BELDEN
SENDING ALL THE RIGHT SIGNALS

16 Commercial Networking: Optical Fiber

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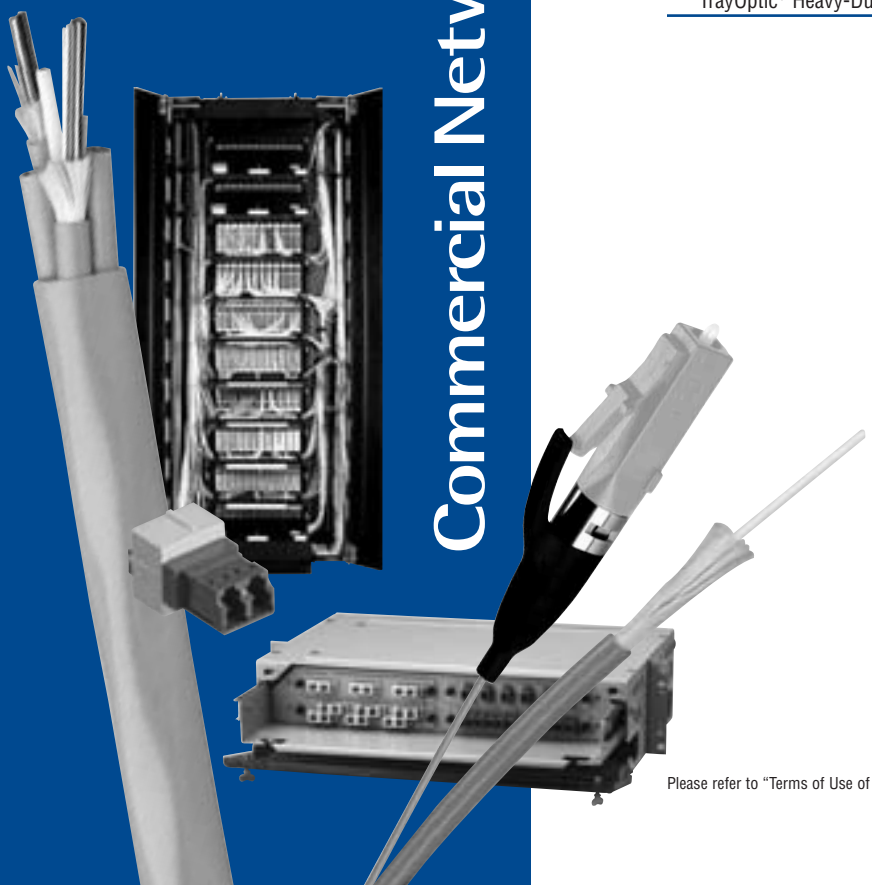


Please refer to “Terms of Use of Master Catalog” on page 22.22

Introduction

Belden IBDN FiberExpress Systems

Optical fiber systems offer many benefits: high bandwidth and transmission speed, the potential for network growth, extended reach, fault tolerance, greater data security and support for Gigabit and multi-Gigabit protocols and networked applications. Beyond these traditional benefits, however, Belden offers the Fiber*Express* Solution, a complete end-to-end cabling system supporting both centralized and fiber-to-the-desk topologies, as well as backbone and campus cabling configurations. Our Fiber*Express* Solutions meet or exceed all applicable TIA/EIA, ISO/IEC and IEEE standards and offer:

- Reduced design complexities
- Greater deployment facility
- Quick installation
- Increased flexibility
- Cost effective pricing

Primary FiberExpress System Components

Key components of the Fiber*Express* Systems are summarized below and are found on the catalog pages that follow.

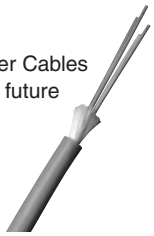
Optimax® Connectors

Optimax Connectors are a revolutionary field-installable optical fiber connector. The unique design of the patented mechanical splice body of Optimax incorporates a factory mounted fiber stub and a pre-polished ceramic ferrule. This technology consistently provides a fast, secure and reliable LC, SC or ST Compatible optical fiber termination for multimode or single-mode cable. All critical steps are performed in the factory, ensuring a superior quality connection every time.

The FiberExpress Manager

The Fiber*Express* Manager makes fiber management easier than ever before. Designed to streamline termination, connection and maintenance activities, the Fiber*Express* Manager uses a scalable, modular approach to adapt to a wide variety of situations. The total system provides extra high connection density while facilitating cable routing and patch cord management. The Fiber*Express* Manager is adaptable for almost all situations, traditional field termination or pre-terminated modules, which reduces design complexity and increases deployment efficiency.

Extended Reach Optical Fiber Cables



Extended Reach Optical Fiber Cables propel your network into the future of cable technology with our multimode Fiber*Express* FX300, FX600 or FX2000 series. These series were developed to meet the existing needs of networks at 1 Gb/s (Ethernet, 1000Base-SX and 1000Base-LX) and new networks at 10 Gb/s (Ethernet, 10GBase-S and 10GBase-LX4). These series offer better reach for laser-based systems. For 1 Gb/s Ethernet at 850 nm (VCSEL), the FX300 and FX600 series provide a range of 984 ft (300 m) and 1,968 ft (600 m), respectively. For 10 Gb/s Ethernet at 850 nm (VCSEL), the FX2000 series provide a range of 984 ft (300 m) for 10GBase-S where all of multimode series can offer a 984 ft (300 m) range at 1300 nm (laser) for 10GBase-LX4. All of this while assuring total compatibility with LED systems and FDDI fiber installation cables. Our single-mode cable offering enhances the options for longer distance support — up to 40 km — for any of the Gigabit Ethernet applications.

The FiberExpress Bar

The Fiber*Express* Bar is an extremely compact, modular and resilient linking panel. Resembling a power bar, it offers 6 or 12 fibers, pre-terminated with an SC, SC duplex, ST-compatible, LC, MT-RJ or FC connectors and a cord terminated with a multi-fiber MPO connector — all of which are factory verified. The Fiber*Express* Bar can adapt to all kinds of properties or developments, and can serve as a consolidation or linking point. It's available in both single-mode and multimode media.

For the ultimate in quick, easy and reliable optical networking we also offer the Fiber*Express* Pre-connectorized System. Based on the concept of building blocks, the complete range of pre-terminated Fiber*Express* components bring flexibility to the design stage. The in-factory fabrication and verification of pre-terminated connections ensures the high-performance and high-quality of the product. These products are "plug and go" and their deployment requires no specialized tools — you can deploy 12 fibers in the same amount of time it takes to connect a power cord to a standard electrical plug. This pre-terminated technology will help to preserve the initial investment by its ability to be re-deployed while always ensuring quality results.

Quality Installation and Service

All Belden IBDN systems are designed, installed and field-tested by fully-trained and certified system contractors and integrators to further assure superior systems performance. They are also backed by a strict System Certification and Warranty Program.

System Certification and Warranty Program

The Belden IBDN Certification Program is a rigorous process that ensures that your Belden IBDN 'Certified' System is composed of Belden IBDN components, designed and installed by a factory-trained Certified System Vendor. Belden IBDN 'Certified' Systems are supported by a series of warranties that surpass conventional product warranties. Certification adds important end-to-end system performance guarantees and ensures full compliance with cabling industry standard specifications — even after system installation (Installable Performance®). A 25-year Product Warranty and a Lifetime Application Assurance program accompany each Belden IBDN 'Certified' System installation. These warranty programs include coverage for both parts and labor.

Fiber Channel Topology

Fiber*Express*® System Matrix	Page No.	Fiber-to-the-Desk (FTTD) and Centralized Fiber	Fiber Backbone (In-Building)	Fiber Backbone (Campus)	Fiber*Express* Pre-Terminated Solutions*
Fiber*Express* Cables					
Distribution & Breakout Cable Series Multimode and Single-mode	16.20–16.23	●			●
Interconnect Cable Series Multimode and Single-mode	16.19	●			
Loose Tube (Campus) Cable Series MM, SM, Composite MM/SM	16.27–16.34			●	●
Ribbon Cable Series Multimode and Single-mode	16.26	●	●	●	●
Cross-Connect Hardware in the Telecom Room					
Fiber*Express* Manager with Fiber*Express* Manager Connector Modules Multimode and Single-mode	16.11	●	●	●	●
Fiber*Express* Rack Mount Patch Panel with Universal Adapter Strips Multimode and Single-mode	16.12	●		●	●
Fiber*Express* Wall Mount Patch Panel with Universal Adapter Strips Multimode and Single-mode	16.13	●		●	●
Fiber*Express* Bar: Multimode and Single-mode	16.8	●	●	●	●
Patch Cords in the Telecom Room and at the Work Area					
Fiber*Express* Patch Cords: Multimode and Single-mode	16.6	●	●	●	●
Outlets at the Work Area					
MDVO® Multimedia Outlets with MDVO Multimedia Modules	16.16	●			
MediaFlex® Outlets with MediaFlex Multimedia Inserts	16.15	●			
Fiber*Express* Bar Multimode and Single-mode (as MUTOA)	16.8	●	●		
Fiber Connectivity					
Optimax® Connectors Multimode and Single-mode	16.4	●		●	●
Epoxy Field Mountable Connectors Multimode and Single-mode	16.5	●		●	●
Fiber Pigtails Multimode and Single-mode	16.8	●		●	●

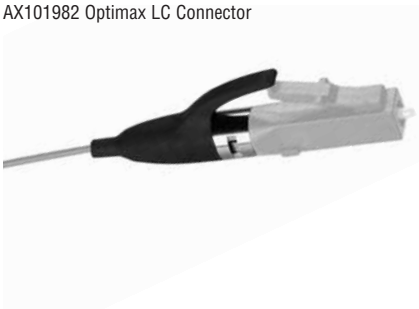
MM = Multimode • SM = Single-mode

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

Fiber*Express* Connectors

Optimax® Field Installable Connectors and Installation Tool Kits

AX101982 Optimax LC Connector



AX100029 with AX101794 Optimax SC Connector

A0408835 with AX101793 Optimax ST Compatible Connector

AX100947 Optimax Tool Kit

Optimax Field Installable Connector

The Optimax Connectors are reliable field installable optical fiber connectors that are easy to install. They do not require epoxy, curing or polishing. Their unique design incorporates a factory polished fiber stub in a splice mechanism which provides a fast, secure, and reliable termination on optical fiber cables. All critical steps are performed in the factory, ensuring a superior-quality connection every time. Only simple tools are required for installation, making Optimax a cost effective field termination.

Optimax Connectors are high-quality LC, SC and ST Compatible connectors that use a ceramic ferrule with a physical contact (PC) polish for Multimode and super physical contact (SPC) polish for Single-mode that ensures the best possible mating of optical fibers. Connectors are available for 62.5 or 50/125 µm Multimode fiber and Single-mode fiber installations.

Optimax Installation Tool Kit

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

The Optimax Installation Tool Kit has all the tools and supplies required to install both the Optimax LC, SC or ST Compatible Multimode and Single-mode connectors. Certain tool kit items can be purchased separately to accommodate installers already possessing basic optical fiber installation tools.

Description	Belden Part Number
Fiber*Express* Connectors	
Optimax Field Installable Connector	
LC 62.5 µm, Multimode*	**AX101981**
LC 50 µm, Multimode*	**AX101982**
LC Single-mode*	**AX101983**
SC 62.5 µm, Multimode*	**AX100029**
SC 50 µm, Multimode*	**AX101077**
SC Single-mode*	**AX101792**
ST Compatible 62.5 µm, Multimode*	**A0408835**
ST Compatible 50 µm, Multimode*	**AX101075**
ST Compatible Single-mode*	**AX101791**
LC Accessory Kit for jacketed fiber (2 mm boot and a crimp sleeve)	**AX101984**
SC Accessory Kit for jacketed fiber (3 mm boot, crimp sleeves, cord adapter)	**AX101794**
ST Accessory Kit for jacketed fiber (3 mm boot, crimp sleeves)	**AX101793**
Optimax Installation Tool Kit	
LC/SC/ST Compatible (includes installation tools, fiber cleaver, crimping tool, instruction manual, microscope, tweezers, alcohol wipes, marker, scissors, waste bottle, fiber stripper, cable stripper and Training Video)	**AX100947**
Basic (excludes fiber stripper & cleaver)	**AX100949**
Optimax LC Tool Kit Upgrade (includes LC installation tool, instructions manual, foam for the case)	**AX102061**
Optimax Individual Components	
Fiber Cleaver	**A0408829**
Installation Tool LC (does not include tool-clamp)	**AX102062**
Installation Tools ST Compatible and SC (includes tool-clamp)	**A0403634**
Microscope	**AX100910**
Refurbishing Materials (80 alcohol wipes and a black felt tip marker)	**AX100951**
Installation Instruction Manual, LC	**AX102063**
Installation Instruction Manual, SC	**PX101318**
Installation Instruction Manual, ST Compatible	**PX101317**
Installation & Training Video, CD (see literature ordering form on the web)	**NOT0651**
Crimp Tool complete with die	**A0403641**

These products are in the process of being assessed for RoHS compliance. Please check our Web Site for the most current RoHS status.

