BELDEN

Belden® Optical Fiber Catalog

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Belden IBDN FiberExpress® Systems

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With the IBDN Fiber*Express* Systems, Belden takes a complete approach to fiber optic cabling. Our systems are uniquely positioned to support everything from legacy fiber systems and current backbone and data center fiber links, to future high-speed fiber transmission and long-reach fiber applications.

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Belden IBDN Fiber*Express*® Systems Reduce Complexity and Increase Flexibility

Involved in the development of optical fiber components for over 40 years, Belden is a leading supplier of high-quality, cost-effective optical fiber cabling systems. The IBDN Fiber*Express* Systems are the culmination of Belden's experience and expertise in a variety of applications, including data centers, premise and campus network backbone infrastructures, fiber-to-the-desk (FTTD) applications, and horizontal and centralized cabling systems. Guaranteed to meet or exceed all applicable TIA/EIA, ISO/IEC and IEEE standards, each end-to-end IBDN Fiber*Express* System is designed to offer reduced complexity, increased flexibility, and rapid installation for maximum cost effectiveness.

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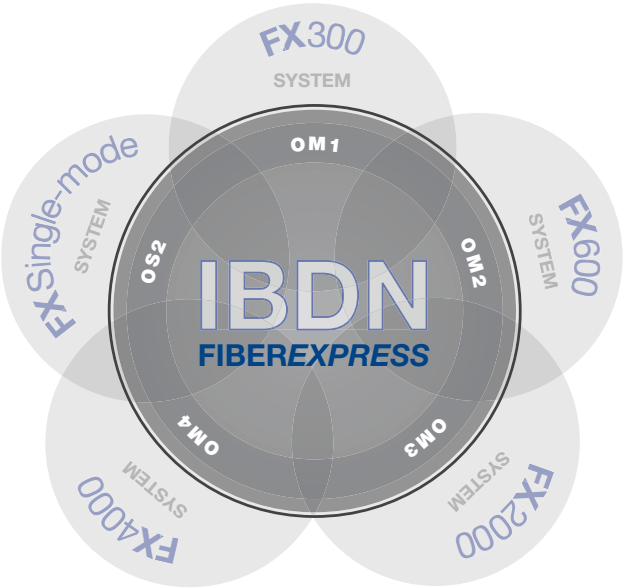
A Complete Approach to Fiber Optic Cabling

Five different levels of Belden IBDN Fiber*Express* Systems are offered to meet customers' specific needs.

With the IBDN Fiber*Express* Systems, Belden takes a complete approach to fiber optic cabling. Uniquely positioned to support everything from legacy fiber systems and current backbone and data center fiber links, to future high-speed fiber transmission and long-reach fiber applications, Belden IBDN Fiber*Express* Systems are available in five different levels to meet specific customer needs. Each Fiber*Express* System is available with a wide range of components including:

- Pre-Terminated and Field-Terminated Systems
- Field-installable connectors
- Ultra high-density and standard patch panels and fiber management systems
- Patch cords, pigtails and pre-terminated multi-fiber cable assemblies
- Modular faceplates, modules and adapters
- Customizable hybrid cables, assemblies and housings
- Indoor and outdoor tight buffer and loose-tube distribution and trunk cables
- Interlock armor, direct burial and ruggedized cables for industrial environments

The following is a recap of each of the five Belden IBDN Fiber*Express* Systems that are offered today.



FX300 System

The Fiber*Express* FX300 System is an end-to-end fiber system that features OM1 type 62.5 µm multimode fiber with an overfilled launch bandwidth of 200 MHz-km at the 850 nm wavelength, capable of supporting 1Gb data rates over a 300 m distance. Combined with a host of connectors, assemblies, patch panels and accessories, the FX300 System is extremely flexible and versatile, making it the ideal solution for maintaining existing legacy 62.5 µm fiber systems in conventional premise LAN applications that use either LED or laser light sources.

FX600 System

The Fiber*Express* FX600 System is an end-to-end fiber system that features OM2 type 50 µm multimode fiber with an overfilled launch bandwidth of 500 MHz-km at the 850 nm wavelength, capable of supporting 1Gb data rates over a 600 m distance. With its smaller core, OM2 fiber offers more than twice the bandwidth of OM1 at the 850 nm wavelength. The system is available with a wide range of connectors, assemblies, patch panels and accessories, making it an ideal solution for maintaining conventional backbone, horizontal, and intrabuilding 1Gb fiber infrastructures.

FX2000 System

The Fiber*Express* FX2000 System is an end-to-end fiber system that features OM3 type laser-optimized 50 µm multimode fiber that is better able to take advantage of low-cost 850 nm wavelength VCSEL light sources. With an overfilled launch bandwidth of 1500 MHz-km at 850 nm, the FX2000 system has excellent optical characteristics, providing more robust support for multi-gigabit applications. Capable of supporting 10Gb data rates over a 300 m distance, the end-to-end FX2000 System creates a cost-effective, high-bandwidth, fiber system for premise and campus backbone LAN infrastructures, storage area networks (SANs), central offices and data centers.

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FX4000 System

To meet the increasing demands for higher bandwidth and to support next-generation speeds of 40 and 100Gb, the Fiber*Express* FX4000 System features the very latest OM4 type laser-optimized 50 µm multimode fiber with a minimum overfilled launch bandwidth of 3500 MHz-km at 850 nm. Recognized as the fiber media of choice for new high-speed data networks, Belden's FX4000 System is capable of supporting 10Gb over a 550 m distance and 40 and 100Gb over a 150 m distance. The combination of new OM4 fiber and Belden's pre-terminated multi-fiber cable assemblies and accessories make the FX4000 end-to-end system the highest performing multimode fiber system available to support supercomputer data center demands and easily prepare for tomorrow's bandwidth needs.

FX Single-mode System

For long-reach applications in campus and outside plant backbones, Belden's FX Single-mode System features OS2 type singlemode fiber that transmits at 1310 and 1550 nm wavelengths. Belden's FX Single-mode System's low-water peak fiber is ideal for Wavelength Division Multiplexing (WDM) technology where multiple wavelengths operating at 10 or 25Gb are transmitted over a single fiber to deliver extremely high bandwidth to distances of 10 km or more.

Belden IBDN Fiber*Express* Systems Selection Guide

Belden System	FX300 System	FX600 System	FX2000 System	FX4000 System	FX Single-mode System
Standard	OM1	OM2	OM3	OM4	OS2
Maximum Reach	300 m/1Gb	600 m/1Gb	300 m/10Gb	550 m/10Gb & 150 m/40-100Gb	10 km
Cable Selection	Distribution • Interlock Armor Distribution • Loose Tube • Trunk Cables				
Patch Panels	FX Ultra HD & FX Ultra Systems • FX Manager System • FX Patch Panels				
Connectors	FX Brilliance Connectors • Optimax Connectors				
Assemblies	FX Patch Cords and Pigtails • FX Multi-Fiber Cable Assemblies				
Outlets	MediaFlex Multimedia Outlets • Interface and MDVO Outlets				

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Top-Quality Flagship Innovations Provide the Ultimate Value

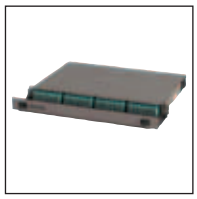
Every Belden Fiber*Express* component reflects our attention to quality and detail, and our commitment to you.

Backed by years of field-proven telecommunications experience, Belden IBDN Fiber*Express* System components include several innovative technologies designed to ensure cost-effective, easy deployment and maximum performance and reliability, while meeting current and future needs for capacity and scalability. These products are designed with the same focus on quality and performance found in Belden's complete product line.

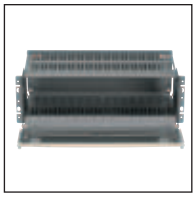
Fiber*Express* Brilliance Field-Installable Connectors

Belden FX Brilliance Field-Installable Connectors take fiber termination to a whole new level. As the industry's best solution for the challenges of field connectorization, FX Brilliance Connectors are the only fiber optic connectors to offer reliable terminations in less than five seconds — with no specialized tools, epoxy, curing or polishing required. Fast, easy and consistent terminations combined with the ability to re-terminate and no tools needed means that Brilliance Connectors save significant time and labor while reducing material cost and connector waste. Ideal for use in any LAN or data center application, FX Brilliance Connectors are designed and manufactured with the best materials, expert polishing processes, and a 100% connector reliability test methodology to provide superior performance for today's high-speed optical networks. Installation kits are also available to easily and cost-effectively transition to Fiber*Express* Brilliance Connector technology.

Fiber*Express* Ultra HD System



Designed for an optimized combination of density and modularity in data center and networking applications, the Fiber*Express* Ultra HD System can house up to 72 LC Duplex connectors or up to 72 MPO connectors in just one rack unit. With easy-to-access Fiber*Express* Ultra HD Patch Panel Housings available in 1U, 2U, and 4U sizes, the system is extremely scalable and configurable for any level of density. The Fiber*Express* Ultra HD System is compatible with all Ultra HD and existing Ultra Pre-Terminated Cassettes or Adapter Frames that are easily inserted or removed from the housing. The system's modularity makes it an ideal solution for 1Gb and 10Gb applications, and for easy migration to 40Gb and 100Gb applications. Because it is designed using a back-to-basics approach with overall fewer components and a separately available 1U splice housing kit, the Fiber*Express* Ultra HD System is lightweight and compact for an intuitive, fast and easy installation by just one individual.



Fiber*Express* Manager

The Fiber*Express* Manager is a cost-effective and compact modular system that facilitates management of large numbers of high-density premise fiber interconnections or splices — up to 1,920 single-mode or multimode fiber terminations in a single rack. The basic building blocks of the Fiber*Express* Manager are the connector modules, which are rack mounted using Fiber*Express* Manager Shelves that provide effective cable routing and patch cord management. The connector modules support LC, SC, ST and MPO connectors and feature an innovative release mechanism that allows it to easily slide from the shelf like a PC card. A Flex Kit is available for effectively splitting cables into individual fiber strands when necessary while maintaining proper bend radius, and a Splice Holder Kit can be used to hold up to six (6) fusion or mechanical splices.

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Bend Insensitive Fiber

To solve the key installation challenges of today's high-speed, high-density fiber applications, Belden offers Fiber*Express* Bend Insensitive Multimode Fiber. Bend Insensitive Multimode Fiber is fully standards compliant and compatible with OM2, OM3 and OM4 optical fiber types. It provides up to 10 times better macrobend performance than traditional legacy optical fiber, significantly reducing bend-induced attenuation while maintaining the existing performance and reliability of the fiber. With bend sensitivity less of a concern, Fiber*Express* Bend Insensitive Multimode Fiber can be easily installed in even the most challenging high-density applications to help eliminate space constraints, provide significant cost savings and reduce downtime.

Customized Fiber Solutions

Belden understands that application needs vary from market to market and from customer to customer. That's why Belden offers complete customization of fiber optic solutions, including customized hybrid cables, special assemblies, zero-U configurations and connector systems. Belden's pre-terminated solutions are available in a wide variety of connector types and customized lengths to meet exacting customer needs. Belden Fiber*Express* Secure/Keyed LC system is available with twelve different color-coded keying options to meet varying levels of required physical network segregation and security. If you need it, Belden will build it.

Superior Customer Service

All Belden IBDN Fiber*Express* Systems, are backed by expert service and technical support and a commitment to delivering high-performance, reliable transmission solutions. Well positioned as a leading single-source provider, Belden's global network of top-quality distribution and fully-trained installation partners provide comprehensive local and global support from design, delivery and installation to post-installation support. All of our fiber products and systems are backed by best-in-class, application-specific warranty programs that offer guaranteed end-to-end system performance for complete peace of mind and reduced risk over the lifetime of the installed system.

Contact Belden Today

For more information about the Belden IBDN Fiber*Express* Systems, call 1.800.BELDEN.1 (800.235.3361) or visit www.belden.com

Start designing your own **Fiber*Express*** System by selecting from the products featured on the following pages.

Fiber*Express* Connectors

Brilliance Field-Installable Connectors and Installation Kits

Fiber*Express* Brilliance Connectors

Three Simple Steps

Fiber*Express* Brilliance Field-Installable Connectors

The Fiber*Express* Brilliance Connectors require no epoxy, no polish and no crimp. The Fiber*Express* Brilliance Connector is the only fiber optic connector in the marketplace to overcome the key challenges of connector installation in the field, that is, it provides a quick and greatly simplified tool-less fiber termination process and the ability to quickly and reliably verify the termination once it's made.

Belden's Fiber*Express* Brilliance Field-Installable Connectors are available as 900 µm tight buffered, 2 mm or 3 mm jacketed, single-mode (OS2) and multimode (OM1, OM2, OM3-OM4) LC, SC and ST Connectors. The single-mode (OS2) SC APC version is also available.

The connectors are available individually or in a bulk recyclable package where the 25 connectors are separated from the boots within the package.

Connector Performance	Using Precision Cleaver		Reflectance
	Maximum Insertion Loss	Typical Insertion Loss	
Multimode	0.50 dB	0.20 dB	-25 dB
Single-mode UPC	0.50 dB	0.30 dB	-50 dB
Single-mode APC	0.50 dB	0.30 dB	-60 dB

Color of Housing	Multimode, OM1, 62.5 µm	Multimode, OM2, 50 µm	Multimode, OM3 - OM4, 50 µm	Single-mode, OS2 - UPC	Single-mode, OS2 - APC
LC	Beige	Black	Aqua	Blue	-
SC	Beige	Black	Aqua	Blue	Green
ST	Beige	Black	Aqua	Blue	-

Fiber*Express* Brilliance Field-Installable Connectors

Description	Belden Part Number					
	Multimode, OM1, 62.5 µm		Multimode, OM2, 50 µm		Multimode, OM3 - OM4, 50 µm	
	1 per package	25 per package	1 per package	25 per package	1 per package	25 per package
LC 900 µm Tight Buffer	AX104240-S1	AX104240-B25	AX104241-S1	AX104241-B25	AX104242-S1	AX104242-B25
SC 900 µm Tight Buffer	AX104244-S1	AX104244-B25	AX104245-S1	AX104245-B25	AX104246-S1	AX104246-B25
ST 900 µm Tight Buffer	AX104248-S1	AX104248-B25	AX104249-S1	AX104249-B25	AX104250-S1	AX104250-B25
LC jacketed 2.0 mm *	AX104254-S1	AX104254-B25	AX104255-S1	AX104255-B25	AX104256-S1	AX104256-B25
SC jacketed 2.0 mm *	AX104258-S1	AX104258-B25	AX104259-S1	AX104259-B25	AX104260-S1	AX104260-B25
ST jacketed 2.0 mm *	AX104262-S1	AX104262-B25	AX104263-S1	AX104263-B25	AX104264-S1	AX104264-B25

Description	Belden Part Number			
	Single-mode, OS2 - UPC		Single-mode, OS2 - APC	
	1 per package	25 per package	1 per package	25 per package
LC 900 µm Tight Buffer	AX104243-S1	AX104243-B25	–	–
SC 900 µm Tight Buffer	AX104247-S1	AX104247-B25	AX104253-S1	AX104253-B25
ST 900 µm Tight Buffer	AX104251-S1	AX104251-B25	–	–
LC jacketed 2.0 mm *	AX104257-S1	AX104257-B25	–	–
SC jacketed 2.0 mm *	AX104261-S1	AX104261-B25	AX104467-S1	AX104467-B25
ST jacketed 2.0 mm *	AX104265-S1	AX104265-B25	–	–

Description	Belden Part Number
3 mm jacketed boot, bag of 25	AX104577

*The jacketed version includes a 2 mm boot. A separate part number is available for the 3 mm boot.

Fiber*Express* Connectors (continued)
Brilliance Field-Installable Connectors and Installation Kits

Fiber*Express* Brilliance Installation Kits

Although the termination of this connector requires no specialized or proprietary tools, Belden has developed two (2) Installation Kits to allow installers to easily and cost-effectively acquire or transition to Fiber*Express* Brilliance Connector technology.

Fiber*Express* Brilliance Installation Kit

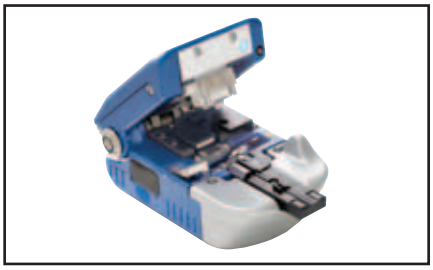
Description	Belden Part Number
Precision Installation Kit (Basic Kit, Fiber Preparation Tools, Precision Cleaver and Visual Fault Locator)	**AX104271**

Fiber*Express* Brilliance Individual Components

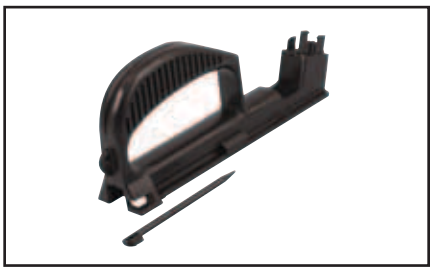
Description	Belden Part Number
Precision Cleaver	**AX104286**
Precision Cleaver Replacement Blade (for FC-7 cleaver)	**AX104293**
Precision Cleaver Replacement Blade (for FC-7R cleaver)	**AX104593**
Support Handle with Adapters	**AX104276**
Support Handle LC Adapter	**AX104289**
Support Handle SC Adapter	**AX104290**
Support Handle ST Adapter	**AX104291**
Visual Fault Locator (VFL-250) with Adapter Cords	**AX104283**
Visual Fault Locator (VFL-125) LC-LC Adapter Cord	**AX203567**
Visual Fault Locator (VFL-125/250) LC-SC Adapter Cord (valid for ST also)	**AX203568**
Visual Fault Locator (VFL-250) SC-SC Adapter Cord (valid for ST also)	**AX203569**
Visual Fault Locator (VFL-125) LC-SC/APC Adapter Cord & Support Handle SC/APC Adapter	**AX203895**
Visual Fault Locator (VFL-250) SC-SC/APC Adapter Cord & Support Handle SC/APC Adapter	**AX203930**
Fiber/Cable Stripper	**AX103151**
Pen Marker	**AX104279**
Refurbishing Materials (80 alcohol wipes and a black pen marker)	**AX100951**
Safety Glasses	**AX104282**
Scissors	**AX104280**
Tweezers	**AX104278**
Waste Bottle	**AX104281**

For additional details, please refer to the Product Bulletin (PB308) or the products' Technical Data Sheets located at www.belden.com.

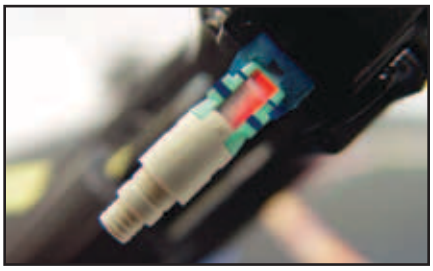
AX104271, Precision Installation Kit



AX104286, Precision Cleaver



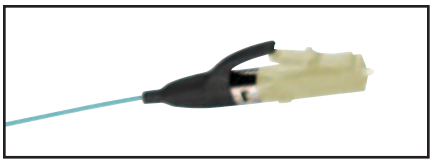
AX104276, Support Handle



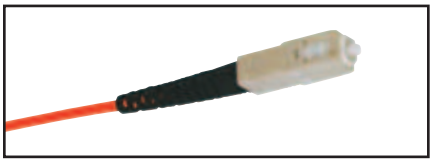
When used with the VFL, a light can be seen through the clear window on the connector body until a fiber has been properly terminated.

Fiber*Express* Connectors (continued)

Optimax Field-Installable Connectors, Installation Tool Kits and Accessories



AX101982, Optimax LC Connector



AX100029 with AX101794 Optimax SC Connector

A0408835 with AX101793 Optimax ST Connector

Optimax Field-Installable Connector

Optimax Connectors do not require epoxy, curing or polishing. Their design incorporates a factory-mounted fiber stub and a quality, zirconia ceramic ferrule with a physical contact (PC) polish for multimode and a super physical contact (SPC) polish for single-mode.

Connectors are available for multimode (OM1, OM2, OM3) and single-mode fiber installations. Only simple tools are required for installation, making Optimax a cost effective field termination.

Optimax Enhanced Installation Tool Kit

The Optimax Enhanced Installation Tool Kit is packaged in a small convenient carrying case and includes an Optimax LC, SC and ST installation and training video, installation instructions and all the tools required to terminate 900 µm buffered optical fiber and jacketed optical fiber.

Description	Belden Part Number
Fiber*Express* Connectors	
Optimax Field-Installable Connector	
LC Multimode, OM1, 62.5 µm*	**AX101981**
LC Multimode, OM2 - OM3, 50 µm*	**AX101982**
LC Single-mode, OS2*	**AX101983**
SC Multimode, OM1, 62.5 µm*	**AX100029**
SC Multimode, OM2 - OM3, 50 µm*	**AX101077**
SC Single-mode, OS2*	**AX101792**
ST Multimode, OM1, 62.5 µm*	**A0408835**
ST Multimode, OM2 - OM3, 50 µm*	**AX101075**
ST Single-mode, OS2*	**AX101791**
LC Accessory Kit for jacketed fiber (2 mm & 3 mm boots, crimp sleeves)	**AX101984**
SC Accessory Kit for jacketed fiber (3 mm boots, crimp sleeves, cord adapter)	**AX101794**
ST Accessory Kit for jacketed fiber (3 mm boots, crimp sleeves)	**AX101793**

*For 900 µm buffered fiber only. For termination on jacketed fiber, please use the appropriate Accessory Kit.

Fiber*Express* Connectors (continued)

Optimax Field-Installable Connectors, Installation Tool Kits and Accessories

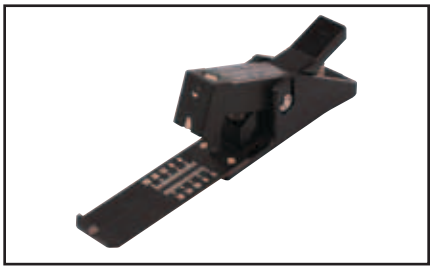
Description	Belden Part Number
Fiber*Express* Installation Tool Kits	
Optimax Enhanced Tool Kit	
LC/SC/ST (includes installation tools, fiber cleaver, crimping tool, instruction manual, microscope, tweezers, alcohol wipes, marker, scissors, waste bottle, universal fiber/cable stripper, and training video)	**AX103142**
Optimax Individual Components	
Fiber Cleaver	**A0408829**
Universal Installation Tool LC/SC/ST (includes inserts, tool, tool clamp)	**AX103152**
Installation Instruction Manual (LC, SC, ST)	**AX103148**
Crimp Tool (complete with die)	**A0403641**
Cleaver's Ceramic Blade Replacement	**AX103149**
Cleaver's Leaf Spring Base Plate Replacement	**AX103150**

AX103142, Optimax Enhanced Tool Kit

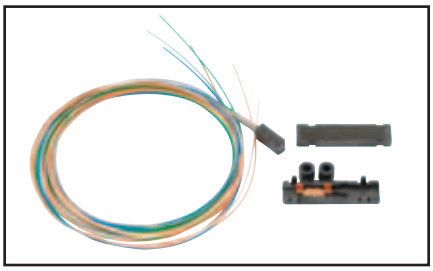
Optical Fiber Accessories

The Field Breakout Kit is designed to attach to one tube of a loose-tube cable. Each kit has either six or twelve 900 µm tubes that hold each of the coated fibers. For each end of the cable, one kit is needed for every tube. For example, a 12-fiber 62.5 µm cable contains two 6-fiber tubes. This cable would require four kits, two for each end.

