

## Belden® Optical Fiber Catalog



**Belden FiberExpress®  
Systems, Cable and  
Connectivity**

Belden FiberExpress Systems  
are the definitive choice for all  
your optical fiber needs.

**Our focus on quality and detail  
ensures a solid return on your  
fiber cabling investment.**





## Preparing for the Future with Belden FiberExpress Solutions

Belden has been involved in the development of optical fiber components since 1972 – evolving to its present status as an international supplier of high quality, cost-effective optical fiber cabling systems.

The FiberExpress Solution is the culmination of Belden's experience in the optical fiber arena, offering users a complete, high-performance, end-to-end cabling system that supports both centralized and fiber-to-the desk (FTTD) topologies, as well as in-building or campus backbone cabling configurations.

The FiberExpress Solution is, however, much more than an assemblage of top-performing products. It represents a complete approach to the methodology of fiber optic cabling, i.e., FiberExpress systems are unique in their ability to offer both superior performance and a more cost effective, speedier and less complex installation process than traditional fiber optic cabling systems.

Belden developed the FiberExpress Solution to assure the smooth operation of your network and to provide for efficient network management – while continually reducing your total cost of ownership and preparing your system for the future.

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## Offering Three Outstanding, Cost Effective Solutions

FiberExpress solutions are for fiber-to-the-desk or centralized cabling applications and the backbone infrastructure. FiberExpress Pre-Terminated systems are the ultimate solution for quick, easy, and reliable installations.

FiberExpress Solutions consist of a full range of multimode and single-mode cables, connectivity hardware, patch cords, cable assemblies, field connectors and a number of work area outlets. These solutions are characterized as fiber-to-the-desk systems, pre-terminated systems and in-building or campus backbone systems.

### FiberExpress Pre-terminated Systems

The ultimate in quick, easy and reliable optical networking is the FiberExpress Pre-term System. All components are factory connectorized and fully tested to ensure fast deployment and tremendous reliability. This flexible solution can be deployed for traditional LAN systems, as well as in specialized applications such as Data Centers and Storage Area Networks.

The FiberExpress Pre-term System is also well-suited for temporary situations, such as disaster recovery installations or convention center services.

### FiberExpress Backbone Systems

In today's environment, cabling network backbones are typically designed using a combination of both multimode and single-mode fiber cables. Configuring the right fiber backbone for your unique premise or campus application is a complex process. An inadequate or improperly installed network backbone can severely limit overall network performance and, therefore, your business's productivity and efficiency. Fortunately, selecting the right fiber backbone cabling solution is comparatively easy when you specify Belden FiberExpress Systems.

Many factors will influence the design of your specific optical fiber backbone infrastructure and the appropriate mix of single-mode and multimode fiber products and technologies.

### FiberExpress Fiber-to-the-desk (FTTD) Systems

Whether for horizontal distribution or centralized cabling, FiberExpress solutions include a wide range of products such as work area outlets and large-capacity fiber management products designed to make FTTD applications a cost effective reality.





## Key Design Criteria

### Capacity and Topology Planning

#### Deployed Belden Horizontal UTP Systems

The role of the network backbone is to support the deployed or planned horizontal cabling system. Higher bandwidth horizontal systems, such as Belden's IBDN® System 10GX® or 4800, may indicate use of single-mode fiber in the backbone for superior overall network performance.

#### Horizontal to Backbone Data Rate Ratio

Traditional design guidelines use a 1:10 data rate ratio; indicating, for example, that when 1 Gb/s applications such as 1000BASE-T Ethernet are operating across the horizontal, the backbone should be capable of supporting throughputs of 10 Gb/s or more.

#### Distances and Topologies

The effective capacities of single-mode and multimode fiber channels have distance limitations. Generally speaking, single-mode fiber channels can operate at greater speeds over greater distances than multimode fiber channels. Distance considerations will be important criteria in campus or MAN backbone design, and must also be considered for in-building backbones and "centralized fiber network" topologies.

#### Return on Investment

#### Legacy Networks and Active Equipment

We seldom have the luxury of designing and deploying networks with a "clean slate" and accommodating existing cabling infrastructures and active equipment must be factored into backbone design considerations and may affect the single-mode/multimode mix.

#### Cost of Ownership

At first glance, fiber channels are typically more expensive than UTP channels; while single-mode fiber channels are typically more expensive than multimode channels. But, cost must always be considered in the context of performance, features and benefits – and ultimately in terms of "value."

#### Future-proofing

Cabling infrastructure design must consider not just current requirements, but also future growth, capacity and new applications. The same is true with fiber backbone planning and design. A marginal increase in investment today can extend the operational lifespan of your backbone, thereby increasing the return on your backbone networking investment.

Fiber Channel Topology					
Belden FiberExpress System Matrix	Page No.	Fiber Backbone (Field Terminated Campus)	Fiber Backbone (Field Terminated In-Building)	Fiber Pre-Terminated Solutions	Fiber-To-The-Desk (FTTD) and Centralized Fiber
<b>FiberExpress Cables</b>					
Breakout & Distribution Cable Series: MM & SM	41-47	●	●	●	●
Interconnect Cable Series: MM & SM	40				●
Loose Tube (Campus) Cable Series: MM & SM	48-55		●	●	●
MPO Cable Assemblies: MM & SM	12	●	●	●	●
<b>Cross-Connect Hardware in the Telecom Room</b>					
FiberExpress Ultra Patch Panel with Adapter Modules and Cassettes: MM & SM	15-21	●	●	●	●
FiberExpress Manager with FiberExpress Manager Connector Modules: MM & SM	22-23	●	●	●	●
FiberExpress Rack- and Wall-mount Patch Panel with Universal Adapter Strips: MM & SM	24-27	●	●		●
FiberExpress Bar: MM & SM	14	●	●	●	●
<b>Patch Cords in the Telecom Room and at the Work Area</b>					
FiberExpress Patch Cords: MM & SM	11	●	●	●	●
<b>Outlets at the Work Area</b>					
MDVO Multimedia Outlets with MDVO Multimedia Modules	38				●
MediaFlex® Outlets with MediaFlex Multimedia Inserts	37				●
<b>Fiber Connectivity</b>					
Optimax® Connectors: MM & SM	8-9	●	●		●
Epoxy Field-mountable Connectors: MM & SM	10	●	●		●
Fiber Pigtails: MM & SM	11	●	●		●

MM = Multimode • SM = Single-mode

\* FiberExpress Pre-terminated Solutions provide simple-to-install, high-performance fiber channels through custom length, high precision factory terminated cables and matching optical connectivity components.

For more design details, please refer to the IBDN Optical Fiber Design Guide.

## Top-Quality, Field-proven Products Make the Difference

Every Belden  
FiberExpress product  
reflects our attention  
to quality and detail, and  
our commitment to you.

Belden FiberExpress components have over 20 years of field-proven telecommunications experience behind them. These products are designed with the same focus on quality and detail found in our complete Belden product line.

### FiberExpress Ultra Patch Panel System



The FiberExpress Ultra Patch Panel System is a highly innovative

fiber patching solution that ensures the utmost reliability and ease of use during installation, operation and maintenance. The system also provides the highest density fiber patching available today, enabling the conservation of valuable IT real estate and the ability to save on installation and maintenance labor costs.

It is available in both 1U and 4U designs, using LC or other Small Form Factor (SFF) connectors. It has dual swing-out frames to ease front access to connectors; 1" pull-out of individual adapter modules for connector maintenance or replacement; full rear access for easy maintenance; and built-in cable management features that facilitate connector and patch cord identification and built-in protection, as well as providing for intuitive cable routing. Wall-mount and Splice Enclosures are also available.

### FiberExpress Manager



The FiberExpress Manager is a modular system that facilitates management of large numbers of high-density, in-building terminations. The FiberExpress Manager allows up to 1920 single-mode or multimode fiber terminations in a single rack.

The FiberExpress Manager's connector module supports LC, SC, SC Duplex, ST Type, FC and MT-RJ connectors. Its innovative release mechanism allows it to slide from the shelf like a PC card, greatly facilitating management of the patch cords.

### FiberExpress Patch Panel System



FiberExpress Patch Panels can be used with tight-buffered or loose-tube optical fiber cables. Since these panels are versatile, they can be tailored to suit your individual

needs in terms of density or management.

Patch Panels are populated with Universal Adapter Strips which are pre-loaded with six (single density) or 12 (double density) adapter sleeves. The sleeves are offered in two different materials: Phosphor Bronze and Zirconia Ceramic and accommodate LC, SC, SC Duplex, ST Type, FC and MT-RJ connectors.

### Optimax Field-installable Connectors



The Optimax Connector is a field-installable optical fiber connector that requires no epoxy and no polishing. The unique design of the

patented mechanical splice body incorporates a factory-mounted fiber stub and a pre-polished ceramic ferrule. This technology provides a fast, secure and reliable LC, SC or ST Type optical fiber termination for either multimode or single-mode cable.

### Belden Fiber Cables



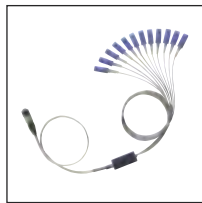
A variety of multimode and single-mode optical fiber cables are available for in-building and inter-building applications, including the following types: distribution, breakout, interconnect, loose tube and industrial armored.



### FiberExpress Cable Assemblies



FiberExpress MPO Cable Assemblies have multi-fiber cables using single MPO connectors (6, 8 and 12 fiber) that are used to interconnect pre-terminated FiberExpress Ultra Cassettes, FiberExpress Manager Connector Modules and FiberExpress Bars.



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

The range of fan-out constructions, lengths and geometry suit virtually any application.



The FiberExpress Bar is an extremely compact, versatile and resilient linking panel. Resembling a power bar, it offers 6 or 12 fibers, pre-terminated with LC, SC, SC Duplex, ST Type, FC or MTRJ connectors and a cord terminated with a multi-fiber MPO connector. These factory-tested mini patch panels can adapt to all kinds of properties or developments, is easily re-deployable and can serve as a consolidation or linking point.

### FiberExpress Patch Cords



FiberExpress Patch Cord assemblies are of the highest quality available. They are assembled and 100% optically tested in the factory prior to shipment.

### Need an Even More Secure Infrastructure?

The FiberExpress Secure/Keyed LC System is designed to bring a whole new level of security into your network infrastructure design by enabling the physical segregation of any network segments that you designate.

- Connectors and adapters with 12 color-coded keying options
- A tamper-resistant key design (front and back to prevent intruder access) which cannot be reproduced inside a standard LC connector



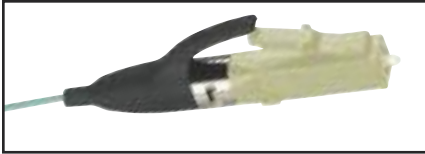
- High-quality ceramic ferrules for low insertion loss and excellent durability



Start designing your own **FiberExpress Solution** by selecting from the products featured in the following pages.

## FiberExpress Connectors

Optimax Field Installable Connectors and Installation Tool Kits



AX101982, Optimax LC Connector



AX100029 with AX101794 Optimax SC Connector



A0408835 with AX101793 Optimax ST Type Connector



AX103142, Optimax Enhanced Tool Kit

### Optimax Field Installable Connector

The Optimax Connectors are the connector of choice for high-speed optical networks such as 10-Gigabit Ethernet. It is also the industry's best solution to the challenges of field connectorization of optical fiber networks. Optimax Connectors do not require epoxy, curing or polishing. Their unique design incorporates a factory-mounted fiber stub and a premium quality, zirconia ceramic ferrule with a physical contact (PC) polish for multimode and a super physical contact (SPC) polish for single-mode. The quality of the ferrule construction ensures the connector's low loss, low reflectance characteristics and its suitability for high-bandwidth optical transmissions.

Connectors are available for 62.5 or 50/125  $\mu\text{m}$  multimode fiber 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 Type installation and training video, installation instructions and all the tools required to terminate 900  $\mu\text{m}$  buffered optical fiber and jacketed optical fiber.

Belden has simplified the Kit's Installation Tool components, added an Installation Tool table-top base and reduced the number of manuals with a "three-in-one" version for LC/SC/ST connectors types. Certain tool kit items can be purchased separately to accommodate installers already possessing basic optical fiber installation tools.

Description	Belden Part Number
<b>FiberExpress Connectors</b>	
<b>Optimax Field Installable Connector</b>	
LC 62.5 $\mu\text{m}$ , Multimode*	AX101981
LC 50 $\mu\text{m}$ , Multimode*	AX101982
LC Single-mode*	AX101983
SC 62.5 $\mu\text{m}$ , Multimode*	AX100029
SC 50 $\mu\text{m}$ , Multimode*	AX101077
SC Single-mode*	AX101792
ST Type 62.5 $\mu\text{m}$ , Multimode*	A0408835
ST Type 50 $\mu\text{m}$ , Multimode*	AX101075
ST Type Single-mode*	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  $\mu\text{m}$  buffered fiber only. For termination on jacketed fiber, please use the appropriate Accessory Kit.



## FiberExpress Connectors

Optimax Field Installable Connectors and Installation Tool Kits (continued)

Description	Belden Part Number
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### FiberExpress Connectors

#### Optimax Enhanced Tool Kit

LC/SC/ST Type (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
Basic (excludes universal fiber/cable stripper & cleaver)	AX103146
Optimax Enhanced Tool Kit Upgrade (includes new installation tool and inserts, tool table-top base, instructions manual, foam for the case)	AX103147

#### Optimax Individual Components

Fiber Cleaver	A0408829
Universal Installation Tool LC/SC/ST (includes inserts, tool, tool clamp)	AX103152
Installation Tool Table-top Base	AX103153
Microscope	AX100910
Refurbishing Materials (80 alcohol wipes and a black felt tip marker)	AX100951
Installation Instruction Manual (LC, SC, ST)	AX103148
Installation & Training Video, CD (see literature ordering form on the web)	NOT0651
Crimp Tool (complete with die)	A0403641
Cleaver's Ceramic Blade Replacement	AX103149
Cleaver's Leaf Spring Base plate replacement	AX103150

### 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  $\mu\text{m}$  tubes that hold each of the coated fibers. For each end of the cable, one kit

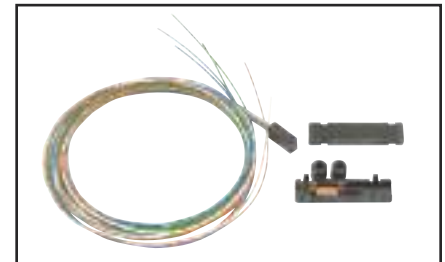
is needed for every tube. For example, a 12-fiber 62.5  $\mu\text{m}$  cable contains two 6-fiber tubes. This cable would require four kits, two for each end.

Description	Belden Part Number
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### FiberExpress Accessories

#### Optical Fiber Field Breakout Kit

6 fibers, 1/pack	AX101100
12 fibers, 1/pack	AX101101



AX101100, Field Breakout Kit

**FiberExpress Connectors**  
Epoxy Field Installable Connectors



A0390851, Optical Fiber Field Installable Epoxy Connector, ST Type

**Epoxy Field Installable Connectors**

Epoxy Field Installable Connectors are available as Multimode and Single-mode ST Type, SC and LC field installable connectors. They require heat-cured epoxy and polishing.

All connectors have a ceramic ferrule. ST and SC connectors come complete with all the parts necessary for termination of tight buffered fibers as well as jacketed fibers. LC connectors can be terminated on 900 μm tight buffered fiber only. Parts include crimp sleeves, boots, cord adapter and dust cap.

Description	Belden Part Number	
	Multimode	Single-mode
<b>FiberExpress Connectors</b>		
<b>Epoxy Field Installable Connector</b>		
ST Type	A0390851	AX101412
SC Simplex	AX100919	AX101411
SC Duplex	AX100929	
LC Simplex	AC301184	AC300580

Note: If you require information on heat cured epoxy polishing kits, please contact Belden's Technical Support at [ibdn.ts@belden.com](mailto:ibdn.ts@belden.com).

## FiberExpress Pre-Connectorized Assemblies

### FiberExpress Patch Cords

#### FiberExpress Patch Cords

FiberExpress Patch Cord Assemblies are of the highest quality available. They are assembled and 100% optically tested in our factory prior

to shipment. All patch cords are built with high-quality connectors and cables which guarantees superior performance and excellent reliability.



