



Fiber drop cable solutions

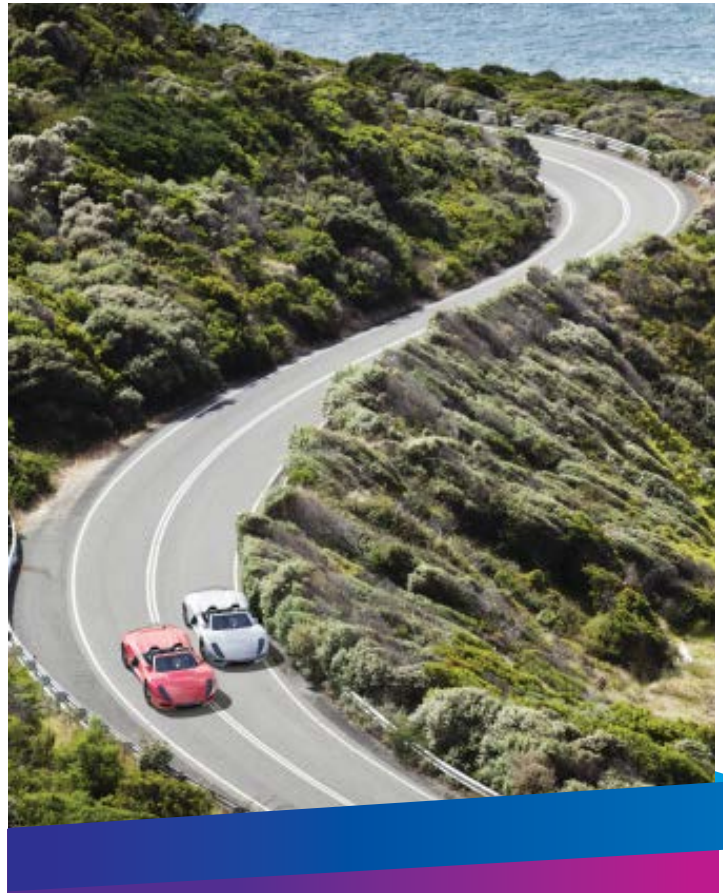
Flexible solutions for the evolving networks of tomorrow

COMMScope®

Welcome to the Broadband Age, where your network must continually evolve to keep pace with your customers

At CommScope, we know network solutions aren't one-size-fits-all. Each network has its own unique challenges. Today, most network providers are constantly seeking solutions that allow them to react quickly to changes in their technology environment, because the speed at which providers can deploy new equipment and services is critical in maintaining customer satisfaction and sustaining competitive advantage. Of course, this is because network traffic is growing at unprecedented rates, and will continue to do so for the foreseeable future. For providers, this creates some big unknowns, and brings us to the question network providers face every day: how to best deploy the resources that will allow their networks to keep pace with customer demand in the most cost-effective manner?

Many providers would agree that only a true fiber-to-the-home (FTTH) solution will meet their customers' future demand for bandwidth and next-generation services. What is not clear to most is how to get to that point. Some providers are extending fiber-optic cables all the way to customers' homes and businesses—replacing the old networks entirely. For other providers, the path is not clear, and many must employ a number of intermediate steps to get to their final goal. Whatever their path to FTTH, to stay abreast of the demand for bandwidth, providers need speed and flexibility in their equipment solutions more than ever.



