

NP 236

LSZH Shipboard Cables

Belden's complete line of LSZH Shipboard cables deliver high-end audio and video quality on private yachts and commercial ships to enhance consumer enjoyment, shipboard safety and communications.



Belden Adds New Cables to Low-Smoke, Zero Halogen Shipboard A/V Cable Line

Private yacht building is on the rise and cruise ships continue to thrive. Yacht builders and commercial cruise lines recognize that offering customers the same audio/video quality at sea as they experience on land can be a competitive advantage. In addition, a reliable, high-performance A/V cabling system enhances shipboard safety and communications.

Belden is currently the only cable manufacturer to offer a complete series of audio, video and multimedia cables approved by the American



Bureau of Shipping (ABS) for use in demanding marine applications – Belden Shipboard A/V cables.

Recently the company added several additional products to its line of LSZH cables for shipboard use.

Setting the Global Standard of Excellence

For decades, the Belden Brilliance® brand has set the global standard for innovation in the development and manufacture of professional quality broadcast, audio, video, multimedia and control cables.

The new series of Belden Shipboard cables continues that proud tradition. Some of the advantages of installing Belden Shipboard cables include:

- Independent, third-party approval by the ABS. The American Bureau of Shipping is the leading international classification society devoted to promoting the security of life, property and the marine environment through the development and verification of standards for the design, construction and operational maintenance of marine-related facilities. With ABS approval, no additional special approvals or insurance company exceptions are required for Belden A/V cable system installations.
- Full compliance with industry and global environmental standards. Belden's new line of Shipboard cables comply with industry standards IEEE 45, and applicable sections of IEC 60092-376 for low smoke and zero halogen. Because of the global nature of the marine industry, the cables are designed and manufactured in compliance with the European Union RoHS Directive (2002/95/EC, 27-Jan-2003) governing the Reduction of Hazardous Substances in electrical and electronic equipment.
- Delivery of highest quality A/V experience to buyers of private yachts and passengers and crew on commercial ships.
- Fast, easy installation using standard connectors, with no special installation techniques or equipment required.
- Exclusive and unmatched Belden 10-year Warranty.

Product Construction and Availability

Belden's diverse Shipboard cable line is designed to implement a wide range of shipboard audio, video, security, networking and control applications.

Copper cables

The copper-based series now includes:

- Brilliance® Broadband Coaxial cables
- Brilliance Precision Video cables
- Brilliance Audio, Control and Instrumentation cables
- DataTwist® Networking cable
- Classic Design Security Composite cables
- New Generation® CI Fire/Alarm cables

The latest additions to Belden's copper Shipboard cables include:

Coaxial cables

- 7731SB Precision Video cable for Analog and Digital – Low Loss Serial Digital Coax – RG-11/U Type
- 7810SB Low Loss 50 Ohm Wireless RF Transmission cable - RG-8 Type

Audio/Control cables

- 1502SB Multimedia Control cable for AMX® and Crestron® systems that have both RS 485 and power in one cable
- 1350SB AES/EBU Digital Audio cable for Professional grade audio applications

Speaker cables

- 1314SB and 1316SB High Strand Audio cable – 2-conductor. High-flex and high-purity
- 1315SB and 1317SB High Strand Audio cable – 4-conductor. High-flex and high-purity

Data and Patch cables

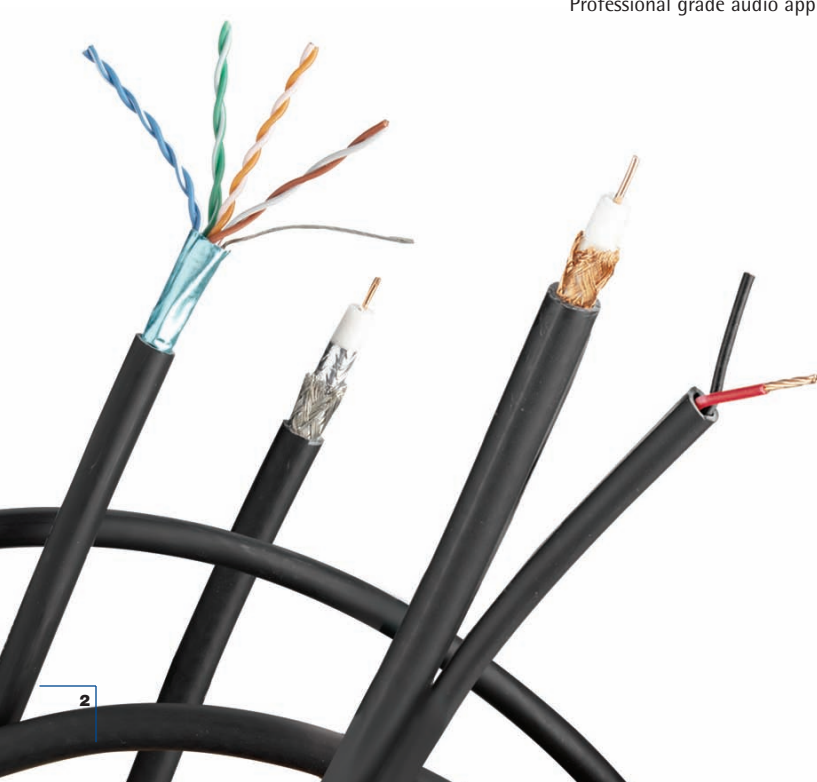
- 1318SB DataTwist® 5e UTP cable – TIA/EIA-568-B.2, Category 5e Nonbonded-pair cables
- 1319SB DataTwist® 6 UTP cable – TIA/EIA-568-B.2-1, Category 6 Nonbonded-pair cables

