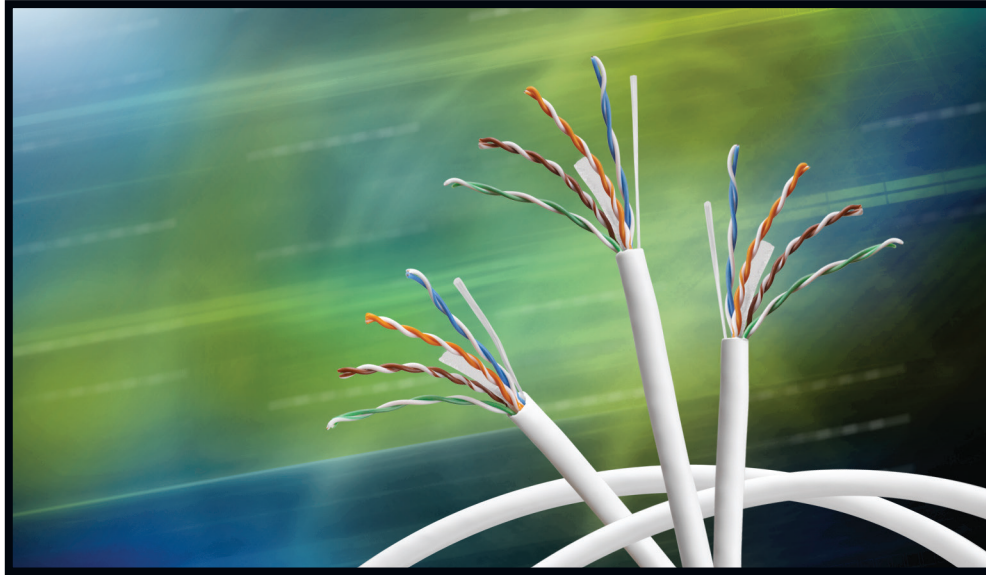


PB 289

### **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).

Our End-to-End Expertise  
Your End-to-End Solution

## 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)

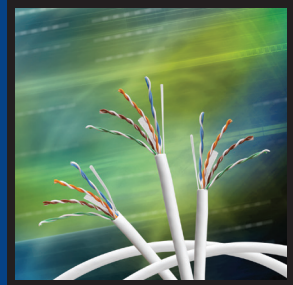
- Cable Core: Four twisted pairs cabled around Belden's patented center member
- Jacket w/ Rip Cord:
  - Plenum: LSPVC
  - Riser: PVC
  - LSZH: Low Smoke Zero Halogen Polymer Alloy
  - Jacket printed at intervals indicating cable code, AWG, listings (NEC Code), verification, date, manufacturing traceability 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 350 MHz are minimum guaranteed values
- Values above 350 MHz are for information only
- DC Resistance @ 20°C, max.: 7.80 ohms/100 m
- DC Resistance Unbalance, max.: 3%
- 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 350 MHz
- Nominal Velocity of Propagation (NVP):
  - Plenum: 72% @ 10 MHz
  - Riser: 68% @ 10 MHz
- Propagation Delay (Skew), max.: 35 ns/100 m



## Technical Specifications (continued)

### Key Electrical Attributes

Frequency (MHz)	Insertion Loss (dB/100 m)		PSNEXT (dB)		PSACR (dB)		PSACRF (dB)		Return Loss (dB)		TCL (dB)		ELTCTL (dB)	
	TIA*	Spec.	TIA*	Spec.	TIA*	Spec.	TIA*	Spec.	TIA*	Spec.	TIA*	Spec.	TIA*	Spec.
1	2.0	2.0	72.3	75.3	70.3	73.3	64.8	67.8	20.0	20.0	40.0	40.0	35.0	35.0
4	3.8	3.7	63.3	66.3	59.5	62.6	52.8	55.8	23.0	23.0	40.0	40.0	23.0	23.0
8	5.3	5.2	58.8	63.3	53.5	58.1	46.7	49.7	24.5	24.5	40.0	40.0	17.0	17.0
10	6.0	5.8	57.3	61.8	51.3	56.0	44.8	47.8	25.0	25.0	40.0	40.0	15.0	15.0
16	7.6	7.4	54.2	58.6	46.6	51.2	40.7	43.7	25.0	25.0	38.0	38.0	10.9	10.9
20	8.5	8.3	52.8	57.1	44.3	48.8	38.8	41.8	25.0	25.0	37.0	37.0	9.0	9.0
25	9.5	9.3	51.3	55.5	41.8	46.3	36.8	39.8	24.3	24.3	36.0	36.0	7.1	7.1
31.25	10.7	10.4	49.9	54.0	39.2	43.6	34.9	37.9	23.6	23.6	35.1	35.1	5.1	5.1
62.5	15.4	15.0	45.4	49.1	30.0	34.1	28.9	31.9	21.5	21.5	32.0	32.0	-	-
100	19.8	19.3	42.3	45.8	22.5	26.5	24.8	27.8	20.1	20.8	30.0	30.0	-	-
200	29.0	28.3	37.8	40.9	8.8	12.6	18.8	21.8	18.0	18.7	27.0	27.0	-	-
250	32.8	32.1	36.3	39.3	3.5	7.2	16.8	19.8	17.3	18.0	26.0	26.0	-	-
300	-	35.6	-	36.1	-	0.5	-	18.3	-	17.5	-	-	-	-
350	-	38.9	-	35.1	-	-	-	16.9	-	17.0	-	-	-	-
400	-	42.0	-	34.3	-	-	-	15.8	-	16.6	-	-	-	-
450	-	45.0	-	33.5	-	-	-	14.7	-	16.2	-	-	-	-
500	-	47.9	-	32.8	-	-	-	13.8	-	15.9	-	-	-	-
550	-	50.6	-	32.2	-	-	-	13.0	-	15.6	-	-	-	-

