BELDEN
SENDING ALL THE RIGHT SIGNALS

Industrial Ethernet Cable & Connectivity Solutions

Belden offers a wide range of high quality, high reliability **DataTuff**® Industrial Ethernet and fiber cables, connectors, tools and accessories.

Be certain.
Belden.

![Belden — SENDING ALL THE RIGHT SIGNALS]

Belden DataTuff® Industrial Ethernet Cables Offer Peak Network Efficiency and Reliability

DataTuff Differentiators

Product Line Breadth

- Most cables utilize Bonded-Pair technology
- Unshielded or shielded cables
- Solid or stranded conductors
- Plenum or non-plenum
- Polyolefin or FEP insulation
- PVC, Polyethylene, FEP, and TPE jackets
- Heavy, Upjacketed, Aluminum Armor, Steel Interlocked Armor and other specialty options are available
- Halogen-free and Low Smoke Zero Halogen constructions
- Versions suitable for burial or outdoor use, gasoline resistance, high and low temperatures

Field-Proven Performance in Harsh Environments

- Oil, sunlight and gasoline
- Temperature variations
- Abrasion and crushing
- Flexing
- Presence of EMI/RFI (electromagnetic interference or radio frequency interference)
- Weldspatter resistance

Approvals

- RoHS approved
- Select cables are EtherNet/IP or MSHA compliant

Belden's Bonded-Pair Technology

Most DataTuff cables feature Belden's Bonded-Pair technology, a patented cable construction which affixes the conductor insulation of the cable pairs along their longitudinal axes to ensure that no performance-robbing gaps can develop between the conductor pairs.

- No gaps between the conductor pairs means that the conductor-to-conductor spacing, or centricity, is always uniform
- With a uniform centricity, the cable offers excellent and consistently reliable electrical performance
- Installable Performance® is achieved - the affixing of the insulation of the cable pairs and the uniform centricity translate to superior electrical performance, even after the cable has been subjected to the bending, pulling and twists inherent in the installation process
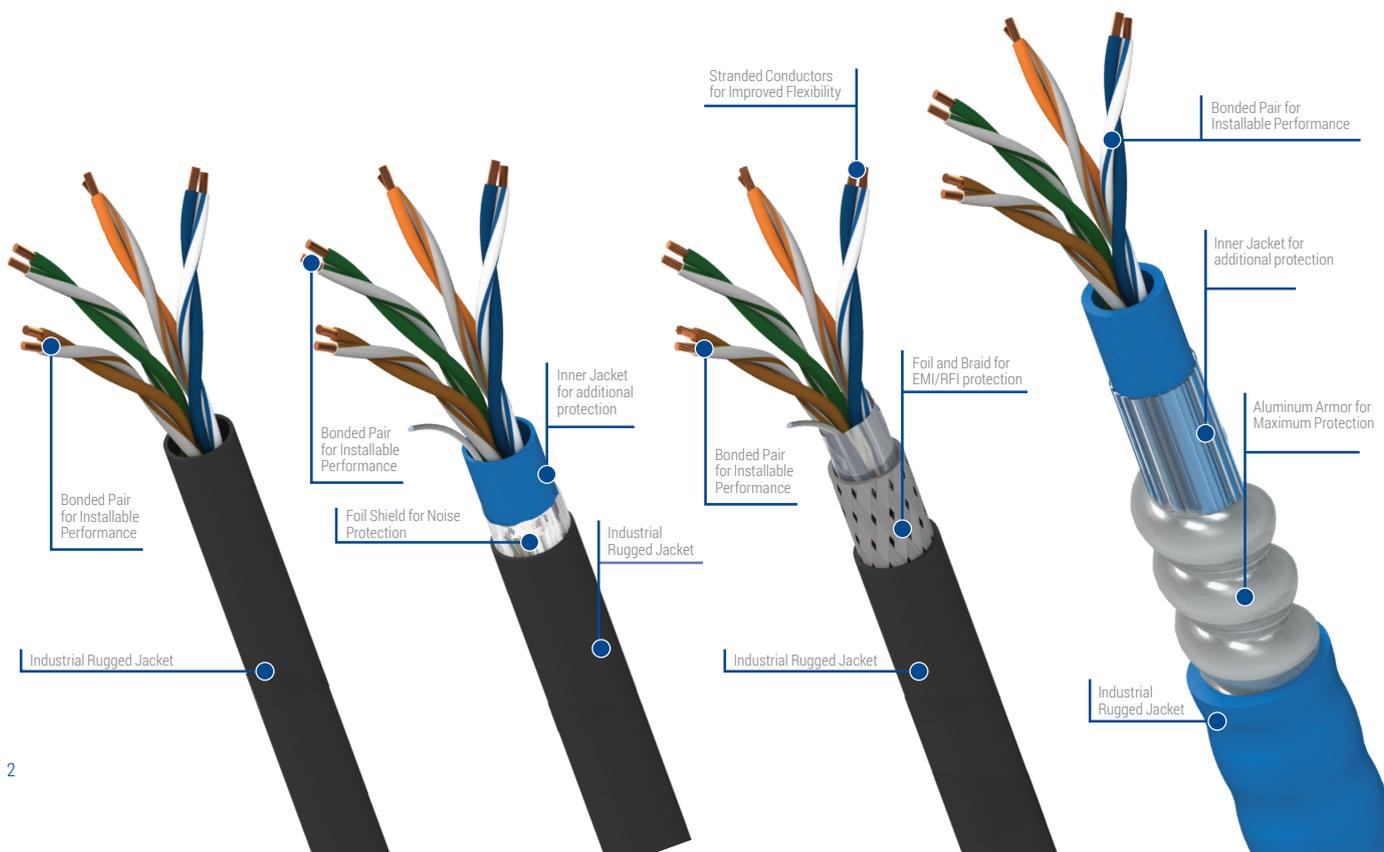
The Proof is in the Testing

Extensive testing compared both the physical and electrical performance of commercial off-the-shelf (COTS) cables versus industrial cables. The results clearly indicate how quickly commercial-grade cable fails when faced with the wide variety of extreme conditions found in industrial environments. In every test, conducted with state-of-the-art equipment and validated cable samples, industrial cable significantly outlasted and outperformed COTS cable.

Testing Included:
- Cold Bend
- Cut-Through
- Water Immersion
- Crushing
- UV Exposure
- Abrasion
- Oil Resistance
- Cold Impact
- High Temperature

For more information, visit:
belden.com/industrial/would-you

Stranded Conductors for Improved Flexibility
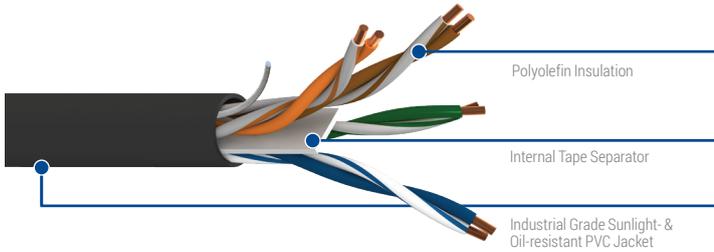
Bonded Pair for Installable Performance

Inner Jacket for additional protection

Aluminum Armor for Maximum Protection

Foil and Braid for EMI/RFI protection

Inner Jacket for additional protection

Bonded Pair for Installable Performance

Foil Shield for Noise Protection

Industrial Rugged Jacket

Bonded Pair for Installable Performance

Industrial Rugged Jacket

Industrial Ethernet Cable Selection Guide

Part No.	No. of Pairs	No. of Conductors	Unshielded	Shielded△	Solid	Stranded 55△△	Installation Stress Resistance††	Pull Tension	Oil Resistance	UV Sunlight Resistance	Weld-Splatter Resistance	CMX/Outdoor	Underground (burial)	Gasoline Resistance	LSZH	P-MSHA*	Hi/Lo Temp	600V UL AWM Rated	Bonded Pair	Armor	Industrial Grade Jacket	T568A Plug	T568B Plug	Page No.
Category 6 Cable																								
7927A	4		•		•		•	45	•	•									•		Heavy	R301603	R301604	4
7940A EtherNet/IP	4		•		•		•	40	•	•		•							•		Heavy	R301603	R301604	4
7931A	4		•		•		•	40	•	•				•			•		•		Heavy	R301603	R301604	4
7953A EtherNet/IP	4			•	•		•	40	•	•		•				•		•	•		Upjacket	R301603	R301604	5
11872A	4		•		•		•	45											•		Upjacket	R301603	R301604	5
121872A	4		•		•		•	200		•									•	•	Armored	R301603	R301604	5
Category 5e Cable																								
7932A EtherNet/IP	2		•		•		•	20	•	•									•		Heavy	R301603	R301604	6
7933A EtherNet/IP	2			•	•		•	20	•	•									•		Heavy	R301603	R301604	6
7918A	4		•		•			35	•	•		•				•					Heavy	R301603	R301604	7
7923A EtherNet/IP	4		•		•		•	40	•	•		•				•			•		Heavy	R301603	R301604	7
7919A	4			•	•			25	•	•		•				•					Heavy	R301603	R301604	8
7929A	4			•	•		•	40	•	•		•				•			•		Heavy	R301601	R301602	8
7922A PLTC	4		•		•		•	40	•	•		•							•		Heavy	R301601	R301602	7
7903A PLTC EtherNet/IP	4			•	•		•	40	•	•									•		Heavy	R301601	R301602	8
7928A EtherNet/IP	4		•		•		•	40	•	•				•			•		•		Heavy	None	None	7
7930A	4		•			•		25	•	•		•									Heavy	R301603	R301604	7
7924A	4		•			•	•	40	•	•		•							•		Heavy	R301603	R301604	7
7921A EtherNet/IP	4			•	•		•	75	•	•		•							•		Heavy	R301601	R301602	8
7939A	4			•	•	•	•	40	•	•		•							•		Heavy	R301601	R301602	9
7905A	4		•			•	•	40	•	•	•								•		Heavy	R301603	R301604	7
7934A EtherNet/IP	4		•		•		•	40	•	•			•						•		Heavy	R301603	R301604	7
7937A	4			•	•		•	40	•	•			•						•		Upjacket	R301603	R301604	8
7935A EtherNet/IP	4		•		•		•	40		•				•					•		Heavy	R301603	R301604	7
7936A	4			•	•		•	40		•				•					•		Heavy	R301603	R301604	8
7957A EtherNet/IP	4			•	•		•	75	•	•		•						•	•		Heavy	R301601	R301602	8
7958A EtherNet/IP	4			•	•		•	35	•	•		•					•		•		Heavy	R301601	R301602	8
7938A High Flex	4			•		•	•	40	•	•	•								•		Upjacket	R301601	R301602	9
11700A EtherNet/IP	4		•		•		•	40	•	•		•				•			•		Upjacket	R301603	R301604	7
11700A2 Oil Res I&II	4		•		•		•	40	•	•									•		Upjacket	R301603	R301604	7
121700A	4		•		•		•	40	•	•									•	•	Armored	R301603	R301604	9
121700R	4		•		•		•	40	•	•									•	•	Armored	R301603	R301604	9
127903A PLTC EtherNet/IP	4			•	•		•	40	•	•									•		Armored	601	602	6
Category 5e Cables/PROFINET																								
7960A Type A PROFINET		4	•		•			55	•	•		•									Heavy	R301601	R301602	10
7961A Type B PROFINET		4	•			•		55	•	•		•									Heavy	R301601	R301602	10
7962A Type C PROFINET		4	•			•		55	•	•	•	•									Heavy	R301601	R301602	10

△ Shielded products are recommended for high-noise environments.
△△ Stranded products are recommended where more flexibility is needed.
†† Products with Bonded-Pair technology provide Installable Performance® advantages
* Pennsylvania Department of Environmental Resources and United States Mine Safety and Health Administration Certification

Category 6 Cables, 4-Pair

Category 6 Cables, 4-Pair*, Solid Unshielded with Internal Tape Separator
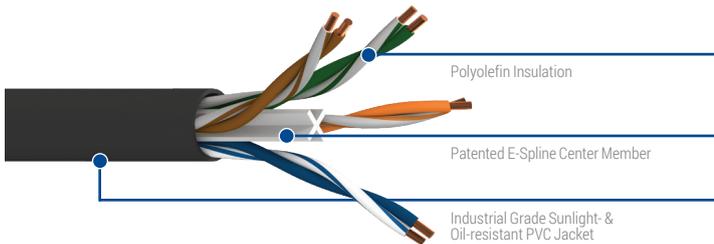
Part No.	AWG	Conductors	No. of Pairs	EtherNet/IP Compliant	Standard Lengths**		Standard Unit Wt.		Nominal OD		Jacket Thickness		Jacket Colors/Material**
					Ft.	m	Lbs.	kg	Inch	mm	Inch	mm	
7940A	23	Solid BC	4	•	1000	304.8	32.0	14.5	0.25	6.35	0.030	0.762	Red, Blue, Gray, Black PVC
					2000	609.6	64.0	29.0					Black PVC

Polyolefin Insulation

Internal Tape Separator

Industrial Grade Sunlight- & Oil-resistant PVC Jacket

- Non-plenum
- Bonded-Pair construction
- Operating temperature: -40°C to +75°C †
- Installation temperature: -25°C to +75°C
- Special RJ45 plugs required
- Jacket sequentially marked at 2 ft. intervals
- Cable passes -40°C Cold Bend per UL1581

- U.S. Patents 5,606,151, 5,734,126 and 5,821,467
- Verified to TIA/EIA-568-B.2-1, Category 6
- RoHS Compliant
- NEC: CMR
- CEC: CMR FT4, CMX Outdoor

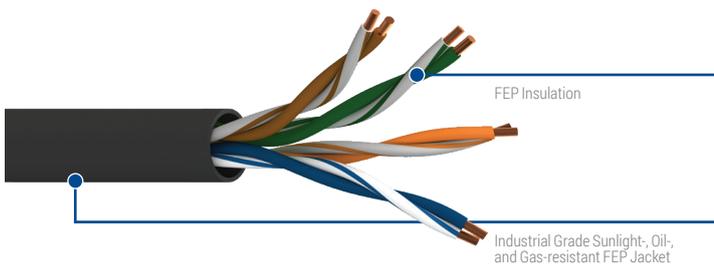## Enhanced Category 6 Cables, 4-Pair*, Solid Unshielded with E-Spline Center Member

