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FTTX Solutions

DLX Fiber Optic Connector System

CommScope's DLX fiber optic connector system is a next generation system of plug and play connectors, adapters, converters, terminals and pre-connectorized cable designed to speed deployment and improve cost efficiencies throughout the outside plant (OSP) fiber network.

The DLX system features miniaturized hardened connectors, which support the use of smaller terminals that take up less space on poles, hand holes, ONT's and other installation locations. These smaller connectors also allow for smaller holes for passing drops through walls and structures, and can pass through smaller conduits. This minimizes construction costs and speeds residential connections in the fiber-to-the-premises (FTTP) cabling network.

The DLX connector system expedites connections between the terminal and the home, and provides easy access for testing, maintenance and re-configuration for troubleshooting or service upgrades. Using the DLX system of factory terminated cable assemblies and terminals, service providers have the ability to turn up service quickly, often without the need of a highly skilled splice technician.

The rugged DLX connectors are hardened to protect from harmful outside plant elements—including UV, moisture and chemical exposure—and are backward compatible with existing hardened and non-hardened connector systems.
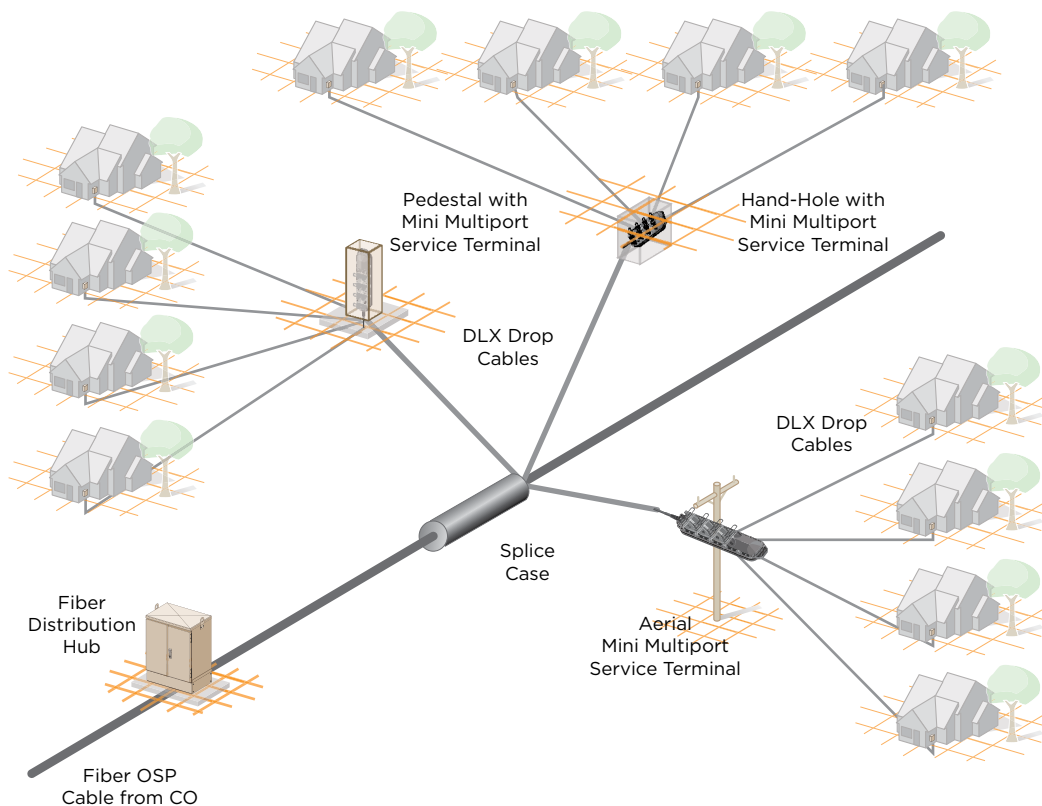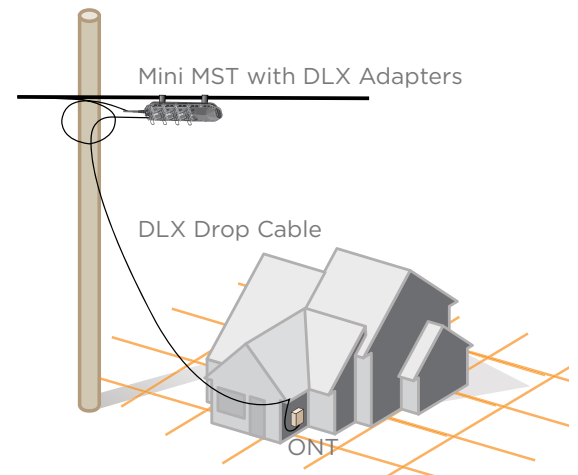
Features and Benefits