AX200664, Patch Cord LC Duplex

Description	Belden Part Number			
	Multimode, OM1, 62.5 μm	Multimode, OM2, 50 μm	Multimode, OM3, 50 μm	Single-mode Enhanced, OS2

#### FiberExpress Pre-Connectorized Assemblies

Duplex Patch Cord				
ST-ST, 2 m (6 ft.)	70102419	AX200341	AX200799	AX200090
ST-ST, 3 m (10 ft.)	70102420	AX200459	AX200795	AX200091
ST-ST, 5 m (16 ft.)	70102447	AX200413	AX200800	AX200092
568SC-568SC, 2 m (6 ft.)	AX200056	AX200084	AX200603	AX200094
568SC-568SC, 3 m (10 ft.)	AX200057	AX200082	AX200589	AX200095
568SC-568SC, 5 m (16 ft.)	AX200058	AX200280	AX200624	AX200096
LC Duplex-LC Duplex, 2 m (6 ft.)	AX200517	AX200527	AX200664	AX200507
LC Duplex-LC Duplex, 3 m (10 ft.)	AX200518	AX200528	AX200665	AX200508
LC Duplex-LC Duplex, 5 m (16 ft.)	AX200519	AX200529	AX200666	AX200509
MT-RJ-MT-RJ, 2 m (6 ft.)	AX101122	AX101139	AX200801	AX101157
MT-RJ-MT-RJ, 3 m (10 ft.)	AX101123	AX101138	AX200802	AX101156
MT-RJ-MT-RJ, 5 m (16 ft.)	AX101125	AX101137	AX200803	AX101155
Hybrid Patch Cord				
568SC-ST, 3 m (10 ft.)	AX200060	AX200196	AX200900	AX200421
LC Duplex-ST, 3 m (10 ft.)	AX200699	AX200695	AX200809	AX200698
LC Duplex-568SC, 3 m (10 ft.)	AX200580	AX200581	AX200668	AX200667
MT-RJ-ST, 3 m (10 ft.)	AX101133	AX101151	AX200810	AX101166
MT-RJ-568SC, 3 m (10 ft.)	AX101128	AX101143	AX200797	AX101161
Single-ended (pigtails)				
ST-open, 2 m (6 ft.)	70100390	AX200458	AX200811	AX200097
SC-open, 2 m (6 ft.)	70101714	AX200192	AX200653	AX200098
LC-open, 2 m (6 ft.)	AX200657	AX200658	AX200660	AX200659
MT-RJ(m)-open, 3 m (10 ft.)	AX101366	AX101367	AX200812	AX101368

Also available as Simplex and Hybrid Patch Cords or as custom lengths and assemblies, please contact Customer Service for more details.

## FiberExpress Pre-Connectorized Assemblies

### Cable Assemblies



AX250105, MPO Cable Assembly

#### MPO Cable Assemblies

MPO Cable Assemblies are multi-fiber cables using single MPO connectors (6, 8 and 12 fiber) that are used to interconnect pre-terminated devices such as FiberExpress Pre-terminated Modules and FiberExpress Bars. Depending on the application, MPO Cable Assemblies can use Ribbon cables or Loose Tube cables. MPO cables are available in lengths of up to 500 meters with a pulling-eye for ease of deployment.

#### Multi-fiber Cable Assemblies

Multi-fiber Cable Assemblies are factory-terminated fiber cables of various constructions (distribution, breakout or ribbon) using Simplex, Duplex or Multi-fiber connectors. They are available in configurations from 2 fibers up to 144 fibers with various kinds of fan-out constructions, lengths and geometry to suit virtually any application.



Multi-fiber Cable Assembly

Description	Belden Part Number	
	Multimode, OM1, 62.5 μm	Multimode, OM2, 50 μm

#### FiberExpress Pre-Connectorized Assemblies

MPO Cable Assembly, FOMC, MPO(f)-MPO(f)		
1 pulling eye, OFNP, 12 fibers, 10 m (33 ft.)	AX250021	AX250345
1 pulling eye, OFNP, 12 fibers, 20 m (66 ft.)	AX250105	AX250376
1 pulling eye, OFNP, 12 fibers, 50 m (164 ft.)	AX250349	AX250065
1 pulling eye, OFNP, 12 fibers, 75 m (246 ft.)	AX250060	AX250066
1 pulling eye, OFNP, 12 fibers, 100 m (328 ft.)	AX250061	AX250067
	Multimode, OM3, 50 μm	Single-mode Enhanced, OS2
1 pulling eye, OFNP, 12 fibers, 10 m (33 ft.)	AX250457	AX250224
1 pulling eye, OFNP, 12 fibers, 20 m (66 ft.)	AX250412	AX250106
1 pulling eye, OFNP, 12 fibers, 50 m (164 ft.)	AX250387	AX250071
1 pulling eye, OFNP, 12 fibers, 75 m (246 ft.)	AX250413	AX250072
1 pulling eye, OFNP, 12 fibers, 100 m (328 ft.)	AX250458	AX250073

Also available in 6 or 8-fiber MPO Cable Assemblies, please contact Customer Service for more details.



900 μm Fan-out Assembly



## FiberExpress Pre-Connectorized Assemblies

Cable Assemblies (continued)

Description	Belden Part Number
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### FiberExpress Pre-Connectorized Assemblies

#### Multi-fiber Cable Assembly, MPO(m)-SC

Multimode OM1, 62.5 $\mu$ m, 12 fibers, 1.5 m (5 ft.)	NXC-RPML-PGPNNN-SCPFBN-N-01.5
Multimode OM2, 50 $\mu$ m, 12 fibers, 1.5 m (5 ft.)	NXC-RPNL-PGPNNN-SCPFBN-N-01.5
Multimode OM3, 50 $\mu$ m, 12 fibers, 1.5 m (5 ft.)	NXC-RPFL-PGPNNN-SCPFBN-N-01.5
Single-mode Enhanced, OS2, 12 fibers, 1.5 m (5 ft.)	NXC-RPSL-PGANNN-SCSFBN-N-01.5

#### Multi-fiber Cable Assembly, MPO(m)-LC

Multimode, OM1, 62.5 $\mu$ m, 12 fibers, 1.5 m (5 ft.)	NXC-RPML-PGPNNN-LCPFBN-N-01.5
Multimode OM2, 50 $\mu$ m, 12 fibers, 1.5 m (5 ft.)	NXC-RPNL-PGPNNN-LCPFBN-N-01.5
Multimode OM3, 50 $\mu$ m, 12 fibers, 1.5 m (5 ft.)	NXC-RPFL-PGPNNN-LCPFBN-N-01.5
Single-mode Enhanced, OS2, 12 fibers, 1.5 m (5 ft.)	NXC-RPSL-PGANNN-LCSFBN-N-01.5

#### Multi-plex Cable Assembly, LCD-LCD

Multimode, OM3, 50 $\mu$ m, OFNP, 12 fibers, 10 m (33 ft.)	NXC-MPFL-LDPFEN-LDPFEN-O-0010
Multimode, OM3, 50 $\mu$ m, OFNP, 24 fibers, 10 m (33 ft.)	NXC-MPFX-LDPFEN-LDPFEN-O-0010
Multimode, OM3, 50 $\mu$ m, OFNR, 12 fibers, 10 m (33 ft.)	NXC-MRFL-LDPFEN-LDPFEN-O-0010
Multimode, OM3, 50 $\mu$ m, OFNR, 24 fibers, 10 m (33 ft.)	NXC-MRFX-LDPFEN-LDPFEN-O-0010
Single-mode Enhanced, OS2, OFNP, 12 fibers, 10 m (33 ft.)	NXC-MPSL-LDUFEN-LDUFEN-O-0010
Single-mode Enhanced, OS2, OFNP, 24 fibers, 10 m (33 ft.)	NXC-MPSX-LDUFEN-LDUFEN-O-0010
Single-mode Enhanced, OS2, OFNR, 12 fibers, 10 m (33 ft.)	NXC-MRSL-LDUFEN-LDUFEN-O-0010
Single-mode Enhanced, OS2, OFNR, 24 fibers, 10 m (33 ft.)	NXC-MRSX-LDUFEN-LDUFEN-O-0010

Note: For front of panel connections.

#### Multi-plex Cable Assembly, LC-LC

Multimode, OM3, 50 $\mu$ m, OFNP, 12 fibers, 10 m (33 ft.)	NXC-MPFL-LCPFBN-LCPFBN-O-0010
Multimode, OM3, 50 $\mu$ m, OFNP, 24 fibers, 10 m (33 ft.)	NXC-MPFX-LCPFBN-LCPFBN-O-0010
Multimode, OM3, 50 $\mu$ m, OFNR, 12 fibers, 10 m (33 ft.)	NXC-MRFL-LCPFBN-LCPFBN-O-0010
Multimode, OM3, 50 $\mu$ m, OFNR, 24 fibers, 10 m (33 ft.)	NXC-MRFX-LCPFBN-LCPFBN-O-0010
Single-mode Enhanced, OS2, OFNP, 12 fibers, 10 m (33 ft.)	NXC-MPSL-LCUFBN-LCUFBN-O-0010
Single-mode Enhanced, OS2, OFNP, 24 fibers, 10 m (33 ft.)	NXC-MPSX-LCUFBN-LCUFBN-O-0010
Single-mode Enhanced, OS2, OFNR, 12 fibers, 10 m (33 ft.)	NXC-MRSL-LCUFBN-LCUFBN-O-0010
Single-mode Enhanced, OS2, OFNR, 24 fibers, 10 m (33 ft.)	NXC-MRSX-LCUFBN-LCUFBN-O-0010

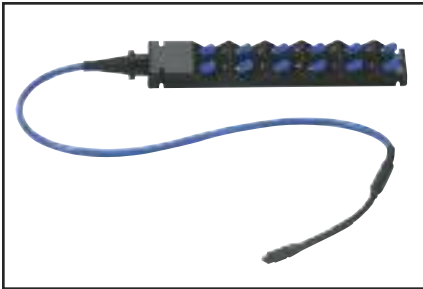
For back panel to back panel connections (Horizontal links).

Note: To order a similar construction but with a different length in meters (ft.), replace the digits at the end of the Belden part number.  
Example: Multimode, OM3, 50  $\mu$ m, OFNR, 12 fibers, 75 m (246 ft.) – NXC-MRFL-LDPFBN-LDPFBN-O-0075

For any other assemblies, please contact Belden's Technical Support at 1-800-858-7954 or [ibdn.ts@belden.com](mailto:ibdn.ts@belden.com).

**FiberExpress Pre-Connectorized Assemblies**

FiberExpress Bar



AX250001, FiberExpress Bar 12 ST Type

**FiberExpress Bar**

The FiberExpress 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 FiberExpress Bar makes it an ideal candidate for disaster recovery, industrial applications and other fiber deployments in harsh environments.

**FiberExpress 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 FiberExpress Bar (1 m with male connector).



MX100154, FiberExpress MPO Adapter

Description	Belden Part Number
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**FiberExpress Pre-Connectorized Assemblies**

**FiberExpress Bar Multimode, OM1, 62.5 μm**

12 ST Type, MPO (m), 1 m	AX250001
6 SC Duplex, MPO (m), 12 fibers, 1 m	AX250005
6 MT-RJ, MPO (m), 12 fibers, 1 m	AX250178
12 LC, MPO (m), 1 m	AX250539

**FiberExpress Bar Multimode, OM2, 50 μm**

12 ST Type, MPO (m), 1 m	AX250052
6 SC Duplex, MPO (m), 12 fibers, 1 m	AX250054
6 MT-RJ, MPO (m), 12 fibers, 1 m	AX250179
12 LC, MPO (m), 1 m	AX250540

**FiberExpress Bar Multimode, OM3, 50 μm**

12 ST Type, MPO (m), 1 m	AX250459
6 SC Duplex, MPO (m), 12 fibers, 1 m	AX250460
6 MT-RJ, MPO (m), 12 fibers, 1 m	AX250461
12 LC, MPO (m), 1 m	AX250541

**FiberExpress Bar Single-mode Enhanced, OS2**

12 ST Type, MPO (m), 1 m	AX250009
6 SC Duplex, MPO (m), 12 fibers, 1 m	AX250011
6 MT-RJ, MPO (m), 12 fibers, 1 m	AX250180
12 LC, MPO (m), 1 m	AX250542

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

**FiberExpress Bar Accessories**

MPO Adapter (6 or 12 fibers) included with each FiberExpress Bar (1 m - Male)	MX100154
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## FiberExpress Ultra Patch Panels

Wall- and Rack-Mount Patch Panels, Bezels, Frames, Cassettes, Splice Tray Kits and Enclosures

### The FiberExpress Ultra Patch Panel System

Belden's FiberExpress Ultra Patch Panel System is ultra-rich in user-friendly features that elevate fiber patching to a whole new level. Designed to meet the needs of IT managers and their technical teams, Belden built the system around three core concepts:

- Ultra high density
- Ultra-easy installation and maintenance
- Ultra 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.

### FiberExpress Ultra Patch Panels

FiberExpress 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 or MT-RJ). 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 or MT-RJ); 4U unit accommodates 12 Frames or Cassettes for a maximum of 288 fibers (LC or MT-RJ).

### FiberExpress Ultra Bezels and Frames

FiberExpress 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.

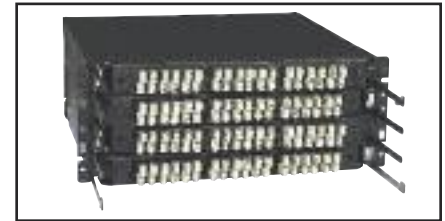
### FiberExpress Ultra Pre-terminated Cassettes

FiberExpress Ultra Cassettes come fully loaded with connector Bezels and pre-terminated with MPO connection(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.

### FiberExpress Ultra Splice Tray Kits and Enclosures

FiberExpress 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.



AX103267, FiberExpress Ultra 4U Rack Mount Patch Panel



AX103928, FiberExpress Ultra Stackable Wall-mount Patch Panel



FiberExpress Ultra Wall-mount Patch Panel with Spacer



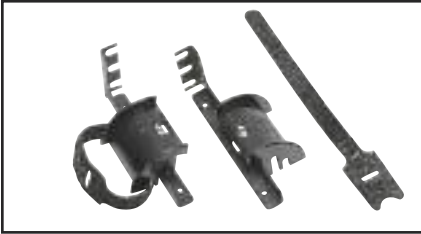
AX103143, FiberExpress Ultra 1U Patch Panel

## FiberExpress Ultra Patch Panels

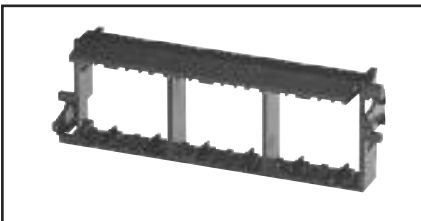
Wall- and Rack-Mount Patch Panels, Bezels, Frames, Cassettes, Splice Tray Kits and Enclosures (continued)



AX103910, FiberExpress Ultra 4U 23" Extension Mounting Brackets



AX103272, FiberExpress Ultra Patch Cord Management Brackets



AX103916, FiberExpress Ultra Empty Frame



FiberExpress Ultra Frame with Pigtailed

Description	Belden Part Number
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### FiberExpress Ultra System

#### Rack-mount Patch Panels/Components

1U Patch Panel, 19", Black	AX103143
4U Patch Panel, 19", Black	AX103267
4U 23" 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

Description	Belden Part Number			
	Multimode, OM1, 62.5 μm	Multimode, OM2, 50 μm	Multimode, OM3, 50 μm	Single-mode Enhanced, OS2

### FiberExpress Ultra System

#### Frames - ST Type, SC Simplex, SC Duplex, LC Duplex, MT-RJ, FC

ST Type, 6 fibers	AX103382	-	-	AX103467
ST Type, 12 fibers	AX103403	-	-	AX103493
SC Simplex, 6 fibers	AX103383	AX103439	AX103453	AX103468
SC Simplex w/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 w/shutter, 6 fibers	AX103386	AX103442	AX103456	AX103471
SC Duplex, 12 fibers	AX103406	AX103447	AX103461	AX103496
LC Duplex, 6 fibers	AX103387	AX103443	AX103457	AX103476
LC Duplex w/shutter, 6 fibers	AX103388	AX103444	AX103458	AX103477
LC Duplex, 12 fibers	AX103408	AX103449	AX103463	AX103502
LC Duplex w/shutter, 12 fibers	AX103409	AX103450	AX103464	AX103503
LC Duplex, 24 fibers	AX103424	AX103451	AX103465	AX103519
MT-RJ, 6 fibers	AX103389	-	-	AX103859
MT-RJ, 12 fibers	AX103410	-	-	AX103860
MT-RJ, 24 fibers	AX103426	-	-	AX103861
FC, 6 fibers	AX103390	-	-	AX103480
FC, 12 fibers	AX103411	-	-	AX103506
Frame w/6 blanks		AX103862		
Frame, empty		AX103916		
Cassette Rear Assembly		AX103917		
Universal Frame w/Cassette Rear Assembly		AX103918		