Part No.	AWG	Conductors	No. of Pairs	EtherNet/IP Compliant	Standard Lengths**		Standard Unit Wt.		Nominal OD		Jacket Thickness		Jacket Colors/Material**
					Ft.	m	Lbs.	kg	Inch	mm	Inch	mm	
7927A	23	Solid BC	4		1000	304.8	44.0	20.0	.251 x .339	6.38 x 8.61	0.030	0.762	Black PVC
					2000	609.6	88.0	39.9					Black PVC

Polyolefin Insulation

Patented E-Spline Center Member

Industrial Grade Sunlight- & Oil-resistant PVC Jacket

- Non-plenum
- Bonded-Pair construction
- Operating temperature: -40°C to +75°C †
- Installation temperature: -25°C to +75°C
- Special RJ45 plugs required
- Jacket sequentially marked at 2 ft. intervals
- Cable passes -40°C Cold Bend per UL1581

- U.S. Patents 5,606,151, 5,734,126; 5,789,711 and 6,297,454-B1
- Third party verified to TIA/EIA-568-B.2-1, Category 6
- RoHS Compliant
- NEC: CMR
- CEC: CMR FT4

Category 6 Cables, 4-Pair*, Solid Unshielded with FEP Insulation

Part No.	AWG	Conductors	No. of Pairs	EtherNet/IP Compliant	Standard Lengths**		Standard Unit Wt.		Nominal OD		Jacket Thickness		Jacket Colors/Material**
					Ft.	m	Lbs.	kg	Inch	mm	Inch	mm	
7931A	23	Solid BC	4		1000	304.8	35.0	15.9	0.21	5.44	0.030	0.762	Black FEP
(Plenum Rated–High & Low Temp)													

FEP Insulation

Industrial Grade Sunlight-, Oil-, and Gas-resistant FEP Jacket

- Plenum
- Oil Res I & II; Gas Res
- Bonded-Pair construction
- Operating temperature: -70°C to +150°C †
- Installation temperature: -55°C to +150°C
- RJ45 Compliant
- Jacket sequentially marked at 2 ft. intervals
- Cable passes -70°C Cold Bend per UL1581

- U.S. Patents 5,606,151 and 5,734,126
- Third party verified to TIA/EIA-568-B.2-1, Category 6
- RoHS Compliant
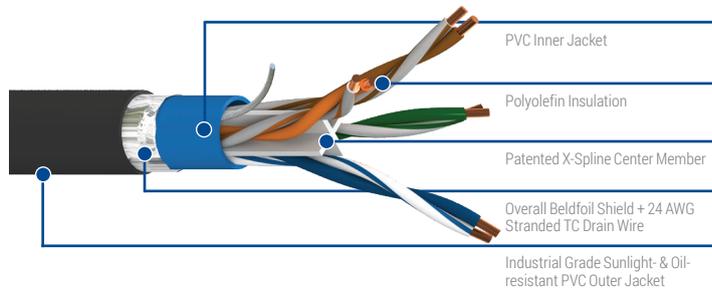- NEC: Limited Combustible – FHC 25/50 CMP
- CEC: CMP FT6

† Subject to length de-rating
* 4-Pair Color Codes: Pair No. 1 = White/Blue Stripe & Blue; Pair No. 2 = White/Orange Stripe & Orange; Pair No. 3 = White/Green Stripe & Green; Pair No. 4 = White/Brown Stripe & Brown
**Additional standard lengths and jacket colors may be available. Please call your Belden representative at 1.800.Belden1.

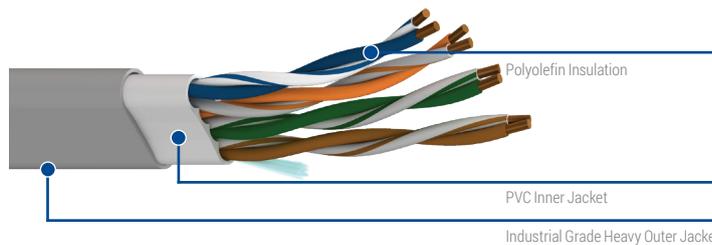## Category 6 Cables, 4-Pair*, Solid with Foil Shield and Double Jacket

Part No.	AWG	Conductors	No. of Pairs	EtherNet/IP Compliant	Standard Lengths**		Standard Unit Wt.		Nominal OD		Jacket Thickness		Jacket Colors/Material**
					Ft.	m	Lbs.	kg	Inch	mm	Inch	mm	
7953A	23	Solid BC	4	•	1000	304.8	32.0	14.5	0.34	8.64	0.030	0.762	Black PVC
(P-MSHA Approved)					5000	1524.0	260.0	117.9					Black PVC

PVC Inner Jacket
Polyolefin Insulation
Patented X-Spline Center Member
Overall Beldfoil Shield + 24 AWG Stranded TC Drain Wire
Industrial Grade Sunlight- & Oil-resistant PVC Outer Jacket

- Non-plenum; shielded
- Bonded Pair Construction
- Operating temperature: -40°C to +75°C †
- Installation temperature: -25°C to +75°C
- Special RJ45 plugs required
- Jacket sequentially marked at 2 ft. intervals
- Cable passes -40°C Cold Bend per UL1581

- U.S. Patents 5,606,151, 5,734,126 and 5,821,467
- Verified to TIA/EIA-568-B.2-1, Category 6
- RoHS Compliant
- NEC: CMR
- CEC: CMR FT4, CMX Outdoor, AWM 21047

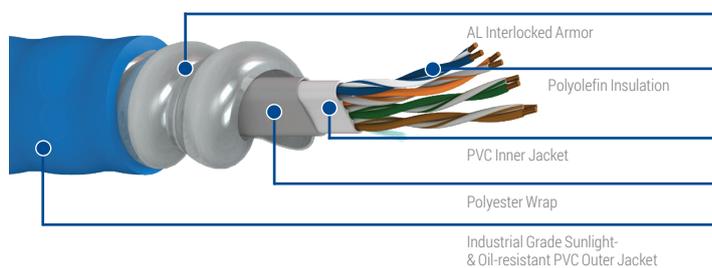## Category 6 Cables, 4-Pair*, Solid Unshielded with Double Jacket

Part No.	AWG	Conductors	No. of Pairs	EtherNet/IP Compliant	Standard Lengths**		Standard Unit Wt.		Nominal OD		Jacket Thickness		Jacket Colors/Material**
					Ft.	m	Lbs.	kg	Inch	mm	Inch	mm	
11872A	23	Solid BC	4		1000	304.8	66.0	30.0	.475 x .265	12.07 x 6.73	0.035	0.762	Black, Gray PVC

Polyolefin Insulation
PVC Inner Jacket
Industrial Grade Heavy Outer Jacket

- Non-plenum; upjacketed
- Bonded-Pair construction
- Operating temperature: -25°C to +75°C †
- Installation temperature: -10°C to +75°C
- RJ45 Compliant
- Jacket sequentially marked at 2 ft. intervals
- Cable passes -25°C Cold Bend per UL1581
- U.S. Patents 5,606,151, 5,734,126 and 5,821,467
- RoHS Compliant
- NEC: CM
- CEC: CM, PT1

Enhanced Category 6 Cables, 4-Pair*, Solid Unshielded with Double Jacket and Interlocked Aluminum Armor

Part No.	AWG	Conductors	No. of Pairs	EtherNet/IP Compliant	Standard Lengths**		Standard Unit Wt.		Nominal OD		Jacket Thickness		Jacket Colors/Material**
					Ft.	m	Lbs.	kg	Inch	mm	Inch	mm	
121872A	23	Solid BC	4		1000	304.8	222.0	100.6	0.68	17.37	0.055	1.397	Black, Gray PVC

AL Interlocked Armor
Polyolefin Insulation
PVC Inner Jacket
Polyester Wrap
Industrial Grade Sunlight- & Oil-resistant PVC Outer Jacket

- Non-plenum; interlocked aluminum armored
- Bonded-Pair construction
- Operating temperature: -40°C to +75°C †
- Installation temperature: -25°C to +75°C
- RJ45 Compliant
- Jacket sequentially marked at 2 ft. intervals
- Cable passes -40°C Cold Bend per UL1581
- U.S. Patents 5,606,151, 5,734,126 and 5,821,467
- RoHS Compliant
- NEC: CM
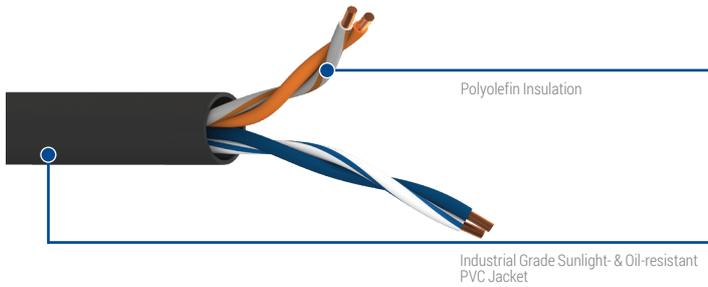- CEC: HL, CMG PT4

† Subject to length de-rating
* 4-Pair Color Codes: Pair No. 1 = White/Blue Stripe & Blue; Pair No. 2 = White/Orange Stripe & Orange; Pair No. 3 = White/Green Stripe & Green; Pair No. 4 = White/Brown Stripe & Brown
**Additional standard lengths and jacket colors may be available. Please call your Belden representative at 1.800.Belden1.

Category 5e Cables, 2-Pair
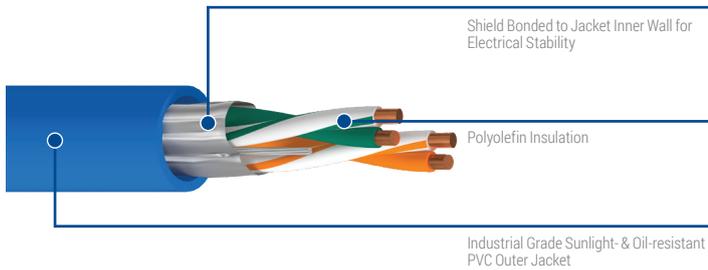
Category 5e Cables, 2-Pair*, Solid Unshielded

Part No.	AWG	Conductors	No. of Pairs	EtherNet/IP Compliant	Standard Lengths**		Standard Unit Wt.		Nominal OD		Jacket Thickness		Jacket Colors/Material**
					Ft.	m	Lbs.	kg	Inch	mm	Inch	mm	
7932A	24	Solid BC	2	•	1000	304.8	19.0	8.6	0.21	5.26	0.030	0.762	Black, Red, Teal PVC

Polyolefin Insulation

Industrial Grade Sunlight- & Oil-resistant PVC Jacket

- Non-plenum
- Bonded-Pair construction
- Operating temperature: -40°C to +75°C †
- Installation temperature: -25°C to +75°C
- M-12 or RJ45 Compliant
- Jacket sequentially marked at 2 ft. intervals
- Cable passes -40°C Cold Bend per UL1581
- U.S. Patents 5,606,151 and 5,734,126
- Third party verified to TIA/EIA-568-B.2, Category 5e
- RoHS Compliant
- NEC: CMR
- CEC: CMR FT4

Category 5e Cables, 2-Pair*, Solid with Foil Shield

Part No.	AWG	Conductors	No. of Pairs	EtherNet/IP Compliant	Standard Lengths**		Standard Unit Wt.		Nominal OD		Jacket Thickness		Jacket Colors/Material**
					Ft.	m	Lbs.	kg	Inch	mm	Inch	mm	
7933A	24	Solid BC	2	•	1000	304.8	32.0	14.5	0.23	5.77	0.030	0.762	Black, Teal PVC
					2000	609.6	64.8	29.4					Black PVC

Shield Bonded to Jacket Inner Wall for Electrical Stability

Polyolefin Insulation

Industrial Grade Sunlight- & Oil-resistant PVC Outer Jacket

- Non-plenum; Overall Beldfoil Shield
- Bonded-Pair construction
- Operating temperature: -40°C to +75°C †
- Installation temperature: -25°C to +75°C
- M-12 or RJ45 Compliant
- Jacket sequentially marked at 2 ft. intervals
- Cable passes -40°C Cold Bend per UL1581
- U.S. Patents 5,606,151 and 5,734,126
- Third party verified to TIA/EIA-568-B.2, Category 5e
- RoHS Compliant
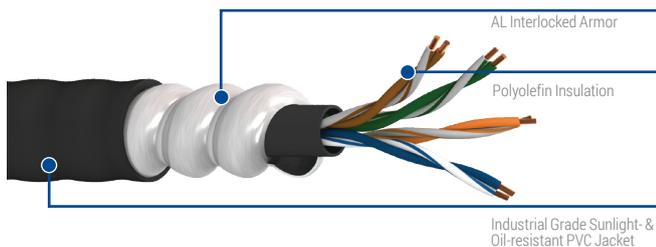- NEC: CMR
- CEC: CMR FT4

† Subject to length de-rating
* 2-Pair Color Codes: Pair No. 1 = White/Orange Stripe & Orange; Pair No. 2 = White/Green Stripe & Green
**Additional standard lengths and jacket colors may be available. Please call your Belden representative at 1.800.Belden1.

