacitance between one conductor and other conductors connected to shield. • CDR = Capacitance between conductors

Overall Foil/Braid Shield

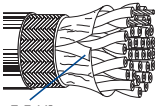











Low-Capacitance Computer Cables
for EIA RS-232 and EIA RS-422 Applications

De- scription	Part No.	UL NEC/ C(UL)/CEC Type IEC	Standard Lengths		Standard Unit Weight		Conductor (Stranding) Diameter Nom. DCR	Nominal Insulation OD		Shielding Material Nom. DCR	Nominal OD		Nom. Imp. (Ω)	Nom. Vel. of Prop.	Nominal Capacitance		Color Code
			ft.	m	lbs.	kg		inch	mm		inch	mm			pF/ft.	pF/m	
24 AWG • Stranded (7x32) 0.6 mm TC • Twisted Pair • Overall Beldfoil® Shield + 65 % Tinned Copper Braid • 24 AWG TC Drain Wire Datalene® Insulation • Chrome PVC Jacket																	
30V 80°C UL AWM Style 2919		NEC: CM CEC: CM					0.61 mm 24 AWG (7x32) TC	0.049	1.24	Overall Beldfoil® + Overall 65% TC Braid + Drain Wire (24 AWG TC)			100	78%			see chart 5 (Tech Info Section)
																	
	8102	2-Pair	100	31	4.2	1.9					0.270	6.86			CDR/CDR	13	41
			500	152	17.0	7.7									CDR/SCR	22	72
			1000	305	38.1	17.3											
			10000	3048	380.7	172.7											
	8103	3-Pair	100	31	4.6	2.1					0.283	7.19			CDR/CDR	13	41
			500	152	19.6	8.9									CDR/SCR	22	72
			1000	305	42.1	19.1											
			10000	3048	431.0	195.5											
	8104	4-Pair	100	31	5.1	2.3					0.302	7.67			CDR/CDR	13	41
			500	152	20.9	9.5									CDR/SCR	22	72
			1000	305	46.1	20.9											
			10000	3048	491.0	222.7											
	8105	5-Pair	100	31	5.7	2.6					0.316	8.03			CDR/CDR	13	41
			500	152	28.0	12.7									CDR/SCR	22	72
			1000	305	53.1	24.1											
	8106	6-Pair	100	31	6.4	2.9					0.341	8.66			CDR/CDR	13	41
			500	152	30.6	13.9									CDR/SCR	22	72
			1000	305	58.2	26.4											
	8107	7-Pair	100	31	6.8	3.1					0.341	8.66			CDR/CDR	13	41
			500	152	33.1	15.0									CDR/SCR	22	72
			1000	305	63.1	28.6											
	8108	8-Pair	100	31	7.7	3.5					0.370	9.40			CDR/CDR	13	41
			500	152	37.7	17.1									CDR/SCR	22	72
			1000	305	72.3	32.8											
	8110	10-Pair	100	31	8.2	3.7					0.427	10.85			CDR/CDR	13	41
			500	152	45.6	20.7									CDR/SCR	22	72
			1000	305	90.2	40.9											
	8112	12.5-Pair (12 pairs + 1 single)	100	31	9.3	4.2					0.440	11.18			CDR/CDR	13	41
			500	152	51.4	23.3									CDR/SCR	22	72
			1000	305	101.2	45.9											
	8115	15-Pair	500	152	63.7	28.9					0.495	12.57			CDR/CDR	13	41
			1000	305	116.2	52.7									CDR/SCR	22	72
	8118	18-Pair	100	31	13.2	6.0					0.537	13.64			CDR/CDR	13	41
			500	152	70.5	32.0									CDR/SCR	22	72
			1000	305	144.4	65.5											
	8125	25-Pair	100	31	20.7	9.4					0.632	16.05			CDR/CDR	13	41
			500	152	98.1	44.5									CDR/SCR	22	72
			1000	305	191.4	86.8											

TC = Tinned Copper • DCR = DC resistance • SCR = Capacitance between one conductor and other conductors connected to shield. • CDR = Capacitance between conductors

Overall Foil/Braid Shield

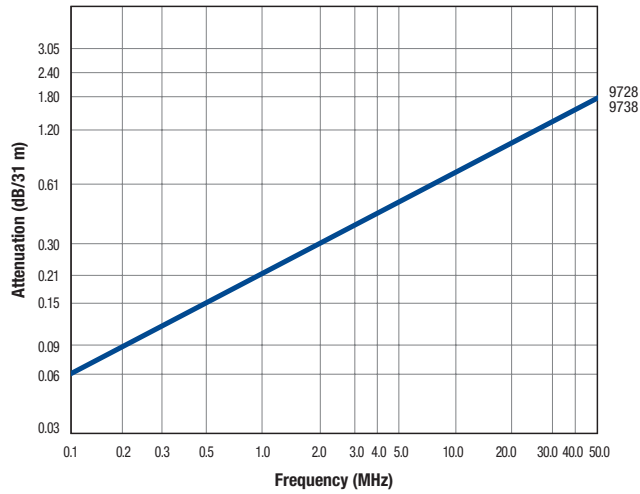
Low-Capacitance Computer Cables for EIA RS-232 Applications