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

Fiber*Express* Connectors
Epoxy Field Installable Connectors

A0390851 Optical Fiber Field Installable Epoxy Connector, ST Compatible

Epoxy Field Installable Connector

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

Both types have a ceramic ferrule. Each connector comes complete with all the parts necessary for termination of tight buffered fibers as well as jacketed fibers. Parts include crimp sleeves, boots, cord adapter and dust cap.

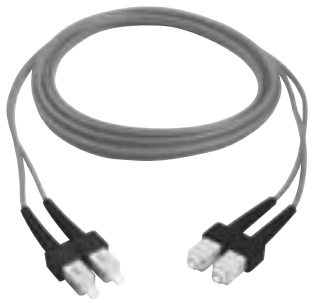
Description	Belden Part Number	
	Multimode	Single-mode
Fiber*Express* Connectors		
Epoxy Field Installable Connector		
ST Compatible	**A0390851**	**AX101412**
SC Simplex	**AX100919**	**AX101411**
SC Duplex	**AX100929**	

These products are in the process of being assessed for RoHS compliance. Please check our Web Site for the most current RoHS status.

Pre-Connectorized Assemblies

Fiber*Express* Patch Cords

AX200057 Patch Cord Multimode SC Duplex (568SC)



Fiber*Express* Patch Cords

Fiber*Express* Duplex 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.

Description	Belden Part Number			
	Multimode, FX300, 62.5 µm	Multimode, FX600, 50 µm	Multimode, FX2000, 50 µm	Single-mode SPC
Fiber*Express* 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
MTRJ-MTRJ, 2 m (6 ft.)	AX101122	AX101139	AX200801	AX101157
MTRJ-MTRJ, 3 m (10 ft.)	AX101123	AX101138	AX200802	AX101156
MTRJ-MTRJ, 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
MTRJ-ST, 3 m (10 ft.)	AX101133	AX101151	AX200810	AX101166
MTRJ-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
MTRJ(m)-open, 3 m (10 ft.)	AX101366	AX101367	AX200812	AX101368

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

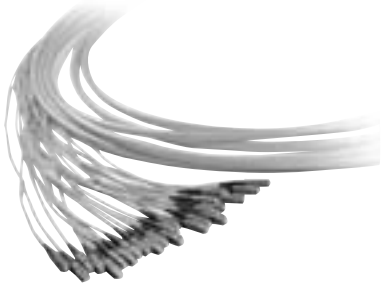
These products are in the process of being assessed for RoHS compliance. Please check our Web Site for the most current RoHS status.

Fiber*Express* Pre-Connectorized Assemblies

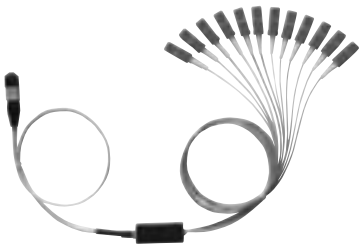
Cable Assemblies

AX250105 MPO Cable Assembly

Multi-fiber Cable Assembly



900 µm Fan-out Assembly



MPO Cable Assembly

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 Fiber*Express* Pre-terminated Modules and Fiber*Express* 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 Assembly

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-fiber up to 144-fiber with various kinds of fan-out constructions, lengths and geometry to suit virtually any application.

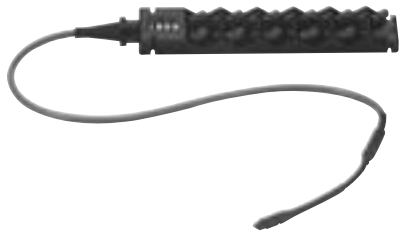
Description	Belden Part Number	
	Multimode, FX300, 62.5 µm	Multimode, FX600, 50 µm
Fiber*Express* Pre-Connectorized Assemblies		
MPO Cable Assembly, FOMC, MPO(f)-MPO(f)		
1 pulling eye, OFNP, 12 fibers, 10 m (33 ft.)	AX250021	AX250345
1 pulling eye, OFNP, 12 fibers, 20 m (66 ft.)	AX250105	AX250376
1 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, FX2000, 50 µm	Single-mode
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.		
Multi-fiber Cable Assembly, MPO(m)-ST		
Multimode FX300, 62.5 µm, 12 fibers	NXC-RPML-PGPNNN-STPFBN-N-01.5	
Multimode FX600, 50 µm, 12 fibers	NXC-RPNL-PGPNNN-STPFBN-N-01.5	
Multimode FX2000, 50 µm, 12 fibers	NXC-RPFL-PGPNNN-STPFBN-N-01.5	
Single-mode, 12 fibers	NXC-RPSL-PGANNN-STSFBN-N-01.5	
Multi-fiber Cable Assembly, MPO(m)-SC		
Multimode FX300, 62.5 µm, 12 fibers	NXC-RPML-PGPNNN-SCPFBN-N-01.5	
Multimode FX600, 50 µm, 12 fibers	NXC-RPNL-PGPNNN-SCPFBN-N-01.5	
Multimode FX2000, 50 µm, 12 fibers	NXC-RPFL-PGPNNN-SCPFBN-N-01.5	
Single-mode, 12 fibers	NXC-RPSL-PGANNN-SCSFBN-N-01.5	
Multi-fiber Cable Assembly, MPO(m)-LC		
Multimode, FX300, 62.5 µm, 12 fibers	NXC-RPML-PGPNNN-LCPFBN-N-01.5	
Multimode FX600, 50 µm, 12 fibers	NXC-RPNL-PGPNNN-LCPFBN-N-01.5	
Multimode FX2000, 50 µm, 12 fibers	NXC-RPFL-PGPNNN-LCPFBN-N-01.5	
Single-mode, 12 fibers	NXC-RPSL-PGANNN-LCSFBN-N-01.5	
Multi-fiber Cable Assembly, MPO(m)-MTRJ(m)		
Multimode FX300, 62.5 µm, 12 fibers	NXC-RPML-PGPNNN-JBPFBN-N-01.5	
Multimode FX600, 50 µm, 12 fibers	NXC-RPNL-PGPNNN-JBPFBN-N-01.5	
Multimode FX2000, 50 µm, 12 fibers	NXC-RPFL-PGPNNN-JBPFBN-N-01.5	
Single-mode, 12 fibers	NXC-RPSL-PGANNN-JBSFBN-N-01.5	

These products are in the process of being assessed for RoHS compliance. Please check our Web Site for the most current RoHS status.

Fiber*Express* Pre-Connectorized Assemblies

Fiber*Express* Bar

AX250001 Fiber*Express* Bar 12ST



MX100154 Fiber*Express* MPO Adapter

Fiber*Express* Bar

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

Fiber*Express* Bar Accessories

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

The 19 in. Rack Mount Housing is a 1U metal panel that holds 1 Fiber*Express* Bar. It has a live hinge on the left-hand side and swings out giving access to the MPO connection and facilitate cable management and slack storage when used with the Slack Storage Tray.

The Front Cover is a smoked Plexiglas cover that protects the fiber cords connected to the Fiber*Express* Bar. It has 2 push rivets for positive locking and easy handling.

The Slack Storage Tray attaches to the back of the 19 in. Rack Mount Housing to facilitate cable management and slack storage. It has a storage capacity of 5 meters of 12-fiber ribbon cable.

The Wall Mount Enclosure can contain one Fiber*Express* Bar.
It is made of heavy gauge steel and has a locking cover.

Description	Belden Part Number	
	Multimode, FX300, 62.5 µm	Multimode, FX600, 50 µm
Fiber*Express* Pre-Connectorized Assemblies		
Fiber*Express* Bar		
12 ST type, MPO (m), 1 m	**AX250001**	**AX250052**
6 SC duplex, MPO (m), 12 fibers, 1 m	**AX250005**	**AX250054**
6 MT-RJ, MPO (m), 12 fibers, 1 m	**AX250178**	**AX250179**
12 LC, MPO (m), 1 m	**AX250539**	**AX250540**
	Multimode, FX2000, 50 µm	Single-mode
12 ST type, MPO (m), 1 m	**AX250459**	**AX250009**
6 SC duplex , MPO (m), 12 fibers, 1 m	**AX250460**	**AX250011**
6 MT-RJ, MPO (m), 12 fibers, 1 m	**AX250461**	**AX250180**
12 LC, MPO (m), 1 m	**AX250541**	**AX250542**

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

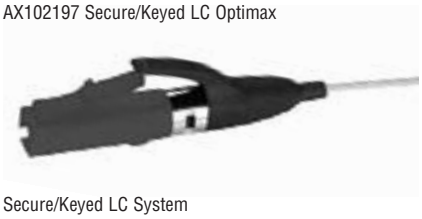
Fiber*Express* Bar Accessories	
MPO Adapter (6 or 12 fibers) included with each Fiber*Express* Bar (1 m - Male)	**MX100154**
19 in. Rack Mount Housing for Fiber*Express* Bar, Gray	**AX100331**
19 in. Rack Mount Housing for Fiber*Express* Bar, Black	**AX100330**
Front Cover for Fiber*Express* rack mount housing	**AX100332**
Slack Storage Tray for Fiber*Express* Bar, (capacity: 5 meters) including top cover, Gray	**AX100329**
Slack Storage Tray for Fiber*Express* Bar, (capacity: 5 meters) including top cover, Black	**AX100328**
Wall Mount Enclosure, can contain one bar, Black	**AC200004**

These products are in the process of being assessed for RoHS compliance. Please check our Web Site for the most current RoHS status.

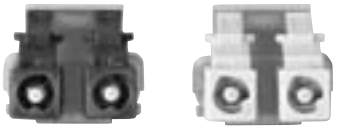
Fiber*Express* Secure/Keyed LC System

Optimax Field Installable Connectors and Patch Cords & Pigtails

AX102197 Secure/Keyed LC Optimax



Secure/Keyed LC System



Fiber*Express* Secure/Keyed LC System

The Fiber*Express* Secure/Keyed LC System allows for physical segregation of networks segments in secure fiber cabling infrastructures. All Secure/Keyed LC products are available with 6 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 re-produced inside a standard LC connector to violate the network security. All products comply with the FOCIS 10 standard and optical performance exceeds all industry standards for SFF connectors.

The Secure/Keyed LC 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.

The Secure/Keyed LC Patch Cords and Pigtails are offered in Multimode 62.5 µm (FX300), 50/125 µm (FX600) and laser-optimized 50/125 µm (FX2000) for the most demanding network performance.