Category 5e Cables, 4-Pair
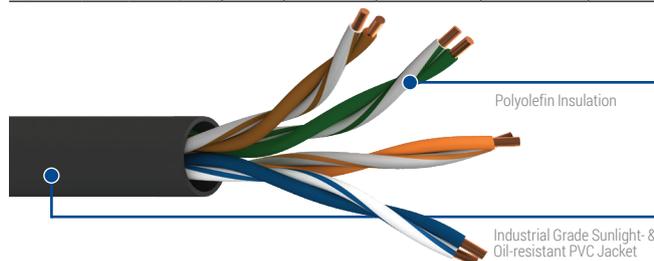
Category 5e Cables, 4-Pair*, Solid Shielded

Part No.	AWG	Conductors	No. of Pairs	EtherNet/IP Compliant	Standard Lengths**		Standard Unit Wt.		Nominal OD		Jacket Thickness		Jacket Colors/Material**
					Ft.	m	Lbs.	kg	Inch	mm	Inch	mm	
127903A	22	Solid BC	4	n/a	1000	304.8	169 lbs/1000ft	77 kg/1000ft	0.655	16.64	0.045	1.14	black/PVC

AL Interlocked Armor

Polyolefin Insulation

Industrial Grade Sunlight- & Oil-resistant PVC Jacket

- Non-plenum
- Bonded-Pair construction
- Operating temp: -40°C to 75°C Installation temp: -25°C to 75°C
- RJ45 Compliant
- Jacket sequentially marked at 2 ft. intervals
- U.S. Patents 5,606,151 and 5,734,126
- Third party verified to TIA/EIA-568-B.2, Category 5e
- RoHS Compliant
- NEC: CMR
- CEC: CMR FT4

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Category 5e Cables, 4-Pair*, Solid Unshielded

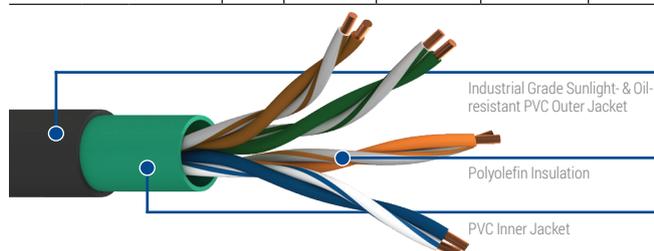| Part No.	AWG	Conductors	No. of Pairs	EtherNet/IP Compliant	Standard Lengths**		Standard Unit Wt.		Nominal OD		Jacket Thickness		Jacket Colors/Material**
					Ft.	m	Lbs.	kg	Inch	mm	Inch	mm	
7923A	24	Solid BC	4	•	1000	304.8	28.0	12.7	0.23	5.84	0.030	0.762	Black, Red, Teal PVC
(P-MSHA Approved)					2000	609.6	54.0	24.5					Black PVC
7918A	24	Solid BC	4		1000	304.8	28.0	12.7	0.23	5.84	0.030	0.762	Black, Blue PVC
(P-MSHA Approved)					2000	609.6	52.0	23.6					Black PVC
7922A	22	Solid BC	4		1000	304.8	46.3	21.0	0.30	7.65	0.030	0.762	Black PVC
(PLTC-Rated)					2000	609.6	92.5	42.0					Black PVC
7934A	24	Solid BC	4	•	1000	304.8	25.0	11.4	0.23	5.84	0.030	0.762	Black Polyethylene
(Halogen Free–Waterblocked Burial)													
7928A	24	Solid BC	4	•	1000	304.8	24.0	10.9	0.19	4.75	0.030	0.762	Black FEP
(Plenum Rated–High & Low Temp)													
7935A	24	Solid BC	4	•	1000	304.8	24.0	10.9	0.23	5.84	0.030	0.762	Black LSZH
(Low Smoke Zero Halogen)					2000	609.6	44.0	20.0					Black LSZH

Polyolefin Insulation

Industrial Grade Sunlight- & Oil-resistant PVC Jacket

- Non-plenum (Plenum: 7928A–NEC: Limited Combustible FHC 25/50 CMP; CEC: CMP FT6)
- Bonded-Pair construction (except 7918A)
- Operating and Installation temperatures available at www.belden.com †
- RJ45 Compliant
- Jacket sequentially marked at 2 ft. intervals (Except 7934A–3 ft. intervals)
- Cable passes -40°C Cold Bend per UL1581 (7922A: -25°C/7928A: -70°)

- U.S. Patents 5,606,151 and 5,734,126 (except 7918A)
- Third party verified to TIA/EIA-568-B.2, Category 5e
- RoHS Compliant
- NEC: CMR; CMX Outdoor (7923A, 7918A, 7922A, CM (7935A), Limited Combustible FHC 25/50 (7928A)
- CEC: CMR FT4 (7923A, 7918A, 7922A), CM FT1 (7935A), CMP FTG (7928A)

Category 5e Cables, 4-Pair*, Solid Unshielded with Double Jacket
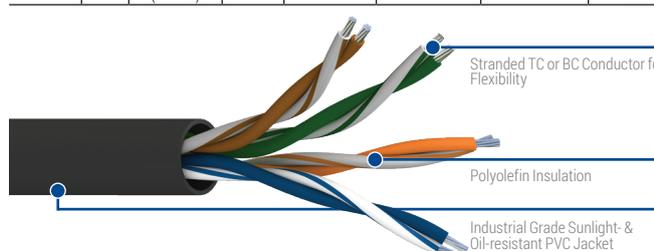
Part No.	AWG	Conductors	No. of Pairs	EtherNet/IP Compliant	Standard Lengths**		Standard Unit Wt.		Nominal OD		Jacket Thickness		Jacket Colors/Material**
					Ft.	m	Lbs.	kg	Inch	mm	Inch	mm	
11700A	24	Solid BC	4	•	1000	304.8	39.0	17.7	0.29	7.24	0.035	0.889	Black, Gray, Red, Teal, Blue PVC
(P-MSHA approved)					3000	914.4	117.0	53.2					Black PVC
11700A2	24	Solid BC	4	•	1000	304.8	42.0	19.1	0.29	7.24	0.035	0.889	Black, Blue PVC
(Oil Res I & II)					2000	609.6	86.0	39.1					Black PVC

Industrial Grade Sunlight- & Oil-resistant PVC Outer Jacket

Polyolefin Insulation

PVC Inner Jacket

- Non-plenum; upjacketed
- Bonded-Pair construction
- Operating temperature: -40°C to +75°C (11700A2: -10°C to +75°C) †
- Installation temperature: -25°C to +75°C (11700A2: +5°C to +75°C)
- RJ45 Compliant
- Jacket sequentially marked at 2 ft. intervals

- Cable passes -40°C Cold Bend per UL1581 (11700A2: -10°C Cold Bend per UL1581)
- U.S. Patents 5,606,151 and 5,734,126
- Third party verified to TIA/EIA-568-B.2, Category 5e
- RoHS Compliant
- NEC: CMR; CMX Outdoor (Except 11700A2)
- CEC: CMR FT4

Category 5e Cables, 4-Pair*, Stranded Unshielded

Part No.	AWG	Conductors	No. of Pairs	EtherNet/IP Compliant	Standard Lengths**		Standard Unit Wt.		Nominal OD		Jacket Thickness		Jacket Colors/Material**
					Ft.	m	Lbs.	kg	Inch	mm	Inch	mm	
7924A	24	Stranded TC (7 x 32)	4		1000	304.8	30.0	13.6	0.24	6.15	0.030	0.762	Black, Red, Teal PVC
					2000	609.6	58.0	26.3					Black PVC
7930A	24	Stranded BC (7 x 32)	4		1000	304.8	29.0	13.2	0.24	6.09	0.030	0.762	Black PVC
					2000	609.6	56.0	25.4					Black PVC
7905A	24	Stranded TC (7 x 32)	4	n/a	1000	304.8	39 lbs/1000ft	18 kg/1000ft	0.242	6.15	0.03	0.76	Teal, red, black Matte, light blue/ TPE

Stranded TC or BC Conductor for Flexibility

Polyolefin Insulation

Industrial Grade Sunlight- & Oil-resistant PVC Jacket

- Non-plenum; stranded/flexible
- Bonded-Pair construction (except 7930A)
- Operating temperature: -40°C to +75°C (7930A: -25°C to +75°C) †
- Installation temperature: -25°C to +75°C (7930A: -10°C to +75°C)
- RJ45 Compliant
- Jacket sequentially marked at 2 ft. intervals
- Cable passes -40°C Cold Bend per UL1581 (7930A: -25°C Cold Bend per UL1581)

- U.S. Patents 5,606,151, 5,734,126 and 5,763,823 (7924A only)
- Third party verified to TIA/EIA-568-B.2, Category 5e
- RoHS Compliant
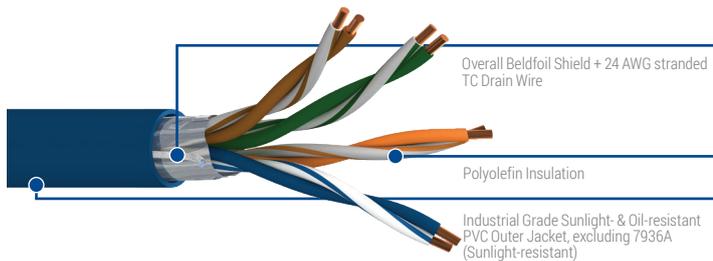- NEC: CMR; CMX Outdoor (CMR for 7905A)
- CEC: CMR FT4

† Subject to length de-rating
* 4-Pair Color Codes: Pair No. 1 = White/Blue Stripe & Blue; Pair No. 2 = White/Orange Stripe & Orange; Pair No. 3 = White/Green Stripe & Green; Pair No. 4 = White/Brown Stripe & Brown
**Additional standard lengths and jacket colors may be available. Please call your Belden representative at 1.800.Belden1.

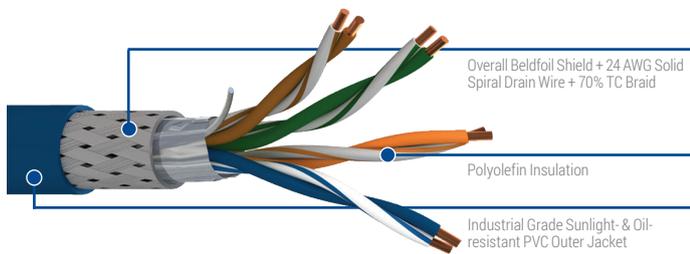## Category 5e Cables, 4-Pair*, Stranded with Foil Shield

Part No.	AWG	Conductors	No. of Pairs	EtherNet/IP Compliant	Standard Lengths**		Standard Unit Wt.		Nominal OD		Jacket Thickness		Jacket Colors/Material**
					Ft.	m	Lbs.	kg	Inch	mm	Inch	mm	
7929A	24	Solid BC	4		1000	304.8	37.0	16.8	0.27	6.73	0.030	0.76	Black, Blue PVC
					2000	609.6	72.0	32.7					Black PVC
(P-MSHA Approved)					5000	1524.0	170.0	77.0					
7919A	24	Solid BC	4		1000	304.8	35.0	15.9	0.27	6.73	0.030	0.76	Black PVC, Blue PVC
(P-MSHA Approved)					2000	609.6	68.0	30.9					Black PVC
7936A	24	Solid BC	4		1000	304.8	35.0	15.9	0.27	6.73	0.030	0.76	Black LSZH
(Low Smoke Zero Halogen)					2000	609.6	76.0	34.5					Black LSZH
7958A	24	Solid BC	4	•	1000	304.8	37.0	16.8	0.27	6.73	0.030	0.76	Black, Blue, Teal PVC
(600 V UL AWM, P-MSHA Approved)					2000	609.6	72.0	32.7					Black PVC
7903A	22	Solid BC	4	n/a	1000 & 5000	304.8 & 1524	57 lbs/ 1000ft	26 kg/ 1000ft	0.335	8.51	0.043	1.09	Black/PVC

Overall Beldfoil Shield + 24 AWG stranded TC Drain Wire

Polyolefin Insulation

Industrial Grade Sunlight- & Oil-resistant PVC Outer Jacket, excluding 7936A (Sunlight-resistant)

- Non-plenum
- Bonded-Pair construction (except 7919A)
- Operating temperature: -40°C to +75°C (7936A: -10°C to +75°C) †
- Installation temperature: -25°C to +75°C (7936A: +5°C to +75°C)
- Shield is bonded to jacket inner wall for electrical stability
- RJ45 Compliant
- Jacket sequentially marked at 2 ft. intervals

- Cable passes -40°C Cold Bend per UL1581 (7936A is -10°C Cold Bend per UL1581)
- U.S. Patents 5,606,151 and 5,734,126 (except 7919A)
- Third party verified to TIA/EIA-568-B.2, Category 5e
- RoHS Compliant
- NEC: CMR; CMX Outdoor (except 7936A, 7903A is CMR)
- CEC: CMR FT4 (except 7936A); CMG FT4 (7936A only), AWM 21047 (7958A only)

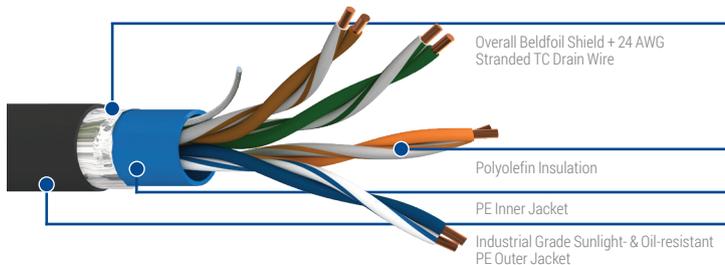## Category 5e Cables, 4-Pair*, Solid with Foil and Braid Shield

Part No.	AWG	Conductors	No. of Pairs	EtherNet/IP Compliant	Standard Lengths**		Standard Unit Wt.		Nominal OD		Jacket Thickness		Jacket Colors/Material**
					Ft.	m	Lbs.	kg	Inch	mm	Inch	mm	
7921A	24	Solid BC	4	•	1000	304.8	55.0	24.9	0.33	8.38	0.030	.762	Black, Red, Teal, Blue PVC
					2000	609.6	106.0	48.1					Black PVC
7957A	24	Solid BC	4	•	1000	304.8	55.0	24.9	0.33	8.38	0.030	.762	Black, Teal, Blue PVC
(600V UL AWM)					2000	609.6	106.0	48.1					Black PVC

Overall Beldfoil Shield + 24 AWG Solid Spiral Drain Wire + 70% TC Braid

Polyolefin Insulation

Industrial Grade Sunlight- & Oil-resistant PVC Outer Jacket

- Non-plenum
- Bonded-Pair construction
- Operating temperature: -40°C to +75°C †
- Installation temperature: -25°C to +75°C
- Special RJ45 plugs required
- Jacket sequentially marked at 2 ft. intervals
- Cable passes -40°C Cold Bend per UL1581

- U.S. Patents 5,606,151 and 5,734,126
- Third party verified to TIA/EIA-568-B.2, Category 5e
- RoHS Compliant
- NEC: CMR; CMX Outdoor
- CEC: CMR FT4; AWM 21047 (7957A only)

Category 5e Cables, 4-Pair*, Solid with Foil Shield and Double Jacket

Part No.	AWG	Conductors	No. of Pairs	EtherNet/IP Compliant	Standard Lengths**		Standard Unit Wt.		Nominal OD		Jacket Thickness		Jacket Colors/Material**
					Ft.	m	Lbs.	kg	Inch	mm	Inch	mm	
7937A	24	Solid BC	4		1000	304.8	38.0	17.2	0.28	7.01	0.030	0.762	Black PE

Overall Beldfoil Shield + 24 AWG Stranded TC Drain Wire

Polyolefin Insulation

PE Inner Jacket

Industrial Grade Sunlight- & Oil-resistant PE Outer Jacket

- Waterlocked burial (per Telcordia, IEC, and ICEA), Shielded, and Halogen Free
- Bonded-Pair construction
- Operating temperature: -40°C to +75°C †
- Installation temperature: -25°C to +75°C
- RJ45 Compliant
- Jacket sequentially marked at 2 ft. intervals

- Cable passes -40°C Cold Bend per UL1581
- U.S. Patents 5,606,151 and 5,734,126
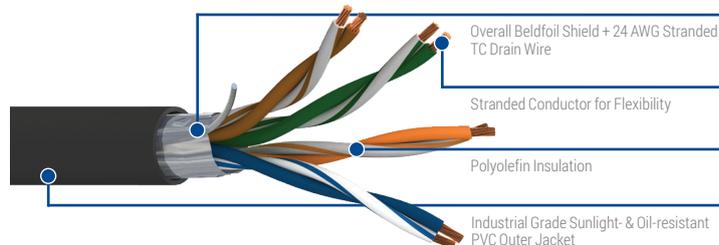- RoHS Compliant

† Subject to length de-rating
* 4-Pair Color Codes: Pair No. 1 = White/Blue Stripe & Blue; Pair No. 2 = White/Orange Stripe & Orange; Pair No. 3 = White/Green Stripe & Green; Pair No. 4 = White/Brown Stripe & Brown
**Additional standard lengths and jacket colors may be available. Please call your Belden representative at 1.800.Belden1.