Description	Part No.	UL NEC/ C(UL)CEC Type IEC	Standard Lengths		Standard Unit Weight		Conductor (Stranding) Diameter Nom. DCR	Nominal Insulation OD		Shielding Material Nom. DCR	Nominal OD		Nom. Imp. (Ω)	Nom. Vel. of Prop.	Nominal Capacitance		Color Code		
			ft.	m	lbs.	kg		inch	mm		inch	mm			pF/ft.	pF/m			
22 AWG • Stranded (7x30) 0.8 mm Tinned Copper • Twisted Pair • Overall Beldfoil® Shield + 65% Tinned Copper Braid																			
Semi-Rigid PVC Insulation • Chrome PVC Jacket																			
300V 80°C UL AWM Style 2464		NEC: CMG CEC: CMG FT4					0.76 mm 22 AWG (7x30) TC	0.051	1.30	Overall Beldfoil® + Overall 65% TC Braid			70	60%			see chart 3 (Tech Info Section)		
 Z-Fold®	8302	2-Pair	100	31	4.4	2.0						0.260	6.60			CDR/CDR	40	131	
			500	152	19.0	8.6											CDR/SCR	72	236
			1000	305	41.0	18.6													
	8303	3-Pair	100	31	5.3	2.4						0.270	6.86			CDR/CDR	35	115	
			500	152	25.6	11.6											CDR/SCR	63	207
			1000	305	48.1	21.8													
	8304	4-Pair	100	31	6.6	3.0						0.320	8.13			CDR/CDR	35	115	
			500	152	32.4	14.7											CDR/SCR	63	207
			1000	305	65.0	29.5													
	8305	5-Pair	100	31	7.3	3.3						0.322	8.18			CDR/CDR	35	115	
			500	152	35.1	15.9											CDR/SCR	63	207
			1000	305	67.0	30.4													
	8306	6-Pair	100	31	7.9	3.6						0.348	8.84			CDR/CDR	35	115	
			500	152	39.7	18.0											CDR/SCR	63	207
			1000	305	78.9	35.8													
	8307	7-Pair	100	31	8.6	3.9						0.348	8.84			CDR/CDR	35	115	
			500	152	41.9	19.0											CDR/SCR	63	207
			1000	305	85.1	38.6													
	8308	8-Pair	100	31	10.4	4.7						0.384	9.75			CDR/CDR	35	115	
			500	152	50.0	22.7											CDR/SCR	63	207
			1000	305	101.4	46.0													
	8310	10-Pair	100	31	11.0	5.0						0.440	11.18			CDR/CDR	35	115	
			500	152	60.4	27.4											CDR/SCR	63	207
			1000	305	121.0	54.9													
	8312	12.5-Pair (12 pairs + 1 single)	100	31	13.0	5.9						0.455	11.56			CDR/CDR	35	115	
			500	152	72.3	32.8											CDR/SCR	63	207
			1000	305	140.7	63.8													
	8315	15-Pair	100	31	15.7	7.1						0.502	12.75			CDR/CDR	35	115	
			500	152	86.0	39.0											CDR/SCR	63	207
			1000	305	167.8	76.1													
	8318	18-Pair	100	31	17.6	8.0						0.535	13.59			CDR/CDR	35	115	
			500	152	97.4	44.2											CDR/SCR	63	207
			1000	305	196.4	89.1													
	8325	25-Pair	100	31	23.1	10.5						0.620	15.75			CDR/CDR	35	115	
			500	152	126.5	57.4											CDR/SCR	63	207
			1000	305	247.1	112.1													

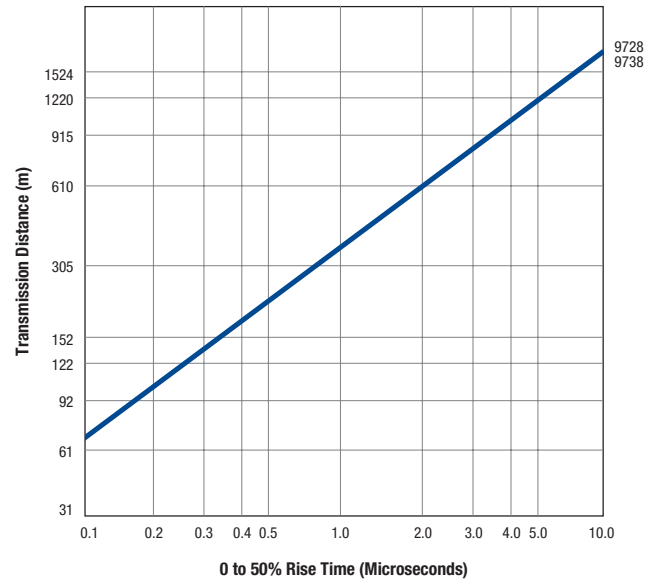
TC = Tinned Copper • DCR = DC resistance • SCR = Capacitance between one conductor and other conductors connected to shield. • CDR = Capacitance between conductors

