

## 8748 Multi-Conductor - Audio, Control and Instrumentation Cable



### Description:

22 AWG stranded (7x30) tinned copper conductors, PVC insulation, twisted pairs, PVC jacket.

### Physical Characteristics (Overall)

#### Conductor

##### AWG:

# Pairs	AWG	Stranding	Conductor Material
9	22	7x30	TC - Tinned Copper

#### Insulation

##### Insulation Material:

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

#### Outer Shield

##### Outer Shield Material:

Outer Shield Material
Unshielded

#### Outer Jacket

##### Outer Jacket Material:

Outer Jacket Material	Nom. Wall Thickness (in.)
PVC - Polyvinyl Chloride	.037

### Overall Cabling

Overall Nominal Diameter: 0.389 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
7	Black & Orange
8	Red & White
9	Red & Green

### Mechanical Characteristics (Overall)

Operating Temperature Range:	-20°C To +80°C
Non-UL Temperature Rating:	80°C (UL AWM Style 2576)
Bulk Cable Weight:	76.100 lbs/1000 ft.
Min. Bend Radius (Install)/Minor Axis:	4 in.

### Applicable Specifications and Agency Compliance (Overall)

#### Applicable Standards & Environmental Programs

NEC/(UL) Specification: CMG

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CEC/C(UL) Specification:	CMG
AWM Specification:	UL Style 2576 (150 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

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)
25.5

### Nom. Conductor DC Resistance:

DCR @ 20°C (Ohm/1000 ft)
14.7

### Max. Operating Voltage - UL:

Voltage
150 V (UL AWM Style 2576); 300 V RMS

### Max. Recommended Current:

Current
1.4 Amps per conductor @ 20°C

## Put Ups and Colors:

Item #	Putup	Ship Weight	Color	Notes	Item Desc
8748 060100	100 FT	8.600 LB	CHROME		9 PR #22 PVC PVC
8748 0601000	1,000 FT	84.000 LB	CHROME	C	9 PR #22 PVC PVC
8748 060500	500 FT	43.500 LB	CHROME	C	9 PR #22 PVC 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				
Page No.		4.18	4.17	4.11	4.19
<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.

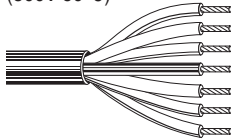
† Foam high density polyethylene.

# Unshielded

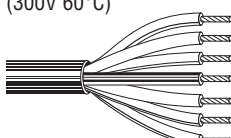
## Audio, Control and Instrumentation Cables Non-Plenum

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	
					Ft.	m	Lbs.	kg	Inch	mm	Inch	mm	Inch	mm

**20 AWG** Stranded (7x28) Tinned Copper Conductors • Conductors Cabled

PVC Insulation • Chrome PVC Jacket																
UL AWM Style 2464 (300V 80°C) 	<b>9444</b>	NEC:	4	See Chart 1 (Tech Info Section)	100	30.5	4.0	1.8	.013	.33	.032	.81	.217	5.51		
		CMG			U-500	U-152.4	16.5	7.5								
		CEC:			500	152.4	16.5	7.5								
		CMG FT4			U-1000	U-304.8	32.0	14.5								
					1000	304.8	33.0	15.0								
	<b>9445</b>	NEC:	5	See Chart 1 (Tech Info Section)	100	30.5	4.4	2.1	.013	.33	.032	.81	.239	6.07		
		CMG			U-500	U-152.4	20.0	9.1								
		CEC:			500	152.4	19.5	8.9								
		CMG FT4			U-1000	U-304.8	38.0	17.2								
					1000	304.8	40.0	18.2								
	<b>9439</b>	NEC:	7	See Chart 1 (Tech Info Section)	100	30.5	5.7	2.6	.013	.33	.032	.81	.260	6.60		
		CMG			U-500	U-152.4	26.0	11.9								
		CEC:			500	152.4	27.0	12.3								
		CMG FT4			U-1000	U-304.8	51.0	23.1								
					1000	304.8	53.0	24.1								
	<b>9455</b>	NEC:	9	See Chart 1 (Tech Info Section)	100	30.5	7.1	3.2	.013	.33	.035	.89	.317	8.05		
		CMG			500	152.4	35.0	15.9								
		CEC:			1000	304.8	67.0	30.4								
		CMG FT4														
	<b>9457</b>	NEC:	12	See Chart 1 (Tech Info Section)	100	30.5	9.2	4.2	.013	.33	.035	.89	.338	8.58		
		CMG			500	152.4	45.0	20.4								
		CEC:			1000	304.8	88.0	40.0								
		CMG FT4														
	<b>9458</b>	NEC:	15	See Chart 2R (Tech Info Section)	100	30.5	12.6	5.7	.013	.33	.040	1.02	.389	9.88		
		CMG			500	152.4	60.5	27.5								
		CEC:			1000	304.8	118.0	53.6								
		CMG FT4														

**18 AWG** Stranded (19x30) Tinned Copper Conductors • Conductors Cabled

PVC Insulation • Chrome PVC Jacket																
UL AWM Style 2598 (300V 60°C) 	<b>8489</b>	NEC:	4	See Chart 1 (Tech Info Section)	100	30.5	5.1	2.3	.017	.43	.032	.81	.257	6.53		
		CMG			250	76.2	12.0	5.4								
		CEC:			U-500	U-152.4	23.5	10.7								
		CMG FT4			500	152.4	24.0	10.9								
					U-1000	U-304.8	46.0	20.9								
For Plenum versions of 8489, see 88489 or 82489.																
	<b>8465</b>	NEC:	5	See Chart 1 (Tech Info Section)	100	30.5	6.4	2.9	.017	.43	.033	.84	.282	7.16		
		CMG			U-500	U-152.4	29.5	13.5								
		CEC:			500	152.4	30.0	13.6								
		CMG FT4			U-1000	U-304.8	58.0	26.3								
					1000	304.8	60.0	27.4								
	<b>8467</b>	NEC:	7	See Chart 1 (Tech Info Section)	100	30.5	8.3	3.8	.017	.43	.037	.94	.314	7.98		
		CMG			250	76.2	20.0	9.1								
		CEC:			500	152.4	40.5	18.4								
		CMG FT4			1000	304.8	79.0	35.9								
	<b>8469</b>	NEC:	9	See Chart 1 (Tech Info Section)	100	30.5	10.5	4.8	.017	.43	.037	.94	.364	9.25		
		CMG			250	76.2	26.0	11.8								
		CEC:			500	152.4	51.5	23.4								
		CMG FT4			1000	304.8	105.0	47.7								
	<b>8466</b>	NEC:	12	See Chart 2R (Tech Info Section)	100	30.5	13.2	6.0	.017	.43	.040	1.02	.412	10.46		
		CMG			250	76.2	32.5	14.8								
		CEC:			500	152.4	66.0	30.0								
		CMG FT4			1000	304.8	131.0	59.5								
	<b>8468</b>	NEC:	15	See Chart 2R (Tech Info Section)	100	30.5	17.9	8.1	.017	.43	.045	1.14	.500	12.70		
		CMG			500	152.4	89.5	40.6								
		CEC:			1000	304.8	175.0	79.5								
		CMG FT4														