

## 8281B Coax - Double Braided RG-59/U Type

For more Information  
please call

1-800-Belden1



### General Description:

20 AWG solid .031" bare copper conductor, flame-retardant semi-foam polyethylene insulation, tinned copper/bare copper double braid shield (95% coverage), PVC jacket.

### Physical Characteristics (Overall)

#### Conductor

AWG:

# Coax	AWG	Stranding	Conductor Material	Dia. (mm)
1	20	Solid	BC - Bare Copper	0.7874

Total Number of Conductors: 1

#### Insulation

Insulation Material:

Insulation Material	Dia. (mm)
FR Semi-Foam PE - Flame Retardant Semi-Foam Polyethylene	5.0292

#### Outer Shield

Outer Shield Material:

Layer #	Type	Outer Shield Material	Coverage (%)
1	Braid	TC - Tinned Copper	95.000
2	Braid	TC - Tinned Copper	95.000

#### Outer Jacket

Outer Jacket Material:

Outer Jacket Material
PVC - Polyvinyl Chloride

#### Overall Cable

Overall Nominal Diameter: 7.747 mm

### Mechanical Characteristics (Overall)

Operating Temperature Range: -40°C To +80°C

UL Temperature Rating: 75°C, 80°C

Bulk Cable Weight: 117.568 Kg/Km

Max. Recommended Pulling Tension: 747.298 N

Min. Bend Radius/Minor Axis: 76.200 mm

Min. Flexing Radius: 15.240 cm

### Applicable Specifications and Agency Compliance (Overall)

#### Applicable Standards & Environmental Programs

NEC/(UL) Specification: CMR

CEC/C(UL) Specification: CMG

AWM Specification: UL Style 1354

EU Directive 2011/65/EU (ROHS II): Yes

EU CE Mark: Yes

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EU Directive 2000/53/EC (ELV):	Yes
EU Directive 2002/95/EC (RoHS):	Yes
EU RoHS Compliance Date (mm/dd/yyyy):	10/13/2005
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
RG Type:	59/U

### Flame Test

UL Flame Test:	UL1666 Vertical Shaft
CSA Flame Test:	FT4

### Suitability

Suitability - Indoor:	Yes
Suitability - Outdoor:	Yes - Black Only
Suitability - Aerial:	Yes - Black only, when supported by a messenger wire

### Plenum/Non-Plenum

Plenum (Y/N):	No
Plenum Number:	88281

## Electrical Characteristics (Overall)

### Nom. Characteristic Impedance:

Impedance (Ohm)
75

### Nom. Inductance:

Inductance ( $\mu\text{H}/\text{m}$ )
0.387158

### Nom. Capacitance Conductor to Shield:

Capacitance (pF/m)
68.901

### Nominal Velocity of Propagation:

VP (%)
66

### Nominal Delay:

Delay (ns/m)
5.05274

### Nom. Conductor DC Resistance:

DCR @ 20°C (Ohm/km)
32.4819

### Nominal Outer Shield DC Resistance:

DCR @ 20°C (Ohm/km)
3.6091

### Nom. Attenuation:

Freq. (MHz)	Attenuation (dB/100m)
1	0.9843
3.6	1.6405
10.0	2.6248
71.5	6.8901
135	9.843
270	14.4364
360	16.7331

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540	21.6546
720	25.5918
750	26.248
1000	33.4662

### Max. Operating Voltage - UL:

Voltage
30 V RMS
300 V RMS

### Max. Operating Voltage - Non-UL:

Voltage
300 V RMS

**Other Electrical Characteristic 1:** Impedance tested in accordance with ASTM D-4566 paragraph 43.2, option 2 using a 75 Ohm fixed bridge and termination. 75 +/- 1.5 Ohms

**Other Electrical Characteristic 2:** Return Loss tested in accordance with ASTM D-4566 paragraph 45.3, Using a 75 Ohm fixed bridge and termination.

### Minimum Structural Return Loss:

Start Freq. (MHz)	Stop Freq. (MHz)	Min. SRL (dB)
5	216	27
217	850	23

### Sweep Test

**Sweep Testing:** 100% sweep tested. 5 MHz to 850 MHz.

### Put Ups and Colors:

Item #	Putup	Ship Weight	Color	Notes	Item Desc
8281B 0021000	305 MT	37.648 KG	RED	C	#20 FRSFPE DBLB FRPVC
8281B 0041000	305 MT	37.648 KG	YELLOW	C	#20 FRSFPE DBLB FRPVC
8281B 0051000	305 MT	37.648 KG	GREEN, DARK	C	#20 FRSFPE DBLB FRPVC
8281B 0061000	305 MT	37.648 KG	BLUE, LIGHT	C	#20 FRSFPE DBLB FRPVC
8281B 0071000	305 MT	37.648 KG	VIOLET	C	#20 FRSFPE DBLB FRPVC
8281B 0081000	305 MT	37.648 KG	GRAY	C	#20 FRSFPE DBLB FRPVC
8281B 0091000	305 MT	37.648 KG	WHITE	C	#20 FRSFPE DBLB FRPVC
8281B 0101000	305 MT	37.648 KG	BLACK	C	#20 FRSFPE DBLB FRPVC

#### Notes:

C = CRATE REEL PUT-UP.

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