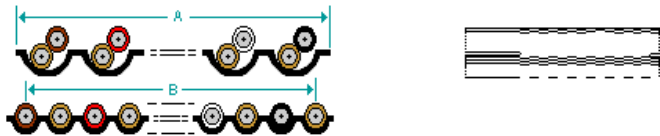


9V28064 Flat - Vari-Twist® 9V280XX Series



For more Information  
please call

1-800-Belden1



General Description:

Belden^s PVC Vari-Twist series was designed to reduce 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 |
|---------|-----|-----------|--------------------|
| 32      | 28  | 7x36      | TC - Tinned Copper |

Total Number of Conductors: 64

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

Conductor Spacing Outside Center to Outside Center: 3.15 +/- .020

Insulation

Insulation Material:

| Insulation Material      | Wall Thickness (in.) |
|--------------------------|----------------------|
| PVC - Polyvinyl Chloride | 0.018                |

Substrate Thickness and Material: .010

Insulation Resistance: >10,000 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: 3.226

Overall Flat Section Length: 2 +.5/-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: -20°C To +105°C

Bulk Cable Weight: 90 lbs/1000 ft.

Min. Bend Radius/Minor Axis: 1.250 in.

## Applicable Specifications and Agency Compliance (Overall)

### Applicable Standards & Environmental Programs

UL Rating: UL AWM Styles 1731, 2693, & 2697

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

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): 10/01/2005

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

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

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

MIL Order #39 (China RoHS): Yes

### Flame Test

UL Flame Test: VW-1

### Plenum/Non-Plenum

Plenum (Y/N): No

## Electrical Characteristics (Overall)

### Nom. Inductance:

| Description | Inductance (µH/ft) |
|-------------|--------------------|
| @ 1 MHz     | .24                |

### Nom. Capacitance Conductor to Conductor:

| Description | Capacitance (pF/ft) |
|-------------|---------------------|
| @ 1 kHz     | 20                  |
| @ 1 MHz     | 16                  |

### Nominal Velocity of Propagation:

| Description | VP (%) |
|-------------|--------|
|             | 64     |

### Nominal Delay:

| Delay (ns/ft) |
|---------------|
| 1.6 NS/FT.    |

### Nom. Conductor DC Resistance:

| DCR @ 20°C (Ohm/1000 ft) |
|--------------------------|
| 68.2 OHMS/1000 FT. MAX.  |

### Nom. Attenuation:

| Freq. (MHz) | Attenuation (dB/100 ft.) |
|-------------|--------------------------|
| 10          | 3.5                      |
| 20          | 5.5                      |
| 30          | 7.2                      |
| 40          | 8.8                      |
| 50          | 10.2                     |
| 60          | 12                       |
| 70          | 13                       |
| 80          | 14.2                     |
| 90          | 15                       |
| 100         | 16                       |

### Max. Operating Voltage - UL:

| Voltage   |
|-----------|
| 300 V RMS |

### Max. Recommended Current:

| Current                    |
|----------------------------|
| 1 Amp per conductor @ 20°C |

### Nominal Balanced Characteristic Impedance:

| Description | Impedance (Ohm) |
|-------------|-----------------|
|             | 115             |

### Nominal Unbalanced Characteristic Impedance:

| Description | Impedance (Ohm) |
|-------------|-----------------|
|             | 100             |

## 9V28064 Flat - Vari-Twist® 9V280XX Series

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              | 35             |

## Typical Unbalanced Crosstalk:

| Description                                          | Pulse Rise Time (NS) (MHz) | Near End % (MHz) | Far End % (MHz) |
|------------------------------------------------------|----------------------------|------------------|-----------------|
| 10 ft. sample length all grounds connected together. | 3                          | 5.8              | 5.2             |
| 10 ft. sample length all grounds connected together. | 5                          | 4                | 3.2             |
| 10 ft. sample length all grounds connected together. | 7                          | 2.5              | 2.8             |

## Notes (Overall)

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

## Kennedy Information (Overall)

**Construction:** 18" of Twisted Pairs, 2" of Flat Section

## Put Ups and Colors:

| Item #          | Putup  | Ship Weight | Color | Notes | Item Desc                |
|-----------------|--------|-------------|-------|-------|--------------------------|
| 9V28064 000H100 | 100 FT | 9.300 LB    | NONE  | E     | 32 PR #28 PVC VARI-TWIST |

**Notes:**

E = MAY CONTAIN MORE THAN 1 PIECE. MINIMUM LENGTH OF ANY ONE PIECE IS 25'

Revision Number: 2    Revision Date: 11-08-2012

© 2016 Belden, Inc  
 All Rights Reserved.

Although Belden makes every reasonable effort to ensure their accuracy at the time of this publication, information and specifications described herein are subject to error or omission and to change without notice, and the listing of such information and specifications does not ensure product availability. Belden provides the information and specifications herein on an "AS IS" basis, with no representations or warranties, whether express, statutory or implied. In no event will Belden be liable for any damages (including consequential, indirect, incidental, special, punitive, or exemplary damages) whatsoever, even if Belden has been advised of the possibility of such damages, whether in an action under contract, negligence or any other theory, arising out of or in connection with the use, or inability to use, the information or specifications described herein. All sales of Belden products are subject to Belden's standard terms and conditions of sale. Belden believes this product to be in compliance with EU RoHS (Directive 2002/95/EC, 27-Jan-2003). Material manufactured prior to the compliance date may be in stock at Belden facilities and in our Distributor's inventory. The information provided in this Product Disclosure, and the identification of materials listed as reportable or restricted within the Product Disclosure, is correct to the best of Belden's knowledge, information, and belief at the date of its publication. The information provided in this Product Disclosure is designed only as a general guide for the safe handling, storage, and any other operation of the product itself or the one that it becomes a part of. This Product Disclosure is not to be considered a warranty or quality specification. Regulatory information is for guidance purposes only. Product users are responsible for determining the applicability of legislation and regulations based on their individual usage of the product. Belden declares this product to be in compliance with EU LVD (Low Voltage Directive 2014/35/EU).