Description	Belden Part Number
Fiber*Express* Accessories	
Optical Fiber Field Breakout Kit	
6 fibers, 1/pack	**AX101100**
12 fibers, 1/pack	**AX101101**
Optical Fiber Field Breakout Kit for Central Tube cable	
6 fibers, 1/pack	**AX104695**
12 fibers, 1/pack	**AX104696**



A0408829, Field Cleaver



AX101100, Field Breakout Kit

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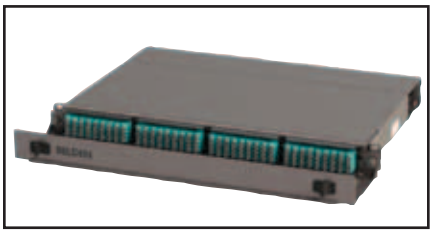
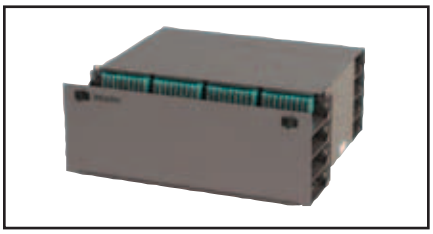
Fiber*Express* Ultra HD System

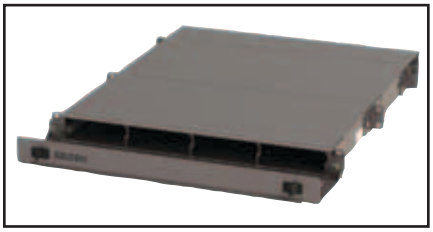
Patch Panel Housings, Patch Panel Fixed Shelves and Splice Housing Kit



AX104681 Fiber*Express* Ultra HD 1U Patch Panel Housing (shown loaded)

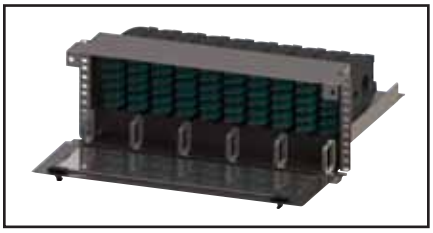


AX104683, Fiber*Express* Ultra HD 4U Patch Panel Housing (shown loaded)



Fiber*Express* Ultra HD Patch Panel 1U (AX104681) with mounted Splice Housing Kit (AX104684)

AX105164, Fiber*Express* Ultra HD 1U Patch Panel Standard Shelf



AX105167, Fiber*Express* Ultra HD 4U Patch Panel Recessed Shelf

Fiber*Express* Ultra HD System

Belden's Fiber*Express* Ultra HD System provides designers complete flexibility to architect a fiber connectivity solution to adapt to the varying port type, count and density needs in Data Centers, SANs and traditional LANs. Crafted with a back to basics approach, intuitive lightweight components are installer friendly ensuring fast clean installs. Looking to the future, a unique modular design clears the path to ensure 10G today and a seamless transition to 40G/100G when it's needed.

Feature-Rich Fiber*Express* Ultra HD Patch Panel Housings

As density continues to increase it brings both opportunity and challenge to network operators and installers. As an industry leader supporting up to 72 MPO or 72 LC Duplex ports per rack unit, combined with an optional splice housing supporting up to 144 fusion splices per rack unit the FX UHD delivers on the opportunity to reduce the physical footprint and ultimately the cost to implement, maintain and operate. Challenges are easily overcome with innovative features such as sliding & tilting drawers to enhance visibility and eliminate errors during installation and MACs. Tool-less removal of drawers and trays reduce weight of even the largest 4U platform to a safe level for one installer to handle on a ladder.

Entry-Level Fiber*Express* Ultra HD Patch Panel Fixed Shelf

When lower density, cost effective solutions are needed the FX UHD Shelf provides the same great look and feel while maintaining compatibility with the vast array of FX Ultra and FX Ultra HD modules. Coupled with Belden pre-term solutions features like recessed mounting, removable doors and shallow depth provide a suitable option for the most space constrained or obstructed environment.

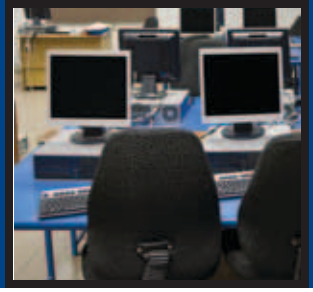
Fiber*Express* Ultra HD Splice Housing Kit

For field fusion spliced termination, the optional Fiber*Express* Ultra HD Splice Housing Kit can be mounted in the back of the Patch Panel Housings. The splice housing kit has a maximum capacity up to 144 fusion splices and its size is 1U. One Splice Housing Kit is needed for each rack-unit where splicing is required. Slice trays and splice holders are included in the Splice Housing kits.

Fiber*Express* Ultra HD System Capacity	Loaded with FXU HD Frames / Cassettes	Total LC Duplex / MPO connectors	Loaded with FXU Frames / Cassettes	Total LC Duplex / MPO connectors
1U Patch Panel Housing	4	72	4	48
2U Patch Panel Housing	8	144	8	96
4U Patch Panel Housing	16	288	16	192
1U Patch Panel Shelf	4	72	4	48
4U Patch Panel Shelf	10	180	10	120

Example: 288 LC Duplex connectors means 576 fibers.

Description	Belden Part Number
Fiber*Express* Ultra HD System	
Patch Panel Housings	
1U Housing, Empty, Titanium Finish	**AX104681**
2U Housing, Empty, Titanium Finish	**AX104682**
4U Housing, Empty, Titanium Finish	**AX104683**
Patch Panel Shelves	
1U Standard Fixed Shelf, Empty, Titanium Finish	**AX105164**
1U Recessed Fixed Shelf, Empty, Titanium Finish	**AX105165**
4U Standard Fixed Shelf, Empty, Titanium Finish	**AX105166**
4U Recessed Fixed Shelf, Empty, Titanium Finish	**AX105167**
Splice Housing Kits	
Optional 1U Splice Housing Kit, 144 Splices, Titanium Finish	**AX104684**
Optional 1U Splice Housing Kit, 72 Splices, Titanium Finish	**AX105174**
Tools & Accesories	
Fiber*Express* Ultra HD Release Tool	**AX104685**
Patch Cord Tray Cover, Titanium Finish	**AX105162**
Splice Accessory Kit (144 Shrink Tubes, Velcro, Wire Markers, Cable Ties)	**AX104705**



Fiber*Express* Ultra HD System (continued)
Pre-Terminated Cassettes and Frames

Fiber*Express* Ultra HD Pre-Terminated Cassettes

Fiber*Express* Ultra HD Pre-Terminated Cassettes come with 3 MPO male connectors at the rear of the Cassette and 18 LC Duplex connectors (36 fibers) in the front. They are available in multimode (OM3 and OM4 Low Loss) and single-mode versions. The Ultra HD Cassettes can also be easily inserted or removed from the patch panel housing for enhanced maintenance capabilities.

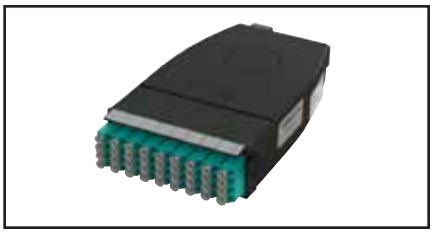
Fiber*Express* Ultra HD Frames

Fiber*Express* Ultra HD Frames have been designed to reach the maximum capacity: 18 LC Duplex connectors (36 fibers) per frame or 18 MPO connectors per frame. They are available in both multimode (OM3-OM4) and single-mode versions. The Ultra HD Frames can be easily inserted or removed from the patch panel housing for enhanced maintenance capabilities.

Color of Adapters	Multimode, OM3 - OM4, 50 µm	Single-mode, OS2
LC	Aqua	Blue
MPO	Aqua	Black

Description	Belden Part Number		
	Multimode, OM3, 50 µm	Multimode, OM4, 50 µm, Low Loss	Single-mode, OS2
Fiber*Express* Ultra HD System			
Pre-Terminated Cassettes			
LC Duplex - MPO (m), 18 ports, 36 fibers	**AX104617**	**AX104658**	**AX104616**

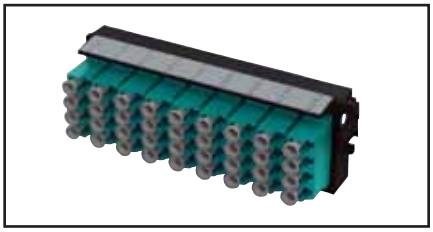
Description	Belden Part Number	
	Multimode, OM3-OM4, 50 µm	Single-mode, OS2
Fiber*Express* Ultra HD System		
Frames		
LC Duplex, 18 ports, 36 fibers	**AX104619**	**AX104618**
18 MPO adapters	**AX104620**	**AX104621**



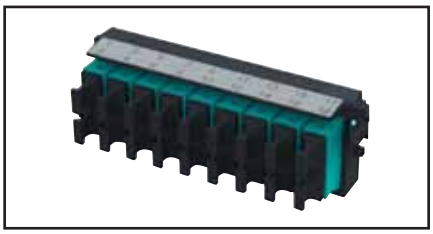
AX104617, FX UHD Pre-term cassette MPO-LC OM3 36 fibers, front view

AX104617, FX UHD Pre-term cassette MPO-LC OM3 36 fibers, back view

AX104616, FX UHD Pre-term cassette MPO-LC SM 36 fibers



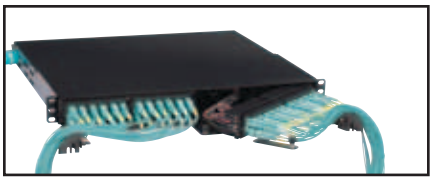
AX104619, FX UHD Frame LC OM3 36 fibers



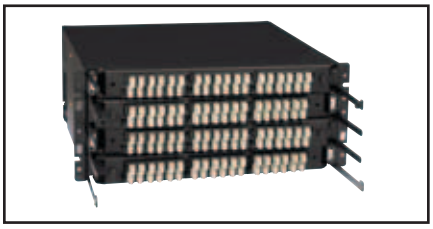
AX104620, FX UHD Frame 18 MPO

Fiber*Express* Ultra System

Rack-mount and Wall-mount Patch Panels



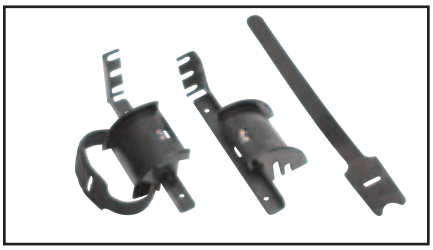
AX103143, Fiber*Express* Ultra 1U Rack-mount Patch Panel (shown loaded)



AX103267, Fiber*Express* Ultra 4U Rack-mount Patch Panel (shown loaded)

AX103928, Fiber*Express* Ultra Stackable Wall-mount Patch Panel

AX103928 and AX103932, Fiber*Express* Ultra Wall-mount Patch Panel with Spacer



AX103272, Fiber*Express* Ultra Patch Cord Management Brackets

Fiber*Express* Ultra System

Belden's Fiber*Express* Ultra System is ultra-rich in user-friendly features. Designed to meet the needs of IT managers and their technical teams, Belden built the system around three core concepts:

- High Density
- Ease of installation
- Flexibility, scalability and manageability

The result is a fiber patching system that is easy to deploy, operate and maintain, while ensuring maximum uptime, uninterrupted availability and superior performance – whether in the data center, LAN backbone or storage area network (SAN). The system's modular design provides optimal flexibility and scalability to "future proof" your investment and to provide a low total cost of ownership when compared with other fiber patching systems.

Fiber*Express* Ultra Patch Panels

Fiber*Express* Ultra Patch Panels provide ultra high density connection while facilitating cable routing and patch cord management. Available in Rack-mount and Wall-mount versions, the Patch Panels are totally modular and scalable to accommodate future fiber build-out. Wall-mount version accommodates two (2) Frames or Cassettes for a maximum capacity of 48 fibers (LC). Rack-mount version is available in two sizes: 1U and 4U. 1U unit accommodates four (4) Frames or Cassettes for a maximum of 96 fibers (LC); 4U unit accommodates 12 Frames or Cassettes for a maximum of 288 fibers using LC connectors.

Fiber*Express* Ultra System Capacity	Frames	Cassettes	Splice Trays
1U, Rack-mount Patch Panel	4	4	2 x 12 in.
4U, Rack-mount Patch Panel	12	12	8 x 8 in.
Wall-mount Patch Panel	2	2	2 x 8 in.

Description	Belden Part Number
Fiber*Express* Ultra System	
Rack-mount Patch Panels/Components	
1U Patch Panel, 19 in., Black	AX103143
4U Patch Panel, 19 in., Black	AX103267
4U 23 in. Extension Brackets, Black	AX103910
Patch Cord Management Brackets, Black	AX103272
1U Patch Cord Cover	AX103915
Wall-mount Patch Panels/Components	
Stackable Patch Panel, Black	AX103928
2-inch Spacer, Black	AX103932
Door Lock Kit	AX103934

Fiber*Express* Ultra System (continued)
Pre-Terminated Cassettes

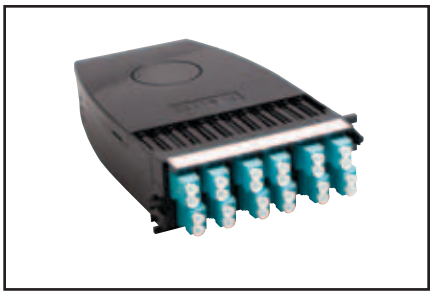
Fiber*Express* Ultra Pre-Terminated Cassettes

Fiber*Express* Ultra Cassettes come fully loaded with connector Bezels and pre-terminated with MPO male connector(s) at the rear of the Cassette. In combination with the Bezels and the 1-inch pull-out feature, the Cassette provides easy connection access. Cassettes can also be easily inserted or removed from the Patch Panels for enhanced maintenance capabilities. The Cassette's rear assembly and cover is available separately to provide additional installation capability.

Color of Adapters	Multimode, OM1, 62.5 µm	Multimode, OM2, 50 µm	Multimode, OM3-OM4, 50 µm	Single-mode, OS2	Single-mode, OS2 - APC
LC Duplex	Beige	Black	Aqua	Blue	Green
SC Simplex	Beige	Black	Aqua	Blue	Green
SC Duplex	Beige	Black	Aqua	Blue	Green
ST	Metal	Metal	Metal	Metal	–
MPO	Black	Black	Black	Black	Black

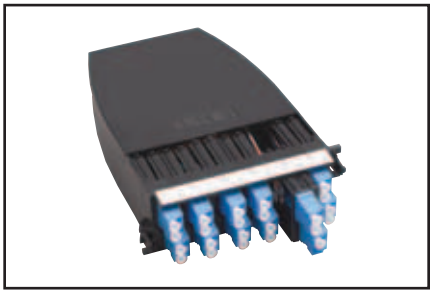
Description	Belden Part Number			
	Multimode, OM1, 62.5 µm	Multimode, OM2, 50 µm	Multimode, OM3, 50 µm	Single-mode, OS2
Fiber*Express* Ultra System				
Pre-Terminated Cassettes				
LC Duplex - MPO (m), 6 fibers	**AX103622**	**AX103676**	**AX103694**	**AX103802**
LC Duplex with shutter - MPO (m), 6 fibers	**AX103623**	**AX103677**	**AX103695**	**AX103803**
LC Duplex - MPO (m), 12 fibers	**AX103641**	**AX103683**	**AX103713**	**AX103821**
LC Duplex with shutter - MPO (m), 12 fibers	**AX103642**	**AX103684**	**AX103714**	**AX103822**
LC Duplex - MPO (m), 24 fibers	**AX103657**	**AX103687**	**AX103729**	**AX103837**
SC Duplex - MPO (m), 6 fibers	**AX103620**	**AX103674**	**AX103692**	**AX103800**
SC Duplex with shutter - MPO (m), 6 fibers	**AX103621**	**AX103675**	**AX103693**	**AX103801**
SC Duplex - MPO (m), 12 fibers	**AX103639**	**AX103681**	**AX103711**	**AX103819**
ST - MPO (m), 6 fibers	**AX103619**	**AX103673**	**AX103691**	**AX103799**
ST - MPO (m), 12 fibers	**AX103638**	**AX103680**	**AX103710**	**AX103818**

Description	Belden Part Number
	Multimode, OM4 (Low Loss), 50 µm
Fiber*Express* Ultra System	
Pre-Terminated Cassettes	
LC Duplex - MPO (m), 12 fibers	**AX103767**
LC Duplex - MPO (m), 24 fibers	**AX103783**
Pre-terminated Cassettes Type B (40G Path)	
LC Duplex - MPO (f), 12 fibers, 40G Path	**AX105173**
LC Duplex - MPO (f), 24 fibers, 40G Path	**AX105172**



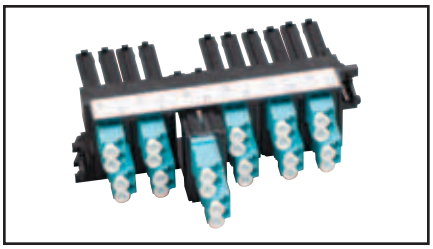
AX103729, Fiber*Express* Ultra Pre-Terminated Cassette, LC-Duplex - MPO (m), OM3, front view

AX103729, Fiber*Express* Ultra Pre-Terminated Cassette, LC-Duplex - MPO (m), OM3, back view

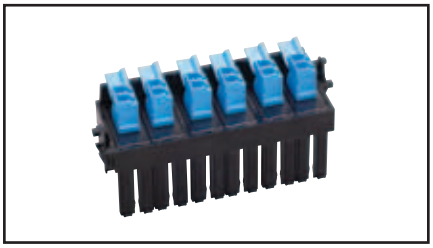


AX103837, Fiber*Express* Ultra Pre-Terminated Cassette, LC-Duplex - MPO (m), Single-mode, front view

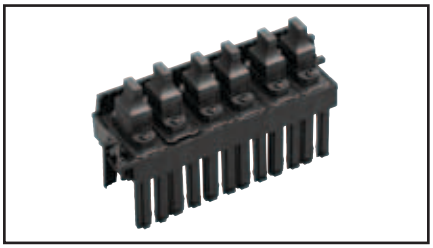
Fiber*Express* Ultra System (continued)
Frames



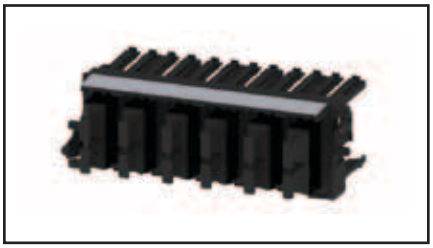
AX103465, Fiber*Express* Ultra Frame, LC Duplex



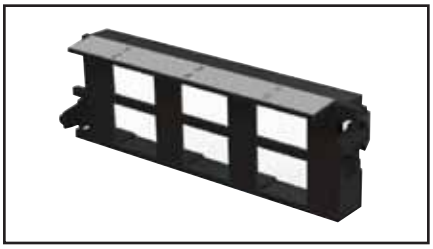
AX103503, Fiber*Express* Ultra Frame, LC Duplex with Shutter



AX103901, Fiber*Express* Ultra Frame, 6 MPO Adapters



AX103902, Fiber*Express* Ultra Frame, 12 MPO Adapters



AX1015160, KeyConnect Empty Frame 6 ports

Fiber*Express* Ultra Frames

Fiber*Express* Ultra Frames – typically preloaded with Bezels – provide streamlined patch cord management and optimal design flexibility and single- or dual-connector options. A unique (patent pending) mechanism allows the Bezel to slide out 1-inch (2.5 cm) from the frame, providing easy connector access and patch cord management. Available in a wide variety of connector types, in both multimode and single-mode versions, and in the newly recognized TIA/EIA multimode colors. The Bezels and Frames can be easily inserted or removed from the panel for enhanced maintenance capabilities. Each Frame can accommodate a maximum of six (6) Bezels. Frames with pigtails come loaded with connector Bezels and 2-meter pigtails.

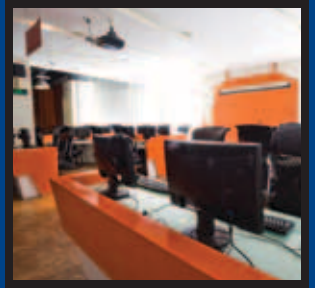
Color of Adapters	Multimode, OM1, 62.5 µm	Multimode, OM2, 50 µm	Multimode, OM3-OM4, 50 µm	Single-mode, OS2	Single-mode, OS2 - APC
LC Duplex	Beige	Black	Aqua	Blue	Green
SC Simplex	Beige	Black	Aqua	Blue	Green
SC Duplex	Beige	Black	Aqua	Blue	Green
ST	Metal	Metal	Metal	Metal	–
MPO	Black	Black	Black	Black	Black

Description	Belden Part Number			
	Multimode, OM1, 62.5 µm	Multimode, OM2, 50 µm	Multimode, OM3-OM4, 50 µm	Single-mode, OS2
Fiber*Express* Ultra System				
Frames				
LC Duplex, 6 fibers	**AX103387**	**AX103443**	**AX103457**	**AX103476**
LC Duplex with shutter, 6 fibers	**AX103388**	**AX103444**	**AX103458**	**AX103477**
LC Duplex, 12 fibers	**AX103408**	**AX103449**	**AX103463**	**AX103502**
LC Duplex with shutter, 12 fibers	**AX103409**	**AX103450**	**AX103464**	**AX103503**
LC Duplex, 24 fibers	**AX103424**	**AX103451**	**AX103465**	**AX103519**
SC Simplex, 6 fibers	**AX103383**	**AX103439**	**AX103453**	**AX103468**
SC Simplex with shutter, 6 fibers	**AX103384**	**AX103440**	**AX103454**	**AX103469**
SC Simplex, 12 fibers	**AX103404**	**AX103445**	**AX103459**	**AX103494**
SC Duplex, 6 fibers	**AX103385**	**AX103441**	**AX103455**	**AX103470**
SC Duplex with shutter, 6 fibers	**AX103386**	**AX103442**	**AX103456**	**AX103471**
SC Duplex, 12 fibers	**AX103406**	**AX103447**	**AX103461**	**AX103496**
ST, 6 fibers	←	**AX103382**	→	**AX103467**
ST, 12 fibers	←	**AX103403**	→	**AX103493**
6 MPO adapters	←	**AX103901**	→	
12 MPO adapters	←	**AX103902**	→	
Blank Frame	←	**AX105159**	→	
Cassette Rear Assembly	←	**AX103917**	→	
KeyConnect Empty Frame, 6 ports	←	**AX105160** *	→	

* AX105160 will ONLY accept KeyConnect UTP Copper modules or KeyConnect fiber modules.

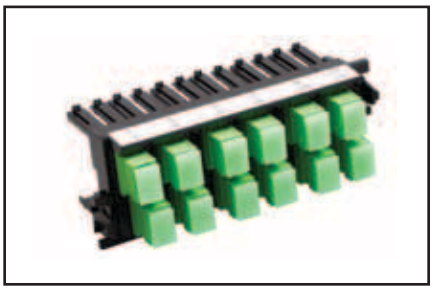
For available KeyConnect UTP Copper modules, please refer to the Belden Copper Catalog.

For available KeyConnect Fiber modules, please refer to page 36.



Fiber*Express* Ultra System (continued)
Frames

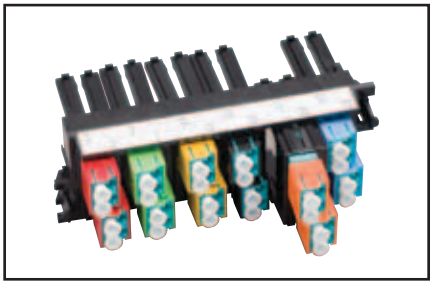
Description	Belden Part Number Single-mode, OS2
Fiber*Express* Ultra System	
Frames - APC	
LC APC Duplex, 6 fibers	**AX103478**
LC APC Duplex with shutter, 6 fibers	**AX103479**
LC APC Duplex, 12 fibers	**AX103504**
LC APC Duplex with shutter, 12 fibers	**AX103505**
LC APC Duplex, 24 fibers	**AX103521**
SC APC Simplex, 6 fibers	**AX103472**
SC APC Simplex with shutter, 6 fibers	**AX103473**
SC APC Simplex, 12 fibers	**AX103498**
SC APC Duplex, 6 fibers	**AX103474**
SC APC Duplex with shutter, 6 fibers	**AX103475**
SC APC Duplex, 12 fibers	**AX103500**



AX103498, Fiber*Express* Ultra Frame, SC APC

Description	Belden Part Number
Fiber*Express* Ultra System	
Color-Coded Icons for LC Duplex Adapters	
Color-Coded Icon Kit for LC Duplex Adapters	**AX104572 ***
LC Duplex icon, Blue, pack of 25 units	**AX104508-B25**
LC Duplex icon, Orange, pack of 25 units	**AX104509-B25**
LC Duplex icon, Black, pack of 25 units	**AX104510-B25**
LC Duplex icon, Yellow, pack of 25 units	**AX104511-B25**
LC Duplex icon, Green, pack of 25 units	**AX104512-B25**
LC Duplex icon, Red, pack of 25 units	**AX104513-B25**
LC Duplex icon, Aqua, pack of 25 units	**AX104514-B25**

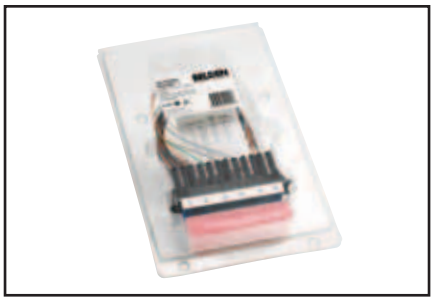
*AX104572 includes colors Blue, Orange, Black, Yellow, Green and Red (2 icons per each color).



