Introduction

Fiber Solutions for Even Faster Performance

Belden IBDN Fiber*Express* 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 Fiber*Express* System Components

Key components of the Fiber*Express* systems are summarized below and are found on the catalog pages that follow.
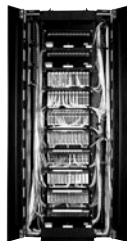
- ### Optima*x*® Connectors
  Optima*x*® connectors are a revolutionary field-installable optical fiber connector. The unique design of the patented mechanical splice body of Optima*x*® incorporates a factory mounted fiber stub and a pre-polished ceramic ferrule. This technology consistently provides 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 Fiber*Express* 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 1968 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 Fiber*Express* 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.

Introduction
Fiber Channel Topology

FiberExpress System Matrix	Page No.	Fiber-to-the-Desk (FTTD) and Centralized Fiber	Fiber Backbone (In-Building)	Fiber Backbone (Campus)	FiberExpress Pre-Terminated Solutions*
FiberExpress Cables					
Distribution & Breakout Cable Series Multimode and Single-mode	16.28 – 16.32	●			●
Interconnect Cable Series Multimode and Single-mode	16.25 – 16.27	●			
Loose Tube (Campus) Cable Series MM, SM, Composite MM/SM	16.33 – 16.58			●	●
Cross-Connect Hardware in the Telecom Room					
FiberExpress Manager with FiberExpress Manager Connector Modules Multimode and Single-mode	16.11	●	●	●	●
FiberExpress Rack Mount Patch Panel with Universal Adapter Strips Multimode and Single-mode	16.12	●		●	●
FiberExpress Wall Mount Patch Panel with Universal Adapter Strips Multimode and Single-mode	16.13	●		●	●
FiberExpress Bar: Multimode and Single-mode	16.8	●	●	●	●
Patch Cords in the Telecom Room and at the Work Area					
FiberExpress 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	●			
FiberExpress 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	16.9	●		●	●

MM = Multimode • SM = Single-mode

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