



Broadcast and entertainment products

Next Generation Frame (NGF) and plug-and-play solutions

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Introduction

Many organizations within the broadcast and entertainment industry need a fast, efficient, secure and reliable way to move information around. This increasing need for more bandwidth is urging many broadcasters to shift away from copper and embrace the efficiency of fiber optic cable feeds. With that, broadcasters need fiber solutions that are scalable as bandwidth requirements continue to grow. CommScope's Next Generation Optical Distribution Frame (NGF) solution can do just that. This high density, robust solution serves as your broadcast studio's main fiber cross-connect. An industry tested design, this solution is essential to the modern broadcast facility, no standard fiber offering can compare.



The NGF solution is comprised of the following components:

Frames

CommScope developed its innovative Next Generation Frame (NGF) for high-fiber count applications. At 2304 terminations in a single frame, its unique, user-friendly design and superior cable management provide enterprise customers an optimum solution to handle applications with high fiber counts such as data centers.

CommScope's NGF product line is designed to fit a variety of termination, splice, and storage applications. This frame is designed with an emphasis on superior cable management and ease of use, including features such as ample trough space for cable and jumpers, easy access to connectors, and storage for jumpers. The frame sections are shipped from the factory fully equipped with all cable management hardware including a built-in jumper storage panel.

Fiber Termination Blocks (FTBs)

Fiber Termination Blocks (FTBs) are available with SC adapters in block configurations of 144-positions, and with LC adapters in 144- and 192-positions. FTBs utilize sliding adapter packs to gain easy access to both the front and rear connectors. FTBs can be ordered with adapters only, with factory terminated IFC stubs, or as Plug-and-Play cassettes (see pages 6.19-6.21).

Sliding adapter packs

Sliding adapter packs house groups of fiber optic adapters and are mounted in fiber termination blocks to provide easy access to connectors. Sliding adapter packs are available with SC and LC adapters. The adapters come in packs of four and six depending on the adapter type and the desired termination density.

Features and benefits

Ample trough space

- Reduces jumper pile-up, congestion and maintenance
 - Easy removal and tracing of jumpers
 - Minimizes risk of damage to fiber

Built-in jumper storage panel

- Minimizes number of required jumper lengths
- Maintains fiber bend radius
- Simplifies frame installation
 - Reduces the number of jumper lengths that have to be inventoried
 - Minimizes risk or damage to fiber
- Enclosed system ensures easy cable access without fiber cross-over points

Sliding adapter packs

- Promotes high density
- Provides easy access to connectors
 - Saves valuable floor space
 - Reduced operation and maintenance time

Intelligent cable routing system

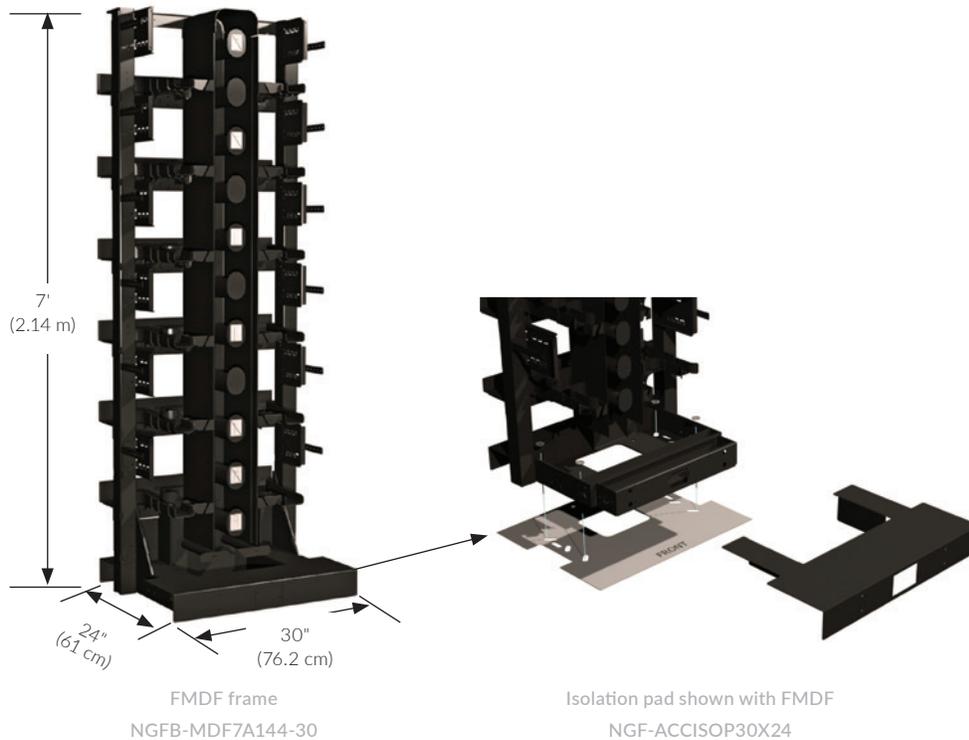
- No fiber cross-over points
- Multiple vertical troughways
 - Easier removal and tracing of jumpers