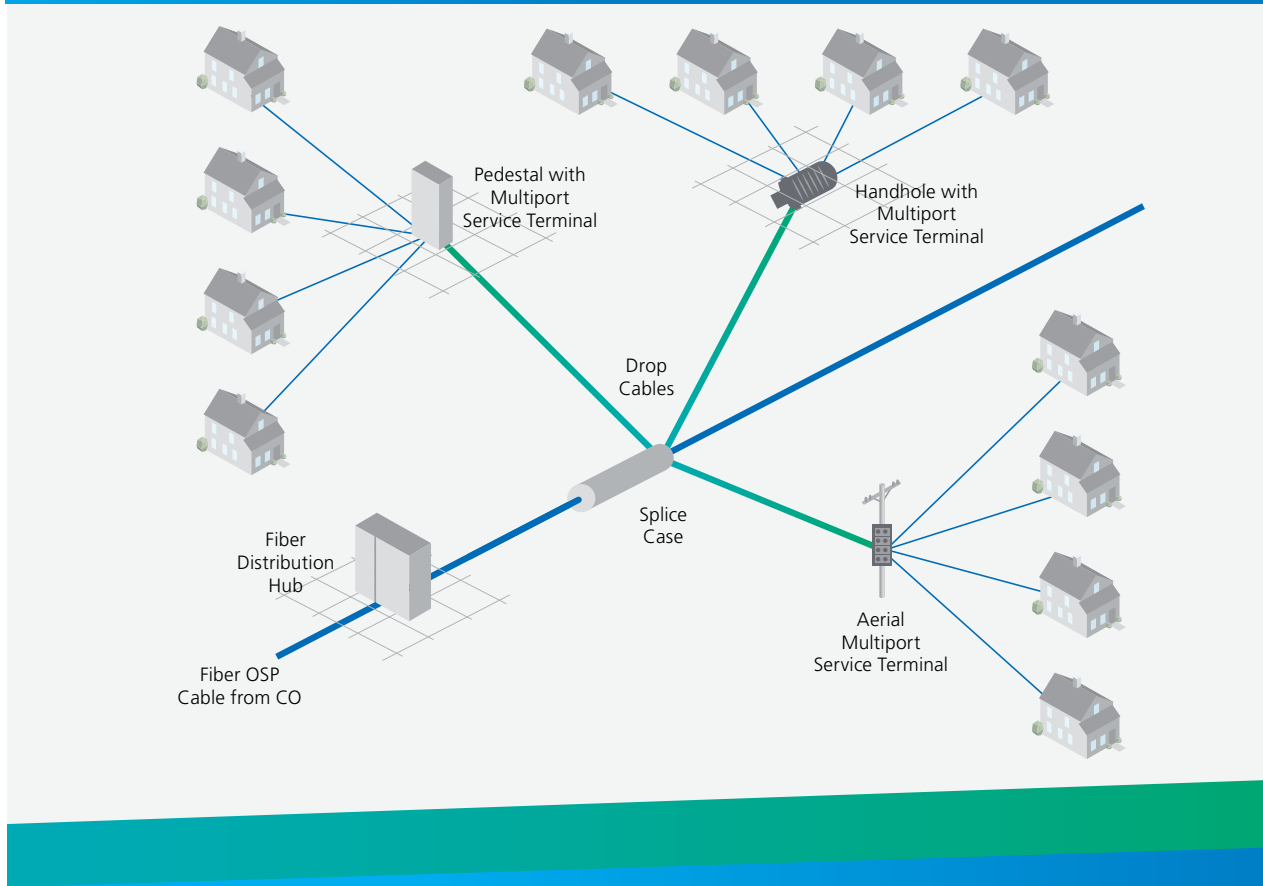
Providers need equipment solutions that allow for flexibility and speed as they upgrade their networks

The fiber drop cable connecting the network to the customer's home or business is a critical link. During a typical deployment, a provider might need solutions that work with a wide variety of connections and applications: aerial installations, underground conduit installations, or even in-ground burial. Fiber drop cables must be engineered to withstand the most demanding environmental conditions and mechanical stresses. And, since the drop cable may potentially enter many building types—a single-family home, a multiple tenant unit (MTU) or multiple dwelling unit (MDU), or an office building—providers are well served by flexible equipment solutions that offer a wide range of connections.

Another important consideration for providers—speed of deployment. Quickly connecting subscribers is critical. Many network providers are turning to equipment solutions that offer a flexible “plug-and-play” architecture, a connection scheme that minimizes or even eliminates the need for fiber cable splicing in the field. By minimizing splicing, a plug-and-play architecture will maximize speed of deployment and reduce labor costs.

Any deployment brings many potential variables, so providers are always looking for options to ensure configuration challenges can be easily resolved. Will new equipment have the design superiority and features to perform flawlessly year after year? Will vendor partners offer the technical support to maintain the flexibility providers need to face the inevitable changes coming down the road?

Proven solutions for faster connections with your customers



CommScope's fiber drop cable assembly solutions are designed to bring speed and flexibility to network deployments. Each factory-connectorized cable is designed to eliminate time-consuming field splices. Our plug-and-play architecture speeds connections and service turn-up throughout the network.

Designed and tested to perform in rugged outside plant environments, our fiber drop cable assemblies perform under extreme conditions, including sun, heat, cold, moisture, and heavy RF interference. We also offer cables that resist corrosion and meet critical riser and plenum standards for indoor installations.

Since every network is different, our equipment solutions aren't one-size-fits-all. The fiber drop cable portfolio gives providers a wide array of connection possibilities, for nearly every type of installation.

For providers who need to maximize speed of deployment and reduce labor costs, our plug-and-play architecture provides flexibility when it's time to add new subscribers or services. Designed for quick installation, built for long life, CommScope's fiber drop cables portfolio delivers the options providers need to meet their network challenges—today and in the future.

Along with hardened full-size connectors, CommScope uniquely offers the DLX® miniaturized hardened connector system. Only two-thirds as large as full-size, this patented connector saves space and is ideal on poles and handholes. It fits into tight locations and allows technicians to make smaller holes when passing drops and conduit through walls and other structures. In addition, the HMFOC is available for multi-fiber cables.

Connector	Min hole size for connector*	Physical contact	Insertion loss**	Reflection	Retention Force
Full-Size	13/16" (20.6mm)	Angled polished contact (APC), standard 8 deg. angle	≤ 0.5 dB	≤ -65 dB	100 lbs (444.8 N)
DLX	5/8" (15.9mm)	Angled polished contact (APC), standard 8 deg. angle	≤ 0.5 dB	≤ -65 dB	100 lbs (444.8 N)
HMFOC	3/4" (19.1mm)	Angled polished contact (APC), standard 8 deg. angle	≤ 0.45 dB	≤ -65 dB	100 lbs (444.8 N)
SC/APC	1/2" (12.7mm)	Angled polished contact (APC), standard 8 deg. angle	≤ 0.5 dB	≤ -65 dB	15 lbs (66.7 N)

* The minimum hole size for inserting a connector.

