



FDH 4000

Sealed fiber distribution hub and integrated splitter module solution

The United Nations estimates that 70 percent of world population will be urban by 2050, meaning cities will need to have supercity infrastructure in place to support future growth and densification. Furthermore, it's predicted the speed of our evolution into an information society will accelerate, profoundly transforming the way we live, work, learn, and thrive. The main drivers of this evolution: new communication technologies and the networks that distribute the information they create.

Since networks will be at the epicenter of this transformation, municipalities, information technology departments, and telecommunications professionals will continue to look for ways to build robust and flexible city infrastructure to enhance the lives of the people that live and work there. In addition, expanding broadband to underserved communities remains an important goal of many governmental units looking to facilitate greater access to technology.



Challenges to urban fiber deployment

Multiple challenges arise when deploying a future-ready, easily supported urban FTTX infrastructure that integrates quickly and seamlessly in today's network. These challenges include increasingly restrictive and time-consuming permitting ordinances, deployment issues due to city-congested areas, and ever-increasing customer demands for always-on service.



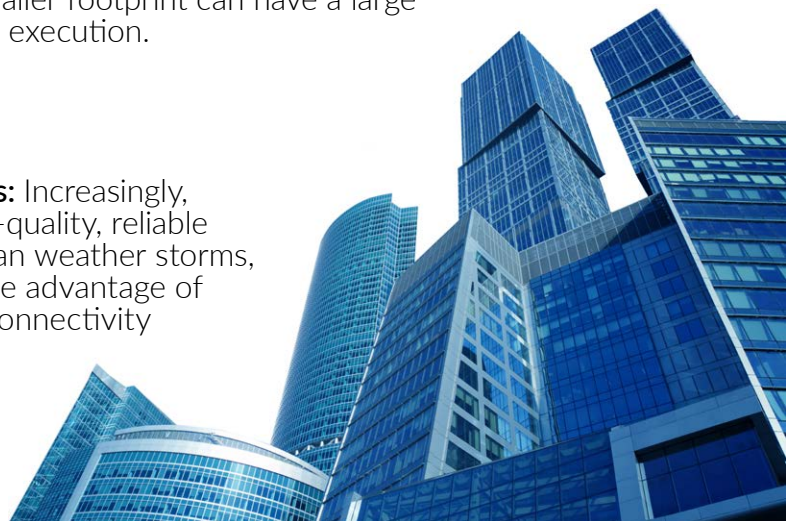
Permitting approvals: Meeting the requirements of local and national governments, agencies, and other relevant entities for permitting and zoning is becoming more complex and time consuming.



Congested streets and utility poles: With urbanization and the increasing pace of new technology deployments, equipment with a smaller footprint can have a large impact on a project's execution.



Rising customer expectations: Increasingly, customers depend upon high-quality, reliable connectivity. Solutions that can weather storms, floods, and vandalism offer the advantage of uninterrupted service when connectivity is needed the most.



No permit? No problem. FDH 4000



The fiber distribution hub (FDH) is a key FTTH network element, and plays an important role in evolving broadband access networks. This neighborhood-based centralized hub houses the vital components that distribute the optical signal from the central office to subscribers. Typically, an FDH must be installed in highly-visible city-congested locations, creating a challenge for urban planners to find a functional and secured solution that remains aesthetically pleasant.

In response to challenges faced by municipalities deploying urban FTTX, CommScope has designed the FDH 4000. The FDH 4000 delivers a very high connection density in a compact footprint. It can be installed below grade, eliminating a number of longstanding deployment issues. To achieve this, CommScope leverages its expertise in underground closures—we've delivered more than one million units that can operate in the harshest environments around the globe—and industry-leading high-density and craft-friendly cable management. The FDH 4000 is a big solution delivered in a small package.

All-weather solution. Anywhere installation.

When deployed below grade, the sealed FDH 4000 can reduce permit and labor challenges. An additional benefit is that, unlike traditional FDH cabinets, this closure can withstand severe storms and flooding—providing an all-weather solution that ensures network uptime in the most critical situations.