Fire/Alarm cables

- 1320SB and 1321SB Circuit Integrity cable (per IEC 60331-23) – Shielded Multi-conductor cables

Fiber Optic cables

Belden's Shipboard cable series also includes a wide selection of all-dielectric, loose tube Fiber Optic cables, featuring flame-retardant Thermoplastic buffers, aramid yarn strength members, a rip cord, overall water-blocking tape, and LSZH jackets.






Audio, Control and Instrumentation Cable, LSZH


Single- and Multi-pair Cables

Description	Part No.	UL NEC/ C(UL) CEC Type	No. of Pairs	Color Code	Standard Lengths		Standard Unit Weight		Insulation Thickness		Jacket Thickness		Nominal OD		Nominal Capacitance			
					Ft.	m	Lbs.	kg	Inch	mm	Inch	mm	Inch	mm	* pF/ Ft.	* pF/ m	** pF/ Ft.	** pF/ m

22 AWG Stranded (7x30) • Tinned Copper • Twisted Pair • Overall 100% Beldfoil Shield • 22 AWG Stranded TC Drain Wire

Polypropylene Insulation • Black LSZH Jacket


300V RMS 105°C		9451SB	NEC/CEC CMG-LS FT4	1	Black, Red	1000	304.8	20.0	9.1	.008	.20	.033	.84	.160	4.06	35	115	67	220
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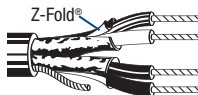


The jacket and shield are bonded so both can be removed on automatic stripping equipment. Drain wire is inside foil shield.
ABS Type Approval Certificate Number 05-HS50072B/1-PDA.

22 AWG Stranded (7x30) • Tinned Copper • Twisted Pairs • Individually Shielded with 100% Beldfoil • 24 AWG Stranded TC Common Drain Wire

Polypropylene Insulation • Black LSZH Jacket (Pairs Cabled on Common Axis to Reduce Diameter)


300V RMS 105°C		8723SB	NEC/CEC CMG-LS FT4	2	Black & Red Green & White	1000	304.8	26.0	11.8	.008	.20	.034	.86	.196	4.98	35	115	67	220
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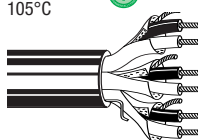


ABS Type Approval Certificate Number 05-HS50072B/1-PDA.

22 AWG Stranded (7x30) • Tinned Copper • Twisted Pairs • Individually Shielded with 100% Beldfoil • 22 AWG Stranded TC Drain Wires

Polypropylene Insulation • Black LSZH Jacket

UL AWM Style 2919 (30V) 105°C		8777SB	NEC/CEC CMG-LS FT4	3	Black & Red Black & White Black & Green	1000	304.8	47.0	21.3	.010	.25	.034	.86	.273	6.93	30	55	98	180
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ABS Type Approval Certificate Number 05-HS50072B/1-PDA.

Multimedia Control Cable

Description	Part No.	UL NEC/ C(UL) CEC Type	No. of Cond.	Color Code	Standard Lengths		Standard Unit Weight		Insulation Thickness		Jacket Thickness		Nominal OD		Nominal Capacitance			
					Ft.	m	Lbs.	kg	Inch	mm	Inch	mm	Inch	mm	* pF/ Ft.	* pF/ m	** pF/ Ft.	** pF/ m

22 AWG Stranded (7x30) TC Conductors (Data), STP w/Beldfoil®, TC Drain Wire • **18 AWG** (16x30) TC Conductors (Power), Unshielded Pair

FPE Insulation (Data) • F-R PVC Insulation (Power) • Black LSZH Jacket

300V 75°C		1502SB	NEC/CEC CMG-LS FT4	1 STP +2/C	Pair: Blue, White Cond.: Red, Black	1000	304.8	39.0	17.7	Data: .020 0.51 Power: .007 0.18	.045	1.1	.255	6.5	14	46	38	125
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Sequential footing marking every two feet.

ABS Type Approval Certificate Number 06-HS184641C-PDA.

DCR = DC Resistance • FPE = Foam Polyethylene • F-R = Flame-retardant • STP = Shielded Twisted Pair • TC = Tinned Copper

* Conductor to conductor.

** Conductor to other conductor & shield.



AES/EBU Digital Audio Cable, LSZH Single-pair Cable

Description	Part No.	UL NEC/ C(UL) CEC Type	No. of Pairs	Color Code	Standard Lengths		Standard Unit Weight		Nom. DCR		Nominal OD		Nom. Imp. (Ω)	Nom. Vel. of Prop.	Nom. Capacitance			
					Ft.	m	Lbs.	kg	Cond.	Shield	Inch	mm			* pF/ Ft.	* pF/ m	** pF/ Ft.	** pF/ m

24 AWG Stranded (7x32) Tinned Copper Conductors • Twisted Pairs • Overall Beldfoil® Shield (100% Coverage) • 24 AWG Drain Wire

Datalene Insulation • Black LSZH PVC Jacket

75°C	 1350SB <small>new</small>	NEC/CEC CMG-LS FT4	1	Black, Red	1000	304.8	23.2	10.5	25.7Ω/M' 84.3Ω/km	18.1Ω/M' 59.4Ω/km	.179	4.55	100	79%	13.4	44	26	85.3
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The jacket and shield are bonded so both can be removed with automatic stripping equipment.
ABS Type Approval Certificate Number 06-HS184641D-PDA.