** Maximum in random mating at the end of life

FHD drop cable series

FHD 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 nonhardened connector systems, FHD drop cable integrates seamlessly into existing fiber-optic networks.

This series offers a large variety of cable types and innovative configurations.

To efficiently manage both indoor and outdoor fiber drop applications, CommScope offers all-in-one cable solutions. For example, the universal drop cable is composed of exterior sheathing, which is hardened to withstand harsh outdoor conditions, and an inner 3-millimeter simplex cable, which is UL listed and approved for indoor use. Transitioning from outdoor to indoor use is as simple as stripping the exterior sheathing from the drop assembly. Another benefit—with the universal drop cable, the need to precisely measure cable lengths is no longer required. Technicians simply choose the next-higher standard length and then store any slack. The FHD series is available with standard cable as well.



Features and Benefits

- The ultimate plug-and-play solution for durable and reliable service connections
- Technician friendly to greatly simplify installation and maintenance by minimizing splicing
- Cost-effective solutions that contribute to lower overall costs
- Available with one or both ends connectorized
- Available in standard lengths, from 50 to 2,000 feet (15 to 610 meter)
- Available in dielectric and toneable hardened cable
- Available in 4-fiber breakout assemblies

Cable type	A - Flat Dielectric	B - Flat Locatable/Toneable	C - Universal Flat Dielectric	D - Universal Flat Locatable/Toneable	K - Round Dielectric	J - Round Universal Dielectric
Construction Type*	Non-Armored, Gel-Filled	Non-Armored, Gel-Filled	Non-Armored, Gel-Free	Non-Armored, Gel-Free	Non-Armored, Gel-Filled	Non-Armored, Gel-Free
Dimensions	4.30mm x 8.00mm	4.30mm x 10.00mm	4.6mm x 8.00mm	4.6mm x 8.00mm	5.05mm	5.00mm
Jacket Material	PE	PE	PE (PVC Inner Subunit)	PE (PVC Inner Subunit)	LSZH	PE (White LSZH Sheath Subunit)
Jacket Color	Black	Black	Black	Black	Black	Black
UV Resistant	Yes	Yes	Yes	Yes	Yes	Yes
Min Bend Radius	8.6cm	8.6cm	9.2cm	9.2cm	75mm	50mm
Operating Temperature	-40°C to +70°C	-40°C to +70°C	-40°C to +70°C	-40°C to +70°C	-20°C to +60°C	-40°C to +70°C

* Single Fiber Only

MHD drop cable series

Another innovation in drop cable technology that is changing the outside plant landscape is our MHD multifiber hardened drop cable. This multifiber cable incorporates 12 optical fibers in a single hardened design, and is terminated with a factory-sealed hardened multifiber fiber-optic connector (HMFOC). This assembly has a 12-fiber MT (mobile terminated) ferrule enclosed in a water-sealed connector housing for outside plant applications.

As with standard MT connectors, the alignment of the two MT ferrules is governed by two high-precision pins. Unlike the standard MPO (multifiber push-on) connector, the style of the connector is not dictated by the pins but determined by the assembly. One connector body, which has the MT ferrule offset deep inside, is referred to as the “jack.” The other connector body, which has the MT ferrule positioned on the surface, is referred to as the “plug.” Unlike a standard MT connector, jack and plug can be mated directly without an adaptor by aligning the two connectors and screwing the coupling nut on the plug to the jack body.



Features and Benefits

- Factory terminated and environmentally sealed for optical drop cable deployments
- Hardened connector technology designed to withstand rugged outside plant environments
- Simplifies installation and maintenance by reducing splicing requirements in the distribution network
- Available in breakout assemblies



Figure 1: HMFOC Plug
/Non-pinned/ Female



Figure 2: HMFOC Jack
/Pinned/ Male

RealFlex® 3 series

The RealFlex 3 drop cables are available in outdoor and indoor configurations, with both riser and plenum cable types for use in residential, business, or MDU (multiple-dwelling unit) structures.

These drop cables allow for a fiber bend radius as small as 7.5 millimeters without changing attenuation characteristics, and improve the insertion loss (IL) performance for 90-degree bend locations. With the average MDU installation including as many as seven 90-degree turns, RealFlex 3 cables greatly reduce the risk to bend-induced IL during installation. These cables can also be stapled, (using CommScope-approved staplers and staples), allowing fast and easy securing of cables to most surfaces. Rugged 3-millimeter cable construction provides the flexibility and durability to withstand the most demanding applications.