AX104572, Fiber*Express* Color-Coded Icon Kit, (shown on frame)

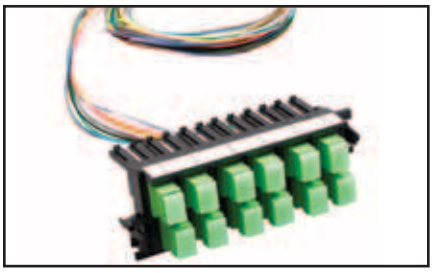
Fiber*Express* Ultra System (continued)

Frames with Pigtails



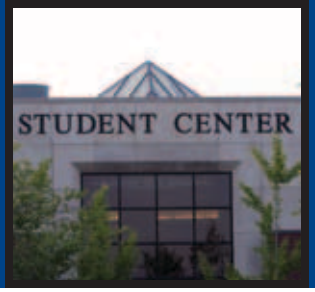
AX103575, Fiber*Express* Ultra Frame with Pigtails, LC Duplex (shown in packaging)

Description	Belden Part Number			
	Multimode, OM1, 62.5 µm	Multimode, OM2, 50 µm	Multimode, OM3, 50 µm	Single-mode, OS2
Fiber*Express* Ultra System				
Frames with Pigtails				
LC Duplex with pigtails, 6 fibers	**AX103539**	**AX103553**	**AX103567**	**AX103599**
LC Duplex with shutter & pigtails, 6 fibers	**AX103540**	**AX103554**	**AX103568**	**AX103600**
LC Duplex with pigtails, 12 fibers	**AX103545**	**AX103559**	**AX103573**	**AX103611**
LC Duplex with shutter & pigtails, 12 fibers	**AX103546**	**AX103560**	**AX103574**	**AX103612**
LC Duplex with pigtails, 24 fibers	**AX103547**	**AX103561**	**AX103575**	**AX103615**
SC Simplex with pigtails, 6 fibers	**AX103535**	**AX103549**	**AX103563**	**AX103591**
SC Simplex with shutter & pigtails, 6 fibers	**AX103536**	**AX103550**	**AX103564**	**AX103592**
SC Simplex with pigtails, 12 fibers	**AX103541**	**AX103555**	**AX103569**	**AX103603**
SC Duplex with pigtails, 6 fibers	**AX103537**	**AX103551**	**AX103565**	**AX103593**
SC Duplex with shutter & pigtails, 6 fibers	**AX103538**	**AX103552**	**AX103566**	**AX103594**
SC Duplex with pigtails, 12 fibers	**AX103543**	**AX103557**	**AX103571**	**AX103605**



AX103607, Fiber*Express* Ultra Frame with Pigtails, SC APC Simplex

Description	Belden Part Number Single-mode, OS2
Fiber*Express* Ultra System	
Frames with Pigtails—APC	
LC APC Duplex with pigtails, 6 fibers	**AX103601**
LC APC Duplex with shutter & pigtails, 6 fibers	**AX103602**
LC APC Duplex with pigtails, 12 fibers	**AX103613**
LC APC Duplex with shutter & pigtails, 12 fibers	**AX103614**
LC APC Duplex with pigtails, 24 fibers	**AX103617**
SC APC Simplex with pigtails, 6 fibers	**AX103595**
SC APC Simplex with shutter & pigtails, 6 fibers	**AX103596**
SC APC Simplex with pigtails, 12 fibers	**AX103607**
SC APC Duplex with pigtails, 6 fibers	**AX103597**
SC APC Duplex with shutter & pigtails, 6 fibers	**AX103598**
SC APC Duplex with pigtails, 12 fibers	**AX103609**

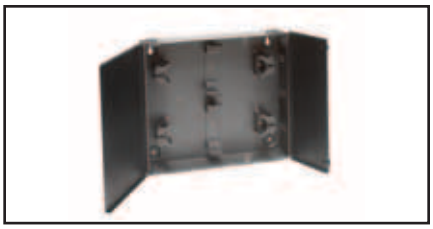


Fiber*Express* Ultra System (continued)
Splice Tray Kits and Enclosures

Fiber*Express* Ultra Splice Tray Kits and Enclosures

Fiber*Express* Ultra Splice Tray Kits offer splicing solutions that support, protect and organize optical fibers to make splicing faster, easier to perform, more secure and error-free. Available in three sizes: each Splice Tray Kit contains one (1) organizer tray, fiber support and connection tubes, cable ties and identification markers. The Kits feature rugged 20-gauge steel construction and a Lexan cover.

The Splice Enclosures provide a convenient area for bonding, grounding and termination of the cables, while maintaining the proper bend radius and intuitive cable routing. Available in Rack- and Wall-mount versions, they come equipped with all the hardware necessary to organize and protect cables and splices.

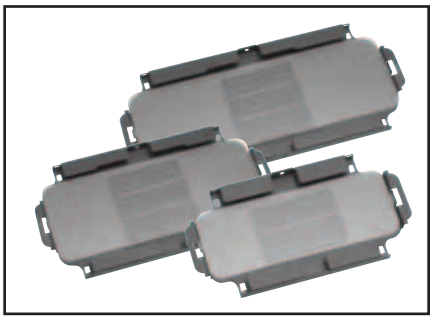

AX103930, Fiber*Express* Ultra Wall-mount Splice Enclosure

Fiber*Express* Ultra Splice Enclosure Capacity	Splice Trays
Wall-mount	**4 x 10 in.**
Rack-mount	**6 x 12 in.**

Splice Tray Optimal Capacity	Splices
8 in. Splice Tray	**24**
10 in. Splice Tray	**36**
12 in. Splice Tray	**36**

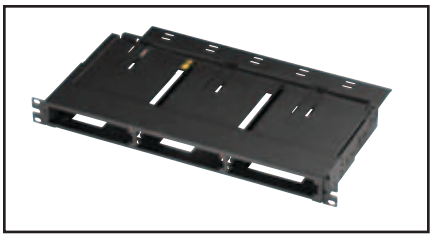
AX103900, Fiber*Express* Ultra Rack-mount Enclosure, 4U (with Splice Tray Caddy)

Description	Belden Part Number
Fiber*Express* Ultra System	
Wall- and Rack-mount Splice Enclosures	
Wall-mount Splice Enclosure, Black	**AX103930**
Rack-mount Splice Enclosure, 4U, Black	**AX103900**
Splice Kits/Lock	
8 in. Splice Tray Kit	**AX103912**
10 in. Splice Tray Kit	**AX103913**
12 in. Splice Tray Kit	**AX103914**
Lock (for Wall-mount Splice Enclosure)	**AX103934**
Patch Panel and Splice Enclosure Flex Kit	**AX104002**

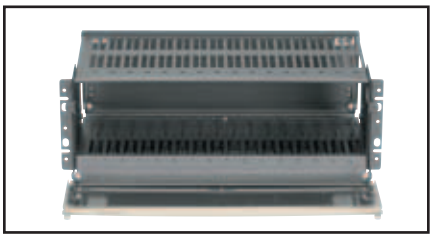

Fiber*Express* Ultra Splice Trays

Fiber*Express* Manager

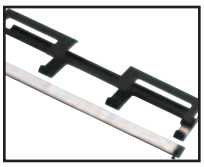
Rack-mount Patch Panel, Shelves and Accessories



AX101943, Fiber*Express* Manager 1U Rack-mount Patch Panel

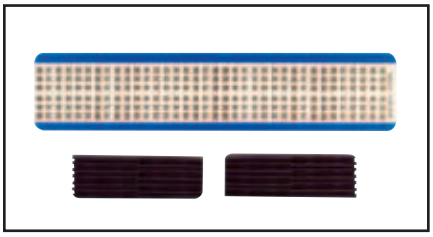


AX100935, Fiber*Express* Manager Shelf



AX102032, Fiber*Express* Manager 1U Cable Management Accessory

AX100945, Flex Kit



AX101098, Splice Holder Kit

Fiber*Express* Manager 1U

The FiberExpress Manager 1U Rack-mount Patch Panel is a low-cost, compact assembly designed for interconnection or splicing of optical fiber cables, using up to three Fiber*Express* Manager Modules. The low-profile design minimizes rack space to only 45 mm (1.75 in.). An optional Fiber*Express* Manager 1U Cable Management Accessory is also available.

Fiber*Express* Manager Shelf

FiberExpress Modules are rack-mounted using Fiber*Express* Manager Shelves. The shelves provide the total system with extra high connection density while facilitating cable routing and patch cord management. For 19- or 23-inch rack: 19 in. shelf holds up to 12 modules; 23 in. shelf holds up to 16 modules.

The Flex Kit contains tubes and manifolds designed to split cables into individual fiber strands, and is suitable for 6 fibers up to 12 fibers. It is necessary for use with loose tube cables or when the fiber cable count does not match the number of connections in the Fiber*Express* Manager Connector Module. The Flex Kit tubes help to maintain proper fiber bend radius. One kit is required per 12 modules (one 19 in. shelf).

A **Splice Holder Kit** can be used to hold fusion or mechanical splices. Each splice holder can handle up to 6 splices.

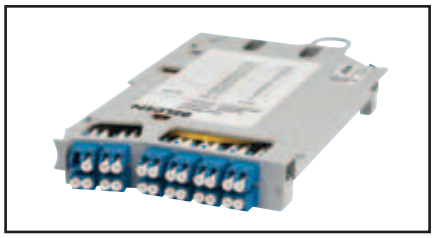
Fiber*Express* Manager Patch Panel Capacity	Connector Modules
1U Patch Panel	**3**
4U shelf, 19 in.	**12**
4U shelf, 23 in.	**16**

Description	Belden Part Number
Fiber*Express* Manager	
Patch Panels / Accessories	
1U, Rack-mount Patch Panels, 19 in., 5 kg (11 lb)	**AX101943**
4U Shelf, 19 in., 8.2 kg (18 lb)	**AX101085**
4U Shelf, 23 in., 10.9 kg (24 lb)	**AX100935**
1U, Cable Management Accessory, 19 in., 1 kg (2 lb)	**AX102032**
Flex Kit, 19 in.	**AX100945**
Splice Holder Kit (4 x Splice Holders of 6 positions & 4 x Wire Markers)	**AX101098**

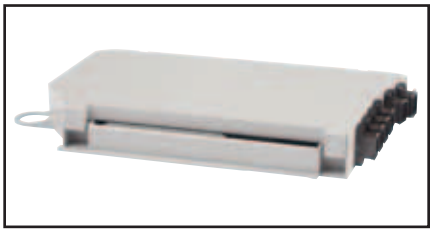
Fiber*Express* Manager (continued)
Connector Modules and Pre-Terminated Cassettes

Fiber*Express* Manager Connector Module

The Connector Module is the basic building block of the Fiber*Express* Manager. It is designed with a unique release mechanism that allows it to slide from the shelf like a PC card, easing management of patch cords.



AX102307 LC Duplex Pre-Terminated Connector Module

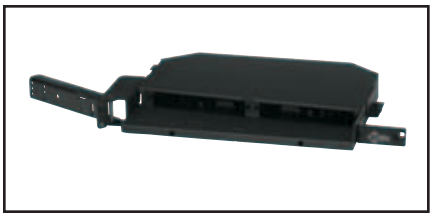


AX101484, Fiber*Express* Manager Connector Module, 6 MPO adapters

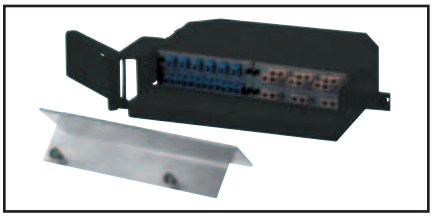
Description	Belden Part Number	
	Multimode	Single-mode
Fiber*Express* Manager		
Connector Modules		
LC Duplex Aqua adapters, 12 fibers	AX103071	–
LC Duplex Aqua adapters, 24 fibers	AX103070	–
LC Duplex, 12 fibers	AX101528	AX101527
LC Duplex, 24 fibers	AX102306	AX102305
SC Simplex, 6 fibers	–	AX100943
SC Duplex, 6 fibers	AX101092	AX100944
SC Duplex, 12 fibers	AX101714	AX101713
SC Duplex (ST in), 12 fibers	AX101120	AX101119
SC Duplex with pigtails (UPC), 12 fibers	–	AX101715
ST, 6 fibers	AX101089	AX100936
ST, 12 fibers	AX101187	AX101186
MPO, 6 adapters	← AX101484 →	
Blank	← AX104462 →	

Description	Belden Part Number			
	Multimode, OM1, 62.5 µm	Multimode, OM2-OM3, 50 µm	Multimode, OM4 (Low Loss), 50 µm	Single-mode, OS2
Fiber*Express* Manager				
Pre-Terminated Connector Modules				
LC Duplex - MPO(m), 12 fibers	AX101530	AX101531	–	AX101529
LC Duplex - MPO(m), 24 fibers	AX102309	AX102308	AX104686	AX102307
SC Duplex - MPO(m), 12 fibers	AX101091	AX101114	–	AX101090
ST - MPO(m), 12 fibers	AX101189	AX101190	–	AX101188

Fiber*Express* Patch Panels
Rack-mount Patch Panels



AX100041, Fiber*Express* 12/24 Port (1U) Rack-mount Patch Panel



AX100068, Fiber*Express* 24/48 Port (2U) Rack-mount Patch Panel

AX104934, FiberExpress (3U) Rack-Mount Patch Panel (Rear Access)

AX100116, Fiber*Express* 48/96 Port (4U) Rack-mount Patch Panel

The Fiber*Express* 1U Rack-mount Patch Panels are equipped with a special hinge that allows easy access to the rear of the patch panel without disturbing the optical fiber cable. A specially designed front panel allows connector protection and easy routing of optical fiber patch cords. The Fiber*Express* Rack-mount Patch Panels are also compatible with our 203 mm (8 in.) Splice Organizer Trays. This allows the optical fiber cable to be either terminated with single-ended patch cords or Field-Installable connectors. The patch panels can be used with ST, SC simplex, SC duplex or LC duplex adapter strips (ordered separately).

The Fiber*Express* 1U Rack-mount Patch Panel is a low-cost, compact assembly designed for interconnection or splicing of optical fiber cables, from 12 up to 48 fibers if LC double density adapter strips are used. The low-profile design minimizes rack space to only 45 mm (1.75 in.). An optional smoked Plexiglass front cover is also available.

The Fiber*Express* 2U Rack-mount Patch Panel offers a high fiber capacity, 96 fibers if using double density LC adapter strips. The Fiber*Express* 2U comes equipped with a smoked Plexiglass front cover that protects fiber connections while allowing for quick visual inspection.

The Fiber*Express* 4U Rack-mount Patch Panel is an economical solution for the protection of optical fiber terminations and splices, up to 192 optical fibers if using LC connectors. The connector panel, accepting the Universal Adapter Strips, is located inside the enclosure and swings out (left or right) to give easy access to the cable and splices.

The Fiber*Express* 4U Rack-mount Patch Panel is a compact enclosure for the interconnection or splicing of optical fiber cables. The low-profile design minimizes required rack space to 178 mm (7 in.). It can be used with ST, SC simplex, SC duplex and LC duplex adapter strips (ordered separately).

Fiber*Express* Patch Panel Capacity	Adapter Strips	Splice Trays
1U Rack-mount	2	1 x 8 in.
2U Rack-mount	4	2 x 8 in.
4U Rack-mount	8	4 x 8 in. or 4 x 12 in.
Small Wall-mount	2	1 x 8 in.
Medium Wall-mount	4	2 x 8 in. or 2 x 12 in.
Large Wall-mount	8	4 x 8 in. or 4 x 12 in.

Description	Belden Part Number
Fiber*Express* Patch Panels	
Rack-mount Patch Panels	
Rack-mount Patch Panel 1U	**AX100041**
Rack-mount Patch Panel 2U	**AX100068**
Rack-mount Patch Panel 3U, Rear Access	**AX104934**
Rack-mount Patch Panel 4U	**AX100116**

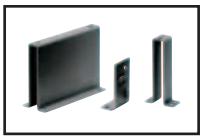
If Single-ended patch cords are to be spliced to the fiber cable, don't forget to order Splice Organizer Trays or Kits. Both these and the Universal Adapter Strips can be ordered in the Fiber*Express* Accessories section.

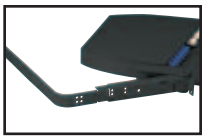
Fiber*Express* Patch Panels (continued)
Rack-mount Accessories and Wall-mount Patch Panels

Fiber*Express* Rack-mount Patch Panels 1U and 2U Accessories

The accessories provide additional panel mounting flexibility for racks, cabinets and cable entry.

Description	Belden Part Number
Fiber*Express* Patch Panels	
Rack-Mount Accessories (1U and 2U)	
127 mm (5 in.) Universal Offset Bracket Kit:	
for 19 in. and 23 in. racks (1U), Black	**AX101799**
for 19 in. and 23 in. racks (2U), Black	**AX101797**
23 in. Universal extension bracket, Black	**AX101801**
Right side cable entry bracket (1U), Black	**AX100046**
Right side cable entry bracket (2U), Black	**AX100073**
Front Cover (1U), Smoked Plexiglas	**AX100045**


AX101799, 127 mm (5 in.) Universal Offset Bracket Kit, for 19 in. and 23 in. Racks for 1U


AX100046, Right Side Cable Entry Bracket for 1U

AX101801, 23 in. Rack Universal Extension Bracket for 1U and 2U

AX100045, Front Cover for 1U

Fiber*Express* Wall-Mount Patch Panel

The Fiber*Express* Wall-mount Patch Panel Series is an economical solution for the protection of optical fiber terminations and splices in hostile environments.

Using the Fiber*Express* Universal Adapter Strips (ordered separately), the Wall-mount Patch Panels allow for flexible and customized patch panel design. They are compatible with most industry standard connections: ST, SC simplex, SC duplex and LC duplex.

The Fiber*Express* Wall-mount Patch Panels have an ergonomic design, rugged construction and compact assemblies to effectively protect your optical fiber terminations and splices.

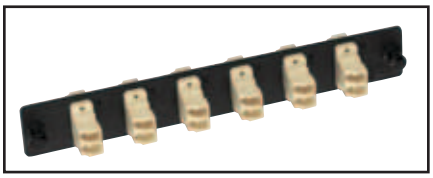
AX100495, Small Wall Mount

Description	Belden Part Number
Fiber*Express* Patch Panels	
Wall-mount	
Small, Black	**AX100495**
Medium, Black	**AX100540**
Large, Black	**AX100542**

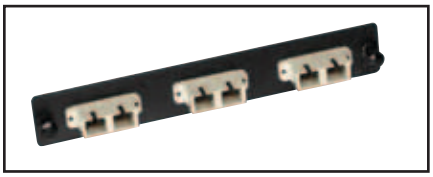
If optical single-ended patch cords are to be spliced to the fiber cable, don't forget to order Splice Organizer Trays or Kits in Fiber*Express* Accessories section. Universal Adapter Strips can be ordered in Fiber*Express* Patch Panels section.

AX100542, Large Wall Mount

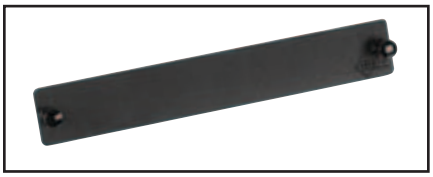
Fiber*Express* Patch Panels (continued)
Optical Fiber Adapter Strips and Accessories



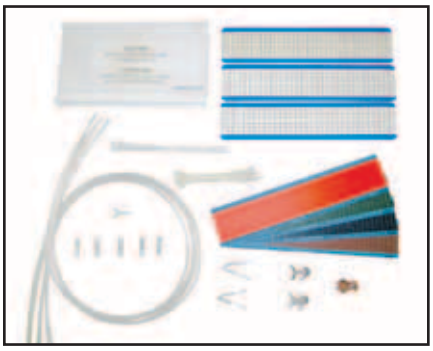
AX101729, Adapters loaded with 6 LC Duplex



AX100094, Adapters loaded with 3 SC Duplex



AX100066, Blank Strip



A0649869, Optical Fiber Splice Organizer Kits and Trays

Optical Fiber Adapter Strips

Universal Optical Fiber Adapter Strips are pre-loaded with six (single density) or 12 (double density) adapter sleeves. Two types of adapter sleeves are available: Phosphor Bronze and Zirconia Ceramic. Adapter sleeves are used as the connecting interface between two optical fiber connectors.

A **Blank Adapter Strip** is also available and can be used with any Fiber*Express* Patch Panel to fill in unused adapter strip openings.

Description	Belden Part Number	
	Phosphor Bronze, Multimode	Zirconia Ceramic, Single-mode
Fiber*Express* Patch Panels		
Adapter Strips		
LC Duplex, 12 fibers	**AX101729**	**AX101731**
LC Duplex, 24 fibers	**AX101741**	**AX101743**
SC Simplex, 6 fibers	**AX100092**	**AX100538**
SC Duplex, 6 fibers	**AX100094**	**AX101407**
SC Simplex, 12 fibers	**AX100084**	**AX100532**
SC Duplex, 12 fibers	**AX100098**	**AX101409**
ST, 6 fibers	**AX100088**	**AX100534**
ST, 12 fibers	**AX100080**	**AX100528**
Blank	← **AX100066** →	

Optical Fiber Accessories

Optical Fiber Splice Organizer Kits provide the accessories necessary for installing the Fiber*Express* Patch Panels, as well as other fiber terminals that accommodate the standard Belden organizer tray.

Splice Tray Optimal Capacity	Splices
8 in. Splice Tray Fusion	**24**
12 in. Splice Tray Fusion	**24**
8 in. Splice Tray Universal (mechanical or fusion)	**12**
12 in. Splice Tray Universal (mechanical or fusion)	**12**

Description	Belden Part Number
Fiber*Express* Optical Fiber Accessories	
Optical Fiber Splice Organizer Kit	
Splice kit, tray, 203 mm (8 in.)	**A0649869**
Splice kit, tray, 305 mm (12 in.)	**A0318904**
Optical Fiber Splice Tray	
Fusion, 203 mm (8 in.)	**A0335015**
Fusion, 305 mm (12 in.)	**A0316446**
Universal (mechanical or fusion), 203 mm (8 in.)	**AX100079**
Universal (mechanical or fusion), 305 mm (12 in.)	**A0394328**
Tray Cover, 203 mm (8 in.)	**A0394331**
Tray Cover, 305 mm (12 in.)	**A0394330**
Fusion Splice Protection 250 µm to 250 µm, Yellow	**AX101169**
Fusion Splice Protection 900 µm to 250 µm, Blue	**AX101170**
Fusion Splice Protection 900 µm to 900 µm, Green	**AX101171**

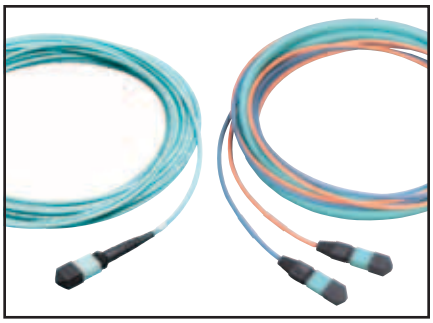
Fiber*Express* Pre-Connectorized Assemblies

Fiber*Express* 40G Ethernet Solution

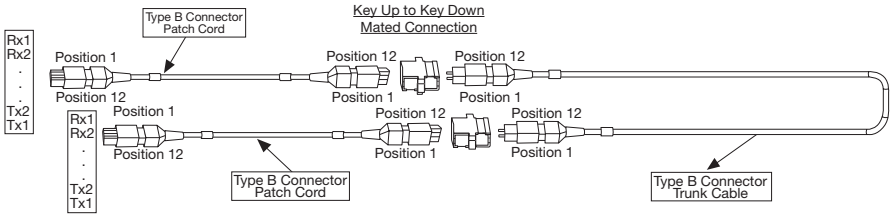
Fiber*Express* 40G Ethernet Solution

Belden 40G Ethernet solution for two mated connections consists of MPO (female) to MPO (female) Type B patch cords at each end of the channel and an MPO (male) to MPO (male) Type B Trunk cable. The MPO Type B trunk cable is connected Key Up to Key Down with both MPO Type B patch cords.

All Belden 40G products are Low Loss thus ensuring maximum performance.