High Strand Speaker Cable For Unshielded Audio and Control, LSZH High-flex and High-purity

Description	Part No.	UL NEC/ C(UL) CEC Type	No. of Cond.	Standard Lengths		Standard Unit Weight		Insulation Thickness		Capitance Conductor to Conductor @ 1 KHz pF/Ft.	Jacket Thickness		Nominal OD	
				Ft.	m	Lbs.	kg	Inch	mm		Inch	mm	Inch	mm

14 AWG Stranded (41 x 30), Tinned Copper, Conductors Cabled

Polypropylene Insulation, • Black LSZH Jacket



 1314SB <small>new</small>	NEC/CEC CMG-LS FT-4	2	1000	305	64.0	29.1	0.11	.28	29	.052	1.3	.300	7.62
 1315SB <small>new</small>	CMG-LS FT-4	4	1000	305	152.0 121.0	60.0	0.11	.28	29	.052	1.3	.339	8.61



ABS Type Approval Certificate Number 06-HS184641E-PDA.

12 AWG Stranded (65 x 30), Tinned Copper, Conductors Cabled

Polypropylene Insulation, • Black LSZH Jacket

 1316SB <small>new</small>	NEC/CEC CMG-LS FT-4	2	1000	305	43.0	19.5	0.11	.28	32	.052	1.3	.340	8.64
 1317SB <small>new</small>	NEC/CEC CMG-LS FT-4	4	1000	305	81.0	36.8	0.11	.28	32	.052	1.3	.388	9.86



ABS Type Approval Certificate Number 06-HS184641E-PDA.

BCCA = Bare Copper-covered Aluminum • DCR = DC Resistance • HDPE = High-density Polyethylene • TC = Tinned Copper

* Duobond II = Bonded Duofoil® (100% coverage) + aluminum braid (67% coverage).

** Please consult Belden's website, www.belden.com, for complete listing.



Broadband Coaxial Cable, LSZH

CATV Cables, Series 6



Description	Part No.	UL NEC/ C(UL) CEC Type	Standard Lengths		Standard Unit Weight		Conductor (stranding) Diameter Nom. DCR	Nominal Core OD		Shielding Materials Nom. DCR	Nominal OD		Nom. Imp. (Ω)	Nom. Vel. of Prop.	Nominal Capacitance		Nominal Attenuation		
			Ft.	m	Lbs.	kg		Inch	mm		Inch	mm			pF/Ft.	pF/m	MHz	dB/ 100 Ft.	dB/ 100m

Series 6 • 18 AWG Solid .040" Bare Copper-covered Steel Conductor • Duobond® II + Aluminum Braid Shield (60% Coverage)

Gas-injected Foam Polyethylene Insulation • Black LSZH Jacket

75°C		9116SB	NEC/CEC CMG-LS FT4	1000	304.8	31.0	14.1	18 AWG (solid) .040" BCCS 28.0Ω/M' 91.9Ω/km	.180	4.57	Duobond II* + 60% Aluminum Braid 9.0Ω/M' 29.5Ω/km	.274	6.96	75	83%	16.2	53.1	5	.54	1.77
Sweep tested 5 MHz to 3 GHz.																				
211																	2.64	8.66		
216																	2.67	8.76		
240																	2.80	9.19		
270																	2.97	9.74		
300																	3.13	10.27		
325																	3.26	10.70		
350																	3.39	11.12		
375																	3.52	11.55		
400																	3.65	11.97		
450																	3.88	12.73		
500																	4.09	13.42		
550																	4.30	14.11		
600																	4.51	14.80		
650																	4.72	15.49		
700																	4.92	16.14		
750																	5.11	16.76		
800																	5.27	17.29		
862																	5.47	17.95		
870																	5.49	18.01		
900																	5.60	18.37		
950																	5.79	19.00		
1000																	5.99	19.65		

ABS Type Approval Certificate Number 05-HS50072C/1-PDA.

Low Loss 50 Ohm Wireless RF Transmission Cable, LSZH

RG-8 Type

Description	Part No.	UL NEC/ C(UL) CEC Type	Standard Lengths		Standard Unit Weight		Conductor (stranding) Diameter Nom. DCR	Nominal Core OD		Shielding Materials Nom. DCR	Nominal OD		Nom. Imp. (Ω)	Nom. Vel. of Prop.	Nominal Capacitance		Nominal Attenuation		
			Ft.	m	Lbs.	kg		Inch	mm		Inch	mm			pF/Ft.	pF/m	MHz	dB/ 100 Ft.	dB/ 100m

RG-8 Type • 10 AWG Solid .108" Bare Copper-covered Aluminum Conductor • Duobond® II (100% Coverage) + Tinned Copper Braid Shield (95% Coverage)