Values above 350 MHz for engineering purposes only. The values shown are guaranteed minimum performance.  
\*TIA/EIA-568-C.2 Category 6 Standard

### Qualifications

- Meets or exceeds Category 6 requirements per TIA/EIA-568-C.2, ISO/IEC 11801 ed 2 Amendment 2 (2010) Class E
- Exceeds the Category 5e requirements per ANSI/TIA/EIA-568-A.5 or TIA/EIA-568-C.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)

## DataTwist 2400 Cable, Category 6 Nonbonded-Pair

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).

Belden Part Number	Color	Length	Packaging	No. of Packages Per Pallet	Total Length Per Pallet
<b>DataTwist 2400, 4-pair, 23 AWG, CMR</b>					
2412 002U1000	Red	305 m (1000 ft)	Spool-in-Box	27 boxes/pallet	13725 m (45000 ft)
2412 003U1000	Orange	305 m (1000 ft)	UnReel Box	27 boxes/pallet	8235 m (27000 ft)
2412 004U1000	Yellow	305 m (1000 ft)	UnReel Box	27 boxes/pallet	8235 m (27000 ft)
2412 005U1000	Green	305 m (1000 ft)	UnReel Box	27 boxes/pallet	8235 m (27000 ft)
2412 006U1000	Blue	305 m (1000 ft)	UnReel Box	27 boxes/pallet	8235 m (27000 ft)
2412 007U1000	Purple	305 m (1000 ft)	UnReel Box	27 boxes/pallet	8235 m (27000 ft)
2412 008U1000	Gray	305 m (1000 ft)	UnReel Box	27 boxes/pallet	8235 m (27000 ft)
2412 009U1000	White	305 m (1000 ft)	UnReel Box	27 boxes/pallet	8235 m (27000 ft)
2412 010U1000	Black	305 m (1000 ft)	UnReel Box	27 boxes/pallet	8235 m (27000 ft)
2412 002A1000	Red	305 m (1000 ft)	Spool-in-Box	45 boxes/pallet	13725 m (45000 ft)
2412 003A1000	Orange	305 m (1000 ft)	Spool-in-Box	45 boxes/pallet	13725 m (45000 ft)
2412 004A1000	Yellow	305 m (1000 ft)	Spool-in-Box	45 boxes/pallet	13725 m (45000 ft)
2412 005A1000	Green	305 m (1000 ft)	Spool-in-Box	45 boxes/pallet	13725 m (45000 ft)
2412 006A1000	Blue	305 m (1000 ft)	Spool-in-Box	45 boxes/pallet	13725 m (45000 ft)
2412 007A1000	Purple	305 m (1000 ft)	Spool-in-Box	45 boxes/pallet	13725 m (45000 ft)
2412 008A1000	Gray	305 m (1000 ft)	Spool-in-Box	45 boxes/pallet	13725 m (45000 ft)
2412 009A1000	White	305 m (1000 ft)	Spool-in-Box	45 boxes/pallet	13725 m (45000 ft)
2412 010A1000	Black	305 m (1000 ft)	Spool-in-Box	45 boxes/pallet	13725 m (45000 ft)
2412 0041000	Yellow	305 m (1000 ft)	Spool	36 spools/pallet	10980 m (36000 ft)
2412 0051000	Green	305 m (1000 ft)	Spool	36 spools/pallet	10980 m (36000 ft)
2412 0061000	Blue	305 m (1000 ft)	Spool	36 spools/pallet	10980 m (36000 ft)
2412 0081000	Gray	305 m (1000 ft)	Spool	36 spools/pallet	10980 m (36000 ft)
2412 0091000	White	305 m (1000 ft)	Spool	36 spools/pallet	10980 m (36000 ft)