Description	Belden Part Number					
	K1, Red	K2, Green	K3, Yellow	K4, Black	K5, Orange	K6, Blue
Fiber*Express* Secure/Keyed LC System						
Secure/Keyed LC Optimax*						
Multimode 62.5 µm**	AX102203	AX102204	AX102205	AX102206	AX102207	AX102208
Multimode 50 µm**	AX102197	AX102198	AX102199	AX102200	AX102201	AX102202
**For 900 µm buffered fiber only. The same accessory kit (AX101984) is used for 2 mm jacketed cable connector termination as for our regular Optimax LC offering.						
Secure/Keyed LC Duplex Patch Cord, KEYx-KEYx*						
2 m (6 ft.), Multimode FX300, 62.5 µm	AX201365	AX201366	AX201367	AX201368	AX201369	AX201370
2 m (6 ft.), Multimode FX600, 50 µm	AX201383	AX201384	AX201385	AX201386	AX201387	AX201388
2 m (6 ft.), Multimode FX2000, 50 µm	AX201401	AX201402	AX201403	AX201404	AX201405	AX201406
3 m (10 ft.), Multimode FX300, 62.5 µm	AX201371	AX201372	AX201373	AX201374	AX201375	AX201376
3 m (10 ft.), Multimode FX600, 50 µm	AX201389	AX201390	AX201391	AX201392	AX201393	AX201394
3 m (10 ft.), Multimode FX2000, 50 µm	AX201407	AX201408	AX201409	AX201410	AX201411	AX201412
5 m (16 ft.), Multimode FX300, 62.5 µm	AX201377	AX201378	AX201379	AX201380	AX201381	AX201382
5 m (16 ft.), Multimode FX600, 50 µm	AX201395	AX201396	AX201397	AX201398	AX201399	AX201400
5 m (16 ft.), Multimode FX2000, 50 µm	AX201413	AX201414	AX201415	AX201416	AX201417	AX201418
Secure/Keyed LC Duplex Hybrid Patch Cord, KEYx-LCD*						
2 m (6 ft.), Multimode FX300, 62.5 µm	AX201419	AX201420	AX201421	AX201422	AX201423	AX201424
2 m (6 ft.), Multimode FX600, 50 µm	AX201437	AX201438	AX201439	AX201440	AX201441	AX201442
2 m (6 ft.), Multimode FX2000, 50 µm	AX201455	AX201456	AX201457	AX201458	AX201459	AX201460
3 m (10 ft.), Multimode FX300, 62.5 µm	AX201425	AX201426	AX201427	AX201428	AX201429	AX201430
3 m (10 ft.), Multimode FX600, 50 µm	AX201443	AX201444	AX201445	AX201446	AX201447	AX201448
3 m (10 ft.), Multimode FX2000, 50 µm	AX201461	AX201462	AX201463	AX201464	AX201465	AX201466
5 m (16 ft.), Multimode FX300, 62.5 µm	AX201431	AX201432	AX201433	AX201434	AX201435	AX201436
5 m (16 ft.), Multimode FX600, 50 µm	AX201449	AX201450	AX201451	AX201452	AX201453	AX201454
5 m (16 ft.), Multimode FX2000, 50 µm	AX201467	AX201468	AX201469	AX201470	AX201471	AX201472
Secure/Keyed LC Duplex Hybrid Patch Cord, KEYx-SCD*						
2 m (6 ft.), Multimode FX300, 62.5 µm	AX201473	AX201474	AX201475	AX201476	AX201477	AX201478
2 m (6 ft.), Multimode FX600, 50 µm	AX201491	AX201492	AX201493	AX201494	AX201495	AX201496
2 m (6 ft.), Multimode FX2000, 50 µm	AX201509	AX201510	AX201511	AX201512	AX201513	AX201514
3 m (10 ft.), Multimode FX300, 62.5 µm	AX201479	AX201480	AX201481	AX201482	AX201483	AX201484
3 m (10 ft.), Multimode FX600, 50 µm	AX201497	AX201498	AX201499	AX201500	AX201501	AX201502
3 m (10 ft.), Multimode FX2000, 50 µm	AX201515	AX201516	AX201517	AX201518	AX201519	AX201520
5 m (16 ft.), Multimode FX300, 62.5 µm	AX201485	AX201486	AX201487	AX201488	AX201489	AX201490
5 m (16 ft.), Multimode FX600, 50 µm	AX201503	AX201504	AX201505	AX201506	AX201507	AX201508
5 m (16 ft.), Multimode FX2000, 50 µm	AX201521	AX201522	AX201523	AX201524	AX201525	AX201526
Secure/Keyed LC Pigtail, KEYx-open*						
2 m (6 ft.), Multimode FX300, 62.5 µm	AX201527	AX201528	AX201529	AX201530	AX201531	AX201532
2 m (6 ft.), Multimode FX600, 50 µm	AX201533	AX201534	AX201535	AX201536	AX201537	AX201538
2 m (6 ft.), Multimode FX2000, 50 µm	AX201539	AX201540	AX201541	AX201542	AX201543	AX201544

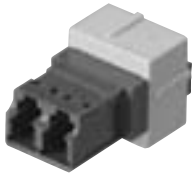
Other Patch Cord lengths and configurations may be available, please contact Customer Service for more details.

These products are in the process of being assessed for RoHS compliance. Please check our Web Site for the most current RoHS status.* Patent Pending.

Fiber*Express* Secure/Keyed LC System

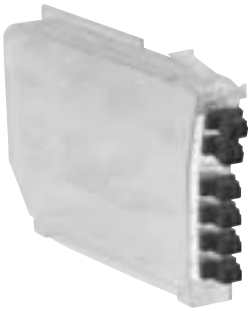
Adapter Modules, Adapter Strips and Fiber*Express* Manager Modules

AX102098 Secure/Keyed LC Adapter Module



AX102124 Secure/Keyed LC Adapter Strip

AX102114 Secure/Keyed LC Fiber*Express* Manager Module



Fiber*Express* Secure/Keyed LC System

The Fiber*Express* Secure/Keyed LC System allows for physical segregation of networks segments in secure fiber cabling infrastructures. All Secure/Keyed LC products are available with 6 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 re-produced inside a standard LC connector to violate the network security. All products comply with the FOCIS 10 standard and optical performance exceeds all industry standards for SFF connectors.

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

The Secure/Keyed LC Fiber*Express* Manager Modules can be used in 19 and 23 inch Fiber*Express* Manager Shelves to provide a high-density management system of up to 1920 terminated fibers per rack.

Description	Belden Part Number					
	K1, Red	K2, Green	K3, Yellow	K4, Black	K5, Orange	K6, Blue
Fiber*Express* Secure/Keyed LC System						
Secure/Keyed LC Adapter Module*						
Gray holder	AX102089	AX102090	AX102091	AX102092	AX102093	AX102094
Almond holder	AX102095	AX102096	AX102097	AX102098	AX102099	AX102100
White holder	AX102101	AX102102	AX102103	AX102104	AX102105	AX102106
Black holder	AX102107	AX102108	AX102109	AX102110	AX102111	AX102112
Secure/Keyed LC Fiber*Express* Adapter Strip*						
12 fibers	AX102119	AX102120	AX102121	AX102122	AX102123	AX102124
24 fibers	AX102125	AX102126	AX102127	AX102128	AX102129	AX102130
Secure/Keyed LC Fiber*Express* Manager Module*						
12 fibers	AX102113	AX102114	AX102115	AX102116	AX102117	AX102118
24 fibers	AX102310	AX102311	AX102312	AX102313	AX102314	AX102315

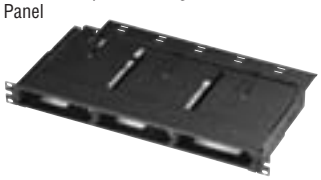
* Patent Pending.

These products are in the process of being assessed for RoHS compliance. Please check our Web Site for the most current RoHS status.

Fiber*Express* Manager
Rack Components and Modules

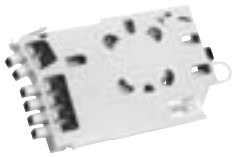
AX100934 Fiber*Express* Manager Shelf

AX101943 Fiber*Express* Manager 1U Rack Mount Patch Panel



AX102032 Fiber*Express* Manager 1U Cable Management Accessory

AX101525 Connector Module Pre-terminated MPO-MT-RJ



Fiber*Express* Manager Shelf

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

Fiber*Express* Manager 1U

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

Fiber*Express* Manager Connector Module

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

Description	Belden Part Number	
	Gray	Black
Fiber*Express* Manager		
Fiber*Express* Manager		
Shelf, 23 in., 10.9 kg (24 lb)	**AX100934**	**AX100935**
Shelf, 19 in., 8.2 kg (18 lb)	**AX101084**	**AX101085**
1U, Rack Mount Patch Panel, 19 in., 5 kg (11 lb)	**AX101944**	**AX101943**
1U, Cable Management Accessory, 19 in., 1 kg (2 lb)	**AX102033**	**AX102032**

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

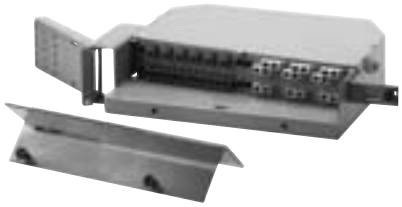
These products are in the process of being assessed for RoHS compliance. Please check our Web Site for the most current RoHS status.

Fiber*Express* Patch Panels

Rack Mount Patch Panels

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

AX100069 Fiber*Express*, 24/48 Port (2U) Rack Mount Patch Panel



AX100078 Fiber*Express* (3U) Rack Mount Patch Panel

AX100115 Fiber*Express*, 48/96 Port (4U) Rack Mount Patch Panel

Fiber*Express* Rack Mount Patch Panel 1U and 2U

The Fiber*Express* 1U and 2U Rack Mount Patch Panels are equipped with a special hinge that allows easy access to the rear of the patch panel without disturbing the optical fiber cable. A specially designed front panel allows connector protection and easy routing of optical fiber patch cords. The Fiber*Express* Rack Mount Patch Panels are also compatible with our 203 mm (8 in.) Splice Organizer Trays. This allows the optical fiber cable to be either terminated with fiber single-ended patch cords or field-installable connectors. The patch panels can be used with ST Compatible, SC, 568SC, FC, LC or MT-RJ adapters strips (ordered separately).

The Fiber*Express* 1U Rack Mount Patch Panel is a low-cost, compact assembly designed for interconnection or splicing of optical fiber cables, from 12 up to 48 fibers if 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 Fiber*Express* 2U Rack Mount Patch Panel offers a high fiber capacity, 96 fibers if using double density MT-RJ or LC adapter strips. The Fiber*Express* 2U comes equipped with a smoked Plexiglass front cover that protects fiber connections while allowing for quick visual inspection.

Fiber*Express* Rack Mount Patch Panel 3U

The Fiber*Express* 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 Fiber*Express* 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 Fiber*Express* 3U Rack Mount Patch Panel is a compact cross-connect assembly for the termination of optical fiber cables. The low-profile design minimizes required rack space to 127 mm (5 in.). It is compatible with ST Compatible, SC, 568SC, MT-RJ, LC and FC adapters strips (ordered separately).

Fiber*Express* Rack Mount Patch Panel 4U

The Fiber*Express* 4U Rack Mount Patch Panel is an economical solution for the protection of optical fiber terminations and splices, up to 192 optical fibers if using 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 Fiber*Express* 4U Rack Mount Patch Panel is a compact Cross-Connect enclosure for the cross-connection, 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 Compatible, SC, 568SC, MT-RJ, LC and FC adapters strips (ordered separately).

Description	Belden Part Number
Fiber*Express* Patch Panels	
Fiber*Express* Rack Mount Patch Panel 1U*	
Gray	**AX100042**
Black	**AX100041**
Fiber*Express* Rack Mount Patch Panel 2U*	
Gray	**AX100069**
Black	**AX100068**
Fiber*Express* Rack Mount Patch Panel 3U	
Gray	**AX100078**
Black	**AX100077**
Fiber*Express* Rack Mount Patch Panel 4U	
Gray	**AX100115**
Black	**AX100116**

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

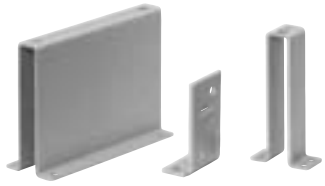
*IMPORTANT: The Fiber*Express* 1U accepts two (2) 203 mm (8 in.) splice trays. The 2U accepts four (4) 203 mm (8 in.) splice trays.

These products are in the process of being assessed for RoHS compliance. Please check our Web Site for the most current RoHS status.

Fiber*Express* Patch Panels

Rack Mount Accessories and Wall Mount Patch Panels

AX101800 127 mm (5 in.) Universal Offset Bracket Kit, for 19 in. and 23 in. Racks 1U



AX101802 23 in. Rack Universal Extension Bracket for 1U and 2U

AX100047 Right Side Cable Entry Bracket for 1U

AX100045 Front Cover for 1U

AX100543 Large Wall Mount

Fiber*Express* Rack Mount Patch Panels 1U and 2U Accessories

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

Description	Belden Part Number
Fiber*Express* Patch Panels	
Rack Mount Accessories (1U and 2U)	
127 mm (5 in.) Universal Offset Bracket Kit:	
for 19 in. and 23 in. racks (1U), Black	**AX101799**
for 19 in. and 23 in. racks (1U), Gray	**AX101800**
for 19 in. and 23 in. racks (2U), Black	**AX101797**
for 19 in. and 23 in. racks (2U), Gray	**AX101798**
23 in. Universal extension bracket, Black	**AX101801**
23 in. Universal extension bracket, Gray	**AX101802**
Right side cable entry bracket (1U), Black	**AX100046**
Right side cable entry bracket (1U), Gray	**AX100047**
Right side cable entry bracket (2U), Black	**AX100073**
Right side cable entry bracket (2U), Gray	**AX100074**
Front Cover (1U), Smoked Plexiglass	**AX100045**

Fiber*Express* Wall Mount Patch Panel

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

Using the Fiber*Express* Universal Adapter Strips (ordered separately), the Wall Mount Patch Panels allow for flexible and customized patch panel design. They are compatible with most industry standard connections: ST Compatible, SC, 568SC, MT-RJ, LC and FC.

Available in gray and black, the Fiber*Express* Wall Mount Patch Panels have an ergonomic design, rugged construction and compact assemblies to effectively protect your optical fiber terminations and splices.

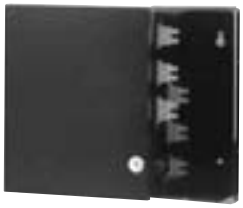
Description	Belden Part Number
Fiber*Express* Patch Panels	
Wall Mount	
Small, Gray	**AX100496**
Small, Black	**AX100495**
Medium, Gray	**AX100541**
Medium, Black	**AX100540**
Large, Gray	**AX100543**
Large, Black	**AX100542**

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

These products are in the process of being assessed for RoHS compliance. Please check our Web Site for the most current RoHS status.