Bend radius protection at every turn

- Ensure network performance and reliability

Fiber Main Distribution Frame (FMDF)

The Fiber Main Distribution Frame (FMDF) is the cornerstone of the NGF product line. This innovative frame has six 5-inch horizontal troughs for a total of 30 inches of horizontal trough space. This abundant trough space minimizes fiber pile up and congestion leading to easier moves, adds and changes. The frame has twelve Fiber Termination Block (FTB) mounting positions equally divided between vertical columns on the left and right sides of the frame as shown in the figure below. The frame is available in 30-inch wide version and provides additional vertical trough space for the highest termination density applications. The built-in jumper storage panel will store up to 3.5 meters (12 feet) of jumper slack.



Ordering information

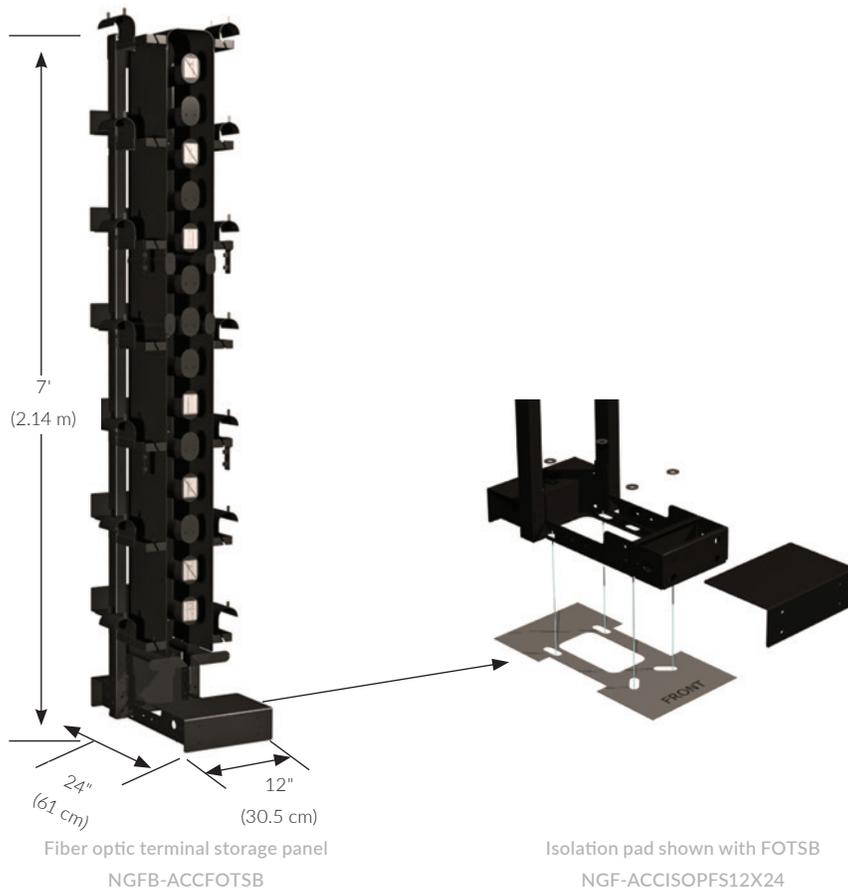
Description	Dimensions	Part number
Fiber Main Distribution Frame (FMDF); Accommodates 12 Fiber Termination Blocks (FTBs) or 12 Plug-and-Play Cassette Blocks*		
Short Bracket 30" Frame; For use with SC 144-position FTBs, or LC 192-position FTBs, LC 144- and 192-position Plug-and-Play Cassette Blocks ¹	7' x 30" x 24" (2.14 m x 76.2 cm x 61 cm)	NGFB-MDF7A144-30
Long Bracket 30" Frame; For use with LC 144-position FTBs		NGFB-MDF7A100-30

Each frame section includes heavy duty floor anchor bolts for concrete floor applications.