## FiberExpress Ultra Patch Panels

Wall- and Rack-Mount Patch Panels, Bezels, Frames, Cassettes, Splice Tray Kits and Enclosures (continued)

Description	Belden Part Number Single-mode Enhanced, OS2
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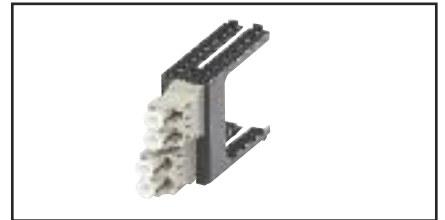
### FiberExpress Ultra System

#### Frames - SP APC Simplex, SC APC Duplex, LC APC

SC APSC APC Simplex, 6 fibers	AX103472
SC APC Simplex w/shutter, 6 fibers	AX103473
SC APC Simplex, 12 fibers	AX103498
SC APC Duplex, 6 fibers	AX103474
SC APC Duplex w/shutter, 6 fibers	AX103475
SC APC Duplex, 12 fibers	AX103500
LC APC Duplex, 6 fibers	AX103478
LC APC Duplex w/shutter, 6 fibers	AX103479
LC APC Duplex, 12 fibers	AX103504
LC APC Duplex w/shutter, 12 fibers	AX103505
LC APC Duplex, 24 fibers	AX103521



AX103424, FiberExpress Ultra Loaded Frame



AX103283, FiberExpress Ultra Bezel

Description	Belden Part Number			
	Multimode, OM1, 62.5 μm	Multimode, OM2, 50 μm	Multimode, OM3, 50 μm	Single-mode Enhanced, OS2

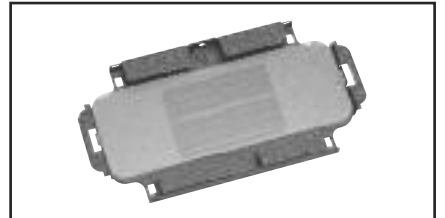
### FiberExpress Ultra System

#### Frames w/pigtails - SC Simplex, SC Duplex, LC Duplex

SC Simplex w/pigtails, 6 fibers	AX103535	AX103549	AX103563	AX103591
SC Simplex w/shutter & pigtails, 6 fibers	AX103536	AX103550	AX103564	AX103592
SC Simplex w/pigtails, 12 fibers	AX103541	AX103555	AX103569	AX103603
SC Duplex w/pigtails, 6 fibers	AX103537	AX103551	AX103565	AX103593
SC Duplex w/shutter & pigtails, 6 fibers	AX103538	AX103552	AX103566	AX103594
SC Duplex w/pigtails, 12 fibers	AX103543	AX103557	AX103571	AX103605
LC Duplex w/pigtails, 6 fibers	AX103539	AX103553	AX103567	AX103599
LC Duplex w/shutter & pigtails, 6 fibers	AX103540	AX103554	AX103568	AX103600
LC Duplex w/pigtails, 12 fibers	AX103545	AX103559	AX103573	AX103611
LC Duplex w/shutter & pigtails, 12 fibers	AX103546	AX103560	AX103574	AX103612
LC Duplex w/pigtails, 24 fibers	AX103547	AX103561	AX103575	AX103615



AX103683, FiberExpress Ultra Cassette



AX103912, FiberExpress Ultra 8" Splice Tray Kit

**FiberExpress Ultra Patch Panels**

Wall- and Rack-Mount Patch Panels, Bezels, Frames, Cassettes, Splice Tray Kits and Enclosures (continued)

Description	Belden Part Number Single-mode Enhanced, OS2
<b>FiberExpress Ultra System</b>	
<b>Frames w/pigtails - SC APC Simplex, SC APC Duplex, LC APC Duplex</b>	
SC APC Simplex w/pigtails, 6 fibers	AX103595
SC APC Simplex w/shutter & pigtails, 6 fibers	AX103596
SC APC Simplex w/pigtails, 12 fibers	AX103607
SC APC Duplex w/pigtails, 6 fibers	AX103597
SC APC Duplex w/shutter & pigtails, 6 fibers	AX103598
SC APC Duplex w/pigtails, 12 fibers	AX103609
LC APC Duplex w/pigtails, 6 fibers	AX103601
LC APC Duplex w/shutter & pigtails, 6 fibers	AX103602
LC APC Duplex w/pigtails, 12 fibers	AX103613
LC APC Duplex w/shutter & pigtails, 12 fibers	AX103614
LC APC Duplex w/pigtails, 24 fibers	AX103617

## FiberExpress Ultra Patch Panels

Wall- and Rack-Mount Patch Panels, Bezels, Frames, Cassettes, Splice Tray Kits and Enclosures (continued)

Description	Belden Part Number			
	Multimode, OM1, 62.5 μm	Multimode, OM2, 50 μm	Multimode, OM3, 50 μm	Single-mode Enhanced, OS2

### FiberExpress Ultra System

Bezels - ST Type, SC Simplex, SC Duplex, LC Duplex, MT-RJ, FC Simplex				
ST Type, 1-adapter	AX103276	-	-	AX103332
ST Type, 2-adapter	AX103277	-	-	AX103333
SC Simplex, 1-adapter	AX103278	AX103316	AX103324	AX103334
SC Simplex w/shutter, 1-adapter	AX103279	AX103317	AX103325	AX103335
SC Simplex, 2-adapter	AX103853	AX103854	AX103855	AX103342
SC Duplex, 1-adapter	AX103280	AX103318	AX103326	AX103336
LC Duplex, 1-adapter	AX103282	AX103320	AX103328	AX103346
LC Duplex, 2-adapter	AX103283	AX103322	AX103330	AX103350
LC Duplex w/shutter, 1-adapter	AX103284	AX103321	AX103329	AX103347
MT-RJ, 1 adapter	AX103286	-	-	AX103354
MT-RJ, 2 adapter	AX103287	-	-	AX103355
FC Simplex, 1-adapter	AX103288	-	-	AX103356
FC Simplex, 2-adapter	AX103289	-	-	AX103357
MPO, 1-adapter	AX103290			
Blank	AX103291			

Description	Belden Part Number Single-mode Enhanced, OS2
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### FiberExpress Ultra System

Bezels - SC APC Simplex, SC APC Duplex, LC APC Duplex	
SC APC Simplex, 1-adapter	AX103338
SC APC Simplex w/shutter, 1-adapter	AX103339
SC APC Simplex, 2-adapter	AX103344
SC APC Duplex, 1-adapter	AX103340
LC APC Duplex, 1-adapter	AX103348
LC APC Duplex w/shutter, 1-adapter	AX103349
LC APC Duplex, 2-adapter	AX103352

**FiberExpress Ultra Patch Panels**

Wall- and Rack-Mount Patch Panels, Bezels, Frames, Cassettes, Splice Tray Kits and Enclosures (continued)

Description	Belden Part Number			
	Multimode, OM1, 62.5 μm	Multimode, OM2, 50 μm	Multimode, OM3, 50 μm	Single-mode Enhanced, OS2

**FiberExpress Ultra System**

<b>Cassettes</b>				
ST-MPO, 6 fibers	AX103619	AX103673	AX103691	AX103799
ST-MPO, 12 fibers	AX103638	AX103680	AX103710	AX103818
SC Duplex-MPO, 6 fibers	AX103620	AX103674	AX103692	AX103800
SC Duplex w/shutter-MPO, 6 fibers	AX103621	AX103675	AX103693	AX103801
SC Duplex-MPO, 12 fibers	AX103639	AX103681	AX103711	AX103819
LC Duplex-MPO, 6 fibers	AX103622	AX103676	AX103694	AX103802
LC Duplex w/shutter-MPO, 6 fibers	AX103623	AX103677	AX103695	AX103803
LC Duplex-MPO, 12 fibers	AX103641	AX103683	AX103713	AX103821
LC Duplex w/shutter-MPO, 12 fibers	AX103642	AX103684	AX103714	AX103822
LC Duplex-MPO, 24 fibers	AX103657	AX103687	AX103729	AX103837
MT-RJ(M)-MPO, 6 fibers	AX103625	AX103679	AX103697	AX103805
MT-RJ(M)-MPO, 12 fibers	AX103644	AX103686	AX103716	AX103824
MT-RJ(M)-MPO, 24 fibers	AX103660	AX103690	AX103732	AX103840



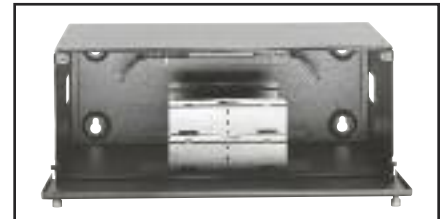
## FiberExpress Ultra Patch Panels

Wall- and Rack-Mount Patch Panels, Bezels, Frames, Cassettes, Splice Tray Kits and Enclosures (continued)

Description	Belden Part Number
<b>FiberExpress Ultra System</b>	
<b>Wall- and Rack-mount Splice Enclosures</b>	
Wall-mount Splice Enclosure, Black	AX103930
Rack-mount Splice Enclosure, 4U, Black	AX103900
<b>Splice Kits/Lock</b>	
8" Splice Tray Kit	AX103912
10" Splice Tray Kit	AX103913
12" Splice Tray Kit	AX103914
Lock (for Wall-mount Splice Enclosure)	AX103934
Patch Panel and Splice Enclosure Flex Kit	AX104002

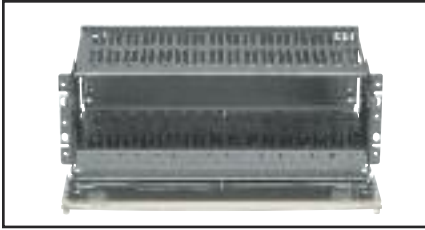


AX103930, FiberExpress Ultra Wall-mount Splice Enclosure



AX103900, FiberExpress Ultra Rack-mount Enclosure (with Splice Tray Caddy), 4U

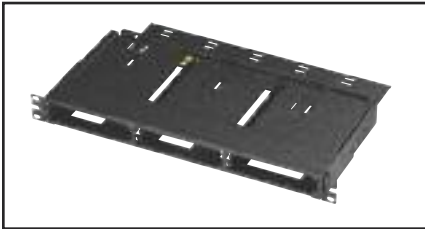
## FiberExpress Manager



AX100935, FiberExpress Manager Shelf

### FiberExpress Manager Shelf

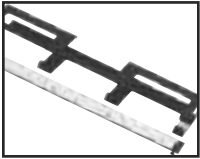
FiberExpress Modules are rack-mounted using FiberExpress Manager Shelves. The shelves provide the total system with extra high connection density while facilitating cable routing and patch cord management. For 19- or 23-inch rack: 19 in. shelf holds up to 12 modules; 23 in. shelf holds up to 16 modules.



AX100943, FiberExpress Manager 1U Rack Mount Patch Panel

### FiberExpress Manager 1U

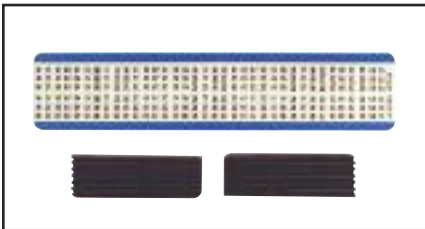
The FiberExpress Manager 1U Rack Mount Patch Panel is a low-cost, compact assembly designed for interconnection or splicing of optical fiber cables, using up to three FiberExpress Manager Modules. The low-profile design minimizes rack space to only 45 mm (1.75 in.). An optional FiberExpress Manager 1U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



AX102032, FiberExpress Manager 1U Cable Management Accessory



AX100945, Flex Kit



AX101098, Splice Holder Kit

### FiberExpress Manager Connector Module

The Connector Module is the basic building block of the FiberExpress 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.

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 FiberExpress 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.

Description	Belden Part Number
<b>FiberExpress Manager</b>	
Shelf, 23 in., 10.9 kg (24 lb)	AX100935
Shelf, 19 in., 8.2 kg (18 lb)	AX101085
1U, Rack Mount Patch Panel, 19 in., 5 kg (11 lb)	AX101943
1U, Cable Management Accessory, 19 in., 1 kg (2 lb)	AX102032
Flex Kit	AX100945
Splice Holder Kit	AX101098

## FiberExpress Manager

Description	Belden Part Number
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### FiberExpress Manager

FiberExpress Manager Connector Module	
Metal Sleeve, Multimode, ST Type, 6 fibers	AX101089
Metal Sleeve, Multimode, SC Duplex, 6 fibers	AX101092
Zirconia Ceramic, Single-mode, ST Type, 6 fibers	AX100936
Zirconia Ceramic, Single-mode, SC Simplex, 6 fibers	AX100943
Zirconia Ceramic, Single-mode, SC Duplex, 6 fibers	AX100944
Metal Sleeve, Multimode, ST Type, 12 fibers	AX101187
Metal Sleeve, Multimode, SC Duplex, 12 fibers	AX101714
Metal Sleeve, Multimode, SC Duplex (ST in), 12 fibers	AX101120
Metal Sleeve, Multimode, LC, 12 fibers	AX101528
Zirconia Ceramic, Single-mode, ST Type, 12 fibers	AX101186
Zirconia Ceramic, Single-mode, SC Duplex, 12 fibers	AX101713
Zirconia Ceramic, Single-mode, SC Duplex (ST in), 12 fibers	AX101119
Zirconia Ceramic, Single-mode, LC, 12 fibers	AX101527
Zirconia Ceramic, Single-mode, SC Duplex, 12 UPC pigtails	AX101715
Metal Sleeve, Multimode, LC, 24 fibers	AX102306
Zirconia Ceramic, Single-mode, LC, 24 fibers	AX102305
Zirconia Ceramic, Single-mode/Multimode, FC, 6 fibers	AX100937
Multimode 62.5 $\mu$ m, MPO(m)-ST Type, 12 pre-terminated	AX101189
Multimode 62.5 $\mu$ m, MPO(m)-SC Duplex, 12 pre-terminated	AX101091
Multimode 62.5 $\mu$ m, MPO(m)-MT-RJ(m), 12 pre-terminated	AX101525
Multimode 62.5 $\mu$ m, MPO(m)-LC, 12 pre-terminated	AX101530
Multimode 62.5 $\mu$ m, MPO(m)-LC, 24 pre-terminated	AX102309
Multimode 50 $\mu$ m, MPO(m)-ST Type, 12 pre-terminated	AX101190
Multimode 50 $\mu$ m, MPO(m)-SC Duplex, 12 pre-terminated	AX101114
Multimode 50 $\mu$ m, MPO(m)-MT-RJ(m), 12 pre-terminated	AX101526
Multimode 50 $\mu$ m, MPO(m)-LC, 12 pre-terminated	AX101531
Multimode 50 $\mu$ m, MPO(m)-LC, 24 pre-terminated	AX102308
Single-mode, MPO(m)-ST Type, 12 pre-terminated	AX101188
Single-mode, MPO(m)-SC Duplex, 12 pre-terminated	AX101090
Single-mode, MPO(m)-MT-RJ(m), 12 pre-terminated	AX101524
Single-mode, MPO(m)-LC, 12 pre-terminated	AX101529
Single-mode, MPO(m)-LC, 24 pre-terminated	AX102307
MT-RJ, Beige, Multimode, FC, 12 fibers	AX101096
MT-RJ, Blue, Single-mode, FC, 12 fibers	AX101581



AX101525, Connector Module Pre-terminated MPO-MT-RJ

**FiberExpress Patch Panels**  
Rack-Mount Patch Panels



AX100041, FiberExpress 12/24 Port (1U) Rack-Mount Patch Panel



AX100068, FiberExpress 24/48 Port (2U) Rack-Mount Patch Panel



AX100077, FiberExpress (3U) Rack-Mount Patch Panel



AX100116, FiberExpress 48/96 Port (4U) Rack-Mount Patch Panel

The *FiberExpress* 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 *FiberExpress* 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 fiber single-ended patch cords or field-installable connectors. The patch panels can be used with ST Type, SC, 568SC, FC, LC or MT-RJ adapters strips (ordered separately).

The *FiberExpress* 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 MT-RJ or 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 *FiberExpress* 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 MT-RJ or 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 *FiberExpress* 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 Type, SC, 568SC, MT-RJ, LC and FC adapter strips (ordered separately).