Fiber*Express* 40G MPO Trunk Cables



Fiber Optic MPO Trunk Cable & MPO Patch Cord Performance	Multimode PC Polish OM4, 50 µm, Low Loss
Maximum Insertion Loss (dB)	0.35
Minimum Reflectance (dB)	-20

Description	Belden Part Number	
	Multimode, OM4, 50 µm, Low Loss	
	MPO - 12 fibers	MPO - 24 (2 x 12) fibers
Fiber*Express* MPO Trunk Cable Assemblies		
Type "B" MPO 568-C.3, Mini-distribution Cable (round cable)		
MPO (M) - MPO (M), 10 m	F40G0001	F40G0013
MPO (M) - MPO (M), 15 m	F40G0002	F40G0014
MPO (M) - MPO (M), 20 m	F40G0003	F40G0015
MPO (M) - MPO (M), 25 m	F40G0004	F40G0016
MPO (M) - MPO (M), 30 m	F40G0005	F40G0017
MPO (M) - MPO (M), 40 m	F40G0006	F40G0018
MPO (M) - MPO (M), 50 m	F40G0007	F40G0019
MPO (M) - MPO (M), 60 m	F40G0008	F40G0020
MPO (M) - MPO (M), 70 m	F40G0009	F40G0021
MPO (M) - MPO (M), 80 m	F40G0010	F40G0022
MPO (M) - MPO (M), 90 m	F40G0011	F40G0023
MPO (M) - MPO (M), 100 m	F40G0012	F40G0024

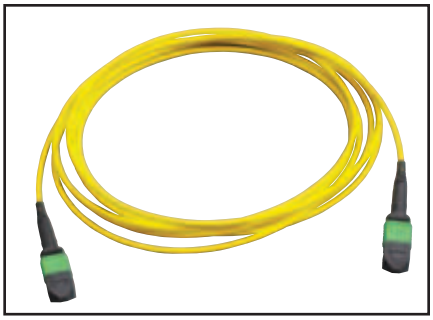
Description	Belden Part Number Multimode, OM4, 50 µm, Low Loss MPO - 12 fibers
Fiber*Express* MPO Patch Cords	
Type "B" MPO 568-C.3, Mini-distribution Cable (round cable)	
MPO (F) - MPO (F), 1 m	F40G0025
MPO (F) - MPO (F), 2 m	F40G0026
MPO (F) - MPO (F), 3 m	F40G0027
MPO (F) - MPO (F), 4 m	F40G0028
MPO (F) - MPO (F), 5 m	F40G0029

Part Numbers listed for most popular MPO Trunk Cables - 12 and 24 (2x12) fibers.
Please contact Belden for other MPO 40G Trunk Cable Assemblies, Patch Cords and lengths.

Fiber*Express* Pre-Connectorized Assemblies (continued)

Fiber*Express* MPO Trunk Cables - 12 fibers

FA600150, MPO(F) - MPO(F), OM3 (50 µm), Type C - Cross-Over Assembly



FA600177, MPO(F) - MPO(F), Single-mode, Type C - Cross-Over Assembly

MPO Trunk Cables - 12 fibers

Fiber*Express* MPO Trunk Cables are multi-fiber cables using single 12-fiber MPO connectors that are used to interconnect pre-terminated devices such as Fiber*Express* Pre-Terminated Modules and Fiber*Express* Bars.

Fiber*Express* MPO Trunk Cables are made with a Mini-distribution Plenum cable (round cable). They come with MPO female connectors at both ends. They are offered in Type C 568-C.3 cross-over assemblies and Type A 568-C.3 straight assemblies. OM4 MPO trunk cables are Low Loss thus ensuring maximum performance.

Fiber*Express* MPO Trunk Cables equal or longer than 10 meters come by default with a pulling eye at the outside end of the assembly.

Fiber Optic MPO Trunk Cable Performance	Multimode PC Polish		Single-mode Polish
	Standard	Low Loss*	
Maximum Insertion Loss (dB)	0.5	0.35	0.75
Minimum Reflectance (dB)	-20	-20	-65

* Low Loss used for OM4 (50 µm) fiber

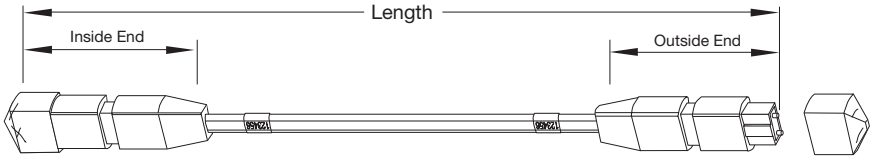
Description	Belden Part Number			
	Multimode, OM1, 62.5 µm	Multimode, OM3, 50 µm	Multimode, OM4, 50 µm, Low Loss*	Single-mode, OS2
Fiber*Express* MPO Trunk Cables–12 fibers				
Type "C" MPO 568-C.3 Cross-Over, Mini-distribution cable (round cable)				
MPO (F) - MPO (F), 12 fibers, 3 m	FA600135	FA600149	FA600163	FA600177
MPO (F) - MPO (F), 12 fibers, 5 m	FA600136	FA600150	FA600164	FA600178
MPO (F) - MPO (F), 12 fibers, 10 m	FA600137	FA600151	FA600165	FA600179
MPO (F) - MPO (F), 12 fibers, 15 m	FA600138	FA600152	FA600166	FA600180
MPO (F) - MPO (F), 12 fibers, 20 m	FA600139	FA600153	FA600167	FA600181
MPO (F) - MPO (F), 12 fibers, 25 m	FA600140	FA600154	FA600168	FA600182
MPO (F) - MPO (F), 12 fibers, 30 m	FA600141	FA600155	FA600169	FA600183
MPO (F) - MPO (F), 12 fibers, 40 m	FA600142	FA600156	FA600170	FA600184
MPO (F) - MPO (F), 12 fibers, 50 m	FA600143	FA600157	FA600171	FA600185
MPO (F) - MPO (F), 12 fibers, 60 m	FA600144	FA600158	FA600172	FA600186
MPO (F) - MPO (F), 12 fibers, 70 m	FA600145	FA600159	FA600173	FA600187
MPO (F) - MPO (F), 12 fibers, 80 m	FA600146	FA600160	FA600174	FA600188
MPO (F) - MPO (F), 12 fibers, 90 m	FA600147	FA600161	FA600175	FA600189
MPO (F) - MPO (F), 12 fibers, 100 m	FA600148	FA600162	FA600176	FA600190
Type "A" MPO 568-C.3 Straight, Mini-distribution cable (round cable)				
MPO (F) - MPO (F), 12 fibers, 3 m	FA600191	FA600205	FA600219	FA600233
MPO (F) - MPO (F), 12 fibers, 5 m	FA600192	FA600206	FA600220	FA600234
MPO (F) - MPO (F), 12 fibers, 10 m	FA600193	FA600207	FA600221	FA600235
MPO (F) - MPO (F), 12 fibers, 15 m	FA600194	FA600208	FA600222	FA600236
MPO (F) - MPO (F), 12 fibers, 20 m	FA600195	FA600209	FA600223	FA600237
MPO (F) - MPO (F), 12 fibers, 25 m	FA600196	FA600210	FA600224	FA600238
MPO (F) - MPO (F), 12 fibers, 30 m	FA600197	FA600211	FA600225	FA600239
MPO (F) - MPO (F), 12 fibers, 40 m	FA600198	FA600212	FA600226	FA600240
MPO (F) - MPO (F), 12 fibers, 50 m	FA600199	FA600213	FA600227	FA600241
MPO (F) - MPO (F), 12 fibers, 60 m	FA600200	FA600214	FA600228	FA600242
MPO (F) - MPO (F), 12 fibers, 70 m	FA600201	FA600215	FA600229	FA600243
MPO (F) - MPO (F), 12 fibers, 80 m	FA600202	FA600216	FA600230	FA600244
MPO (F) - MPO (F), 12 fibers, 90 m	FA600203	FA600217	FA600231	FA600245
MPO (F) - MPO (F), 12 fibers, 100 m	FA600204	FA600218	FA600232	FA600246

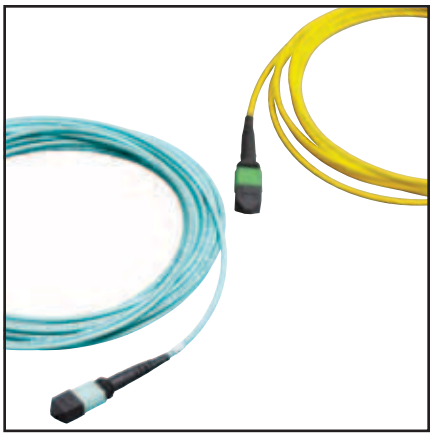
Part numbers listed for most popular MPO Trunk Cables - 12 fibers. For other MPO Trunk Cable options and lengths refer to the Product Engineering Code Guideline (Page 27).

Fiber*Express* Pre-Connectorized Assemblies (continued)

Fiber*Express* MPO Trunk Cables - 12 fibers

MPO Trunk Cables - 12 fibers





Fiber*Express* MPO Trunk Cables - 12 fibers

Product Engineering Code (PEC) – GUIDELINE

Use the following options to determine the Product Engineering code (PEC) and order custom combination of cable type, connectors and length required.

1	2		3		4		5		6
NXT	-	C R T N	-	XX Y	-	XX Y	-	E	-	LLLL
		Cable Type		Inside End		Outside End (1)				Length
				(Connectors)						

1 NXT identifies the product family for MPO assemblies up to 12 fibers

2 Select Cable Type

C	Cable Construction	R	Fire Rating	T	Fiber Type	N	Fiber Count
U	Mini-Distribution (2)	P	OFNP - Plenum	M	OM1 - 62.5 µm Multimode	L	12 Fibers
R	Ribbon (6)	E	Indoor / Outdoor Plenum	N	OM2 - 50 µm Multimode		
				F	OM3 - 50 µm Multimode		
				G	OM4 - 50 µm Multimode		
				S	OS2 - Single-mode		

3 and 4 Inside End and Outside End (Connectors)

XX	Connectors	Y	Polish / Performance Level
PH	12-fiber MPO female	P	PC - Physical Contact Multimode
PG	12-fiber MPO male	A	APC - Angled Polish Contact Single-mode
ZZ	OPEN (3)	L	Low Loss - Used for OM4 (50 µm) fiber
		X	For Type "C" MPO 568-C.3 Cross-Over (4)
		Z	Not applicable (3)

5 Pulling Eye

E	Pulling Eye
N	None
O	At Outside End (5)

6 Length

LLLL is the length from ferrule to ferrule in meters: 0003, 07.5, 0010, 0030, 0100, etc.

Examples:

PEC Code	Description
NXT-UPFL-PHX-PHP-O-0015	MPO trunk cable, Mini-distribution cable, Plenum, OM3 (50 µm), 12 fibers, MPO(F)/PC - MPO(F)/PC, X-over Type C, 1 pulling eye, 15 m
NXT-UPGL-PHL-PHL-O-0018	MPO trunk cable, Mini-distribution cable, Plenum, OM4 (50 µm), 12 fibers, MPO(F)/PC - MPO(F)/PC, Low Loss, 1 pulling eye, 18 m
NXT-UPSL-PHA-PHA-O-0035	MPO trunk cable, Mini-distribution cable, Plenum, Single-mode, 12 fibers, MPO(F)/APC - MPO(F)/APC, 1 pulling eye, 35 m

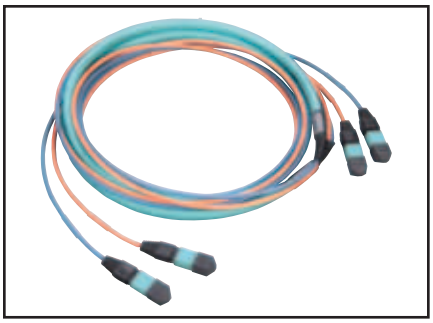
Notes:

(1) Outside end refers to the pulling side.
(2) Mini-distribution cable is a round cable with sub-units of 12 Loose tube fibers each.
(3) Only for Outside End. It's used for pigtails.
(4) Only for Inside End. It's used for Type "C" MPO 568-C.3 Cross-Over assemblies.
(5) Pulling eye is strongly recommended for assemblies longer than 10m.
(6) Ribbon Cable is only used for type "A" MPO 568-C.3 Straight assemblies.

Please contact Belden to validate your PEC Code and for any other fiber cable assembly combinations not available in this guideline.

Fiber*Express* Pre-Connectorized Assemblies (continued)

Fiber*Express* MPO Trunk Cables - 24 (2x12) fibers



FA400261, MPO(F) - MPO(F), 24 (2x12) Fibers, OM3 (50 µm), Type C - Cross-Over Assembly

MPO Trunk Cables - 24 (2x12) fibers

Fiber*Express* MPO Trunk Cables 24 (2x12) fibers have two 12-fiber MPO connectors at each end. They are used to interconnect pre-terminated devices such as Fiber*Express* Pre-Terminated Modules and Fiber*Express* Bars.

Fiber*Express* MPO Trunk cables are made with a Mini-distribution Plenum cable (round cable). They come with MPO female connectors at both ends. They are offered in Type C 568-C.3 cross-over assemblies and Type A 568-C.3 straight assemblies. OM4 MPO trunk cables are Low Loss thus ensuring maximum performance. The fan-out (legs) are by default 1 meter long, 3.0 mm jacketed and in-line.

Fiber*Express* MPO Trunk Cables longer or equal than 10 meters come by default with a pulling eye at the outside end of the assembly.

Fiber Optic MPO Trunk Cable Performance	Multimode PC Polish		Single-mode Polish
	Standard	Low Loss*	
Maximum Insertion Loss (dB)	0.5	0.35	0.75
Minimum Reflectance (dB)	-20	-20	-65

* Low Loss used for OM4 (50 µm) fiber

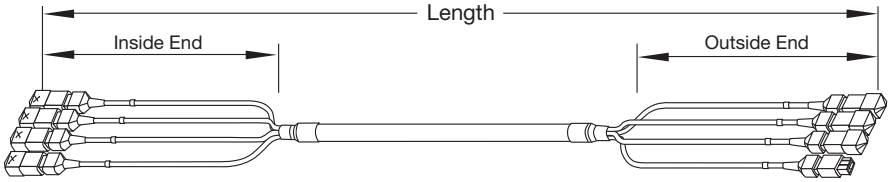
Description	Belden Part Number			
	Multimode, OM1, 62.5 µm	Multimode, OM3, 50 µm	Multimode, OM4, 50 µm, Low Loss	Single-mode, OS2
Fiber*Express* MPO Trunk Cable Assemblies - 24 (2 x 12) fibers				
Type "C" MPO 568-C.3 Cross-Over, Mini-distribution cable (round cable)				
MPO (F) - MPO (F), 24 (2x12) fibers, 3 m	FA400247	FA400261	FA400275	FA400289
MPO (F) - MPO (F), 24 (2x12) fibers, 5 m	FA400248	FA400262	FA400276	FA400290
MPO (F) - MPO (F), 24 (2x12) fibers, 10 m	FA400249	FA400263	FA400277	FA400291
MPO (F) - MPO (F), 24 (2x12) fibers, 15 m	FA400250	FA400264	FA400278	FA400292
MPO (F) - MPO (F), 24 (2x12) fibers, 20 m	FA400251	FA400265	FA400279	FA400293
MPO (F) - MPO (F), 24 (2x12) fibers, 25 m	FA400252	FA400266	FA400280	FA400294
MPO (F) - MPO (F), 24 (2x12) fibers, 30 m	FA400253	FA400267	FA400281	FA400295
MPO (F) - MPO (F), 24 (2x12) fibers, 40 m	FA400254	FA400268	FA400282	FA400296
MPO (F) - MPO (F), 24 (2x12) fibers, 50 m	FA400255	FA400269	FA400283	FA400297
MPO (F) - MPO (F), 24 (2x12) fibers, 60 m	FA400256	FA400270	FA400284	FA400298
MPO (F) - MPO (F), 24 (2x12) fibers, 70 m	FA400257	FA400271	FA400285	FA400299
MPO (F) - MPO (F), 24 (2x12) fibers, 80 m	FA400258	FA400272	FA400286	FA400300
MPO (F) - MPO (F), 24 (2x12) fibers, 90 m	FA400259	FA400273	FA400287	FA400301
MPO (F) - MPO (F), 24 (2x12) fibers, 100 m	FA400260	FA400274	FA400288	FA400302
Type "A" MPO Straight Assemblies, Mini-distribution cable (round cable)				
MPO (F) - MPO (F), 24 (2x12) fibers, 3 m	FA400303	FA400317	FA400331	FA400345
MPO (F) - MPO (F), 24 (2x12) fibers, 5 m	FA400304	FA400318	FA400332	FA400346
MPO (F) - MPO (F), 24 (2x12) fibers, 10 m	FA400305	FA400319	FA400333	FA400347
MPO (F) - MPO (F), 24 (2x12) fibers, 15 m	FA400306	FA400320	FA400334	FA400348
MPO (F) - MPO (F), 24 (2x12) fibers, 20 m	FA400307	FA400321	FA400335	FA400349
MPO (F) - MPO (F), 24 (2x12) fibers, 25 m	FA400308	FA400322	FA400336	FA400350
MPO (F) - MPO (F), 24 (2x12) fibers, 30 m	FA400309	FA400323	FA400337	FA400351
MPO (F) - MPO (F), 24 (2x12) fibers, 40 m	FA400310	FA400324	FA400338	FA400352
MPO (F) - MPO (F), 24 (2x12) fibers, 50 m	FA400311	FA400325	FA400339	FA400353
MPO (F) - MPO (F), 24 (2x12) fibers, 60 m	FA400312	FA400326	FA400340	FA400354
MPO (F) - MPO (F), 24 (2x12) fibers, 70 m	FA400313	FA400327	FA400341	FA400355
MPO (F) - MPO (F), 24 (2x12) fibers, 80 m	FA400314	FA400328	FA400342	FA400356
MPO (F) - MPO (F), 24 (2x12) fibers, 90 m	FA400315	FA400329	FA400343	FA400357
MPO (F) - MPO (F), 24 (2x12) fibers, 100 m	FA400316	FA400330	FA400344	FA400358

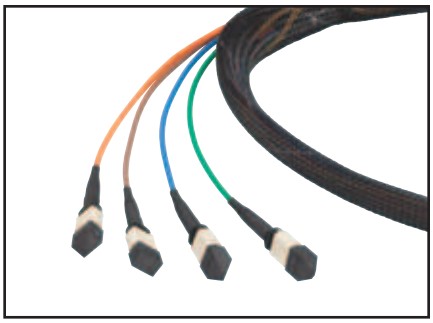
Part numbers listed for most popular MPO Trunk Cables - 24 (2x12) fibers.
For other MPO Trunk Cable options and lengths refer to the Product Engineering Code Guideline (Page 29).

Fiber*Express* Pre-Connectorized Assemblies (continued)

Fiber*Express* MPO Trunk Cables - 24, 48, 72, 96 and 144 fibers

MPO Trunk Cables - 24, 48, 72, 96 and 144 fibers





Fiber*Express* MPO Trunk Cable, 48 (4x12) Fibers

Product Engineering Code (PEC) – GUIDELINE

Use the following options to determine the Product Engineering code (PEC) and order custom combination of cable type, connectors and length required.

1	2		3		4		5		6
NXC	-	C R T N	-	XX Y L B G	-	XX Y L B G	-	E	-	LLLL
		Cable Type		Inside End		Outside End (1)				Length
				(Connectors)						

1 NXC identifies the product family for MPO assemblies 24, 48, 72, 96 and 144 fibers (12-fiber MPO connector).

2 Select Cable Type

C	Cable Construction	R	Fire Rating	T	Fiber Type	N	Fiber Count
U	Mini-Distribution (2)	P	OFNP - Plenum	M	OM1 - 62.5 µm Multimode	X	24 Fibers
		E	Indoor / Outdoor Plenum	N	OM2 - 50 µm Multimode	V	48 Fibers
				F	OM3 - 50 µm Multimode	T	72 Fibers
				G	OM4 - 50 µm Multimode	M	96 Fibers
				S	OS2 - Single-mode	Z	144 Fibers

3 and 4 Inside End and Outside End (Connectors)

XX	Connectors	Y	Polish / Performance Level
PH	12-fiber MPO female	P	PC - Physical Contact Multimode
PG	12-fiber MPO male	A	APC - Angled Polish Contact Single-mode
ZZ	OPEN (3)	L	Low Loss - Used for OM4 (50 µm) fiber
		X	For Type "C" MPO 568-C.3 Cross-Over (4)
		Z	Not applicable (3)

Fan-out

L	Fan-Out Length	B	Fan-Out Construction	G	Fan-Out Geometry
C	0.5 m	G	3.0 mm jacket	N	In line or None
F	1 m	N	None (3)	A	Staggered 25 mm
G	2 m			B	Staggered 50 mm
N	None (3)				

5 Pulling Eye

E	Pulling Eye
O	At Outside end (5)
N	None

6 Length

LLLL is the length from ferrule to ferrule in meters: 0010, 15.5, 0030, 0100, etc.

PEC Code	Description
NXC-UPFX-PHXFGN-PHPFGN-O-0075	MPO Trunk cable, Mini-distribution cable, Plenum, OM3 (50 µm), 24 (2x12) fibers, MPO(F)/PC - MPO(F)/PC, X-over Type C, Fan-out Length: 1 m, Fan-out Construction: 3.0 mm, Fan-out Geometry: In Line, 1 pulling eye, 75 m
NXC-UPSV-PHXFGN-PHAFGN-O-0030	MPO Trunk cable, Mini-distribution cable, Plenum, Single-mode, 48 (4x12) fibers,MPO(F)/APC - MPO(F)/APC, X-over Type C, Fan-out Length: 1 m, Fan-out Construction:3.0 mm, Fan-out Geometry: In Line, 1 pulling eye, 30 m

Please contact Belden to validate your PEC Code and for any other fiber cable assembly combinations not available in this guideline.

Notes:

(1) Outside end refers to the pulling side.
(2) Mini-distribution cable is a round cable with sub-units of 12 Loose tube fibers each.
(3) Only for Outside End. It's used for pigtails.
(4) Only for Inside End. It's used for Type "C" MPO 568-C.3 Cross-Over assemblies.
(5) Pulling eye is strongly recommended for assemblies longer than 10m.

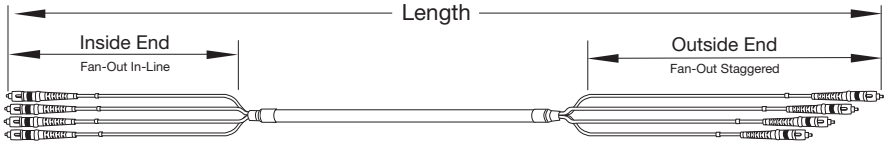
Fiber*Express* Pre-Connectorized Assemblies (continued)
Multi-fiber Cable Assemblies

Multi-fiber Cable Assembly

Multi-fiber Cable Assemblies

Multi-fiber Cable Assemblies are factory terminated fiber cables of various constructions (distribution, breakout, Loose tube) using Simplex, Duplex or Multi-fiber connectors.

They are available in configurations from 6 fibers up to 144 fibers with various kinds of fan-out constructions, lengths and geometry to suit virtually any application.



Product Engineering Code (PEC) – GUIDELINE

Use the following options to determine the Product Engineering code (PEC) and order custom combination of cable type, connectors and length required.

