

**9R28016 Flat - Rainbow 9R280XX Series**

|  |   |
|--|---|
|  | <p>For more information please call<br/><b>1-800-Belden1</b></p> <p><u>See Put-ups and Colors</u></p> |
|--|---|

**Description:**

Belden's .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.

**PHYSICAL CHARACTERISTICS:**

**CONDUCTOR:**

|                            |                    |
|----------------------------|--------------------|
| Number of Conductors       | 16                 |
| Total Number of Conductors | 16                 |
| AWG                        | 28                 |
| Stranding                  | 7x36               |
| Conductor Material         | TC - Tinned Copper |

**INSULATION:**

|                                |                          |
|--------------------------------|--------------------------|
| Insulation Material            | PVC - Polyvinyl Chloride |
| Nom. Insulation Wall Thickness | .010 in.                 |
| Insulation Resistance          | >10, 000 Mega Ohms       |

Insulation Color Code Chart :

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

**INSULATION:**

|                                  |                 |
|----------------------------------|-----------------|
| Substrate Thickness and Material | .010" Clear PVC |
|----------------------------------|-----------------|

**SPACING:**

|  |                   |
|--|-------------------|
| Conductor Spacing Center to Center                 | .050 +/- .005 in. |
| Conductor Spacing Outside Center to Outside Center | .75 +/- .011 in.  |

**OVERALL:**

|                           |                   |
|---------------------------|-------------------|
| Overall Nominal Width     | .80 in.           |
| Overall Nominal Thickness | .042 +/- .003 in. |



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**OUTER SHIELD:**

|                       |            |
|-----------------------|------------|
| Outer Shield Material | Unshielded |
|-----------------------|------------|

**MECHANICAL CHARACTERISTICS:**

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

**APPLICABLE SPECIFICATIONS AND AGENCY COMPLIANCE:**

**APPLICABLE STANDARDS:**

|                                       |                        |
|---------------------------------------|------------------------|
| UL AWM Style                          | 2884                   |
| UL Rating                             | 105°C, 300 V RMS, VW-1 |
| EU CE Mark (Y/N)                      | Yes                    |
| EU RoHS Compliant (Y/N)               | Yes                    |
| EU RoHS Compliance Date (mm/dd/yyyy): | 10/01/2005             |

**FLAME TEST:**

|               |      |
|---------------|------|
| UL Flame Test | VW-1 |
|---------------|------|

**PLENUM/NON-PLENUM:**

|              |   |
|--------------|---|
| Plenum (Y/N) | N |
|--------------|---|

**ELECTRICAL CHARACTERISTICS:**

Nom. Characteristic Impedance :

| Description | Nom. Characteristic Impedance (Ohms) |
|-------------|--------------------------------------|
| (GS)        | 150                                  |
| (GSG)       | 105                                  |

Nom. Inductance :

| Description   | Nominal Inductance (µH/ft) |
|---------------|----------------------------|
| @ 1 MHz (GS)  | .29                        |
| @ 1 MHz (GSG) | .20                        |

Nom. Capacitance Conductor to Conductor :

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

Nominal Velocity of Propagation :

| Description | Nominal Velocity of Propagation (%) |
|-------------|-------------------------------------|
|             | 72                                  |

|               |                         |
|---------------|-------------------------|
| Nominal Delay | 1.40 NS/FT. (GSG) ns/ft |
|---------------|-------------------------|

|  |                                      |
|--|--------------------------------------|
| Nom. Conductor DC Resistance @ 20 Deg. C | 68.2 OHMS/1000 FT. MAX. Ohms/1000 ft |
|--|--------------------------------------|

Nom. Attenuation :

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| Description | Frequency (MHz) | Nom. Attenuation (dB/100 ft.) |
|-------------|-----------------|-------------------------------|
|             | 10              | 2.8                           |
|             | 20              | 4.8                           |
|             | 30              | 6.5                           |
|             | 40              | 8.3                           |
|             | 50              | 9.8                           |
|             | 60              | 12                            |
|             | 70              | 13                            |
|             | 80              | 14                            |
|             | 90              | 15.8                          |
|             | 100             | 17                            |

Typical Unbalanced Crosstalk :

| Description          | Pulse Rise Time (NS) | Near End (%) | Far End (%) | Typical Unbalanced Crosstalk (dB) |
|----------------------|----------------------|--------------|-------------|-----------------------------------|
| 10 ft. sample length | 3                    | 4.8          | 7           |                                   |
| 10 ft. sample length | 5                    | 3.5          | 4.7         |                                   |
| 10 ft. sample length | 7                    | 3            | 3           |                                   |

Max. Operating Voltage - UL

300 V RMS

Max. Recommended Current

1 Amp per conductor @ 20°C

Dielectric Withstand Voltage

2,000 V RMS

**NOTES:**

Notes

GS=Ground-Signal Mode; GSG=Ground-Signal-Ground Mode

**PUT-UPS AND COLORS:**

| Item           | Description        | Put-Up (ft.) | Ship Weight (lbs.) | Jacket Color | Notes |
|----------------|--------------------|--------------|--------------------|--------------|-------|
| 9R28016 000100 | 16 #28 PVC RAINBOW | 100          | 2.7                | NONE         | E     |

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

Revision Number: 1

Revision Date: 10-11-2005

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