Gas-injected Foam HDPE Insulation • Black LSZH Jacket

RF400		7810SB	NEC/CEC CMG-LS FT-4	1000	304.8	88.0	39.9	10 AWG (solid) .108" BCCA 1.34Ω/M' 4.4Ω/km	.285	7.24	Duobond II* + 95% TC Braid 2.0Ω/M' 6.6Ω/km	.405	10.3	50	86%	23.0	75.5	30	.7	2.3
80°C		new																50	.9	3.0
150																	1.5	4.9		
220																	1.8	5.9		
450																	2.7	8.9		
900																	3.8	12.5		
1500																	5.1	16.7		
1800																	5.6	18.4		
2000																	6.0	19.7		
2500																	6.7	22.0		
3000																	7.5	24.6		
3500																	8.2	26.9		
4500																	9.5	31.2		
5800																	11.1	36.4		
6000																	11.4	37.4		

Mates with 9913 and Land Mobile Radio type connectors.

ABS Type Approval Certificate Number 06-HS184641B-PDA.

BCCS = Bare Copper-covered Steel Conductor • DCR = DC Resistance • HDPE = High-Density Polyethylene • TC = Tinned Copper

*Duobond II = Bonded Duofoil (100% coverage) + aluminum braid (67% coverage)



Precision Video Cable for Analog and Digital, LSZH Low Loss Serial Digital Coax

Description	Part No.	UL NEC/ C(UL) CEC Type	Standard Lengths		Standard Unit Weight		Conductor (stranding) Diameter Nom. DCR	Nominal Core OD		Shielding Materials Nom. DCR	Nominal OD		Nom. Imp. (Ω)	Nom. Vel. of Prop.	Nominal Capacitance		Nominal Attenuation		
			Ft.	m	Lbs.	kg		Inch	mm		Inch	mm			pF/Ft.	pF/m	MHz	dB/100 Ft.	dB/100m

RG-6/U Type • 18 AWG Solid .040" Bare Copper Conductor • Duofoil® (100% Coverage) + Tinned Copper Braid Shield (95% Coverage)

Gas-injected Foam HDPE Insulation • Black LSZH Jacket

SDI/HDTV Digital Video 75°C	1694SB	NEC/CEC CMG-LS FT4	1000	304.8	46.0	20.9	18 AWG (solid) .040" BC 6.4Ω/M' 21.0Ω/km	.180	4.57	Duofoil + 95% TC Braid 2.8Ω/M' 9.2Ω/km	.274	6.96	75	82%	16.2	53.1	1	.2	.8	3.6	.5	1.5	10	.7	2.4	71.5	1.6	5.2	135	2.1	6.9	270	3.0	9.7	360	3.4	11.3	540	4.3	13.9	720	4.9	16.2	750	5.0	16.4	1000	5.9	19.3	1500	7.3	24.0	2250	9.1	30.0	3000	10.7	35.0	4500	13.3	43.6
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ABS Type Approval Certificate Number 05-HS50072C/1-PDA.

RG-11/U Type • 14 AWG Solid .064" Bare Copper Conductor • Duofoil (100% Coverage) + Tinned Copper Braid Shield (95% Coverage)

Gas-injected Foam HDPE Insulation • Black LSZH Jacket

SDI/HDTV Digital Video 75°C	7731SB <small>new</small>	NEC/CEC CMG-LS FT4	1000	304.8	89.0	40.4	14 AWG (solid) .064" BC 2.5Ω/M' 8.2Ω/km	.280	7.11	Duofoil + 95% TC Braid 1.5Ω/M' 4.9Ω/km	.400	10.2	75	85%	16.0	52.5	1	.2	.5	3.6	.3	1.0	10	.5	1.5	71.5	1.1	3.6	135	1.5	4.8	270	2.1	6.9	360	2.5	8.0	540	3.1	10.0	720	3.6	11.7	750	3.7	12.0	1000	4.3	14.1	1500	5.5	18.0	2250	6.9	22.6	3000	8.2	26.9	4500	10.4	34.1
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Suitable for Outdoor applications.

ABS Type Approval Certificate Number 06-HS184641A-PDA.

BC = Bare Copper • DCR = DC Resistance • HDPE = High-density Polyethylene • TC = Tinned Copper

Contact the Belden Customer Service Department for a Comprehensive Connector Cross Reference. **1.800.BELDEN.1**. Request quotations of RG-U cables not listed.



DataTwist® 5e ScTP, LSZH

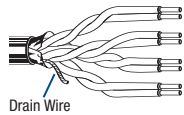
TIA/EIA-568-B.2, Category 5e Nonbonded-Pair Cables

Description	Part No.	UL NEC/ C(UL) CEC Type	No. of Pairs	Standard Lengths		Standard Unit Wt.		Nominal OD		Max. DCR (Ω / 100m)	Max. DCR Unbal. (%)	Max. Cap. Unbal. (pF/ 100m)	Freq. (MHz)	Max. Atten. (dB/ 100m)	Min. PSUM NEXT (dB)	Min. PSUM ACR (dB/ 100m)	Min. PSUM ELFEXT (dB/ 100m)	Input Imped. (Ω)	Min. RL (dB)
				Ft.	m	Lbs.	kg	Inch	mm										

24 AWG Solid Bare Copper • Twisted Pairs • Overall Beldfoil Shield • 24 AWG Drain Wire • RJ-45 Compatible • See Color Code Chart (below)

