

Fiber**Express**[®]

UHD System

ULTRA HIGH-DENSITY RACK-MOUNT FIBER
CONNECTIVITY SYSTEM

The elegantly simple solution for incorporating flexibility, manageability and scalability into high-density fiber channels.



Our End-to-End Expertise
Your End-to-End Solution

FASTER

- Faster field-termination with sliding, tilting drawers
- Faster pre-term installation with fixed shelves and cassettes
- Faster MACs with fewer components

EASIER

- Easier installation with tool-less removable drawers and lighter weight
- Easier port identification with clear visible labeling
- Easier configuration with LC, SC, ST and MPO modules

BETTER

- Better fiber protection with covered patch cord tray
- Better density with up to 72 LC Duplex ports per 1U
- Better visibility with Titanium finish option

FiberExpress® UHD System

The ultra high-density rack-mount fiber connectivity system from Belden® that offers an elegantly simple solution for incorporating flexibility, manageability and scalability into high-density fiber channels.

The FX UHD System includes a wide range of pre-terminated cassettes and field-terminated frames to support virtually any high-density fiber connectivity need while offering cost effective migration from current 10G to 40 and 100G applications.

- Easy configuration for a variety of applications with LC, SC, ST and MPO modules and better density with up to 72 LC Duplex or MPO ports per 1U
- Faster installation with lighter weight, tool-less removable drawers and overall fewer components
- Superior access, fiber protection and port identification with sliding, tilting drawers, covered patch cord tray and clear visible labeling

With support for both legacy ST and SC and modern LC and MPO applications, the FX UHD offers cost effective migration from current 1G and 10G to 40G and 100G applications with only a simple cassette or adapter frame change – and it includes all the installation and management features needed to maintain maximum uptime.

The FX UHD System provides superior port access and protection with up to double the density of comparable units for a 50% space reduction. The intuitive, modular design of the system also means fewer components and a single system to support a variety of port counts and configurations.

Applications

Ideal for fast, reliable, low-cost installations with maximum efficiency, capacity and uptime, the FX UHD System is designed for rapid deployment of high-density fiber interconnects and cross connects at active equipment in data centers, SAN environments and LANs.

Whether in a top of rack, end of row or centralized environment, the system's modular design accommodates high-performance, low-loss fiber architectures with superior flexibility and reconfigurable components to support current 1G and 10G applications and easy migration to future 40G and 100G applications. Using low-loss pre-terminated cassettes and assemblies with the FX UHD System also supports the use of zone distribution areas (ZDAs) that enable pre-cabling the core switch to the row and then rapid deployment down the row as more capacity is needed.

The system's reduced physical footprint offers additional mounting options in both Data Centers and LANs – in shallow racks and cabinets, vertical mounting configurations, and even floor and ceiling boxes. Using Belden KeyConnect frames with modular inserts, the FX UHD System makes it possible to combine fiber, copper and multimedia connectivity in mixed media environments – all in the same rack unit of space.

Features

- Support for both pre-term installation and field termination
- Better density with up to 72 LC Duplex or MPO ports per 1U
- Adaptable for present and future needs with LC, SC, ST and MPO modules
- 1U, 2U, and 4U configurations and 19" and 23" rack mount options
- Superior cable management and port access with sliding, tilting drawers
- Efficient one-person installation with tool-less removable drawers and lighter weight (4U FX UHD weighs just 2.4 kg)
- Titanium finish option for better visibility, reduced lighting needs and contrast against white cabinets
- Sleek front faceplate for easy shelf identification and clear visible labeling for easy port identification
- Better fiber protection with covered patch cord tray

Our End-to-End Expertise. Your End-to-End Solution.

Optimizes Space in Mixed Media Environments

Belden KeyConnect frames with modular inserts makes it possible to combine fiber, copper and multimedia connectivity—all in the same rack unit of space with in any member of the FX UHD family.



For rapid expansion within a data center as it grows, Belden Low-Loss Pre-term solutions using the FX UHD System enables ZDA (zone distribution) architectures. ZDA allows pre-cabling the core switch to the row on Day 0 and rapid deployment down the row on Day 1 as capacity is needed.



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.

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	✓	✓

To Learn More...

For more information call **+31 (0) 77 3875 414** or visit our web site at **www.beldensolutions.com** for more information on Belden FX UHD Systems.

FX UHD Housing



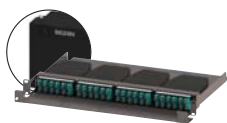
Shown loaded, the modules are not included. Available in black finish.

Description	Belden Part Number	
	Titanium	Black
1U Housing with Front and Rear Cable Tray	AX104681	AX105563
2U Housing with Front and Rear Cable Tray	AX104682	AX105564
4U Housing with Front and Rear Cable Tray	AX104683	AX105565
4U 23" Housing with Front and Rear Cable Tray	AX105379	-
Optional 1U Splice Housing Kit, 72 Splices (add up to 4 on the 4U Housing)	AX105174	AX105677
Optional 1U Splice Housing Kit, 144 splices (add up to 4 on the 4U Housing)	AX104684	AX105678
Optional Patch Cord Tray Cover, 19in	AX105162	AX105672



Use Titanium patch panels to reduce lighting requirements and improve visibility as well as providing sufficient contrast against white cabinets to avoid the snow blind effect.

