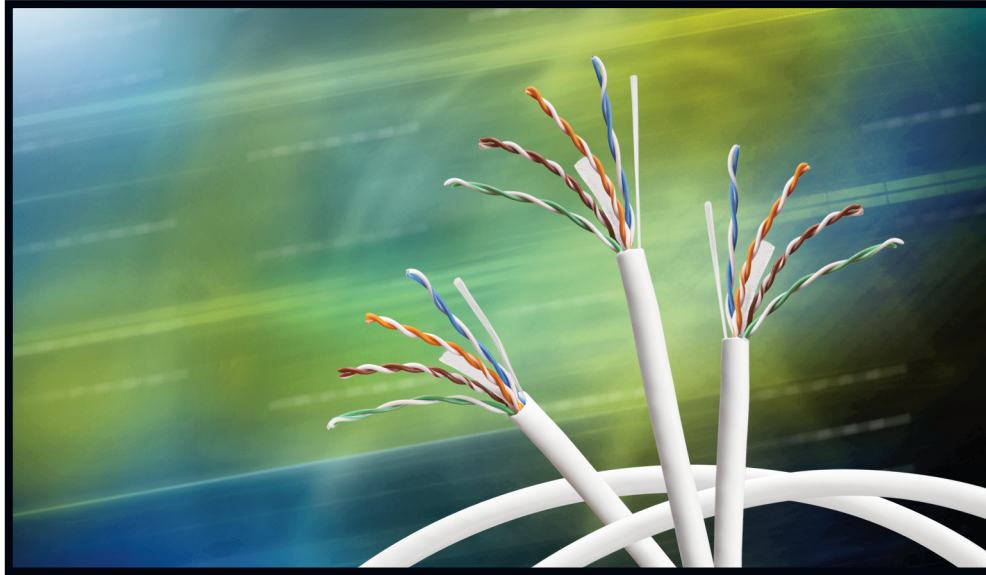


PB 289

**Belden® DataTwist®  
2400 Cables**

DataTwist 2400 UTP Cables provide for increased bandwidth and signal-to-noise margins. Their smaller diameter and high performance make possible the unique Category 6 networking solution: Belden IBDN System 2400.



**DataTwist 2400 Cables Exceed the TIA/EIA Requirements for Category 6 Installations and Provide for Transmission Speeds Up to 2.4 Gb/s**

**DataTwist 2400 Cable**

If high-performance communication systems are an element of your competitive strategy and if you consider information technology as one of the drivers of your bottom line, you should consider the speed, reliability and performance advantages provided by DataTwist 2400 Cables.

The DataTwist 2400 Cables exceed all TIA/EIA Category 6 standard specifications and deliver guaranteed performance up to 300 MHz. These cables provide the performance, throughput and reliability to keep your response-time critical applications operating at their peak. The 2400 series offers extremely stable transmission characteristics; and a Signal-to-Noise Ratio that is ideal for networks where noise and interference is high.

The DataTwist 2400 Cable consists of 4 pairs of 23 AWG insulated copper conductors with a round flexible core construction. The patented design features a central tape to provide pair-separation, and matched conductors on all four pairs, which provide for extremely stable electrical performance. All DataTwist 2400

cables feature a small diameter for higher density installations – especially valuable for runs inside conduit. For the installer, the DataTwist cables come with a unique descending sequential printing scheme that shows exactly how much cable remains on the spool or in the box. And that translates into faster installations with less waste.

Belden DataTwist 2400 Cables are part of the Belden IBDN System 2400. Belden IBDN System 2400 delivers additional throughput and enhanced error-free performance needed to support high-traffic and high-bit-rate applications. The system delivers 250 MHz of user bandwidth and supports data rates up to 2.4 Gb/s, while surpassing Category 6 requirements as per the TIA/EIA-568-B.2-1 standard. The 2400 System provides the speed and reliability needed for your business to perform at its profitable best.

To learn more about Belden IBDN copper-based structured cabling and connectivity systems, call 1.800.BELDEN.1 or visit our Website at [www.belden.com](http://www.belden.com).

## Belden DataTwist 2400 Cable Surpasses Category 6 Standards

The Belden IBDN 2400 Solution delivers enhanced error-free performance for high-traffic and high-bit-rate applications.

