



Product: [9R28016](#) 

Flat Rainbow Cable 9R280 Series, #28-16c, .050" Pitch

Product Description

Belden .050" pitch, color-coded PVC flat cable allows for quick identification and circuit tracing, along with easy breakouts for circuit routing, and is designed for mass-termination with standard IDC connectors.

Technical Specifications

Physical Characteristics (Overall)

Conductor

AWG	Stranding	Material	Construction n x D	No. of Conductors
28	7x36	TC - Tinned Copper	Stranded	16

Conductor Count:16

Insulation

Material	Nominal Wall Thickness
PVC - Polyvinyl Chloride	0.010 in

Color Chart

Number	Color
1	Brown
2	Red
3	Orange
4	Yellow
5	Green
6	Blue
7	Purple
8	Gray
9	White
10	Black
Over 10 conductors	Brown
	Red
	Orange
	Yellow
	Green
	Blue

Outer Shield Material

Material
No Shield

Outer Jacket Material

Material	Nominal Wall Thickness
PVC - Polyvinyl Chloride	0.036 in

Construction and Dimensions

Cond Spacing Center-Center:	0.050 +/- 0.003 in
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Cond Spacing Center-Center Outside:	0.750 +/- 0.008 in
OuterJacket1, Nominal Width:	0.800 in

Electrical Characteristics

Conductor DCR

Nominal Conductor DCR	Nominal Conductor DCR Conductor Resistance
68.2 Ohm/1000ft	68.2 Ohm/1000ft

Capacitance

Element	Nom. Capacitance Conductor to Conductor
@ 1 kHz (GSG)	18 pF/ft
@ 1 MHz (GS)	10 pF/ft
@ 1 MHz (GSG)	15 pF/ft

Inductance

Element	Nominal Inductance
@ 1 MHz (GS)	0.29 µH/ft
@ 1 MHz (GSG)	0.2 µH/ft

Impedance

Nominal Balanced Characteristic Impedance Description	Nominal Characteristic Impedance	Nominal Characteristic Impedance Description
(GS)	150 Ohm	(GS)
(GSG)	105 Ohm	(GSG)

High Frequency (Nominal/Typical)

Frequency [MHz]	Nom. Insertion Loss
10 MHz	2.8 dB/100ft
20 MHz	4.8 dB/100ft
30 MHz	6.5 dB/100ft
40 MHz	8.3 dB/100ft
50 MHz	9.8 dB/100ft
60 MHz	12 dB/100ft
70 MHz	13 dB/100ft
80 MHz	14 dB/100ft
90 MHz	15.8 dB/100ft
100 MHz	17 dB/100ft

Delay

Nominal Delay	Nominal Velocity of Propagation (VP) [%]
1.40 ns/ft	72%

Unbalanced Crosstalk

Element	Typical Unbalanced NEXT %	Typical Unbalanced FEXT %	Typical Cross Talk Pulse Rise Time (ns)
10 ft. sample length	4.8	7	3 ns
10 ft. sample length	3.5	4.7	5 ns
10 ft. sample length	3	3	7 ns

High Freq

Frequency [MHz]
10 MHz
20 MHz
30 MHz
40 MHz
50 MHz
60 MHz
70 MHz
80 MHz
90 MHz
100 MHz

Current

Max. Recommended Current [A]

1 Amp per Conductor at 20°C

Voltage

Dielectric Withstand Voltage	UL Voltage Rating
2,000 V RMS	300 V RMS

Temperature Range

Operating Temp Range:	-20°C To +105°C
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Mechanical Characteristics

Bulk Cable Weight:	19 lbs/1000ft
Min Bend Radius/Minor Axis:	0.5 in

Standards

UL Rating:	AWM 20932
UL AWM Style Compliance:	20932

Applicable Environmental and Other Programs

EU Directive 2000/53/EC (ELV):	Yes
EU Directive 2003/11/EC (BFR):	Yes
EU Directive 2011/65/EU (ROHS II):	Yes
EU Directive 2012/19/EU (WEEE):	Yes
EU Directive 2015/863/EU:	Yes
EU Directive Compliance:	Yes
EU CE Mark:	Yes
EU RoHS Compliance Date (yyyy-mm-dd):	2005-10-01
MII Order #39 (China RoHS):	Yes

Flammability, LS0H, Toxicity Testing

UL Flammability:	VW-1
UL voltage rating:	300 V RMS

Plenum/Non-Plenum

Plenum (Y/N):	No
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Part Number

Variants

Item #	Color	Putup Type	Length	UPC
9R28016 000100	None	Reel	100 ft	612825221845

Product Notes

Notes:	GS=Ground-Signal Mode; GSG=Ground-Signal-Ground Mode
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History

Update and Revision:	Revision Number: 0.243 Revision Date: 06-24-2020
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