Individually Shielded Cable Characteristics

Attenuation

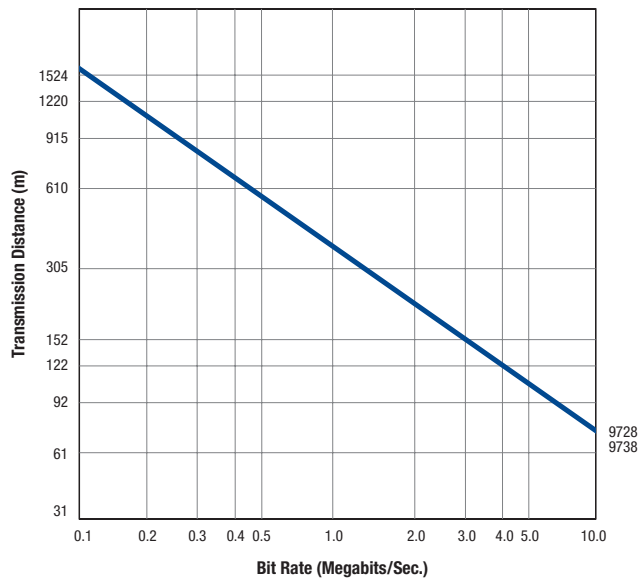


Rise Time



Cables are terminated in their characteristic impedance. Signal source electrical characteristics: 50 Ohm and 10% to 90% rise time less than 5 nanoseconds.

Bit Rate



Charts assume 5% peak-to-peak time jitter as determined by eye pattern measurements of pseudorandom NRZ code.

Individually Shielded

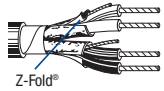
Low-Capacitance 100 Ohm Computer Cables
for EIA RS-422 and Digital Audio Applications

De- scription	Part No.	UL NEC/ C(UL)CEC Type IEC	Standard Lengths		Standard Unit Weight		Conductor (Stranding) Diameter Nom. DCR	Nominal Insulation OD		Shielding Material Nom. DCR	Nominal OD		Nom. Imp. Prop. (Ω)	Nom. Vel. of Prop.	Nominal Capacitance		Color Code
			ft.	m	lbs.	kg		inch	mm		inch	mm			pF/ft.	pF/m	

24 AWG • Stranded (7x32) 0.6 mm TC • Twisted Pair • Each Pair Individually Beldfoil® Shielded • 24 AWG Tinned Copper Drain Wire

Datalene® Insulation • Chrome PVC Jacket

300V 60°C UL AWM Style 2493	NEC: CM CEC: CM						0.61 mm 24 AWG (7x32) TC	0.061	1.55	Individual Beldfoil® + Drain Wire (24 AWG TC)			100	76%			see chart 3 (Tech Info Section)
--------------------------------	--------------------------	--	--	--	--	--	--------------------------------	-------	------	--	--	--	-----	-----	--	--	---------------------------------------