Polyolefin Insulation • Black LSZH Jacket

105°C		1300SB	NEC/CEC CMG-LS FT4	4	1000	304.8	35.0	15.9	.260	6.60	9.38	5.0	330	1	2.0	62.3	60	60.8	100±15	20.0
														4	4.1	53.3	49	48.7	100±15	23.0
														8	5.8	48.8	43	42.7	100±15	24.5
														10	6.5	47.3	41	40.8	100±15	25.0
														16	8.2	44.3	36	36.7	100±15	25.0
														20	9.3	42.8	34	34.7	100±15	25.0
														25	10.4	41.3	31	32.8	100±15	24.3
														31.25	11.7	39.9	28	30.9	100±15	23.6
														62.5	17.0	35.4	18	24.8	100±15	21.5
														100	22.0	32.3	10	20.8	100±15	20.1

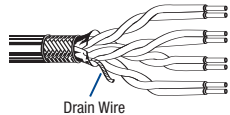


Shield is bonded to jacket inner wall for electrical stability.
Jacket sequentially marked at 2 ft. intervals. • Third party verified to TIA/EIA-568-B.2, Category 5e
ABS Type Approval Certificate Number 05-HS50072A/1-PDA.

24 AWG Solid Bare Copper • Twisted Pairs • Overall Beldfoil + TC Braid Shield • 24 AWG Drain Wire • RJ-45 Compatible
See Color Code Chart (below)

Polyolefin Insulation • Black and Gray LSZH Jacket

105°C		1633ESB <small>new</small>	NEC/CEC CMG-LS FT4	4	1000	304.8	35.0	15.9	.248	6.3	9.38	3.0	330	4	4.1	53.3	49	49.0	100±15	23.0
														10	6.5	47.3	41	41.0	100±15	25.0
														16	8.3	44.3	36	36.9	100±15	25.0
														20	9.3	42.5	33	35.0	100±15	25.0
														31.2	11.7	39.9	28	31.1	100±15	23.6
														62.5	17.0	38.4	21	25.1	100±15	21.5
														100	22.0	32.3	10	21.0	100±15	20.1



Jacket sequentially marked. • Third party verified to TIA/EIA-568-B.2, Category 5e
ABS Type Approval Certificate Number 05-HS50072A/1-PDA.

DataTwist® 5e UTP Cable

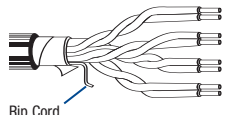
TIA/EIA-568-B.2, Category 5e Nonbonded-Pair Cables

Description	Part No.	UL NEC/ C(UL) CEC Type	No. of Pairs	Standard Lengths		Standard Unit Wt.		Nominal OD		Max. DCR (Ω / 100m)	Max. DCR Unbal. (%)	Max. Cap. Unbal. (pF/ 100m)	Freq. (MHz)	Max. Atten. (dB/ 100m)	Min. PSUM NEXT (dB)	Min. PSUM ACR (dB/ 100m)	Min. PSUM ELFEXT (dB/ 100m)	Input Imped. (Ω)	Min. RL (dB)
				Ft.	m	Lbs.	kg	Inch	mm										

24 AWG Solid Bare Copper • Twisted Pairs • Rip Cord • See Color Code Chart (below)

Non-Plenum • Polyolefin Insulation • Black LSZH Jacket

105°C		1318SB <small>new</small>	NEC/CEC CMG-LS FT4	4	1000	304.8	44.0	20.0	.291	7.39	9.38	3.0	330	1	2.0	62.3	60.3	60.8	100±15	20.0
														4	4.1	53.3	49.2	48.7	100±15	23.0
														10	6.5	47.3	40.8	40.8	100±15	25.0
														16	8.2	44.3	36.0	36.7	100±15	25.0
														31.25	11.7	39.9	28.2	30.9	100±15	23.6
														62.5	17.0	35.4	19.0	24.9	100±15	21.5
														100	22.0	32.3	10.3	20.8	100±15	20.1
														200	32.0	27.8	1.0	14.7	100±25	15.0



Jacket sequentially marked at 2 ft. intervals. • Third party verified to TIA/EIA-568-B.2, Category 5e

ACR = Attenuation Crosstalk Ratio • DCR = DC Resistance • ELFEXT = Equal Level Far-end Crosstalk • NEXT = Near-end Crosstalk • PSUM = Power Sum • RL = Return Loss • UTP = Unshielded Twisted Pair(s)