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

The *FiberExpress* 3U Rack-Mount Patch Panel can accommodate up to 96 optical fiber connections using MT-RJ or LC connectors. The connector panel is mounted on a sliding drawer for easy access to the back side (cable side) of the panel. The *FiberExpress* 3U Rack-Mount Patch Panel can be used with either optical fiber single-ended patch cords or field-installable connectors. If optical single-ended patch cords are to be used, organizer trays are easily accessible via the removable front access pull-out drawer. (Trays must be ordered separately.)

The *FiberExpress* 3U Rack Mount Patch Panel is a compact enclosure for the cross-connection, interconnection or splicing of optical fiber cables. The low-profile design minimizes required rack space to 127 mm (5 in.). It is compatible with ST Type, SC, 568SC, MT-RJ, LC and FC adapter strips (ordered separately).

Description	Belden Part Number
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**FiberExpress Patch Panels**

Rack Mount Panels	
Rack-Mount Patch Panel 1U*	AX100041
Rack-Mount Patch Panel 2U*	AX100068
Rack-Mount Patch Panel 3U	AX100077
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 *FiberExpress* Accessories section.

\*IMPORTANT: The *FiberExpress* 1U accepts two (2) 203 mm (8 in.) splice trays. The 2U accepts four (4) 203 mm (8 in.) splice trays.

## FiberExpress Patch Panels

Rack-Mount Accessories and Wall-Mount Patch Panels

### FiberExpress 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
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#### FiberExpress 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	<b>AX101799</b>
for 19 in. and 23 in. racks (2U), Black	<b>AX101797</b>
23 in. Universal extension bracket, Black	<b>AX101801</b>
Right side cable entry bracket (1U), Black	<b>AX100046</b>
Right side cable entry bracket (2U), Black	<b>AX100073</b>
Front Cover (1U), Smoked Plexiglass	<b>AX100045</b>

### FiberExpress Wall-Mount Patch Panel

The FiberExpress Wall-Mount Patch Panel Series is an economical solution for the protection of optical fiber terminations and splices in hostile environments.

Using the FiberExpress 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 Type, SC, 568SC, MT-RJ, LC and FC.

The FiberExpress Wall Mount Patch Panels have an ergonomic design, rugged construction and compact assemblies to effectively protect your optical fiber terminations and splices.

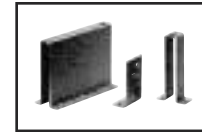
Description	Belden Part Number
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#### FiberExpress Patch Panels

##### Wall-Mount

Small, Black	<b>AX100495</b>
Medium, Black	<b>AX100540</b>
Large, Black	<b>AX100542</b>

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 FiberExpress Accessories section. Universal Adapter Strips can be ordered in FiberExpress Patch Panels section.



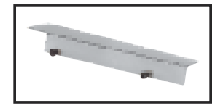
AX101799, 127 mm (5 in.) Universal Offset Bracket Kit, for 19 in. and 23 in. Racks 1U



AX100046, Right Side Cable Entry Bracket for 1U



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



AX100045, Front Cover for 1U



AX100495, Small Wall Mount



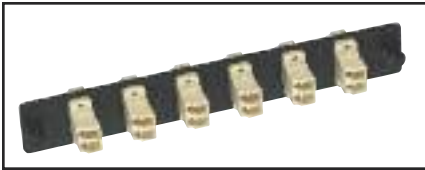
AX100540, Medium Wall Mount



AX100542, Large Wall Mount

**FiberExpress Accessories for FiberExpress Patch Panels**

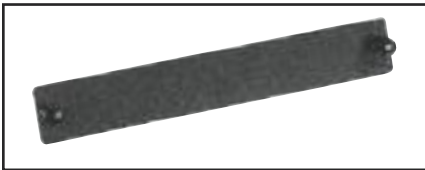
Universal Optical Fiber Adapter Strips and Accessories



AX101729, Adapters loaded with 6 LC Duplex



AX100094, Adapters loaded with 3 SC Duplex



AX100066, Blank Strip

**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 FiberExpress Patch Panel to fill in unused adapter strip openings.

**Optical Fiber Accessories**

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

Description	Belden Part Number	
	Phosphor Bronze, Multimode	Zirconia Ceramic, Single-mode

**FiberExpress Optical Fiber Adapter Strips**

<b>Single Density, Black</b>		
Loaded with 6 ST Type Adapters	AX100088	AX100534
Loaded with 3 SC Duplex Adapters	AX100094	AX101407
Loaded with 6 SC Simplex Adapters	AX100092	AX100538
Loaded with 6 LC Duplex Adapters	AX101729	AX101731
Loaded with 6 FC Adapters, Multimode/Single-mode	AX100536	
MT-RJ, loaded with 6 MT-RJ, Multimode/Single-mode	AX101115	
<b>Double Density, Black</b>		
Loaded with 12 ST Type Adapters	AX100080	AX100528
Loaded with 6 SC Duplex Adapters	AX100098	AX101409
Loaded with 12 SC Simplex Adapters	AX100084	AX100532
Loaded with 12 LC Duplex Adapters	AX101741	AX101743
Loaded with 12 FC Adapters, Multimode/Single-mode	AX100530	
MT-RJ, loaded with 12 MT-RJ, Multimode/Single-mode	AX101117	
<b>Blank Strip</b>		
Black	AX100066	



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

Description	Belden Part Number
<b>Optical Fiber Splice Organizer Kit</b>	
Splice kit, tray, 203 mm (8 in.)	<b>A0649869</b>
Splice kit, tray, 305 mm (12 in.)	<b>A0318904</b>
<b>Optical Fiber Splice Tray</b>	
Fusion, 203 mm (8 in.)	<b>A0335015</b>
Fusion, 305 mm (12 in.)	<b>A0316446</b>
Universal (mechanical or fusion), 203 mm (8 in.)	<b>AX1 00079</b>
Universal (mechanical or fusion), 305 mm (12 in.)	<b>A0394328</b>
Tray Cover, 203 mm (8 in.)	<b>A0394331</b>
Tray Cover, 305 mm (12 in.)	<b>A0394330</b>
Fusion Splice Protection 250 $\mu$ m to 250 $\mu$ m, Yellow	<b>AX1 01169</b>
Fusion Splice Protection 900 $\mu$ m to 250 $\mu$ m, Blue	<b>AX1 01170</b>
Fusion Splice Protection 900 $\mu$ m to 900 $\mu$ m, Green	<b>AX1 01171</b>



A0649869, Optical Fiber Splice Organizer Kits and Trays

## FiberExpress Secure/Keyed LC System

Adapter Modules, Adapter Strips, Patch Cords, Pigtails, FiberExpress Manager Modules and Optimax Field-Installable Connectors



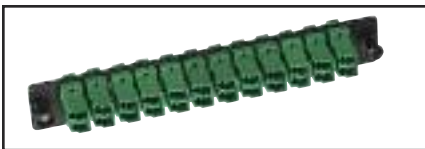
AX103034, FiberExpress Secure/Keyed LC Manager Module



AX102089, FiberExpress Secure/Keyed LC Adapter Module



FiberExpress Secure/Keyed LC System



AX102120, FiberExpress Secure/Keyed LC Adapter Strip



AX102197, FiberExpress Secure/Keyed LC Optimax Connector

### FiberExpress Secure/Keyed LC System

The FiberExpress Secure/Keyed LC System allows for physical segregation of networks 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 totally tamper-resistant and cannot be reproduced inside a standard LC connector to violate the network security. All products comply with the FOClS 10 standard and optical performance exceeds all industry standards for SFF connectors.

The Secure/Keyed LC Adapter Modules and Adapter Strips can be used in all mounting hardware for workstation area, Consolidation Point or Telecom Room applications.

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) for the

most demanding network performance. The Secure/Keyed LC FiberExpress Manager Modules can be used in 19- and 23-inch FiberExpress Manager Shelves to provide a high-density management system of up to 1920 terminated fibers per rack. The Secure/Keyed LC FiberExpress Ultra Frames, Bezels and Cassettes can be used with the FiberExpress Ultra Rack- and Wall-mount Patch Panels to provide a 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 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	Belden Part Number
<b>FiberExpress Secure/Keyed LC System</b>	
<b>Duplex Adapter Modules, Keystone-style</b>	
LC Key1, Red	AX102422
LC Key2, Green	AX102423
LC Key3, Yellow	AX102424
LC Key4, Black	AX102425
LC Key5, Orange	AX102426
LC Key6, Blue	AX102427
LC Key7, Violet	AX103154
LC Key8, Rose	AX103155
LC Key9, Aqua	AX103156
LC KeyA, Brown	AX103157
LC KeyB, Slate	AX103158
LC KeyC, White	AX103159

## FiberExpress Secure/Keyed LC System

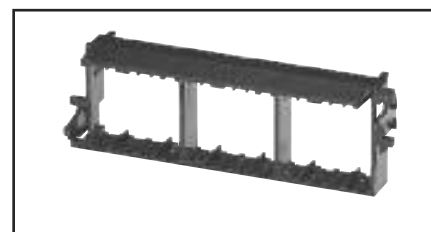
Adapter Modules, Adapter Strips, Patch Cords, Pigtails, FiberExpress Manager Modules and Optimax Field-Installable Connectors (continued)

Description	Belden Part Number			
	Gray Holder	Almond Holder	White Holder	Black Holder

### FiberExpress Secure/Keyed LC System

#### Duplex Adapter Modules, MDVO-style

LC Key1, Red	AX102089	AX102095	AX102101	AX102107
LC Key2, Green	AX102090	AX102096	AX102102	AX102108
LC Key3, Yellow	AX102091	AX102097	AX102103	AX102109
LC Key4, Black	AX102092	AX102098	AX102104	AX102110
LC Key5, Orange	AX102093	AX102099	AX102105	AX102111
LC Key6, Blue	AX102094	AX102100	AX102106	AX102112
LC Key7, Violet	AX103010	AX103016	AX103022	AX103028
LC Key8, Rose	AX103011	AX103017	AX103023	AX103029
LC Key9, Aqua	AX103012	AX103018	AX103024	AX103030
LC KeyA, Brown	AX103013	AX103019	AX103025	AX103031
LC KeyB, Slate	AX103014	AX103020	AX103026	AX103032
LC KeyC, White	AX103015	AX103021	AX103027	AX103033



Secured/Keyed LC FiberExpress Ultra Frame



Secured/Keyed LC FiberExpress Ultra Bezel

Description	Belden Part Number	
	12 Fiber	24 Fiber

### FiberExpress Secure/Keyed LC System

#### Adapter Strips

LC Key1, Red	AX102119	AX102125
LC Key2, Green	AX102120	AX102126
LC Key3, Yellow	AX102121	AX102127
LC Key4, Black	AX102122	AX102128
LC Key5, Orange	AX102123	AX102129
LC Key6, Blue	AX102124	AX102130
LC Key7, Violet	AX103046	AX103052
LC Key8, Rose	AX103047	AX103053
LC Key9, Aqua	AX103048	AX103054
LC KeyA, Brown	AX103049	AX103055
LC KeyB, Slate	AX103050	AX103056
LC KeyC, White	AX103051	AX103057



Secured/Keyed LC FiberExpress Ultra Cassette

**FiberExpress Secure/Keyed LC System**

Adapter Modules, Adapter Strips, Patch Cords, Pigtails, FiberExpress Manager Modules and Optimax Field-Installable Connectors (continued)

Description	Belden Part Number		
	2 m (6 ft.)	3 m (10 ft.)	5 m (16 ft.)

**Secure/Keyed FiberExpress LC Duplex Patch Cords** (continued)

**KeyX-KeyX Multimode, OM1, 62.5 μm**

LC Key1-Key1, Red	AX201365	AX201371	AX201377
LC Key2-Key2, Green	AX201366	AX201372	AX201378
LC Key3-Key3, Yellow	AX201367	AX201373	AX201379
LC Key4-Key4, Black	AX201368	AX201374	AX201380
LC Key5-Key5, Orange	AX201369	AX201375	AX201381
LC Key6-Key6, Blue	AX201370	AX201376	AX201382
LC Key7-Key7, Violet	AX202940	AX202946	AX202952
LC Key8-Key8, Rose	AX202941	AX202947	AX202953
LC Key9-Key9, Aqua	AX202942	AX202948	AX202954
LC KeyA-KeyA, Brown	AX202943	AX202949	AX202955
LC KeyB-KeyB, Slate	AX202944	AX202950	AX202956
LC KeyC-KeyC, White	AX202945	AX202951	AX202957

**KeyX-KeyX Multimode, OM2, 50 μm**

LC Key1-Key1, Red	AX201383	AX201389	AX201395
LC Key2-Key2, Green	AX201384	AX201390	AX201396
LC Key3-Key3, Yellow	AX201385	AX201391	AX201397
LC Key4-Key4, Black	AX201386	AX201392	AX201398
LC Key5-Key5, Orange	AX201387	AX201393	AX201399
LC Key6-Key6, Blue	AX201388	AX201394	AX201400
LC Key7-Key7, Violet	AX202958	AX202964	AX202970
LC Key8-Key8, Rose	AX202959	AX202965	AX202971
LC Key9-Key9, Aqua	AX202960	AX202966	AX202972
LC KeyA-KeyA, Brown	AX202961	AX202967	AX202973
LC KeyB-KeyB, Slate	AX202962	AX202968	AX202974
LC KeyC-KeyC, White	AX202963	AX202969	AX202975

**KeyX-KeyX Multimode, OM3, 50 μm**

LC Key1-Key1, Red	AX201401	AX201407	AX201413
LC Key2-Key2, Green	AX201402	AX201408	AX201414
LC Key3-Key3, Yellow	AX201403	AX201409	AX201415
LC Key4-Key4, Black	AX201404	AX201410	AX201416
LC Key5-Key5, Orange	AX201405	AX201411	AX201417
LC Key6-Key6, Blue	AX201406	AX201412	AX201418
LC Key7-Key7, Violet	AX202976	AX202982	AX202988
LC Key8-Key8, Rose	AX202977	AX202983	AX202989
LC Key9-Key9, Aqua	AX202978	AX202984	AX202990
LC KeyA-KeyA, Brown	AX202979	AX202985	AX202991
LC KeyB-KeyB, Slate	AX202980	AX202986	AX202992
LC KeyC-KeyC, White	AX202981	AX202987	AX202993

## FiberExpress Secure/Keyed LC System

Adapter Modules, Adapter Strips, Patch Cords, Pigtails, FiberExpress Manager Modules and Optimax Field-Installable Connectors (continued)

Description	Belden Part Number		
	2 m (6 ft.)	3 m (10 ft.)	5 m (16 ft.)

### Secure/Keyed FiberExpress LC Duplex Hybrid Patch Cords (continued)

KeyX-LCD Multimode, OM1, 62.5 $\mu$ m			
LC Key1-LCD, Red	AX201419	AX201425	AX201431
LC Key2-LCD, Green	AX201420	AX201426	AX201432
LC Key3-LCD, Yellow	AX201421	AX201427	AX201433
LC Key4-LCD, Black	AX201422	AX201428	AX201434
LC Key5-LCD, Orange	AX201423	AX201429	AX201435
LC Key6-LCD, Blue	AX201424	AX201430	AX201436
LC Key7-LCD, Violet	AX202994	AX203000	AX203006
LC Key8-LCD, Rose	AX202995	AX203001	AX203007
LC Key9-LCD, Aqua	AX202996	AX203002	AX203008
LC KeyA-LCD, Brown	AX202997	AX203003	AX203009
LC KeyB-LCD, Slate	AX202998	AX203004	AX203010
LC KeyC-LCD, White	AX202999	AX203005	AX203011
KeyX-LCD Multimode, OM2, 50 $\mu$ m			
LC Key1-LCD, Red	AX201437	AX201443	AX201449
LC Key2-LCD, Green	AX201438	AX201444	AX201450
LC Key3-LCD, Yellow	AX201439	AX201445	AX201451
LC Key4-LCD, Black	AX201440	AX201446	AX201452
LC Key5-LCD, Orange	AX201441	AX201447	AX201453
LC Key6-LCD, Blue	AX201442	AX201448	AX201454
LC Key7-LCD, Violet	AX203012	AX203018	AX203024
LC Key8-LCD, Rose	AX203013	AX203019	AX203025
LC Key9-LCD, Aqua	AX203014	AX203020	AX203026
LC KeyA-LCD, Brown	AX203015	AX203021	AX203027
LC KeyB-LCD, Slate	AX203016	AX203022	AX203028
LC KeyC-LCD, White	AX203017	AX203023	AX203029
KeyX-LCD Multimode, OM3, 50 $\mu$ m			
LC Key1-LCD, Red	AX201455	AX201461	AX201467
LC Key2-LCD, Green	AX201456	AX201462	AX201468
LC Key3-LCD, Yellow	AX201457	AX201463	AX201469
LC Key4-LCD, Black	AX201458	AX201464	AX201470
LC Key5-LCD, Orange	AX201459	AX201465	AX201471
LC Key6-LCD, Blue	AX201460	AX201466	AX201472
LC Key7-LCD, Violet	AX203030	AX203036	AX203042
LC Key8-LCD, Rose	AX203031	AX203037	AX203043
LC Key9-LCD, Aqua	AX203032	AX203038	AX203044
LC KeyA-LCD, Brown	AX203033	AX203039	AX203045
LC KeyB-LCD, Slate	AX203034	AX203040	AX203046
LC KeyC-LCD, White	AX203035	AX203041	AX203047

**FiberExpress Secure/Keyed LC System**

Adapter Modules, Adapter Strips, Patch Cords, Pigtails, FiberExpress Manager Modules and Optimax Field-Installable Connectors (continued)

Description	Belden Part Number		
	2 m (6 ft.)	3 m (10 ft.)	5 m (16 ft.)