AX100541 Medium Wall Mount

AX100495 Small Wall Mount



Fiber*Express* Patch Panels Accessories

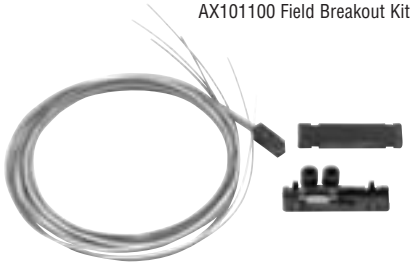
Universal Optical Fiber Adapter Strips and Accessories

AX101729 Adapters loaded with 6 LC Duplex

AX100094 Adapters loaded with 3 SC Duplex

AX100066 Blank Strip

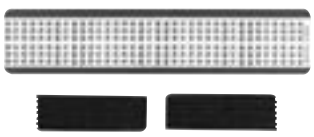
AX101100 Field Breakout Kit



A0649869 Optical Fiber Splice Organizer Kits and Trays

AX100945 Flex Kit

AX101098 Splice Holder Kit



Optical Fiber Adapter Strips

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

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

Optical Fiber Accessories

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

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

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

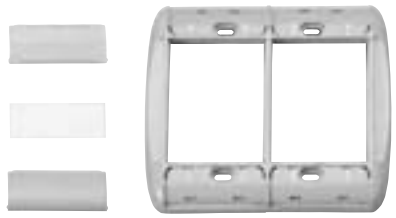
A **Splice Holder Kit** can be used to hold fusion or mechanical splices.
Each splice holder can handle up to 6 splices.

Description	Belden Part Number	
	Phosphor Bronze, Multimode	Zirconia Ceramic, Single-mode
Fiber*Express* Optical Fiber Adapter Strips		
Single Density, Black		
Loaded with 6 ST Compatible Adapters	**AX100088**	**AX100534**
Loaded with 3 SC Duplex Adapters	**AX100094**	**AX101407**
Loaded with 6 SC Simplex Adapters	**AX100092**	**AX100538**
Loaded with 6 FC Adapters	**AX100090**	**AX100536**
Loaded with 6 LC Duplex Adapters	**AX101729**	**AX101731**
MT-RJ, loaded with 6 MT-RJ, Multimode/Single-mode	**AX101115**	
Double Density, Black		
Loaded with 12 ST Compatible Adapters	**AX100080**	**AX100528**
Loaded with 6 SC Duplex Adapters	**AX100098**	**AX101409**
Loaded with 12 SC Simplex Adapters	**AX100084**	**AX100532**
Loaded with 12 FC Adapters	**AX100082**	**AX100530**
Loaded with 12 LC Duplex Adapters	**AX101741**	**AX101743**
MT-RJ, loaded with 12 MT-RJ, Multimode/Single-mode	**AX101117**	
Blank Strip		
Black	**AX100066**	
Fiber*Express* Accessories		
Optical Fiber Field Breakout Kit		
6 fibers, 1/pack	**AX101100**	
12 fibers, 1/pack	**AX101101**	
Optical Fiber Splice Organizer Kit		
Splice kit, tray, 203 mm (8 in.)	**A0649869**	
Splice kit, tray, 305 mm (12 in.)	**A0318904**	
Optical Fiber Splice Tray		
Fusion, 203 mm (8 in.)	**A0335015**	
Fusion, 305 mm (12 in.)	**A0316446**	
Universal (mechanical or fusion), 203 mm (8 in.)	**AX100079**	
Universal (mechanical or fusion), 305 mm (12 in.)	**A0394328**	
Tray cover, 203 mm (8 in.)	**A0394331**	
Tray cover, 305 mm (12 in.)	**A0394330**	
Flex Kit	**AX100945**	
Splice Holder Kit	**AX101098**	

These products are in the process of being assessed for RoHS compliance. Please check our Web Site for the most current RoHS status.

Fiber*Express* Outlets
MediaFlex Plates and Inserts

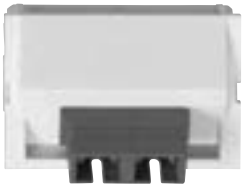
AX101869 MediaFlex Plate, Double Gang



AX101874 MediaFlex Adapter Box, Double Gang

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

AX101937 MediaFlex SC Duplex Insert, Angled



MediaFlex Plate

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/adapter 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 Adapter Box

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) Insert

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 Insert

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.

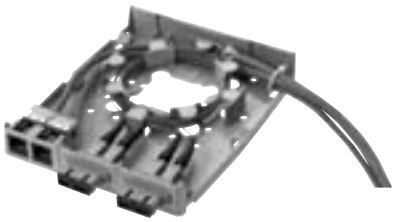
Description	Belden Part Number					
	Gray	Almond	Elec. White	Black	White	Ivory
Fiber*Express* Outlets						
MediaFlex Plate						
Single Gang	AX101745	AX101746	AX101747	AX101748	AX102608	AX102569
Double Gang	AX101869	AX101870	AX101871	AX101872	AX102609	AX102570
MediaFlex Adapter Box						
Single Gang	AX102480	AX102481	AX102482	AX102483	AX102484	AX102485
Double Gang	AX101873	AX101874	AX101875	AX101876	AX102610	AX102571
MediaFlex MDVO (style) Insert						
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
MediaFlex SC Duplex						
SC Duplex Single-mode	AX101935	AX101936	AX101937	AX101938	AX102619	AX102649
SC Duplex Multimode	AX101939	AX101940	AX101941	AX101942	AX102620	AX102650

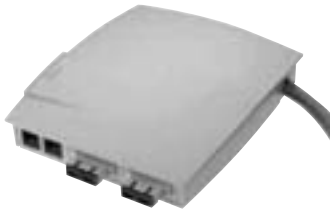
These products are in the process of being assessed for RoHS compliance. Please check our Web Site for the most current RoHS status.

Fiber*Express* Outlets

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

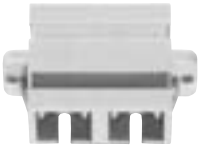
A0643205 MDVO Multimedia Outlet Box, shown here as terminated





A0407005 MDVO SC Fiber Module

A0649254 SC Duplex Adapter



A0407010 MDVO ST Compatible Fiber Module

AX101467 MDVO MT-RJ Fiber Module

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 outlet box's low profile design and side-entry 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 Compatible multimode and MT-RJ multimode & 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.

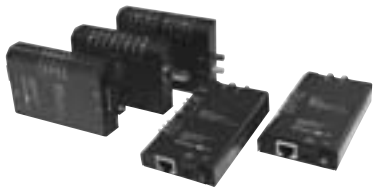
Description	Belden Part Number			
	Gray	Almond	White	Black
Fiber*Express* Outlets				
MDVO Multimedia Outlet Box				
6-port	**A0643205**	**A0643206**	**A0643207**	**A0643208**
Please note that SC Duplex adapters must be ordered separately (A0649254).				
MDVO Multimedia Module				
LC Duplex Multimode	**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 Compatible, 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**

These products are in the process of being assessed for RoHS compliance. Please check our Web Site for the most current RoHS status.

Network Connectivity Products

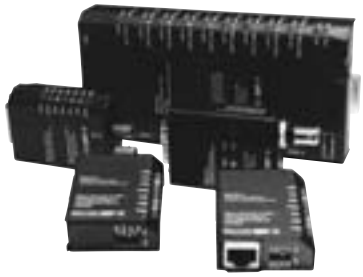
Media Converters, Transceivers & Hubs and Network Tester

Media Converters



AX-1912 Media Converter Rack

AX050, 70 and 80 Transceivers and AX-509 Ethernet Hub



AX-110BT Realtime 10/100 Base-TX Ethernet Network Test Unit

Media Converters for Ethernet and Fast Ethernet

Media Converters enable the connection of dissimilar network cabling types, while maintaining the same network speed. A legacy Thinnet segment can be connected to a 10Base-T Hub or switch port with an AX-200 Converter or, link two different 10Base-T networks together over a multimode fiber optic link with a pair of AX-270s. Connect a legacy Thinnet segment over fiber with the AX-280 converter. The AX-5270 can be used for interbuilding links or attached to a fiber backbone.

Transceivers and Ethernet Hubs

The AX-50, 70 and 80 Transceivers enable the connection of a legacy AUI port to 10Base-T, Thinnet, or Fiber Optic media. The transceiver is powered from the host and requires no external power supply.

The AX-509 Ethernet Hub has an AUI port which accepts UTP, Fiber Optic or BNC transceivers. Specified for use by many U.S. Government Agencies. Includes a 110v/12v power supply.

Realtime 10/100 Base-TX Ethernet Network Test Unit

The AX-110BT Realtime 10/100 Base-TX Ethernet Network Test Unit is a cost effective way to quickly determine a network's operating condition. Plug the unit's patch cord into the tester, then into any open RJ-45 jack in an office, cubicle or conference room. Immediately see if the jack is a live network node capable of either 100 Mb/s or 10 Mb/s. Next check patch cord continuity and polarity. Connect the downlink to a PC to check NIC card link, speed and full or half duplex capabilities. Connect the uplink to a hub or switch port to verify link and speed.

Description	Belden Part Number
Network Connectivity Products	
Media Converter	
10Base-T/10Base2, RJ-45 to BNC	**AX-200**
10Base-T/10Base-FL, RJ-45 to ST-Compatible fiber connectors	**AX-270**
10Base2/10Base-FL, BNC to ST-Compatible fiber connectors	**AX-280**
100Base-TX/100Base-FX, SC-Compatible fiber connectors	**AX-5270SC**
100Base-TX/100Base-FX, ST-Compatible fiber connectors	**AX-5270ST**
Media Converter Rack	
Holds up to 12 converters and multi lead power supplies, 19 in. rack-mount ready	**AX-1912-MCR**
Power Supply, 4-lead 110v/12v, powers up to 4 converters	**AX-270P4U**
Power Supply, 8-lead 110v/12v, powers up to 8 converters	**AX-270P8U**
Transceivers and Ethernet Hubs	
UTP Transceiver, 10Base-T, AUI to RJ-45, side port	**AX-50**
UTP Transceiver, 10Base-T, AUI to RJ-45, rear port	**AX-50R**
Fiber Transceiver, 10Base-FL, AUI to ST-Compatible	**AX-70**
Thinnet Transceiver, 10Base2, AUI to BNC	**AX-80**
Ethernet Hub with 8 RJ-45 10Base-T ports and 1 AUI port	**AX-509**
Network Tester	
Realtime 10/100 Base-TX Ethernet Network Test Unit	**AX-110BT**

These products are in the process of being assessed for RoHS compliance. Please check our Web Site for the most current RoHS status.

Cable Selection Guide

Introduction

The Belden line of Optical Fiber Cables represents a new 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 available applications 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 Selection

Type	Grade	Fiber Size (µ)	Standards Compliance	Link Length (m)	Data Rate (Gb)
Multimode	6	50/125	exceeds TIA/EIA-568-B.3-1 ISO 11801 OM3	500	10
	5	50/125	TIA/EIA-568-B.3-1 ISO 11801 OM3	300	10
	4	50/125	TIA/EIA-568-B.3	600	1
	3	62.5/125	TIA/EIA-568-B.3	1,000	1
	2	62.5/125	TIA/EIA-568-B.3	550	1
	1▲	62.5/125	FDDI grade†	—	—
Single-mode	—	—	ITU G.652.c/d††	—	—

▲ Grade 1 fibers are available upon request.

† Used in most current cable plants, but not recommended for future installations, except as patch cordage

†† 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	
Grades 2,3,4	Orange
Grades 5,6	Aqua
Single-mode	Yellow

Nonstandard jacket colors are available upon request.