Category 5e Cables, 4-Pair*, Stranded with Foil Shield

Part No.	AWG	Conductors	No. of Pairs	EtherNet/IP Compliant	Standard Lengths**		Standard Unit Wt.		Nominal OD		Jacket Thickness		Jacket Colors/Material**
					Ft.	m	Lbs.	kg	Inch	mm	Inch	mm	
7939A	24	Stranded BC (7x32)	4		1000	304.8	40.0	18.2	0.32	8.00	0.030	0.762	Black, Teal PVC
					2000	609.6	79.0	35.8					Black PVC

- Overall Beldfoil Shield + 24 AWG Stranded TC Drain Wire
- Stranded Conductor for Flexibility
- Polyolefin Insulation
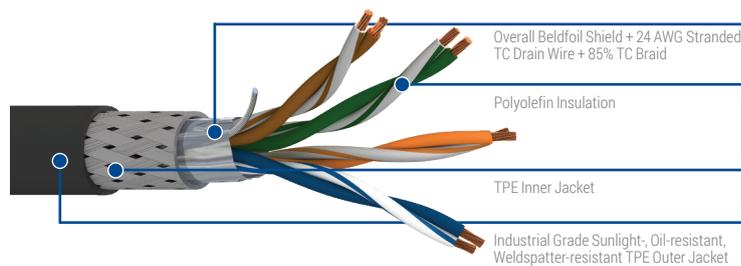- Industrial Grade Sunlight- & Oil-resistant PVC Outer Jacket

- Non-plenum; shielded, stranded
- Bonded-Pair Construction
- Operating temperature: -40°C to +75°C †
- Installation temperature: -25°C to +75°C
- Special RJ45 plugs required
- Jacket sequentially marked at 2 ft. intervals
- Cable passes -40°C Cold Bend per UL1581
- RoHS Compliant
- NEC: CMR; CMX Outdoor
- CEC: CMR FT4

Category 5e Cables, 4-Pair*, Stranded with Foil and Braid Shield

Part No.	AWG	Conductors	No. of Pairs	EtherNet/IP Compliant	Standard Lengths**		Standard Unit Wt.		Nominal OD		Jacket Thickness		Jacket Colors/Material**
					Ft.	m	Lbs.	kg	Inch	mm	Inch	mm	
7938A (Continuous Flex Rated-10 million cycles)	24	Stranded Cu Alloy Conductor (7x32)	4	•	500†	152.4	28.0	12.7	0.34	8.60	0.030	.762	Matte Black TPE

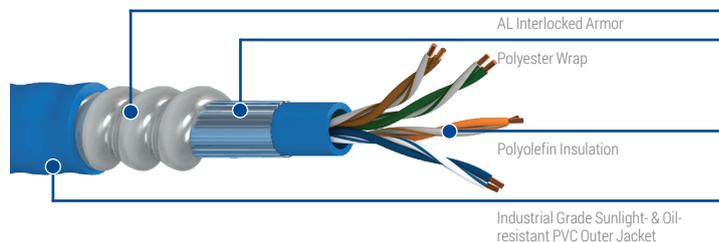†Final one-piece put up length may vary -0 to +10% from length shown

- Overall Beldfoil Shield + 24 AWG Stranded TC Drain Wire + 85% TC Braid
- Polyolefin Insulation
- TPE Inner Jacket
- Industrial Grade Sunlight-, Oil-resistant, Weldspatter-resistant TPE Outer Jacket

- Non-plenum; upjacketed, shielded, stranded
- Bonded Pair Construction
- Continuous flex rated: 10 million cycles
- Sunlight-, oil-, and weldspatter-resistant jacket
- Operating temperature: -40°C to +80°C †
- Installation temperature: -25°C to +80°C
- Special RJ45 plugs required
- Jacket sequentially marked at 2 ft. intervals
- Cable passes -40°C Cold Bend per UL1581
- RoHS Compliant
- FT1, AWM 20626

Category 5e Cables, 4-Pair*, Solid with Interlocked Aluminum Armor

Part No.	AWG	Conductors	No. of Pairs	EtherNet/IP Compliant	Standard Lengths**		Standard Unit Wt.		Nominal OD		Jacket Thickness		Jacket Colors/Material**
					Ft.	m	Lbs.	kg	Inch	mm	Inch	mm	
121700A	24	Solid BC	4		1000	304.8	159.0	72.0	0.53	13.46	0.045	1.14	Black, Gray PVC
					3000	914.4	459.0	210.6					Black PVC
121700R	24	Solid BC	4		1000	304.8	159.0	72.0	0.53	13.46	0.045	1.14	Black, Blue PVC
					3000	914.4	459.0	210.6					Black, Blue PVC
					5000	1524.0	690.0	313.0					Black, Blue PVC

- AL Interlocked Armor
- Polyester Wrap
- Polyolefin Insulation
- Industrial Grade Sunlight- & Oil-resistant PVC Outer Jacket

- CM rated; Aluminum interlocked armor
- Bonded Pair Construction
- Operating temperature: -40°C to +75°C †
- Installation temperature: -25°C to +75°C (121700R: -40°C to +75°C)
- RJ45 compatible
- Jacket sequentially marked at 1 meter intervals
- Cable passes -40°C Cold Bend per UL1581 (121700A Only)
- U.S. Patents 5,606,151 and 5,734,126
- Third party verified to TIA/EIA-568-B.2, Category 5e
- RoHS Compliant
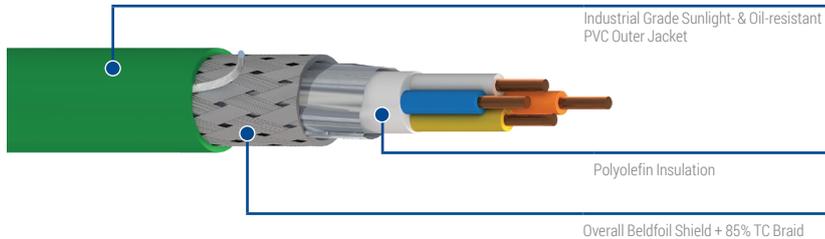- NEC: CM
- CEC: HL; CMG FT4

† Subject to length de-rating
* 4-Pair Color Codes: Pair No. 1 = White/Blue Stripe & Blue; Pair No. 2 = White/Orange Stripe & Orange; Pair No. 3 = White/Green Stripe & Green; Pair No. 4 = White/Brown Stripe & Brown
**Additional standard lengths and jacket colors may be available. Please call your Belden representative at 1.800.Belden1.

Category 5e Cables, 4 Conductor Quad, Type A PROFINET, Stranded with Foil Braid and Shield

Part No.	AWG	Conductors	No. of Conductors	PROFINET Compliant	Standard Lengths**		Standard Unit Wt.		Nominal OD		Jacket Colors/Material**
					Ft.	m	Lbs.	kg	Inch	mm	
7960A	22	Solid BC	4	•	1000	304.8	44	19.96	0.268	6.807	Green (RAL 6018) PVC
					2000	609.6	88	39.92	0.268	6.807	

Industrial Grade Sunlight- & Oil-resistant PVC Outer Jacket

Polyolefin Insulation

Overall Beldfoil Shield + 85% TC Braid

- Non-plenum, shielded
- Symmetric quad design
- Operating Temperature: -40°C to +80°C †
- Installation Temperature: -20°C to +60°C
- Compatible with Multiple Connectivity Solutions, including RJ45
- Jacket sequentially marketed at 2 ft. intervals
- Cable passes -40°C Cold Bend per UL1581
- Third party verified to TIA/EIA-568-C.2, Category 5e
- NEC/(UL) Specification: CMG, CMX-Outdoor, ITC, PLTC
- CEC/C(UL) Specification: CMG

Category 5e Cables, 4 Conductor Quad, Type B PROFINET, Stranded with Foil Braid and Shield
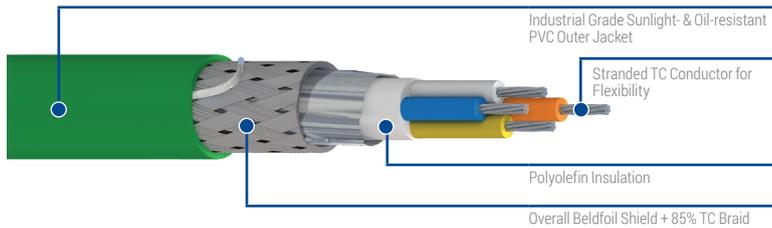
Part No.	AWG	Conductors	No. of Conductors	PROFINET Compliant	Standard Lengths**		Standard Unit Wt.		Nominal OD		Jacket Colors/Material**
					Ft.	m	Lbs.	kg	Inch	mm	
7961A	22	Stranded TC (7 x 0.25mm)	4	•	1000	304.8	46	20.87	0.272	6.909	Green (RAL 6018) PVC
					2000	609.6	92	41.73	0.272	6.909	

Industrial Grade Sunlight- & Oil-resistant PVC Outer Jacket

Stranded TC Conductor for Flexibility

Polyolefin Insulation

Overall Beldfoil Shield + 85% TC Braid

- Non-plenum, shielded
- Symmetric quad design
- Operating Temperature: -40°C to +80°C †
- Installation Temperature: -20°C to +60°C
- Compatible with Multiple Connectivity Solutions, including RJ45
- Jacket sequentially marketed at 2 ft. intervals
- Cable passes -40°C Cold Bend per UL1581
- Third party verified to TIA/EIA-568-C.2, Category 5e
- NEC/(UL) Specification: CMG, CMX-Outdoor, ITC, PLTC
- CEC/C(UL) Specification: CMG

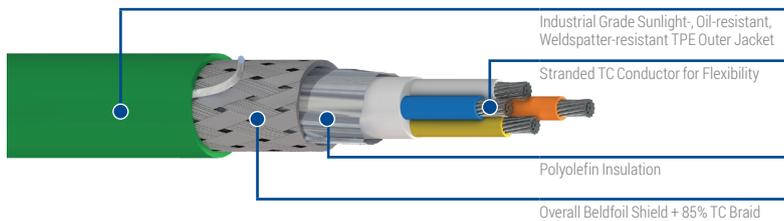## Category 5e Cables, 4 Conductor Quad, Type C PROFINET, Stranded with Foil Braid and Shield

Part No.	AWG	Conductors	No. of Conductors	PROFINET Compliant	Standard Lengths**		Standard Unit Wt.		Nominal OD		Jacket Colors/Material**
					Ft.	m	Lbs.	kg	Inch	mm	
7962A	22	Stranded TC (19 x 34)	4	•	1000	304.8	49	22.23	0.276	7.010	Green (RAL 6018) PVC
					2000	609.6	98	44.45	0.276	7.010	

Industrial Grade Sunlight-, Oil-resistant, Weldspatter-resistant TPE Outer Jacket

Stranded TC Conductor for Flexibility

Polyolefin Insulation

Overall Beldfoil Shield + 85% TC Braid

- Non-plenum, shielded
- Symmetric quad design
- Operating Temperature: -40°C to +80°C †
- Installation Temperature: -20°C to +60°C
- Compatible with Multiple Connectivity Solutions, including RJ45
- Jacket sequentially marketed at 2 ft. intervals
- Cable passes -40°C Cold Bend per UL1581
- Third party verified to TIA/EIA-568-C.2, Category 5e
- NEC/(UL) Specification: CM, CMX-Outdoor, ITC, PLTC
- CEC/C(UL) Specification: CM

† Subject to length de-rating

**Additional standard lengths and jacket colors may be available. Please call your Belden representative at 1.800.Belden1.

IP Enclosure Ratings

The IP Code defined in International Standard IEC 60529 classifies a component's level of protection against the intrusion of solid objects or dust, accidental contact, and water. The rating consists of the letters IP (sometimes interpreted as "ingress protect rating" or "international protection rating"), followed by two numbers and an optional letter. The numbers indicate conformity with the conditions summarized in the tables below. Where there is no protection rating with regard to one of the criteria, the number is replaced with the letter X.

First Number

The first number indicates the level of protection that the enclosure provides against access to hazardous parts (i.e., electrical conductors, moving parts) and the ingress of solid foreign objects.

Level	Object Size Protected Against	Details
0	—	No protection against contact and ingress of objects.
1	>50 mm	Any large surface of the body, such as the back of a hand, but no protection against deliberate contact with a body part.
2	>12.5 mm	Fingers or similar objects.
3	>2.5 mm	Tools, thick wires, etc.
4	>1 mm	Most wires, screws, etc.
5	Dust protected	Ingress of dust is not entirely prevented, but it must not enter in sufficient quantity to interfere with the satisfactory operation of the equipment; complete protection against contact.
6	Dust tight	No ingress of dust; complete protection against contact.