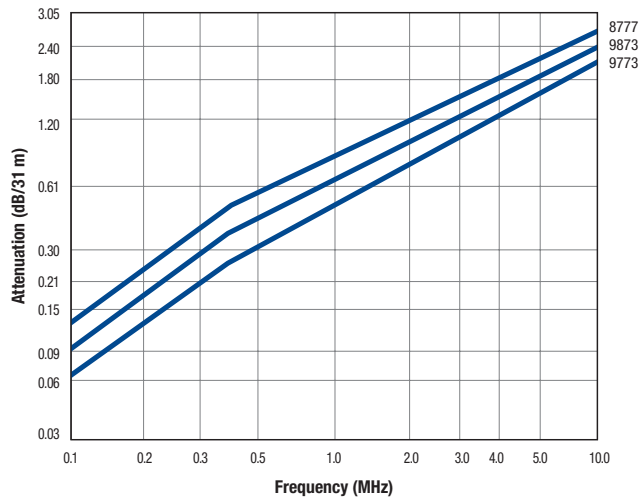


9729	2-Pair	100	31	4.4	2.0						0.266	6.76			CDR/CDR	13	41	
		500	152	20.5	9.3										CDR/SCR	23	76	
		1000	305	39.0	17.7													
		† 10000	3048	392.0	177.8													
For Plenum version of 9729, see 89729 or 82729.																		
9730	3-Pair	100	31	5.1	2.3						0.334	8.48			CDR/CDR	13	41	
		500	152	24.5	11.1										CDR/SCR	23	76	
		1000	305	46.1	20.9													
		† 10000	3048	521.2	236.4													
For Plenum version of 9730, see 89730.																		
9728	4-Pair	100	31	6.0	2.7						0.363	9.22			CDR/CDR	13	41	
		500	152	29.1	13.2										CDR/SCR	23	76	
		1000	305	50.9	23.1													
For Plenum version of 9728, see 89728.																		
9731	6-Pair	100	31	7.5	3.4						0.421	10.69			CDR/CDR	13	41	
		500	152	42.1	19.1										CDR/SCR	23	76	
		1000	305	83.1	37.7													
For Plenum version of 9731, see 89731.																		
9732	9-Pair	100	31	9.9	4.5						0.488	12.40			CDR/CDR	13	41	
		500	152	57.3	26.0										CDR/SCR	23	76	
		1000	305	106.0	48.1													
For Plenum version of 9732, see 89732.																		
9733	11-Pair	500	152	75.2	34.1						0.575	14.61			CDR/CDR	13	41	
														CDR/SCR	23	76		
9734	12-Pair	500	152	79.6	36.1						0.575	14.61			CDR/CDR	13	41	
		1000	305	154.3	70.0										CDR/SCR	23	76	
9735	15-Pair	500	152	95.2	43.2						0.639	16.23			CDR/CDR	13	41	
		1000	305	185.4	84.1										CDR/SCR	23	76	
9736	17-Pair	500	152	103.6	47.0						0.671	17.04			CDR/CDR	13	41	
		1000	305	210.5	95.5										CDR/SCR	23	76	
9737	19-Pair	1000	305	231.5	105.0						0.671	17.04			CDR/CDR	13	41	
														CDR/SCR	23	76		
9738	27-Pair	1000	305	334.7	151.8						0.797	20.24			CDR/CDR	13	41	
														CDR/SCR	23	76		

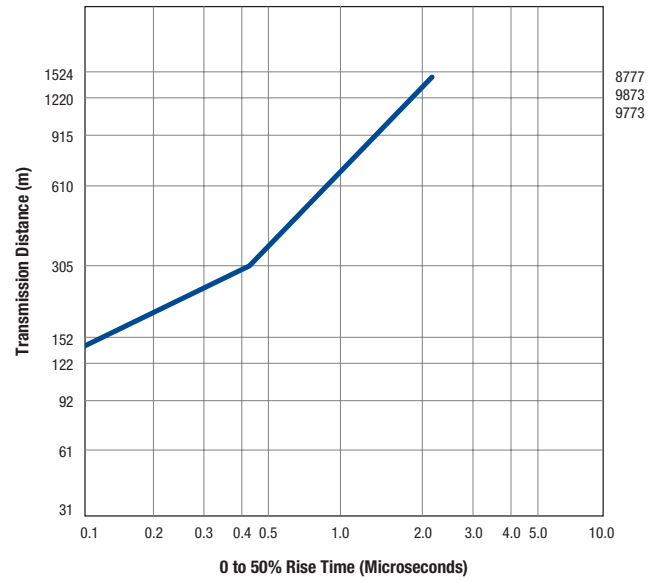
TC = Tinned Copper • DCR = DC resistance • SCR = Capacitance between one conductor and other conductors connected to shield. • CDR = Capacitance between conductors
† Spools are one piece, but length may vary ±10% from length shown.

Individually Shielded Cable Characteristics

Attenuation



Rise Time



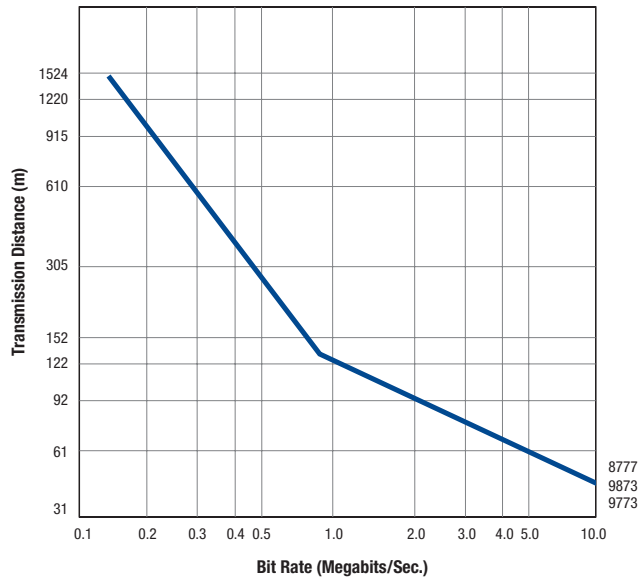
Recommended for audio, pulse, and radio frequency applications requiring superior circuit isolation.