The FDH 4000 can be installed practically anywhere—its compact size overcomes space challenges in crowded hand holes and vaults as well as on poles or hanging from a strand. Furthermore, in deployments where maintaining the historical character of a site is critical, the small size and pleasing aesthetics of the FDH 4000 make it a solution that delivers excellent results when needed the most.



Secured, safe, easy deployment

Aesthetically pleasing and small enough to conceal from view, the FDH 4000 is less prone to vandalism—ideal for places where securing network equipment is a concern. Considerably lighter than cabinet configurations, the unit puts less strain on the technicians handling it and requires less equipment and much smaller field crews to install.



Benefits that deliver

To protect crucial network components, the FDH 4000 brings together the most advanced technology from the inside and outside plant. It's a compact solution that offers the high density required by today's applications, along with rugged environmental protection.

- **Industry-leading compact, lightweight, high-capacity design**
Scalable up to 288 distribution ports and 12–72 feeder ports, with unused ports used for pass-through applications
- **Unsurpassed environmental protection**
Thermoplastic construction provides UV stabilization, flame retardancy, chemical and impact resistance as well as light weight
- **Field-proven hermetically sealed closure, IP68 certified**
Provides airtight, watertight seal, delivering protection from flooding or fungus and uninterrupted functionality in permanent water submersion up to 13 feet
- **Diverse splitter module configurations**
High-performance optical splitters, CWDM and DWDM with full spectrum options
- **Craft-friendly splitter module design**
Industry-renowned design for plug-and-play splitter cassette installation; all-front access for easy maintenance
- **Accessories and mounting kits**
Large variety of kits available to accommodate all applications



“The FDH 4000 addresses the need for high-density weatherproof closures in an urban market where permitting for new construction is increasingly restrictive. It addresses the market’s needs for below-grade and underground FTTH deployments, and allows customers to quickly deploy FTTH solutions, providing a fast path to revenue.” *Industry Expert*

Configuration

	A-size	B-size
Distribution port count	72 SC/144 LC	144 SC/288 LC
Height	28 in (72 cm)	32 in (81.1 cm)
Width (diameter)	9.5 in (24 cm)	9.5 in (24 cm)
Enclosure weight (without pedestal, cables, splitters)	30 lbs (13.6 kg)	35 lbs (15.9 kg)
Splitter capacity	9	9
Splitter modules included	0	0
Configuration	Below grade	Below grade
Access	Removable dome	Removable dome

	A-size	B-size
Feeder fiber count	12–72	12–72
F1 fiber terminations	12–72	12–72
Pass-throughs	**	**
Cable ports	3	3
Cable clamps	1	1
Enclosure rating	IP68 GR 771	IP68 GR 771
FDH performance	GR-3121, GR-3125	GR-3121, GR-3125
Standard color	Black	Black