Second Number

Protection of the equipment inside the enclosure against harmful ingress of water.

Level	Protected Against	Details
0	Not protected	—
1	Dripping water	Dripping water (vertically falling drops) shall have no harmful effect.
2	Dripping water when tilted up to 15°	Vertically dripping water shall have no harmful effect when the enclosure is tilted at an angle up to 15° from its normal position.
3	Spraying water	Water falling as a spray at any angle up to 60° from the vertical shall have no harmful effect.
4	Splashing water	Water splashing against the enclosure from any direction shall have no harmful effect.
5	Water jets	Water projected by a nozzle against enclosure from any direction shall have no harmful effects.
6	Powerful water jets	Water projected in powerful jets against the enclosure from any direction shall have no harmful effects.
7	Immersion up to 1m	Ingress of water in harmful quantity shall not be possible when the enclosure is immersed in water under defined conditions of pressure and time (up to 1m of submersion).
8	Immersion beyond 1m	The equipment is suitable for continuous immersion in water under conditions which shall be specified by the manufacturer. Note: Normally, this will mean that the equipment is hermetically sealed. However, with certain types of equipment, it can mean that water can enter but only in such a manner that produces no harmful effects.

DataTuff Industrial Ethernet Cordsets (RJ45)
with Heavy Duty Oil- & Sunlight-Resistant Black Jackets

For Base Cable specifications, refer to Cable Selection Guide on Page 3.

Belden Part No.	IP Rating *	Length, in Meters (m)	Tethered Cap	Connector	Base Cable	Conductor	Shielding	Speed
E6000xx	IP67	xx = 01,02,03,05,25	Yes	RJ45	7940A	Solid	Unshielded	Cat6
E6010xx	IP20	xx = 01,02,03,05	--	RJ45	7940A	Solid	Unshielded	Cat6
E6040xx	IP67	xx = 01,02,03,05,25	Yes	RJ45	7953A	Solid	Shielded	Cat6
E6050xx	IP20	xx = 01,02,03,05	--	RJ45	7953A	Solid	Shielded	Cat6
R5090xx	IP20	xx = 01,02,03,05,10	--	Rugged RJ45	7957A	Solid	Shielded	Cat6
R6010xx	IP20	xx = 01,02,03,05	--	Rugged RJ45	7940A	Solid	Unshielded	Cat6
R6050xx	IP20	xx = 01,02,03,05	--	Rugged RJ45	7953A	Solid	Shielded	Cat6
E5000xx	IP67	xx = 01,02,03,05,25	Yes	RJ45	7923A	Solid	Unshielded	Cat5e
E5010xx	IP20	xx = 01,02,03,05	--	RJ45	7923A	Solid	Unshielded	Cat5e
E5020xx	IP67	xx = 01,02,03,05,25	Yes	RJ45	7924A	Stranded	Unshielded	Cat5e
E5030xx	IP20	xx = 01,02,03,05	--	RJ45	7924A	Stranded	Unshielded	Cat5e
E5040xx	IP67	xx = 01,02,03,05,25	Yes	RJ45	7958A	Solid	Shielded	Cat5e
E5050xx	IP20	xx = 01,02,03,05	--	RJ45	7958A	Solid	Shielded	Cat5e
E5060xx	IP67	xx = 01,02,03,05,25	Yes	RJ45	7939A	Stranded	Shielded	Cat5e
E5070xx	IP20	xx = 01,02,03,05	--	RJ45	7939A	Stranded	Shielded	Cat5e
E5080xx	IP67	xx = 01,02,03,05,10	--	RJ45	7957A	Solid	Shielded	Cat5e
E5090xx	IP20	xx = 1,2,3,4,5,6,7,10,50	--	RJ45	7957A	Solid	Shielded	Cat5e

* IP67 interface complies with the EtherNet/IP specification (IEC 61076-3-106 Variant 1)

IP20 Cordset

IP67 Cordset

Custom Length Cordset Capabilities

Belden's pre-terminated industrial Ethernet cordsets deliver rapid deployment coupled with guaranteed performance and physical protection without the need for tradeoffs or compromise in performance and reliability. Custom lengths are available in any interval up to 100 meters. Users can deploy their high-performance networks with optimal speed and efficiency through the use of plug-ended, pre-terminated assemblies paired with modular couplers with options, bringing a new level of ease and convenience to cabling system design, ordering and installation. Rated for IP20 or IP67, our pre-terminated cordsets guarantee protection against any level of industrial environment and are equipped for protection against water, dust, contact, vibration, heat and flame.

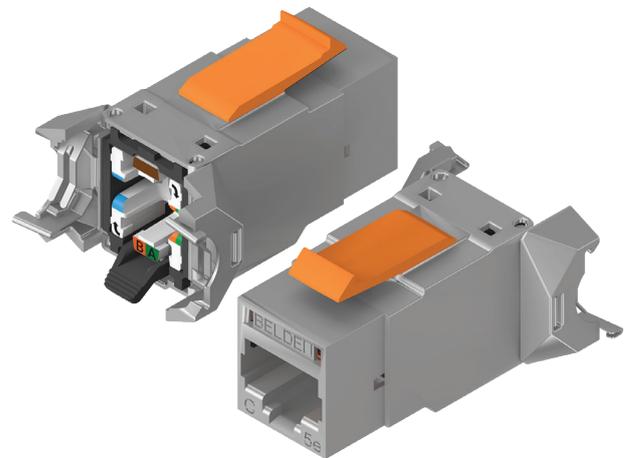# DataTuff Industrial REVConnect Field-Termination RJ45 Connectors

Industrial REVConnect RJ45 connectors offer an efficient field-termination solution with a superior insulation piercing mechanism and EMI protection for utmost reliability.

Industrial REVConnect Components

RJ45 Connector Nomenclature

PRODUCT NAME		PERFORMANCE		MODULE TYPE	
Industrial REVConnect	RV	Cat 6A	A	Industrial Jack	IJ
SHIELDING		Cat 6	6	Industrial Plug	IP
Unshielded	U	Cat 5e	5	Industrial Coupler	IU
Shielded	S	Universal Item	U	Industrial Core	IO
IP RATING		**COLOR CODE**		**PUT UP**	
IP20	2	Orange	OR	Single Bag	S1
No IP	0	Teal	TE	Bulk Pack of 24	B24
		Black	BK	Bulk Pack of 50	B50
		Blue	BL		
		White	EW		
		Metal	ME		

* 22 AWG wire shall meet Insulation OD requirement

Cable Compatibility Chart

Specifications		* dimensions in mils					
Industrial REVConnect	Cable**	Cable OD		Insulation OD		Wire Gauge	
		MIN	MAX	MIN	MAX	MIN	MAX
RVxIJ2U	UTP	-	366	35	53	24	22*
RVxIJ2S	STP	230	366				
RVAIP2U	UTP	-	327				
RVAIP2S	STP	230	366				

* 22 AWG wire shall meet Insulation OD requirement
** Industrial REVConnect is compatible with armored products when the cable inside the armor meets above requirements

Industrial REVConnect compatible (validated) - UTP			
7922A	7927A	7932A	2146A
7923A	7930A	7935A	11700A
7924A	7931A	7940A	11872A
Industrial REVConnect not-compatible (validated) - UTP			
7918A (*2)	7928A (*2)		
Industrial REVConnect compatible (validated) - STP			
7919A	7936A	7953A	7958A
7929A	7937A	7957A	
Industrial REVConnect not-compatible (validated) - STP			
7933A (*3)	7960A (*1)	7961A (*1)	7962A (*1)

Notes
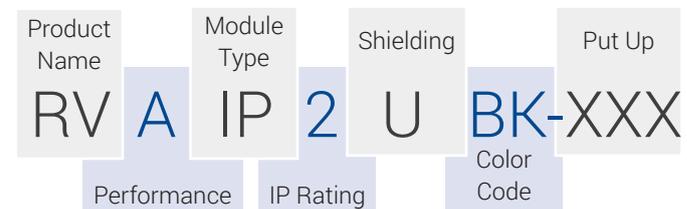*1 Insulation OD > 53 mils
*2 Insulation OD< 35 mils
*3 Cable OD < 230 mils

Configuring Your Part Number

Here's an example:

Product Name		Module Type		Shielding		Put Up
RV	A	IP	2	U	BK-	XXX
	Performance		IP Rating		Color Code	

To see cable termination guides for each cable type, please go to
belden.com/industrial-revconnect

Part Numbers

IMAGE	COMPONENT	PART #	COLOR	DESCRIPTION
	Plug, Cat 5e, 6, 6A UTP RJ45	**RVAIP2UBK-XXX**	Black	Industrial REVConnect IP20 RJ45 Unshielded Cat 6A Plug with Universal Core(s)
	Plug, Cat 5e, 6, 6A STP RJ45	**RVAIP2SME-XXX**	Metal	Industrial REVConnect IP20 RJ45 Shielded Cat 6A Plug with Universal Core(s)
	Jack, Cat 5e UTP RJ45	**RV5IJ2UXX-XXX**	5 Colors	Industrial REVConnect IP20 RJ45 Unshielded Cat 5e Jack with Universal Core(s)
	Jack, Cat 6 UTP RJ45	**RV6IJ2UXX-XXX**	5 Colors	Industrial REVConnect IP20 RJ45 Unshielded Cat 6 Jack with Universal Core(s)
	Jack, Cat 6A UTP RJ45	**RVAIJ2UXX-XXX**	5 Colors	Industrial REVConnect IP20 RJ45 Unshielded Cat 6A Jack with Universal Core(s)
	Jack, Cat 5e STP RJ45	**RV5IJ2SME-XXX**	Metal	Industrial REVConnect IP20 RJ45 Shielded Cat 5e Jack with Universal Core(s)
	Jack, Cat 6 STP RJ45	**RV6IJ2SME-XXX**	Metal	Industrial REVConnect IP20 RJ45 Shielded Cat 6 Jack with Universal Core(s)
	Jack, Cat 6A STP RJ45	**RVAIJ2SME-XXX**	Metal	Industrial REVConnect IP20 RJ45 Shielded Cat 6A Jack with Universal Core(s)
	Core	**RVUI00UEW-XXX**	White	Universal Industrial REVConnect Core for use with Jack or Plug
	Coupler, Cat 5e, 6, 6A UTP	**RVAIU2UXX-XXX**	White/Black	Industrial REVConnect Cat 6A Coupler that connects 2 Cores
	Cordset, Custom	**VRXXXX-XXX-XXX**	Custom	Custom Cable, Color, Length Terminated with Industrial REVConnect Core
	Tool, Crimping	**RVUTT01**	NA	Include Cable Stripping Tool and Crimping Tool for Industrial REVConnect Core
	Tool, Outlet Release	**AX101185**	NA	Tool to Release Core from Industrial REVConnect Jack or Plug

Industrial REVConnect
Factory Terminated Cordsets

xx	Cable
00	**7923A**
02	**7924A**
10	**7922A**
18	**7931A**
19	**7940A**
20	**7953A**
22	**7957A**
23	**7958A**
25	**7938A**
38	**7903A**

Configuring Your Part Number

Here's an example:

Ind REVConnect Cordset	CAT5e	ft vs meters	cable type	core to core	color	length
VR	**5**	**F**	**XX**	**K**	**010**	**010**
factory terminated	cable category	unit of measure for length	see lookup table	connector types		

Please remember to order an Industrial REVConnect jack or plug for each core to plug in

VR5FxxK 010010	DataTuff® Industrial REVConnect Cord-Set, CAT5E, xx, CORE TO CORE, 010 ft. (xx = Cable), (010 = Color), (010 = Length).
VR5FxxL 010010	DataTuff® Industrial REVConnect Cord-Set, CAT5E, xx, CORE TO OPEN, 010 ft. (xx = Cable), (010 = Color), (010 = Length).
VR5FxxM 010010	DataTuff® Industrial REVConnect Cord-Set, CAT5E, xx, CORE TO RJ45 IP20, 010 ft. (xx = Cable), (010 = Color), (010 = Length).
VR5FxxN 010010	DataTuff® Industrial REVConnect Cord-Set, CAT5E, xx, CORE TO RJ45 IP67, 010 ft. (xx = Cable), (010 = Color), (010 = Length).
VR5FxxP 010010	DataTuff® Industrial REVConnect Cord-Set, CAT5E, xx, CORE TO RJ45 RUGGEDIZED IP20, 010 ft. (xx = Cable), (010 = Color), (010 = Length).
VR6FxxK 010010	DataTuff® Industrial REVConnect Cord-Set, CAT6, xx, CORE TO CORE, 010 ft. (xx = Cable), (010 = Color), (010 = Length).
VR6FxxL 010010	DataTuff® Industrial REVConnect Cord-Set, CAT6, xx, CORE TO OPEN, 010 ft. (xx = Cable), (010 = Color), (010 = Length).
VR6FxxM 010010	DataTuff® Industrial REVConnect Cord-Set, CAT6, xx, CORE TO RJ45 IP20, 010 ft. (xx = Cable), (010 = Color), (010 = Length).
VR6FxxN 010010	DataTuff® Industrial REVConnect Cord-Set, CAT6, xx, CORE TO RJ45 IP67, 010 ft. (xx = Cable), (010 = Color), (010 = Length).
VR6FxxP 010010	DataTuff® Industrial REVConnect Cord-Set, CAT6, xx, CORE TO RJ45 RUGGEDIZED IP20, 010 ft. (xx = Cable), (010 = Color), (010 = Length).

Note: cordsets do not come with REVConnect RJ45 outer jacket, consider ordering sufficient quantity of Industrial REVConnect RJ45 Connectors (plug, jack, coupler) for each core shown in the image below.