Insulation resistance between shields:
100 megohms/M' nom.

Capacitance between adjacent shields:
377 pF/m nom.

Working voltage between adjacent shields:
50 volt max.

Bit Rate

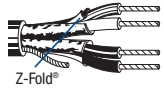


Individually Shielded

Audio, Control and Instrumentation Cables

De- scription	Part No.	UL NEC/ C(UL)CEC Type IEC	Standard Lengths		Standard Unit Weight		Conductor (Stranding) Diameter Nom. DCR	Nominal Insulation OD		Shielding Material Nom. DCR	Nominal OD		Nom. Imp. (Ω)	Nom. Vel. of Prop.	Nominal Capacitance		Color Code
			ft.	m	lbs.	kg		inch	mm		inch	mm			pF/ft.	pF/m	

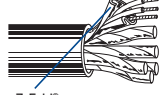
22 AWG • Stranded (7x30) 0.8 mm TC • Twisted Pair • Each Pair Individually Beldfoil® Shielded • 24 AWG Tinned Copper Drain Wire

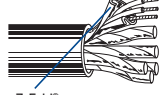
Polypropylene Insulation • Chrome PVC Jacket																	
 <p>Z-Fold®</p>	300V RMS 60°C	8723 NEC: CM CEC: CM	100	31	2.2	1.0	0.76 mm	0.046	1.17	Individual Beldfoil® + Drain Wire (24 AWG TC)	0.160	4.06	45	66%	CDR/CDR 35 115	CDR/SCR 62 203	Red & Black, Green & White
	U-500		U-152	10.6	4.8	22 AWG											
	500		152	9.9	4.5	(7x30) TC											
	U-1000		U-305	19.0	8.6												
	1,000		305	20.1	9.1												
	1640		500	32.8	14.9												
	U-2000		U-610	37.9	17.2												
	2000		610	40.1	18.2												
	3279		1000	65.7	29.8												
	5000		1524	95.2	43.2												
10000	3049	200.4	90.9														

For halogen-free version see 8723NH.
 Pairs cabled on common axis to reduce diameter

2-Pair

22 AWG • Stranded (7x30) 0.8 mm TC • Twisted Pair • Each Pair Individually Beldfoil® Shielded • 22 AWG Tinned Copper Drain Wire

Polypropylene Insulation • Chrome PVC Jacket																		
 <p>Z-Fold®</p>	300V 80°C UL AWM Style 2919	NEC: CM CEC: CM					0.76 mm	0.050	1.27	Individual Beldfoil® + Drain Wire (22 AWG TC)			50	66%			see chart 3 (Tech Info Section)	

 <p>Z-Fold®</p>	8777	3-Pair	100	31	4.6	2.1					0.273	6.93			CDR/CDR 30 98	CDR/SCR 55 180		
			250	76	9.9	4.5												
			U-500	U-152	20.9	9.5												
			500	152	20.1	9.1												
			U-1000	U-305	41.0	18.6												
			1000	305	44.1	20.0												
			1640	500	70.5	32.0												
			3279	1000	141.1	64.0												
			5000	1524	215.2	97.6												
			† 10000	3049	460.3	208.8												

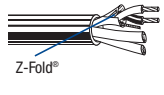
For halogen-free version see 8777NH.

 <p>Z-Fold®</p>	8778	6-Pair	100	31	8.4	3.8					0.362	9.19			CDR/CDR 30 98	CDR/SCR 55 180	
			250	76	19.0	8.6											
			500	152	43.0	19.5											
			1000	305	83.1	37.7											

For halogen-free version see 8778NH.

 <p>Z-Fold®</p>	8774	9-Pair	100	31	11.5	5.2					0.417	10.59			CDR/CDR 30 98	CDR/SCR 55 180	
			250	76	29.5	13.4											
			500	152	57.5	26.1											
			1000	305	113.1	51.3											

22 AWG • Stranded (7x30) 0.8 mm TC • Twisted Pair • Each Pair Individually Beldfoil® Shielded • 22 AWG Tinned Copper Drain Wire

Plenum • FEP Insulation • Natural Flamarest® Jacket																	
 <p>Z-Fold®</p>	300V RMS 82777	NEC: †† CMP CEC: †† CMP FT6	U-500	U-152	19.6	8.9	0.76 mm	0.050	1.27	Individual Beldfoil® + Drain Wire (22 AWG TC)	0.237	6.02	46	62%	CDR/CDR 35 115	CDR/SCR 76 249	see chart 3 (Tech Info Section)
			U-1000	U-305	38.1	17.3	22 AWG										
			†† 1000	305	39.0	17.7	(7x30) TC										

3-Pair

TC = Tinned Copper • DCR = DC resistance • SCR = Capacitance between one conductor and other conductors connected to shield. • CDR = Capacitance between conductors
 † Final put-up length may vary -10% to +20% from length shown. May contain 2 pieces. Minimum length of any one piece is 457 m (1500 ft.).
 †† Spools and/or UnReel® cartons are one piece, but length may vary ±10% for spools and ±5% for UnReel® from length shown.