Fiber Sub-unit Color Code Chart*

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

*Per EIA/TIA 598-A

Optical Specifications

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

[1] OFL = Overfilled Launch

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

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

[4] S/L = Short wavelength (850 nm) / Long wavelength (1310 nm)

[5] >2000 meters for engineered links

[6] 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

Applications

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

Product Description

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

Jacket Material	PVC
Tight Buffer	PVC
Strength Member	Aramid Yarn
Color Code (Tight Buffer)	Per EIA/TIA 598-A, see page 10.2
Jacket Color	
Single-mode	Yellow
62.5/125 µm	Orange
50/125 µm / 1 Gbe	Orange
50/125 µm / 10 Gbe	Aqua

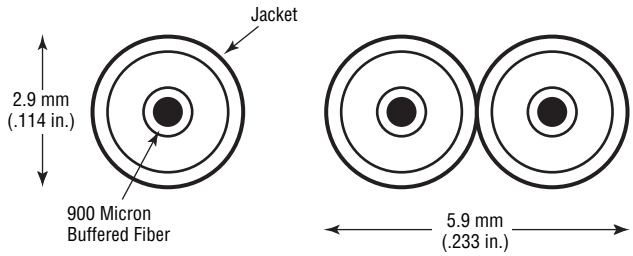
Ratings

Riser	
UL Type	OFNR
cUL Type	OFN FT4
Flame Resistance	UL 1666
Plenum	
UL Type	OFNP
cUL Type	OFN FT6
Flame Resistance	NFPA 262

Specifications

Temperature Range	
Storage	-40 to +70°C
Operating	-20 to +70°C
Crush Resistance (EIA-455-41)	200 N/cm
Impact Resistance (EIA-455-25)	20 Impacts @ 1.0 N-m
Cyclic Flexing (EIA-455-104)	2000 cycles, min.
Min. Bend Radius	
Installation	15 x OD
Long Term	10 x OD
Optical Specifications	See page 10.2

Fiber Bundle Detail



No. of Fibers	Belden Part Number				Outside Diameter		Weight		Max. Install Load	
	62.5 / 125µm Std. / 1 Gbe	50 / 125µm Std. / 1 Gbe	50 / 125µm 10 Gbe – 300M	Single-mode Enhanced	Inch	mm	Lbs./1000′	kg/km	Lbs.	N
Interconnect Cable Series										
Riser (NEC/CEC OFNR/OFN FT4)										
1	**M97112**	**M9A001**	**M9C001**	**M9W001**	0.114	2.9	6	9	90	400
2	**M96915**	**M9A002**	**M9C002**	**M9W002**	0.11 x 0.23	2.9 x 5.9	12	18	180	801
Plenum (NEC/CEC OFNP/OFN FT6)										
1	**M98086**	**M9A003**	**M9C003**	**M9W003**	0.114	2.9	6	9	90	400
2	**M96919**	**M9A004**	**M9C004**	**M9W004**	0.11 x 0.23	2.9 x 5.9	13	19	180	801

Distribution Cable

Tight Buffer — Indoor 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	
Riser & Non-unitized Plenum	PVC
Unitized Plenum	PVDF
Low Smoke Zero Halogen	LSZH
Tight Buffer	
Riser & Plenum	PVC
Low Smoke Zero Halogen	LSZH
Strength Member	Aramid Yarn
Color Code (Tight Buffer)	Per EIA/TIA 598-A, see page 10.2
Jacket Color	
Single-mode	Yellow
62.5/125 µm	Orange (Green for LSZH only)
50/125 µm / 1 Gbe	Orange
50/125 µm / 10 Gbe	Aqua

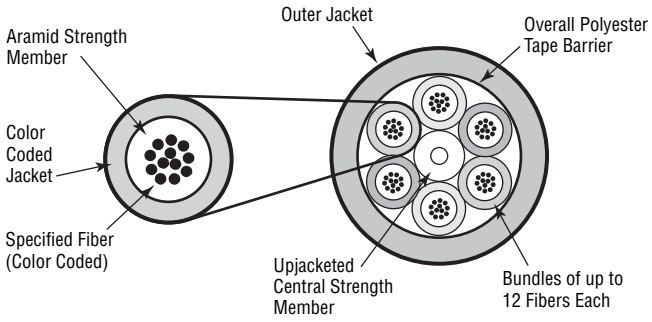
Ratings

Riser	
UL Type	OFNR
cUL Type	OFN FT4
Flame Resistance	UL 1666
Plenum	
UL Type	OFNP
cUL Type	OFN FT6
Flame Resistance	NFPA 262
Low Smoke Zero Halogen	
UL Type	OFNR
cUL Type	OFN FT4
Flame Resistance	UL 1666

Specifications

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

Fiber Bundle Detail



2 – 12 FIBERS **>12 – 144 FIBERS**

Distribution Cable

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

No. of Fibers	Belden Part Number				Outside Diameter		Weight		Max. Install Load	
	62.5 / 125µm Std. / 1 Gbe	50 / 125µm Std. / 1 Gbe	50 / 125µm 10 Gbe – 300M	Single-mode Enhanced	Inch	mm	Lbs./1000′	kg/km	Lbs.	N
Distribution Cable Series										
Riser (NEC/CEC OFNR/OFN FT4)										
2	**M9B037**	**M9A037**	**M9C037**	**M9W037**	0.184	4.67	13	19	180	801
4	**M9B038**	**M9A038**	**M9C038**	**M9W038**	0.200	5.08	16	24	195	867
6	**M9B039**	**M9A039**	**M9C039**	**M9W039**	0.220	5.59	19	28	270	1201
8	**M9B040**	**M9A040**	**M9C040**	**M9W040**	0.235	5.97	22	33	270	1201
12	**M9B042**	**M9A042**	**M9C042**	**M9W042**	0.255	6.48	27	40	300	1334
24	**M9B601***	**M9A601***	**M9C601***	**M9W601***	0.325	8.26	42	63	390	1735
24	**M9B602**	**M9A602**	**M9C602**	**M9W602**	0.496	12.60	83	124	960	4270
36	**M9B604**	**M9A604**	**M9C604**	**M9W604**	0.644	16.36	137	204	1440	6405
48	**M9B606**	**M9A606**	**M9C606**	**M9W606**	0.627	15.93	131	195	945	4203
72	**M9B609**	**M9A609**	**M9C609**	**M9W609**	0.750	19.10	195	290	1350	6005
96	**M9B622**	**M9A622**	**M9C622**	**M9W622**	0.895	22.70	290	432	1983	8820
144	**M9B619**	**M9A619**	**M9C619**	**M9W619**	0.964	24.49	314	467	2745	12210
Composite Riser Cables										
6xSM/12x62.5	**M96992**									
12xSM/12x62.5	**M96963**									
6xSM/12x50	**M96909**									
12xSM/12x50	**M96908**									
Plenum (NEC/CEC OFNP/OFN FT6)										
2	**M9B043**	**M9A043**	**M9C043**	**M9W043**	0.184	4.67	14	21	180	801
4	**M9B044**	**M9A044**	**M9C044**	**M9W044**	0.174	4.42	13	19	195	867
6	**M9B045**	**M9A045**	**M9C045**	**M9W045**	0.190	4.83	16	24	270	1201
8	**M9B046**	**M9A046**	**M9C046**	**M9W046**	0.222	5.64	19	28	270	1201
12	**M9B048**	**M9A048**	**M9C048**	**M9W048**	0.225	5.72	22	33	300	1334
24	**M9B611***	**M9A611***	**M9C611***	**M9W611***	0.330	8.38	40	60	390	1735
24	**M9B612**	**M9A612**	**M9C612**	**M9W612**	0.493	12.52	89	132	1263	5618
36	**M9B614**	**M9A614**	**M9C614**	**M9W614**	0.594	15.09	134	199	1913	8509
48	**M9B616**	**M9A616**	**M9C616**	**M9W616**	0.599	15.21	131	195	1245	5538
72	**M9B620**	**M9A620**	**M9C620**	**M9W620**	0.754	19.15	197	293	2093	9310
96	**M9B623**	**M9A623**	**M9C623**	**M9W623**	0.904	22.96	268	399	2160	9608
144	**M9B621**	**M9A621**	**M9C621**	**M9W621**	1.047	26.59	365	543	3645	16213
Composite Plenum Cables										
6xSM/6x62.5	**M97174**									
6xSM/12x62.5	**M97041**									
12xSM/12x62.5	**M97219**									
6xSM/6x50	**M97412**									
6xSM/12x50	**M97411**									
12xSM/12x50	**M96780**									
LSZH (NEC/CEC OFNR/OFN FT4)										
2	**M9B100**	**M9A100**	**M9C100**	**M9W100**	0.184	4.67	15	22	180	800
4	**M9B101**	**M9A101**	**M9C101**	**M9W101**	0.200	5.08	17	25	195	867
6	**M9B102**	**M9A102**	**M9C102**	**M9W102**	0.220	5.59	21	31	270	1201
8	**M9B103**	**M9A103**	**M9C103**	**M9W103**	0.235	5.97	24	36	270	1201
12	**M9B104**	**M9A104**	**M9C104**	**M9W104**	0.255	6.48	29	43	300	1334
16	**M9B105**	**M9A105**	**M9C105**	**M9W105**	0.347	8.80	43	63	315	1400
24	**M9B107**	**M9A107**	**M9C107**	**M9W107**	0.386	9.80	54	79	450	2000
36	**M9B111**	**M9A111**	**M9C111**	**M9W111**	0.798	20.00	214	313	1619	7200
48	**M9B112**	**M9A112**	**M9C112**	**M9W112**	0.835	21.20	237	347	1619	7200
72	**M9B114**	**M9A114**	**M9C114**	**M9W114**	0.883	22.40	270	395	1619	7200
96	**M9B116**	**M9A116**	**M9C116**	**M9W116**	0.973	24.70	364	532	1619	7200
144	**M9B120**	**M9A120**	**M9C120**	**M9W120**	1.087	27.60	384	561	1619	7200

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

*Single jacket design.

Breakout Style Cable

Tight Buffer — Indoor Riser, Plenum & LSZH Rated

Applications

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

Product Description

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

Outer Jacket Material	
Riser & Plenum	PVC
Plenum	PVDF
Low Smoke Zero Halogen	LSZH
Sub-unit Jacket Material	
Riser & Plenum	PVC
Low Smoke Zero Halogen	LSZH
Tight Buffer	
Riser & Plenum	PVC
Low Smoke Zero Halogen	LSZH
Strength Member	Aramid Yarn
Color Code (Tight Buffer)	Per EIA/TIA 598-A, see page 10.2
Jacket Color	
Single-mode	Yellow
62.5/125 µm	Orange (Green for LSZH only)
50/125 µm / 1 Gbe	Orange
50/125 µm / 10 Gbe	Aqua

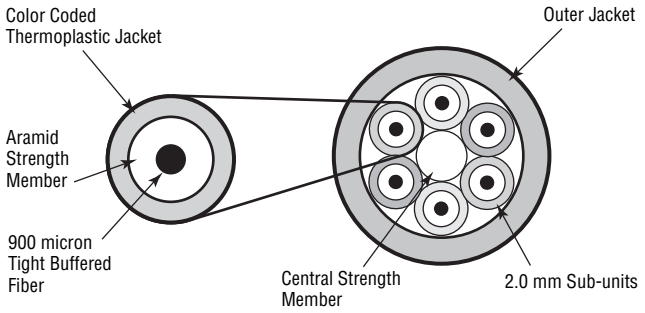
Ratings

Riser	
UL Type	OFNR
cUL Type	OFN FT4
Flame Resistance	UL 1666
Plenum	
UL Type	OFNP
cUL Type	OFN FT6
Flame Resistance	NFPA 262
Low Smoke Zero Halogen	
UL Type	OFNR
cUL Type	OFN FT4
Flame Resistance	UL 1666

