

350 MHz UTP

**Belden**

**DataTwist<sup>®</sup>**

**DataTwist 350 Superior Performance  
Twisted Pair Data Cables**

Belden<sup>®</sup> DataTwist 350 unshielded twisted pair cables answer future networking demands today. They're the result of a unique, patent pending design and process which allows stable electrical performance to 350 MHz, more than triple the verified frequency range of the TIA/EIA 568-A Category 5 standard.

### A Unique New Design

DataTwist 350's superiority is the result of dimensional stability created by an innovative manufacturing process. It affixes the individual insulated conductors together along their longitudinal axis and results in:

- Uniform conductor to conductor spacing.
- Uniform applied tensions to conductors within a pair during manufacture.
- Uniform twisting of insulated conductors into pairs.
- The assurance that the twists of the pairs will not loosen during manufacture or installation.

### Superior Electrical Performance

Compared with the current Category 5 standard, DataTwist 350 cables display superior performance characteristics across the frequency range. These improvements allow for smoother, improved electrical characteristics at

Category 5 frequencies, as well as at extended frequencies which may be required for future applications.

DataTwist 350 greatly improves performance in a number of key electrical areas. In a direct comparison with the Category 5 standard, Belden's new cable shows:

- A minimum of 400% improvement in Capacitance Unbalance.
- A 250% improvement in Frequency Range.
- A 35% improvement in Resistance Unbalance.
- An average of 5% improvement in Attenuation.
- On average, a minimum of 6 dB improvement in pair-to-pair Near End Crosstalk (NEXT).
- Up to 50% improvement in Impedance and Structural Return Loss.

It is important to note that the Impedance and SRL values shown on this sheet are uncorrected and unaveraged values. The TIA/EIA 568-A Category 5 standard allows for the use of a fitting or smoothing function which interprets and recalculates Impedance and SRL, and can make data appear better than the actual measurements. This function, however, was not used to obtain the product data shown here.

### Choice of Constructions

DataTwist 350 is available in 24 AWG with four unshielded pairs in plenum and non-plenum versions.

- **NON-PLENUM VERSIONS** are polyolefin insulated and have a PVC jacket with ripcord. They are UL listed, NEC CM, and C(UL) listed, CEC CM.
- **PLENUM VERSIONS** are FEP Teflon<sup>®</sup> and/or flame retardant polyolefin insulated and have a flexible Flam arrest<sup>®</sup> jacket with ripcord. They are UL listed, NEC CMP, and C(UL) listed, CEC CMP.
- Cables are available in red, yellow, orange, green, blue, purple, and light gray or natural jacket colors.

DataTwist 350 cables are third party certified to the highest TIA/EIA category.

### Ease of Termination

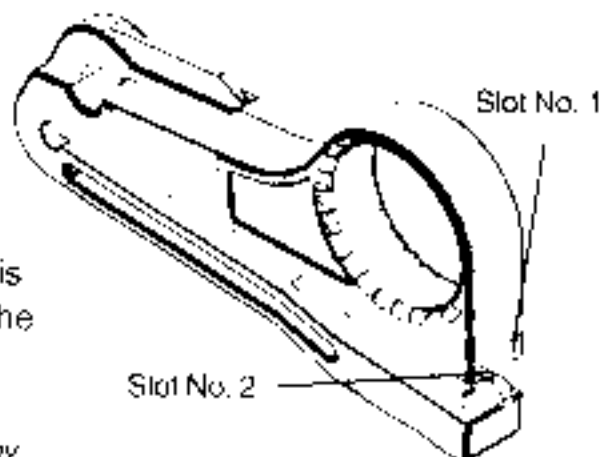
In terms of connectorization, the unique design of these UTP cables permits easy validation to Category 5 requirements in regards to pair untwisting, even after the cable has been installed. With DataTwist 350, there is less opportunity for human error and better cable performance assurances.

## Two Easy Methods of Termination

### 1. Using New Separation Tool

A new tool (Part No. 1799A) together with DataTwist 350's unique design, makes correct cable termination fast and easy.

- Remove the cable jacket and fully insert a pair into Slot No. 1 of the tool. Squeeze the tool closed and pull the tool and the cable in opposite directions. (This will remove the twist prior to separation.)
- Insert the appropriate length of the flattened section into Slot No. 2. Squeeze the tool closed and pull the tool and the cable in opposite directions. (This will separate the conductors of the pair for termination.)



Patent Pending - The Simon Company

### 2. Using Scissors

Any standard pair of scissors can also be used for quick and easy termination of DataTwist 350.

- After removing the cable jacket, untwist or flatten the conductors of a pair approximately 1" (or greater) by clamping a pair between your thumb and a top blunt edge of the scissors. Then pull the cable and the scissors in opposite directions.
- Make at least a 1/4" cut exactly between the adjoining conductors of the pair.
- With your fingers, simply pull the two conductors apart for the length of the flattened section.



Notes: Take care not to force the separation beyond the length of the flattened section. Most punch-down tools will automatically trim excess conductor during termination.