Individually Shielded

Audio, Control and Instrumentation Cables

De-scription	Part No.	UL NEC / C(UL)/CEC Type IEC	Standard Lengths		Standard Unit Weight		Conductor (Stranding) Diameter Nom. DCR	Nominal Insulation OD		Shielding Material Nom. DCR	Nominal OD		Nom. Imp. (Ω)	Nom. Vel. of Prop.	Nominal Capacitance		Color Code
			ft.	m	lbs.	kg		inch	mm		inch	mm			pF/ft.	pF/m	

20 AWG • Stranded (7x28) 1.0 mm TC • Twisted Pair • Each Pair Individually Beldfoil® Shielded • 22 AWG Tinned Copper Drain Wire

Semi-Rigid PVC Insulation • Overall Chrome PVC Jacket																		
300V 80°C UL AWM Style 2464	9402	NEC: CMG CEC: CMG FT4	U-500 1000	U-152 305	26.0 52.2	11.8 23.7	0.96 mm 20 AWG (7x28) TC	0.057	1.46	Individual Beldfoil® + Drain Wire (22 AWG TC)	0.300	7.62	-	-	CDR/CDR CDR/SCR	55 95	180 312	Red & Black, Green & White

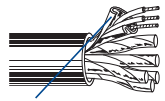


Z-Fold®

2-Pair

20 AWG • Stranded (7x28) 1.0 mm TC • Twisted Pair • Each Pair Individually Beldfoil® Shielded • 22 AWG Tinned Copper Drain Wire

Polypropylene Insulation • Chrome PVC Jacket																		
30V 80°C UL AWM Style 2919		NEC: CM CEC: CM					0.96 mm 20 AWG (7x28) TC	0.066	1.68	Individual Beldfoil® + Drain Wire (22 AWG TC)			50	66%				see chart 3 (Tech Info Section)

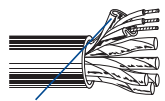


Z-Fold®

9873	3-Pair	100	31	6.6	3.0						0.341	8.66			CDR/CDR	30	98	
		250	76	14.6	6.6										CDR/SCR	55	180	
		500	152	32.6	14.8													
		1000	305	58.0	26.3													
9874	6-Pair	100	31	10.4	4.7						0.445	11.30			CDR/CDR	30	98	
		250	76	29.1	13.2										CDR/SCR	55	180	
		500	152	56.7	25.7													
		1000	305	113.1	51.3													
9875	9-Pair	100	31	17.9	8.1						0.555	14.10			CDR/CDR	30	98	
		250	76	46.8	21.2										CDR/SCR	55	180	
		500	152	93.6	42.4													
		1000	305	187.2	84.8													

18 AWG • Stranded (19x30) 1.2 mm TC • Twisted Pair • Each Pair Individually Beldfoil® Shielded • 20 AWG Tinned Copper Drain Wire

Polypropylene Insulation • Chrome PVC Jacket																		
30V 80°C UL AWM Style 2919		NEC: CM CEC: CM					1.24 mm 18 AWG (19x30) TC	0.082	2.08	Individual Beldfoil® + Drain Wire (20 AWG TC)			50	66%				see chart 3 (Tech Info Section)



Z-Fold®

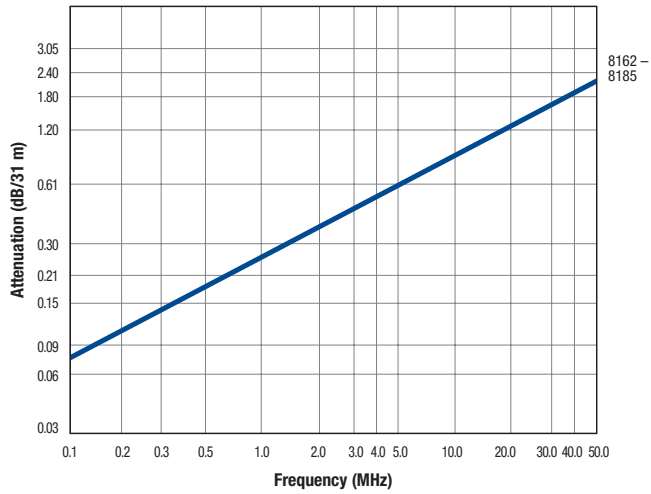
9773	3-Pair	100	31	10.8	4.9						0.404	10.26			CDR/CDR	30	98
		250	76	27.2	12.3										CDR/SCR	55	180
		500	152	54.4	24.6												
9774	6-Pair	100	31	16.1	7.3						0.560	14.22			CDR/CDR	30	98
		250	76	40.2	18.1										CDR/SCR	55	180
		500	152	80.4	36.2												
9775	9-Pair	100	31	25.8	11.7						0.655	16.64			CDR/CDR	30	98
		250	76	64.5	29.4										CDR/SCR	55	180
		500	152	129.0	58.8												