** configurable

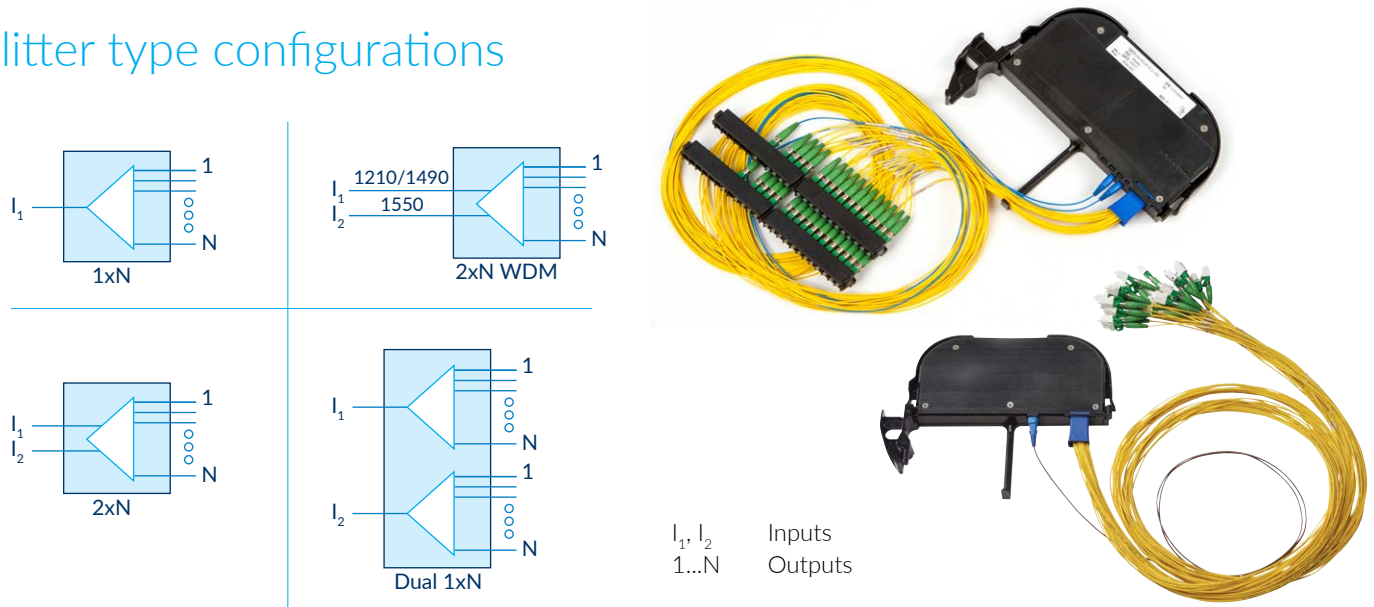
Designed from the inside out.

Innovative plug-and-play splitter modules

Delivering the most advanced outside plant solutions requires an all-encompassing design, with a keen focus on every detail. The sealed FDH 4000 brings it all together by delivering a solution optimized for installation anywhere.

The plug-and-play splitters are a product of CommScope's experience designing the industry's leading optical distribution frames. The splitter modules come with integrated connectors to ensure that cables are kept in sequential order and help prevent disruption to adjacent fibers during installation. Modules are designed to accept singlemode, multimode, angled, and ultra-polished connectors, and an innovative staggered design makes for easier fiber identification and access. Moreover, using 1.2 mm fiber cable simplifies fiber management while maintaining the performance of traditional fiber.

Splitter type configurations



Splitter specifications

Splitter type	Max loss*	Typical loss*	Uniformity*	Return loss	Directivity	PDL	Wavelength range
1x2	3.8 dB	3.1 dB	1.1 dB	≥ 55 dB	≥ 55 dB	0.2 dB	1260–1360 nm & 1480–1580 nm
1x4	7.2 dB	6.6 dB	0.8 dB	≥ 55 dB	≥ 60 dB	0.2 dB	1260–1635 nm
1x8	10.2 dB	9.7 dB	1.0 dB	≥ 55 dB	≥ 60 dB	0.2 dB	1260–1635 nm
1x16	13.5 dB	12.8 dB	1.0 dB	≥ 55 dB	≥ 60 dB	0.3 dB	1260–1635 nm
1x32	16.7 dB	16.0 dB	1.3 dB	≥ 55 dB	≥ 60 dB	0.3 dB	1260–1635 nm
1x64	20.4 dB	19.7 dB	2.0 dB	≥ 55 dB	≥ 60 dB	0.4 dB	1260–1635 nm
2x16	14.1 dB	12.9 dB	2.0 dB	≥ 55 dB	≥ 60 dB	0.4 dB	1260–1635 nm
2x32	17.4 dB	16.2 dB	2.0 dB	≥ 55 dB	≥ 60 dB	0.4 dB	1260–1635 nm

* Includes PDL, WDL and TDL. Does not include connector loss.