1		2		3		4		5		6
NXC	-	C R T N	-	XX Y L B G	-	XX Y L B G	-	E	-	LLLL
		Cable Type		Inside End		Outside End (1)				Length
				(Connectors)						

1 NXC identifies the product family for all fiber cable assemblies

2 Select Cable Type

C	Cable Construction	R	Fire Rating	T	Fiber Type	N	Fiber Count
M	Distribution cable	R	OFNR - Riser	M	OM1 - 62.5 µm Multimode	6	6 Fibers
P	Breakout 2.0 mm units	P	OFNP - Plenum	N	OM2 - 50 µm Multimode	L	12 Fibers
U	Mini-distribution (2)	B	Plenum Indoor Armored	F	OM3 - 50 µm Multimode	X	24 Fibers Sub-units
O	Loose Tube	D	Outdoor	G	OM4 - 50 µm Multimode	C	24 Fibers Non-unitized (3)
		E	Indoor / Outdoor Plenum	S	OS2 - Single-mode	V	48 Fibers
						T	72 Fibers
						M	96 Fibers
						Z	144 Fibers

3 and 4 Inside End and Outside End (Connectors)

XX	Connectors	Y	Polish / Performance Level
LC	LC Simplex	P	PC - Physical Contact Multimode
LD	LC Duplex	S	SPC - Super Physical Contact Single-mode
SC	SC Simplex	U	UPC - Ultra Physical Contact Single-mode
SD	SC Duplex	E	EUPC - Enhanced UPC Single-mode (6)
ST	ST	A	APC - Angled Polish Contact Single-mode
PH	12-fiber MPO female	L	Low Loss - Used for OM4 (50 µm) fiber
PG	12-fiber MPO male	Z	Not applicable (4)
LM	mSFP (Mini LC)		
ZZ	OPEN (4)		

Fan-out

L	Fan-Out Length	B	Fan-Out Construction	G	Fan-Out Geometry
C	0.5 m	B	900 µm Tight buffer	N	In line or None
F	1 m	E	2.0 mm jacket	A	Staggered 25 mm
G	2 m	G	3.0 mm jacket	B	Staggered 50 mm
N	None (4)	N	None (4)		

5 Pulling Eye

E	Pulling Eye
O	At Outside end (5)
N	None

Fiber*Express* Pre-Connectorized Assemblies (continued)

Multi-fiber Cable Assemblies

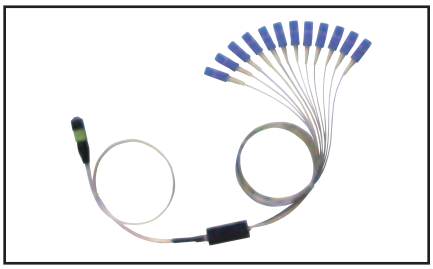
6 Length

LLLL is the length from tip to tip in meters: 0001, 0005, 0015, 0100, etc.

Examples:

PEC Code	Description
NXC-MRFL-LCPFBN-LCPFBN-O-0015	FO cable assembly, Distribution cable, Riser, OM3(50 µm), 12 fibers, LC/PC - LC/PC, Fan-out: 1 m - 900 µm - In line, with pulling eye, 15 m
NXC-UPFV-LDPFEN-PGPFGN-N-0020	FO cable assembly, Mini-distribution cable, Plenum, OM3 (50 µm), 48 fibers, LC Duplex/PC - MPO (m)/PC, Fan-out: 1 m - 2.0 mm(LC) & 3.0 mm (MPO) - In Line, No pulling eye, 20 m

Please contact Belden to validate your PEC Code and for any other fiber cable assembly combinations not available in this guideline.



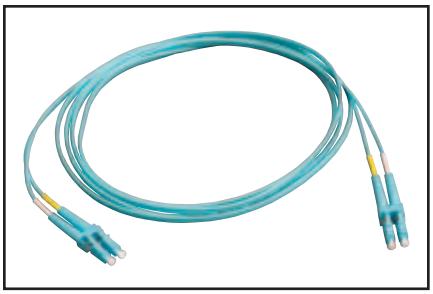
900 µm Fan-out Assembly

Notes:

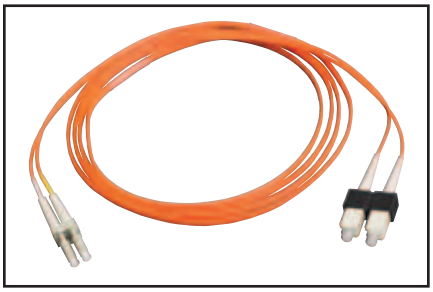
(1) Outside end refers to the pulling side.
(2) Mini-distribution cable is a round cable with sub-units of 12 Loose tube fibers each. It's used for MPO assemblies.
(3) Single jacket design. It's only used for Distribution cable
(4) Only for Outside End. It's used for pigtails.
(5) Pulling eye is strongly recommended for assemblies longer than 10m
(6) EUPC Minimum Reflectance: -60 dB.

Fiber*Express* Pre-Connectorized Assemblies (continued)

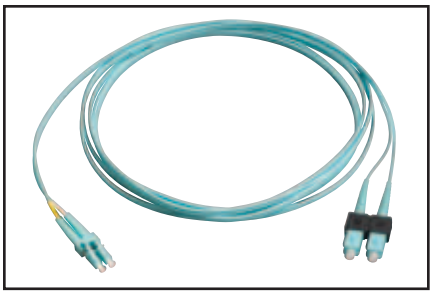
Fiber*Express* Patch Cords



AX200664, Fiber*Express* Duplex Patch Cord, LC Duplex - LC Duplex, OM3, 50 µm



AX200580, Fiber*Express* Hybrid Patch Cord, LC Duplex - SC Duplex, OM1, 62.5 µm



AX200668, Fiber*Express* Hybrid Patch Cord, LC Duplex - SC Duplex, OM3, 50 µm

Fiber*Express* Patch Cords

Fiber*Express* Patch Cords are of the highest quality available. They are assembled and 100% optically tested in the factory prior to shipment. All patch cords are built with high quality connectors and cables which guarantees superior performance and excellent reliability.

Fiber Optic Patch Cord Performance	Multimode PC Polish		Single-mode Polish		
	Standard	Low Loss*	SPC	UPC	APC
Maximum Insertion Loss (dB)	0.25	0.15	0.25	0.25	0.25
Minimum Reflectance (dB)	-20	-20	-40	-55	-65

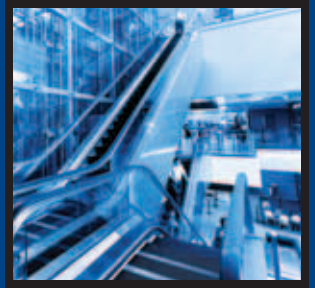
* Low Loss used for OM4 (50 µm) fiber.

Color of Housing	Multimode, OM1, 62.5 µm	Multimode, OM2, 50 µm	Multimode, OM3 - OM4, 50 µm	Single-mode, OS2	Single-mode, OS2 - APC
LC	Beige	Black	Aqua	Blue	Green
SC	Beige	Black	Aqua	Blue	Green
ST	Metal	Metal	Metal	Metal	-

Description	Belden Part Number		
	Multimode, OM1, 62.5 µm	Multimode, OM2, 50 µm	Multimode, OM3, 50 µm
Fiber*Express* Multimode Patch Cords			
Duplex Patch Cord, OFNR–Riser			
LC Duplex - LC Duplex, 2 m (6 ft), Duplex Zip Cord 2.0 mm	**AX200517**	**AX200527**	**AX200664**
LC Duplex - LC Duplex, 3 m (10 ft), Duplex Zip Cord 2.0 mm	**AX200518**	**AX200528**	**AX200665**
LC Duplex - LC Duplex, 5 m (16 ft), Duplex Zip Cord 2.0 mm	**AX200519**	**AX200529**	**AX200666**
SC Duplex - SC Duplex, 2 m (6 ft), Duplex Zip Cord 3.0 mm	**AX200056**	**AX200084**	**AX200603**
SC Duplex - SC Duplex, 3 m (10 ft), Duplex Zip Cord 3.0 mm	**AX200057**	**AX200082**	**AX200589**
SC Duplex - SC Duplex, 5 m (16 ft), Duplex Zip Cord 3.0 mm	**AX200058**	**AX200280**	**AX200624**
ST - ST 2 m (6 ft), Duplex Zip Cord 3.0 mm	**70102419**	**AX200341**	**AX200799**
ST - ST 3 m (10 ft), Duplex Zip Cord 3.0 mm	**70102420**	**AX200459**	**AX200795**
ST - ST 5 m (16 ft), Duplex Zip Cord 3.0 mm	**70102447**	**AX200413**	**AX200800**
Hybrid Patch Cord, OFNR–Riser			
LC Duplex - SC Duplex, 3 m (10 ft), Duplex Zip Cord 2.0 mm	**AX200580**	**AX200581**	**AX200668**
LC Duplex - ST, 3 m (10 ft), Duplex Zip Cord 2.0 mm	**AX200699**	**AX200695**	**AX200809**
SC Duplex - ST, 3 m (10 ft), Duplex Zip Cord 3.0 mm	**AX200060**	**AX200196**	**AX200900**
Single-ended (pigtails), OFN			
LC - OPEN, 2 m (6 ft), Simplex 900 µm Tight buffer	**AX200657**	**AX200658**	**AX200660**
SC - OPEN, 2 m (6 ft), Simplex 900 µm Tight buffer	**70101714**	**AX200192**	**AX200653**
ST - OPEN, 2 m (6 ft), Simplex 900 µm Tight buffer	**70100390**	**AX200458**	**AX200811**

Description	Belden Part Number
	Multimode, OM4, 50 µm, Low Loss
Fiber*Express* Multimode OM4 Low Loss Patch Cords	
Duplex Patch Cord, OFNR–Riser	
LC Duplex - LC Duplex, 2 m (6 ft), Duplex Zip Cord 2.0mm	**AX104647**
LC Duplex - LC Duplex, 3 m (10 ft), Duplex Zip Cord 2.0mm	**AX104648**
LC Duplex - LC Duplex, 5 m (16 ft), Duplex Zip Cord 2.0mm	**AX104649**
Single-ended (pigtails)	
LC - OPEN, 2 m (6 ft), Simplex 900 µm Tight buffer	**AX104650**

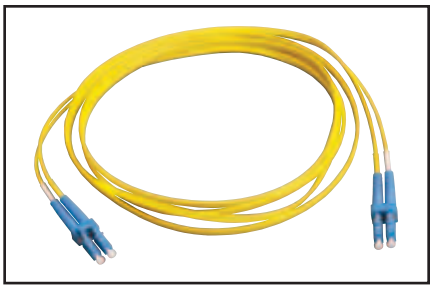
Part numbers listed for most popular patch cords. For additional cable type, connectors and lengths refer to the Product Engineering Code Guideline (Page 34).



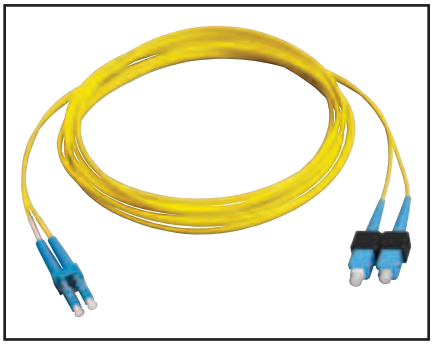
Fiber*Express* Pre-Connectorized Assemblies (continued)

Fiber*Express* Patch Cords

Description	Belden Part Number	
	Single-mode, OS2 - UPC	Single-mode, OS2 - APC
Fiber*Express* Single-mode Patch Cords		
Duplex Patch Cord, OFNR–Riser		
LC Duplex - LC Duplex, 2 m (6 ft), Duplex Zip Cord 2.0 mm	AX200507	AX203910
LC Duplex - LC Duplex, 3 m (10 ft), Duplex Zip Cord 2.0 mm	AX200508	AX203911
LC Duplex - LC Duplex, 5 m (16 ft), Duplex Zip Cord 2.0 mm	AX200509	AX203912
SC Duplex - SC Duplex, 2 m (6 ft), Duplex Zip Cord 3.0 mm	AX203908	AX202902
SC Duplex - SC Duplex, 3 m (10 ft), Duplex Zip Cord 3.0 mm	AX202523	AX203870
SC Duplex - SC Duplex, 5 m (16 ft), Duplex Zip Cord 3.0 mm	AX203909	AX202835
ST - ST 2 m (6 ft), Duplex Zip Cord 3.0 mm	AX200200	-
ST - ST 3 m (10 ft), Duplex Zip Cord 3.0 mm	AX202089	-
ST - ST 5 m (16 ft), Duplex Zip Cord 3.0 mm	AX200234	-
Hybrid Patch Cord, OFNR–Riser		
LC Duplex - SC Duplex, 3 m (10 ft), Duplex Zip Cord 2.0 mm	AX200667	AX203913
LC Duplex - ST, 3 m (10 ft), Duplex Zip Cord 2.0 mm	AX200698	-
SC Duplex - ST, 3 m (10 ft), Duplex Zip Cord 3.0 mm	AX201905	-
Single-ended (pigtails), OFN		
LC - OPEN, 2 m (6 ft), Simplex 900 µm Tight buffer	AX200659	AX203162
SC - OPEN, 2 m (6 ft), Simplex 900 µm Tight buffer	AX200147	AX203390
ST - OPEN, 2 m (6 ft), Simplex 900 µm Tight buffer	AX200138	-

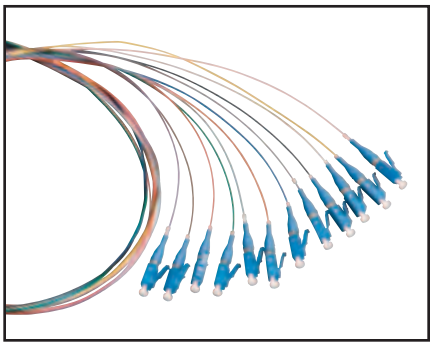


AX200507, Fiber*Express* Duplex Patch Cord, LC Duplex - LC Duplex, Single-mode, UPC



AX200667, Fiber*Express* Hybrid Patch Cord, LC Duplex - SC Duplex, Single-mode, UPC

Description	Belden Part Number			
	Mutlimode, OM1, 62.5 µm	Multimode, OM3, 50 µm	Multimode, OM4 Low Loss, 50 µm	Single-mode, OS2 - UPC
Fiber*Express* Color-Coded Pigtail Kits				
Pigtail Kits				
LC Color-Coded Pigtail Kit 12 fibers 2 m (6 ft) long	AX104651	AX104555	AX104655	AX104557
SC Color-Coded Pigtail Kit 12 fibers 2 m (6 ft) long	AX104652	AX104556	-	AX104558
ST Color-Coded Pigtail Kit 12 fibers 2 m (6 ft) long	AX104653	AX104654	-	AX104656

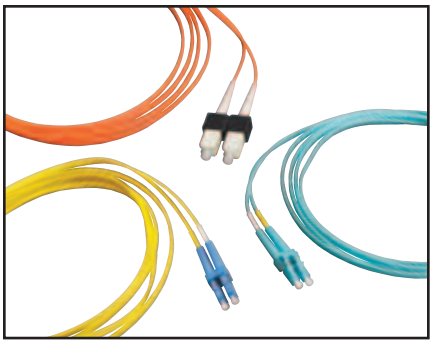


AX104557, Fiber*Express* LC Color-Coded Pigtail Kit, Single-mode

Part numbers listed for most popular patch cords. For additional cable type, connectors and lengths refer to the Product Engineering Code Guideline (Page 34).

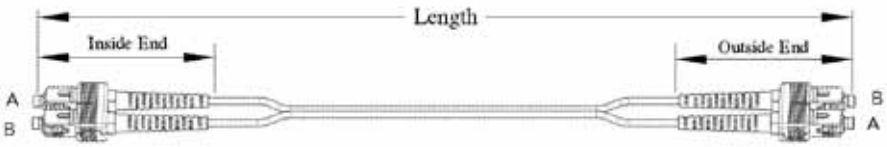
Fiber*Express* Pre-Connectorized Assemblies (continued)

Fiber*Express* Patch Cords



Fiber*Express* Patch Cords

Simplex - Duplex and Single-ended Pigtails



Product Engineering Code (PEC) – GUIDELINE

Use the following options to determine the PEC and order custom combination of cable type, connectors and length required.

1	2				3		4		5
NXF -	C	R	T	N -	XX	Y -	XX	Y -	LLLL
	Cable Type				Inside End		Outside End (1)		Length
					(Connectors)				

1 NXF identifies the product family for Simplex/Duplex patch cords and single-ended pigtails.

2 Select Cable Type

C	Cable Construction	R	Fire Rating	T	Fiber Type	N	Fiber Count
A	Simplex 900 µm Tight buffer	R	OFNR - Riser	M	OM1 - 62.5 µm Multimode	1	1 fiber
C	Simplex Cord 2.0 mm	P	OFNP - Plenum	N	OM2 - 50 µm Multimode	2	2 fibers
E	Simplex Cord 3.0 mm	N	OFN (3)	F	OM3 - 50 µm Multimode		
F	Duplex Zip Cord 2.0 mm			G	OM4 - 50 µm Multimode		
H	Duplex Zip Cord 3.0 mm			S	OS2 - Single-mode		
J	2-fiber Round Jacket 3.0 mm (2)						

3 and 4 Inside End and Outside End (Connectors)

XX	Connectors	Y	Polish / Performance Level
LC	LC Simplex	P	PC - Physical Contact Multimode
LD	LC Duplex	S	SPC - Super Physical Contact Single-mode (5)
SC	SC Simplex	U	UPC - Ultra Physical Contact Single-mode
SD	SC Duplex	E	EUPC - Enhanced UPC Single-mode (6)
ST	ST	A	APC - Angled Polish Contact Single-mode
FC	FC	L	Low Loss - Used for OM4 (50 µm) fiber
JA	MT-RJ female	Z	Not applicable (4)
LM	mSFP (Mini LC)		
ZZ	OPEN (4)		

5 Length

LLLL is the length from ferrule to ferrule in meters: 0001, 02.5, 0005, 0015, 0100, etc.

Examples:

PEC Code	Description
NXF-FRF2-LDP-SDP-0005	FO patch cord, Duplex Zip 2.0 mm, Riser, OM3 (50 µm), 2 fibers, LC Duplex/PC - SC Duplex/PC, 5 m
NXF-FRG2-LDL-LDL-0004	FO patch cord, Duplex Zip 2.0 mm, Riser, OM4 (50 µm), 2 fibers, LC Duplex/PC - LC Duplex/PC, Low Loss, 4 m
NXF-ERS1-SCA-SCA-0002	FO patch cord, Simplex 3.0 mm, Riser, Single-mode, 1 fiber, SC/APC - SC/APC, 2 m

Please contact Belden to validate your PEC Code and for any other fiber cable assembly combinations not available in this guideline.

Notes:
(1) Outside end refers to the pulling side.
Not to be considered for short length patch cords.
(2) Only used for MT-RJ patch cords.
(3) Only for Simplex 900µm Tight buffer cable construction.
(4) Only for Outside End. It's used for pigtails.
(5) Only used for MT-RJ patch cords.
(6) EUPC Minimum Reflectance: -60 dB.

Fiber*Express* Pre-Connectorized Assemblies (continued)

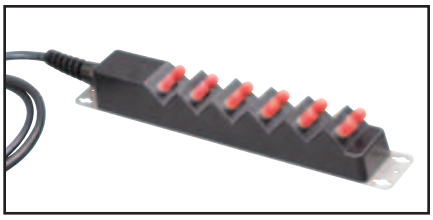
Fiber*Express* Bar and Accessories

Fiber*Express* Bar

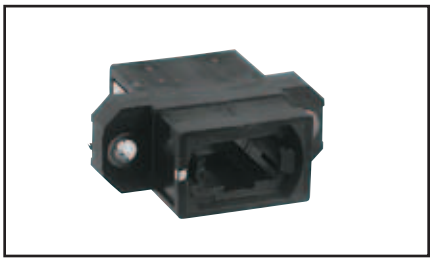
The Fiber*Express* Bar consists of a custom length fiber cable with, at one end, a factory pre-terminated rugged mini patch panel and, at the other end, a factory installed multi-fiber MPO connector. The very compact fiber patch panel contains 6 or 12 factory-terminated and tested connectors in a variety of styles. The ruggedness of the Fiber*Express* Bar makes it an ideal candidate for disaster recovery, industrial applications and other fiber deployments in harsh environments.

Fiber*Express* Bar Accessories

The MPO Adapter is the sleeve that provides primary alignment and locking when connecting the two MPO connectors (male to female). It has a flange and a metal clip for panel mounting and it is included with each Fiber*Express* Bar (1 m with male connector).



FA800000, Fiber*Express* Bar 12 ST



Fiber*Express* MPO Adapter

Description	Belden Part Number
Fiber*Express* Pre-Connectorized Assemblies	
Fiber*Express* Bar Multimode, OM1, 62.5 µm	
LC Duplex – MPO (m), 12 fibers, 1 m	FA800002
SC Duplex – MPO (m), 12 fibers, 1 m	FA800001
ST – MPO (m), 12 fibers, 1 m	FA800000
Fiber*Express* Bar Multimode, OM2, 50 µm	
LC Duplex – MPO (m), 12 fibers, 1 m	FA800005
SC Duplex – MPO (m), 12 fibers, 1 m	FA800004
ST – MPO (m), 12 fibers, 1 m	FA800003
Fiber*Express* Bar Multimode, OM3, 50 µm	
LC Duplex – MPO (m), 12 fibers, 1 m	FA800008
SC Duplex – MPO (m), 12 fibers, 1 m	FA800007
ST – MPO (m), 12 fibers, 1 m	FA800006
Fiber*Express* Bar Multimode, OM4, Low Loss, 50 µm	
LC Duplex - MPO(m), 12 fibers, 1 m	FA800012
Fiber*Express* Bar Single-mode, OS2	
LC Duplex – MPO (m), 12 fibers, 1 m	FA800011
SC Duplex – MPO (m), 12 fibers, 1 m	FA800010
ST – MPO (m), 12 fibers, 1 m	FA800009

Also available for 6 fibers, please contact Customer Service for more details.

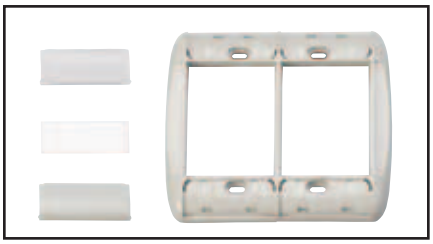
* All Fiber*Express* Bars above include one MPO adapter.

Fiber*Express* Bar Accessories	
MPO Adapter Flanged, pack of 25 units	AX105007-B25

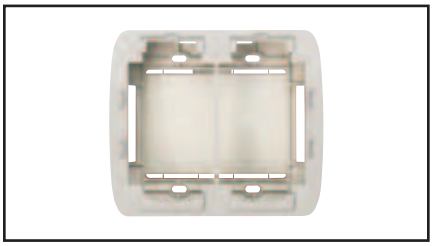
Please contact Belden for any other Fiber*Express* Bar options and lengths.

Fiber*Express* Outlets

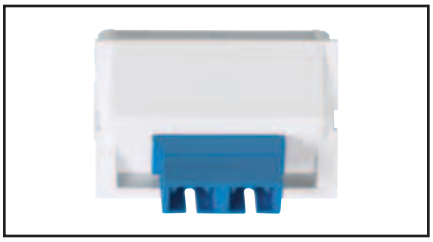
MediaFlex® Plates, Adapter Boxes, and Inserts
KeyConnect Workstation Outlet System



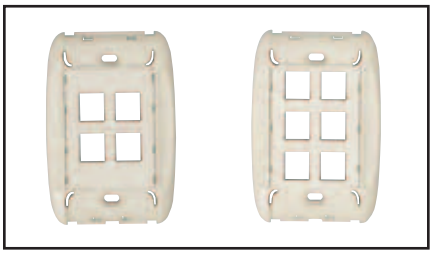
AX101869, MediaFlex Plate, Double-Gang



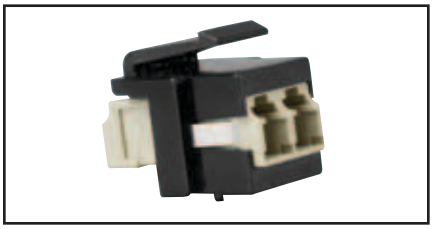
AX101874, MediaFlex Adapter Box, Double-Gang



AX101937, MediaFlex SC Duplex Insert, Angled



AX102428, AX102430, MediaFlex KeyConnect Faceplate Kit



AX102417, KeyConnect Adapter

MediaFlex Plates, Adapter Boxes, and Inserts

MediaFlex Plates are one part of the comprehensive line of plates and inserts that snap together to create a full line of modular workstation outlets.

MediaFlex Plates and Adapter Boxes can be mounted over standard NEMA type outlet boxes and rings to provide support for a variety of MediaFlex Adapters and Inserts. MediaFlex Plates are available in Single-Gang and Double-Gang configurations.

The MediaFlex Surface Adapter Boxes allow more room for cable management and bend radius control.

MediaFlex Keystone Style Inserts are available in a 2-port configuration in both Flush and Angled versions.

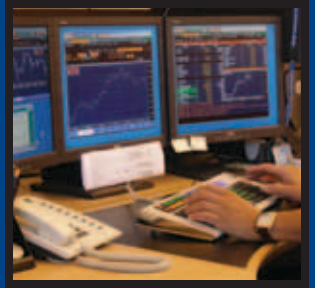
Each modular component of the KeyConnect series seamlessly fits together to suit any data, voice, video or multimedia application. This includes multimode and single-mode optical modules for fiber-to-the-desk applications.