Features and Benefits

- Available in indoor/outdoor, plenum, and riser types
- Available with connectors on both ends or connector on one end
- Fiber bend radius as small as 7.5 millimeters without changing cable characteristics
- 900-micron buffer coating strips easily in one pass to save installation time
- Cable maintains flexibility even in extreme cold temperatures

Node service cable assemblies series

CommScope's node service cable assemblies are designed for fast installation of an optical node, via splicing in a closure and transitioning into an optical node.

Each cable features a feed-through housing connector that provides a non-slip strain-relief connection, high pull/push force protection, and environmental seal integrity. The connectorized ends within the node are available in 6, 8, and 12 fiber breakouts of jacketed fiber that is GR-20-CORE compliant. The unconnectorized end of the cable assembly presents the technician with the loose tubes and all strength members, dielectric and/or aramid fibers ready to prepare for fusion splicing to fiber trunks.

Configurable options include 6, 8, and 12 fiber counts, standard dielectric and armored cable, connector variations between SC and LC, and different breakout lengths, with additional configurations soon to be released.

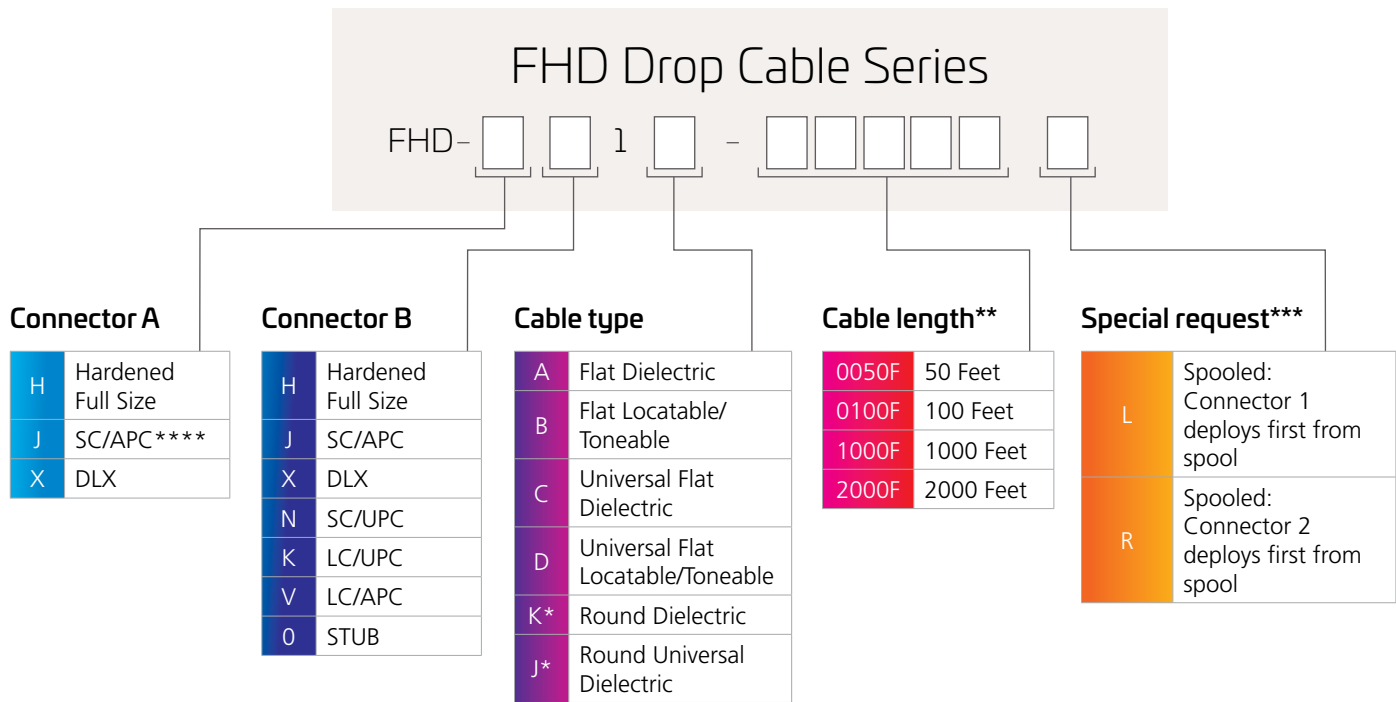
These fiber service cables combine performance, quality, and reliability to ensure dependable node operation.



