Fiber drop cable solutions

Flexible solutions for the evolving networks of tomorrow

COMMSCOPE®

Navigating the road to broadband for all

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 build out fiber networks quickly and easily in the race to bring high-speed broadband to everyone everywhere.

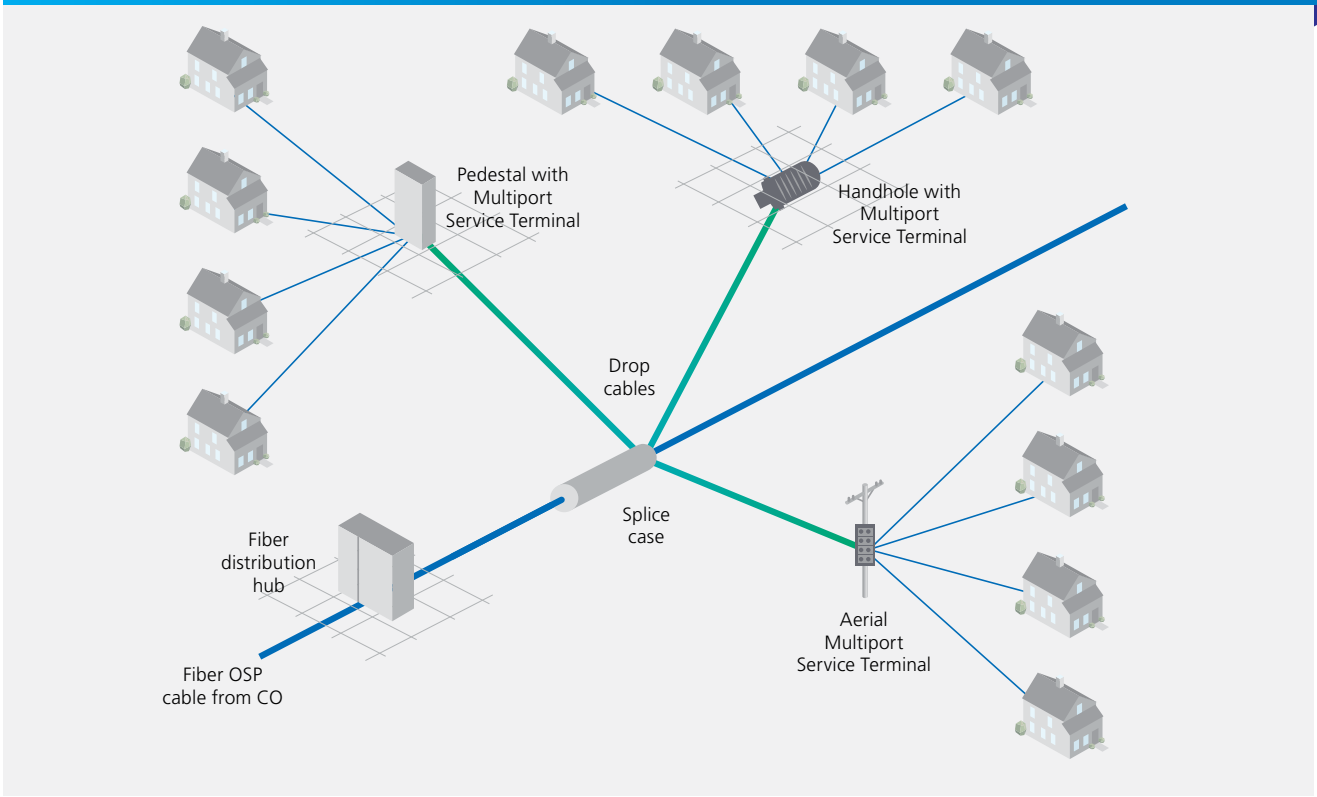
Many providers would agree that only a true fiber-to-the-home (FTTH) solution will meet their customers' demand for bandwidth and next-generation services. What isn't clear to most is how to get to that point. Some providers are extending fiber-optic cables all the way to customers' homes and businesses—replacing the old networks entirely. For other providers, the path isn't 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 solutions that allow for flexibility and speed

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 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 a wide range of flexible connections.

Another important consideration for providers: speed of deployment. Quickly connecting subscribers is critical. Many network providers are turning to flexible "plug-and-play" solutions that eliminate the need for fiber cable splicing in the field and accelerate deployments.

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.

Prodigy®, CommScope's breakthrough hardened connector system, is a universal solution that provides interoperability across different fiber terminals and cable assemblies. Prodigy fiber-optic connectors and adapters are easy and fast to deploy and eliminate the need for fiber splicing.

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 multifiber cables.