### Applications

Belden DataTwist 2400 Cable is intended to be used for horizontal cable installations of high speed Local Area Networks (LANs) for transmission speeds up to 2.4 Gb/s. Specific applications include:

- 1000BASE-T Ethernet, and other LAN protocols operating up to 2.4 Gb/s transmission speeds
- ATM at all speeds up to 2.4 Gb/s
- 100 Mb/s TP-PMD, 100 Mb/s Ethernet (100BASE-T)
- Broadband video (77 channels at 550 MHz)

### Features & Benefits

- Increased bandwidth and signal-to-noise margin
- Optimized balance of transmission performance for simultaneous parallel transmission protocols
- Size minimized for compactness of installations
- Materials selected to support 25-year performance warranties
- Descending distance marking for cable length reduces waste
- Matching tip and ring color code for ease of installation
- Available in Spool-in-Box packaging for ease of installation, handling and inventory management
- Available in CMR, CMP and LSZH versions

### Technical Specifications

#### Physical Characteristics

- Conductors: 23 AWG solid copper
- Insulation:
  - Plenum: Low Smoke Flame Retardant thermoplastic (FEP)
  - Riser and LSZH: Polyolefin (PE)

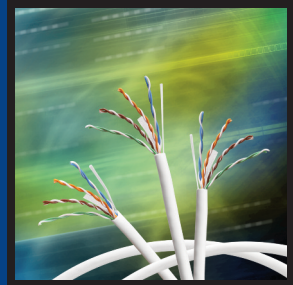
- Cable Core: Four twisted pairs cabled around Belden's patented center member
- Jacket w/ Rip Cord:
  - Plenum: LSPVC
  - Riser: PVC
  - LSZH: Low Smoke Zero Halogen Polymer Alloy
  - Jacket printed at intervals indicating cable code, AWG, listings (NEC Code), verification, date, manufacturing traceability code
  - Descending length markings start at highest number and end at 0

#### Mechanical Characteristics

- Minimum Recommended Installation Temperature: 5°C (40°F)
- Temperature Rating: 60°C (140°F)

#### Transmission Characteristics

- Values up to 300 MHz are minimum guaranteed values
- Values above 300 MHz are for information only
- DC Resistance @ 20°C, max.: 9.38 ohms/100 m
- DC Resistance Unbalance, max.: 5%
- Mutual Capacitance, max.: 5.6 nF/100 m
- Capacitance Unbalance Pair to Ground, max.: 330 pF/100 m
- Input Impedance:
  - 100 ± 15 ohms from 1 to 100 MHz
  - 100 ± 22 ohms from 101 to 200 MHz
  - 100 ± 32 ohms from 201 to 300 MHz
- Nominal Velocity of Propagation (NVP):
  - Plenum: 72% @ 10 MHz
  - Riser: 68% @ 10 MHz
- Propagation Delay (Skew), max.: 25 ns/100 m



## Technical Specifications (continued)

### Key Electrical Attributes

Frequency (MHz)	NEXT (dB)		PSNEXT (dB)		ACR (dB)		PSACR (dB)		ELFEXT (dB)		PSELFEXT (dB)		Insertion Loss (dB/100 m)		Return Loss (dB)		TCL (dB)		ELTCTL (dB)		
	TIA*	Spec.	TIA*	Spec.	TIA*	Spec.	TIA*	Spec.	TIA*	Spec.	TIA*	Spec.	TIA*	Spec.	TIA*	Spec.	TIA*	Spec.	TIA*	Spec.	
0.772	76.0	77.0	74.0	75.0	74.2	75.2	72.2	73.2	70.0	73.0	67.0	70.0	1.8	1.8	19.4	-	-	-	-	-	-
1	74.3	75.3	72.3	73.3	72.3	73.3	70.3	71.3	67.8	70.8	64.8	67.8	2.0	2.0	20.0	20.0	40.0	40.0	35.0	35.0	-
4	65.3	66.3	63.3	64.3	61.5	62.6	59.5	60.6	55.8	58.8	52.8	55.8	3.8	3.7	23.0	23.0	40.0	40.0	23.0	23.0	-
8	60.8	63.3	58.8	61.3	55.5	58.1	53.5	56.1	49.7	52.7	46.7	49.7	5.3	5.2	24.5	24.5	40.0	40.0	17.0	17.0	-
10	59.3	61.8	57.3	59.8	53.3	56.0	51.3	54.0	47.8	50.8	44.8	47.8	6.0	5.8	25.0	25.0	40.0	40.0	15.0	15.0	-
16	56.2	58.6	54.2	56.6	48.6	51.2	46.6	49.2	43.7	46.7	40.7	43.7	7.6	7.4	25.0	25.0	38.0	38.0	10.9	10.9	-
20	54.8	57.1	52.8	55.1	46.3	48.8	44.3	46.8	41.8	44.8	38.8	41.8	8.5	8.3	25.0	25.0	37.0	37.0	9.0	9.0	-
25	53.3	55.5	51.3	53.5	43.8	46.3	41.8	44.3	39.8	42.8	36.8	39.8	9.5	9.3	24.3	24.3	36.0	36.0	7.1	7.1	-
31.25	51.9	54.0	49.9	52.0	41.2	43.6	39.2	41.6	37.9	40.9	34.9	37.9	10.7	10.4	23.6	23.6	35.1	35.1	5.1	5.1	-
62.5	47.4	49.1	45.4	47.1	32.0	34.1	30.0	32.1	31.9	34.9	28.9	31.9	15.4	15.0	21.5	21.5	32.0	32.0	-	-	-
100	44.3	45.8	42.3	43.8	24.5	26.5	22.5	24.5	27.8	30.8	24.8	27.8	19.8	19.3	20.1	20.8	30.0	30.0	-	-	-
200	39.8	40.9	37.8	38.9	10.8	12.6	8.8	10.6	21.8	24.8	18.8	21.8	29.0	28.3	18.0	18.7	27.0	27.0	-	-	-
250	38.3	39.3	36.3	37.3	5.5	7.2	3.5	5.2	19.8	22.8	16.8	19.8	32.8	32.1	17.3	18.0	26.0	26.0	-	-	-
300	-	38.1	-	36.1	-	2.5	-	0.5	-	21.3	-	18.3	-	35.6	-	17.5	-	-	-	-	-
350	-	37.1	-	35.1	-	-	-	-	-	19.9	-	16.9	-	38.9	-	17.0	-	-	-	-	-
400	-	36.3	-	34.3	-	-	-	-	-	18.8	-	15.8	-	42.0	-	16.6	-	-	-	-	-
450	-	35.5	-	33.5	-	-	-	-	-	17.7	-	14.7	-	45.0	-	16.2	-	-	-	-	-
500	-	34.8	-	32.8	-	-	-	-	-	16.8	-	13.8	-	47.9	-	15.9	-	-	-	-	-
550	-	34.2	-	32.2	-	-	-	-	-	16.0	-	13.0	-	50.6	-	15.6	-	-	-	-	-