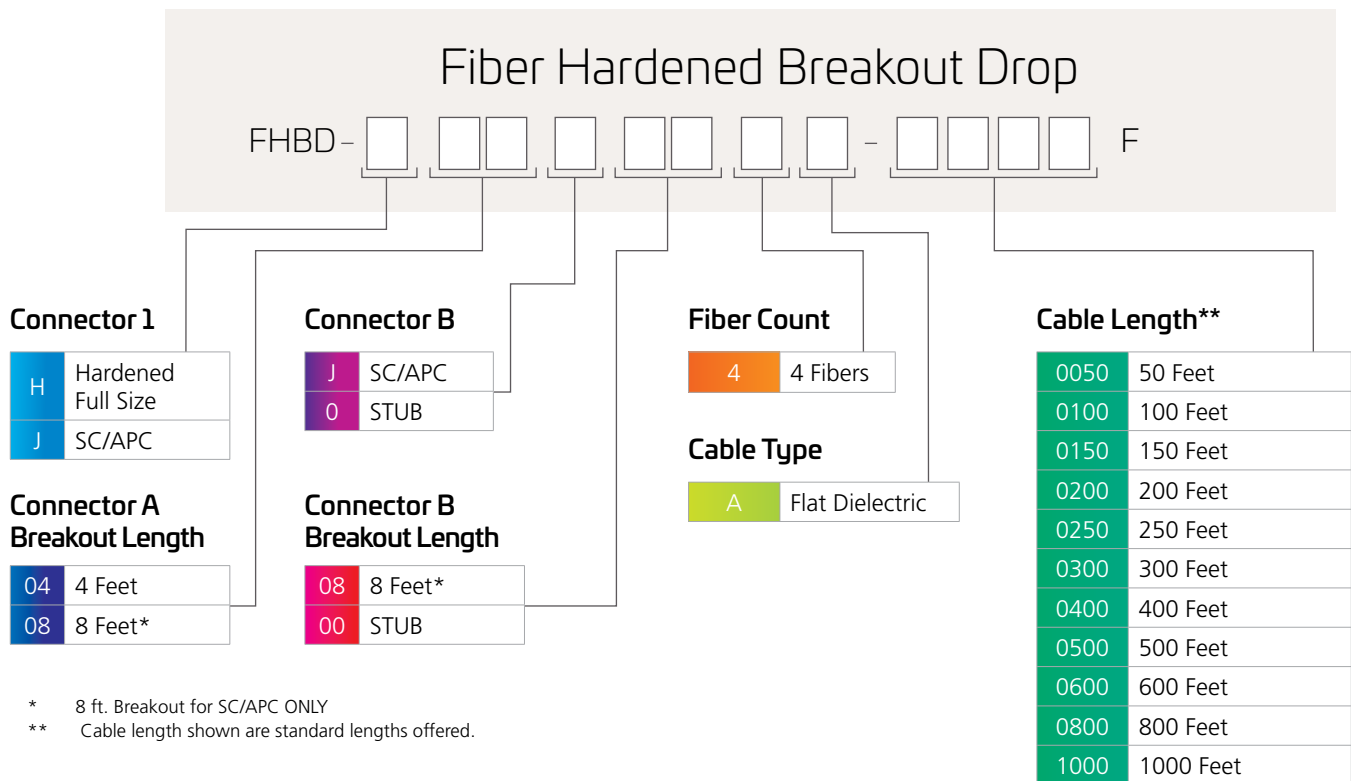
Features and Benefits

- Simplified node installations
- Support migration to fiber-deep networks by maximizing fiber usage
- Intuitive color-coded fibers simplify connections and maintenance
- Excellent environmental protection, including water blocking
- High mechanical integrity, impact resistance, and compressive and tensile strength