Specifications

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

Fiber Bundle Detail



Breakout Style Cable

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

No. of Fibers	Belden Part Number				Outside Diameter		Weight		Max. Install Load	
	62.5 / 125µm Std. / 1 Gbe	50 / 125µm Std. / 1 Gbe	50 / 125µm 10 Gbe – 300M	Single-mode Enhanced	Inch	mm	Lbs./1000′	kg/km	Lbs.	N
Breakout Cable Series										
Riser (NEC/CEC OFNR/OFN FT4)										
2	**M9B005**	**M9A005**	**M9C005**	**M9W005**	0.260	6.60	24	36	180	801
4	**M9B006**	**M9A006**	**M9C006**	**M9W006**	0.321	8.15	35	52	345	1535
6	**M9B007**	**M9A007**	**M9C007**	**M9W007**	0.358	9.09	54	80	543	2415
8	**M9B008**	**M9A008**	**M9C008**	**M9W008**	0.405	10.29	69	103	600	2700
10	**M9B009**	**M9A009**	**M9C009**	**M9W009**	0.455	11.56	86	128	600	2700
12	**M9B010**	**M9A010**	**M9C010**	**M9W010**	0.514	13.06	110	164	600	2700
18	**M9B011**	**M9A011**	**M9C011**	**M9W011**	0.520	13.21	104	155	600	2700
24	**M9B012**	**M9A012**	**M9C012**	**M9W012**	0.590	14.99	135	201	600	2700
36	**M9B083**	**M9A083**	**M9C083**	**M9W083**	0.680	17.27	168	250	600	2700
Plenum (NEC/CEC OFNP/OFN FT6)										
2	**M9B013**	**M9A013**	**M9C013**	**M9W013**	0.230	5.84	20	30	180	801
4	**M9B014**	**M9A014**	**M9C014**	**M9W014**	0.263	6.68	30	45	345	1535
6	**M9B015**	**M9A015**	**M9C015**	**M9W015**	0.309	7.85	41	61	465	2068
8	**M9B016**	**M9A016**	**M9C016**	**M9W016**	0.336	8.53	55	82	600	2700
10	**M9B017**	**M9A017**	**M9C017**	**M9W017**	0.385	9.78	73	109	600	2700
12	**M9B018**	**M9A018**	**M9C018**	**M9W018**	0.391	9.93	65	97	600	2700
18	**M9B019**	**M9A019**	**M9C019**	**M9W019**	0.456	11.58	89	132	600	2700
24	**M9B020**	**M9A020**	**M9C020**	**M9W020**	0.544	13.82	117	174	600	2700
36	**M9B082**	**M9A082**	**M9C082**	**M9W082**	0.612	15.54	154	229	600	2700
LSZH (NEC/CEC OFNR/OFN FT4)										
2	**M9B130**	**M9A130**	**M9C130**	**M9W130**	0.290	7.37	39	57	270	1200
4	**M9B131**	**M9A131**	**M9C131**	**M9W131**	0.351	8.92	38	55	285	1268
6	**M9B132**	**M9A132**	**M9C132**	**M9W132**	0.358	9.09	52	76	543	2415
8	**M9B133**	**M9A133**	**M9C133**	**M9W133**	0.405	10.29	67	98	600	2700
10	**M9B134**	**M9A134**	**M9C134**	**M9W134**	0.455	11.56	110	162	600	2700
12	**M9B135**	**M9A135**	**M9C135**	**M9W135**	0.514	13.06	110	161	600	2700
18	**M9B136**	**M9A136**	**M9C136**	**M9W136**	0.520	13.21	103	151	600	2700
24	**M9B137**	**M9A137**	**M9C137**	**M9W137**	0.590	14.99	138	202	600	2700
36	**M9B138**	**M9A138**	**M9C138**	**M9W138**	0.680	17.27	171	250	600	2700

2.5 mm Breakout Cables are also available.

Industrial Armored Cable

Tight Buffer — Riser & Plenum Rated

Applications

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

Product Description

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

Jacket Material	
Riser & Plenum	PVC
Buffer Tube	PVC
Strength Member	Aramid Yarn
Central Strength Member	E-Glass
Armor	Aluminum
Color Code (Buffer)	Per EIA/TIA 598-A, see page 10.2
Jacket Color	
Single-mode	Yellow
62.5/125 µm	Orange
50/125 µm / 1 Gbe	Orange
50/125 µm / 10 Gbe	Aqua

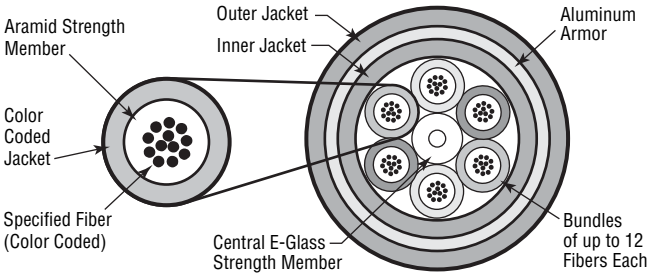
Ratings

Riser	
UL Type	OFCR
cUL Type	OFC FT4
Flame Resistance	UL 1666
Plenum	
UL Type	OFCP
cUL Type	OFC FT6
Flame Resistance	NFPA 262

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
Min. Bend Radius	
Installation	20 x OD
Long Term	15 x OD
Optical Specifications	See page 10.2

Fiber Bundle Detail



No. of Fibers	Belden Part Number				Outside Diameter		Weight		Max. Install Load	
	62.5 / 125µm Std. / 1 Gbe	50 / 125µm Std. / 1 Gbe	50 / 125µm 10 Gbe – 300M	Single-mode Enhanced	Inch	mm	Lbs./1000′	kg/km	Lbs.	N
Industrial Armored Series										
Riser (NEC/CEC OFCR/OFC FT4)										
6	**M9B230**	**M9A230**	**M9C230**	**M9W230**	0.570	14.50	126	188	270	1201
12	**M9B231**	**M9A231**	**M9C231**	**M9W231**	0.620	15.70	149	222	300	1334
24	**M9B232***	**M9A232***	**M9C232***	**M9W232***	0.670	17.00	179	266	390	1735
24	**M9B233**	**M9A233**	**M9C233**	**M9W233**	0.845	21.46	263	391	600	2700
36	**M9B234**	**M9A234**	**M9C234**	**M9W234**	0.970	24.64	368	548	600	2700
48	**M9B235**	**M9A235**	**M9C235**	**M9W235**	0.970	24.64	368	548	600	2700
72	**M9B236**	**M9A236**	**M9C236**	**M9W236**	1.095	27.82	481	716	600	2700
96	**M9B237**	**M9A237**	**M9C237**	**M9W237**	1.245	31.62	625	930	600	2700
144	**M9B238**	**M9A238**	**M9C238**	**M9W238**	1.320	33.55	675	1005	600	2700
Plenum (NEC/CEC OFCP/OFC FT6)										
6	**M9B240**	**M9A240**	**M9C240**	**M9W240**	0.471	12.00	87	129	270	1201
12	**M9B241**	**M9A241**	**M9C241**	**M9W241**	0.506	12.90	103	153	300	1334
24	**M9B242***	**M9A242***	**M9C242***	**M9W242***	0.631	16.00	151	225	390	1735
24	**M9B243**	**M9A243**	**M9C243**	**M9W243**	0.781	19.84	289	430	600	2700
36	**M9B244**	**M9A244**	**M9C244**	**M9W244**	0.881	22.38	309	460	600	2700
48	**M9B245**	**M9A245**	**M9C245**	**M9W245**	0.906	23.01	320	476	600	2700
72	**M9B246**	**M9A246**	**M9C246**	**M9W246**	1.056	26.82	451	671	600	2700
96	**M9B247**	**M9A247**	**M9C247**	**M9W247**	1.256	31.90	608	905	600	2700
144	**M9B248**	**M9A248**	**M9C248**	**M9W248**	1.331	33.81	687	1022	600	2700

*Single jacket design.

All optical fiber products can be supplied in compliance with RoHS regulations.

Tactical Cable

Tight Buffer — Outdoor

Applications

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

Product Description

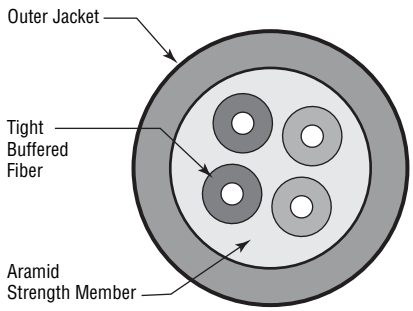
Small and lightweight with a rugged jacket, Tactical Cable provides a durable design for repeated deployment and retrieval cycles and a superior level of crush resistance. Designed to military standards. 50/125 micron fiber available on request.

Jacket Material	UV-resistant PU
Buffer	Polyester
Strength Member	Aramid Yarn
Color Code (Jacket & Fibers)	Per EIA/TIA 598-A, see page 10.2

Specifications

Temperature Range	
Storage	-70 to +85°C
Operating	-55 to +85°C
Crush Resistance (EIA-455-41)	440 N/cm
Impact Resistance (EIA-455-25)	200 Impacts @ 2.2 N-m
Cyclic Flexing (EIA-455-104)	2000 cycles, min.
Min. Bend Radius	
Installation	15 x OD
Long Term	8 x OD
Optical Specifications	See page 10.2

Fiber Bundle Detail



No. of Fibers	Belden Part Number		Outside Diameter		Weight		Max. Install Load	
	62.5 / 125µm Std. / 1 Gbe	Single-mode Enhanced	Inch	mm	Lbs./1000′	kg/km	Lbs.	N
Tactical Series								
Outdoor								
2	**M96571**	**M96566**	0.217	5.5	19	28	330	1468
4	**M96551**	**M96639**	0.225	5.7	21	31	330	1468
6	**M96572**	**M96567**	0.236	6.0	23	34	330	1468
8	**M96573**	**M96568**	0.250	6.3	26	39	330	1468
10	**M96574**	**M96569**	0.265	6.7	28	42	330	1468
12	**M96575**	**M96570**	0.280	7.1	31	46	330	1468

Please contact the Technical Support Group for proper connectivity integration and installation guidance.

Ribbon Cable

Riser and Plenum Rated

Applications

- Inter-equipment connections
- NEBS applications

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 (Jacket & Fibers)	Per EIA/TIA 598-A, see page 10.2
Jacket Color	
Single-mode	Yellow
62.5/125µm	Orange
50/125 µm / 1 Gbe	Orange
50/125 µm / 10 Gbe	Aqua

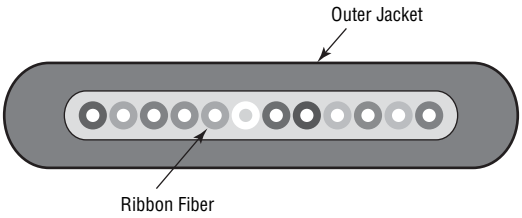
Ratings

Riser	
UL Type	OFNR
cUL Type	OFN FT4
Flame Resistance	UL 1666
Plenum	
UL Type	OFNP
cUL Type	OFN FT6
Flame Resistance	NFPA 262

Specifications

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

Fiber Bundle Detail



No. of Fibers	Belden Part Number				Outside Diameter		Weight		Max. Install Load	
	62.5 / 125µm Std. / 1 Gbe	50 / 125µm Std. / 1 Gbe	50 / 125µm 10 Gbe – 300M	Single-mode Enhanced	Inch	mm	Lbs./1000′	kg/km	Lbs.	N
Ribbon Series										
Riser (NEC/CEC OFNR/OFN FT4)										
2	**M9B630**	**M9A630**	**M9C630**	**M9W630**	0.114	2.9	5	7	100	444
4	**M9B631**	**M9A631**	**M9C631**	**M9W631**	0.78 x 0.115	2.0 x 2.9	4	6	100	444
6	**M9B632**	**M9A632**	**M9C632**	**M9W632**	0.78 x 0.137	2.0 x 3.5	6	9	100	444
8	**M9B633**	**M9A633**	**M9C633**	**M9W633**	0.78 x 0.158	2.0 x 4.0	6	9	100	444
12	**M9B634**	**M9A634**	**M9C634**	**M9W634**	0.78 x 0.180	2.0 x 4.6	7	10	100	444
Plenum (NEC/CEC OFNP/OFN FT6)										
2	**M9B640**	**M9A640**	**M9C640**	**M9W640**	0.114	2.9	5	7	100	444
4	**M9B641**	**M9A641**	**M9C641**	**M9W641**	0.78 x 0.115	2.0 x 2.9	4	6	100	444
6	**M9B642**	**M9A642**	**M9C642**	**M9W642**	0.78 x 0.137	2.0 x 3.5	6	9	100	444
8	**M9B643**	**M9A643**	**M9C643**	**M9W643**	0.78 x 0.158	2.0 x 4.0	6	9	100	444
12	**M9B644**	**M9A644**	**M9C644**	**M9W644**	0.78 x 0.180	2.0 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

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	
Outdoor	PE
Riser	PVC
Buffer Tube	PBT
Strength Member	Aramid Yarn
Central Strength Member	E-Glass
Color Code (Buffer)	Per EIA/TIA 598-A, see page 10.2
Jacket Color	Black

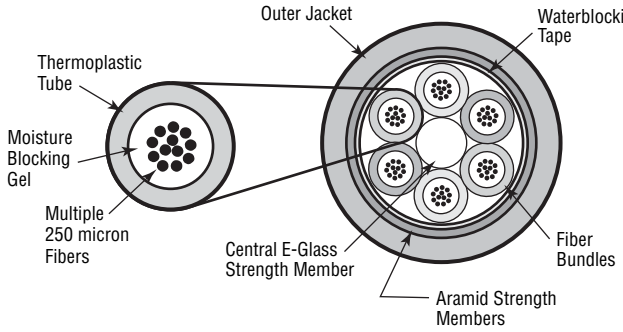
Ratings

Riser	
UL Type	OFNR
cUL Type	OFN FT4
Flame Resistance	UL 1666

Specifications

Temperature Range (Outdoor Series)	
Storage	-50 to +80°C
Operating	-40 to +70°C
Temperature Range (Riser Series)	
Storage	-40 to +80°C
Operating	-40 to +70°C
Crush Resistance (EIA-455-41)	2000 N/cm
Impact Resistance (EIA-455-25)	2000 Impacts @ 1.6 N-m
Min. Bend Radius	
Installation	20 x OD
Long Term	15 x OD
Optical Specifications	See page 10.2

