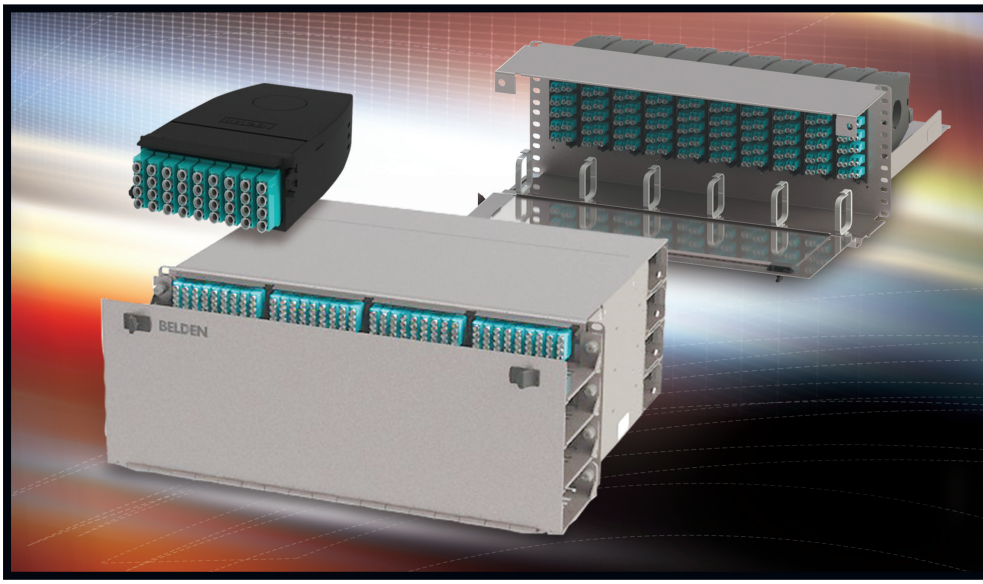
BELDEN

Product Bulletin

PB500

# Fiber*Express*® Ultra HD System

Elegantly simple yet uncompromisingly flexible. Ultra high-density rack-mount fiber connectivity system, crafted for effortless installation and maintenance.




## The Fiber*Express* Ultra HD System is the Next Evolution in Convenient, Easy-to-use, High-density Fiber Connectivity

One Enterprise.
One Infrastructure.
One Partner.

### Key Features

- 1U, 2U, and 4U configurations
- Feature rich housings and entry-level fixed shelves
- Cost effective pre-terminated cable support and flexible field termination options
- Ultra high cabling density: up to 72 LC Duplex or 72 MPO adapters per rack unit
- Clean, convenient cable management
- Efficient one-person installation
- Adaptable for present and future needs
- Easy access for fast, efficient MACs

### Fiber*Express* Ultra HD System

The Belden Fiber*Express* Ultra HD system provides designers complete flexibility to architect a fiber connectivity solution to adapt to the varying port count needs in Data Centers and LANs:

- Top-of-rack configurations with low-to-medium port counts
- End-of-row configurations with medium-to-high port counts

Common intuitive components and modular design means that installers and end-users do not have to learn different systems to support different needs. In addition, fewer components must be stocked for different configurations. The result, easier to manage moves, additions, and changes (MACs).

### Maximize revenue with the highest density connectivity

The trend toward high-density computing and storage requires connectivity that scales to facilitate the evolution of both Data Center and LAN applications. Fiber*Express* Ultra HD system allows the highest density connectivity available—doubling the density over comparable units. With Fiber*Express* Ultra HD, each rack unit can accommodate up to:

**FX UHD Housing (1U, 2U and 4U Density)**

- 72 LC Duplex Connections (144 fibers) per rack-unit or,
- 72 MPO Connectors per rack-unit

**FX UHD Fixed Shelf (1U)**

- 72 LC Duplex Connections (144 fibers)
- 72 MPO Connections

**FX UHD Fixed Shelf (4U)**

- 180 LC Duplex Connections (360 fibers)
- 180 MPO Connections

This 50% reduction in required rack unit space means more active equipment per rack—and increased revenue per square foot for Data Center operators. Alternatively it reduces the space required for LAN equipment, reducing OPEX for end-users.

## Choose Between a Fiber*Express* Ultra HD System with a Feature-Rich FX UHD Housing or Entry-Level FX UHD Fixed Shelf

### Fiber*Express* Ultra HD System

Crafted out of highest quality materials using innovative design and assembly techniques, even the largest 4U FX Ultra HD housing weighs only 2.4 kg (5.4 lb) as installed. Tool-less removable module trays on the housing mean that a single installer can safely maneuver the lightweight panel housing and secure the system into the rack.