REVConnect Cordset

Modular Jacks (RJ45)

IP67 interface complies with the EtherNet/IP specification (IEC 61076-3-106 Variant 1)

IP67 Modular Jack

Cat 6 IP67			
Belden Part No.	Description	Tethered Cap	Package Quantity
E100601 010S1	UTP, Black	Yes	1
E100602 010S1	FTP, Black	Yes	1
Cat 5e IP67			
Belden Part No.	Description	Tethered Cap	Package Quantity
E100501 010S1	UTP, Black	Yes	1
E100502 010S1	FTP, Black	Yes	1

Plug Kits (RJ45) Cat 5e IP67

IP67 interface complies with the EtherNet/IP (IEC 61076-3-106 Variant 1)

IP67 Plug Kit

Belden Part No.	Description	Tethered Cap	Package Quantity
E300501 010S1	UTP, Black	Yes	1
E300502 010S1	FTP, Black	Yes	1

Field-Installable Metal Body Ruggedized Plug (RJ45) Cat 6 IP20

Metal Body Field-Installable Plug

Belden Part No.	Description	AWG	Cond	Package Quantity
R301601	UTP/STP, T568A Plug	T568A	22-24 AWG	1
R301602	UTP/STP, T568B Plug	T568B	22-24 AWG	1
R301603	UTP/STP, T568A Plug	T568A	24-26AWG	1
R301604	UTP/STP, T568B Plug	T568B	24-26AWG	1

Stainless Steel Faceplates IP67

IP67 Stainless Steel Faceplates

Belden Part No.	Description	Package Quantity
E200001 000S1	Single gang, 1-port	1
E200002 000S1	Single gang, 2-port	1
E200004 000S1	Double gang, 4-port	1

Surface Mount Boxes IP67

Surface Mount Box Dimensions: 12.8 x 12.8 x 6.7 cm deep (5.05" x 5.05" x 2.625" deep)

IP67 Surface Mount Box

Belden Part No.	Description	Package Quantity
E200101 009S1	1-port, White/Stainless Steel Cover	1
E200102 009S1	2-port, White/Stainless Steel Cover	1
E200103 009S1	3-port, White/Stainless Steel Cover	1
E200104 009S1	4-port, White/Stainless Steel Cover	1

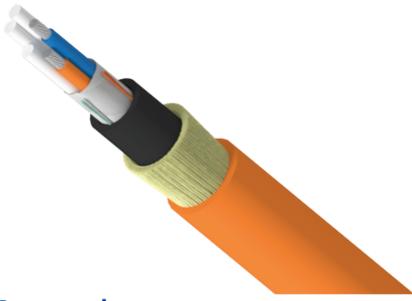FTP = Foil Shielded Twisted Pairs; UTP = Unshielded Twisted Pairs

Tools

	Belden Part No.	Description	Package Quantity
Crimp Tool	E400001 006S1	Hand tool to crimp unshielded (UTP) and shielded (FTP) RJ45 plugs. Black with Blue handle	1
Stripping Tool	E400003 008S1	Cable stripper, Gray	1
Punch-down Connecting Tool	AX100749	Punch-down connecting tool	1
	C0054642	Punch-down connecting tool pouch	1

Category 6A, Shielded Modular Patch Panels

Belden Part Number	Description
AX104563	KeyConnect Shielded Patch Panel, 24-port, 1U, Titanium (Empty)
AX104564	KeyConnect Shielded Patch Panel, 48-port, 2U, Titanium (Empty)
AX104622	KeyConnect Shielded Angled Patch Panel, 24-port, 1U, Titanium (Empty)
AX104623	KeyConnect Shielded Angled Patch Panel, 48-port, 2U, Titanium (Empty)

CAT6A Modular Patch Panel (Empty)

Industrial Patch Panel, DIN Rail Mount

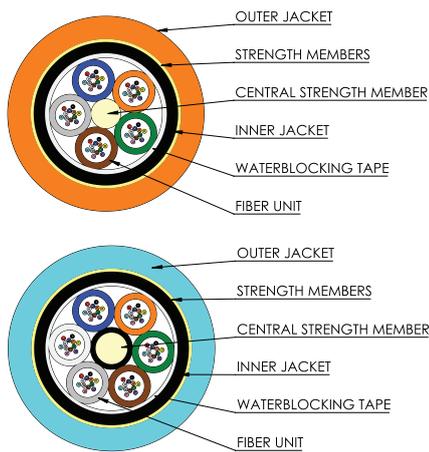| Belden Part Number	Description	RJ45 Ports
IPDM1	Industial Patch Panel DIN Rail Single-Module CAT5e, 6, 6A (Empty)	4
IPDM2	Industial Patch Panel DIN Rail Two-Module CAT5e, 6, 6A (Empty)	8
IPDM3	Industial Patch Panel DIN Rail Three-Module CAT5e, 6, 6A (Empty)	12

Industrial Shielded Patch Panel DIN Rail (Empty)

Construction

Jacket Material	PVC or CPE
Strength Member	Aramid Yarn
Jacket Color	
OS2	Yellow
OM1	Orange
OM2	Orange
OM3	Aqua
OM4	Erika Violet

Specifications

Temperature Range	
Storage	-40 to 70°C
Operating †	-40 to 70°C
Crush Resistance	
(EIA-455-41)	440 N/cm
Impact Resistance	2000 impacts @ 1.6N-m
(EIA-455-25)	
Cyclic Flexing	25 cycles, 12 lbs.,
(EIA-455-104)	20 x OD radius min.
Min. Bend Radius	
Installation	20 x OD
Long Term	15 x OD
Maximum Installation Load	600 lbs. (2700 N)

Fiber Bundle Detail

OUTER JACKET
STRENGTH MEMBERS
CENTRAL STRENGTH MEMBER
INNER JACKET
WATERBLOCKING TAPE
FIBER UNIT

OUTER JACKET
STRENGTH MEMBERS
CENTRAL STRENGTH MEMBER
INNER JACKET
WATERBLOCKING TAPE
FIBER UNIT

Compliance

TIA/EIA-568.3-D
NEC/CEC OFNR/OFNR FT4
ICEA S-104-696
Flame Resistance IEEE 1202 / 383-2003
RoHS II 2011/65/EU
REACH EC1907-2006

TrayOptic Industrial, Heavy-Duty, All Dielectric Cable
Loose Tube — Indoor/Outdoor Riser Rated

Laser Optimized Fiber to handle Gigabit Ethernet light sources and expanded bandwidth requirements. Passes IEEE 1202/583-2003 flame test. Waterblocking agent for moisture protection. CPE outer jacket option provides extra chemical or abrasion resistance.

Applications
- Industrial and other harsh environment applications
- Factory automation
- Direct burial

Riser (NEC/CEC OFNR/OFNR FT4)
PVC Jacket Indoor/Outdoor

Description	Construction	Fiber Count	Fiber/ Tube	Cable OD		Weight		Tensile Strength			
								Installation		Operation	
				mm	in.	kg/km	lb/1000 ft.	N	lbf	N	lbf
Unitized 6-Fiber Sub-Units		2	2	13.44	0.529	165	111	2670	600	810	180
		4	4			165	111				
		6	6			165	111				
Unitized 12-Fiber Sub-Units		8	8			165	111				
		12	12			165	111				
		24	12			165	111				
		36	12			165	111				
		48	12			165	111				
		60	12			165	111				
		72	12	14.12	0.556	176	118				

Configurations
Riser (NEC/CEC OFNR/OFN FT4) PVC Jacket Indoor/Outdoor

No. of Fibers	No. of Fibers Per Bundle	Belden Part Number				
		OM1	OM2	OM3	OM4	OS2
2	2	FD1T002RF	FD2T002RF	FD3T002RF	FD4T002RF	FDST002RF
4	4	FD1T004RF	FD2T004RF	FD3T004RF	FD4T004RF	FDST004RF
6	6	FD1T006RF	FD2T006RF	FD3T006RF	FD4T006RF	FDST006RF
8	8	FD1T008RG	FD2T008RG	FD3T008RG	FD4T008RG	FDST008RG
12	12	FD1T012RG	FD2T012RG	FD3T012RG	FD4T012RG	FDST012RG
24	12	FD1T024RG	FD2T024RG	FD3T024RG	FD4T024RG	FDST024RG
36	12	FD1T036RG	FD2T036RG	FD3T036RG	FD4T036RG	FDST036RG
48	12	FD1T048RG	FD2T048RG	FD3T048RG	FD4T048RG	FDST048RG
60	12	FD1T060RG	FD2T060RG	FD3T060RG	FD4T060RG	FDST060RG
72	12	FD1T072RG	FD2T072RG	FD3T072RG	FD4T072RG	FDST072RG

TrayOptic Industrial, Heavy-Duty,
All Dielectric Cable (Continued)
Loose Tube — Indoor/Outdoor Riser Rated

Riser (NEC/CEC OFNR/OFNR FT4)
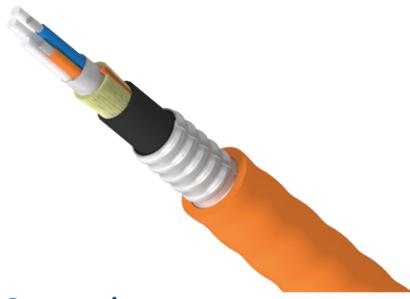### CPE Jacket Indoor/Outdoor - All Dielectric

ALL DIELECTRIC				Cable OD		Weight		Tensile Strength			
								Installation		Operation	
Description	Construction	Fiber Count	Fiber/ Tube	mm	in.	kg/km	lb/1000 ft.	N	lbf	N	lbf
Unitized 6-Fiber Sub-Units		4	4			162	109				
		6	6			162	109				
Unitized 12-Fiber Sub-Units		8	8	13.44	0.529	162	109	2670	600	810	180
		12	12			162	109				
		24	12			162	109				
		36	12			162	109				
		48	12			162	109				
		60	12			162	109				
		72	12	14.12	0.556	176	118				

Configurations
Riser (NEC/CEC OFNR/ORNR FT4) CPE Jacket Indoor/Outdoor - All Dielectric

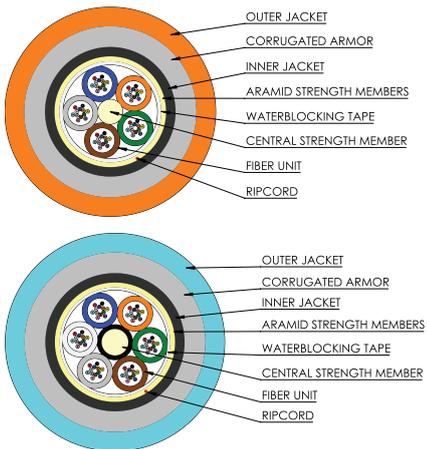| No. of Fibers	No. of Fibers Per Bundle	Belden Part Number				
		OM1	OM2	OM3	OM4	OS2
2	2	FD1Y002RF	FD2Y002RF	FD3Y002RF	FD4Y002RF	FDSY002RF
4	4	FD1Y004RF	FD2Y004RF	FD3Y004RF	FD4Y004RF	FDSY004RF
6	6	FD1Y006RF	FD2Y006RF	FD3Y006RF	FD4Y006RF	FDSY006RF
8	8	FD1Y008RG	FD2Y008RG	FD3Y008RG	FD4Y008RG	FDSY008RG
12	12	FD1Y012RG	FD2Y012RG	FD3Y012RG	FD4Y012RG	FDSY012RG
24	12	FD1Y024RG	FD2Y024RG	FD3Y024RG	FD4Y024RG	FDSY024RG
36	12	FD1Y036RG	FD2Y036RG	FD3Y036RG	FD4Y036RG	FDSY036RG
48	12	FD1Y048RG	FD2Y048RG	FD3Y048RG	FD4Y048RG	FDSY048RG
60	12	FD1Y060RG	FD2Y060RG	FD3Y060RG	FD4Y060RG	FDSY060RG
72	12	FD1Y072RG	FD2Y072RG	FD3Y072RG	FD4Y072RG	FDSY072RG

TrayOptic Industrial, Heavy-Duty, Armored Cable
Loose Tube — Indoor/Outdoor Riser Rated

Laser Optimized Fiber to handle Gigabit Ethernet light sources and expanded bandwidth requirements. Passes IEEE 1202/583-2003 flame test. Waterblocking agent for moisture protection. CPE outer jacket option provides extra chemical or abrasion resistance.

Applications
- Industrial and other harsh environment applications
- Factory automation
- Direct burial

Construction

Jacket Material	PVC or CPE
Strength Member	Aramid Yarn
Jacket Color	
OS2	Yellow
OM1	Orange
OM2	Orange
OM3	Aqua
OM4	Erika Violet

Specifications

Temperature Range	
Storage	-40 to 70°C
Operating †	-40 to 70°C
Crush Resistance	
(EIA-455-41)	440 N/cm
Impact Resistance	2000 impacts @ 1.6N-m
(EIA-455-25)	
Cyclic Flexing	25 cycles, 12 lbs.
(EIA-455-104)	20 x OD radius min.
Min. Bend Radius	
Installation	20 x OD
Long Term	15 x OD
Maximum Installation Load	600 lbs. (2700 N)

Fiber Bundle Detail

OUTER JACKET
CORRUGATED ARMOR
INNER JACKET
ARAMID STRENGTH MEMBERS
WATERBLOCKING TAPE
CENTRAL STRENGTH MEMBER
FIBER UNIT
RIPCORD

OUTER JACKET
CORRUGATED ARMOR
INNER JACKET
ARAMID STRENGTH MEMBERS
WATERBLOCKING TAPE
CENTRAL STRENGTH MEMBER
FIBER UNIT
RIPCORD

Compliance

TIA/EIA-568.3-D
NEC/CEC OFCR/OFCR FT4
ICEA S-104-696
Flame Resistance IEEE 1202 / 383-2003
RoHS II 2011/65/EU
REACH EC1907-2006

Riser (NEC/CEC OFCR/OFCR FT4)
PVC Jacket Indoor/Outdoor - Armored

Armored				Cable OD		Weight		Tensile Strength			
Description	Construction	Fiber Count	Fiber/ Tube					Installation		Operation	
				mm	in.	kg/km	lb/1000 ft.	N	lbf	N	lbf
Unitized 6-Fiber Sub-Units		2	2	18.54	0.730	356	239	2670	600	810	180
		4	4			356	239				
		6	6			356	239				
Unitized 12-Fiber Sub-Units		8	8			356	239				
		12	12			356	239				
		24	12			356	239				
		36	12			356	239				
		48	12			356	239				
		60	12			356	239				
		72	12	19.56	0.770	378	254				

