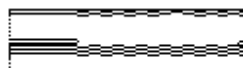
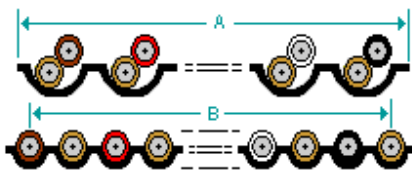


## 9V28050 Flat - Vari-Twist® 9V280XX Series



For more Information  
please call

1-800-Belden1

**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 |
|---------|-----|-----------|--------------------|
| 25      | 28  | 7x36      | TC - Tinned Copper |

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

Conductor Spacing Outside Center to Outside Center: 2.45 +/- .017

**Insulation****Insulation Material:**

| Insulation Material      | Wall Thickness (in.) |
|--------------------------|----------------------|
| PVC - Polyvinyl Chloride | .010                 |

Substrate Thickness and Material: .010" Clear PVC

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: 2.50

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: | -20°C To +105°C |
|------------------------------|-----------------|

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

|                                       |                        |
|---------------------------------------|------------------------|
| UL AWM Style:                         | 2693 and 2697          |
| UL Rating:                            | 105°C, 300 V RMS, 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): | 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                    |
| MII 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                     |

## 9V28050 Flat - Vari-Twist® 9V280XX Series

|     |    |
|-----|----|
| 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) |
|----------------------|-------------|-------------------|------------------|----------------|
| 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

## Related Documents:

No related documents are available for this product

## Put Ups and Colors:

| Item #          | Putup  | Ship Weight | Color | Notes | Item Desc                |
|-----------------|--------|-------------|-------|-------|--------------------------|
| 9V28050 000H100 | 100 FT | 7.400 LB    | NONE  | E     | 25 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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## 9V28050 Flat - Vari-Twist® 9V280XX Series

Belden declares this product to be in compliance with EU LVD (Low Voltage Directive 73/23/EEC), as amended by directive 93/68/EEC.