Description	Belden Part Number		
	Almond	White	Black
MediaFlex® Plates and Inserts			
MediaFlex Plates			
Single-gang	AX101746	AX101747	AX101748
Double-gang	AX101870	AX101871	AX101872
MediaFlex Surface Adapter Boxes			
Single-gang	AX102481	AX102482	AX102483
Double-gang	AX101874	AX101875	AX101876
MediaFlex Filler Inserts			
1-unit	AX101758	AX101759	AX101760
2-unit	AX101762	AX101763	AX101764
MediaFlex SC Duplex Inserts, Angled			
SC Duplex Multimode, Beige Adapter	AX101940	AX101941	AX101942
SC Duplex Single-mode, Blue Adapter	AX101936	AX101937	AX101938

KeyConnect Workstation Outlet System

The KeyConnect Workstation Outlet System is comprised of a wide range of faceplates, adapters, and boxes, combined with a complete line of KeyConnect UTP, coax and fiber modules.

Description	Belden Part Number		
	Almond	White	Black
KeyConnect Workstation Outlet System			
MediaFlex KeyConnect Faceplate Kit			
4-port, Flush, Single-gang	AX102428	AX102429	AX104489
6-port, Flush, Single-gang	AX102430	AX102431	AX104490
4-port, Angled, Single-gang	AX102432	AX102433	AX104491
MediaFlex KeyConnect (Style) Insert			
2-port, Flush	AX102410	AX102411	AX102737
2-port, Angled	AX102412	AX102413	AX102738
KeyConnect Adapters			
LC Duplex Multimode, Beige Adapter	AX102415	AX102416	AX102417
LC Duplex Multimode OM3-OM4, Aqua Adapter	AX104937	AX104938	AX104939
LC Duplex Single-mode, Blue Adapter	AX102419	AX102420	AX102421
SC Simplex, Multimode, Beige Adapter	AX102683	AX102684	AX102685
SC Simplex, Single-mode, Blue Adapter	AX102686	AX102687	AX102688
ST Multimode/Single-mode	AX102242	AX102243	AX102244

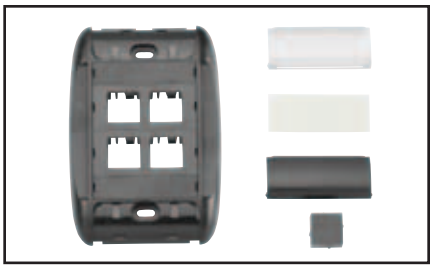


Fiber*Express* Outlets (continued)
MDVO Workstation Outlet System and Outlet Boxes

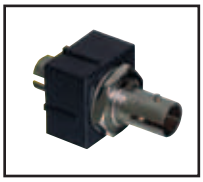
MDVO Workstation Outlet System

MDVO Workstation Outlet System address audio/video and fiber applications. Fiber modules are available for LC Duplex, SC Simplex, ST multimode and single-mode connections.

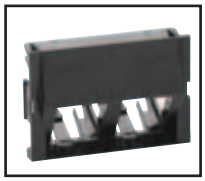
Description	Belden Part Number		
	Almond	White	Black
MDVO Workstation Multimedia Modules			
MediaFlex MDVO Faceplate Kit			
4-port, Flush, Single-gang	AX101783	AX101784	AX101785
6-port, Flush, Single-gang	AX101787	AX101788	AX101789
MediaFlex MDVO(Style) Insert			
2-port, Flush	AX101750	AX101751	AX101752
2-port, Angled	AX101754	AX101755	AX101756
MDVO Adapters			
LC Duplex Multimode	AX102210	AX102211	AX102212
LC Duplex Single-mode	AX102214	AX102215	AX102216
SC Simplex, Multimode	A0407004	A0407005	A0407006
SC Simplex, Single-mode	AX104624-02	AX104624-03	AX104624-04
ST, Multimode	A0407008	A0407009	A0407010



AX101785, MediaFlex MDVO Faceplate Kit



A0407010, MDVO ST Fiber Module



AX101756, MediaFlex MDVO (style) Insert, 2-port, Angled

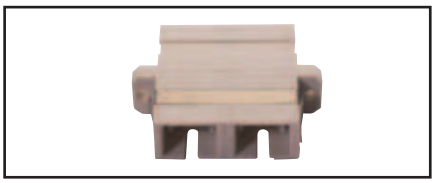
Multi-User Outlet Box

The Multi-User Outlet Box is a versatile box that can be used in many different applications. The outlet box can accommodate up to 24 connections of any type: UTP, fiber or coax. The outlet box is ideal for use as a multi-user telecommunications assembly, or simply as a high-density multimedia telecommunications outlet. The Multi-User Outlet Box can also be used as a wall mounted patch panel in confined areas, such as shallow rooms and cabinets.

The **SC Duplex Adapter** is a fiber adapter sleeve with flanges that mounts into the SC Duplex mounting bezel (included in the MDVO Multimedia Outlet box).

Description	Belden Part Number		
	Almond	White	Black
MDVO Multimedia Outlet Box			
6-port	A0643206	A0643207	A0643208
SC Duplex adapter Flanged, Multimode	← A0649254 →		
SC Duplex adapter Flangeless, Single-mode	← AX105002-S1 →		

A0643207, MDVO Multimedia Outlet Box (shown here as terminated)



A0649254, SC Duplex Adapter

MDVO Multimedia Outlet Box

The MDVO Multimedia Outlet Box brings unique versatility for multimedia work area installations. The box design provides cable management and helps maintain cable bend radius. The low profile design and side-entry of the outlet box offers better protection for patch cords. The outlet box can accept up to six MDVO-style modules or three SC Duplex adapters.

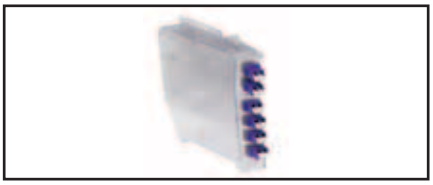
The MDVO Multimedia Outlet Box can be mounted directly on the wall or attached to standard electrical boxes. Included with the MDVO Multimedia box are three SC Duplex mounting bezels and three MDVO adapters.

Description	Belden Part Number		
	Almond	White	Black
Multi-User Outlet Box			
24-port	AX100220	AX100221	AX100222

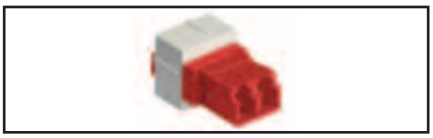
AX100222, Multi-User Outlet Box (shown here with modules)

Fiber*Express* Secure/Keyed LC System

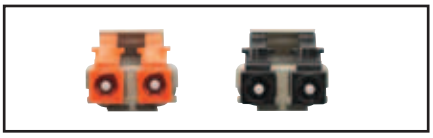
Patch Panel Adapters and Pre-Terminated Cassettes, Connectors and Patch Cords



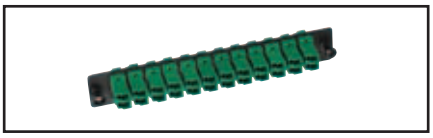
Fiber*Express* Secure/Keyed LC Manager Module



Fiber*Express* Secure/Keyed LC Adapter Module



Fiber*Express* Secure/Keyed LC System



Fiber*Express* Secure/Keyed LC Adapter Strip

Fiber*Express* Secure/Keyed LC Optimax Connector

Secured/Keyed LC Fiber*Express* Ultra Bezel

Secured/Keyed LC Fiber*Express* Ultra Cassette

Fiber*Express* Secure/Keyed LC System

The FiberExpress Secure/Keyed LC System allows for physical segregation of network segments in secure fiber cabling infrastructures. All Secure/Keyed LC products are available with 12 different keying options each carrying a different color to facilitate network administration. The keying detail inside the connector is highly tamper-resistant and cannot be reproduced inside a standard LC connector to violate the network security. All products comply with the FOCIS 10 standard and optical performance exceeds all industry standards for SFF connectors.

The Secure/Keyed LC Adapter Modules, Frames, Cassettes and Adapter Strips can be used in all mounting hardware for workstation area, Consolidation Point or Telecom Room applications. The Secure/Keyed LC Fiber*Express* Manager Modules can be used in 19- and 23-inch Fiber*Express* Manager Shelves to provide a high-density management system. The Secure/Keyed LC Fiber*Express* Ultra Frames, Bezels and Cassettes can be used with the Fiber*Express* Ultra Rack- and Wall-mount Patch Panels to provide an Ultra high-density patching system that is easy to deploy, operate and maintain, while ensuring maximum uptime, uninterrupted availability and superior performance.

The Secure/Keyed LC Patch Cords and Pigtails are offered in Multimode 62.5 µm (OM1), 50 µm (OM2) and laser-optimized 50 µm (OM3 and OM4) for the most demanding network performance.

The Secure/Keyed LC Brilliance and Optimax Field Installable Connectors are available in Multimode 50 µm laser-optimized and 62.5 µm fiber versions. They are high-quality connectors that use a ceramic ferrule with a physical contact (PC) polish for Multimode connectors.

Description	Splices
Fiber*Express* Secure/Keyed LC System	
LC Key1	Red
LC Key2	Green
LC Key3	Yellow
LC Key4	Black
LC Key5	Orange
LC Key6	Blue
LC Key7	Violet
LC Key8	Rose
LC Key9	Aqua
LC KeyA	Brown
LC KeyB	Slate
LC KeyC	White

For additional details, please refer to the Secure/Keyed LC System Product Bulletin PB275.

Cable Selection Reference
Introduction

The optical fiber cables featured in this section have been expanded to meet advances in technology and the demands of both commercial and industrial applications. Refer to this page for selecting a fiber type, color coding information, and optical specifications. Belden's extensive line of indoor and outdoor cable products is offered in tight buffer and loose tube designs. Armored, burial, and ruggedized designs are suited to a host of industrial environments. For each product design, items for OM1, OM2, OM3, OM4, and OS2 (single-mode) items have been developed. Belden fiber products are third party tested by either ETL or UL and approved for use according to the National Electric Code.

Customer Service

Many fiber designs are available from stock through our Distributors. For your new or custom application that you do not locate in this section, contact Customer Service at 1-800-Belden-1 (800.235.3361) for additional information or to request a quote. Further product and technical information is also available on our web site at www.belden.com.

Cable Selection Guide

Optical Fiber

Fiber Selection Chart

Type	Fiber Size (µ)	Standard Compliance	Link Length (m)	Data Rate (Gb)
Multimode	50/125	TIA/EIA-568-C.3 / ISO 11801 OM4	550	10
	50/125	TIA/EIA-568-C.3 / ISO 11801 OM3	300	10
	50/125	TIA/EIA-568-C.3 / ISO 11801 OM2	600	1
	62.5/125	TIA/EIA-568-C.3 / ISO 11801 OM1	300	1
Single-mode	—	ITU G.652.c/d†	—	—

† Zero or Low water peak fiber with advantages for CWDM applications

Color Code Charts

Jacket Color Chart

Cable Type	Jacket Color
Loose Tube & Outside Plant Cables	Black
Industrial Tray Cables	Orange
Tight Buffered Cables	
Multimode OM1, OM2	Orange
Multimode OM3, OM4	Aqua
Single-mode Enhanced	Yellow

Non-standard jacket colors are available on request.

Fiber Sub-unit Color Code Chart*

Fiber/Tube No.	Color	Fiber/Tube No.	Color
1	Blue	7	Red
2	Orange	8	Black
3	Green	9	Yellow
4	Brown	10	Violet
5	Slate	11	Rose
6	White	12	Aqua

*Per TIA/EIA 598-B

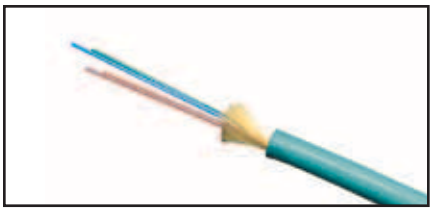
Optical Specifications

Glass Type	Multimode, OM1, 62.5 µm Std./1 Gb	Multimode, OM2, 50 µm Std./1 Gb	Multimode, OM3, 50 µm 10 Gb - 300 m	Multimode, OM4, 50 µm 10 Gb - 550 m	Single-mode Enhanced, OS2[5]
Part Number Designations	B9BXXX	B9AXXX	B9CXXX	B9EXXX	B9WXXX
Operating Wavelength (nm)	850/1300	850/1300	850/1300	850/1300	1310/1550
Min. OFL[1] Bandwidth (MHz-km)	200/500	500/500	1500/500	3500/550*	—
Laser Optimized Bandwidth	220/500	550/500	2000/500	4700/500 -	—
Max. Attenuation Loose Tube (dB/km)	2.9/0.9	3.5/1.2	2.9/0.9	2.9/0.9	0.35/0.25
Max. Attenuation Tight Buffered[2] (dB/km)	3.5/1.2	3.5/1.2	3.0/1.2	3.0/1.2	0.50/0.50
1 Gb Ethernet Min. Link Length (meters S/L[3])	300/550	600/600	900[4]/550	1000/550	5,000/—
10 Gb Ethernet Min. Link Length (meters S/L[3])	32/—	82/—	300/—	550/—	10,000/40,000

[1] OFL = Overfilled Launch
[2] Max. Attenuation for Tight Buffered, Ribbon, and Loose Tube Plenum Cables
[3] S/L = Short wavelength (850 nm) / Long wavelength (1310 nm)
[4] >2000 meters for engineered links
[5] Low water peak Single-mode suitable for CWDM use complies with ITU G.652.c/d
Other performance levels are available on request. Contact Customer Service for more information.
* While Belden supports this distance, hardware performance may limit the fiber's potential. For this reason, the TIA-568-C.0 standard channel length states 400m

Distribution Cable

Tight Buffer — Indoor and Indoor/Outdoor Riser, Plenum & LSZH Rated



Optical Fiber Distribution Cable

Applications

- Low to high fiber count requirements
- In-building backbone
- Fiber-to-the-desk applications
- Computer room

Product Description

Flexible thermoplastic jacket provides excellent handling characteristics. Fibers and cable sub-units are color coded for easy identification. Length markings in meters for easy determination of cable length. Full dielectric construction, no grounding required. For Riser offering, MSHA approved cables are available.

Jacket Material		
Riser	PVC	
Plenum	PVC or PVDF	
LSZH	FRPE	
Tight Buffer		Thermoplastic
Strength Member		Aramid Yarn
Color Code (Tight Buffer)		Per TIA/EIA 598-B, See page 39
Jacket Color		
Single-mode		Yellow
62.5/125 µm		Orange
50/125 µm / 1 Gb		Orange
50/125 µm / 10 Gb		Aqua

Nonstandard jacket colors are available upon request.

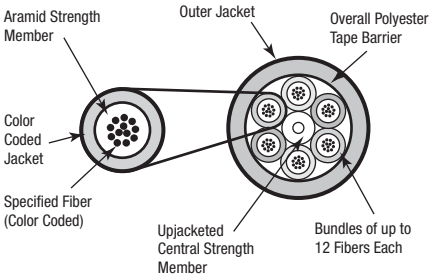
Ratings

Riser	
UL Type	OFNR
cUL Type	OFN FT.4
Flame Resistance	UL 1666
Plenum	
UL Type	OFNP
cUL Type	OFN FT.6
Flame Resistance	NFPA 262
Low Smoke Zero Halogen	
UL Type	OFNR
cUL Type	OFN FT.4
Flame Resistance	UL 1666
Complies to:	
TIA/EIA-568-C.3	
ICEA S-83-596	
Functional Requirements of:	
GR-20-CORE	
GR-409-CORE	

Specifications

Temperature Range	
Storage	-40 to +75°C
Operating	-20 to 70°C
(Indoor/Outdoor type	-40 to 70°C)
Installation	0 to 70°C
Min. Bend Radius	
Installation	15 x OD
Long Term	10 x OD
Optical Specifications	See page 39

Fiber Bundle Detail



2 – 24 FIBERS 24 – 144 FIBERS

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Distribution Cable

Tight Buffer — Riser, Plenum & LSZH Rated

No. of Fibers	No. of Fibers Per Bundle	Belden Part Number					Outside Diameter		Weight		Max. Install Load	
		OM1 62.5 / 125 µm Std. / 1 Gb	OM2 50 / 125 µm Std. / 1 Gb	OM3 50 / 125 µm 10 Gb – 300 m	OM4 50 / 125 µm 10 Gb – 550 m	OS2 Single-mode Enhanced	Inch	mm	lb/1000 ft	kg/km	lb	N
Distribution Cable Series												
Riser (NEC/CEC OFNR/OFN FT.4)												
2	2	B9B037	B9A037	B9C037	B9E037	B9W037	0.190	4.83	13	20	214	952
4	4	B9B038	B9A038	B9C038	B9E038	B9W038	0.190	4.83	17	25	286	1272
6	6	B9B039	B9A039	B9C039	B9E039	B9W039	0.170	4.40	12	17	286	1272
12	12	B9B042	B9A042	B9C042	B9E042	B9W042	0.220	5.59	17	25	239	1063
24	24	B9B601*	B9A601*	B9C601*	B9E601*	B9W601*	0.350	8.90	41	61	300	1350
24	6	B9B602	B9A602	B9C602	B9E602	B9W602	0.550	13.30	121	180	300	1350
36	12	B9B604	B9A604	B9C604	B9E604	B9W604	0.620	15.60	147	220	300	1350
48	12	B9B606	B9A606	B9C606	B9E606	B9W606	0.610	15.40	120	180	300	1350
72	12	B9B609	B9A609	B9C609	B9E609	B9W609	0.760	19.30	184	275	300	1350
96	12	B9B622	B9A622	B9C622	B9E622	B9W622	0.900	22.80	281	420	300	1350
144	12	B9B619	B9A619	B9C619	B9E619	B9W619	1.000	25.40	288	430	300	1350
Riser (NEC/CEC OFNR/OFN FT.4) Indoor Outdoor												
2	2	B9B037T	B9A037T	B9C037T	B9E037T	B9W037T	0.190	4.83	14	21	303	1350
4	4	B9B038T	B9A038T	B9C038T	B9E038T	B9W038T	0.190	4.83	15	23	303	1350
6	6	B9B039T	B9A039T	B9C039T	B9E039T	B9W039T	0.210	5.33	19	28	303	1350
12	12	B9B042T	B9A042T	B9C042T	B9E042T	B9W042T	0.240	6.09	26	38	303	1350
24	24	B9B601T*	B9A601T*	B9C601T*	B9E601T*	B9W601T*	0.330	8.70	46	69	600	2700
24	6	B9B602T	B9A602T	B9C602T	B9E602T	B9W602T	0.670	17.02	169	252	600	2700
36	12	B9B604T	B9A604T	B9C604T	B9E604T	B9W604T	0.670	17.02	178	265	600	2700
48	12	B9B606T	B9A606T	B9C606T	B9E606T	B9W606T	0.670	17.02	187	278	600	2700
72	12	B9B609T	B9A609T	B9C609T	B9E609T	B9W609T	0.810	20.57	233	346	600	2700
96	12	B9B622T	B9A622T	B9C622T	B9E622T	B9W622T	0.895	22.7	305	454	600	2700
144	12	B9B619T	B9A619T	B9C619T	B9E619T	B9W619T	0.964	24.5	365	543	600	2700
Plenum (NEC/CEC OFNP/OFN FT.6)												
2	2	B9B043	B9A043	B9C043	B9E043	B9W043	0.190	4.83	13	19	214	952
4	4	B9B044	B9A044	B9C044	B9E044	B9W044	0.190	4.83	17	25	286	1272
6	6	B9B045	B9A045	B9C045	B9E045	B9W045	0.170	4.40	12	17	286	1272
12	12	B9B048	B9A048	B9C048	B9E048	B9W048	0.220	5.59	17	25	239	1063
24	24	B9B611*	B9A611*	B9C611*	B9E611*	B9W611*	0.330	8.40	46	69	300	1350
24	6	B9B612	B9A612	B9C612	B9E612	B9W612	0.550	13.30	121	180	300	1350
36	12	B9B614	B9A614	B9C614	B9E614	B9W614	0.620	15.60	147	220	300	1350
48	12	B9B616	B9A616	B9C616	B9E616	B9W616	0.610	15.40	134	200	300	1350
72	12	B9B620	B9A620	B9C620	B9E620	B9W620	0.760	19.30	211	315	300	1350
96	12	B9B623	B9A623	B9C623	B9E623	B9W623	0.900	22.80	295	440	300	1350
144	12	B9B621	B9A621	B9C621	B9E621	B9W621	1.000	25.40	382	568	300	1350

Construction for LSZH cables differs from the drawing. Alternative fiber counts are available.
*Single jacket design, in which all fibers are together and not sub-grouped.
For product details on the Indoor/Outdoor fiber cables, contact 1.800.BELDEN.1 or www.belden.com.

Distribution Cable (continued)

Tight Buffer — Riser, Plenum & LSZH Rated

No. of Fibers	No. of Fibers Per Bundle	Belden Part Number					Outside Diameter		Weight		Max. Install Load	
		OM1 62.5 / 125 µm Std. / 1 Gb	OM2 50 / 125 µm Std. / 1 Gb	OM3 50 / 125 µm 10 Gb – 300 m	OM4 50 / 125 µm 10 Gb – 550 m	OS2 Single-mode Enhanced	Inch	mm	lb/1000 ft	kg/km	lb	N
Distribution Cable Series												
Plenum (NEC/CEC OFNP/OFN FT.6) Indoor Outdoor												
2	2	**B9B043T**	**B9A043T**	**B9C043T**	**B9E043T**	**B9W043T**	0.18	5.0	14	21	243	1082
4	4	**B9B044T**	**B9A044T**	**B9C044T**	**B9E044T**	**B9W044T**	0.17	4.0	13	19	243	1082
6	6	**B9B045T**	**B9A045T**	**B9C045T**	**B9E045T**	**B9W045T**	0.19	5.0	16	24	243	1082
12	12	**B9B048T**	**B9A048T**	**B9C048T**	**B9E048T**	**B9W048T**	0.23	6.0	22	33	388	1726
24	24	**B9B611T***	**B9A611T***	**B9C611T***	**B9E611T***	**B9W611T***	0.33	8.0	40	60	398	1744
24	6	**B9B612T**	**B9A612T**	**B9C612T**	**B9E612T**	**B9W612T**	0.47	12.0	86	128	600	2700
36	12	**B9B614T**	**B9A614T**	**B9C614T**	**B9E614T**	**B9W614T**	0.61	15.0	136	202	600	2700
48	12	**B9B616T**	**B9A616T**	**B9C616T**	**B9E616T**	**B9W616T**	0.61	15.0	136	202	600	2700
72	12	**B9B620T**	**B9A620T**	**B9C620T**	**B9E620T**	**B9W620T**	0.754	19.2	241	359	600	2700
96	12	**B9B623T**	**B9A623T**	**B9C623T**	**B9E623T**	**B9W623T**	0.916	23.3	329	490	600	2700
144	12	**B9B621T**	**B9A621T**	**B9C621T**	**B9E621T**	**B9W621T**	1.068	27.1	408	607	600	2700
LSZH (NEC/CEC OFNR/OFN FT.4) Indoor Outdoor												
2	2	**B9B100**	**B9A100**	**B9C100**	**B9E100**	**B9W100**	0.184	4.70	15	22	180	801
4	4	**B9B101**	**B9A101**	**B9C101**	**B9E101**	**B9W101**	0.200	5.10	18	27	195	807
6	6	**B9B102**	**B9A102**	**B9C102**	**B9E102**	**B9W102**	0.220	5.60	19	28	270	1201
12	12	**B9B104**	**B9A104**	**B9C104**	**B9E104**	**B9W104**	0.255	6.50	26	39	300	1334
24	24	**B9B107***	**B9A107***	**B9C107***	**B9E107***	**B9W107***	0.325	8.30	44	65	390	1735
36	6	**B9B111**	**B9A111**	**B9C111**	**B9E111**	**B9W111**	0.655	16.60	155	231	600	2700
48	12	**B9B112**	**B9A112**	**B9C112**	**B9E112**	**B9W112**	0.638	16.20	143	213	600	2700
72	12	**B9B114**	**B9A114**	**B9C114**	**B9E114**	**B9W114**	0.775	19.70	207	308	600	2700
96	12	**B9B116**	**B9A116**	**B9C116**	**B9E116**	**B9W116**	0.906	23.00	326	485	600	2700
144	12	**B9B120**	**B9A120**	**B9C120**	**B9E120**	**B9W120**	0.986	25.00	350	521	600	2700

Construction for LSZH cables differs from the drawing. Alternative fiber counts are available.
*Single jacket design, in which all fibers are together and not sub-grouped.
For product details on the Indoor/Outdoor fiber cables, contact 1.800.BELDEN.1 or www.belden.com.