\* TIA/EIA-568-B.2-1 Category 6 Standard.  
Values above 300 MHz for engineering purposes only.

### Qualifications

- Meets or exceeds Category 6 requirements per TIA/EIA-568-B.2-1
- Exceeds the Category 5e requirements per ANSI/TIA/EIA-568-A.5 or TIA/EIA-568-B.2
- Exceeds the Category 5 requirements per ANSI/TIA/EIA-568-A, CSA T529-95 and ISO/IEC 11801-1995
- Exceeds the Category 5 requirements per NEMA Standard WC 63.1-1996
- Exceeds the Category 5 requirements of ICEA S-90-661-1997
- Riser: ITS/ETL Certified as CMR, and listed as NEC Type CMR per UL Standard 444
- Plenum: ITS/ETL Certified as CMP, and listed as NEC Type CMP per UL Standard 444
- LSZH: EN50288-6-1, ISO/IEC 332-1, 754-2 and 1034-2

### Key Physical Attributes

4-pair, 23 AWG	Nominal O.D.	Min. Bend Radius	Weight (Cable Only)
DataTwist 2412 Cable CMR	5.44 mm (0.214 in.)	22.15 mm (0.872 in.)	3.9 kg/100 m (26.0 lb/kft)
DataTwist 2413 Cable CMP	5.33 mm (0.210 in.)	21.04 mm (0.828 in.)	4.2 kg/100 m (28.0 lb/kft)
DataTwist 2424 Cable LSZH	5.44 mm (0.214 in.)	23.28 mm (0.916 in.)	4.2 kg/100 m (28.0 lb/kft)

## Ordering Information

To learn more about Belden IBDN copper-based structured cabling and connectivity systems or Belden DataTwist Cables, call 1.800.BELDEN.1 or visit our Website at [www.belden.com](http://www.belden.com).