With the high value of data on fiber-optic networks, accidental interruption while performing MACs can have significant financial consequences for network operators. A sleek unencumbered front faceplate provides plenty of space for shelf identification labeling. Clear, always-visible port labeling ensures the right fiber is found every time. The sliding module tray of the Fiber*Express* UHD housing provides access and visibility to individual cassettes and frames, further reducing the maintenance effort.

#### Protect your investment while accommodating legacy connectivity today

Meet the challenges of balancing future needs against the need to maintain a legacy infrastructure. The Fiber*Express* Ultra HD System provides a cost-effective upgrade path from current 1G and 10G to 40G and 100G networks. Its flexible modular approach supports legacy applications using ST and SC up to modern applications using LC and MPO. The system can be upgraded as needed with a simple cassette or adapter frame change. With no need to replace the entire system, it provides a cost-effective entry point today with scalability to meet the needs of tomorrow.

#### Optimize space in mixed media environments with KeyConnect support

Combining copper and fiber connectivity, one patch panel is ideal for some environments when port counts may be low. Using a standard Belden KeyConnect frame with modular inserts makes it possible to combine fiber, copper and multimedia connectivity all in the same rack unit of space.

### Feature-Rich FX UHD Housing

Current trends have reduced the need for splices and splice trays. Fiber*Express* Ultra HD System supports a field-upgradable, 144 splice tray housing kit which can be easily added to any or all of the system's 1U module trays.

Without the splice tray, the standard Fiber*Express* Ultra HD housing significantly reduces the depth of the system by over 25 cm (>10") versus competitive products. The additional space allows easier, clean cable management. It also provides additional space for opposite-rail-mounted equipment, to effectively increase the total rack unit space available.

Removable front and rear cable trays add to system flexibility. The reduced physical footprint of the system enables additional mounting options—including shallow racks and cabinets, vertical mounting configurations and even floor and ceiling boxes.

#### Speed up the install process and eliminate errors with the installer-friendly sliding and tilting module tray

A standard sliding module tray brings the work platform out of the rack and at a 23 degree tilt down toward the installer to improve accessibility during installation. A quickly installed lid and front patch cord tray provides unprecedented visibility to the work at hand. Improved accessibility and visibility leads to fast, clean, error-free installation.

A single installer can install the system.

Slide-in trays tilt outward to improve accessibility.

Shelf identification labeling is clearly visible.

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| Termination Type | Feature-Rich FX UHD Housing | Entry-Level FX UHD Shelf |
|---|---|---|
| **Pre-Term Assemblies** | | |
| MPO Trunks | ✔ | ✔ |
| Jacketed Fan-Out | ✔ | ✔ |
| 900 µm Fan-Out | ✔ | X |
| **Field Termination** | | |
| Pig-Tail w/Splicing | ✔ | X |
| 900 µm Connectorization (ie. FX Brilliance) | ✔ | X |
| Jacketed Connectorization | ✔ | ✔ |

With the same look and feel, the cost effective FX UHD Shelf and the feature-rich FX UHD Housing can be mixed and matched to create unique Half Pre-Term systems that provide field termination benefits like exact cable length, the ability to fit in smaller conduits, and rapid cost-effective installation of pre-term solutions.

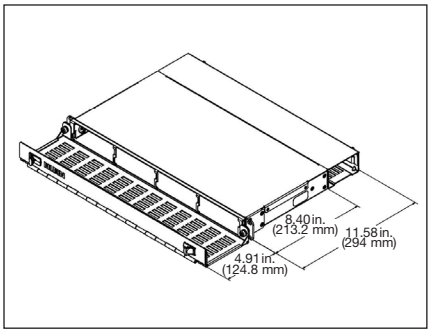
## Entry-Level FX UHD Shelf

As the push toward higher density in the Data Center continues, racks and cabinets are beginning to shrink in depth causing other active equipment, such as PDUs, to encroach on the space traditionally reserved for patch panels. To address this unique challenge, the FX UHD shelf is available in both standard and recessed versions. With only 65 mm (2.56") from the rack ear to the front of the patch cord tray the recessed version requires little clearance. This enables it to fit behind even the largest of PDUs. A removable door provides both protection and labeling without requiring any additional space to fully open for maximum flexibility.

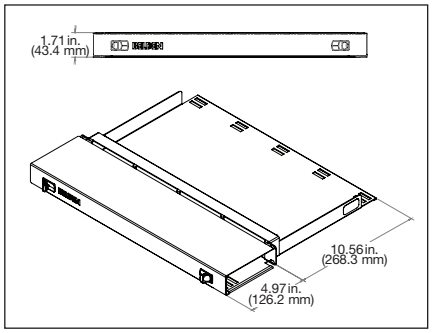
## To Learn More...