- Smaller adapter enables smaller enclosure and smaller multiport terminal, takes up less space on poles, in hand holes and in an ONT

- Smaller connector drops fit in smaller conduit, requires smaller hole in dwelling, allow less intrusive entry into the residence, and provide an easier and more secure connection

- The DLX connector is fully backward compatible with legacy full-sized hardened adapters through the use of a converter

- The DLX connector is compatible with SC connectors and adapters. A converter is available to provide additional strength for DLX-SC connections

- Variety of cable options allow cabling choice to be optimized for outdoor aerial or underground applications

Benefits

- The ultimate "plug-and-play" solution for durable and reliable service connection in the outside plant/drop segment of the network

- Technician-friendly and greatly simplifies installation and maintenance by minimizing splicing required on the distribution side of the network

- Cost effective solutions that provide for lower overall installed costs throughout the FTTX network

- Facilitates easy troubleshooting as maintenance can be done at the mini MST by simply unplugging a connector

Mini MST with DLX Adapters

DLX Drop Cable

ONT

Pedestal with
Mini Multiport
Service Terminal

Hand-Hole with
Mini Multiport
Service Terminal

DLX Drop
Cables

DLX Drop
Cables

Splice
Case

Fiber
Distribution
Hub

Aerial
Mini Multiport
Service Terminal

Fiber OSP
Cable from CO

DLX Connectorized Architecture

DLX Connector

The DLX connector can be mated with any SC adapter to provide a low loss optical connection. It can also be plugged into a standard SC connector using the DLX adapter. The connector design is based on standard SC single mode ferrule and spring assembly in a miniature rugged body. The connector is designed with a dual-locking feature that includes a push-pull detent engagement and twist-lock secure retention. The connector has a keying feature to allow it to be fully seated in the adapter in only one orientation, therefore, ensuring proper alignment and mating of 8 degree APC ferrules. Once the connector is pushed inside the adapter and passed the detent latch, the user will feel a distinctive latching engagement within the adapter. Screwing the coupling nut to the adapter provides a firm and secure connection. The connector contains an o-ring to provide a water tight seal when engaged with the adapter. The connector is supplied with a protective cap with an integrated pulling eye to protect the end face during installation. The DLX connector design is offered with a choice of cables thus providing the user with flexibility in selecting the appropriate cable for the application.

DLX Connector

DLX Connector, DLX Adapter and
SC/APC Connector

DLX Adapter

The DLX adapter is a heavy duty plastic case environmentally sealed for extreme weather conditions. One side of the adapter receives the hardened DLX connector and the other side is designed to receive a standard SC connector plug. The SC side of the adapter provides a rugged stationary SC receptacle per standard industry specifications. The DLX adapter has an opening designed specifically to receive the DLX connector and to provide a sealing surface for the connector o-ring.

The adapter's inner body holds two retainers and a split sleeve using snap latches and provides the plug with both push-pull and twist-lock engagement. The inner body also contains detent latch and alignment features that guide and hold the DLX connector inside the adapter. A locknut and o-ring are used to mount the adapter onto a panel or bulkhead. Keying features on the outside of the adapter keep it from rotating in a panel.

DLX Adapter

DLX Adapter Converters

CommScope's DLX adapter converters offer full compatibility and intermateability with both full size hardened connector systems and SC non-hardened connector systems.

The DLX connector to full sized hardened adapter converter consists of a converter housing and a nut that easily slide over the DLX connector in the field. The converter housing is threaded onto the DLX connector to secure it in the proper position for interface to the full sized hardened adapter. The nut sits on the converter housing and is used to provide the threaded locking interface to the full sized hardened adapter.

The DLX connector to SC adapter converter consists of a converter housing that can easily be threaded onto to the DLX connector in the field. The DLX connector to SC adapter converter then allows the assembly to be connected to a standard SC adapter. The DLX connector to SC adapter assembly provides a unique locking feature that seats the assembly into the SC adapter with a push-pull locking engagement.