Ordering information

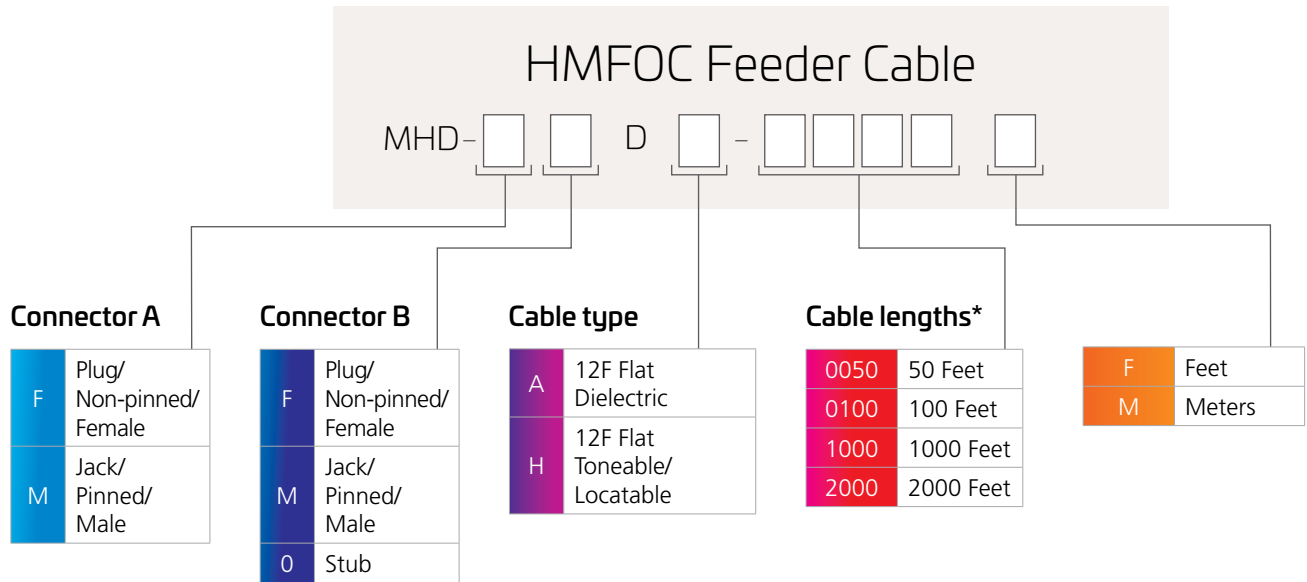


* Cable Type K & J not available with LC options
 ** Cable Length shown as an example, additional cable lengths available upon request up to 2,000 ft. (600 m).
 *** Special Request Feature not available with cable types K & J.
 Drops are automatically coiled 0 to 1,000 ft. unless "L" or "R" is specified for this range of length.
 Drops are automatically spooled at 1,001 ft. with Connector B deploying first from spool. Add "L" to lengths over 1,001 ft. if Connector A needs to deploy first.
 **** Includes pulling sock - 25 lbs. of pulling force

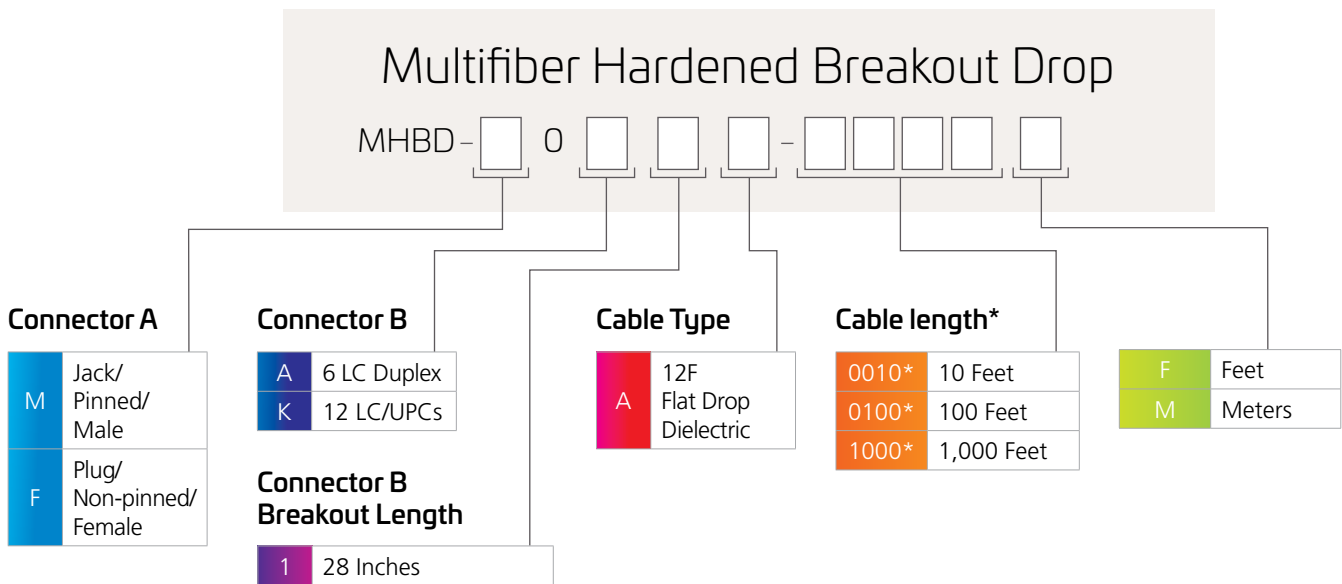


* 8 ft. Breakout for SC/APC ONLY
 ** Cable length shown are standard lengths offered.