### DataTwist 2412, 4-pair, 23 AWG, CMR, Cat 6

Belden Part Number	Color	Length	Packaging	No. of Pack Per Pallet	Total Per Pallet
2412 003 A1000	Orange	305 m (1000 ft.)	Spool-in-Box	45 boxes/pallet	13725 m (45000 ft.)
2412 004 A1000	Yellow	305 m (1000 ft.)	Spool-in-Box	45 boxes/pallet	13725 m (45000 ft.)
2412 005 A1000	Green	305 m (1000 ft.)	Spool-in-Box	45 boxes/pallet	13725 m (45000 ft.)
2412 006 A1000	Blue	305 m (1000 ft.)	Spool-in-Box	45 boxes/pallet	13725 m (45000 ft.)
2412 007 A1000	Purple	305 m (1000 ft.)	Spool-in-Box	45 boxes/pallet	13725 m (45000 ft.)
2412 008 A1000	Gray	305 m (1000 ft.)	Spool-in-Box	45 boxes/pallet	13725 m (45000 ft.)
2412 009 A1000	White	305 m (1000 ft.)	Spool-in-Box	45 boxes/pallet	13725 m (45000 ft.)
2412 010 A1000	Black	305 m (1000 ft.)	Spool-in-Box	45 boxes/pallet	13725 m (45000 ft.)
2412 004 1000	Yellow	305 m (1000 ft.)	11-3/4N Spool	36 spools/pallet	10980 m (36000 ft.)
2412 005 1000	Green	305 m (1000 ft.)	11-3/4N Spool	36 spools/pallet	10980 m (36000 ft.)
2412 006 1000	Blue	305 m (1000 ft.)	11-3/4N Spool	36 spools/pallet	10980 m (36000 ft.)
2412 008 1000	Gray	305 m (1000 ft.)	11-3/4N Spool	36 spools/pallet	10980 m (36000 ft.)
2412 009 1000	White	305 m (1000 ft.)	11-3/4N Spool	36 spools/pallet	10980 m (36000 ft.)
2412 010 1000	Black	305 m (1000 ft.)	11-3/4N Spool	36 spools/pallet	10980 m (36000 ft.)
2412 004 2500	Yellow	762 m (2500 ft.)	14N Spool	27 spools/pallet	20574 m (67500 ft.)
2412 006 2500	Blue	762 m (2500 ft.)	14N Spool	27 spools/pallet	20574 m (67500 ft.)
2412 009 2500	White	762 m (2500 ft.)	14N Spool	27 spools/pallet	20574 m (67500 ft.)

### DataTwist 2413, 4-pair, 23 AWG, CMP, Cat 6

Belden Part Number	Color	Length	Packaging	No. of Pack Per Pallet	Total Per Pallet
2413 002 A1000	Red	305 m (1000 ft.)	Spool-in-Box	45 boxes/pallet	13725 m (45000 ft.)
2413 003 A1000	Orange	305 m (1000 ft.)	Spool-in-Box	45 boxes/pallet	13725 m (45000 ft.)
2413 004 A1000	Yellow	305 m (1000 ft.)	Spool-in-Box	45 boxes/pallet	13725 m (45000 ft.)
2413 005 A1000	Green	305 m (1000 ft.)	Spool-in-Box	45 boxes/pallet	13725 m (45000 ft.)
2413 007 A1000	Purple	305 m (1000 ft.)	Spool-in-Box	45 boxes/pallet	13725 m (45000 ft.)
2413 008 A1000	Gray	305 m (1000 ft.)	Spool-in-Box	45 boxes/pallet	13725 m (45000 ft.)
2413 009 A1000	White	305 m (1000 ft.)	Spool-in-Box	45 boxes/pallet	13725 m (45000 ft.)
2413 010 A1000	Black	305 m (1000 ft.)	Spool-in-Box	45 boxes/pallet	13725 m (45000 ft.)
2413 012 A1000	Pink	305 m (1000 ft.)	Spool-in-Box	45 boxes/pallet	13725 m (45000 ft.)
2413 D15 A1000	Blue	305 m (1000 ft.)	Spool-in-Box	45 boxes/pallet	13725 m (45000 ft.)
2413 003 1000	Orange	305 m (1000 ft.)	11N Spool	60 spools/pallet	18300 m (60000 ft.)
2413 004 1000	Yellow	305 m (1000 ft.)	11N Spool	60 spools/pallet	18300 m (60000 ft.)
2413 005 1000	Green	305 m (1000 ft.)	11N Spool	60 spools/pallet	18300 m (60000 ft.)
2413 008 1000	Gray	305 m (1000 ft.)	11N Spool	60 spools/pallet	18300 m (60000 ft.)
2413 009 1000	White	305 m (1000 ft.)	11N Spool	60 spools/pallet	18300 m (60000 ft.)
2413 010 1000	Black	305 m (1000 ft.)	11N Spool	60 spools/pallet	18300 m (60000 ft.)
2413 D15 1000	Blue	305 m (1000 ft.)	11N Spool	60 spools/pallet	18300 m (60000 ft.)
2413 004 2500	Yellow	762 m (2500 ft.)	14N Spool	27 spools/pallet	20574 m (67500 ft.)
2413 005 2500	Green	762 m (2500 ft.)	14N Spool	27 spools/pallet	20574 m (67500 ft.)
2413 009 2500	White	762 m (2500 ft.)	14N Spool	27 spools/pallet	20574 m (67500 ft.)
2413 010 2500	Black	762 m (2500 ft.)	14N Spool	27 spools/pallet	20574 m (67500 ft.)
2413 D15 2500	Blue	762 m (2500 ft.)	14N Spool	27 spools/pallet	20574 m (67500 ft.)

### DataTwist 2424, 4-pair, 23 AWG, LSZH, Cat 6

Belden Part Number	Color	Length	Packaging	No. of Pack Per Pallet	Total Per Pallet
2424 007 1000	Purple	305 m (1000 ft.)	11-3/4N Spool	36 spools/pallet	10980 m (36000 ft.)