Performance & Warranties Profile
for
Belden IBDN Fiber*Express* Certified System Installations

Belden will provide its authorized Certified System Vendors (CSVs), for the benefit of their end users, with both an extended Belden IBDN Component Warranty and a lifetime Application Assurance Program for all Belden IBDN Fiber*Express* Certified Systems installed by the CSV.

The extended Belden IBDN Component Warranty and the lifetime Application Assurance Program are offered to the CSV by Belden, in accordance with the following terms and conditions.

This Warranty and this Assurance Program apply only to Belden IBDN Fiber*Express* Certified Systems installed by CSV acting as an authorized Certified System Vendor (CSV) and in compliance with the CSV Agreement.

A Belden IBDN Fiber*Express* Certified System is a structured cabling system that has been engineered, designed and installed by the CSV acting as an authorized Belden CSV. The engineering, design and installation of the Belden IBDN System must be performed in accordance with all applicable Belden IBDN guidelines, Belden IBDN practices, and other Belden IBDN documentation in effect at the time of installation. Belden IBDN Fiber*Express* System installations that meet these requirements will receive a Certification Registration Number and Certification Plaque or Certificate from Belden and will then be designated as a Belden IBDN Fiber*Express* Certified System, eligible for the extended Belden IBDN Component Warranty and lifetime Application Assurance Program described below.

In order to maintain the validity of the extended Belden IBDN Component Warranty and the lifetime Application Assurance Program, the Belden IBDN Fiber*Express* Certified System must be maintained in accordance with the Belden IBDN User Manual in effect at the time of installation.

Extended Belden IBDN Component Warranty:

Belden warrants that;

i) the Belden IBDN passive components installed in the Belden IBDN Fiber*Express* Certified System are covered by a manufacturer's warranty against defects in material and workmanship for a period of twenty-five (25) years from the date of installation, at the original installation location.

ii) the Belden IBDN Fiber*Express* Certified System will meet or exceed the requirements specified by:

ANSI/TIA/EIA-568-B.1: Commercial Building Telecommunications Cabling Standard, Part 1: General Requirements

ANSI/TIA/EIA-568-B.3: Commercial Building Telecommunications Cabling Standard, Part 3: Optical Fiber Cabling

ANSI/TIA/EIA-568-B.3-1: Addendum 1 - Additional Transmission Performance Specifications for 50/125 µm Optical Fiber Cables

Once an installed Belden IBDN passive component has been deemed defective by Belden, Belden shall repair or replace, at Belden's discretion, the defective component. The repaired or replaced component will be warranted for the balance of the original twenty-five year warranty period, or, ninety (90) days, which ever is longer.

The repair or replacement of a defective component under this warranty includes the reasonable costs of labor required to repair or replace the defective component. The decision of repair or replacement of components, and the selection of labor services to perform the repair or replacement are at the sole discretion of Belden.

Application Assurance:

In addition to the extended Belden IBDN Component Warranty, Belden also provides a lifetime Application Assurance Program for all Belden IBDN Fiber*Express* Certified Systems.

Belden lifetime Application Assurance Program warrants that the Belden IBDN Fiber*Express* Certified System, maintained in accordance with the Belden IBDN User Guide in effect and provided at the time of installation, will be capable of supporting all industry standard Applications during its entire installation life at its original installation location.

Industry standard Applications include;

i) all Applications identified in the current (at time of installation) Belden IBDN documentation, and;

ii) any commercially available Applications introduced at a future date that are designed to operate over ANSI/TIA/EIA-568-B.3 and ANSI/TIA/EIA-568-B.3-1 compliant optical fiber transmission channels.

In the event that the Belden IBDN Fiber*Express* Certified System is unable to support an existing or future industry standard Application as defined above, and such failure can be attributed to a deficiency in the Belden IBDN System, Belden will provide at its expense, reasonable expertise, Belden IBDN materials and labor as required to remedy the problem and/or resolve the claim. The decision of repair or replacement of materials, and the selection of labor services to perform the remedial services are at the sole discretion of Belden.

Limitations

Belden will not be liable for, nor pay for, any loss of use of the Belden IBDN System or products; costs of substitute goods, facilities or services; or for any other economic losses or incidental, consequential or exemplary damages.

This Extended Product Warranty and Application Assurance for the Belden IBDN Certified System does not cover any deficiencies in the System which result from failure to comply with Belden design guidelines and installation procedures.

Belden shall not be liable for damages or defects resulting from circumstances beyond its control, including but not limited to, improper installation, misuse, alteration, unauthorized repair, damages in transit, fire, floods and acts of God.

Repair or replacement of the Belden IBDN Certified System by Belden is your exclusive remedy.

This is the only warranty on the Belden IBDN Fiber*Express* Certified System. There are no other warranties, express or implied, made by Belden.