**Secure/Keyed FiberExpress LC Duplex Hybrid Patch Cords** (continued)

<b>KeyX-SCD Multimode, OM1, 62.5 μm</b>			
LC Key1-SCD, Red	AX201473	AX201479	AX201485
LC Key2-SCD, Green	AX201474	AX201480	AX201486
LC Key3-SCD, Yellow	AX201475	AX201481	AX201487
LC Key4-SCD, Black	AX201476	AX201482	AX201488
LC Key5-SCD, Orange	AX201477	AX201483	AX201489
LC Key6-SCD, Blue	AX201478	AX201484	AX201490
LC Key7-SCD, Violet	AX203048	AX203054	AX203060
LC Key8-SCD, Rose	AX203049	AX203055	AX203061
LC Key9-SCD, Aqua	AX203050	AX203056	AX203062
LC KeyA-SCD, Brown	AX203051	AX203057	AX203063
LC KeyB-SCD, Slate	AX203052	AX203058	AX203064
LC KeyC-SCD, White	AX203053	AX203059	AX203065
<b>KeyX-SCD Multimode, OM2, 50 μm</b>			
LC Key1-SCD, Red	AX201491	AX201497	AX201503
LC Key2-SCD, Green	AX201492	AX201498	AX201504
LC Key3-SCD, Yellow	AX201493	AX201499	AX201505
LC Key4-SCD, Black	AX201494	AX201500	AX201506
LC Key5-SCD, Orange	AX201495	AX201501	AX201507
LC Key6-SCD, Blue	AX201496	AX201502	AX201508
LC Key7-SCD, Violet	AX203066	AX203072	AX203078
LC Key8-SCD, Rose	AX203067	AX203073	AX203079
LC Key9-SCD, Aqua	AX203068	AX203074	AX203080
LC KeyA-SCD, Brown	AX203069	AX203075	AX203081
LC KeyB-SCD, Slate	AX203070	AX203076	AX203082
LC KeyC-SCD, White	AX203071	AX203077	AX203083
<b>KeyX-SCD Multimode, OM3, 50 μm</b>			
LC Key1-SCD, Red	AX201509	AX201515	AX201521
LC Key2-SCD, Green	AX201510	AX201516	AX201522
LC Key3-SCD, Yellow	AX201511	AX201517	AX201523
LC Key4-SCD, Black	AX201512	AX201518	AX201524
LC Key5-SCD, Orange	AX201513	AX201519	AX201525
LC Key6-SCD, Blue	AX201514	AX201520	AX201526
LC Key7-SCD, Violet	AX203084	AX203090	AX203096
LC Key8-SCD, Rose	AX203085	AX203091	AX203097
LC Key9-SCD, Aqua	AX203086	AX203092	AX203098
LC KeyA-SCD, Brown	AX203087	AX203093	AX203099
LC KeyB-SCD, Slate	AX203088	AX203094	AX203100
LC KeyC-SCD, White	AX203089	AX203095	AX203101



## FiberExpress Secure/Keyed LC System

Adapter Modules, Adapter Strips, Patch Cords, Pigtails, FiberExpress Manager Modules and Optimax Field-Installable Connectors (continued)

Description	Belden Part Number		
	Multimode, OM1, 62.5 $\mu$ m 2 m (6 ft.)	Multimode, OM2, 50 $\mu$ m 2 m (6 ft.)	Multimode, OM3, 50 $\mu$ m 2 m (6 ft.)

### Secure/Keyed FiberExpress LC Pigtails

KeyX-Open Multimode			
LC Key1-Open, Red	AX201527	AX201533	AX201539
LC Key2-Open, Green	AX201528	AX201534	AX201540
LC Key3-Open, Yellow	AX201529	AX201535	AX201541
LC Key4-Open, Black	AX201530	AX201536	AX201542
LC Key5-Open, Orange	AX201531	AX201537	AX201543
LC Key6-Open, Blue	AX201532	AX201538	AX201544
LC Key7-Open, Violet	AX203102	AX203108	AX203114
LC Key8-Open, Rose	AX203103	AX203109	AX203115
LC Key9-Open, Aqua	AX203104	AX203110	AX203116
LC KeyA-Open, Brown	AX203105	AX203111	AX203117
LC KeyB-Open, Slate	AX203106	AX203112	AX203118
LC KeyC-Open, White	AX203107	AX203113	AX203119

Description	Belden Part Number	
	12 Fiber	24 Fiber

### Secure/Keyed LC FiberExpress Manager Modules

Modules		
LC Key1, Red	AX102113	AX102310
LC Key2, Green	AX102114	AX102311
LC Key3, Yellow	AX102115	AX102312
LC Key4, Black	AX102116	AX102313
LC Key5, Orange	AX102117	AX102314
LC Key6, Blue	AX102118	AX102315
LC Key7, Violet	AX103034	AX103040
LC Key8, Rose	AX103035	AX103041
LC Key9, Aqua	AX103036	AX103042
LC KeyA, Brown	AX103037	AX103043
LC KeyB, Slate	AX103038	AX103044
LC KeyC, White	AX103039	AX103045

### FiberExpress Secure/Keyed LC System

Adapter Modules, Adapter Strips, Patch Cords, Pigtails, FiberExpress Manager Modules and Optimax Field-Installable Connectors (continued)

Description	Belden Part Number		
	6 Fiber	12 Fiber	24 Fiber

#### FiberExpress Ultra System

Secure/Keyed LC Frames, Multimode			
LC Key1, Red	AX103391	AX103412	AX103427
LC Key2, Green	AX103392	AX103413	AX103428
LC Key3, Yellow	AX103393	AX103414	AX103429
LC Key4, Black	AX103394	AX103415	AX103430
LC Key5, Orange	AX103395	AX103416	AX103431
LC Key6, Blue	AX103396	AX103417	AX103432
LC Key7, Violet	AX103397	AX103418	AX103433
LC Key8, Rose	AX103398	AX103419	AX103434
LC Key9, Aqua	AX103399	AX103420	AX103435
LC KeyA, Brown	AX103400	AX103421	AX103436
LC KeyB, Slate	AX103401	AX103422	AX103437
LC KeyC, White	AX103402	AX103423	AX103438

Description	Belden Part Number	
	1-Adapter Bezel	2-Adapter Bezel

#### FiberExpress Ultra System

Secure/Keyed LC Bezels, Multimode		
LC Key1, Red	AX103292	AX103304
LC Key2, Green	AX103293	AX103305
LC Key3, Yellow	AX103294	AX103306
LC Key4, Black	AX103295	AX103307
LC Key5, Orange	AX103296	AX103308
LC Key6, Blue	AX103297	AX103309
LC Key7, Violet	AX103298	AX103310
LC Key8, Rose	AX103299	AX103311
LC Key9, Aqua	AX103300	AX103312
LC KeyA, Brown	AX103301	AX103313
LC KeyB, Slate	AX103302	AX103314
LC KeyC, White	AX103303	AX103315

## FiberExpress Secure/Keyed LC System

Adapter Modules, Adapter Strips, Patch Cords, Pigtails, FiberExpress Manager Modules and Optimax Field-Installable Connectors (continued)

Description	Belden Part Number		
	6 Fiber	12 Fiber	24 Fiber

### FiberExpress Ultra System

Secure/Keyed LC Cassettes, Multimode			
MPO-OM1, K1 Red	AX103626	AX103645	AX103661
MPO-OM1, K2 Green	AX103627	AX103646	AX103662
MPO-OM1, K3 Yellow	AX103628	AX103647	AX103663
MPO-OM1, K4 Black	AX103629	AX103648	AX103664
MPO-OM1, K5 Orange	AX103630	AX103649	AX103665
MPO-OM1, K6 Blue	AX103631	AX103650	AX103666
MPO-OM1, K7 Violet	AX103632	AX103651	AX103667
MPO-OM1, K8 Rose	AX103633	AX103652	AX103668
MPO-OM1, K9 Aqua	AX103634	AX103653	AX103669
MPO-OM1, KA Brown	AX103635	AX103654	AX103670
MPO-OM1, KB Slate	AX103636	AX103655	AX103671
MPO-OM1, KC White	AX103637	AX103656	AX103672
MPO-OM3, K1 Red	AX103698	AX103717	AX103733
MPO-OM3, K2 Green	AX103699	AX103718	AX103734
MPO-OM3, K3 Yellow	AX103700	AX103719	AX103735
MPO-OM3, K4 Black	AX103701	AX103720	AX103736
MPO-OM3, K5 Orange	AX103702	AX103721	AX103737
MPO-OM3, K6 Blue	AX103703	AX103722	AX103738
MPO-OM3, K7 Violet	AX103704	AX103723	AX103739
MPO-OM3, K8 Rose	AX103705	AX103724	AX103740
MPO-OM3, K9 Aqua	AX103706	AX103725	AX103741
MPO-OM3, KA Brown	AX103707	AX103726	AX103742
MPO-OM3, KB Slate	AX103708	AX103727	AX103743
MPO-OM3, KC White	AX103709	AX103728	AX103744

### FiberExpress Secure/Keyed LC System

Adapter Modules, Adapter Strips, Patch Cords, Pigtails, FiberExpress Manager Modules and Optimax Field-Installable Connectors (continued)

Description	Belden Part Number			
	12 Fiber, Multimode, OM1, 62.5 μm	12 Fiber, Multimode, OM3, 50 μm	24 Fiber, Multimode, OM1, 62.5 μm	24 Fiber, Multimode, OM3, 50 μm

#### FiberExpress Secure/Keyed LC Series Manager

Pre-terminated Modules, MPO-keyed LC				
LC Key1, Red	AX102362	AX102368	AX102374	AX102380
LC Key2, Green	AX102363	AX102369	AX102375	AX102381
LC Key3, Yellow	AX102364	AX102370	AX102376	AX102382
LC Key4, Black	AX102365	AX102371	AX102377	AX102383
LC Key5, Orange	AX102366	AX102372	AX102378	AX102384
LC Key6, Blue	AX102367	AX102373	AX102379	AX102385
LC Key7, Violet	AX103180	AX103186	AX103192	AX103198
LC Key8, Rose	AX103181	AX103187	AX103193	AX103199
LC Key9, Aqua	AX103182	AX103188	AX103194	AX103200
LC KeyA, Brown	AX103183	AX103189	AX103195	AX103201
LC KeyB, Slate	AX103184	AX103190	AX103196	AX103202
LC KeyC, White	AX103185	AX103191	AX103197	AX103203

Description	Belden Part Number	
	Multimode 50 μm for 900 μm Buffered Fiber Only	Multimode 62.5 μm for 900 μm Buffered Fiber Only

#### FiberExpress Secure/Keyed LC Series Connectors

Optimax Connectors		
LC Key1, Red	AX102197	AX102203
LC Key2, Green	AX102198	AX102204
LC Key3, Yellow	AX102199	AX102205
LC Key4, Black	AX102200	AX102206
LC Key5, Orange	AX102201	AX102207
LC Key6, Blue	AX102202	AX102208
LC Key7, Violet	AX103174	AX103168
LC Key8, Rose	AX103175	AX103169
LC Key9, Aqua	AX103176	AX103170
LC KeyA, Brown	AX103177	AX103171
LC KeyB, Slate	AX103178	AX103172
LC KeyC, White	AX103179	AX103173

LC FiberExpress Optimax Accessory Kit for Jacketed Fiber	
Kit contains 2 mm & 3 mm boots and crimp sleeves	AX101984

## FiberExpress Outlets

### MediaFlex® Plates 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 can be mounted over standard NEMA type outlet boxes and rings to provide support for a variety of MediaFlex Adapters and Inserts. The fully modular construction combined with the front access design provides extensive configuration flexibility for current and future network needs. MediaFlex Plates are available in Single Gang and Double Gang configurations.

The Double Gang faceplate comes with a stand-off ring included in the package. This ring allows for easy mounting with virtually any industry electrical box or mud/adaptor rings, therefore providing added installation flexibility.

Each plate has the capacity of up to 6 ports per Single Gang and 12 ports per Double Gang.

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

MediaFlex Surface Adapter Boxes can be mounted over standard NEMA type outlet boxes and rings to provide support for the MediaFlex plates. The MediaFlex Surface Adapter Boxes are

available as a Double Gang configuration. The Double Gang box allows more room for cable management and bend radius control.

MediaFlex MDVO-style Inserts are available in a 2-port configuration in both Flush and Angled versions. They are compatible with all GigaFlex and MDVO Modules (EZ-MDVO and Multimedia). The inserts are two units high for the flush version and three units high for the angled version. Therefore three flush inserts or two angled inserts are required to fully populate a Single Gang MediaFlex Plate.

MediaFlex Multimedia Inserts provide optimum flexibility in configuring multimedia workstation outlets that respond to any present or future network needs. MediaFlex Multimedia Inserts along with other MediaFlex Inserts allow for easy configuration of outlets. All inserts are front loaded and easily snapped in and out of the MediaFlex Plates for easy installation and maintenance.

MediaFlex Multimedia Inserts are available in Angled versions only in order to allow for proper management of cable bend radius. The inserts are three units high, therefore two inserts are required to fully populate a Single Gang faceplate and four inserts will fully populate a Double Gang faceplate.



AX101869, MediaFlex Plate, Double Gang



AX101874, MediaFlex Adapter Box, Double Gang



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



AX101937, MediaFlex SC Duplex Insert, Angled

Description	Belden Part Number					
	Gray	Almond	Elec. White	Black	White	Ivory
<b>FiberExpress Outlets</b>						
<b>MediaFlex Plate</b>						
Single Gang	AX101745	AX101746	AX101747	AX101748	AX102608	AX102569
Double Gang	AX101869	AX101870	AX101871	AX101872	AX102609	AX102570
<b>MediaFlex Adapter Box</b>						
Single Gang	AX102480	AX102481	AX102482	AX102483	AX102484	AX102485
Double Gang	AX101873	AX101874	AX101875	AX101876	AX102610	AX102571
<b>MediaFlex MDVO (style) Insert</b>						
2-port, Flush, bag of 10 units	AX101749	AX101750	AX101751	AX101752	AX102612	AX102572
2-port, Angled, bag of 10 units	AX101753	AX101754	AX101755	AX101756	AX102613	AX102573
<b>MediaFlex SC Duplex</b>						
SC Duplex Single-mode	AX101935	AX101936	AX101937	AX101938	AX102619	AX102649
SC Duplex Multimode	AX101939	AX101940	AX101941	AX101942	AX102620	AX102650

**FiberExpress Outlets**

MDVO Multimedia Outlet Boxes and Modules and Multi-User Outlet Boxes



A0643205, MDVO Multimedia Outlet Box, shown here as terminated



A0407010, MDVO ST Type Fiber Module



AX101467, MT-RJ Adapter



A0649254, SC Duplex Adapter



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

**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 EZ-MDVO, GigaFlex or MDVO Multimedia 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.

**MDVO Multimedia Modules**

MDVO Multimedia Modules address audio/video and fiber applications. Fiber modules are available for LC Duplex, SC Simplex, ST Type multimode and MT-RJ multimode and single-mode connections. 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). Audio/video modules are available for SVHS, RCA, BNC and Video F connections.

