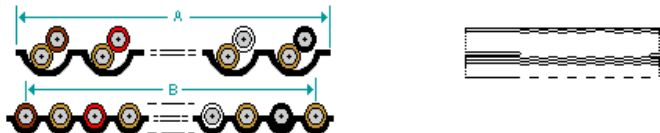


9V28014 Flat - Vari-Twist® 9V280XX Series



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 |
|---------|-----|-----------|--------------------|
| 7       | 28  | 7x36      | TC - Tinned Copper |

Total Number of Conductors: 14

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

Conductor Spacing Outside Center to Outside Center: .65 +/- .012

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: .726

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 |

Spacing

Twisted Pair Spacing Center to Center: .100

Mechanical Characteristics (Overall)

Operating Temperature Range: -20°C To +105°C

Bulk Cable Weight: 29 lbs/1000 ft.

Min. Bend Radius/Minor Axis: 1.250 in.

Applicable Specifications and Agency Compliance (Overall)

Applicable Standards & Environmental Programs

## 9V28014 Flat - Vari-Twist® 9V280XX Series

UL Rating: UL AWM Styles 1731, 2693, &amp; 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 &amp; 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             |

Dielectric Withstand Voltage: 2,000 V RMS

## Typical Balanced Crosstalk - dB Suppression:

| Description | Freq. (MHz) | Start Freq. (MHz) | Stop Freq. (MHz) | Crosstalk (dB) |
|-------------|-------------|-------------------|------------------|----------------|
|-------------|-------------|-------------------|------------------|----------------|

## 9V28014 Flat - Vari-Twist® 9V280XX Series

|                      |  |    |     |    |
|----------------------|--|----|-----|----|
| 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               |
|-----------------|--------|-------------|-------|-------|-------------------------|
| 9V28014 000H100 | 100 FT | 3.200 LB    | NONE  | E     | 7 PR #28 PVC VARI-TWIST |

**Notes:**

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

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