Ordering information

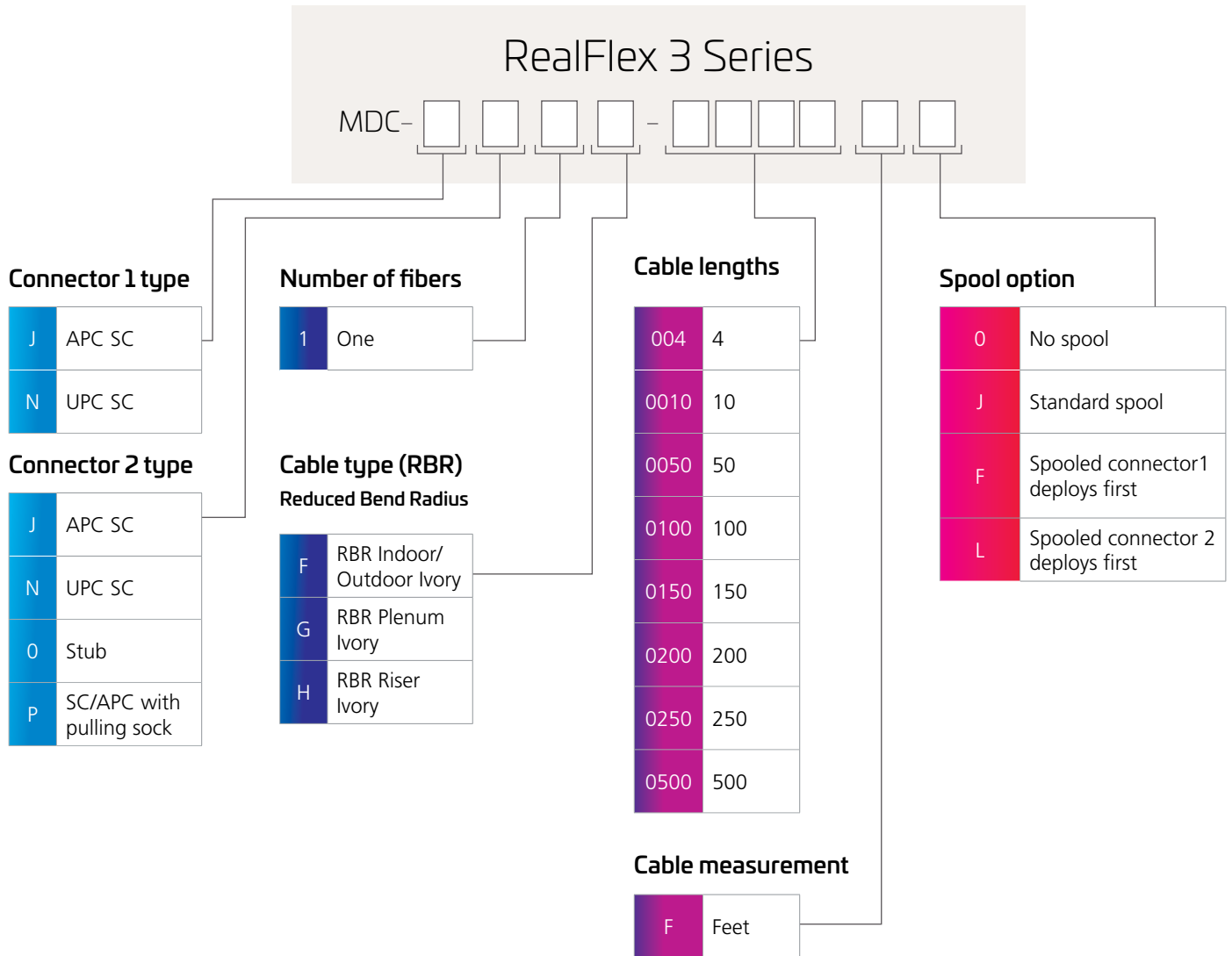


* Cable Length shown as an example, additional cable lengths available upon request up to 2,000 ft. (600 m).