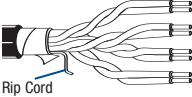

Color Codes

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



DataTwist® 6 UTP Cable, LSZH



TIA/EIA-568-B.2.1, Category 6 Nonbonded-Pair Cables

Description	Part No.	UL NEC/ C(UL) CEC Type	No. of Pairs	Standard Lengths		Standard Unit Wt.		Nominal OD		Max. DCR (Ω/ 100m)	Max. DCR Unbal. (%)	Max. Cap. Unbal. (pF/ 100m)	Freq. (MHz)	Max. Atten. (dB/ 100m)	Min. PSUM NEXT (dB)	Min. PSUM ACR (dB/ 100m)	Min. PSUM ELFEXT (dB/ 100m)	Input Imped. (Ω)	Min. RL (dB)
				Ft.	m	Lbs.	kg	Inch	mm										
23 AWG Solid Bare Copper Conductors • Twisted Pairs • Central Rod Filler • Rip Cord • See Color Code Chart (below)																			
Polyolefin Insulation • Black LSZH Jacket																			
 <p>Rip Cord</p>	1319SB 	NEC/CEC CMG-LS FT4	4	1000	304.8	43.0	19.5	.291	7.39	8.2	5.0	330	1	2.0	72.3	70.3	64.8	100±15	20.0
													10	6.0	57.3	51.3	44.8	100±15	25.0
													20	8.5	52.8	44.3	38.8	100±15	25.0
													31.25	10.7	49.9	39.2	34.9	100±15	23.6
													62.5	15.4	45.4	30.0	28.9	100±15	21.5
													100	19.8	42.3	22.5	24.8	100±15	20.1
200	29.0	37.8	8.8	18.8	100±22	18.0													
250	32.8	36.3	3.5	16.8	100±32	17.3													



Jacket sequentially marked at 2 ft. intervals • Features descending length marking • Third party verified to TIA/EIA-568-B.2-1, Category 6

Circuit Integrity (CI) Cable, LSZH

Single-pair Cable



Description	Part No.	UL NEC/ C(UL) CEC Type	No. of Pairs	Color Code	Standard Lengths		Standard Unit Weight		Insulation Thickness		Nominal OD		Nominal Capacitance			
					Ft.	m	Lbs.	kg	Inch	mm	Inch	mm	* pF/ Ft.	* pF/ m	** pF/ Ft.	** pF/ m
18 AWG Solid Bare Copper • Twisted Pair • Overall Beldfoil Shield (100% Coverage)																
Thermoset Elastomer Insulation • Red and Black LSZH Jacket																
105°C IEC 60331-23 	1320SB 	NEC/CEC CMG-LS FPLR FT4	1	Black, Red	1000	304.8	46	20.9	.034	.86	.314	7.98	28	91.9	52.0	170.6
ABS Type Approval Certificate Number 06-HS184641F-PDA.																

16 AWG Solid Bare Copper • Twisted Pair • Overall Beldfoil Shield (100% Coverage)

Thermoset Elastomer Insulation • Red and Black LSZH Jacket																
105°C 	1321SB 	NEC/CEC CMG-LS FPLR FT4	1	Black, Red	1000	304.8	55	24.95	.034	.86	.337	8.56	31	102	58	190.3
ABS Type Approval Certificate Number 06-HS184641F-PDA.																

Security Composite Cable, LSZH

CCTV plus Audio or Pan/Tilt/Zoom CCTV Control Applications

Description	Part No.	UL NEC/ C(UL) CEC Type	AWG	Stranding and Conductor	Shield/ Braid Coverage	Insulation Nominal OD		Nominal OD		Nom. Imp. (Ω)	Standard Lengths		Standard Unit Weight					
						Inch	mm	Inch	mm		Ft.	m	Lbs.	kg				
Composite: RG6 Coax plus Twisted Pair Siamese Construction																		
Coax Insulation: FPE • Pair Insulation: Polyolefin • Black LSZH Jacket																		
75°C 	1306SB 	NEC/CEC CMG-LS FT4	18 (cx)	solid BC	95% BC	.180	4.57	.275	6.99	75	500	152.4	37.0	16.8				
						.066	1.68	x	x						1000	304.8	76.0	34.5
								.514	13.06									
ABS Type Approval Certificate Number 05-HS50072D/1-PDA.																		

ACR = Attenuation Crosstalk Ratio • BC = Bare Copper • CX = Coax • DCR = DC Resistance • ELFEXT = Equal Level Far-end Crosstalk
 FPE = Foam Polyethylene • NEXT = Near-end Crosstalk • PR = Pair • PSUM = Power Sum • RL = Return Loss • UTP = Unshielded Twisted Pair(s)

* Capacitance between conductors.

** Capacitance between one conductor and other conductors connected to shield.

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



Breakout Style Cable

Tight Buffer — Indoor Riser, Plenum & LSZH Rated

Applications

- LSZH required locations
- Low to medium fiber count requirements
- In-building backbone or horizontal deployment
- Office wiring
- Factory floor automation and harsh environment installations
- ABS type approved

Product Description

Full dielectric construction, no grounding required. Available with 2 to 36 fibers. Fiber subunits are color coded for easy identification. Length markings in meters for easy determination of cable length. MSHA approved cables are available.

Outer Jacket Material	LSZH			
Sub-unit Jacket Material	LSZH			
Tight Buffer	LSZH			
Strength Yarn	Aramid Yarn			
Color Code (Tight Buffer)	Per EIA/TIA 598-A, see catalog pg. 10.2			
Jacket Color	P/N	3rd Position	Glass Grade	Color
Single-mode		W	SM	Yellow
62.5/125 μm		B	2	Green
50/125 μm / 1 Gbe		A	4	Orange
50/125 μm / 10 Gbe		C	5	Aqua