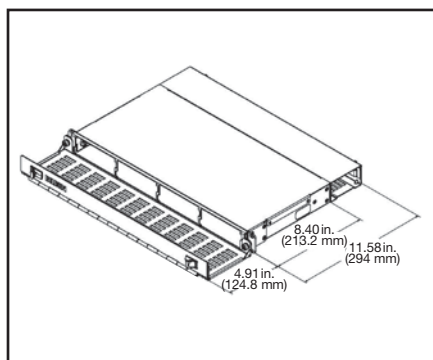
FX UHD Fixed Shelf



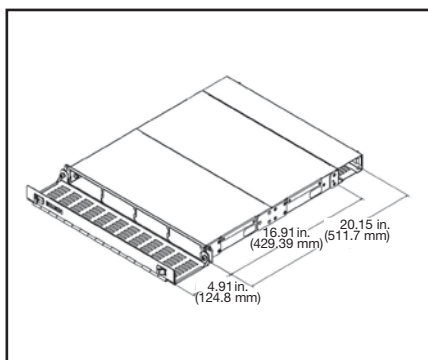
Shown loaded, the modules are not included. Available in black finish.

Description	Belden Part Number	
	Titanium	Black
1U Standard Fixed Shelf	AX105164	AX105673
1U Recessed Fixed Shelf	AX105165	AX105674
4U Standard Fixed Shelf	AX105166	AX105675
4U Recessed Fixed Shelf	AX105167	AX105676

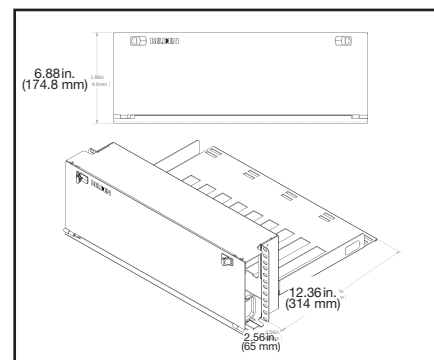
FX UHD Patch Panel Dimensions



FX UHD 1U Housing



FX UHD 1U Housing with mounted Splice Housing Kit



FX UHD 4U Recessed Shelf

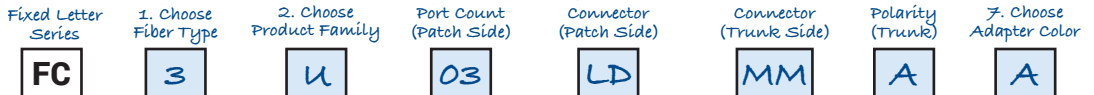
See individual tech-data sheets for dimensions of 19" and 23" 4U FX UHD Housings, 2U FX UHD Housing, 1U and 4U FX UHD Standard Shelves and 1U FX UHD Recessed Shelf.



FX Ultra and UHD Pre-Terminated Cassettes



Building a SmartPart Number



Fiber Type	Product Family
1 OM1	H FX UHD
3 OM3	U FX Ultra (1" Pull)
4 OM4	L FX U Angled Left
S OS2	R FX U Angled Right

Port Count (Patch Side)	Connector (Patch Side)
03	LD LC Duplex
06	LA LC/APC Duplex
12	LS LC Duplex w/Shutters
18	LQ LC/APC Duplex w/Shutters

Connector (Trunk Side)	Polarity (Trunk)	Adapter Color
MM MPO-12 (m)	A Type-A	K Beige
MF MPO-12 (f)	1 Type-A ALT.*	N Black
FS Fiber Splice Cassette		A Aqua
		E Erika V.
		B Blue
		G Green

Examples:

FC3H18LDMF - FX UHD Cassette, 18-Port (36-fiber) LC Duplex to 3-Port MPO-12(female), Polarity Type-A for OM3 fiber with Aqua Adapters

FC4U12LDMF - FX Ultra Cassette with 1" Pull-Out, 12-Port (24-fiber) LC Duplex to 2-Port MPO-12(female), Polarity Type-A for OM4 fiber with Erika Violet Adapters

Use Angled cassettes for MoR or EoR (Middle or End of Row) when combining with Belden AngleFlex copper patch panels to achieve a clean uniform appearance.



*Please see the Belden Fiber Optics catalog page 12 for an explanation of using Type-A-Alternate Cassettes.

Pair a Type-A and Type-A ALT on Type-B MPO Trunk to ensure correct port number and to provide simple upgrade path to SR4 (40G/100G) protocols.