For more information call **1.800.BELDEN.1** (1.800.235.3361) or visit our web site at **www.belden.com** for more information on Belden Fiber*Express* Ultra HD Systems.

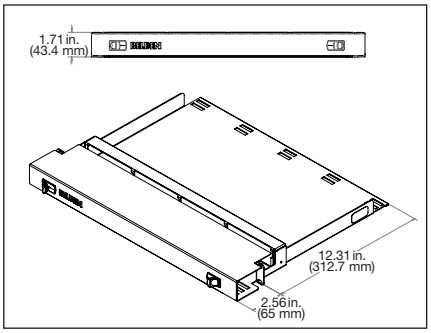
## Fiber*Express* Ultra HD Patch Panel Dimensions



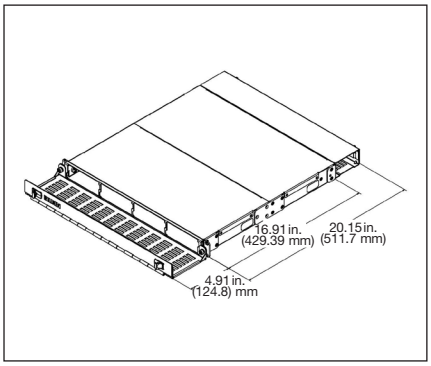

Fiber*Express* Ultra HD 1U Housing



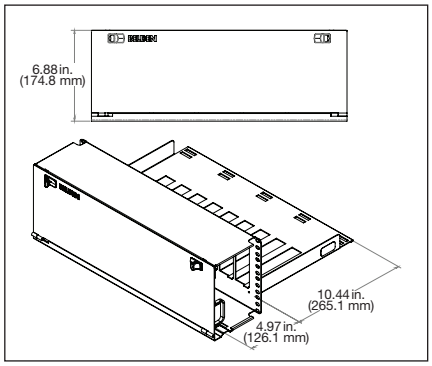

Fiber*Express* Ultra HD 1U Standard Shelf



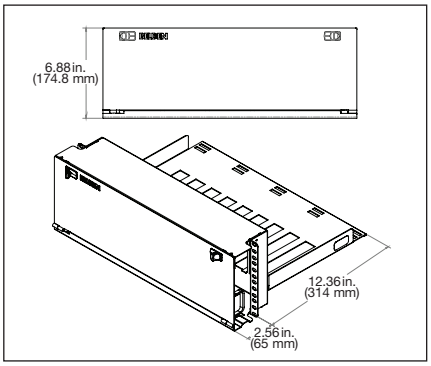

Fiber*Express* Ultra HD 1U Recessed Shelf




Fiber*Express* Ultra HD 1U Housing with mounted Splice Housing Kit




Fiber*Express* Ultra HD 4U Standard Shelf




Fiber*Express* Ultra HD 4U Recessed Shelf

## Fiber*Express* UHD Housing

| Description | Belden Part Number |
|---|---|
| 1U Housing with Front and Rear Cable Tray, Titanium Finish | AX104681 |
| 2U Housing with Front and Rear Cable Tray, Titanium Finish | AX104682 |
| 4U Housing with Front and Rear Cable Tray, Titanium Finish | AX104683 |
| Optional 1U Splice Housing Kit, 72 Splices, Titanium Finish (add up to 4 on the 4U Housing) | AX105174 |
| Optional 1U Splice Housing Kit, 144 splices, Titanium Finish (add up to 4 on the 4U Housing) | AX104684 |

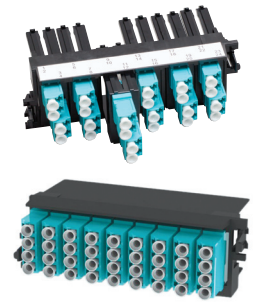
## Fiber*Express* UHD Fixed Shelf

| Description | Belden Part Number |
|---|---|
| 1U Standard Fixed Shelf, Titanium Finish | AX105164 |
| 1U Recessed Fixed Shelf, Titanium Finish | AX105165 |
| 4U Standard Fixed Shelf, Titanium Finish | AX105166 |
| 4U Recessed Shelf, Titanium Finish | AX105167 |