**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.

Description	Belden Part Number			
	Gray	Almond	White	Black

**FiberExpress Outlets**

**MDVO Multimedia Outlet Box**

6-port	A0643205	A0643206	A0643207	A0643208
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Please note that SC Duplex adapters must be ordered separately (A0649254).

**MDVO Multimedia Module**

LC Duplex Multimode	AX102209	AX102210	AX102211	AX102212
LC Duplex Single-mode	AX102213	AX102214	AX102215	AX102216
SC Simplex, Multimode, Blue insert	A0407003	A0407004	A0407005	A0407006
SC Duplex Adapter, Multimode	A0649254			
ST Type, Multimode	A0407007	A0407008	A0407009	A0407010
MT-RJ, Multimode	AX101467			
MT-RJ, Single-mode, Blue	AX101466			

Custom multimedia connectors are also available. Please contact Customer Service for more details.

**Multi-User Outlet Box**

24-port	AX100219	AX100220	AX100221	AX100222
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Note: A complete offering of Keystone-style connectors is available. Please contact Customer Service for more information.



## Cable Selection Guide

### Introduction

The Belden line of Optical Fiber Cables represents a selection of the best optical fiber cable products offered by the consolidated resources of the Belden organization. The unmatched resources of Belden have now generated a complete line of indoor and outdoor cable products in tight buffered and loose tube constructions. This offering now expands the applications available for Belden optical fiber cable.

### Customer Service

Most of our optical fiber cables are available from stock. Many of these are available off-the-shelf from distributors. If you have a new or unusual application, or you cannot find a optical fiber cable in this catalog section that meets your technical requirements, contact Technical Support at 1-800-BELDEN-1 for additional information.

## Cable Selection Guide

### Optical Fiber

#### Fiber Selection Chart

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

† 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	Aqua
Single-mode Enhanced	Yellow

Nonstandard jacket colors are available on request.

#### Fiber Sub-unit Color Code Chart\*

Fiber/Tube No.	Color
1	Blue
2	Orange
3	Green
4	Brown
5	Slate
6	White

\*Per TIA/EIA 598-B

Fiber/Tube No.	Color
7	Red
8	Black
9	Yellow
10	Violet
11	Rose
12	Aqua

### 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	Single-mode Enhanced, OS2 <sup>5</sup>
Operating Wavelength (nm)	850/1300	850/1300	850/1300	1300/1550
Min. OFL <sup>1</sup> Bandwidth (MHz-km)	200/600	500/800	1500/500	—
Max. Attenuation Loose Tube (dB/km)	3.5/1.2	3.5/1.2	3.5/1.2	0.40/0.30
Max. Attenuation Tight Buffered <sup>2</sup> (dB/km)	3.50/1.20	3.50/1.5	3.0/1.2	0.50/0.50
1 Gb Ethernet Min. Link Length (meters S/L <sup>3</sup> )	300/550	600/600	900 <sup>4</sup> /550	—/5000
10 Gb Ethernet Min. Link Length (meters S/L <sup>3</sup> )	32/—	82/—	300/—	—/10,000

<sup>1</sup> OFL = Overfilled Launch

<sup>2</sup> Max. Attenuation for Tight Buffered, Ribbon, Micro-Loose Tube and Loose Tube Plenum Cables

<sup>3</sup> S/L = Short wavelength (850 nm) / Long wavelength (1310 nm)

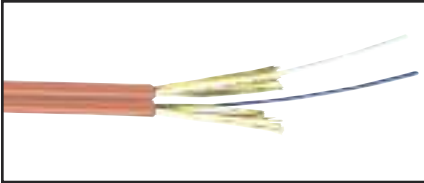
Other performance levels are available on request. Contact Customer Service for more information.

<sup>4</sup> >2000 meters for engineered links

<sup>5</sup> Low water peak Single-mode suitable for CWDM use complies with ITU G.652.c/d

## Interconnect Cable – Simplex and Duplex

Tight Buffer – Riser & Plenum Rated



Duplex Optical Fiber Interconnect Cable

### 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	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

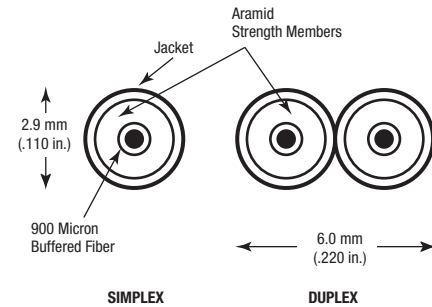
### Specifications

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



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	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	B9W001	0.110	2.9	6	9	119	530
2	B96915	B9A002	B9C002	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	B9W003	0.110	2.9	6	9	119	530
2	B96919	B9A004	B9C004	B9W004	0.11 x 0.22	2.9 x 6.0	12	18	239	1063

## Distribution Cable

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

### 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	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 $\mu\text{m}$	Orange
50/125 $\mu\text{m}$ / 1 Gb	Orange
50/125 $\mu\text{m}$ / 10 Gb	Aqua

### 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

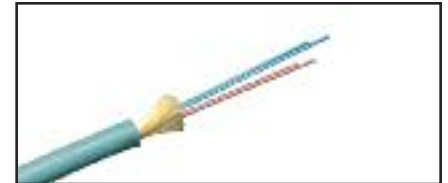
Low Smoke Zero Halogen	
UL Type	OFNR
cUL Type	OFN FT.4
Flame Resistance	UL 1666

### Specifications

Temperature Range	
Storage	-40 to +75°C
Operating/Installation	0 to +70°C

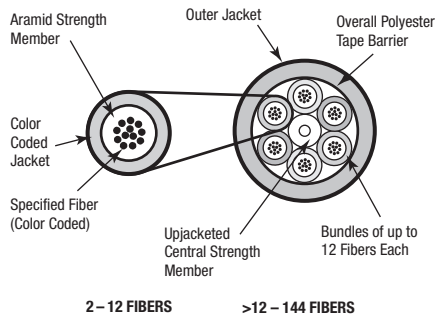
Min. Bend Radius	
Installation	15 x OD
Long Term	10 x OD

Optical Specifications	See page 39
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Optical Fiber Distribution Cable

### Fiber Bundle Detail



## Distribution Cable

Tight Buffer — Riser, Plenum & LSZH Rated

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	OS2 Single-mode Enhanced	Inch	mm	lb/1000 ft.	kg/km	lb	N

### Distribution Cable Series

Riser (NEC/CEC OFNR/OFN FT.4)										
2	B9B037	B9A037	B9C037	B9W037	0.190	4.83	13	19	180	801
4	B9B038	B9A038	B9C038	B9W038	0.190	4.83	17	25	195	867
6	B9B039	B9A039	B9C039	B9W039	0.170	4.40	12	17	286	1272
8	B9B040	B9A040	B9C040	B9W040	0.190	4.80	13	19	239	1063
12	B9B042	B9A042	B9C042	B9W042	0.220	5.59	17	25	239	1063
24	B9B601*	B9A601*	B9C601*	B9W601*	0.550	13.97	121	180	390	1735
24	B9B602	B9A602	B9C602	B9W602	0.496	12.60	83	124	960	4270
36	B9B604	B9A604	B9C604	B9W604	0.620	15.60	147	220	1074	4779
48	B9B606	B9A606	B9C606	B9W606	0.610	15.40	120	180	956	4254
72	B9B609	B9A609	B9C609	B9W609	0.760	19.30	184	275	1434	6381
96	B9B622	B9A622	B9C622	B9W622	0.900	22.80	281	420	1912	8508
144	B9B619	B9A619	B9C619	B9W619	1.000	25.40	288	430	2868	12,762

Riser (NEC/CEC OFNR/OFN FT.4) Indoor Outdoor										
2	B9B037T	B9A037T	B9C037T	B9W037T	0.19	4.8	14	21	303	1350
4	B9B038T	B9A038T	B9C038T	B9W038T	0.19	4.8	15	23	303	1350
6	B9B039T	B9A039T	B9C039T	B9W039T	0.21	5.3	19	28	303	1350
8	B9B040T	B9A040T	B9C040T	B9W040T	0.22	5.6	23	33	303	1350
12	B9B042T	B9A042T	B9C042T	B9W042T	0.24	6.0	26	38	303	1350
24	B9B601T	B9A601T	B9C601T	B9W601T	0.67	16.9	169	252	1078	4800
24	B9B602T*	B9A602T*	B9C602T*	B9W602T*	0.33	0.3	46	69	600	2670
36	B9B604T	B9A604T	B9C604T	B9W604T	0.67	16.9	178	265	1348	6000
48	B9B606T	B9A606T	B9C606T	B9W606T	0.67	16.9	187	278	1618	7200
72	B9B609T	B9A609T	B9C609T	B9W609T	0.81	20.7	233	346	2360	10,500

Plenum (NEC/CEC OFNP/OFN FT.6)										
2	B9B043	B9A043	B9C043	B9W043	0.190	4.83	13	19	180	801
4	B9B044	B9A044	B9C044	B9W044	0.190	4.83	17	25	195	867
6	B9B045	B9A045	B9C045	B9W045	0.170	4.40	12	17	286	1272
8	B9B046	B9A046	B9C046	B9W046	0.190	4.80	13	19	239	1063
12	B9B048	B9A048	B9C048	B9W048	0.220	5.59	17	25	239	1063
24	B9B611*	B9A611*	B9C611*	B9W611*	0.550	13.97	121	180	390	1735
24	B9B612	B9A612	B9C612	B9W612	0.496	12.60	83	124	960	4270
36	B9B614	B9A614	B9C614	B9W614	0.620	15.60	147	220	1074	4779
48	B9B616	B9A616	B9C616	B9W616	0.610	15.40	120	180	956	4254
72	B9B620	B9A620	B9C620	B9W620	0.760	19.30	184	275	1434	6381
96	B9B623	B9A623	B9C623	B9W623	0.900	22.80	281	420	1912	8508
144	B9B621	B9A621	B9C621	B9W621	1.000	25.40	288	430	2868	12,762

Construction for LSZH cables differs from the drawing. Alternative fiber counts are available.

\*Single jacket design.

For product details on the Indoor/Outdoor fiber cables, contact [1.800.BELDEN.1](tel:1.800.BELDEN.1) or [www.belden.com](http://www.belden.com).

## Distribution Cable

Tight Buffer — Riser, Plenum & LSZH Rated (continued)

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	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	B9B043T	B9A043T	B9C043T	B9W043T	0.19	4.8	18	27	243	1082
4	B9B044T	B9A044T	B9C044T	B9W044T	0.19	4.8	18	27	243	1082
6	B9B045T	B9A045T	B9C045T	B9W045T	0.22	5.5	22	33	243	1082
8	B9B046T	B9A046T	B9C046T	B9W046T	0.24	6.0	26	38	388	1726
12	B9B048T	B9A048T	B9C048T	B9W048T	0.26	7.0	34	50	388	1726
24	B9B611T*	B9A611T*	B9C611T*	B9W611T*	0.33	8.5	54	80	398	1744
LSZH (NEC/CEC OFNR/OFN FT.4)										
2	B9B100	B9A100	B9C100	B9W100	0.184	4.70	15	22	180	800
4	B9B101	B9A101	B9C101	B9W101	0.200	5.10	17	25	195	867
6	B9B102	B9A102	B9C102	B9W102	0.220	5.60	21	31	270	1201
8	B9B103	B9A103	B9C103	B9W103	0.235	6.00	24	36	270	1201
12	B9B104	B9A104	B9C104	B9W104	0.255	6.50	29	43	300	1334
16	B9B105	B9A105	B9C105	B9W105	0.347	8.80	43	63	315	1400
24	B9B107	B9A107	B9C107	B9W107	0.386	9.80	54	79	450	2000
36	B9B111	B9A111	B9C111	B9W111	0.798	20.00	214	313	1619	7200
48	B9B112	B9A112	B9C112	B9W112	0.835	21.20	237	347	1619	7200
72	B9B114	B9A114	B9C114	B9W114	0.883	22.40	270	395	1619	7200
96	B9B116	B9A116	B9C116	B9W116	0.973	24.70	364	532	1619	7200
144	B9B120	B9A120	B9C120	B9W120	1.087	27.60	384	561	1619	7200

Construction for LSZH cables differs from the drawing. Alternative fiber counts are available.

\*Single jacket design.

For product details on the Indoor/Outdoor fiber cables, contact [1.800.BELDEN.1](tel:1.800.BELDEN.1) or [www.belden.com](http://www.belden.com).

## 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	Thermoplastic
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

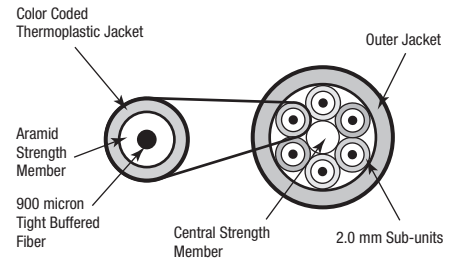
### Specifications

Temperature Range	
Storage	-40 to +75°C
Operating/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



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	OS2 Single-mode Enhanced	Inch	mm	lb/1000 ft.	kg/km	lb	N

### Breakout Cable Series

Riser (NEC/CEC OFNR/OFN FT.4)										
2	B9B005	B9A005	B9C005	B9W005	0.335	8.50	44	65	448	2000
4	B9B006	B9A006	B9C006	B9W006	0.330	8.50	44	65	448	2000
6	B9B007	B9A007	B9C007	B9W007	0.400	10.10	64	95	674	3000
8	B9B008	B9A008	B9C008	B9W008	0.460	11.60	84	125	899	4000
10	B9B009	B9A009	B9C009	B9W009	0.580	14.70	138	205	1398	6000
12	B9B010	B9A010	B9C010	B9W010	0.580	14.70	138	205	1398	6000
18	B9B011	B9A011	B9C011	B9W011	0.587	14.90	138	205	1398	6000
24	B9B012	B9A012	B9C012	B9W012	0.650	16.60	118	175	600	2670

Plenum (NEC/CEC OFNP/OFN FT.6)										
2	B9B013	B9A013	B9C013	B9W013	0.354	6.57	57	85	448	2000
4	B9B014	B9A014	B9C014	B9W014	0.360	6.68	57	45	448	2000
6	B9B015	B9A015	B9C015	B9W015	0.420	7.85	79	61	674	3000
8	B9B016	B9A016	B9C016	B9W016	0.480	8.53	105	82	899	4000
10	B9B017	B9A017	B9C017	B9W017	0.610	9.93	169	97	1398	6000
12	B9B018	B9A018	B9C018	B9W018	0.610	9.93	169	97	1398	6000
18	B9B019	B9A019	B9C019	B9W019	0.587	14.90	138	205	1398	6000
24	B9B020	B9A020	B9C020	B9W020	0.650	16.60	118	175	600	2670



## Breakout Style Cable

Tight Buffer — Indoor Riser, Plenum & LSZH Rated (continued)



No. of Fibers	Belden Part Number				Outside Diameter		Weight		Max. Install Load	
	OM1 62.5 / 125 $\mu$ m Std. / 1 Gb	OM2 50 / 125 $\mu$ m Std. / 1 Gb	OM3 50 / 125 $\mu$ m 10 Gb – 300 m	OS2 Single-mode Enhanced	Inch	mm	lb/1000 ft.	kg/km	lb	N
<b>LSZH (NEC/CEC OFNR/OFN FT.4)</b>										
2	B9B130	B9A130	B9C130	B9W130	0.290	7.37	39	57	270	1200
4	B9B131	B9A131	B9C131	B9W131	0.351	8.92	38	55	285	1268
6	B9B132	B9A132	B9C132	B9W132	0.358	9.09	52	76	543	2415
8	B9B133	B9A133	B9C133	B9W133	0.405	10.29	67	98	600	2700
10	B9B134	B9A134	B9C134	B9W134	0.455	11.56	110	162	600	2700
12	B9B135	B9A135	B9C135	B9W135	0.514	13.06	110	161	600	2700
18	B9B136	B9A136	B9C136	B9W136	0.520	13.21	103	151	600	2700
24	B9B137	B9A137	B9C137	B9W137	0.590	14.99	138	202	600	2700
36	B9B138	B9A138	B9C138	B9W138	0.680	17.27	171	250	600	2700

2.5 mm Breakout Cables are also available.