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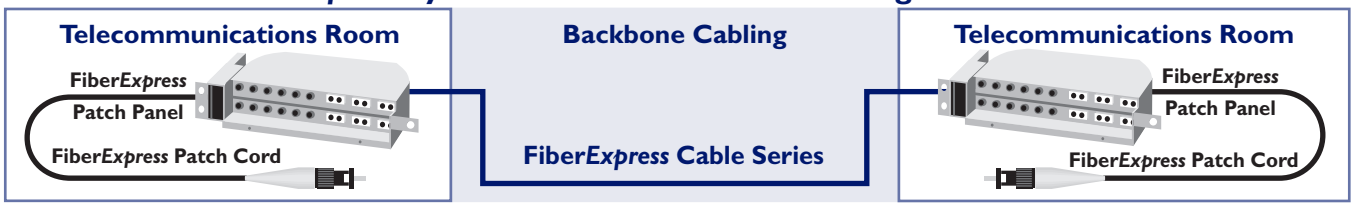
Belden IBDN Fiber*Express* Cabling Solution

In addition to the extended Belden IBDN Component Warranty, the lifetime Application Assurance Program and full compliance with ANSI/TIA/EIA-568-B Standards, Belden IBDN Fiber*Express* Certified Systems that conform with the Belden IBDN Fiber*Express* Certified System channel configuration shown below are guaranteed to provide the following optical performance characteristics for the duration of their installed lifetime at the original site of installation. All conditions regarding original design, installation and maintenance for Belden IBDN Fiber*Express* Certified Systems must be met in order to validate these optical performance characteristics.

Belden IBDN Fiber*Express* System		Max. Channel Attenuation *(2 mated pair connector topology)*		Max. Supportable Distance	
		850 nm	1300 nm	850 nm	1300 nm
Fiber*Express* 300 (1)	62.5 µm multimode	3.2 dB	4.0 dB	300 m (985 ft)	550 m (1805 ft)
Fiber*Express* 600 (1)	50 µm multimode	3.9 dB	3.5 dB	600 m (1970 ft)	600 m (1970 ft)
Fiber*Express* 2000 (2)	50 µm multimode	2.6 dB	—	300 m (985 ft)	—
Singlemode (3)	Loose tube optical fiber cable	—	4.7 dB	—	5000 m (16,405 ft)

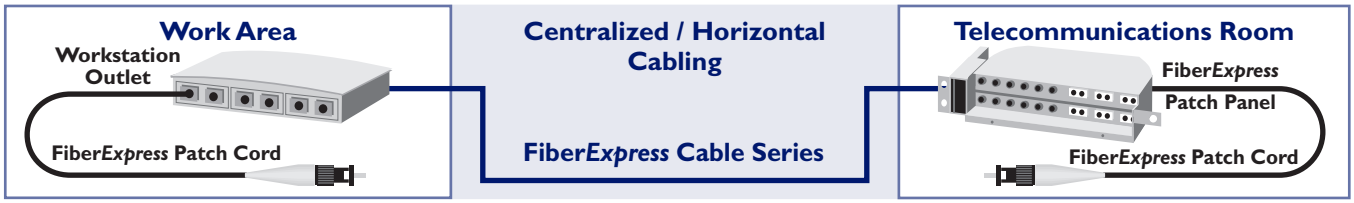
1) Budget and length limitations shown are for 1 Gb/s applications including 1000Base-SX and 1000Base- LX Gigabit Ethernet. Maximum channel attenuation and maximum channel length limitations for other applications are specified in the Belden IBDN Optical Fiber Design in effect at the time of installation.
2) Budget and length limitations shown are for 10 Gb/s applications including 10Base-S Ethernet. If 10GBase-LX4 is used, the maximum channel attenuation is 2.0 dB and the maximum channel length is 300 m (985 ft). Maximum channel attenuation and maximum channel length limitations for other applications are specified in the Belden IBDN Optical Fiber Design in effect at the time of installation.
3) Singlemode tight buffer optical fiber cable is available; Budget and length limitations shown are for 1 Gb/s including 1000Base-LX Gigabit Ethernet. Maximum channel attenuation and maximum channel length limitations for other applications are specified in the Belden IBDN Optical Fiber Design Guide in effect at the time of installation.

Belden IBDN Fiber*Express* System Channel Backbone Configuration



** 2 mated pair connector channel topology*

Belden IBDN Fiber*Express* System Channel Centralized / Horizontal Configuration



** 2 mated pair connector channel topology*

Belden IBDN Fiber*Express* System Matrix	Fiber Channel Topology			
	Fiber-to-the-Desk (FTTD) & Centralized Fiber	Fiber Backbone (In-Building)	Fiber Backbone (Campus)	Fiber*Express* Pre-terminated Solutions*
Fiber*Express* Cables				
Breakout & Distribution Cable Series: MM & SM	✓	✓		
Interconnect Cable Series: MM & SM	✓			
Loose Tube (Campus) Cable Series: MM & SM, Composite MM/SM		✓	✓	
Fiber*Express* Ribbon Cable Series: MM & SM	✓	✓	✓	✓
Cross-Connect Hardware in the Telecommunications Room				
Fiber*Express* Manager *with* Fiber*Express* Manager Connector Modules: MM & SM	✓	✓	✓	✓
Fiber*Express* Rack Mount Patch Panel *with* Universal Adapter Strips: MM & SM	✓	✓	✓	
Fiber*Express* Wall Mount Patch Panel *with* Universal Adapter Strips: MM & SM	✓	✓	✓	
Fiber*Express* Bar: MM & SM	✓	✓	✓	✓
Patch Cords in the Telecommunications Room and at the Work Area				
Fiber*Express* Patch Cords: MM & SM	✓	✓	✓	✓
Outlets at the Work Area				
MDVO Multimedia Outlets *with* MDVO Multimedia Modules	✓			
MediaFlex Outlets *with* MediaFlex Inserts	✓			
Fiber*Express* Bar: MM & SM (as MUTOA)	✓			✓
Fiber Connectivity				
Optimax Connectors: MM & SM	✓	✓	✓	
Epoxy Field Mountable Connectors: MM & SM	✓	✓	✓	
Fiber Pigtails: MM & SM	✓	✓	✓	

MM = Multimode SM = Singlemode

* 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.

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