## Fiber*Express* Ultra and Ultra HD Pre-Terminated Cassettes

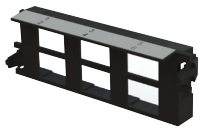
| | Description | Belden Part Number | | | | |
|---|---|---|---|---|---|---|
| | | Multimode, OM1, 62.5 µm, Beige | Multimode, OM2 50 µm, Black | Multimode,OM3, 50 µm, Aqua | Multimode, OM4 50 µm, Aqua, Low Loss | Single-mode, OS2, Blue |
| **Fiber*Express* Ultra HD Pre-Terminated Cassettes** | | | | | | |
| LC | 18 x LC Duplex to 3 x MPO (m), 36 fibers | Call for Availability | Call for Availability | AX104617 | AX104658 | AX104616 |
| LC | 18 x LC Duplex to 3 x MPO (f), 36 fibers - 40G/100G | — | — | — | AX105172 | — |
| **Fiber*Express* Ultra Pre-Terminated Cassettes** | | | | | | |
| LC | 12 x LC Duplex to 2 x MPO (m), 24 fibers | AX103657 | AX103687 | AX103729 | AX103783 | AX103837 |
| LC | 6 x LC Duplex to 1 x MPO (m), 12 fibers | AX103641 | AX103683 | AX103713 | AX103767 | AX103821 |
| LC | 6 x LC Duplex w/ Shutters to 1 x MPO (m), 12 fibers | AX103642 | AX103684 | AX103714 | — | AX103822 |
| SC | 6 x SC Duplex to 1 x MPO (m), 12 fibers | AX103639 | AX103681 | AX103711 | Call for Availability | AX103819 |
| SC | 3 x SC Duplex w/ shutters to 1 x MPO (m), 6 fibers | AX103621 | AX103675 | AX103693 | Call for Availability | AX103801 |
| ST | 12 x ST Simplex to 1 x MPO (m), 12 fibers | AX103638 | AX103680 | AX103710 | — | AX103818 |

## Fiber*Express* Ultra and Ultra HD Field-Terminated Frames



| | Description | Belden Part Number | | | | |
|---|---|---|---|---|---|---|
| | | Multimode, OM1, 62.5 µm, Beige | Multimode, OM2, 50 µm, Black | Multimode, OM3, 50 µm, Aqua | Multimode, OM4, 50 µm, Aqua | Single-mode, OS2, LC - Blue MPO - Black |
| **Fiber*Express* Ultra HD Frames** | | | | | | |
| MPO | 18 x MPO to MPO Adapters | Call for Availability | Call for Availability | ← AX104620 → | | AX104621 |
| LC | 18 x LC Duplex to LC Duplex Adapters, 36 fibers | Call for Availability | Call for Availability | ← AX104619 → | | AX104618 |
| **Fiber*Express* Ultra Frames** | | | | | | |
| MPO | 12 x MPO to MPO Adapters, up to 144/288 fibers | ← AX103902 (Black Only) → | | | | |
| | 6 x MPO to MPO Adapters, up to 72/144 fibers | ← AX103901 (Black Only) → | | | | |
| LC | 12 x LC Duplex to LC Duplex Adapters, 24 fibers | AX103424 | AX103451 | ← AX103465 → | | AX103519 |
| | 6 x LC Duplex to LC Duplex Adapters, 12 fibers | AX103408 | AX103449 | ← AX103463 → | | AX103502 |
| | 6 x LC Duplex to LC Duplex w/ shutter Adapters, 12 fibers | AX103409 | AX103450 | ← AX103464 → | | AX103503 |
| SC | 6 x SC Duplex to SC Duplex Adapters, 12 fibers | AX103406 | AX103447 | ← AX103461 → | | AX103496 |
| | 3 x SC Duplex to SC Duplex w/shutter Adapters, 6 fibers | AX103386 | AX103442 | ← AX103456 → | | AX103471 |
| | 12 x SC Simplex to SC Simplex Adapters, 12 fibers | AX103404 | AX103445 | ← AX103459 → | | AX103494 |

## Fiber*Express* Ultra KeyConnect Frames



| Description | Belden Part Number | | | | | | |
|---|---|---|---|---|---|---|---|
| | Multimode, OM1, Beige | Multimode, OM2, Black | Multimode, OM3, Aqua | Multimode, OM4, Aqua | Single-mode, OS2, Blue | CAT 6A Blue | CAT 6A Black |
| Fiber*Express* Ultra KeyConnect Frame, 6-Port | ← AX105160 → | | | | | — | — |
| 1 x LC Duplex KeyConnect Adapter | AX102417 | Call for Availability | ← AX104939 → | | AX102421 | — | — |
| COPPER, 1 x 10GX KeyConnect Modular Jack, CAT 6A | — | — | — | — | — | AX104156 | AX102283 |

## Fiber*Express* Accessories

| Description | Belden Part Number |
|---|---|
| Fiber*Express* Ultra Blank Plate | AX105159 |
| 144-Splice Accessory Kit (Shrink Tubes and Wire Markers) | AX104705 |
| FX Ultra Color-Coded Icon Kit | AX104572 |
| Fiber*Express* Ultra HD Patch Cord Release Tool | AX104685 |

Refer to the Belden Fiber*Express* Optical Fiber Systems Catalog for information on compatible components.
Refer to the Belden IBDN Copper Systems Catalog for information on compatible components.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