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### Description:

Belden's® FEP Vari-Twist series was designed for high and low temperatures while reducing crosstalk in the balanced mode by twisting the pairs, but can be mass-terminated in the flat sections with standard IDC connectors.

### Physical Characteristics (Overall)

#### Conductor

##### AWG:

# Pairs	AWG	Stranding	Conductor Material
18	28	7x36	SPC - Silver Plated Copper

Conductor Spacing Center to Center Flat Section: .050 +/- .005

Conductor Spacing Outside Center to Outside Center: 1.75 +/- .017

#### Insulation

##### Insulation Material:

Insulation Material	Wall Thickness (in.)
FEP - Fluorinated Ethylene Propylene	.010

Substrate Thickness and Material: .010" Clear FEP

Insulation Resistance: >100,000 Mega Ohms

#### Outer Shield

##### Outer Shield Material:

Outer Shield Material
Unshielded

#### Overall Cable

Overall Nominal Thickness Flat Section: .042 +/- .003

Overall Nominal Thickness Twisted Section: .080

Overall Nominal Width: 1.80

Overall Flat Section Length: 2 +/- .0

Overall Twisted Length: 18 in.

Flat Section Center to Center Spacing: 20 +/- .50

#### Pair

##### Pair Color Code Chart:

Number	Color
1	Brown/Tan
2	Red/Tan
3	Orange/Tan
4	Yellow/Tan

5	Green/Tan
6	Blue/Tan
7	Purple/Tan
8	Gray/Tan
9	White/Tan
10	Black/Tan
Over 10 pair	Repeat as required

**Spacing**

Twisted Pair Spacing Center to Center: .100

**Mechanical Characteristics (Overall)**

Operating Temperature Range: -70°C To +150°C

**Applicable Specifications and Agency Compliance (Overall)****Applicable Standards & Environmental Programs**

UL AWM Style: UL Style 20468

UL Rating: 150°C, 150 V, VW-1

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): 07/01/2005

EU Directive 2002/96/EC (WEEE): Yes

EU Directive 2003/11/EC (BFR): Yes

CA Prop 65 (CJ for Wire &amp; Cable): Yes

MII Order #39 (China RoHS): Yes

**Flame Test**

UL Flame Test: VW-1

IEEE Flame Test: 383 (70, 000 BTU)

**Plenum/Non-Plenum**

Plenum (Y/N): No

**Electrical Characteristics (Overall)****Nom. Inductance:**

Description	Inductance (µH/ft)
@ 1 MHz	.22

**Nom. Capacitance Conductor to Conductor:**

Description	Capacitance (pF/ft)
@ 1 kHz	10.1
@ 1 MHz	10.6

**Nominal Velocity of Propagation:**

Description	VP (%)
	77

**Nominal Delay:**

Delay (ns/ft)
1.32

**Nom. Conductor DC Resistance:**

DCR @ 20°C (Ohm/1000 ft)
68.2

**Nom. Attenuation:**

Freq. (MHz)	Attenuation (dB/100 ft.)
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10	1.9
20	2.7
30	3.5
40	4
50	4.6
60	5.2
70	5.7
80	6.1
90	6.5
100	6.9

**Max. Operating Voltage - UL:**

Voltage
150 V RMS

**Max. Recommended Current:**

Current
1 Amp per conductor @ 20°C

**Nominal Balanced Characteristic Impedance:**

Description	Impedance (Ohm)
	145

**Nominal Unbalanced Characteristic Impedance:**

Description	Impedance (Ohm)
	130

Dielectric Withstand Voltage: 2, 000 V RMS

**Typical Balanced Crosstalk - dB Suppression:**

Description	Freq. (MHz)	Start Freq. (MHz)	Stop Freq. (MHz)	Crosstalk (dB)
10 ft. sample length		10	100	30

**Typical Unbalanced Crosstalk:**

Description	Pulse Rise Time (NS) (MHz)	Near End % (MHz)	Far End % (MHz)
10 ft. sample length all grounds connected together.	3	12.3	6.6
10 ft. sample length all grounds connected together.	5	10.4	4.3
10 ft. sample length all grounds connected together.	7	10.8	3.3

**Notes (Overall)**

**Notes:** The transition area is included in the twisted length to assure a full 2 inches of flat termination area.

**Related Documents:**

No related documents are available for this product

**Put Ups and Colors:**

Item #	Putup	Ship Weight	Color	Notes	Item Desc
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Revision Number: 1    Revision Date: 12-11-2008

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## 8V28036 Flat - Vari-Twist® 8V280XX Series

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