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Interlocked Armor Distribution Cable

Tight Buffer — Indoor and Indoor/Outdoor, Riser and Plenum Rated

Applications

- Industrial environments
- Rugged installations
- Manufacturing plants
- Mining operations
- Telecommunications and data trunk
- Inter- and intra-building installations

Product Description

Heavy duty construction with interlocking aluminum armor (steel available on request) provides excellent mechanical protection from cutting or crushing and eliminates need for innerduct. Rodent resistant. Also available for outside plant. Loose tube design available on request.

Jacket Material		
Riser	PVC	
Plenum	PVC or PVDF	
Buffer Tube		Thermoplastic
Strength Member		Aramid Yarn
Central Strength Member		E-Glass
Armor		Aluminum
Color Code (Buffer)		Per TIA/EIA 598-B, See page 39

Jacket Color	
Single-mode	Yellow
62.5/125 µm	Orange
50/125 µm / 1 Gb	Orange
50/125 µm / 10 Gb	Aqua

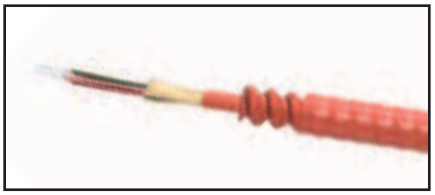
Ratings

Riser	OFCR
Plenum	OFCP

Complies to:
TIA/EIA-568-C.3
ICEA S-104-696

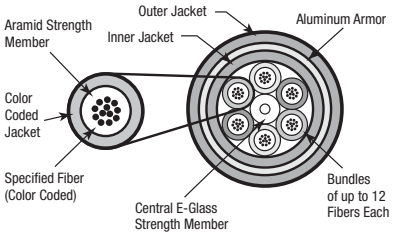
Specifications

Temperature Range	
Storage	-40 to +80°C
Operating	-20 to +70°C
(Indoor/Outdoor type	-40 to 70°C)
Crush Resistance (EIA-455-41)	220 N/cm
Impact Resistance (EIA-455-25)	2000 Impacts @ 3.0 N-m
Min. Bend Radius	
Installation	20 x OD
Long Term	15 x OD
Optical Specifications	See page 39



Armored Optical Fiber Distribution Cable

Fiber Bundle Detail



No. of Fibers	No. of Fibers Per Bundle	Belden Part Number					Outside Diameter		Weight		Max. Install Load	
		OM1 62.5 / 125 µm Std. / 1 Gb	OM2 50 / 125 µm Std. / 1 Gb	OM3 50 / 125 µm 10 Gb – 300 m	OM4 50 / 125 µm 10 Gb – 550 m	OS2 Single-mode Enhanced	Inch	mm	lb/1000 ft	kg/km	lb	N
Industrial Armored Series – Indoor												
Riser (NEC/CEC OFCR/OFC FT.4)												
6	6	B9B230	B9A230	B9C230	B9E230	B9W230	0.570	14.48	127	189	270	1201
12	12	B9B231	B9A231	B9C231	B9E231	B9W231	0.620	15.75	150	223	300	1334
24	24	B9B232*	B9A232*	B9C232*	B9E232*	B9W232*	0.670	17.02	225	335	390	1735
24	6	B9B233	B9A233	B9C233	B9E233	B9W233	0.845	21.46	263	391	600	2700
36	6	B9B234	B9A234	B9C234	B9E234	B9W234	0.995	25.27	368	548	600	2700
48	12	B9B235	B9A235	B9C235	B9E235	B9W235	0.970	24.64	363	540	600	2700
72	12	B9B236	B9A236	B9C236	B9E236	B9W236	1.095	27.81	481	716	600	2700
96	12	B9B237	B9A237	B9C237	B9E237	B9W237	1.245	31.62	625	930	600	2700
144	12	B9B238	B9A238	B9C238	B9E238	B9W238	1.320	33.53	675	1005	600	2700
Plenum (NEC/CEC OFCP/OFC FT.6)												
6	6	B9B240	B9A240	B9C240	B9E240	B9W240	0.481	12.22	90	134	270	1201
12	12	B9B241	B9A241	B9C241	B9E241	B9W241	0.506	12.85	103	153	300	1334
24	24	B9B242*	B9A242*	B9C242*	B9E242*	B9W242*	0.631	16.03	151	225	390	1735
24	6	B9B243	B9A243	B9C243	B9E243	B9W243	0.781	19.84	135	201	600	2700
36	6	B9B244	B9A244	B9C244	B9E244	B9W244	0.881	22.38	309	460	600	2700
48	12	B9B245	B9A245	B9C245	B9E245	B9W245	0.881	22.38	295	439	600	2700
72	12	B9B246	B9A246	B9C246	B9E246	B9W246	1.031	26.19	433	644	600	2700
96	12	B9B247	B9A247	B9C247	B9E247	B9W247	1.181	30.00	599	891	600	2700
144	12	B9B248	B9A248	B9C248	B9E248	B9W248	1.356	34.44	688	1024	600	2700

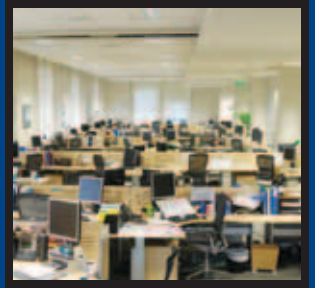
Additional optical fiber cable constructions are available upon request. *Single jacket designs, in which all fibers are together and not sub-grouped.

Interlocked Armor Distribution Cable (continued)

Tight Buffer — Indoor and Indoor/Outdoor, Riser and Plenum Rated, Direct Burial

No. of Fibers	No. of Fibers Per Bundle	Belden Part Number					Outside Diameter		Weight		Max. Install Load	
		OM1 62.5 / 125 µm Std. / 1 Gb	OM2 50 / 125 µm Std. / 1 Gb	OM3 50 / 125 µm 10 Gb – 300 m	OM4 50 / 125 µm 10 Gb – 550 m	OS2 Single-mode Enhanced	Inch	mm	lb/1000 ft	kg/km	lb	N
Industrial Armored Series – Indoor/Outdoor												
Riser (NEC/CEC OFCR/OFC FT.4) Indoor/Outdoor												
6	6	**B9B230T**	**B9A230T**	**B9C230T**	**B9E230T**	**B9W230T**	0.570	14.48	127	189	300	1334
12	12	**B9B231T**	**B9A231T**	**B9C231T**	**B9E231T**	**B9W231T**	0.620	15.74	150	223	300	1334
24	24	**B9B232T***	**B9A232T***	**B9C232T***	**B9E232T***	**B9W232T***	0.670	17.02	225	335	300	1334
24	6	**B9B233T**	**B9A233T**	**B9C233T**	**B9E233T**	**B9W233T**	0.870	22.10	398	592	600	2700
36	6	**B9B234T**	**B9A234T**	**B9C234T**	**B9E234T**	**B9W234T**	1.020	25.91	451	671	600	2700
48	12	**B9B235T**	**B9A235T**	**B9C235T**	**B9E235T**	**B9W235T**	0.995	25.27	422	628	600	2700
72	12	**B9B236T**	**B9A236T**	**B9C236T**	**B9E236T**	**B9W236T**	1.120	28.45	527	784	600	2700
96	12	**B9B237T**	**B9A237T**	**B9C237T**	**B9E237T**	**B9W237T**	1.270	32.26	644	958	600	2700
144	12	**B9B238T**	**B9A238T**	**B9C238T**	**B9E238T**	**B9W238T**	1.320	33.53	743	1106	600	2700
Plenum (NEC/CEC OFCP/OFC FT.6) Indoor/Outdoor												
6	6	**B9B240T**	**B9A240T**	**B9C240T**	**B9E240T**	**B9W240T**	0.481	12.20	90	134	300	1334
12	12	**B9B241T**	**B9A241T**	**B9C241T**	**B9E241T**	**B9W241T**	0.506	12.85	94	140	300	1334
24	24	**B9B242T***	**B9A242T***	**B9C242T***	**B9E242T***	**B9W242T***	0.631	16.03	151	225	300	1334
24	6	**B9B243T**	**B9A243T**	**B9C243T**	**B9E243T**	**B9W243T**	0.756	19.20	161	240	600	2700
36	6	**B9B244T**	**B9A244T**	**B9C244T**	**B9E244T**	**B9W244T**	0.906	23.01	280	417	600	2700
48	12	**B9B245T**	**B9A245T**	**B9C245T**	**B9E245T**	**B9W245T**	0.906	23.01	297	442	600	2700
72	12	**B9B246T**	**B9A246T**	**B9C246T**	**B9E246T**	**B9W246T**	1.051	26.70	379	564	600	2700
96	12	**B9B247T**	**B9A247T**	**B9C247T**	**B9E247T**	**B9W247T**	1.206	30.63	610	908	600	2700
144	12	**B9B248T**	**B9A248T**	**B9C248T**	**B9E248T**	**B9W248T**	1.356	34.44	725	1079	600	2700

Additional optical fiber cable constructions are available upon request.
*Single jacket designs, in which all fibers are together and not sub-grouped.



Interconnect Cable — Simplex and Duplex

Tight Buffer — Riser & Plenum Rated

Applications

- Patch panels
- Workstation equipment connections
- Horizontal distribution in open office environments

Product Description

Interconnect Cables are designed for low fiber-count premises environments. They are small and very flexible, making them ideal for confined spaces. Their aesthetic appearance makes these cables suitable for use in open office environments. Available in 1 or 2 fibers. One sub-unit is marked to permit easy identification of transmit and receive fibers. Length markings to facilitate installation.

Jacket Material	PVC
Tight Buffer	Thermoplastic
Strength Member	Aramid Yarn
Color Code (Tight Buffer)	Per TIA/EIA 598-B, See page 39
Jacket Color	
Single-mode	Yellow
62.5/125 µm	Orange
50/125 µm / 1 Gb	Orange
50/125 µm / 10 Gb	Aqua

Nonstandard jacket colors are available upon request.

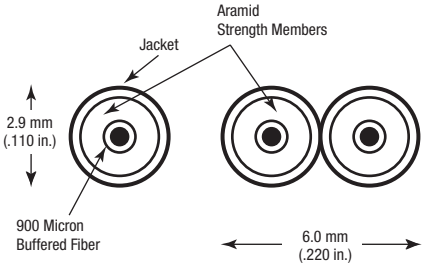
Ratings

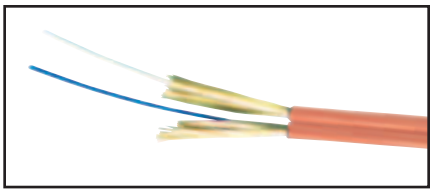
Riser	OFNR
Plenum	OFNP
Complies to:	
TIA/EIA-568-C.3	
ICEA S-83-596	

Specifications

Temperature Range	
Storage	-40 to +75°C
Operating/Installation	0 to +70°C
Min. Bend Radius	
Installation	18 x OD
Long Term	11 x OD
Optical Specifications	See page 39

Fiber Bundle Detail





Duplex Optical Fiber Interconnect Cable

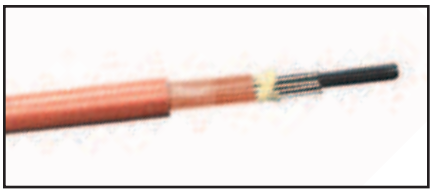
No. of Fibers	Belden Part Number					Outside Diameter		Weight		Max. Install Load	
	OM1 62.5 / 125 µm Std. / 1 Gb	OM2 50 / 125 µm Std. / 1 Gb	OM3 50 / 125 µm 10 Gb – 300 m	OM4 50 / 125 µm 10 Gb – 550 m	OS2 Single-mode Enhanced	Inch	mm	lb/1000 ft	kg/km	lb	N
Interconnect Cable Series											
Riser (NEC/CEC OFNR/OFN FT.4)											
1	B97112	B9A001	B9C001	B9E001	B9W001	0.110	2.9	6	9	119	530
2	B96915	B9A002	B9C002	B9E002	B9W002	0.11 x 0.22	2.9 x 6.0	10	15	239	1063
Plenum (NEC/CEC OFNP/OFN FT.6)											
1	B98086	B9A003	B9C003	B9E003	B9W003	0.110	2.9	6	9	119	530
2	B96919	B9A004	B9C004	B9E004	B9W004	0.11 x 0.22	2.9 x 6.0	12	18	239	1063

LSZH versions (OFNR-LS) and 2.0mm diameter size are available as special order.

BELDEN

Breakout Style Cable

Tight Buffer — Indoor Riser, Plenum & LSZH Rated



Optical Fiber Breakout Cable

Applications

- Low to medium fiber count requirements
- In-building backbone or horizontal deployment
- Office wiring
- Factory floor automation and harsh environment installations

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. For Riser offering, MSHA approved cables are available.

Outer Jacket Material	
Riser	PVC
Plenum	PVC or PVDF
LSZH	FRPE
Sub-unit Jacket Material	Thermoplastic
Tight Buffer	Thermoplastic
Strength Member	Aramid Yarn
Color Code (Tight Buffer)	Per TIA/EIA 598-B, See page 39
Jacket Color	
Single-mode	Yellow
62.5/125 µm	Orange
50/125 µm / 1 Gb	Orange
50/125 µm / 10 Gb	Aqua

Ratings

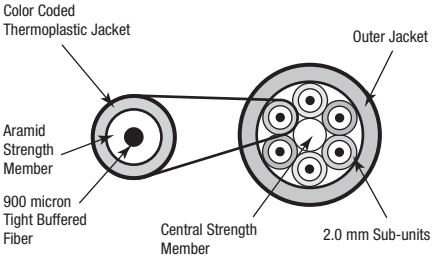
Riser	OFNR
Plenum	OFNP
Low Smoke Zero Halogen	OFNR

Complies to:
TIA/EIA-568-C.3
ICEA S-83-596

Specifications

Temperature Range	
Storage	-40 to +80°C
Operating/Installation	-20 to +70°C
Min. Bend Radius	
Installation	15 x OD
Long Term	10 x OD
Optical Specifications	See page 39

Fiber Bundle Detail



No. of Fibers	No. of Fibers Per Bundle	Belden Part Number					Outside Diameter		Weight		Max. Install Load	
		OM1 62.5 / 125 µm Std. / 1 Gb	OM2 50 / 125 µm Std. / 1 Gb	OM3 50 / 125 µm 10 Gb – 300 m	OM4 50 / 125 µm 10 Gb – 550 m	OS2 Single-mode Enhanced	Inch	mm	lb/1000 ft	kg/km	lb	N
Breakout Cable Series												
Riser (NEC/CEC OFNR/OFN FT.4)												
2	1	B9B005	B9A005	B9C005	B9E005	B9W005	0.260	6.60	24	36	240	1068
4	1	B9B006	B9A006	B9C006	B9E006	B9W006	0.321	8.15	35	52	345	1535
6	1	B9B007	B9A007	B9C007	B9E007	B9W007	0.358	9.09	54	80	543	2415
10	1	B9B009	B9A009	B9C009	B9E009	B9W009	0.455	11.56	86	128	600	2700
12	1	B9B010	B9A010	B9C010	B9E010	B9W010	0.514	13.06	110	164	600	2700
18	1	B9B011	B9A011	B9C011	B9E011	B9W011	0.520	13.21	104	155	600	2700
24	1	B9B012	B9A012	B9C012	B9E012	B9W012	0.590	14.99	135	201	600	2700
Plenum (NEC/CEC OFNP/OFN FT.6)												
2	1	B9B013	B9A013	B9C013	B9E013	B9W013	0.230	5.84	20	20	180	801
4	1	B9B014	B9A014	B9C014	B9E014	B9W014	0.263	6.68	30	45	345	1535
6	1	B9B015	B9A015	B9C015	B9E015	B9W015	0.309	7.85	41	61	465	2068
10	1	B9B017	B9A017	B9C017	B9E017	B9W017	0.385	9.78	73	109	600	2700
12	1	B9B018	B9A018	B9C018	B9E018	B9W018	0.391	9.93	60	89	600	2700
18	1	B9B019	B9A019	B9C019	B9E019	B9W019	0.456	11.58	89	132	600	2700

Breakout Style Cable (continued)

Tight Buffer — Indoor Riser, Plenum & LSZH Rated

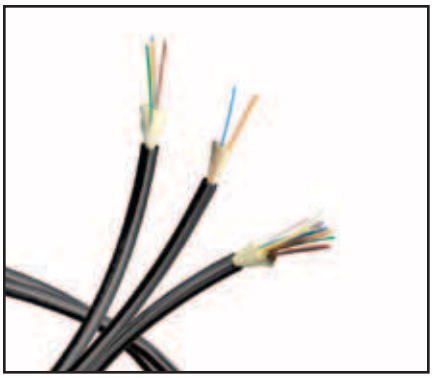
No. of Fibers	No. of Fibers Per Bundle	Belden Part Number					Outside Diameter		Weight		Max. Install Load	
		OM1 62.5 / 125 µm Std. / 1 Gb	OM2 50 / 125 µm Std. / 1 Gb	OM3 50 / 125 µm 10 Gb – 300 m	OM4 50 / 125 µm 10 Gb – 550 m	OS2 Single-mode Enhanced	Inch	mm	lb/1000 ft	kg/km	lb	N
Breakout Cable Series (continued)												
LSZH (NEC/CEC OFNR/OFN FT.4)												
2	1	**B9B130**	**B9A130**	**B9C130**	**B9E130**	**B9W130**	0.260	6.60	24	36	240	1068
4	1	**B9B131**	**B9A131**	**B9C131**	**B9E131**	**B9W131**	0.321	8.15	36	54	345	1535
6	1	**B9B132**	**B9A132**	**B9C132**	**B9E132**	**B9W132**	0.358	9.09	58	86	543	2415
10	1	**B9B134**	**B9A134**	**B9C134**	**B9E134**	**B9W134**	0.455	11.56	95	141	600	2700
12	1	**B9B135**	**B9A135**	**B9C135**	**B9E135**	**B9W135**	0.514	13.06	120	179	600	2700
18	1	**B9B136**	**B9A136**	**B9C136**	**B9E136**	**B9W136**	0.520	13.21	115	171	600	2700

2.5 mm & 2.9 mm Breakout Cables are also available.

BELDEN

Brilliance® Maxi-Bend™ Tactical Fiber Optic Cables

Single-mode and Multimode Fiber



Applications

- ENG vehicles
- Outdoor news, sporting or other events
- Digital camera transmission
- Military communications
- Re-deployable communications
- Mining and industrial applications

Product Description

Small and lightweight with a rugged jacket, Tactical Cable provides a durable design for repeated deployment and retrieval cycles and a superior level of crush resistance. Designed to military standards.

Jacket Material	UV-resistant PU
Buffer	Polyester
Strength Member	Aramid Yarn
Color Code	
Jacket	Black
Fiber/Buffer	Per EIA/TIA 598-C
Fiber/Buffer 1	Blue
Fiber/Buffer 2	Orange
Fiber/Buffer 3	Green
Fiber/Buffer 4	Brown
Fiber/Buffer 5	Slate
Fiber/Buffer 6	White
Fiber/Buffer 7	Red
Fiber/Buffer 8	Black
Fiber/Buffer 9	Yellow
Fiber/Buffer 10	Violet
Fiber/Buffer 11	Rose
Fiber/Buffer 12	Aqua

Specifications

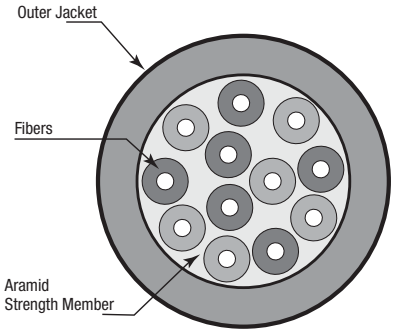
Temperature Range	
Storage	-70 to +85°C
Operating	-55 to +85°C
Crush Resistance (EIA-455-41)	440 N/cm
Impact Resistance (EIA-455-25)	200 Impacts @ 2.2 N-m
Cyclic Flexing (EIA-455-104)	2000 cycles, min.
Min. Bend Radius	
Installation	15 x OD
Long Term	8 x OD

Optical Specifications

Single-mode Enhanced*	
Operating Wavelength (nm)	1310/1550
Max. Attenuation Tight Buffered (dB/km)	0.80/0.50
Multimode 62.5/125 µm Std./1Gbe	
Operating Wavelength (nm)	850/1300
Max. Attenuation Tight Buffered (dB/km)	3.50/1.25

* Low water peak Single-mode suitable for CWDM use complies with ITU G.652.c/d

Fiber Bundle Detail



No. of Fibers	Belden Part Number		Outside Diameter		Weight		Max. Install Load	
	OM1 62.5 / 125 µm	OS2 Single-mode	Inch	mm	lb/1000 ft	kg/km	lb	N
2	**B96571**	**B96566**	0.240	6.0	22	33	330	1468
4	**B96551**	**B96639**	0.240	6.0	22	33	330	1468
6	**B96572**	**B96567**	0.240	6.1	23	33	330	1468
12	**B96575**	**B96570**	0.280	7.0	25	37	330	1468

Please contact the Technical Support Group for proper connectivity integration and installation guidance. All optical fiber products can be supplied in compliance with RoHS regulations. Please contact Inside Sales for more details. Other glass types, strand counts and jacket formulations (and colors) are available by special order. Contact your authorized Belden distributor (www.belden.com) or call Belden Customer Service at 1.800.235.3361 (1.800.BELDEN.1)

Single Jacket, All Dielectric Cable

Loose Tube — Outdoor, and Indoor/Outdoor Riser & LSZH Rated

Applications

- Medium to high fiber count requirements
- Inter-building duct installations
- Lashed aerial
- Indoor/outdoor
- Industrial outside plant (OSP Type)

Product Description

Gel-filled buffer tube prevents water migration. All-dielectric strength member. Available as Riser rated cable, thereby eliminating the need for service entrance splicing to in-building cable. Full dielectric construction, no grounding required. Available with up to 216 fibers. Length markings in meters for easy determination of cable length.

Jacket Material	
Outdoor	PE
Riser	PVC
Buffer Tube	PBT
Strength Member	Aramid Yarn
Central Strength Member	E-Glass
Color Code (Buffer)	Per TIA/EIA 598-B, See page 39
Jacket Color	Black

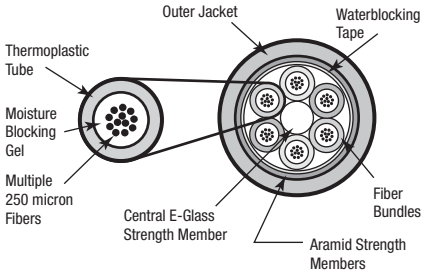
Ratings

Riser	
UL Type	OFNR
cUL Type	OFN FT.4
Flame Resistance	UL 1666
Complies to:	
TIA/EIA-568-C.3	
ICEA S-87-640	
Functional Requirements of:	
GR-20-CORE	
GR-409-CORE	

Specifications

Temperature Range (Outdoor Series)	
Storage	-40 to +75°C
Operating	-40 to +70°C
Temperature Range (Riser Series)	
Storage	-40 to +75°C
Operating	-40 to +70°C
Min. Bend Radius	
Installation	20 x OD
Long Term	15 x OD
Optical Specifications	See page 39

Fiber Bundle Detail



Single Jacket, All Dielectric Optical Fiber Cable

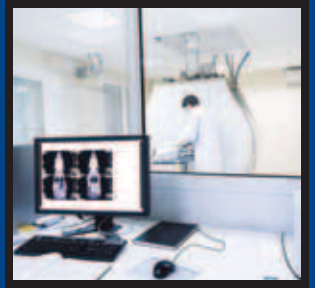
Single Jacket, All Dielectric Cable (continued)

Loose Tube — Outdoor, and Indoor/Outdoor Riser Rated

No. of Fibers	No. of Fibers Per Bundle	Belden Part Number					Outside Diameter		Weight		Max. Install Load	
		OM1 62.5 / 125 µm Std. / 1 Gb	OM2 50 / 125 µm Std. / 1 Gb	OM3 50 / 125 µm 10 Gb – 300 m	OM4 50 / 125 µm 10 Gb – 550 m	OS2 Single-mode Enhanced	Inch	mm	lb/1000 ft	kg/km	lb	N
Loose Tube Series												
Outdoor												
6	6	B9B510T	B9A510T	B9C510T	B9E510T	B9W510T	0.41	10.5	56	84	600	2700
12	12	B9B511T	B9A511T	B9C511T	B9E511T	B9W511T	0.41	10.5	56	84	600	2700
24	12	B9B500T	B9A500T	B9C500T	B9E500T	B9W500T	0.41	10.5	57	85	600	2700
36	12	B9B502T	B9A502T	B9C502T	B9E502T	B9W502T	0.41	10.5	58	86	600	2700
48	12	B9B505T	B9A505T	B9C505T	B9E505T	B9W505T	0.41	10.5	59	87	600	2700
72	12	B9B507T	B9A507T	B9C507T	B9E507T	B9W507T	0.45	11.5	71	106	600	2700
96	12	B9B513T	B9A513T	B9C513T	B9E513T	B9W513T	0.52	13.2	91	136	600	2700
144	12	B9B509T	B9A509T	B9C509T	B9E509T	B9W509T	0.67	17.0	148	220	600	2700
216	12	B9B520T	B9A520T	B9C520T	B9E520T	B9W520T	0.69	17.4	150	224	600	2700
Riser (NEC/CEC OFNR/OFN FT.4) Indoor/Outdoor												
6	6	B9B810	B9A810	B9C810	B9E810	B9W810	0.51	12.9	107	157	600	2700
12	12	B9B811	B9A811	B9C811	B9E811	B9W811	0.51	12.9	108	160	600	2700
24	12	B9B812	B9A812	B9C812	B9E812	B9W812	0.51	12.9	108	161	600	2700
36	12	B9B813	B9A813	B9C813	B9E813	B9W813	0.51	12.9	109	162	600	2700
48	12	B9B814	B9A814	B9C814	B9E814	B9W814	0.51	12.9	110	164	600	2700
72	12	B9B815	B9A815	B9C815	B9E815	B9W815	0.54	13.7	128	190	600	2700
96	12	B9B816	B9A816	B9C816	B9E816	B9W816	0.61	15.5	159	237	600	2700
144	12	B9B817	B9A817	B9C817	B9E817	B9W817	0.76	19.3	243	361	600	2700

Alternative fiber counts are available.