Configurations
Riser (NEC/CEC OFCR/OFCR FT4) PVC Jacket Indoor/Outdoor - Armored

No. of Fibers	No. of Fibers Per Bundle	Belden Part Number				
		OM1	OM2	OM3	OM4	OS2
2	2	FD1T0025F	FD2T0025F	FD3T0025F	FD4T0025F	FDST0025F
4	4	FD1T0045F	FD2T0045F	FD3T0045F	FD4T0045F	FDST0045F
6	6	FD1T0065F	FD2T0065F	FD3T0065F	FD4T0065F	FDST0065F
8	8	FD1T0085G	FD2T0085G	FD3T0085G	FD4T0085G	FDST0085G
12	12	FD1T0125G	FD2T0125G	FD3T0125G	FD4T0125G	FDST0125G
24	12	FD1T0245G	FD2T0245G	FD3T0245G	FD4T0245G	FDST0245G
36	12	FD1T0365G	FD2T0365G	FD3T0365G	FD4T0365G	FDST0365G
48	12	FD1T0485G	FD2T0485G	FD3T0485G	FD4T0485G	FDST0485G
60	12	FD1T0605G	FD2T0605G	FD3T0605G	FD4T0605G	FDST0605G
72	12	FD1T0725G	FD2T0725G	FD3T0725G	FD4T0725G	FDST0725G

TrayOptic Industrial, Heavy-Duty, Armored Cable (Continued)
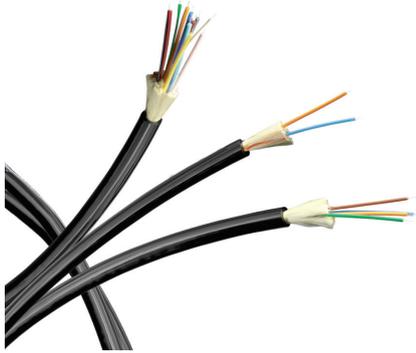## Loose Tube — Indoor/Outdoor Riser Rated

Riser (NEC/CEC OFCR/OFCR FT4)
CPE Jacket Indoor/Outdoor - Armored

Armored				Cable OD		Weight		Tensile Strength			
								Installation		Operation	
Description	Construction	Fiber Count	Fiber/ Tube	mm	in.	kg/km	lb/1000 ft.	N	lbf	N	lbf
Unitized 6-Fiber Sub-Units		2	2			350	235				
		4	4			350	235				
		6	6			350	235				
Unitized 12-Fiber Sub-Units		8	8	18.54	0.730	350	235	2670	600	810	180
		12	12			350	235				
		24	12			350	235				
		36	12			350	235				
		48	12			350	235				
		60	12			350	235				
		72	12	19.56	0.770	374	251				

Configurations
Riser (NEC/CEC OFCR/OFCR FT4) CPE Jacket Indoor/Outdoor - Armored

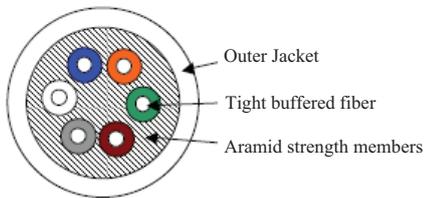| No. of Fibers	No. of Fibers Per Bundle	Belden Part Number				
		OM1	OM2	OM3	OM4	OS2
2	2	FD1Y0025F	FD2Y0025F	FD3Y0025F	FD4Y0025F	FDSY0025F
4	4	FD1Y0045F	FD2Y0045F	FD3Y0045F	FD4Y0045F	FDSY0045F
6	6	FD1Y0065F	FD2Y0065F	FD3Y0065F	FD4Y0065F	FDSY0065F
8	8	FD1Y0085G	FD2Y0085G	FD3Y0085G	FD4Y0085G	FDSY0085G
12	12	FD1Y0125G	FD2Y0125G	FD3Y0125G	FD4Y0125G	FDSY0125G
24	12	FD1Y0245G	FD2Y0245G	FD3Y0245G	FD4Y0245G	FDSY0245G
36	12	FD1Y0365G	FD2Y0365G	FD3Y0365G	FD4Y0365G	FDSY0365G
48	12	FD1Y0485G	FD2Y0485G	FD3Y0485G	FD4Y0485G	FDSY0485G
60	12	FD1Y0605G	FD2Y0605G	FD3Y0605G	FD4Y0605G	FDSY0605G
72	12	FD1Y0725G	FD2Y0725G	FD3Y0725G	FD4Y0725G	FDSY0725G

Tactical Fiber Cable

Belden's tactical cables are rated for outside plant applications. They provide unprecedented flexibility coupled with a high crush resistance. Their military-inspired MaxiBend™ Tactical Fiber provides the utmost durability for repeated deployment and retrieval in severe environments.
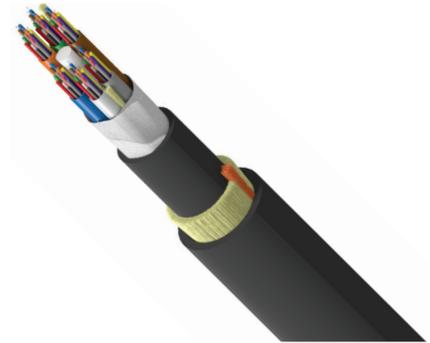
Tactical		Cable OD		Weight		Tensile Strength			
						Installation		Operation	
Construction	Fiber Count	mm	in.	kg/km	lb/1000 ft.	N	lbf	N	lbf
	2	6.10	0.240	33	22	1780	400	578	130
	4	6.10	0.240	33	22	1780	400	578	130
	6	6.10	0.240	34	23	1780	400	578	130
	12	6.99	0.275	42	28	2090	470	712	160
	24	8.38	0.330	58	39	2980	670	979	220

Construction

Jacket Material   UV Resistant PU
Strength Member   Aramid
Fiber Type: See table
Buffer:
  Type: Thermoplastic Tight Buffer
  Diameter: 900 µm TB
Assembly: Color coded fibers with strength members
Jacket Color: Black

Specifications

Temperature Range
  Storage   -55°C to 85°C
  Operating   -46°C to 85°C
  Installation   -46°C to 85°C

Fiber Bundle Detail

Outer Jacket

Tight buffered fiber

Aramid strength members

Fiber & Sub-unit

1	Blue
2	Orange
3	Green
4	Brown
5	Gray
6	White
7	Red
8	Black
9	Yellow
10	Violet
11	Pink
12	Aqua
13-24	Striped

Compliance

TIA/EIA-568.3-D
RoHS II 2011/65/EU
REACH EC1907-2006

Configurations

No. of Fibers	Belden Part Number	
	OM1	OS2
2	B96571	B96566
4	B96551	B96639
6	B96572	B96567
8	special	special
12	B96575	B96570
24	special	B96576

Loose Tube, Double Jacket Cable, Arctic Fiber Cable

Belden's loose tube cables are ideal for both outdoor & indoor/outdoor applications, including use in conduit, direct burial, lashed aerial, trunking. Their designs utilize 250µm fibers in both central & multi loose tube constructions ranging in fiber counts from 12-288. Standard offerings include outside plant or an OFNG-LS "general low smoke" for UL ratings. The double-jacketed Arctic cable is ideal for harsh low-temperature environments with an operating temperature from -55°C to 70°C.

Indoor/Outdoor UL Type OFNG-LS / CSA OFNG-LS FT4

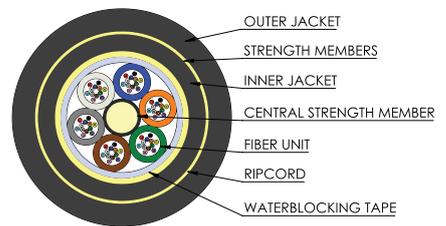| Description	Arctic			Cable OD		Weight		Tensile Strength			
								Installation		Operation	
	Construction	Fiber Count	Fiber/Tube	mm	in.	kg/km	lb/1000 ft.	N	lbf	N	lbf
Unitized 12-Fiber Sub-Units		12	12	14.61	0.575	209	140	4400	990	1300	290
		24	12	14.61	0.575	207	139				
		36	12	14.61	0.575	205	138				
		48	12	14.61	0.575	202	136				
		72	12	14.61	0.575	197	133				
		96	12	16.21	0.638	233	156				
		144	12	19.71	0.776	297	199				
		288	12	22.61	0.890	393	264				

Configurations

No. of Fibers	No. of Fibers Per Bundle	Belden Part Number			
		OM1	OM3	OM4	OS2
12	12	FD1A012MD	FD3A012MD	FD4A012MD	FDSA012MD
24	12	FD1A024MD	FD3A024MD	FD4A024MD	FDSA024MD
36	12	FD1A036MD	FD3A036MD	FD4A036MD	FDSA036MD
48	12	FD1A048MD	FD3A048MD	FD4A048MD	FDSA048MD
72	12	FD1A072MD	FD3A072MD	FD4A072MD	FDSA072MD
96	12	FD1A096MD	FD3A096MD	FD4A096MD	FDSA096MD
144	12	FD1A144MD	FD3A144MD	FD4A144MD	FDSA144MD
288	12	FD1A288MD	FD3A288MD	FD4A288MD	FDSA288MD

Construction

Fiber Type: See table
Buffer Type: Loose tube – gel-free
Assembly: Color coded fibers in color coded loose tubes, around a central member
Strength members: Aramid / E-Glass (central member)
Inner Jacket Material: Thermoplastic
Outer Jacket Material: Thermoplastic
Jacket Color: Black

Specifications

Temperature Range
Storage   -60 to 75°C
Operating   -55 to 70°C
Installation   -30 to 50°C
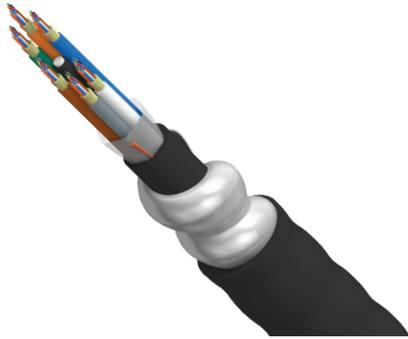
Fiber Bundle Detail

OUTER JACKET
STRENGTH MEMBERS
INNER JACKET
CENTRAL STRENGTH MEMBER
FIBER UNIT
RIPCORD
WATERBLOCKING TAPE

Fiber & Sub-unit

1	Blue
2	Orange
3	Green
4	Brown
5	Gray
6	White
7	Red
8	Black
9	Yellow
10	Violet
11	Pink
12	Aqua

Compliance

TIA/EIA-568.3-D
NEC/CEC OFNG-LS/OFNG-LS FT4
ICEA S-104-696
RoHS II 2011/65/EU
REACH EC1907-2006

FiberExpress Armored Distribution Cables

Tight Buffer — Indoor/Outdoor, Riser and Plenum Rated

Indoor/Outdoor Specifications

- Environmental Protection
  - UV Resistant Jacket
  - Moisture Resistant Jacket
  - Water Blocking Aramid
  - Water Blocking Tape
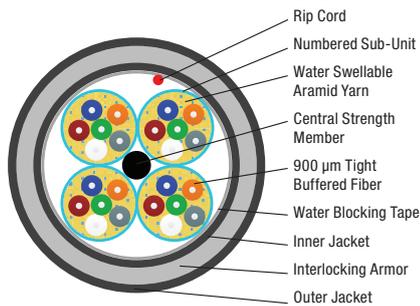
Indoor/Outdoor Specifications

Bend Radius (vs. Cable OD)

Installation	20 x OD
Operation	15 x OD

Temperature Range

Storage	-40°C to 70°C
Installation	Riser: -10°C to 60°C
	Plenum: 0°C to 60°C
Operation	-40°C to 70°C

Legend

- Rip Cord
- Numbered Sub-Unit
- Water Swellable Aramid Yarn
- Central Strength Member
- 900 µm Tight Buffered Fiber
- Water Blocking Tape
- Inner Jacket
- Interlocking Armor
- Outer Jacket

Compliance

TIA/EIA-568.3-D
ISO/IEC 11801, 2nd Edition
RoHS II 2011/65/EU
REACH EC1907-2006
NEC/CEC OFCR/OFCR FT4 (RISER - PVC)
NEC/CEC OFCP/OFCP FT6 (PLENUM - PVC)
ICEA S-104-696

Description	Construction	Fiber Count	Fiber	Sub-Unit OD (mm)	Cable OD (mm)	Cable OD (in.)	Weight (Kg/km)	Weight (lb/1000 ft.)	Tensile Strength Operation (N)	Tensile Strength Operation (lbs-f)	Tensile Strength Installation (N)	Tensile Strength Installation (lbs-f)
Non-Unitized		6	900 µm TB	N/A	14.5	0.57	189	127	360	81	1201	270
		12			15.7	0.62	150	223	400	90	1334	300
		24			17.0	0.67	335	225				
Unitized 6-Fiber Sub-Units		24	900 µm TB	4.8	21.5	0.85	391	263	890	200	2700	600
		36			25.3	1.00	548	368				
Unitized 12-Fiber Sub-Units		48	900 µm TB	5.8	24.6	0.97	540	363	890	200	2700	600
		72			27.8	1.09	716	481				
		96			32.5	1.28	930	625				
		144			35.6	1.40	1005	675				

Above specifications provide a general representation for the product family. Improved specifications may exist for Riser, Plenum or LSZH constructions. Consult individual technical data sheets for exact specifications.