Ratings

UL Type	OFNR
cUL Type	OFN FT4
Flame Resistance	UL 1666

Optical Specifications

Part Number	3rd Position	B	D	A	C	E	W
	Grade:	2	3	4	5	6	Single-mode Enhanced ⁶
	Glass Type:	62.5/125μ	62.5/125μ	50/125μ	50/125μ	50/125μ	
Operating Wavelength (nm)		850/1300	850/1300	850/1300	850/1300	850/1300	1310/1550
Min. OFL ¹ Bandwidth (MHz-km)		200/500	200/500	500/500	1500/500	3000/500	—
Min. Laser ² Bandwidth (MHz-km)		220/500	385/500	510/500	2000/500	4000/500	—
Max. Attenuation Loose Tube (dB/km)		3.25/1.0	3.25/1.0	3.0/1.0	3.0/1.0	3.0/1.0	0.40/0.30
Max. Attenuation Tight Buffered ³ (dB/km)		3.50/1.25	3.50/1.25	3.50/1.25	3.50/1.25	3.50/1.25	0.80/0.50
100 Mb Fast Ethernet Min. Link Length (meters S/L ⁴)		300/2000	300/2000	300/2000	300/2000	300/2000	—/5000
1 Gb Ethernet Min. Link Length (meters S/L ⁴)		300/550	500/1000	600/600	1000 ⁵ /600	1000 ⁵ /600	—/5000
10 Gb Ethernet Min. Link Length (meters S/L ⁴)		35/300	35/300	85/300	300/300	500/300	—/10,000

¹ OFL = Overfilled Launch

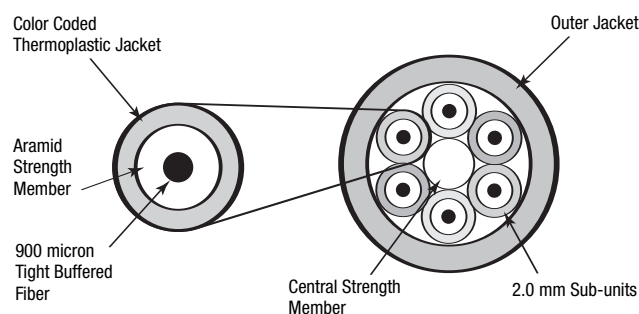
² Effective Modal Bandwidth, determined by RML or DMD performance specifications

³ Max. Attenuation for Tight Buffered, Ribbon, Micro-Loose Tube and Loose Tube Plenum Cables

Specifications

Temperature Range	
Storage	-40 to +80°C
Operating	-20 to +70°C
Crush Resistance (EIA-455-41)	2000 N/cm
Impact Resistance (EIA-455-25)	2000 Impacts @ 1.6 N-m
Cyclic Flexing (EIA-455-104)	2000 cycles, min.
Min. Bend Radius	
Installation	15 x OD
Long Term	10 x OD
Optical Specifications	See page 10.2

Fiber Bundle Detail



The required number of bundles cabled with fillers, and overall jacketed with a LSZH jacket.



Breakout Style Cable

Tight Buffer – Indoor Riser, LSZH (continued)

No. of Fibers	Belden Part Number				Outside Diameter		Weight		Max. Install Load	
	62.5 / 125µm Std. / 1 Gbe Grade 2	50 / 125µm Std. / 1 Gbe Grade 4	50 / 125µm 10 Gbe – 300M Grade 5	Single-mode Enhanced SM	Inch	mm	Lbs./1000'	kg/km	Lbs.	N

Breakout Cable Series – 2.0 mm Breakout

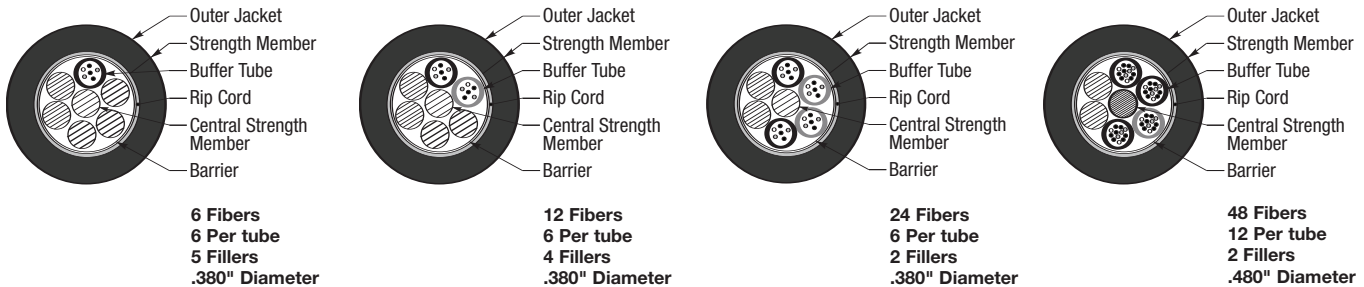
LSZH (NEC/CEC OFNR/OFN FT4)										
2	M9B130	M9A130	M9C130	M9W130	0.290	7.37	39	57	270	1200
4	M9B131	M9A131	M9C131	M9W131	0.351	8.92	38	55	285	1268
6	M9B132	M9A132	M9C132	M9W132	0.358	9.09	52	76	543	2415
8	M9B133	M9A133	M9C133	M9W133	0.405	10.29	67	98	600	2700
10	M9B134	M9A134	M9C134	M9W134	0.455	11.56	110	162	600	2700
12	M9B135	M9A135	M9C135	M9W135	0.514	13.06	110	161	600	2700
18	M9B136	M9A136	M9C136	M9W136	0.520	13.21	103	151	600	2700
24	M9B137	M9A137	M9C137	M9W137	0.590	14.99	138	202	600	2700
36	M9B138	M9A138	M9C138	M9W138	0.680	17.27	171	250	600	2700

All optical fiber products can be supplied in compliance with RoHS regulations. Please contact Customer Service at **1.800.BELDEN.1** for more details

* 2.5 mm breakouts also available.

