

9991 Multi-Conductor - Audio, Control and Instrumentation Cable

**Description:**

24 AWG stranded (7x32) TC conductors, polyethylene insulation, twisted pairs, individually shielded w/Beldfoil® (100% coverage), 24 AWG stranded TC drain wire, PVC jacket.

Physical Characteristics (Overall)**Conductor****AWG:**

# Pairs	AWG	Stranding	Conductor Material
6	24	7x32	TC - Tinned Copper

Insulation**Insulation Material:**

Insulation Material
PE - Polyethylene

Inner Shield**Inner Shield Material:**

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

Inner Shield Drain Wire AWG:

AWG
24

Inner Shield Drain Wire Stranding: Stranded

Inner Shield Drain Wire Conductor Material: 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	Black & Red
2	Black & White
3	Black & Green
4	Black & Blue
5	Black & Yellow
6	Black & Brown

Pair Lay Length & Direction:

Lay Length (in.)
1.750

Mechanical Characteristics (Overall)

Operating Temperature Range: -20°C To +80°C

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UL Temperature Rating:	80°C (UL AWM Style 2919)
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Bulk Cable Weight:	62 lbs/1000 ft.
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Min. Bend Radius (Install)/Minor Axis:	3.500 in.
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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
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Plenum/Non-Plenum

Plenum (Y/N):	No
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Electrical Characteristics (Overall)**Nom. Characteristic Impedance:**

Impedance (Ohm)
60

Nom. Capacitance Conductor to Conductor:

Capacitance (pF/ft)
25

Nom. Capacitance Cond. to Other Conductor & Shield:

Capacitance (pF/ft)
47

Nominal Velocity of Propagation:

VP (%)
66

Nom. Conductor DC Resistance:

DCR @ 20°C (Ohm/1000 ft)
24

Ind. Pair Nominal Shield DC Resistance @ 20 Deg. C:	18 Ohm/1000 ft
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Max. Operating Voltage - UL:

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

Max. Operating Voltage - Non-UL:

Voltage Description
300

Max. Recommended Current:

Current

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1.1 Amps per conductor @ 25°C (10°C rise in temp)

Put Ups and Colors:

Item #	Putup	Ship Weight	Color	Notes	Item Desc
9991 060100	100 FT	6.700 LB	CHROME		6 FS PR #24 PE PVC
9991 0601000	1,000 FT	62.000 LB	CHROME	C	6 FS PR #24 PE PVC
9991 060500	500 FT	32.500 LB	CHROME	C	6 FS PR #24 PE 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.

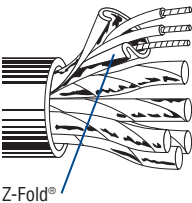
Most of our paired cables are available from stock. Many of these are available off the shelf from distributors. If you have a new or unusual application or you cannot find a paired cable in this catalog section that meets your technical requirements, contact Technical Support at 1-800-BELDEN-1.

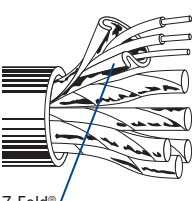
Paired Cables Packaging

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.

Individually Shielded

Audio, Control and Instrumentation Cables

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 • Individually Shielded w/Beldfoil® (100% Coverage) • 24 AWG Stranded TC Drain Wire																						
Polyethylene Insulation • Chrome PVC Jacket																						
 Z-Fold®	9990	NEC:	3	See Chart 3 (Tech Info Section)	500	152.4	16.0	7.3	24.0Ω/M'	18.0Ω/M'	.255	6.48	60	66%	25	82	47	154				
		CM			1000	304.8	36.0	16.4	78.7Ω/km	59.1Ω/km												
		CEC:																				
		CM																				
		CM																				
	9991	NEC:	6	See Chart 3 (Tech Info Section)	100	30.5	6.7	3.1	24.0Ω/M'	18.0Ω/M'	.330	8.38	60	66%	25	82	47	154				
		CM			500	152.4	32.5	14.7	78.7Ω/km	59.1Ω/km												
		CEC:			1000	304.8	62.0	28.3														
		CM																				
		CM																				
	9992	NEC:	9	See Chart 3 (Tech Info Section)	100	30.5	8.8	4.0	24.0Ω/M'	18.0Ω/M'	.383	9.73	60	66%	25	82	47	154				
		CM			500	152.4	42.5	19.3	78.7Ω/km	59.1Ω/km												
		CEC:			1000	304.8	86.0	39.1														
		CM																				
		CM																				
	9993	NEC:	12	See Chart 3 (Tech Info Section)	100	30.5	9.8	4.5	24.0Ω/M'	18.0Ω/M'	.428	10.87	60	66%	25	82	47	154				
		CM			1000	304.8	107.0	48.6	78.7Ω/km	59.1Ω/km												
		CEC:																				
		CM																				
		CM																				
	9995	NEC:	25	See Chart 3 (Tech Info Section)	100	30.5	21.2	9.7	24.0Ω/M'	18.0Ω/M'	.636	16.15	60	66%	25	82	47	154				
		CM			500	152.4	116.0	52.7	78.7Ω/km	59.1Ω/km												
		CEC:			1000	304.8	228.0	103.6														
		CM																				
		CM																				

Description	Part No.	UL NEC/ C(UL) CEC Type	No. of Pairs	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
22 AWG Solid Conductors • TC • Twisted Pairs • Individually Shielded w/ Beldfoil (100% Coverage) • 22 AWG Solid TC Drain Wire																		
PVC Insulation • Overall Chrome PVC Jacket																		
 Z-Fold®	8767	NEC:	3	See Chart 3 (Tech Info Section)	U-500	U-152.4	22.5	10.3	.013	.33	.037	.94	.279	7.10	40	131	77	253
		MPG, CMG			500	152.4	23.0	10.5										
		CEC: MPG, CMG FT4			1000	304.8	46.0	21.0										
	8768	NEC:	6	See Chart 3 (Tech Info Section)	500	152.4	46.5	21.1	.013	.33	.037	.94	.379	9.60	40	131	77	253
		MPG, CMG			1000	304.8	92.0	41.8										
		CEC: MPG, CMG FT4																
	8764	NEC	9	See Chart 3 (Tech Info Section)	1000	304.8	122.0	55.5	.013	.33	.040	1.02	.425	10.80	40	131	77	253
		MPG, CMG																
		CEC: MPG, CMG FT4																
	8765	NEC	11	See Chart 3 (Tech Info Section)	500	152.4	76.5	34.8	.013	.33	.040	1.02	.470	11.90	40	131	77	253
		MPG, CMG			1000	304.8	149.0	67.7										
		CEC: MPG, CMG FT4																
	8766	NEC:	15	See Chart 3 (Tech Info Section)	500	152.4	101.5	46.1	.013	.33	.045	1.14	.525	13.30	40	131	77	253
		MPG, CMG			1000	304.8	196.0	89.1										
		CEC: MPG, CMG FT4																

DCR = DC Resistance • TC = Tinned Copper

*Capacitance between conductors.

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