FDH 4000 ordering information

FD4S -

A	144 w/LC or 72 w/SC connector
B	288 w/LC or 144 w/SC connector

Distribution fibers loaded

012	12 fibers
024	24 fibers
048	48 fibers
072	72 fibers
096	96 fibers
144	144 fibers
216	216 fibers
288	288 fibers

Adapter connector type

N	SC/UPC
J	SC/APC
U	LC/UPC
S	LC/APC

Number of splitters loaded

0	None
1	Future use

Splitter type loaded

0	None
A	Future use

Input cable fiber count

1	12
2	24
3	48
4	72

Cable stub length

B	100 foot - std
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Distribution cable configuration²

A	All 72 fiber stubs
B	All 144 fiber stubs
C	All 216 fiber stubs
D	All 288 fiber stubs

² Subject to availability

Distribution cable type¹

D	Dry-dry dielectric ribbon
G	Single armor loose tube
J	Dielectric loose tube
L	Armored ribbon
P	Dry-dry armor ribbon
T	Dielectric ribbon

¹ Subject to availability

Plug-and-play splitter modules

FPS-CMPP

Application (fits cabinet type)

2	Sealed FDH 4000
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Splitter type

A	1x32	M	Dual 1x16
C	1x16	N	1x4
E	2x32 WDM	P	2x16
G	2x32	S	1x64
J	1x8	U	Dual 1x4
L	Dual 1x8	W	1x2

Output connector

N	SC/UPC
J	SC/APC
L	LC/UPC
S	LC/APC

Input connector

N	SC/UPC
J	SC/APC
L	LC/UPC
S	LC/APC

Sealed FDH 4000 accessories

Description	Part number
Patch cord for use with sealed FDHs LC/APC to LC/APC 1.2 mm cable, 1 meter	FPCA-MMYP001M
Workstand kits	
for Channel only	FD3-ACCBGSTND
for PenCell only	FD4S-ACCBGSTD-P
Pole mount kit	FD4S-ACCWMBKT
Collar clamp	301687-000
Strand mount kit (FOSC "D")	663259-000
O-Ring	429631-000



Designed for high performance.
Built for life-long service.
Delivers peace of mind.

The FDH 4000 brings high performance to your network in every phase of its service life. During deployment, it helps deal with permitting challenges, and its compact size and light weight make it easy to install. And that installation can be almost anywhere—from below-grade to aerial locations. Superior design makes it suitable for locations where maintaining historical character is critical. Industry-leading connection density and craft-friendly cable management make for maximum deployment flexibility.

And this is only the start. Once in the field, the FDH 4000 delivers high performance in all-weather environments. It's UV resistant, chemical resistant and waterproof, leveraging more than 30 years of materials science expertise and advances.

The FDH 4000—aesthetically pleasing, field-proven technology that delivers long-lasting reliability and, ultimately, peace of mind.



Why CommScope?

CommScope enables companies around the world to design, build and manage their wired and wireless networks. Our vast portfolio of network infrastructure includes some of the world's most robust and innovative wireless and fiber-optic solutions.

Key capabilities include:

Expertise: More than 40 years of experience meeting the most demanding customer needs and deployment environments.

End-to-end solutions: A comprehensive fiber portfolio spanning the customer premises, multidwelling units (MDU), access network, central office and headend.

Innovation: Increasing R&D investment, rapid prototyping and nearly 10,000 patents and pending applications.

Global reach: More than 30 facilities focused on manufacturing, R&D and distribution.

Standards pioneering: Worldwide-recognized industry experts actively contributing to advances in standards and new technologies.

The CommScope Infrastructure Academy: A series of training courses that keep installers and engineers current with the latest infrastructure technology and deployment best practices.

For more information, visit <https://www.commscopetraining.com/>.



For more information,
visit us online.

With so much riding on your network, it only makes sense that your network runs on CommScope. Contact a CommScope representative today.

Everyone communicates. It's the essence of the human experience. *How* we communicate is evolving. Technology is reshaping the way we live, learn and thrive. The epicenter of this transformation is the network—our passion. Our experts are rethinking the purpose, role and usage of networks to help our customers increase bandwidth, expand capacity, enhance efficiency, speed deployment and simplify migration. From remote cell sites to massive sports arenas, from busy airports to state-of-the-art data centers—we provide the essential expertise and vital infrastructure your business needs to succeed. The world's most advanced networks rely on CommScope connectivity.



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