## Interlocked Armor Distribution Cable

Tight Buffer — 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	Plenum	Thermoplastic
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

Plenum	OFCP
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### Specifications

Temperature Range	
Storage	-40 to +70°C
Operating	-20 to +70°C
Crush Resistance (EIA-455-41)	2000 N/cm
Impact Resistance (EIA-455-25)	2000 Impacts @ 3.0 N-m

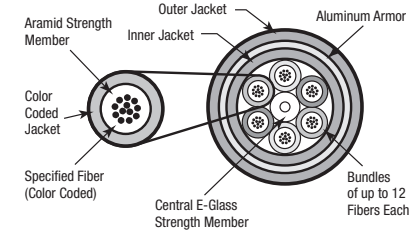


Armored Optical Fiber Distribution Cable

Min. Bend Radius	
Installation	20 x OD
Long Term	15 x OD

Optical Specifications	See page 39
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### 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	OS2 Single-mode Enhanced	Inch	mm	lb/1000 ft.	kg/km	lb	N

### Industrial Armored Series

Riser (NEC/CEC OFCR/OFC FT.4)										
6	B9B230	B9A230	B9C230	B9W230	0.570	14.48	23.24	35	286	1272
12	B9B231	B9A231	B9C231	B9W231	0.570	14.48	28.24	42	239	1063
24	B9B232*	B9A232*	B9C232*	B9W232*	0.670	17.02	54.72	81	641	2852
24	B9B233	B9A233	B9C233	B9W233	0.920	23.27	140.93	210	641	2852
36	B9B234	B9A234	B9C234	B9W234	0.970	24.64	144.67	215	717	3190
48	B9B235	B9A235	B9C235	B9W235	0.970	24.64	144.67	215	985	4254
72	B9B236	B9A236	B9C236	B9W236	1.120	28.45	213.06	317	1434	5381
96	B9B237	B9A237	B9C237	B9W237	1.270	32.26	314.45	468	1912	8608
144	B9B238	B9A238	B9C238	B9W238	1.320	33.53	322.91	481	2868	12762

Plenum (NEC/CEC OFCP/OFC FT.6)										
6	B9B240	B9A240	B9C240	B9W240	0.57	14.48	24.24	36	286	1272
12	B9B241	B9A241	B9C241	B9W241	0.57	14.48	31.24	46	239	1063
24	B9B242*	B9A242*	B9C242*	B9W242*	0.67	17.02	59.72	89	641	2852
24	B9B243	B9A243	B9C243	B9W243	0.92	23.37	153.93	229	641	2852
36	B9B244	B9A244	B9C244	B9W244	0.97	24.64	158.67	236	717	3190
48	B9B245	B9A245	B9C245	B9W245	0.97	24.64	158.67	236	986	4254
72	B9B246	B9A246	B9C246	B9W246	1.12	28.45	240.06	357	1434	6381
96	B9B247	B9A247	B9C247	B9W247	1.27	32.26	328.45	489	1912	8508
144	B9B248	B9A248	B9C248	B9W248	1.32	33.53	336.91	501	2868	12,762

Additional optical fiber cable constructions are available upon request.  
\*Single jacket design.

## Ribbon Cable

Riser and Plenum Rated

### Applications

- Inter-equipment connections
- NEBS applications
- Direct interface to computers with the use of "backbone" style fiber connectors
- High density interconnection to wall outlets or patch panels with ribbon connector interfaces
- "Micro-diameter" fan-out cables utilizing standard industry fiber connectors (ST, SC, FC, LC, MT-RJ)
- VSR OC-192/OC-768 interface based on parallel fiber optics

### Product Description

Small size is ideal for connections in tight spaces. Color coded fibers. Suitable for use with standard ribbon connectors. Flexible, with half-inch minimum bend radius. Tight center-to-center tolerances. Optional identification printing available.

Jacket Material PVC

Strength Member Aramid Yarn

Color Code Per TIA/EIA 598-B,  
(Jacket & Fibers) See page 39

Jacket Color

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

### Ratings

<b>Riser</b>	
UL Type	OFNR
cUL Type	OFN FT.4
Flame Resistance	UL 1666

<b>Plenum</b>	
UL Type	OFNP
cUL Type	OFN FT.6
Flame Resistance	NFPA 262

### Specifications

<b>Temperature Range</b>	
Storage	-40 to +75°C
Operating/Installation	0° to +70°C

<b>Crush Resistance</b> (EIA-455-41)	2000 Ncm
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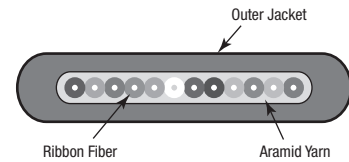
<b>Impact Resistance</b> (EIA-455-25)	2000 Impacts @ 1.6 N-m
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<b>Cyclic Flexing</b> (EIA-455-104)	2000 cycles, min.
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<b>Min. Bend Radius</b>	
Installation	15 x OD
Long Term	10 x OD

<b>Optical Specifications</b>	See page 39
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### 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	OS2 Single-mode Enhanced	Inch	mm	lb/1000 ft.	kg/km	lb	N

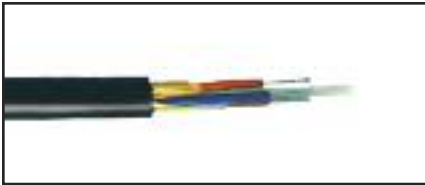
### Ribbon Series

<b>Riser (NEC/CEC OFNR/OFN FT.4)</b>										
2	B9B630	B9A630	B9C630	B9W630	0.11	2.9	5	7	100	444
4	B9B631	B9A631	B9C631	B9W631	0.08 x 0.158	2.1 x 4.0	4	6	100	444
6	B9B632	B9A632	B9C632	B9W632	0.08 x 0.158	2.1 x 4.0	6	9	100	444
8	B9B633	B9A633	B9C633	B9W633	0.08 x 0.158	2.1 x 4.0	6	9	100	444
12	B9B634	B9A634	B9C634	B9W634	0.08 x 0.180	2.1 x 4.6	7	10	100	444
<b>Plenum (NEC/CEC OFNP/OFN FT.6)</b>										
2	B9B640	B9A640	B9C640	B9W640	0.11	2.9	5	7	100	444
4	B9B641	B9A641	B9C641	B9W641	0.08 x 0.158	2.1 x 4.0	4	6	100	444
6	B9B642	B9A642	B9C642	B9W642	0.08 x 0.158	2.1 x 4.0	6	9	100	444
8	B9B643	B9A643	B9C643	B9W643	0.08 x 0.158	2.1 x 4.0	6	9	100	444
12	B9B644	B9A644	B9C644	B9W644	0.08 x 0.180	2.1 x 4.6	7	10	100	444

Fiber Ribbon Cable is to be sold as bulk cable and has not been qualified for field connectorization.

**Single Jacket, All Dielectric Cable**

Loose Tube — Outdoor, and Indoor/Outdoor Riser Rated



Single Jacket, All Dielectric Optical Fiber Cable

**Applications**

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

**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	PE
Outdoor	Thermoplastic
Riser	
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

**Specifications**

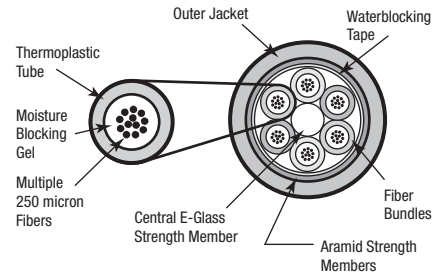
Temperature Range (Outdoor Series)	
Storage	-40 to +75°C
Operating	-40 to +70°C

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
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**Fiber Bundle Detail**



## Single Jacket, All Dielectric Cable

Loose Tube — Outdoor, and Indoor/Outdoor Riser Rated (continued)

No. of Fibers	Fibers Per Tube	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	OS2 Single-mode Enhanced	Inch	mm	lb/1000 ft.	kg/km	lb	N

### Loose Tube Series

Outdoor											
6	6	B9B510T	B9A510T	B9C510T	B9W510T	0.41	10.5	57	85	600	2700
12	12	B9B511T	B9A511T	B9C511T	B9W511T	0.41	10.5	57	85	600	2700
24	12	B9B500T	B9A500T	B9C500T	B9W500T	0.41	10.5	60	90	600	2700
36	12	B9B502T	B9A502T	B9C502T	B9W502T	0.41	10.5	60	90	600	2700
48	12	B9B505T	B9A505T	B9C505T	B9W505T	0.41	10.5	60	90	600	2700
72	12	B9B507T	B9A507T	B9C507T	B9W507T	0.45	11.5	71	105	600	2700
96	12	B9B513T	B9A513T	B9C513T	B9W513T	0.52	13.2	84	125	600	2700
144	12	B9B509T	B9A509T	B9C509T	B9W509T	0.67	17.0	148	220	600	2700
216	12	B9B520T	B9A520T	B9C520T	B9W520T	0.69	17.4	150	223	600	2700
Riser (NEC/CEC OFNR/OFN FT.4)											
6	6	B9B810	B9A810	B9C810	B9W810	0.51	12.9	110	164	600	2700
12	12	B9B811	B9A811	B9C811	B9W811	0.51	12.9	110	164	600	2700
24	12	B9B812	B9A812	B9C812	B9W812	0.51	12.9	110	164	600	2700
36	12	B9B813	B9A813	B9C813	B9W813	0.51	12.9	110	164	600	2700
48	12	B9B814	B9A814	B9C814	B9W814	0.51	12.9	110	164	600	2700
72	12	B9B815	B9A815	B9C815	B9W815	0.54	13.7	128	190	600	2700
96	12	B9B816	B9A816	B9C816	B9W816	0.61	15.5	148	220	600	2700
144	12	B9B817	B9A817	B9C817	B9W817	0.76	19.3	196	291	600	2700

Alternative fiber counts are available.



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	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)										
6	B9B830	B9A830	B9C830	B9W830	0.38	9.65	71	105	600	2700
12	B9B831	B9A831	B9C831	B9W831	0.38	9.65	71	105	600	2700
24	B9B832	B9A832	B9C832	B9W832	0.38	9.65	71	105	600	2700
48	B9B834	B9A834	B9C834	B9W834	0.48	12.18	101	151	600	2700

## Single Jacket, All Dielectric Cable

Loose Tube — Indoor/Outdoor Plenum Rated



Single Jacket, All Dielectric Optical Fiber Cable

### 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	Thermoplastic
Buffer Tube		Thermoplastic
Strength Member	E-Glass and Aramid Yarn	
Central Strength Member	Upjacketed	
Color Code (Buffer)	Per TIA/EIA 598-B, See page 39	
Jacket Color	Black	

### Ratings

Plenum	
UL Type	OFNP
cUL Type	OFN FT.6
Flame Resistance	NFPA 262

### Specifications

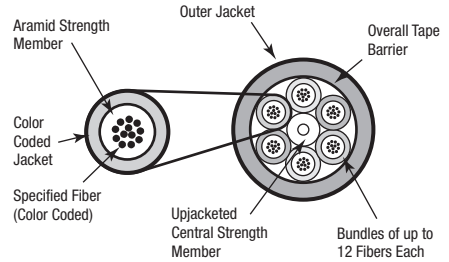
Temperature Range	
Storage	-40 to +80°C
Operating	-40 to +70°C
Installation	0 to +60°C

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



No. of Fibers	Fibers Per Tube	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	OS2 Single-mode Enhanced	Inch	mm	lb/1000 ft.	kg/km	lb	N

### Loose Tube Series

Plenum (NEC/CEC OFNP/OFN FT.6)											
6	6	B9B202	B9A202	B9C202	B9W202	0.265	6.70	33	49	320	1423
12	12	B9B204	B9A204	B9C204	B9W204	0.265	6.70	33	49	320	1423
24	12	B9B205	B9A205	B9C205	B9W205	0.359	9.12	47	70	405	1801
36	12	B9B206	B9A206	B9C206	B9W206	0.359	9.12	47	70	405	1801
48	12	B9B207	B9A207	B9C207	B9W207	0.359	9.12	48	71	405	1801
72	12	B9B209	B9A209	B9C209	B9W209	0.429	10.90	71	106	585	2602
96	12	B9B211	B9A211	B9C211	B9W211	0.501	12.73	105	156	903	4017
144	12	B9B215	B9A215	B9C215	B9W215	0.665	16.89	189	281	1263	5618

Alternative fiber counts and hybrid constructions are available.

## Double Jacket, Armored Cable

Loose Tube – Outdoor, and Indoor/Outdoor Riser Rated

### Applications

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

### 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.

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

### Ratings

Riser	OFCR
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### Specifications

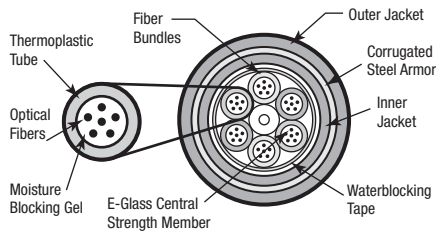
<b>Temperature Range (Outdoor)</b>	
Storage	-40 to +75°C
Operating	-40 to +70°C

<b>Temperature Range (Riser)</b>	
Storage	-40 to +80°C
Operating	-40 to +70°C

<b>Min. Bend Radius</b>	
Installation	20 x OD
Long Term	15 x OD

<b>Optical Specifications</b>	See page 39
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### Fiber Bundle Detail





## Double Jacket, Armored Cable

Loose Tube – Outdoor, and Indoor/Outdoor Riser Rated (continued)

No. of Fibers	Fibers Per Tube	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	OS2 Single-mode Enhanced	Inch	mm	lb/1000 ft.	kg/km	lb	N

### Loose Tube Series – Armored

Outdoor											
6	6	B9B381T	B9A381T	B9C381T	B9W381T	0.62	15.5	134	200	600	2670
12	12	B9B382T	B9A382T	B9C382T	B9W382T	0.62	15.5	134	200	600	2670
24	12	B9B384T	B9A384T	B9C384T	B9W384T	0.62	15.5	134	200	600	2670
36	12	B9B386T	B9A386T	B9C386T	B9W386T	0.62	15.5	134	200	600	2670
48	12	B9B389T	B9A389T	B9C389T	B9W389T	0.62	15.5	134	200	600	2670
72	12	B9B391T	B9A391T	B9C391T	B9W391T	0.62	16.4	138	206	600	2670
96	12	B9B398T	B9A398T	B9C398T	B9W398T	0.72	18.2	170	254	600	2670
144	12	B9B393T	B9A393T	B9C393T	B9W393T	0.90	22.9	259	385	600	2670

Riser (NEC/CEC OFCR/OFC FT.4)											
6	6	B9B890	B9A890	B9C890	B9W890	0.62	15.5	138	205	600	2700
12	12	B9B891	B9A891	B9C891	B9W891	0.62	15.5	138	205	600	2700
24	12	B9B892	B9A892	B9C892	B9W892	0.62	15.5	138	205	600	2700
36	12	B9B893	B9A893	B9C893	B9W893	0.62	15.5	138	205	600	2700
48	12	B9B894	B9A894	B9C894	B9W894	0.62	15.5	176	262	600	2700
72	12	B9B895	B9A895	B9C895	B9W895	0.65	16.4	172	256	600	2700
96	12	B9B896	B9A896	B9C896	B9W896	0.72	18.2	206	307	600	2700
144	12	B9B897	B9A897	B9C897	B9W897	0.90	22.9	302	449	600	2700

## Double Jacket, Heavy-Duty Cable

Loose Tube — Outdoor

### Applications

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

### Product Description

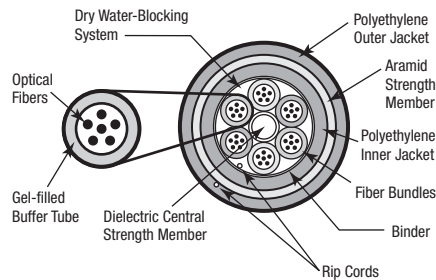
Gel-filled buffer tube prevents water migration. Available with up to 216 fibers.