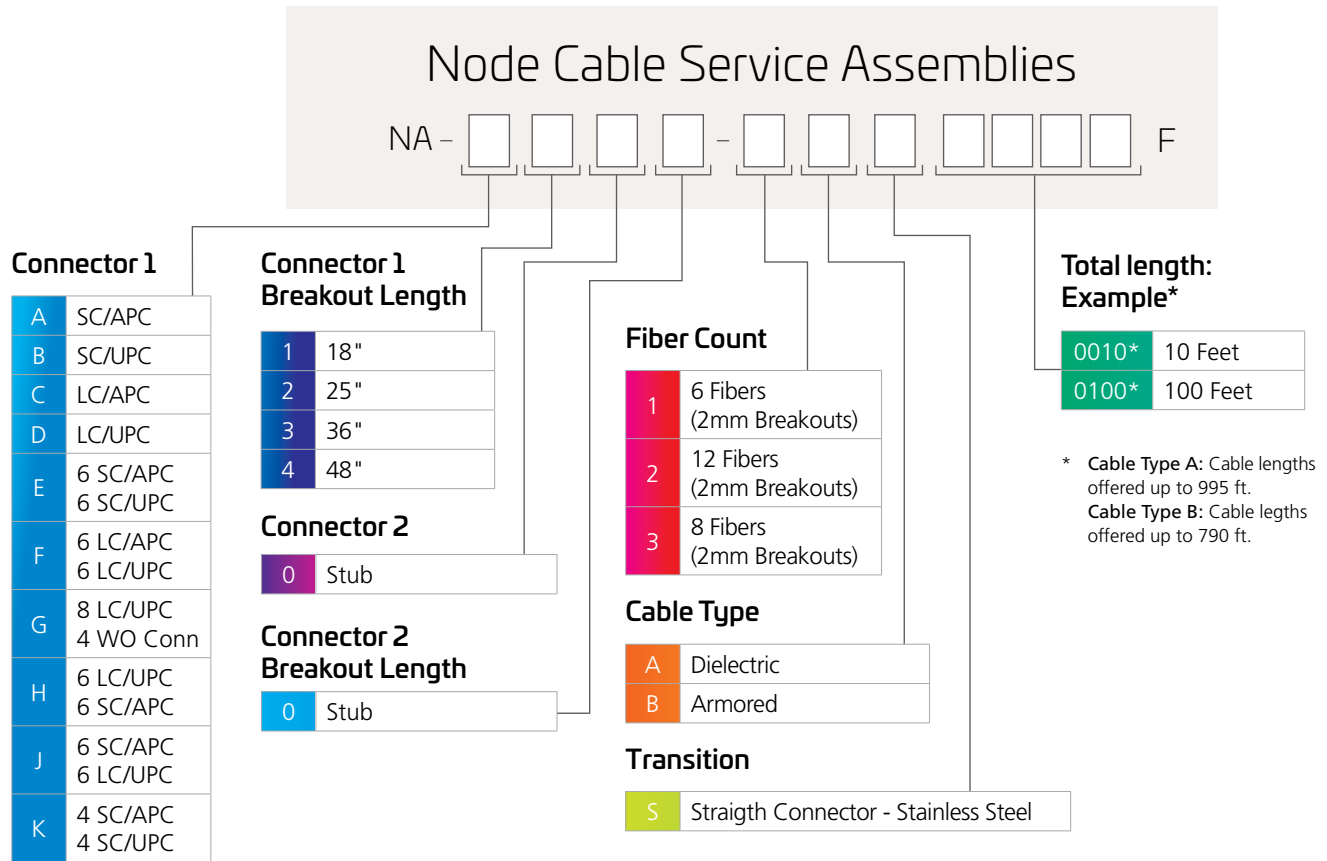


* Cable length shown as an example, additional cable lengths available upon request up to 2,000 ft. (600 m).

Ordering information



Ordering information



Accessories

Fiber Drop Cable Assembly Accessories - Cleaning & Converters

MID	Description
DLX-OPT-CONV-25	25 DLX connectors to Full Size Converter
DLX-SC-CONV-25	25 DLX connectors to SC Adapter Converter
DLX-SCA-CONV-25	25 DLX connectors to SC Adapter Converter Including the SC Adapter
300100112841	DLX to DLX Adapter
FHD-ACC-CLAMP910	FHD-ACC-CLAMP910: CABLE CLAMP FOR FLAT
FHD-ACC-CLNCTN	Cleaning Swabs
FHD-ACC-CLNKIT1	Cleaning Kit; includes hardened connector cleaning cassette (150 uses) and fifty (50) cleaning sticks
FHD-TKIT-1	Hardened Connector Test Kit: Includes waterproof bag, test cables, adapters, and cleaning kits

Fiber Drop Cable Assembly Accessories - Test Cables

MID*	Description
FHD-HJ1R-0010F	Hardened Full Size to SC/APC connector, 3mm cable, 10 Feet
FHD-HJ1R-0020F	Hardened Full Size to SC/APC connector, 3mm cable, 20 Feet
FHD-HJ1R-0040F	Hardened Full Size to SC/APC connector, 3mm cable, 40 Feet
FHD-HJ1R-0050F	Hardened Full Size to SC/APC connector, 3mm cable, 50 Feet
FHD-HN1R-0010F	Hardened Full Size to SC/UPC Connector, 3mm cable, 10 Feet
FHD-HN1R-0025F	Hardened Full Size to SC/UPC Connector, 3mm cable, 25 Feet
FHD-HN1R-0050F	Hardened Full Size to SC/UPC Connector, 3mm cable, 50 Feet
FHD-XJ1R-0010F	DLX to SC/APC Connector, 3mm cable, 10 Feet
FHD-XJ1R-0040F	DLX to SC/APC Connector, 3mm cable, 40 Feet
FHD-XN1R-0010F	DLX to SC/UPC Connector, 3mm cable, 10 Feet
MHD-ACC-F12J	HMFOC Plug/Non-Pinned/Female to 12 SC/APCs, 3 Feet
MHD-ACC-M12J	HMFOC Jack/Pinned/Male to 12 SC/APCs, 3 Feet

* Standard Lengths ONLY



Building partnerships that build the smartest networks

With a 40-year record of industry leadership and innovation, we're committed to providing our customers with the support they need to build their network fiber infrastructure on a solid foundation. Get prompt, expert support from a CommScope professional for design, installation, or troubleshooting questions at: www.commscope.com/SupportCenter/.

CommScope pushes the boundaries of communications technology with game-changing ideas and ground-breaking discoveries that spark profound human achievement. We collaborate with our customers and partners to design, create and build the world's most advanced networks. It is our passion and commitment to identify the next opportunity and realize a better tomorrow. Discover more at commscope.com



commscope.com

Visit our website or contact your local CommScope representative for more information.

© 2019 CommScope, Inc. All rights reserved.

All trademarks identified by ® or ™ are registered trademarks or trademarks, respectively, of CommScope, Inc. This document is for planning purposes only and is not intended to modify or supplement any specifications or warranties relating to CommScope products or services. CommScope is committed to the highest standards of business integrity and environmental sustainability with a number of CommScope's facilities across the globe certified in accordance with international standards, including ISO 9001, TL 9000, and ISO 14001. Further information regarding CommScope's commitment can be found at www.commscope.com/About-Us/Corporate-Responsibility-and-Sustainability.

BR-112532.3-EN (09/19)