RiserLite® Loose Tube Indoor/Outdoor Fiber Optic Cable*

Single Mode and Multimode–Riser-rated, Low Smoke Zero Halogen



No. of Fibers	Belden Part Number				Outside Diameter		Weight		Max. Install Load	
	62.5 / 125µm Std. / 1 Gbe Grade 2	50 / 125µm Std. / 1 Gbe Grade 4	50 / 125µm 10 Gbe – 300M Grade 5	Single-mode Enhanced SM	Inch	mm	Lbs./1000'	kg/km	Lbs.	N
6	M9B830	M9A830	M9C830	M9W830	0.38	9.65	71	150.6	600	2700
12	M9B831	M9A831	M9C831	M9W831	0.38	9.65	71	150.6	600	2700
24	M9B832	M9A832	M9C832	M9W832	0.38	9.65	71	150.6	600	2700
48	M9B834	M9A834	M9C834	M9W834	0.48	12.18	101	150.6	600	2700

All optical fiber products can be supplied in compliance with RoHS regulations. Please contact Customer Service at **1.800.BELDEN.1** for more details

* 2.5 mm breakouts also available.



Belden, European Division Shipboard and Offshore Cables

Belden, Edisonstraat 9, Postus 9,
 5628 PG Venlo, 5900 AA, The Netherlands
 31-773-878-555 (ph) 31-773-878-488 (fx) venlo.salesinfo@belden.com
 Certified by Germanischer Lloyd, as applicable

Paired Instrumentation and Communication—250V, 90°C

Stranded BC, TPE Insulation, Twisted pairs

Metric Wire Size	AWG	Fleece Cloth, Overall Bare Copper Braid TPE Jacket GL Certificate 2067604 HH Belden Europe Catalog pg. 7.10
		No. of Pairs
.75 mm ²	18	1, 2, 4, 7, 10, 14, 19, and 24 Pairs.

Control for Propulsion Systems—300/500V, 180°C

Stranded Tinned Copper PTFE Insulation

Metric Wire Size	AWG	EP Inner Jacket, Galv. Steel Wire Braid, Clear FEP Jacket GL Certificate 733407 HH Belden Europe Catalog p.7.8	Impregnated Glass Fiber Yarn Inner Sheath Galv. Steel Wire GL Certificate 6371373 HH Belden Europe Catalog p. 7.9
		No. of Conductors	No. of Conductors
.75 mm ²	18	2, 3, 5	2, 3, 5
1.0 mm ²	17	2, 3, 4	2, 3, 4
1.5 mm ²	16	2, 3, 4, 5, 7, 12	2, 3, 4, 5, 7, 12
2.5 mm ²	14	2, 3, 4, 5, 7	2, 3, 4, 5, 7
4.0 mm ²	12	2, 3, 4, 5	2, 3, 4, 5
6.0 mm ²	10	2, 3, 4	2, 3, 4
10.0 mm ²	8	2, 3, 4	2, 3, 4

Power and Control. 300/500 V; 90°C

Stranded Bare Copper; TPE Insulation, TPE Jackets

Metric Wire Size	AWG	Fleece cloth over cabled conductors TPE overall jacket GL Certificate 3264106 HH Belden Europe Catalog p.7.11	Overall Fleece cloth and Bare Copper braid TPE O/A jacket GL Certificate 2067504 HH Belden Europe Catalog p. 7.12	Power: overall Bare Copper braid TPE overall jacket Belden Europe Catalog p. 7.13
		No. of Conductors	No. of Conductors	No. of Conductors
.75 mm ²	18	—	2, 3, 4, 5, 7, 10, 12, 14, 16, 19, 24	—
1.5 mm ²	16	2, 3, 4, 5, 7, 10, 14, 19, 24	2, 3, 4, 5, 7, 10, 12, 14, 16, 19, 24	2, 3, 4, 5, 7, 10, 12, 14, 16, 19, 24
2.5 mm ²	14	2, 3, 4, 5	2, 3, 4	2, 3, 4
4.0 mm ²	12	2, 3, 4	2, 3, 4	2, 3, 4
6.0 mm ²	10	2, 3, 4	2, 3, 4	2, 3, 4
10.0 mm ²	8	2, 3, 4	2	2, 4
16.0 mm ²	6	3	—	—
25.0 mm ²	4	3	—	—
35.0 mm ²	2	3	—	—

Power and Control. 300/500 V; 90°C

Stranded Bare Copper; TPE Insulation, TPE Jackets

Metric Wire Size	AWG	Single conductors shielded for Internal Wiring Belden Europe Catalog page 7.13
		No. of Conductors
16.0 mm ²	6	1
25.0 mm ²	4	1
35.0 mm ²	2	1
50.0 mm ²	1	1
70.0 mm ²	2/0	1
95.0 mm ²	3/0	1