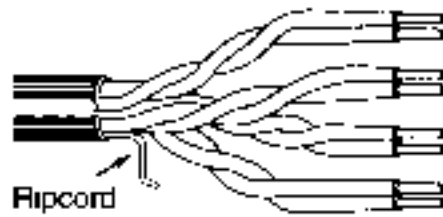
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## Non-Plenum

Trade No. UL NEC C(UL) CEC Type	No. of Pairs	Standard Lengths		Std. Unit Lbs. ea.	Insulated Conductor O.D.		Nominal O.D.		Nominal Capaci- tance	Nominal D.C.R.	Freq. (MHz)	Attenuation (dB/100m) Max.	N.E.X.T.* (dB)		SRL (dB)		Impedance (ohms)	
		ft.	m		Inch	mm	Inch	mm					Max.	Min.	Nom.	Min.	Nom.	Tol.

### 24 Gage

Solid Conductors  
Unshielded  
PVC Jacketed



### Product Description

24 AWG solid bare copper, polyolefin insulated, 4 twisted pairs – each with adjoining singles, ripcord, low loss PVC jacket in Red, Yellow, Green, Blue, Purple or Light Gray, sequentially marked at two foot intervals. 3000 ft. put-up available in Blue, Yellow and Light Gray. See DataTwist 350 Color Code chart.

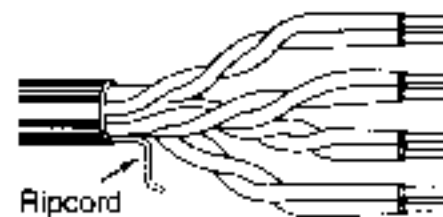
<b>1700A</b> NEC CM CEC CM	4	1000 U1000	304.8 U304.8	27.6 22.5	.038 x	.965 x	200	5.08	14 pF/ft.	24.0Ω/ 1000 ft.	4	4.0	53	31	23	100	±12%
											8	5.7	48	33	23	100	±12%
											10	6.4	47	34	23	100	±12%
											16	8.1	44	34	23	100	±12%
											25	10.3	41	35	22	100	±15%
											31.25	11.6	40	35	21	100	±15%
<b>1702A</b> NEC CM CEC CM	2 x 4	1000 1640	304.8 500	<b>Siamese version of 1700A.</b>							62.5	16.8	35	35	21	100	±15%
				100	21.7	32	33	21	100	±15%							
				155	27.6	30	33	19	100	±18%							
				200	32.0	28	31	19	100	±18%							
				310	41.3	25	30	17	100	±20%							
				350	44.3	24	30	16	100	±22%							

## Plenum

Trade No. UL NEC C(UL) CEC Type	No. of Pairs	Standard Lengths		Std. Unit Lbs. ea.	Insulated Conductor O.D.		Nominal O.D.		Nominal Capaci- tance	Nominal D.C.R.	Freq. (MHz)	Attenuation (dB/100m) Max.	N.E.X.T.* (dB)		SRL (dB)		Impedance (ohms)	
		ft.	m		Inch	mm	Inch	mm					Max.	Min.	Nom.	Min.	Nom.	Tol.

### 24 Gage

Solid Conductors  
Unshielded  
Plenum Jacketed



### Product Description

24 AWG solid bare copper, FEP Teflon\* and/or flame retardant polyolefin insulated, 4 twisted pairs – each with adjoining singles, ripcord, low loss flexible Flamarrest® jacket in Red, Yellow, Green, Blue, Purple or Natural, sequentially marked at two foot intervals. 3000 ft. put-up available in Blue, Yellow and Natural. See DataTwist 350 Color Code chart.

<b>1701A</b> NEC CMP CEC CMP Plenum*	4	1000 A1000	304.8 A304.8	25.1 30.5	.037 x	.940 x	1.95	4.95	14 pF/ft.	24.0Ω/ 1000 ft.	4	4.0	53	31	23	100	±12%
											8	5.7	48	33	23	100	±12%
											10	6.4	47	34	23	100	±12%
											16	8.1	44	34	23	100	±12%
											25	10.3	41	35	22	100	±15%
											31.25	11.6	40	35	21	100	±15%
<b>1703A</b> NEC CMP CEC CMP Plenum*	2 x 4	1000	304.8	<b>Siamese version of 1701A.</b>							62.5	16.8	35	35	21	100	±15%
				100	21.7	32	33	21	100	±15%							
				155	27.6	30	33	19	100	±18%							
				200	32.0	28	31	19	100	±18%							
				310	41.3	25	30	17	100	±20%							
				350	44.3	24	30	16	100	±22%							

## DataTwist® 350 Color Codes

Pair No.	Color Combination
1	White/Blue Stripe, Blue
2	White/Orange Stripe, Orange
3	White/Green Stripe, Green
4	White/Brown Stripe, Brown

**Important Notes:** Impedance and SRL values shown are uncorrected/unaveraged numbers. The TIA/EIA 568-A Category 5 standard allows for the use of a fitting function which interprets and recalculates impedance and SRL. This smoothing function can make data appear better than actual measurements. The product data shown here does not employ this method.

\* Near end crosstalk.

• DuPont trademark.

\* Compliant to TIA/EIA 568-A Category 5. Insulating material may vary.

Belden DataTwist 350 products continue to be manufactured under the most strict quality programs that include, but are not limited to, UL Categories program, sophisticated Belden Quality Control test schemes, state of the art in-process control systems, SPC, and on-going quality tracking of critical product attributes performance. All Belden products are designed, manufactured, and processed in ISO 9000 certified facilities.

### Belden Wire & Cable Company

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