FX Ultra and UHD Field-Terminated Frames



Fiber Type	Product Family
1 OM1	H FX UHD
3 OM3	U FX Ultra (1" Pull)
4 OM4	
S OS2	

Port Count (Patch Side)	Connector (Patch Side)
03	LD LC Duplex
06	LA LC/APC Duplex
12	LS LC Duplex w/Shutters
18	LQ LC/APC Duplex w/Shutters

Connector (Patch Side)	Adapter Color
LD LC Duplex	K Beige
LA LC/APC Duplex	N Black
LS LC Duplex w/Shutters	A Aqua
LQ LC/APC Duplex w/Shutters	E Erika V.
SD SC Duplex	B Blue
SC SC Simplex	G Green
SA SC/APC Duplex	
SB SC/APC Simplex	
SS SC Duplex w/Shutters	
SR SC Simplex w/Shutters	
SQ SC/APC Duplex w/Shutters	
SP SC/APC Simplex w/Shutters	
ST ST	
MP MPO Up/Down	
MR MPO Up/Up	

Examples:

FF4H18MP - FX UHD Frame, 18-Port MPO Type-B (Key-Up/Key-Down) Erika Violet Adapters for OM4 fiber

FFSU12LD - FX Ultra Frame with 1" Pull-Out, 12-Port (24-fiber) LC Duplex Blue Adapters for OS2 fiber

Use manageable density FX Ultra modules in dynamic patching environments where ease of access and use and speed are critical. Use FX UHD modules in static patching environments where density is the critical factor.



FX Ultra KeyConnect Frames



Description	Belden Part Number	
FX UHD KeyConnect Frame, 6-Port	FFZH06KC	
FX UHD KeyConnect Frame, 8-Port	FFZH08KC	
1 x LC Duplex KeyConnect Adapter, Multimode, OM1, Beige	AX102417	
1 x LC Duplex KeyConnect Adapter, Multimode, OM3, Aqua	AX104939	
1 x LC Duplex KeyConnect Adapter, Singlemode, OS2, Blue	AX102421	
Copper	Blue	Black
1 x 10GX KeyConnect Modular Jack, CAT6A	AX104156	AX102283

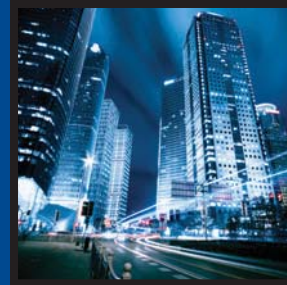
FX Accessories



Description	Belden Part Number
FX UHD Blank Plate	FFZH00BB
144-Splice Accessory Kit (Shrink Tubes and Wire Markers)	AX104705
FX Ultra Color-Coded Icon Kit	AX104572
FX UHD Patch Cord Release Tool	AX104685

Refer to the Belden Fiber Systems and Copper Systems Catalog for information on compatible components.

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Benefits

With the same look and feel, the Feature-Rich FX UHD Housing or Entry-Level FX UHD Fixed Shelf can be mixed and matched to meet specific needs and create unique half pre-terminated 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.



Belden Expert Tip

“The integrated patch cord tray eliminates the need to bundle cords and provides support to evenly distribute hanging mass that can place stress on bundled cords, boots and couplers.”

Feature-Rich FX UHD Housing

Crafted of the highest quality materials, the FX UHD Housing features a slide-out module tray that tilts down at a 23-degree angle for superior accessibility to a variety of cassettes and frames. The quickly installed lid and removable front and rear cable trays add to system flexibility and provide unprecedented visibility to the work at hand.

The optional field-upgradable, 144 splice tray kit can be easily added to any or all of the system's 1U module trays. Without the splice tray, the housing depth is reduced by more than 25 cm (>10”) compared to competitive products, allowing easier cable management and increased space for opposite-rail-mounted equipment.

Available in 1U, 2U and 4U density, the 19” FX UHD Housing supports 72 LC Duplex Connectors (144 fibers) per 1U or 72 MPO Connectors per 1U. Available in 4U density, the 23” FX UHD Housing supports 90 LC Duplex Connectors (180 fibers) per 1U or 90 MPO Connectors per 1U.

Entry-Level FX UHD Shelf

With the same look and feel, the cost-effective FX UHD Fixed Shelf addresses the need for reduced rack and cabinet depth. Available in standard or recessed, the recessed version requires minimal clearance with only 65 mm (2.56”) from the rack rear to the front of the patch cord tray, allowing it to fit behind even the largest of PDUs. The removable door provides protection and labeling without requiring any additional space to fully open.

The 19” 1U FX UHD Fixed Shelf supports 72 LC Duplex Connectors (144 fibers) or 72 MPO Connections, while the 4U supports 180 LC Duplex Connections (360 fibers) or 180 MPO Connections.

The 4U FX UHD Fixed Shelf is also ideal for cross-connects. Vertical module mounting combined with FX Ultra modules that feature a 1-inch pullout make it easy to manage high-density connections at the front of the system. The integrated patch cord tray eliminates the need to bundle cords and provides support to evenly distribute hanging mass that can place stress on bundled cords, boots and couplers.



Tool-less removable trays and lightweight housing for single installer installation—4U FX UHD weighs just 2.4 kg (5.4 lb).



Sleek front faceplate for easy shelf identification and highly-visible port labeling—lets you find the right fiber every time.



Slide-out module trays tilts downward—giving you superior access to a variety of cassettes and frames.

GLOBAL LOCATIONS

For more information, please visit us at:
www.beldensolutions.com



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