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

### Specifications

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

### Fiber Bundle Detail



No. of Fibers	Fibers Per Tube	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	OS2 Single-mode Enhanced	Inch	mm	lb/1000 ft.	kg/km	lb	N

### Loose Tube Series — Heavy Duty

Outdoor											
2	2	B9B840	B9A840	B9C840	B9W840	0.49	12.5	84	125	600	2700
4	4	B9B841	B9A841	B9C841	B9W841	0.49	12.5	84	125	600	2700
6	6	B9B842	B9A842	B9C842	B9W842	0.49	12.5	84	125	600	2700
8	8	B9B843	B9A843	B9C843	B9W843	0.49	12.5	84	125	600	2700
12	12	B9B844	B9A844	B9C844	B9W844	0.49	12.5	84	125	600	2700
18	12	B9B845	B9A845	B9C845	B9W845	0.49	12.5	84	125	600	2700
24	12	B9B846	B9A846	B9C846	B9W846	0.49	12.5	84	125	600	2700
36	12	B9B847	B9A847	B9C847	B9W847	0.49	12.5	84	125	600	2700
48	12	B9B848	B9A848	B9C848	B9W848	0.49	12.5	84	125	600	2700
72	12	B9B849	B9A849	B9C849	B9W849	0.53	13.4	97	144	600	2700
96	12	B9B820	B9A820	B9C820	B9W820	0.60	15.2	121	180	600	2700
144	12	B9B821	B9A821	B9C821	B9W821	0.75	19.0	184	274	600	2700
216	12	B9B822	B9A822	B9C822	B9W822	0.76	19.3	187	278	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

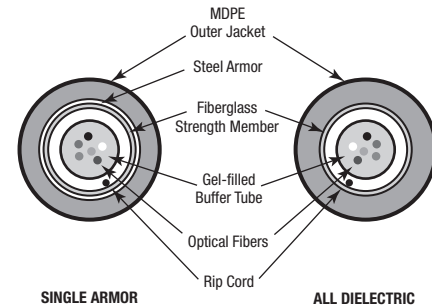
### Specifications

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
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### 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	OS2 Single-mode Enhanced	Inch	mm	lb/1000 ft.	kg/km	lb	N

### Central Tube Series

Outdoor										
2	B9B150	B9A150	B9C150	B9W150	0.325	8.26	50	75	600	2700
4	B9B151	B9A151	B9C151	B9W151	0.325	8.26	50	75	600	2700
6	B9B152	B9A152	B9C152	B9W152	0.325	8.26	50	75	600	2700
8	B9B153	B9A153	B9C153	B9W153	0.325	8.26	50	75	600	2700
10	B9B154	B9A154	B9C154	B9W154	0.325	8.26	50	75	600	2700
12	B9B155	B9A155	B9C155	B9W155	0.325	8.26	50	75	600	2700

Outdoor Armored										
2	B9B170	B9A170	B9C170	M9W170	0.310	7.80	34	50	600	2700
4	B9B171	B9A171	B9C171	B9W171	0.310	7.80	34	50	600	2700
6	B9B172	B9A172	B9C172	B9W172	0.310	7.80	34	50	600	2700
8	B9B173	B9A173	B9C173	B9W173	0.310	7.80	34	50	600	2700
10	B9B174	B9A174	B9C174	B9W174	0.310	7.80	34	50	600	2700
12	B9B175	B9A175	B9C175	B9W175	0.310	7.80	34	50	600	2700

## TrayOptic® Heavy-Duty, All Dielectric Cable

Loose Tube — Indoor/Outdoor Riser Rated

### 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 383-2003 flame test. Waterblocking agent for moisture protection. CPE outer jacket option provides extra chemical or abrasion resistance.

Fiber Type	62.5/125μ
Jacket Material	PVC or CPE
Strength Member	Aramid Yarn
Jacket Color	Orange

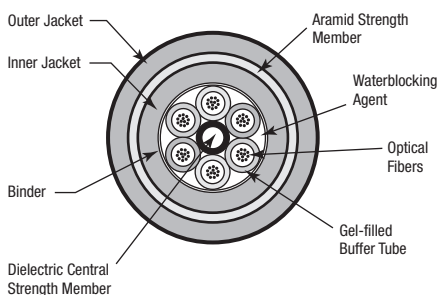
### Ratings

Riser	
UL Type	OFNR
cUL Type	OFN FT.4
Flame Resistance	IEEE 383-2003

### Specifications

Temperature Range	
Storage	-40 to +70°C
Operating	-40 to +70°C
Crush Resistance	2000 N/cm (EIA-455-41)
Impact Resistance	2000 impacts@ 1.6N-m (EIA-455-25)
Cyclic Flexing	25 cycles, 12 lbs., 20 x OD radius min. (EIA-455-104)
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



No. of Fibers	Fibers Per Tube	PVC Jacket			CPE Jacket			Outside Diameter	
		Belden Part No.	Weight lb/1000 ft.	Weight kg/km	Belden Part No.	Weight lb/1000 ft.	Weight kg/km	Inches	mm

### TrayOptic Series

Riser (NEC/CEC OFNR/OFN FT.4)									
2	2	I100255	88	131	I100266	83	124	0.440	11.18
4	4	I100455	88	131	I100466	83	124	0.440	11.18
6	6	I100655	88	131	I100666	83	124	0.440	11.18
8	4	I400855	88	131	I400866	83	124	0.440	11.18
12	6	I601255	88	131	I601266	83	124	0.440	11.18
18	6	I601855	88	131	I601866	83	124	0.440	11.18
24	6	I602455	88	131	I602466	83	124	0.440	11.18
36	6	I603655	88	131	I603666	83	124	0.440	11.18
48	12	I604855	136	202	I604866	129	192	0.540	13.72
60	12	I606055	136	202	I606066	129	192	0.540	13.72
72	12	I607255	136	202	I607266	129	192	0.540	13.72

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AX203039	31	AX203116	33	B9*044T	43	B9*507T	49	I601255	55		
AX203040	31	AX203117	33	B9*045	42	B9*509T	49	I601266	55		
AX203041	31	AX203118	33	B9*045T	43	B9*510T	49	I601855	55		
AX203042	31	AX203119	33	B9*046	42	B9*511T	49	I601866	55		
AX203043	31	AX250001	14	B9*046T	43	B9*513T	49	I602455	55		
AX203044	31	AX250005	14	B9*048	42	B9*520T	49	I602466	55		
AX203045	31	AX250009	14	B9*048T	43	B9*601	42	I603655	55		
AX203046	31	AX250011	14	B9*100	43	B9*601T	42	I603666	55		
AX203047	31	AX250021	12	B9*101	43	B9*602	42	I604855	55		
AX203048	32	AX250052	14	B9*102	43	B9*602T	42	I604866	55		
AX203049	32	AX250054	14	B9*103	43	B9*604	42	I606055	55		
AX203050	32	AX250060	12	B9*104	43	B9*604T	42	I606066	55		
AX203051	32	AX250061	12	B9*105	43	B9*606	42	I607255	55		
AX203052	32	AX250065	12	B9*107	43	B9*606T	42	I607266	55		
AX203053	32	AX250066	12	B9*111	43	B9*609	42	MX100154	14		
AX203054	32	AX250067	12	B9*112	43	B9*609T	42	NOT0651	9		
AX203055	32	AX250071	12	B9*114	43	B9*611	42	NXC-MPFL-LCPFBN-			
AX203056	32	AX250072	12	B9*116	43	B9*611T	43	LCPFBN-0-0010	13		
AX203057	32	AX250073	12	B9*120	43	B9*612	42	NXC-MPFL-LDPFEN-			
AX203058	32	AX250105	12	B9*130	45	B9*614	42	LDPFEN-0-0010	13		
AX203059	32	AX250106	12	B9*131	45	B9*616	42	NXC-MPFX-LCPFBN-			
AX203060	32	AX250178	14	B9*132	45	B9*619	42	LCPFBN-0-0010	13		
AX203061	32	AX250179	14	B9*133	45	B9*620	42	NXC-MPFX-LDPFEN-			
AX203062	32	AX250180	14	B9*134	45	B9*621	42	LDPFEN-0-0010	13		
AX203063	32	AX250224	12	B9*135	45	B9*622	42	NXC-MPSL-LCUFBN-			
AX203064	32	AX250345	12	B9*136	45	B9*623	42	LCUFBN-0-0010	13		
AX203065	32	AX250349	12	B9*137	45	B9*630	47	NXC-MPSL-LDUFEN-			
AX203066	32	AX250376	12	B9*138	45	B9*631	47	LDUFEN-0-0010	13		
AX203067	32	AX250387	12	B9*150	54	B9*632	47	NXC-MPSX-LCUFBN-			
AX203068	32	AX250412	12	B9*151	54	B9*633	47	LCUFBN-0-0010	13		
AX203069	32	AX250413	12	B9*152	54	B9*634	47	NXC-MPSX-LDUFEN-			
AX203070	32	AX250457	12	B9*153	54	B9*640	47	LDUFEN-0-0010	13		
AX203071	32	AX250458	12	B9*154	54	B9*641	47	NXC-MRFL-LCPFBN-			
AX203072	32	AX250459	14	B9*155	54	B9*642	47	LCPFBN-0-0010	13		
AX203073	32	AX250460	14	B9*170	54	B9*643	47	NXC-MRFL-LDPFEN-			
AX203074	32	AX250461	14	B9*171	54	B9*644	47	LDPFEN-0-0010	13		
AX203075	32	AX250539	14	B9*172	54	B9*810	49	NXC-MRFX-LCPFBN-			
AX203076	32	AX250540	14	B9*173	54	B9*811	49	LCPFBN-0-0010	13		
AX203077	32	AX250541	14	B9*174	54	B9*812	49	NXC-MRFX-LDPFEN-			
AX203078	32	AX250542	14	B9*175	54	B9*813	49	LDPFEN-0-0010	13		
AX203079	32	B96915	40	B9*202	50	B9*814	49	NXC-MRSL-LCUFBN-			
AX203080	32	B96919	40	B9*204	50	B9*815	49	LCUFBN-0-0010	13		
AX203081	32	B97112	40	B9*205	50	B9*816	49				





## Belden Customer Care

### Expert Service and Support

The FiberExpress product line is indicative of our Total Enterprise Networks™ promise – or, our commitment to deliver high-performance, reliable signal transmission solutions that simplify your operations and offer peace of mind. Having the best products and systems in the industry goes a long way toward actualizing this promise, but the strong service orientation and system expertise that resides with Belden professionals, and with our partners, ensures our total quality commitment.

### The Best Design and Installation Partners

Belden's authorized Certified System Vendors (CSVs) are leading networking contractors who have been selected using stringent qualification and selection criteria. Through rigorous training and evaluation, we ensure that all CSVs have the ability to design, install, and maintain our

industry-leading copper and optical fiber structured cabling solutions across the Enterprise, including the data center and LAN. To complete our service offering, Belden CSVs are supported by national and international distribution networks who make sure that our industry-leading products and solutions are stocked and ready for your installation.

Only Belden has your networking transmission needs covered to this extent – industry-leading products and solutions stocked and supported through an extensive, worldwide distribution network and designed, installed and maintained by CSVs trained to provide the best possible signal transmission solution for your application.

### A Total Quality Approach

Belden products and systems are backed by what are arguably the best warranty programs offered in the industry today. We also believe that the *ultimate* warranty program is one that you will never need to use.

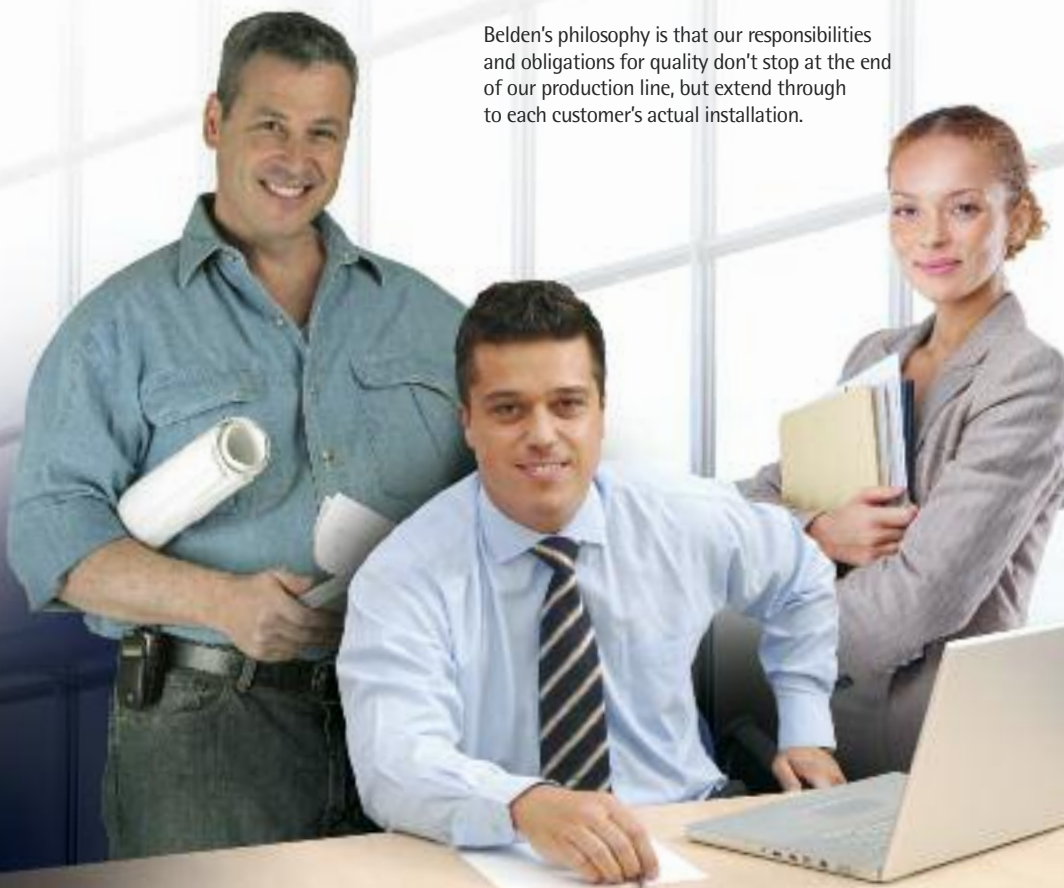
Belden's philosophy is that our responsibilities and obligations for quality don't stop at the end of our production line, but extend through to each customer's actual installation.

But because we understand that you expect to have your infrastructure investments protected by comprehensive, long-term warranties that parallel the expected operational lifespan of the asset, we offer two powerful warranty vehicles: one covering the quality of the individual components for 25 years, and the second guaranteeing the end-to-end performance of the System for the entire installed lifetime of the network.

No other company offers such a high quality product line – backed by the industry's strongest support organization and comprehensive warranty programs.

### Contact Belden Today

For more information about our components and systems, or our warranties, please call: **1.800.BELDEN.1** (U.S.A. and Canada) or 1.514.822.7593 (International).





**GLOBAL LOCATIONS**

**Customer Service:  
800-BELDEN-1 (800-235-3361)**

See [www.belden.com](http://www.belden.com) for a complete listing of Belden locations.



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Компания «Океан Электроники» предлагает заключение долгосрочных отношений при поставках импортных электронных компонентов на взаимовыгодных условиях!

Наши преимущества:

- Поставка оригинальных импортных электронных компонентов напрямую с производств Америки, Европы и Азии, а так же с крупнейших складов мира;
- Широкая линейка поставок активных и пассивных импортных электронных компонентов (более 30 млн. наименований);
- Поставка сложных, дефицитных, либо снятых с производства позиций;
- Оперативные сроки поставки под заказ (от 5 рабочих дней);
- Экспресс доставка в любую точку России;
- Помощь Конструкторского Отдела и консультации квалифицированных инженеров;
- Техническая поддержка проекта, помощь в подборе аналогов, поставка прототипов;
- Поставка электронных компонентов под контролем ВП;
- Система менеджмента качества сертифицирована по Международному стандарту ISO 9001;
- При необходимости вся продукция военного и аэрокосмического назначения проходит испытания и сертификацию в лаборатории (по согласованию с заказчиком);
- Поставка специализированных компонентов военного и аэрокосмического уровня качества (Xilinx, Altera, Analog Devices, Intersil, Interpoint, Microsemi, Actel, Aeroflex, Peregrine, VPT, Syfer, Eurofarad, Texas Instruments, MS Kennedy, Miteq, Cobham, E2V, MA-COM, Hittite, Mini-Circuits, General Dynamics и др.);

Компания «Океан Электроники» является официальным дистрибьютором и эксклюзивным представителем в России одного из крупнейших производителей разъемов военного и аэрокосмического назначения «JONHON», а так же официальным дистрибьютором и эксклюзивным представителем в России производителя высокотехнологичных и надежных решений для передачи СВЧ сигналов «FORSTAR».



## JONHON

«JONHON» (основан в 1970 г.)

Разъемы специального, военного и аэрокосмического назначения:

(Применяются в военной, авиационной, аэрокосмической, морской, железнодорожной, горно- и нефтедобывающей отраслях промышленности)

«FORSTAR» (основан в 1998 г.)

ВЧ соединители, коаксиальные кабели,  
кабельные сборки и микроволновые компоненты:

(Применяются в телекоммуникациях гражданского и специального назначения, в средствах связи, РЛС, а так же военной, авиационной и аэрокосмической отраслях промышленности).



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