DLX Connector to Full Sized
Hardened Adapter Converter

DLX Connector to SC Adapter Converter

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DLX Drop Cables

CommScope's DLX drop cable utilizes miniature fiber optic connectors to speed deployment of outside plant fiber cabling networks. The compact, DLX connector design allows the drop cable to be installed in tight conduit space, and requires smaller, less intrusive holes in buildings. This minimizes the need for construction and ensures more cost savings when service turn up is required. The miniature connectors also allow the use of smaller enclosures and service terminals—allowing more flexibility for installing on poles, hand holes and other space limited environments.

DLX drop cables are ruggedly designed and hardened to protect from extreme outside plant temperatures, moisture and chemicals. Backward compatible with older generations of hardened and non-hardened connector systems, DLX drop cable integrates seamlessly into existing fiber optic networks. DLX drop cable is available in a variety of cable types including dielectric and locatable/toneable hardened cable.

DLX - Flat Drop Cable Assembly

Features

- Single-fiber, single-mode hardened connector
  SC APC drop cable assemblies

- Available with one or both ends connectorized

- Available standard lengths – from 50 to 2000'
  increments (longer assemblies available upon request)

- Environmentally sealed connector

- Easy connection to hardened adapters on terminals
  or closures

- Pulling eye on connector cap is designed for 100 lb. maximum pulling tension
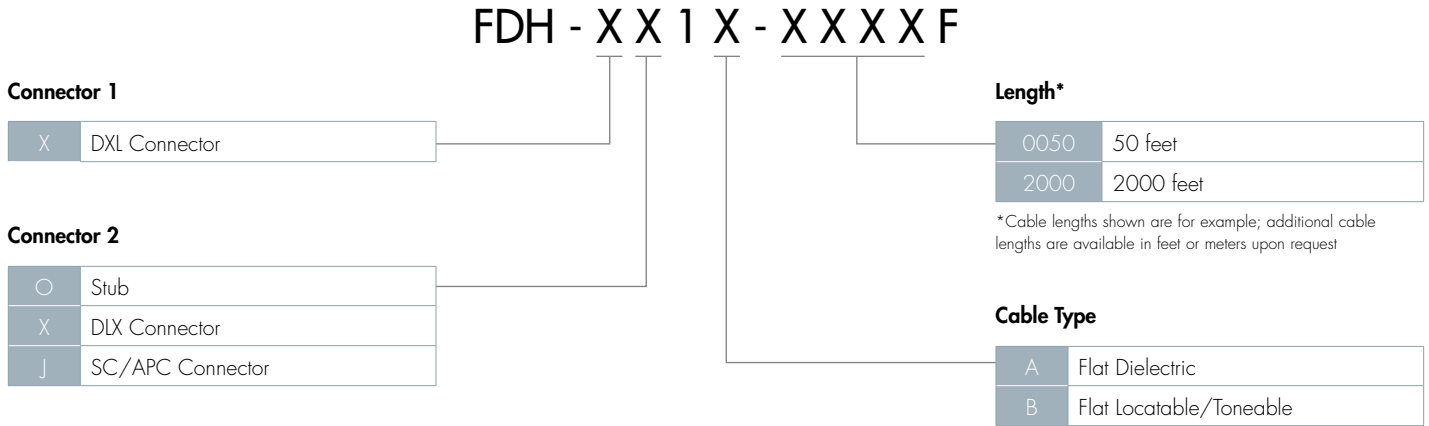
- DLX connector designed to GR-3120 specifications

Benefits

- Provide the ultimate "plug and play" solution for durable and reliable service connection in the outside plant/drop segment of the network

- Technician-friendly to greatly simplify installation and maintenance by minimizing splicing required on the distribution side of the network

- Cost effective solutions that provide for lower overall installed costs throughout the FTTX network

- Connector can be pulled through smaller conduit space

- Full compatibility with commonly used SC adapters

- Full backward compatibility with legacy full-sized hardened connectors

Ordering Information

FDH - X X 1 X - X X X X F

Connector 1

X	DXL Connector

Connector 2

O	Stub
X	DLX Connector
J	SC/APC Connector

Length*

0050	50 feet
2000	2000 feet

*Cable lengths shown are for example; additional cable lengths are available in feet or meters upon request

Cable Type

A	Flat Dielectric
B	Flat Locatable/Toneable

Cable Accessories

Ordering Information

Description	Catalog Number
Converter Kits; Bag of converter parts include:	
25 DLX connectors to full size hardened adapter converters and 25 nuts	DLX-OPT-CONV-25
25 DLX connectors to SC adapter converters	DLX-SC-CONV-25