Connector	Minimum hole size for connector*	Physical contact	Insertion loss**	Reflection	Retention force
Prodigy	0.6 in (15.2 mm)	Angled polished contact (APC), standard 8 deg. angle	≤ 0.4 dB	≤ -65 dB	100 lbs (444.8 N)
Full-size	13/16 in (20.6 mm)	Angled polished contact (APC), standard 8 deg. angle	≤ 0.4 dB	≤ -65 dB	100 lbs (444.8 N)
DLX	5/8 in (15.9 mm)	Angled polished contact (APC), standard 8 deg. angle	≤ 0.4 dB	≤ -65 dB	100 lbs (444.8 N)
HMFOC	3/4 in (19.1 mm)	Angled polished contact (APC), standard 8 deg. angle	≤ 0.45 dB	≤ -65 dB	100 lbs (444.8 N)
SC/APC	1/2 in (12.7 mm)	Angled polished contact (APC), standard 8 deg. angle	≤ 0.4 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

Prodigy® small form hardened connector solution

Prodigy, CommScope's newest innovation in hardened connectivity, unlocks the potential of fiber-to-the-home (FTTH) networks with comprehensive solutions that install faster and simpler than ever. Prodigy is a small form hardened connector system for fiber terminals and cable assemblies and is the preferred choice for future-ready networks. Prodigy is universally compatible with multiple hardened fiber connectors—making it a game-changer in plug-and-play FTTH solutions.

With Prodigy, installers don't need a patchwork of cable assemblies and components. The Prodigy connector is compatible in applications that require different styles of hardened fiber connectors—simplifying ordering and improving compatibility between network elements. Customers need only one cable assembly that will include the required different lengths. An installer can simply run a drop cable assembly and convert the Prodigy connector to the required connector in the connection box.

Prodigy enables smaller terminal footprints, is easier to mate and delivers exceptional performance. Designed to withstand rugged outside plant environments, Prodigy meets the speed, density, reliability, flexibility, ease of installation and performance needs of today and tomorrow.

Features and benefits

- Small footprint for high-density environments
- Compatible with multiple hardened connectors
- Converter kit is preassembled for ease of installation
- Self-guided automatic alignment minimizes the chance of connection errors
- Cable assemblies with Prodigy are available with the EZ AXS dielectric and toneable flat drop cables and in 5 mm round cable with lengths up to 2,000 feet (600 meters)
- Built-in sustainability:
  - Reusable core connectors
  - Improved density
  - Fully recyclable, zero-plastic packaging
  - Electronic documentation with unique QR code

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 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, there's no longer a need to precisely measure cable lengths. 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 meters)
- 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
Construction type*	Non-armored, gel-filled	Non-armored, gel-filled	Non-armored, gel-free	Non-armored, gel-free
Dimensions	4.30 mm x 8.00 mm	4.30 mm x 10.00 mm	4.6 mm x 8.00 mm	4.6 mm x 10 mm
Jacket material	PE	PE	PE (PVC inner subunit)	PE (PVC inner subunit)
Jacket color	Black	Black	Black	Black
UV resistant	Yes	Yes	Yes	Yes
Minimum bend radius	8.6 cm	8.6 cm	9.2 cm	9.2 cm
Operating temperature	-40°C to +70°C	-40°C to +70°C	-40°C to +70°C	-40°C to +70°C

* Single fiber only

MHD drop cable series

Another innovation in drop cable technology that's 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 adapter 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

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

Prodigy® Hardened Cable Assembly

HCA– □ □ □ □ – □ □ □ □ □

Connector 1

A	Prodigy connector core only
B	Bayonet converter factory installed
C	Bayonet converter included
H	Full-size converter factory installed
J	Full-size converter included
X	DLX converter factory installed
Y	DLX converter included

Connector 2

0	Stub
A	Prodigy connector core only
B	Bayonet converter factory installed
C	Bayonet converter included
H	Full-size converter factory installed
J	Full-size converter included
X	DLX converter factory installed
Y	DLX converter included

Unit of measure

F	Foot
M	Meter

Cable lengths*

0050	50 feet
0100	100 feet
1000	1,000 feet
2000	2,000 feet

* Additional cable lengths are available upon request, up to 2,000 ft (600 m)

Cable type

K*	5mm round
V**	EZ AXS dielectric cable
X**	EZ AXS toneable cable

* Cable K type lengths only available up to 1,300 ft (400 m)

** Cable V and X types available in lengths up to 2,000 ft (600 m)

Fiber count

1	Fiber

Ordering information

FHD Drop Cable Series

FHD– □ □ 1 □ – □□□□□ □

Connector A

H	Hardened full size
J	SC/APC****
X	DLX

Connector B

H	Hardened full size
J	SC/APC
X	DLX
N	SC/UPC
K	LC/UPC
V	LC/APC
0	STUB

Cable type

A	Flat dielectric
B	Flat locatable/ toneable
C	Universal flat dielectric
D	Universal flat locatable/toneable

Cable lengths**

0050F	50 feet
0100F	100 feet
1000F	1,000 feet
2000F	2,000 feet

Special request***

L	Spooled: connector 1 deploys first from spool
R	Spooled: connector 2 deploys first from spool