2412 0101000	Black	305 m (1000 ft)	Spool	36 spools/pallet	10980 m (36000 ft)
2412 0062500	Blue	762 m (2500 ft)	Spool	27 spools/pallet	20587 m (67500 ft)
<b>DataTwist 2400, 4-pair, 23 AWG, CMP</b>					
2413 D15U1000	Blue	305 m (1000 ft)	UnReel Box	27 boxes/pallet	8235 m (27000 ft)
2413 003U1000	Orange	305 m (1000 ft)	UnReel Box	27 boxes/pallet	8235 m (27000 ft)
2413 004U1000	Yellow	305 m (1000 ft)	UnReel Box	27 boxes/pallet	8235 m (27000 ft)
2413 005U1000	Green	305 m (1000 ft)	UnReel Box	27 boxes/pallet	8235 m (27000 ft)
2413 007U1000	Purple	305 m (1000 ft)	UnReel Box	27 boxes/pallet	8235 m (27000 ft)
2413 008U1000	Gray	305 m (1000 ft)	UnReel Box	27 boxes/pallet	8235 m (27000 ft)
2413 009U1000	White	305 m (1000 ft)	UnReel Box	27 boxes/pallet	8235 m (27000 ft)
2413 010U1000	Black	305 m (1000 ft)	UnReel Box	27 boxes/pallet	8235 m (27000 ft)
2413 002A1000	Red	305 m (1000 ft)	Spool-in-Box	45 boxes/pallet	13725 m (45000 ft)
2413 003A1000	Orange	305 m (1000 ft)	Spool-in-Box	45 boxes/pallet	13725 m (45000 ft)
2413 004A1000	Yellow	305 m (1000 ft)	Spool-in-Box	45 boxes/pallet	13725 m (45000 ft)
2413 005A1000	Green	305 m (1000 ft)	Spool-in-Box	45 boxes/pallet	13725 m (45000 ft)
2413 D15A1000	Blue	305 m (1000 ft)	Spool-in-Box	45 boxes/pallet	13725 m (45000 ft)
2413 007A1000	Purple	305 m (1000 ft)	Spool-in-Box	45 boxes/pallet	13725 m (45000 ft)
2413 008A1000	Gray	305 m (1000 ft)	Spool-in-Box	45 boxes/pallet	13725 m (45000 ft)
2413 009A1000	White	305 m (1000 ft)	Spool-in-Box	45 boxes/pallet	13725 m (45000 ft)
2413 010A1000	Black	305 m (1000 ft)	Spool-in-Box	45 boxes/pallet	13725 m (45000 ft)
2413 012A1000	Pink	305 m (1000 ft)	Spool-in-Box	45 boxes/pallet	13725 m (45000 ft)
2413 0031000	Orange	305 m (1000 ft)	Spool	60 spools/pallet	18300 m (60000 ft)
2413 0041000	Yellow	305 m (1000 ft)	Spool	60 spools/pallet	18300 m (60000 ft)
2413 0051000	Green	305 m (1000 ft)	Spool	60 spools/pallet	18300 m (60000 ft)
2413 D151000	Blue	305 m (1000 ft)	Spool	60 spools/pallet	18300 m (60000 ft)
2413 0081000	Gray	305 m (1000 ft)	Spool	60 spools/pallet	18300 m (60000 ft)
2413 0091000	White	305 m (1000 ft)	Spool	60 spools/pallet	18300 m (60000 ft)
2413 0101000	Black	305 m (1000 ft)	Spool	60 spools/pallet	18300 m (60000 ft)
2413 0042500	Yellow	762 m (2500 ft)	Spool	27 spools/pallet	20587 m (67500 ft)
2413 D152500	Blue	762 m (2500 ft)	Spool	27 spools/pallet	20587 m (67500 ft)
2413 0092500	White	762 m (2500 ft)	Spool	27 spools/pallet	20587 m (67500 ft)
<b>DataTwist 2400, 4-pair, 23 AWG, LSZH</b>					
2424 0071000	Purple	305 m (1000 ft)	Spool	36 spools/pallet	10980 m (36000 ft)