DLX Specifications

Singlemode Ultra Polish Connectors (UPC) LC

Primary Requirements:	Designed to GR-326 generic requirements for SM optical connector Designed to GR-3120 generic requirements for hardened fiber connectorTIA EIA 604-3a optic connector intermateability standard type SC Designed to GR-771 generic requirements for fiber splice closures GR-63 generic requirements for network equipment building standards GR-20 Generic requirements for single mode fiber optic cables
Minimum Hole Size for Connector:	0.625 inches (15.88mm)
Latching:	Keyed alignment dual latching, push-pull detent, twist-lock secure long term connection
Physical Contract:	Angled polished contact (APC), standard 8 degree angle
Insertion Loss*:	≤ 0.6 dB
Reflection:	≤ -65 dB
Retention Force:	25 lbs (111.25N)

*Value is MST mated with DLX connector. With loss variability in field intermateability and cable length, the insertion loss value can be expected to be below this value for 97% of installed product.

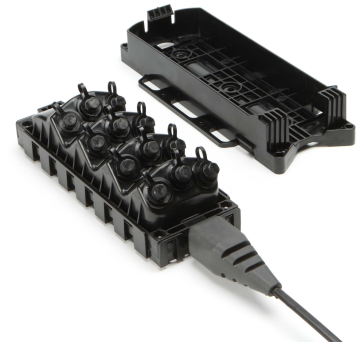## Mini Multiport Service Terminals (MSTs) with DLX Adapters

The mini MST incorporates DLX hardened adapters resulting in a much smaller terminal package than available with previous generations of full sized hardened connectors and adapters. Mini MSTs are environmentally sealed terminals that withstand all the rigors of the OSP environment. The terminals are factory-terminated with individual connectors and provided with a stub cable for splicing in the field.

The mini MST is available in 4-port, 6-port, 8-port and 12-port configurations. The stub cable lengths range from 50' to 2000'. The terminal connector ports are clearly marked with numbers for quick drop cable connections, and the hardened adapters are factory cleaned and compatible with DLX connectors.

Each mini MST ships standard with CommScope's universal mounting bracket (UMB). The UMB provides a flexible means of installing the terminal in pole-mount, strand-mount and in below ground hand-hole-mount applications using standard fasteners.

Features and Benefits

- Mini MSTs with DLX adapters are much smaller than previous multiports, take up less space on the pole and reduce space requirement for hand-holes

- Factory terminated high quality and high performance connectors

- Mini MST connectors are terminated using reduced bend radius fiber to ensure high performance within the miniature package

- Flexible choice in number of ports: 4-, 6-, 8- or 12-port terminals

- Flexible choice in cable lengths: 50' to 2000' (10 m to 1000 m)

- Universal mounting bracket for the mini MST facilitates installation in pole, strand and hand hole mounting

- Sealed, hardened enclosure provides long-lasting environmental protection

- External strain relief boot provides additional strength for feeder cable connection

Mini MST with Universal Mounting Bracket

Pedestal Mount

Pole Mount

Hand Hole Mount

FTTX Solutions
DLX Fiber Optic Connector System

Ordering Information

MST - X X X X X X - X X X X X U*

Terminal Model

04	4-port
06	6-port
08	8-port
12	12-port
ON	1x4 Splitter
OJ	1x8 Splitter

Cable Termination

00	Pigtail (no connector)
X0	DLX connector (only available on splitter modules)

Cable Stub Length

0050	50 feet
0100	100 feet
0250	250 feet
0500	500 feet
0750	750 feet
1000	1000 feet
1500	1500 feet
2000	2000 feet

*Cable lengths shown are for example; additional cable lengths are available in feet or meters upon request

Cable Type

A	Dielectric, flat, loose-tube
B	Locatable/tonable, flat, loose tube

Mini MST Accessories

Universal Mounting Bracket

Ordering Information

Description	Catalog Number
Universal Mounting Bracket; Provides for simple, secure, economical and rapid terminal installation in any FTTP deployment. Designed for pole, pedestal, hand hole or strand applications. Dimensions: 11.7" x 5.1" x 2.0" (29.7 x 12.9 x 5.1 cm)	MST-UMB-MINI
Strand Mount Bracket; Enables aerial mount installation of mini MST	MST-ACC-M02

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