** 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 type K.
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

Fiber Hardened Breakout Drop

FHBD– □ □□ □ □□ □ □ – □□□□ F

Connector 1

H	Hardened full size
J	SC/APC

Connector B

J	SC/APC
0	STUB

Fiber count

4	4 fibers

Cable lengths**

0050	50 feet
0100	100 feet
0150	150 feet
0200	200 feet
0250	250 feet
0300	300 feet
0400	400 feet
0500	500 feet
0600	600 feet
0800	800 feet
1000	1,000 feet

Cable type

A	Flat dielectric
B	Flat toneable

Connector A breakout length

04	4 feet
08	8 feet*

Connector B breakout length

08	8 feet*
00	STUB

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

Ordering information

MHD Drop Cable Series

MHD– □ □ D □ – □□□□ □

Connector A

F	HMFOC plug/non-pinned/ female
M	HMFOC jack/pinned/ male

Connector B

F	Plug/non-pinned/ female
M	Jack/ pinned/ male
0	Stub

Cable type

A	12F flat dielectric
H	12F flat toneable/ locatable

Cable lengths*

0050	50 feet
0100	100 feet
1000	1,000 feet
2000	2,000 feet

F	Foot
M	Meter

* Cable length shown as an example; additional cable lengths available upon request at 25-ft intervals up to 2,000 ft (600 m)

Multifiber Hardened Breakout Drop

MHBD– □ □ □ □ □ – □□□□ □

Connector 1

M	HMFOC male/jack
F	HMFOC female/plug

Connector 1 breakout

0	N/A
1	36 in

Connector 2

A	6 UPC LC duplex
B	12 APC SC
C	12 UPC SC
K	12 UPC LC
N	Female MPO (no pin)
P	Male MPO (pinned)
0	Stub

Connector 2 breakout (L2)

1	28 in
2	17 in
0	No breakout

Cable type

A	12F flat drop dielectric
C	24F flat drop dielectric

Cable lengths (L1)

0010*	10 feet
0100*	100 feet
1000*	1,000 feet

F	Foot
M	Meter

Ordering information

Node Cable Service Assemblies

NA–□□□□–□□□□□□□F

Connector 1

A	SC/APC
B	SC/UPC
C	LC/APC
D	LC/UPC
E	6 SC/APC 6 SC/UPC
F	6 LC/APC 6 LC/UPC
G	8 LC/UPC 4 WO CONN
H	6 LC/UPC 6 SC/APC
J	6 SC/APC 6 LC/UPC
K	4 SC/APC 4 SC/UPC
L	4 SC/APC 4 LC/APC 4 WO CONN
M	4 LC/UPC 2 SC/UPC

Connector 1 breakout length

1	18 in
2	25 in
3	36 in
4	48 in

Connector 2

0	Stub

Connector 2 breakout length

0	Stub

Fiber count

1	6 fibers (2 mm breakouts)
2	12 fibers (2 mm breakouts)
3	8 fibers (2 mm breakouts)

Cable type

A	Dielectric
B	Armored

Transition

N	90 degree connector—stainless steel
S	Straight connector—stainless steel

Total length: Example*

0010*	10 feet
0100*	100 feet

* Cable type A: Cable lengths offered up to 995 ft
Cable type B: Cable lengths offered up to 790 ft

Accessories

Fiber drop cable assembly accessories—cleaning and converters

MID	Description
760252078	HCA-ACC-BAYONET-CVTR (converter for Prodigy connector to bayonet connector)
760252079	HCA-ACC-FULLSIZE-CVTR (converter for Prodigy connector to full-size connector)
760252080	HCA-ACC-DLX-CVTR (converter for Prodigy connector to DLX connector)
760252081	HCA-ACC-SCAPC-CVTR (converter for Prodigy connector to SC/APC connector)
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, 3 mm cable, 10 feet
FHD-HJ1R-0020F	Hardened full-size to SC/APC connector, 3 mm cable, 20 feet
FHD-HJ1R-0040F	Hardened full-size to SC/APC connector, 3 mm cable, 40 feet
FHD-HJ1R-0050F	Hardened full-size to SC/APC connector, 3 mm cable, 50 feet
FHD-HN1R-0010F	Hardened full-size to SC/UPC connector, 3 mm cable, 10 feet
FHD-HN1R-0025F	Hardened full-size to SC/UPC connector, 3 mm cable, 25 feet
FHD-HN1R-0050F	Hardened full-size to SC/UPC connector, 3 mm cable, 50 feet
FHD-XJ1R-0010F	DLX to SC/APC connector, 3 mm cable, 10 feet
FHD-XJ1R-0040F	DLX to SC/APC connector, 3 mm cable, 40 feet
FHD-XN1R-0010F	DLX to SC/UPC connector, 3 mm 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 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

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