Fiber Bundle Detail



No. of Fibers	Fibers Per Tube	Belden Part Number				Outside Diameter		Weight		Max. Install Load	
		62.5 / 125µm Std. / 1 Gbe	50 / 125µm Std. / 1 Gbe	50 / 125µm 10 Gbe – 300M	Single-mode Enhanced	Inch	mm	Lbs./1000′	kg/km	Lbs.	N
Loose Tube Series											
Outdoor											
6	6	**M9B510T**	**M9A510T**	**M9C510T**	**M9W510T**	0.38	9.65	44	65	600	2700
12	6	**M9B511T**	**M9A511T**	**M9C511T**	**M9W511T**	0.38	9.65	44	65	600	2700
24	6	**M9B500T**	**M9A500T**	**M9C500T**	**M9W500T**	0.38	9.65	45	67	600	2700
36	6	**M9B502T**	**M9A502T**	**M9C502T**	**M9W502T**	0.38	9.65	47	70	600	2700
48	12	**M9B505T**	**M9A505T**	**M9C505T**	**M9W505T**	0.48	12.19	70	104	600	2700
72	12	**M9B507T**	**M9A507T**	**M9C507T**	**M9W507T**	0.48	12.19	70	104	600	2700
96	12	**M9B513T**	**M9A513T**	**M9C513T**	**M9W513T**	0.55	13.89	93	138	600	2700
144	12	**M9B509T**	**M9A509T**	**M9C509T**	**M9W509T**	0.70	17.78	149	222	600	2700
216	12	**M9B520T**	**M9A520T**	**M9C520T**	**M9W520T**	0.72	18.16	148	220	600	2700
Riser (NEC/CEC OFNR/OFN FT4)											
6	6	**M9B810**	**M9A810**	**M9C810**	**M9W810**	0.38	9.65	63	94	600	2700
12	6	**M9B811**	**M9A811**	**M9C811**	**M9W811**	0.38	9.65	62	92	600	2700
24	6	**M9B812**	**M9A812**	**M9C812**	**M9W812**	0.38	9.65	61	91	600	2700
36	6	**M9B813**	**M9A813**	**M9C813**	**M9W813**	0.38	9.65	60	89	600	2700
48	12	**M9B814**	**M9A814**	**M9C814**	**M9W814**	0.48	12.19	89	132	600	2700
72	12	**M9B815**	**M9A815**	**M9C815**	**M9W815**	0.48	12.19	87	129	600	2700
96	12	**M9B816**	**M9A816**	**M9C816**	**M9W816**	0.55	13.89	114	170	600	2700
144	12	**M9B817**	**M9A817**	**M9C817**	**M9W817**	0.70	17.78	187	278	600	2700

Alternative fiber counts are available.

Single Jacket, All Dielectric Cable

Loose Tube — Indoor/Outdoor Plenum Rated

Applications

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

Product Description

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

Jacket Material	
Non-unitized	PVC
Unitized	PVDF
Buffer Tube	PVC
Strength Member	E-Glass and Aramid Yarn
Central Strength Member	Upjacketed
Color Code (Buffer)	Per EIA/TIA 598-A, see page 10.2
Jacket Color	Black

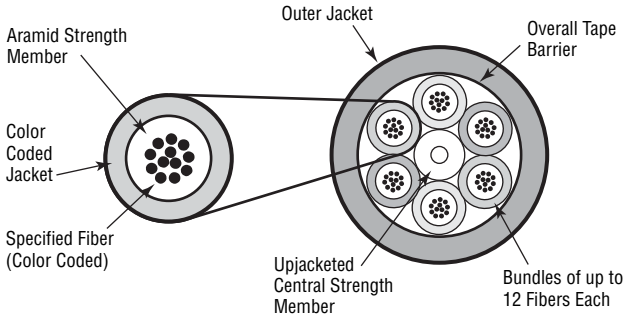
Ratings

Plenum	
UL Type	OFNP
cUL Type	OFN FT6
Flame Resistance	NFPA 262

Specifications

Temperature Range	
Storage	-40 to +80°C
Operating	-40 to +70°C
Installation	0 to +60°C
Crush Resistance (EIA-455-41)	2000 N/cm
Impact Resistance (EIA-455-25)	2000 Impacts @ 1.6 N-m
Cyclic Flexing (EIA-455-104)	2000 cycles, min.
Min. Bend Radius	
Installation	20 x OD
Long Term	15 x OD
Optical Specifications	See page 10.2

Fiber Bundle Detail



2 – 12 FIBERS **>12 – 144 FIBERS**

No. of Fibers	Fibers Per Tube	Belden Part Number				Outside Diameter		Weight		Max. Install Load	
		62.5 / 125µm Std. / 1 Gbe	50 / 125µm Std. / 1 Gbe	50 / 125µm 10 Gbe – 300M	Single-mode Enhanced	Inch	mm	Lbs./1000′	kg/km	Lbs.	N
Loose Tube Series											
Plenum (NEC/CEC OFNP/OFN FT6)											
6	6	**M9B202**	**M9A202**	**M9C202**	**M9W202**	0.265	6.70	33	49	320	1423
12	12	**M9B204**	**M9A204**	**M9C204**	**M9W204**	0.265	6.70	33	49	320	1423
24	12	**M9B205**	**M9A205**	**M9C205**	**M9W205**	0.359	9.12	47	70	405	1801
36	12	**M9B206**	**M9A206**	**M9C206**	**M9W206**	0.359	9.12	47	70	405	1801
48	12	**M9B207**	**M9A207**	**M9C207**	**M9W207**	0.359	9.12	48	71	405	1801
72	12	**M9B209**	**M9A209**	**M9C209**	**M9W209**	0.429	10.90	71	106	585	2602
96	12	**M9B211**	**M9A211**	**M9C211**	**M9W211**	0.501	12.73	105	156	903	4017
144	12	**M9B215**	**M9A215**	**M9C215**	**M9W215**	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.

Jacket Material	
Outdoor	PE
Riser	PVC
Buffer Tube	
Outdoor	PBT
Riser	PVC
Strength Member	Aramid Yarn
Central Strength Member	E-Glass
Armor	Corrugated Steel Tape
Color Code (Buffer)	Per EIA/TIA 598-A, see page 10.2
Jacket Color	Black

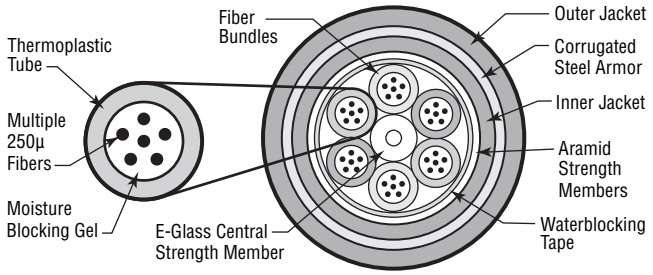
Ratings

Riser	
UL Type	OFCR
cUL Type	OFC FT4
Flame Resistance	UL 1666

Specifications

Temperature Range (Outdoor)	
Storage	-50 to +80°C
Operating	-40 to +70°C
Temperature Range (Riser)	
Storage	-40 to +80°C
Operating	-40 to +70°C
Crush Resistance (EIA-455-41)	2000 N/cm
Impact Resistance (EIA-455-25)	2000 Impacts @ 1.6 N-m
Min. Bend Radius	
Installation	20 x OD
Long Term	15 x OD
Optical Specifications	See page 10.2

Fiber Bundle Detail



No. of Fibers	Fibers Per Tube	Belden Part Number				Outside Diameter		Weight		Max. Install Load	
		62.5 / 125µm Std. / 1 Gbe	50 / 125µm Std. / 1 Gbe	50 / 125µm 10 Gbe – 300M	Single-mode Enhanced	Inch	mm	Lbs./1000′	kg/km	Lbs.	N
Loose Tube Series — Armored											
Outdoor											
6	6	**M9B381T**	**M9A381T**	**M9C381T**	**M9W381T**	0.53	13.46	101	150	600	2700
12	6	**M9B382T**	**M9A382T**	**M9C382T**	**M9W382T**	0.53	13.46	102	152	600	2700
24	6	**M9B384T**	**M9A384T**	**M9C384T**	**M9W384T**	0.53	13.46	103	153	600	2700
36	6	**M9B386T**	**M9A386T**	**M9C386T**	**M9W386T**	0.53	13.46	103	153	600	2700
48	12	**M9B389T**	**M9A389T**	**M9C389T**	**M9W389T**	0.65	16.51	144	214	600	2700
72	12	**M9B391T**	**M9A391T**	**M9C391T**	**M9W391T**	0.65	16.51	142	211	600	2700
96	12	**M9B398T**	**M9A398T**	**M9C398T**	**M9W398T**	0.69	17.53	168	250	600	2700
144	12	**M9B393T**	**M9A393T**	**M9C393T**	**M9W393T**	0.87	22.10	241	359	600	2700
216	12	**M9B400T**	**M9A400T**	**M9C400T**	**M9W400T**	0.87	22.10	241	359	600	2700
Riser (NEC/CEC OFCR/OFC FT4)											
6	6	**M9B890**	**M9A890**	**M9C890**	**M9W890**	0.54	13.72	138	205	600	2700
12	6	**M9B891**	**M9A891**	**M9C891**	**M9W891**	0.54	13.72	137	204	600	2700
24	6	**M9B892**	**M9A892**	**M9C892**	**M9W892**	0.54	13.72	136	202	600	2700
36	6	**M9B893**	**M9A893**	**M9C893**	**M9W893**	0.54	13.72	135	201	600	2700
48	12	**M9B894**	**M9A894**	**M9C894**	**M9W894**	0.66	16.76	176	262	600	2700
72	12	**M9B895**	**M9A895**	**M9C895**	**M9W895**	0.66	16.76	172	256	600	2700
96	12	**M9B896**	**M9A896**	**M9C896**	**M9W896**	0.70	17.78	206	307	600	2700
144	12	**M9B897**	**M9A897**	**M9C897**	**M9W897**	0.88	22.35	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

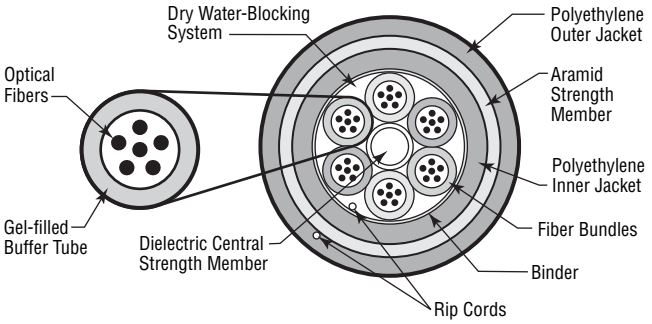
Gel-filled buffer tube prevents water migration.
Available with up to 216 fibers.

Jacket Material	
Outer Jacket:	PE
Inner Jacket:	PE
Buffer Tube	PBT
Strength Member	Aramid Yarn
Central Strength Member	E-Glass
Core Wrap	Water Swellable Tape
Color Code (Buffer)	Per EIA/TIA 598-A, see page 10.2
Jacket Color	Black

Specifications

Temperature Range	
Storage	-50 to +80°C
Operating	-40 to +70°C
Crush Resistance (EIA-455-41)	2000 N/cm
Impact Resistance (EIA-455-25)	2000 Impacts @ 1.6 N-m
Min. Bend Radius	
Installation	20 x OD
Long Term	15 x OD
Optical Specifications	See page 10.2

Fiber Bundle Detail



No. of Fibers	Fibers Per Tube	Belden Part Number				Outside Diameter		Weight		Max. Install Load	
		62.5 / 125µm Std. / 1 Gbe	50 / 125µm Std. / 1 Gbe	50 / 125µm 10 Gbe – 300M	Single-mode Enhanced	Inch	mm	Lbs./1000′	kg/km	Lbs.	N
Loose Tube Series — Heavy Duty											
Outdoor											
2	2	**M9B840**	**M9A840**	**M9C840**	**M9W840**	0.44	11.18	60	89	600	2700
4	4	**M9B841**	**M9A841**	**M9C841**	**M9W841**	0.44	11.18	60	89	600	2700
6	6	**M9B842**	**M9A842**	**M9C842**	**M9W842**	0.44	11.18	60	89	600	2700
8	4	**M9B843**	**M9A843**	**M9C843**	**M9W843**	0.44	11.18	60	89	600	2700
12	6	**M9B844**	**M9A844**	**M9C844**	**M9W844**	0.44	11.18	60	89	600	2700
18	6	**M9B845**	**M9A845**	**M9C845**	**M9W845**	0.44	11.18	60	89	600	2700
24	6	**M9B846**	**M9A846**	**M9C846**	**M9W846**	0.44	11.18	60	89	600	2700
36	6	**M9B847**	**M9A847**	**M9C847**	**M9W847**	0.44	11.18	60	89	600	2700
48	12	**M9B848**	**M9A848**	**M9C848**	**M9W848**	0.54	13.72	136	202	600	2700
72	12	**M9B849**	**M9A849**	**M9C849**	**M9W849**	0.54	13.72	136	202	600	2700
96	12	**M9B820**	**M9A820**	**M9C820**	**M9W820**	0.61	15.37	152	226	600	2700
144	12	**M9B821**	**M9A821**	**M9C821**	**M9W821**	0.76	19.30	255	379	600	2700
216	12	**M9B822**	**M9A822**	**M9C822**	**M9W822**	0.76	19.30	255	379	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

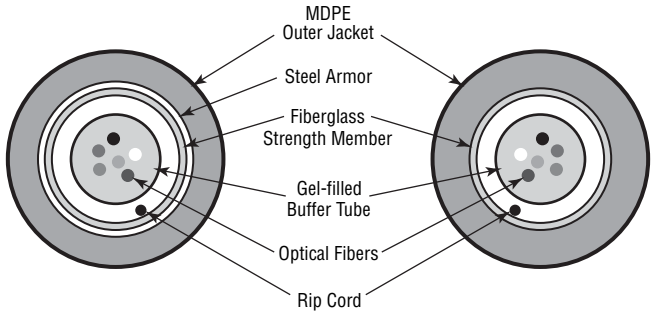
Economical option for low fiber counts. Quick and easy end preparation. Fully waterblocked with gel-filled buffer tube. No rods – easy handling. Crush, impact and abrasion resistant.