TC = Tinned Copper • DCR = DC resistance • SCR = Capacitance between one conductor and other conductors connected to shield. • CDR = Capacitance between conductors

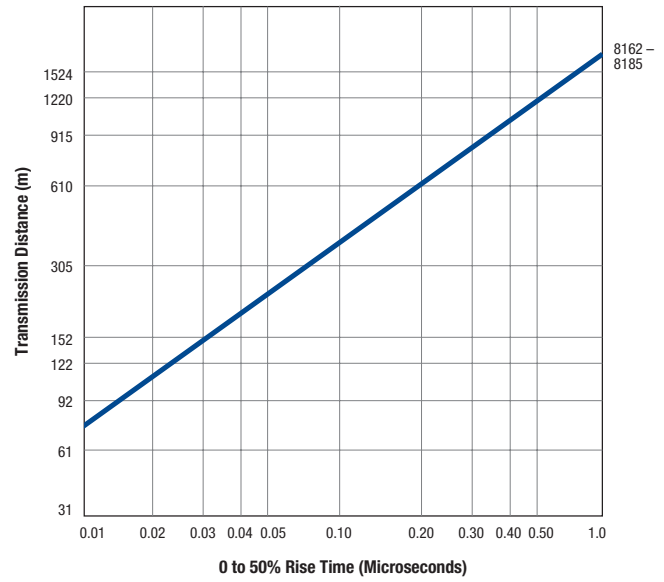
Individually Shielded Pairs with Overall Foil/Braid Shield

Cable Characteristics

Attenuation

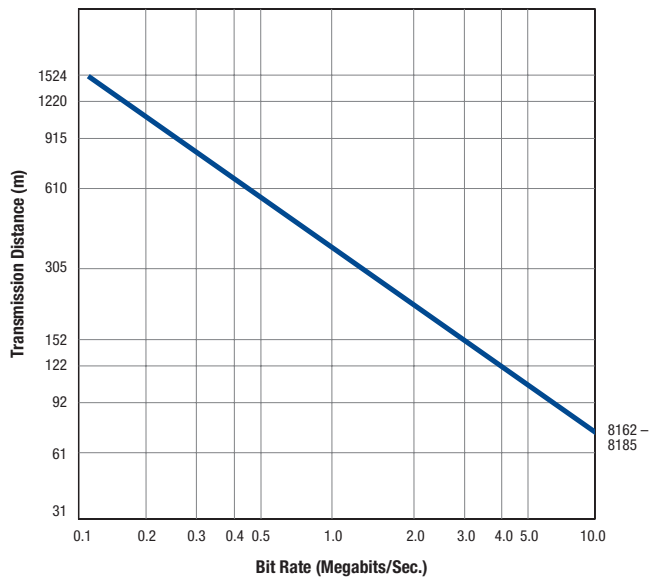


Rise Time



Cables are terminated in their characteristic impedance. Signal source electrical characteristics: 50 Ohm and 10% to 90% rise time less than 5 nanoseconds.

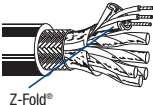
Bit Rate



Charts assume 5% peak-to-peak time jitter as determined by eye pattern measurements of pseudorandom NRZ code.

Individually Shielded Pairs with Overall Foil/Braid Shield

Low-Capacitance Computer Cables for
EIA RS-232, EIA RS-422 and Digital Audio Applications

De- scription	Part No.	UL NEC/ C(UL)/CEC Type IEC	Standard Lengths		Standard Unit Weight		Conductor (Stranding) Diameter Nom. DCR	Nominal Insulation OD		Shielding Material Nom. DCR	Nominal OD		Nom. Imp. (Ω)	Nom. Vel. of Prop.	Nominal Capacitance		Color Code	
			ft.	m	lbs.	kg		inch	mm		inch	mm			pF/ft.	pF/m		
24 AWG • Stranded (7x32) 0.6 mm TC • Twisted Pair • Each Pair Beldfoil® Shielded • Overall Beldfoil® Shield + 65% TC Braid • 24 AWG TC DW Datalene® Insulation • Chrome PVC Jacket																		
(60°C) VW-1 UL AWM Style 2493		NEC: CM CEC: CM					0.61 mm 24 AWG (7x32) TC	0.061	1.55	Individual Beldfoil® + Overall Beldfoil® + Overall 65% TC Braid + Drain Wire (24 AWG TC)			100	78%			see chart 3 (Tech Info Section)	
																		