Standard Indoor/Outdoor Armored Configurations

Fiber Count	Belden Part Number			
	OM1 Black	OM3 Black	OM4 Black	OS2 Black
Non-Unitized Riser				
6	FD1D006F9	FD3D006F9	FD4D006F9	FDSD006F9
12	FD1D012F9	FD3D012F9	FD4D012F9	FDSD012F9
24	FD1D024F9	FD3D024F9	FD4D024F9	FDSD024F9
Non-Unitized Plenum				
6	FD1D006A9	FD3D006A9	FD4D006A9	FDSD006A9
12	FD1D012A9	FD3D012A9	FD4D012A9	FDSD012A9
24	FD1D024A9	FD3D024A9	FD4D024A9	FDSD024A9
Unitized 6 fiber sub-units plenum				
24	FD1D024AJ	FD3D024AJ	FD4D024AJ	FDSD024AJ
Unitized 12 fiber sub-units plenum				
48	FD1D048AK	FD3D048AK	FD4D048AK	FDSD048AK
72	FD1D072AK	FD3D072AK	FD4D072AK	FDSD072AK
96	FD1D096AK	FD3D096AK	FD4D096AK	FDSD096AK
144	FD1D144AK	FD3D144AK	FD4D144AK	FDSD144AK

For an exhaustive selection contact Belden customer service or your local Belden Representative for more details.
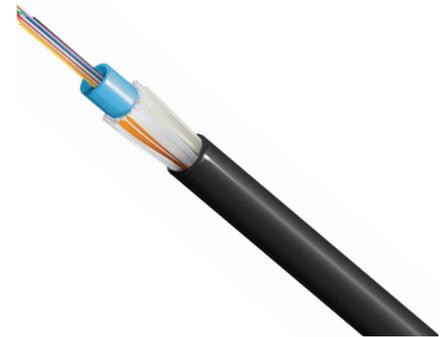
FiberExpress Central Tube Cables

Loose Tube — Outdoor and Outdoor Armored

Economical option for low fiber counts. Quick and easy end preparation. Fully waterblocked with gel-filled buffer tube. No rods — easy handling. Crush, impact and abrasion resistant.

Applications:
- Campus OSP backbones
- Drop cable
- Telecommunications and data trunk
- Direct burial (armored only)
- Lashed aerial

Construction

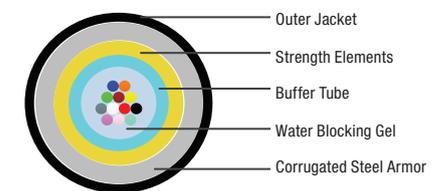|	
Jacket Material	PE
Buffer Tube	PBT
Core Wrap	Water Swellable Tape
Strength Member	Fiberglass
Armor	Corrugated Steel Tape
Color Code (Fiber)	Per TIA/EIA 598-B
Jacket Color	Black

Specifications

Temperature Range

Storage	-40°C to 70°C
Installation	-30°C to 60°C
Operation	-40°C to 70°C

Min. Bend Radius

Installation	20 x OD
Long Term	15 x OD

Legend

	Outer Jacket
	Strength Elements
	Buffer Tube
	Water Blocking Gel
	Corrugated Steel Armor

Compliance

TIA/EIA-568.3-D
ICEA S-87-640
RoHS II 2011/65/EU
REACH EC1907-2006
ICEA S-87-640

Description	Construction	Fiber Count	Cable OD		Weight		Tensile Strength			
							Installation		Operation	
			mm	in.	Kg/km	lb/1000 ft.	N	lbs-f	N	lbs-f
Outdoor										
Single Subunit		2	8	0.315	50	34	2700	600	890	200
		4								
		6								
		8								
		12								
		24								

Above specifications provide a general representation for the product family. Improved specifications may exist for Riser or LSZH constructions. Consult individual technical data sheets for exact specifications.

Configurations

No. of Fibers	Belden Part Number				
	OM1	OM2	OM3	OM4	OS2
Outdoor					
2	FS1C002N0	FS2C002N0	FS3C002N0	FS4C002N0	FSSC002N0
4	FS1C004N0	FS2C004N0	FS3C004N0	FS4C004N0	FSSC004N0
6	FS1C006N0	FS2C006N0	FS3C006N0	FS4C006N0	FSSC006N0
8	FS1C008N0	FS2C008N0	FS3C008N0	FS4C008N0	FSSC008N0
10	FS1C010N0	FS2C010N0	FS3C010N0	FS4C010N0	FSSC010N0
12	FS1C012N0	FS2C012N0	FS3C012N0	FS4C012N0	FSSC012N0

Description	Construction	Fiber Count	Cable OD		Weight		Tensile Strength			
							Installation		Operation	
			mm	in.	Kg/km	lb/1000 ft.	N	lbs-f	N	lbs-f
Outdoor Armored										
Single Subunit		2	10.4	0.410	140	95	2700	600	890	200
		4								
		6								
		8								
		12								
		24								

Above specifications provide a general representation for the product family. Improved specifications may exist for Riser or LSZH constructions. Consult individual technical data sheets for exact specifications.

Configurations

No. of Fibers	Belden Part Number				
	OM1	OM2	OM3	OM4	OS2
Outdoor Armored					
2	FS1C00260	FS2C00260	FS3C00260	FS4C00260	FSSC00260
4	FS1C00460	FS2C00460	FS3C00460	FS4C00460	FSSC00460
6	FS1C00660	FS2C00660	FS3C00660	FS4C00660	FSSC00660
8	FS1C00860	FS2C00860	FS3C00860	FS4C00860	FSSC00860
10	FS1C01060	FS2C01060	FS3C01060	FS4C01060	FSSC01060
12	FS1C01260	FS2C01260	FS3C01260	FS4C01260	FSSC01260

FX Fusion Splice-On Connectors

FiberExpress Field Termination
FX Fusion Splice-On Connectors

Belden's FX Fusion Splice-On connectors combine the benefits of fusion splicing with the versatility of a field-installable connector to provide superior performance and installation reliability.

Faster
• Faster deployment with increased first pass termination yield

Easier
• Easier termination technique with automated splicing tools
• Easier with existing termination tools and compatible splicers

Better
• Better insertion and return loss performance for futureproof networks
• Better versatility for both indoor and outdoor environments

Connector Performance

Fiber Type	Maximum Insertion Loss	Minimum Reflectance
Singlemode UPC	0.3 dB	-55 dB
Singlemode APC	0.3 dB	-65 dB
Multimode OM1	0.25 dB	-25 dB
Multimode OM3/OM4	0.2 dB	-25 dB

FX Fusion Multimode Connectors

FT3SC900FS01, FX Fusion OM3/OM4 SC Connector with 900/250 µm Boot, Aqua

Description	Belden Part Number		
	Multimode, OM1 - Beige	Multimode, OM3/OM4 - Aqua	Multimode, OM4 - Erika Violet
LC with 900/250 µm Boot, 1/Pack	FT1LC900FS01	FT3LC900FS01	FT4LC900FS01
SC with 900/250 µm Boot, 1/Pack	FT1SC900FS01	FT3SC900FS01	FT4SC900FS01
LC with 2 mm Boot, 1/Pack	FT1LC2MMFS01	FT3LC2MMFS01	FT4LC2MMFS01
SC with 2 mm Boot, 1/Pack	FT1SC2MMFS01	FT3SC2MMFS01	FT4SC2MMFS01

FX Fusion connectors with 900/250 µm boot are not compatible for termination on breakout kits.

FX Fusion Singlemode Connectors

FTSLB2MMFS01, FX Fusion OS2/APC LC Connector with 2 mm Boot, Green

Description	Belden Part Number	
	Singlemode, OS2 - Blue	Singlemode, OS2/APC - Green
LC with 900/250 µm Boot, 1/Pack	FTSLC900FS01	FTSLB900FS01
SC with 900/250 µm Boot, 1/Pack	FTSSC900FS01	FTSSB900FS01
LC with 2 mm Boot, 1/Pack	FTSLC2MMFS01	FTSLB2MMFS01
SC with 2 mm Boot, 1/Pack	FTSSC2MMFS01	FTSSB2MMFS01

FX Fusion connectors with 900/250 µm boot are not compatible for termination on breakout kits.

US 1-800-BELDEN-1 | belden.com ■ EMEA +49 (0) 7127/14-1809 | beldensolutions.com

FX Fusion Splicer Installation Kits and Accessories
Improve Installer Comfort, Repeatability and Performance

Belden's FX Fusion installation kits and active cladding alignment splicer delivers affordable, high-quality performance for consistent and reliable terminations.

FX Fusion Splicer

Description	Belden Part Number
FX Fusion Active Cladding Splicer Kit (includes splicer, splice holder, charger, spare electrodes, cooling tray, carrying case with strap, screwdriver, and fiber seath clamps)*	FXFSTOSPL

FX Fusion Installation Kits

Description	Belden Part Number
Standard Tool Kit (Standard Cleaver, Fiber Preparation Tools)	FXFSTOSTK
Precision Tool Kit (Precision Cleaver, Fiber Preparation Tools)	FXFSTOPTK

*Belden's FX Fusion splicer is compatible with Splice Holder Family 2, part #FXFSSHFM2 (included), when terminating FX Fusion connectors

FX Fusion Accessories

Installation Kit Accessories

Description	Belden Part Number
Precision Cleaver	FXFSTOPCL
Standard Cleaver	FXFSTOSCL
Slitter for Jacketed Fiber	FXFSTOSLT
Splice Holder Family 1	FXFSSHFM1
Splice Holder Family 2	FXFSSHFM2
Splice Holder Family 3	FXFSSHFM3

For a complete list of FX Fusion compatible splicers and holders, please visit www.belden.com/splice-on and refer to the installation tools reference guide.

Splicer Kit Accessories and Spare Parts

Description	Belden Part Number
AC Adapter/Charger	FXFSTOSAC
Shoulder Strap	FXFSTOSSS
Cleaning Brushes	FXFSTOSCB
Fiber Holders/Clamps	FXFSTOSFC
Spare Electrode	FXFSTOSSE
Cooling Tray	FXFSTOSCT
Carrying Case	FXFSTOSCC
User Guide CD	FXFSTOSCD
Keys for Lock	FXFSTOSKY
Screwdriver	FXFSTOSSD

FXFSTOSPL, FX Fusion Active Cladding Splicer Kit

FXFSTOSCL, FX Fusion Standard Cleaver

FXFSSHFM2, Splice Holder Family 2

FX Fusion Connectors

FT | 3 | LC | 900 | F | S01

1. Choose Fiber Type: 1 OM1, 3 OM3, 4 OM4, S OS2
4. Choose Connector for Patch Side: LC LC Simplex, LB LC/APC Simplex, SC SC Simplex, SB SC/APC Simplex
3. Choose Cable Type: 900 Tight Buffer, 2MM Jacketed
2. Choose Product Family: F Splice-On
5. Choose Packaging: S01 Single Pack

FX Multi Boxes (M-Box)

Extremely compact, the feature rich M-Box is ideally suited for floor box and consolidation point applications. Supporting pre-terminated MPO-12(f) connectivity with an integrated fanout to LC, 1G and 10G Ethernet can be quickly deployed and re-deployed eliminating field termination. When the need arises additional versions of the M-Box are fully equipped to handle and protect field termination including both mechanical splice and pigtail fusion splicing techniques.

FW3MBP06LD, FX M-Box Pre-Term, 6 x LC Duplex, 1 MPO-12(f), OM3

Description	OM3 Aqua	OM4 Erika Violet	OS2 Blue	OS2/APC Green
FX Multi-Box Pre-Term MPO-12(f) to 6 x LC Duplex	FW3MBP06LD	FW4MBP06LD	FWSMBP06LD	FWSMBP06LA
FX Multi-Box Field-Term, (with Pigtails)	FW3MBS06LD	FW4MBS06LD	FWSMBS06LD	FWSMBS06LA
FX Multi-Box Field-Term, (without Pigtails)	FW3MBF06LD	FW4MBF06LD	FWSMBF06LD	FWSMBF06LA

MIPP: A Versatile, Modular Patch Panel for Industrial Use

The MIPP is a termination panel for cables that need to be connected to active equipment such as switches. Thanks to the modular design, MIPP can be linked to create a large single patch panel, to which, for the first time ever, both fiber and copper cables can be connected.

The MIPP is a completely new solution that provides the ideal connection between Belden cables and Hirschmann switches. Available in a choice of modules suitable for both fiber and copper cables, up to 6 modules can be connected to create a single panel that can accommodate both types of cable at the same time for maximum system flexibility. Using patchcords to connect to active equipment, cables can be terminated outside the cabinet in an organised and structured manner to ensure the highest level of reliability.

The MIPP is designed for industrial use, where its functionality and reliability can make a significant contribution to the uptime and availability of the system. Thanks to its modular design, installation is quick and easy, saving time and significantly reducing initial set-up costs, while at the same time contributing to greater reliability and easier and more efficient system management, requiring less maintenance.

Designed to have the same look and feel as the Hirschmann range of industrial switches, the MIPP has a lightweight aluminium structure which increases its overall versatility. It can easily be mounted on a DIN Rail, or it can even be attached at the sides of the cabinets simply using a wall mount plate. Thanks to its small housing, high port density and modularity, cabinet space is kept to a minimum.

The MIPP is available as both single and double modules:

- Single Fiber Modules
  (up to 12 fiber connections)
  – 6 x SC duplex adapters
  – 6 x LC duplex adapters
  – 6 x ST duplex adapters
  – 6 x E-2000™ duplex adapters

- Single Copper Modules
  – 4 x RJ45 keystone shielded
  – 4 x RJ45 keystone unshielded
  – 4 x RJ45 coupler shielded
  – 4 x RJ45 coupler unshielded

- Double Fiber Modules
  (up to 24 fiber connections)
  – 12 x SC duplex adapters
  – 12 x LC duplex adapters
  – 12 x ST duplex adapters
  – 12 x E-2000™ duplex adapters

Thanks to their compact dimensions, up to 6 modules can be combined in any permutation—and when required, each module can be easily removed or replaced for maximum flexibility.

The Advantages at a Glance

- Accommodating various media and connectors
- LC, SC, ST and E-2000™ fiber duplex adapters
- RJ45 copper keystone jacks (Shielded and Unshielded, Cat 5e, Cat 6, Cat 6A)
- RJ45 copper coupler (Shielded and Unshielded, Cat 6A)
- High port density for maximum use of available space
- Easy to use, allows space for handling cable and module is removable from unit to facilitate connection/splicing
- Splice tray and multiple fingers for easy fiber management
- Cable entry in two places (top or bottom), for ease of use and choice of placement in cabinet
- Three cable entries for single fiber module, for ring topology applications
- Double fiber module accommodates hybrid fiber cables, with single mode and multi mode fibers
- Resilient for protection against the harsher industrial environments
- Wide temperature range from -20°C to +70°C
- Available as part of a system with market leading Hirschmann switches and high performance Belden cabling for optimum reliability in Industrial Ethernet networks
- UL approval (UL 1863)

Always Stay Ahead with Belden

For more information, check out the Modular Industrial Patch Panel (MIPP) product bulletin online at belden.com/products/industrial/cable/ethernet/patch-panel