Jacket Material	PE
Buffer Tube	PBT
Core Wrap	Water Swellable Tape
Strength Member	Fiberglass
Armor	Corrugated Steel
Color Codes (Jacket & Fibers)	Per EIA/TIA 598-A, see page 10.2
Jacket Color	Black

Specifications

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

Fiber Bundle Detail



SINGLE ARMOR **ALL DIELECTRIC**

No. of Fibers	Belden Part Number				Outside Diameter		Weight		Max. Install Load	
	62.5 / 125µm Std. / 1 Gbe	50 / 125µm Std. / 1 Gbe	50 / 125µm 10 Gbe – 300M	Single-mode Enhanced	Inch	mm	Lbs./1000′	kg/km	Lbs.	N
Central Tube Series										
Outdoor										
2	**M9B150**	**M9A150**	**M9C150**	**M9W150**	0.325	8.26	36	54	600	2700
4	**M9B151**	**M9A151**	**M9C151**	**M9W151**	0.325	8.26	36	54	600	2700
6	**M9B152**	**M9A152**	**M9C152**	**M9W152**	0.325	8.26	36	54	600	2700
8	**M9B153**	**M9A153**	**M9C153**	**M9W153**	0.325	8.26	36	54	600	2700
10	**M9B154**	**M9A154**	**M9C154**	**M9W154**	0.325	8.26	36	54	600	2700
12	**M9B155**	**M9A155**	**M9C155**	**M9W155**	0.325	8.26	36	54	600	2700
Outdoor Armored										
2	**M9B170**	**M9A170**	**M9C170**	**M9W170**	0.410	10.41	72	108	600	2700
4	**M9B171**	**M9A171**	**M9C171**	**M9W171**	0.410	10.41	72	108	600	2700
6	**M9B172**	**M9A172**	**M9C172**	**M9W172**	0.410	10.41	72	108	600	2700
8	**M9B173**	**M9A173**	**M9C173**	**M9W173**	0.410	10.41	72	108	600	2700
10	**M9B174**	**M9A174**	**M9C174**	**M9W174**	0.410	10.41	72	108	600	2700
12	**M9B175**	**M9A175**	**M9C175**	**M9W175**	0.410	10.41	72	108	600	2700

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

Micro Loose Tube Breakout Style Cable

Loose Tube – Outdoor, Indoor/Outdoor OFN & Indoor/Outdoor Riser Rated

Applications

- Ducts between buildings (above or below frost lines)
- Lashed aerial
- Telecommunications and data trunk

Product Description

Easy handling and termination of a breakout style cable. Loose buffer dimensions compatible with standard connectors (900 µm). Waterblocking gel for moisture protection. Breakout kits not required for connectorization.

Jacket Material	
Outdoor	PE
Riser	PVC
General Purpose	TPE
Buffer tube	
Outdoor + Riser	PBT
Strength Elements	Aramid Yarn
Strength Member(s)	Upjacketed Aramid
Color Codes (Jacket & Fibers)	Per EIA/TIA 598-A, see page 10.2
Jacket Color	Black

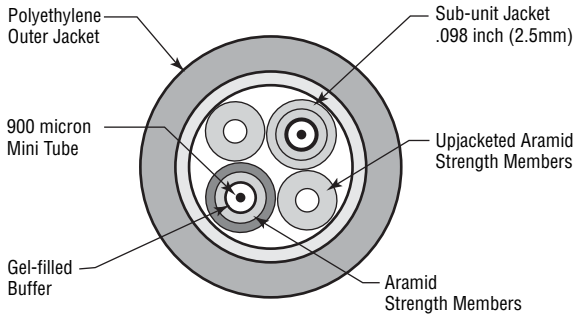
Ratings

Riser	
UL Type	OFNR
cUL Type	OFN FT4
Flame Resistance	UL 1666
General Purpose	
UL/cUL Type	OFN
Flame Resistance	UL 1581

Specifications

Temperature Range	
Storage	-40 to +70°C
Operating	-20 to +70°C
Crush Resistance (EIA-455-41)	600 N/cm
Impact Resistance (EIA-455-25)	20 Impacts @ 1.0 N-m
Min. Bend Radius	
Installation	20 x OD
Long Term	15 x OD
Optical Specifications	See page 10.2

Fiber Bundle Detail



Micro Loose Tube Breakout Style Cable

Loose Tube – Outdoor, Indoor/Outdoor OFN & Indoor/Outdoor Riser Rated *(continued)*

No. of Fibers	Belden Part Number				Outside Diameter		Weight		Max. Install Load	
	62.5 / 125µm Std. / 1 Gbe	50 / 125µm Std. / 1 Gbe	50 / 125µm 10 Gbe – 300M	Single-mode Enhanced	Inch	mm	Lbs./1000′	kg/km	Lbs.	N
Micro Loose Tube Series										
Outdoor										
1	**M9B700**	**M9A700**	**M9C700**	**M9W700**	0.340	8.64	41	61	330	1468
2	**M9B701**	**M9A701**	**M9C701**	**M9W701**	0.360	9.14	41	61	345	1535
4	**M9B702**	**M9A702**	**M9C702**	**M9W702**	0.360	9.14	39	58	285	1267
6	**M9B703**	**M9A703**	**M9C703**	**M9W703**	0.418	10.62	54	80	405	1801
8	**M9B704**	**M9A704**	**M9C704**	**M9W704**	0.478	12.14	76	113	600	2700
12	**M9B705**	**M9A705**	**M9C705**	**M9W705**	0.614	15.60	129	192	600	2700
Indoor/Outdoor OFN										
1	**M9B720**	**M9A720**	**M9C720**	**M9W720**	0.344	8.74	50	74	330	1468
2	**M9B721**	**M9A721**	**M9C721**	**M9W721**	0.364	9.25	51	76	345	1535
4	**M9B722**	**M9A722**	**M9C722**	**M9W722**	0.364	9.25	49	73	285	1267
6	**M9B723**	**M9A723**	**M9C723**	**M9W723**	0.424	10.72	68	101	405	1801
8	**M9B724**	**M9A724**	**M9C724**	**M9W724**	0.482	12.24	77	115	600	2700
12	**M9B725**	**M9A725**	**M9C725**	**M9W725**	0.618	15.70	130	193	600	2700
Indoor/Outdoor Riser										
1	**M9B740**	**M9A740**	**M9C740**	**M9W740**	0.352	8.94	54	80	330	1468
2	**M9B741**	**M9A741**	**M9C741**	**M9W741**	0.372	9.45	55	82	345	1535
4	**M9B742**	**M9A742**	**M9C742**	**M9W742**	0.372	9.45	51	76	285	1267
6	**M9B743**	**M9A743**	**M9C743**	**M9W743**	0.432	10.97	74	110	405	1801
8	**M9B744**	**M9A744**	**M9C744**	**M9W744**	0.490	12.45	94	140	600	2700
12	**M9B745**	**M9A745**	**M9C745**	**M9W745**	0.626	15.90	151	229	600	2700

Please contact the Technical Support Group for proper connectivity integration and installation guidance.

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

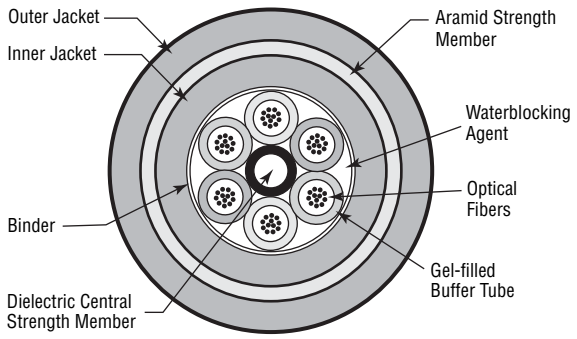
Ratings

Riser	
UL Type	OFNR
cUL Type	OFN FT4
Flame Resistance	IEEE 383-2003

Specifications

Temperature Range	
Storage	-40 to +70°C
Operating	-40 to +70°C
Crush Resistance (EIA-455-41)	2000 N/cm
Impact Resistance (EIA-455-25)	2000 impacts @ 1.6N-m
Cyclic Flexing (EIA-455-104)	25 cycles, 12 lbs., 20 x OD radius min.
Min. Bend Radius	
Installation	20 x OD
Long Term	15 x OD
Maximum Installation Load	600 lbs. (2700 N)
Optical Specifications	See page 10.2

Fiber Bundle Detail



No. of Fibers	Fibers Per Tube	Outside Diameter		PVC Jacket			CPE Jacket		
		Inches	mm	Belden Part No.	Weight Lbs./1000′	Weight kg/km	Belden Part No.	Weight Lbs./1000′	Weight kg/km
TrayOptic Series									
Riser (NEC/CEC OFNR/OFN FT4)									
2	2	0.440	11.18	**I100255**	88	131	**I100266**	83	124
4	4	0.440	11.18	**I100455**	88	131	**I100466**	83	124
6	6	0.440	11.18	**I100655**	88	131	**I100666**	83	124
8	4	0.440	11.18	**I400855**	88	131	**I400866**	83	124
12	6	0.440	11.18	**I601255**	88	131	**I601266**	83	124
18	6	0.440	11.18	**I601855**	88	131	**I601866**	83	124
24	6	0.440	11.18	**I602455**	88	131	**I602466**	83	124
36	6	0.440	11.18	**I603655**	88	131	**I603666**	83	124
48	12	0.540	13.72	**I604855**	136	202	**I604866**	129	192
60	12	0.540	13.72	**I606055**	136	202	**I606066**	129	192
72	12	0.540	13.72	**I607255**	136	202	**I607266**	129	192

LifeElectronics
Живое партнерство

ООО «ЛайфЭлектроникс» **“LifeElectronics” LLC**

ИНН 7805602321 КПП 780501001 Р/С 40702810122510004610 ФАКБ "АБСОЛЮТ БАНК" (ЗАО) в г.Санкт-Петербурге К/С 30101810900000000703 БИК 044030703

Компания «Life Electronics» занимается поставками электронных компонентов импортного и отечественного производства от производителей и со складов крупных дистрибьюторов Европы, Америки и Азии.

С конца 2013 года компания активно расширяет линейку поставок компонентов по направлению коаксиальный кабель, кварцевые генераторы и конденсаторы (керамические, пленочные, электролитические), за счёт заключения дистрибьюторских договоров

Мы предлагаем:

- *Конкурентоспособные цены и скидки постоянным клиентам.*
- *Специальные условия для постоянных клиентов.*
- *Подбор аналогов.*
- *Поставку компонентов в любых объемах, удовлетворяющих вашим потребностям.*

- *Приемлемые сроки поставки, возможна ускоренная поставка.*
- *Доставку товара в любую точку России и стран СНГ.*
- *Комплексную поставку.*
- *Работу по проектам и поставку образцов.*
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- *Сертификаты соответствия на поставляемую продукцию (по желанию клиента).*
- *Тестирование поставляемой продукции.*
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В составе нашей компании организован Конструкторский отдел, призванный помогать разработчикам, и инженерам.

Конструкторский отдел помогает осуществить:

- *Регистрацию проекта у производителя компонентов.*
- *Техническую поддержку проекта.*
- *Защиту от снятия компонента с производства.*
- *Оценку стоимости проекта по компонентам.*
- *Изготовление тестовой платы монтаж и пусконаладочные работы.*

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