8162	2-Pair		100 500 1000	31 152 305	6.2 30.0 57.1	2.8 13.6 25.9					0.343	8.71			CDR/CDR CDR/SCR	13 22	41 72	
8163	3-Pair		100 500 1000	31 152 305	7.1 34.2 66.1	3.2 15.5 30.0					0.359	9.12			CDR/CDR CDR/SCR	13 22	41 72	
8164	4-Pair		100 500 1000	31 152 305	8.2 39.7 79.1	3.7 18.0 35.9					0.388	9.86			CDR/CDR CDR/SCR	13 22	41 72	
8165	5-Pair		100 500 1000	31 152 305	9.0 45.2 89.3	4.1 20.5 40.5					0.413	10.49			CDR/CDR CDR/SCR	13 22	41 72	
8166	6-Pair		100 500 1000	31 152 305	9.0 50.0 99.2	4.1 22.7 45.0					0.446	11.33			CDR/CDR CDR/SCR	13 22	41 72	
8167	7-Pair		500 1000	152 305	52.7 103.0	23.9 46.7					0.446	11.33			CDR/CDR CDR/SCR	13 22	41 72	
8168	8-Pair		100 500 1000	31 152 305	10.8 61.7 115.3	4.9 28.0 52.3					0.479	12.17			CDR/CDR CDR/SCR	13 22	41 72	
8170	10-Pair		100 500 1000	31 152 305	18.1 83.1 164.2	8.2 37.7 74.5					0.584	14.83			CDR/CDR CDR/SCR	13 22	41 72	
8175	15-Pair		100 500 1000	31 152 305	22.7 107.8 210.5	10.3 48.9 95.5					0.665	16.89			CDR/CDR CDR/SCR	13 22	41 72	
8178	18-Pair		100 500 1000	31 152 305	24.7 117.3 238.5	11.2 53.2 108.2					0.686	17.42			CDR/CDR CDR/SCR	13 22	41 72	
8185	25-Pair		100 500 1000	31 152 305	32.4 160.9 356.7	14.7 73.0 161.8					0.822	20.88			CDR/CDR CDR/SCR	13 22	41 72	

TC = Tinned Copper • DW = Drain Wire • DCR = DC resistance • SCR = Capacitance between one conductor and other conductors connected to shield. • CDR = Capacitance between conductors

Overall Braid Shield

Computer Cables for EIA RS-232

De- scription	Part No.	No. of Pair	Standard Lengths		Standard Unit Weight		Conductor (Stranding) Diameter Nom. DCR	Nominal Conductor OD		Shielding Material Nom. DCR	Nominal OD		Application
			ft.	m	lbs.	kg		AWG	Section mm ²		inch	mm	

80°C • 24 - 18 AWG • Stranded Bare Copper Wire • Twisted Pair • >80% Tinned Copper Braid

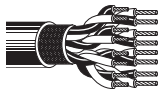
PVC Insulation (Color Code: see chart 12, Tech Info Section) • **Grey Flame Retardant PVC Jacket**

750V

IEC 332

Overall
>80% TC Braid

- Survey and data transmission
- Check and drive systems
- Measure and monitor systems
- Interconnection of computer networks and outskirts interface



LiYC Y-TP

HMC0630	2	328	100	101.4	46.0	(8x0.193) BC	24	0.25	0.220	5.60
HMC0631	3	328	100	143.3	65.0	(8x0.193) BC	24	0.25	0.258	6.50
HMC0632	4	328	100	169.8	77.0	(8x0.193) BC	24	0.25	0.280	7.10
HMC0633	5	328	100	198.4	90.0	(8x0.193) BC	24	0.25	0.303	7.70
HMC0634	6	328	100	227.1	103.0	(8x0.193) BC	24	0.25	0.323	8.20
HMC0635	8	328	100	284.4	129.0	(8x0.193) BC	24	0.25	0.366	9.30
HMC0636	10	328	100	330.7	150.0	(8x0.193) BC	24	0.25	0.394	10.00
HMC0637	12	328	100	354.9	161.0	(8x0.193) BC	24	0.25	0.417	10.60
HMC0638	2	328	100	154.3	70.0	(16x0.193) BC	20	0.50	0.276	7.00
HMC0639	3	328	100	207.2	94.0	(16x0.193) BC	20	0.50	0.327	8.30
HMC0640	3	328	100	224.9	102.0	(22x0.193) BC	18	0.75	0.335	8.50

TC = Tinned Copper • BC = Bare Copper • DCR = DC resistance