No. of Fibers	No. of Fibers Per Bundle	Belden Part Number					Outside Diameter		Weight		Max. Install Load	
		OM1 62.5 / 125 µm Std. / 1 Gb	OM2 50 / 125 µm Std. / 1 Gb	OM3 50 / 125 µm 10 Gb – 300 m	OM4 50 / 125 µm 10 Gb – 550 m	OS2 Single-mode Enhanced	Inch	mm	lb/1000 ft	kg/km	lb	N
Loose Tube Indoor/Outdoor Fiber Optic Cable												
LSZH (NEC/CEC OFNR/OFN FT.4) Indoor/Outdoor												
6	6	B9B830	B9A830	B9C830	B9E830	B9W830	0.38	9.65	71	105	600	2700
12	12	B9B831	B9A831	B9C831	B9E831	B9W831	0.38	9.65	71	105	600	2700
24	12	B9B832	B9A832	B9C832	B9E832	B9W832	0.38	9.65	71	105	600	2700
36	12	B9B833	B9A833	B9C833	B9E833	B9W833	0.38	9.65	62	92	600	2700
48	12	B9B834	B9A834	B9C834	B9E834	B9W834	0.48	12.18	101	151	600	2700



Single Jacket, All Dielectric Cable

Loose Tube — (Gel-free) Indoor/Outdoor Plenum Rated

Applications

- Medium to high fiber count requirements
- Inter-building duct installations
- Lashed aerial
- Indoor/outdoor
- Campus backbones
- Data Centers
- High Density Cable Trays

Product Description

Dry waterblocking technology used within tubes and under jacket. Available as Plenum rated cable, thereby eliminating the need for service entrance splicing to in-building cable. Small diameter and bend radius facilitate installation in tight spaces. Full dielectric construction, no grounding required. Available with up to 144 fibers. Fibers grouped into sets of 12 for maximum density. Length markings in meters for easy determination of cable length.

Jacket Material	
Non-unitized	Thermoplastic
Unitized	PVDF-Copolymer
Buffer Tube	Thermoplastic
Strength Member	E-Glass and Aramid Yarn
Central Strength Member	Upjacketed
Color Code (Fiber)	Per TIA/EIA 598-B, See page 39
Jacket Color	Black
Functional Requirements of:	
GR-20-CORE	
GR-409-CORE	

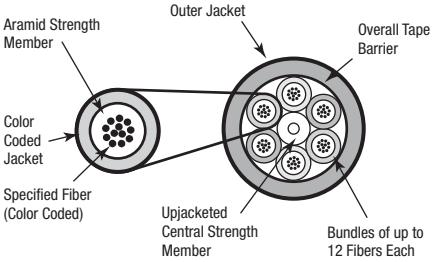
Ratings

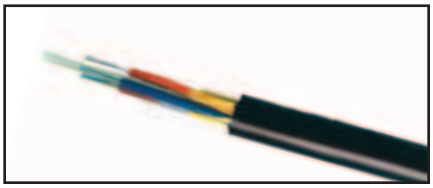
Plenum	
UL Type	OFNP
cUL Type	OFN FT.6
Flame Resistance	NFPA 262
Complies to:	
TIA/EIA-568-C.3	
ICEA S-104-696	

Specifications

Temperature Range	
Storage	-40 to +80°C
Operating	-40 to +70°C
Installation	0 to +60°C
Cyclic Flexing (EIA-455-104)	2000 cycles, min.
Min. Bend Radius	
Installation	20 x OD
Long Term	15 x OD
Optical Specifications	See page 39

Fiber Bundle Detail





Single Jacket, All Dielectric Optical Fiber Cable

No. of Fibers	No. of Fibers Per Bundle	Belden Part Number					Outside Diameter		Weight		Max. Install Load	
		OM1 62.5 / 125 µm Std. / 1 Gb	OM2 50 / 125 µm Std. / 1 Gb	OM3 50 / 125 µm 10 Gb – 300 m	OM4 50 / 125 µm 10 Gb – 550 m	OS2 Single-mode Enhanced	Inch	mm	lb/1000 ft	kg/km	lb	N
Loose Tube Series												
Plenum (NEC/CEC OFNP/OFN FT.6) Indoor/Outdoor												
6	6	**B9B202**	**B9A202**	**B9C202**	**B9E202**	**B9W202**	0.265	6.70	33	49	320	1423
12	12	**B9B204**	**B9A204**	**B9C204**	**B9E204**	**B9W204**	0.265	6.70	33	49	320	1423
24	12	**B9B205**	**B9A205**	**B9C205**	**B9E205**	**B9W205**	0.359	9.12	47	70	405	1801
36	12	**B9B206**	**B9A206**	**B9C206**	**B9E206**	**B9W206**	0.359	9.12	47	70	405	1801
48	12	**B9B207**	**B9A207**	**B9C207**	**B9E207**	**B9W207**	0.359	9.12	48	71	405	1801
72	12	**B9B209**	**B9A209**	**B9C209**	**B9E209**	**B9W209**	0.429	10.90	72	107	600	2700
96	12	**B9B211**	**B9A211**	**B9C211**	**B9E211**	**B9W211**	0.501	12.73	102	152	600	2700
144	12	**B9B215**	**B9A215**	**B9C215**	**B9E215**	**B9W215**	0.665	16.89	191	284	600	2700

Alternative fiber counts and hybrid constructions are available.

Double Jacket, Armored Cable

Loose Tube – Outdoor, and Indoor/Outdoor Riser Rated

Double Jacket Armored Cable

Applications

- Direct burial
- Low to high fiber count requirements
- Inter-building duct installations
- Indoor/outdoor
- Industrial outside plant (OSP Type)

Product Description

Gel-filled buffer tube prevents water migration. Available as Riser rated cable, thereby eliminating the need for service entrance splicing to in-building cable. Rodent resistant. Available in sizes up to 216 fibers. Length markings in meters for easy determination of cable length.

Jacket Material	
Outdoor	PE
Riser	PVC
Buffer Tube	Thermoplastic
Strength Member	Aramid Yarn
Central Strength Member	E-Glass
Armor	Corrugated Steel Tape
Color Code (Buffer)	Per TIA/EIA 598-B, See page 39
Jacket Color	Black

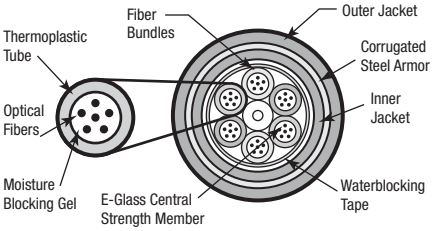
Ratings

Riser	OFCR
Complies to:	
TIA/EIA-568-C.3	
ICEA S-87-640	
Functional Requirements of:	
GR-20-CORE	
GR-409-CORE	

Specifications

Temperature Range (Outdoor)	
Storage	-40 to +75°C
Operating	-40 to +70°C
Temperature Range (Riser)	
Storage	-40 to +80°C
Operating	-40 to +70°C
Min. Bend Radius	
Installation	20 x OD
Long Term	15 x OD
Optical Specifications	See page 39

Fiber Bundle Detail



Double Jacket, Armored Cable (OSP Type) (continued)

Loose Tube – Outdoor, and Indoor/Outdoor Riser Rated

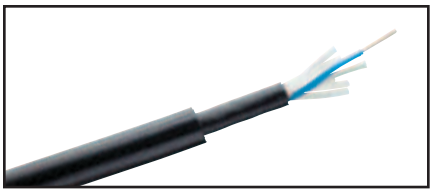
No. of Fibers	No. of Fibers Per Bundle	Belden Part Number					Outside Diameter		Weight		Max. Install Load	
		OM1 62.5 / 125 µm Std. / 1 Gb	OM2 50 / 125 µm Std. / 1 Gb	OM3 50 / 125 µm 10 Gb – 300 m	OM4 50 / 125 µm 10 Gb – 550 m	OS2 Single-mode Enhanced	Inch	mm	lb/1000 ft	kg/km	lb	N
Loose Tube Series — Armored												
Outdoor												
6	6	**B9B381T**	**B9A381T**	**B9C381T**	**B9E381T**	**B9W381T**	0.62	15.5	134	200	600	2670
12	12	**B9B382T**	**B9A382T**	**B9C382T**	**B9E382T**	**B9W382T**	0.62	15.5	134	200	600	2670
24	12	**B9B384T**	**B9A384T**	**B9C384T**	**B9E384T**	**B9W384T**	0.62	15.5	134	200	600	2670
36	12	**B9B386T**	**B9A386T**	**B9C386T**	**B9E386T**	**B9W386T**	0.62	15.5	134	200	600	2670
48	12	**B9B389T**	**B9A389T**	**B9C389T**	**B9E389T**	**B9W389T**	0.62	15.5	134	200	600	2670
72	12	**B9B391T**	**B9A391T**	**B9C391T**	**B9E391T**	**B9W391T**	0.65	16.4	138	206	600	2670
96	12	**B9B398T**	**B9A398T**	**B9C398T**	**B9E398T**	**B9W398T**	0.72	18.2	170	254	600	2670
144	12	**B9B393T**	**B9A393T**	**B9C393T**	**B9E393T**	**B9W393T**	0.90	22.9	259	385	600	2670
Riser (NEC/CEC OFCR/OFC FT.4) Indoor/Outdoor												
6	6	**B9B890**	**B9A890**	**B9C890**	**B9E890**	**B9W890**	0.54	13.7	138	205	600	2700
12	12	**B9B891**	**B9A891**	**B9C891**	**B9E891**	**B9W891**	0.54	13.7	138	205	600	2700
24	12	**B9B892**	**B9A892**	**B9C892**	**B9E892**	**B9W892**	0.54	13.7	138	205	600	2700
36	12	**B9B893**	**B9A893**	**B9C893**	**B9E893**	**B9W893**	0.54	13.7	138	205	600	2700
48	12	**B9B894**	**B9A894**	**B9C894**	**B9E894**	**B9W894**	0.66	16.8	176	262	600	2700
72	12	**B9B895**	**B9A895**	**B9C895**	**B9E895**	**B9W895**	0.66	16.8	172	256	600	2700
96	12	**B9B896**	**B9A896**	**B9C896**	**B9E896**	**B9W896**	0.70	17.8	206	307	600	2700
144	12	**B9B897**	**B9A897**	**B9C897**	**B9E897**	**B9W897**	0.88	22.4	302	449	600	2700

Additional armor/jacket configurations are available including Single and Triple jacket with armor.

Armor types include steel/aluminum corrugated, steel/aluminum interlock, and glass yarn rodent resistant.

Double Jacket, Heavy-Duty Cable

Loose Tube — Outdoor



Double Jacket Heavy-Duty Cable

Applications

- Direct burial
- Harsh environments
- Applications requiring good ozone-, moisture- and weather-resistance

Product Description

Gel-filled buffer tube prevents water migration. Available with up to 216 fibers.

Jacket Material	
Outer Jacket:	PE
Inner Jacket:	PE
Buffer Tube	PBT
Strength Member	Aramid Yarn
Central Strength Member	E-Glass
Core Wrap	Water Swellable Tape
Color Code (Buffer)	Per TIA/EIA 598-B, See page 39
Jacket Color	Black

Ratings

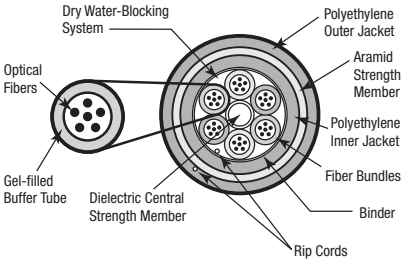
Complies to:
TIA/EIA-568-C.3
ICEA S-87-640

Functional Requirements of:
GR-20-CORE

Specifications

Temperature Range	
Storage	-40 to +75°C
Operating	-40 to +70°C
Min. Bend Radius	
Installation	20 x OD
Long Term	15 x OD
Optical Specifications	See page 39

Fiber Bundle Detail



No. of Fibers	No. of Fibers Per Bundle	Belden Part Number					Outside Diameter		Weight		Max. Install Load	
		OM1 62.5 / 125 µm Std. / 1 Gb	OM2 50 / 125 µm Std. / 1 Gb	OM3 50 / 125 µm 10 Gb – 300 m	OM4 50 / 125 µm 10 Gb – 550 m	OS2 Single-mode Enhanced	Inch	mm	lb/1000 ft	kg/km	lb	N
Loose Tube Series — Heavy Duty												
Outdoor												
2	2	B9B840	B9A840	B9C840	B9E840	B9W840	0.49	12.5	84	125	600	2700
4	4	B9B841	B9A841	B9C841	B9E841	B9W841	0.49	12.5	84	125	600	2700
6	6	B9B842	B9A842	B9C842	B9E842	B9W842	0.49	12.5	84	125	600	2700
12	12	B9B844	B9A844	B9C844	B9E844	B9W844	0.49	12.5	84	125	600	2700
18	12	B9B845	B9A845	B9C845	B9E845	B9W845	0.49	12.5	84	125	600	2700
24	12	B9B846	B9A846	B9C846	B9E846	B9W846	0.49	12.5	84	125	600	2700
36	12	B9B847	B9A847	B9C847	B9E847	B9W847	0.49	12.5	84	125	600	2700
48	12	B9B848	B9A848	B9C848	B9E848	B9W848	0.49	12.5	84	125	600	2700
72	12	B9B849	B9A849	B9C849	B9E849	B9W849	0.53	13.4	97	144	600	2700
96	12	B9B820	B9A820	B9C820	B9E820	B9W820	0.60	15.2	121	180	600	2700
144	12	B9B821	B9A821	B9C821	B9E821	B9W821	0.75	19.0	184	274	600	2700
216	12	B9B822	B9A822	B9C822	B9E822	B9W822	0.76	19.3	187	273	600	2700

Central Tube Cable

Loose Tube — Outdoor, and Outdoor Armored

Applications

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

Product Description

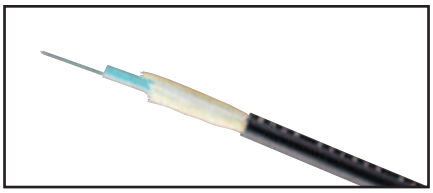
Economical option for low fiber counts. Quick and easy end preparation. Fully waterblocked with gel-filled buffer tube. No rods – easy handling. Crush, impact and abrasion resistant.

Jacket Material	PE
Buffer Tube	PBT
Core Wrap	Water Swellable Tape
Strength Member	Fiberglass
Armor	Corrugated Steel
Color Codes (Jacket and Fibers)	Per TIA/EIA 598-B, See page 39
Jacket Color	Black

Functional Requirements of:
GR-20-CORE

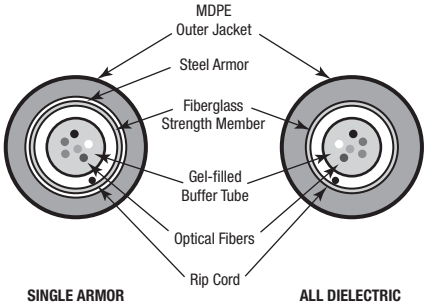
Specifications

Temperature Range	
Storage	-40 to +75°C
Operating	-40 to +70°C
Min. Bend Radius	
Installation	20 x OD
Long Term	15 x OD
Optical Specifications	See page 39



Outdoor Loose Tube Cable

Fiber Bundle Detail



No. of Fibers	Belden Part Number					Outside Diameter		Weight		Max. Install Load	
	OM1 62.5 / 125 µm Std. / 1 Gb	OM2 50 / 125 µm Std. / 1 Gb	OM3 50 / 125 µm 10 Gb – 300 m	OM4 50 / 125 µm 10 Gb – 550 m	OS2 Single-mode Enhanced	Inch	mm	lb/1000 ft	kg/km	lb	N
Central Tube Series											
Outdoor											
2	B9B150	B9A150	B9C150	B9E150	B9W150	0.31	7.8	34	50	600	2700
4	B9B151	B9A151	B9C151	B9E151	B9W151	0.31	7.8	34	50	600	2700
6	B9B152	B9A152	B9C152	B9E152	B9W152	0.31	7.8	34	50	600	2700
8	B9B153	B9A153	B9C153	B9E153	B9W153	0.31	7.8	34	50	600	2700
10	B9B154	B9A154	B9C154	B9E154	B9W154	0.31	7.8	34	50	600	2700
12	B9B155	B9A155	B9C155	B9E155	B9W155	0.31	7.8	34	50	600	2700
24	B9B159	B9A159	B9C159	B9E159	B9W159	0.31	7.8	34	50	600	2700
Outdoor Armored											
2	B9B170	B9A170	B9C170	B9E170	B9W170	0.48	12.2	95	140	600	2700
4	B9B171	B9A171	B9C171	B9E171	B9W171	0.48	12.2	95	140	600	2700
6	B9B172	B9A172	B9C172	B9E172	B9W172	0.48	12.2	95	140	600	2700
8	B9B173	B9A173	B9C173	B9E173	B9W173	0.48	12.2	95	140	600	2700
10	B9B174	B9A174	B9C174	B9E174	B9W174	0.48	12.2	95	140	600	2700
12	B9B175	B9A175	B9C175	B9E175	B9W175	0.48	12.2	95	140	600	2700
24	B9B179	B9A179	B9C179	B9E179	B9W179	0.48	12.2	95	140	600	2700

TrayOptic® Industrial, Heavy-Duty, All Dielectric Cable

Loose Tube — Indoor/Outdoor Riser Rated

Tray Optic Cable

Applications

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

Product Description

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.

Jacket Material	PVC or CPE
Strength Member	Aramid Yarn
Jacket Color	
Single-mode	Yellow
62.5/125 µm	Orange
50/125 µm / 1 Gb	Orange
50/125 µm / 10 Gb	Aqua

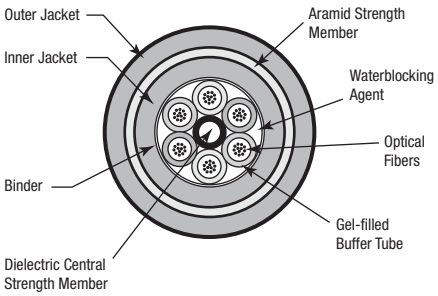
Ratings

Riser	
UL Type	OFNR
cUL Type	OFN FT.4
Flame Resistance	IEEE 1202 / 383-2003
Complies to:	
TIA/EIA-568-C.3	
ICEA S-104-696	
Functional Requirements of:	
GR-20-CORE	
GR-409-CORE	

Specifications

Temperature Range	
Storage	-40 to +70°C
Operating	-40 to +70°C
Crush Resistance (EIA-455-41)	2000 N/cm
Impact Resistance (EIA-455-25)	2000 impacts @ 1.6N-m
Cyclic Flexing (EIA-455-104)	25 cycles, 12 lbs., 20 x OD radius min.
Min. Bend Radius	
Installation	20 x OD
Long Term	15 x OD
Maximum Installation Load	600 lbs. (2700 N)
Optical Specifications	See page 39

Fiber Bundle Detail



TrayOptic® Industrial, Heavy-Duty, All Dielectric Cable (continued)

Loose Tube — Indoor/Outdoor Riser Rated

No. of Fibers	No. of Fibers Per Bundle	Belden Part Number					Outside Diameter		Weight		Max. Install Load	
		OM1 62.5 / 125 µm Std. / 1 Gb	OM2 50 / 125 µm Std. / 1 Gb	OM3 50 / 125 µm 10 Gb – 300 m	OM4 50 / 125 µm 10 Gb – 550 m	OS2 Single-mode Enhanced	Inch	mm	lb/1000 ft	kg/km	lb	N
TrayOptic Series												
Riser (NEC/CEC OFNR/OFN FT.4) PVC Jacket Indoor/Outdoor												
2	2	I100255	I1A0255	I1C0255	I1E0255	I1W0255	0.43	11.00	92	136	600	2700
4	4	I100455	I1A0455	I1C0455	I1E0455	I1W0455	0.43	11.00	92	136	600	2700
6	6	I100655	I1A0655	I1C0655	I1E0655	I1W0655	0.43	11.00	92	136	600	2700
8	4	I400855	I4A0855	I4C0855	I4E0855	I4W0855	0.43	11.00	92	136	600	2700
12	6	I601255	I6A1255	I6C1255	I6E1255	I6W1255	0.43	11.00	92	136	600	2700
18	6	I601855	I6A1855	I6C1855	I6E1855	I6W1855	0.43	11.00	92	136	600	2700
24	6	I602455	I6A2455	I6C2455	I6E2455	I6W2455	0.43	11.00	92	136	600	2700
36	6	I603655	I6A3655	I6C3655	I6E3655	I6W3655	0.43	11.00	92	136	600	2700
48	12	I604855	I6A4855	I6C4855	I6E4855	I6W4855	0.54	13.72	128	186	600	2700
60	12	I606055	I6A6055	I6C6055	I6E6055	I6W6055	0.54	13.72	128	186	600	2700
72	12	I607255	I6A7255	I6C7255	I6E7255	I6W7255	0.54	13.72	128	186	600	2700
Riser (NEC/CEC OFNR/OFN FT.4) CPE Jacket Indoor/Outdoor												
2	2	I100266	I1A0266	I1C0266	I1E0266	I1W0266	0.43	10.90	89	124	600	2700
4	4	I100466	I1A0466	I1C0466	I1E0466	I1W0466	0.43	10.90	89	124	600	2700
6	6	I100666	I1A0666	I1C0666	I1E0666	I1W0666	0.43	10.90	89	124	600	2700
8	4	I400866	I4A0866	I4C0866	I4E0866	I4W0866	0.43	10.90	89	124	600	2700
12	6	I601266	I6A1266	I6C1266	I6E1266	I6W1266	0.43	10.90	89	124	600	2700
18	6	I601866	I6A1866	I6C1866	I6E1866	I6W1866	0.43	10.90	89	124	600	2700
24	6	I602466	I6A2466	I6C2466	I6E2466	I6W2466	0.43	10.90	89	124	600	2700
36	6	I603666	I6A3666	I6C3666	I6E3666	I6W3666	0.43	10.90	89	124	600	2700
48	12	I604866	I6A4866	I6C4866	I6E4866	I6W4866	0.54	13.72	125	192	600	2700
60	12	I606066	I6A6066	I6C6066	I6E6066	I6W6066	0.54	13.72	125	192	600	2700
72	12	I607266	I6A7266	I6C7266	I6E7266	I6W7266	0.54	13.72	125	192	600	2700

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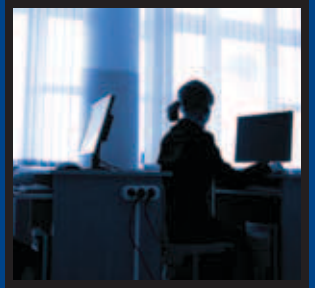

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