* CommScope recommends the use of 1.7 mm/1.6 mm jumpers when deploying 192-position FTBs.

Fiber optic terminal jumper storage panel

The fiber optic terminal jumper storage panel is an optional filler panel that provides up to 5 meters (16.4 feet) of slack storage for jumpers that run between terminal equipment and the rear ports of an NGF terminal block in cross-connect applications. This slack storage capability allows for greater flexibility in determining jumper lengths and allows for use of more standard length jumpers. This panel is installed within the NGF frame lineup between NGF frames. The fiber optic terminal storage panels are available in two different configurations depending on the way the NGF frame system is zoned. NGF frames can be zoned by vertical or by frame. A 12-inch wide panel is available that serves two verticals (one on each side) for use when frames are zoned by vertical. Also, 8-inch wide versions are available that serve a single vertical (left or right) for use when frames are zoned by frame.



Ordering information

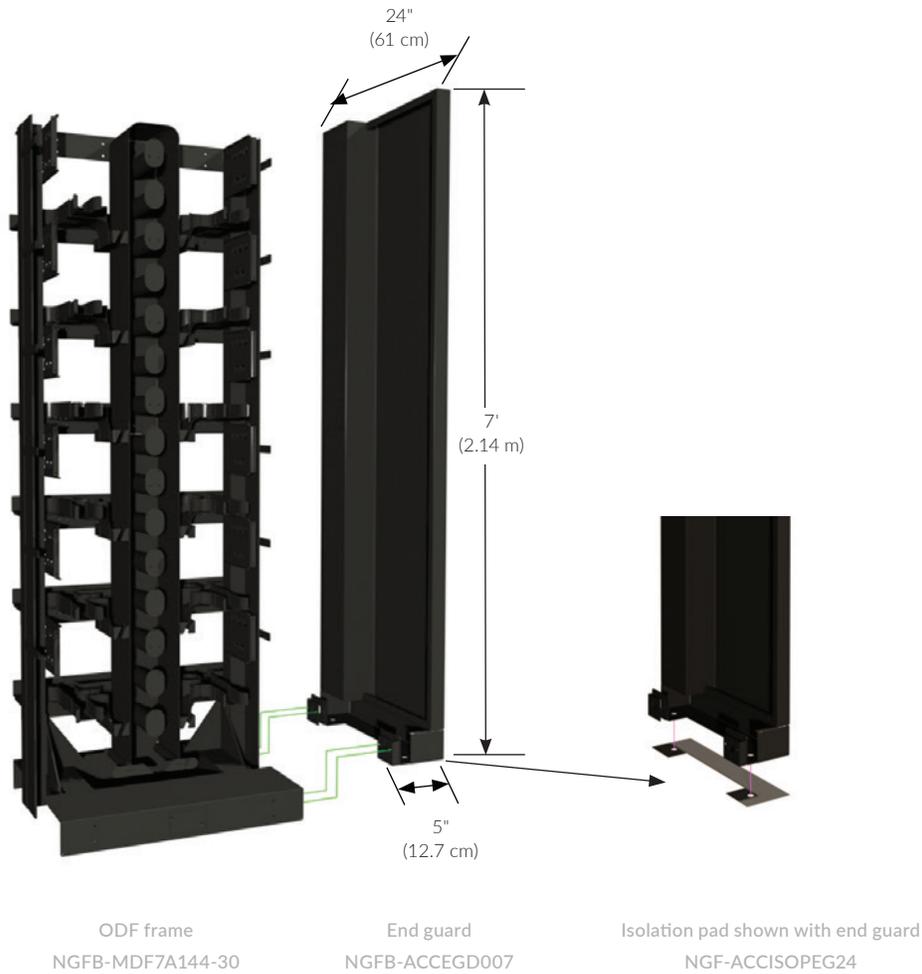
Description	Dimensions	Part number
Fiber Optic Terminal Jumper Storage Panel; Use with FMDF Frame, Color: Black	7' x 12" x 24" (2.14 m x 30.5 cm x 61 cm)	NGFB-ACCFOTSB
Isolation Pad – Storage Panel; A template for frame installation providing isolation between the frame and the ground		NGF-ACCISOPFS12X24

Note: When using the Fiber Optic Terminal Storage Panels, a cable exit UP block must be used.

Frame accessories

End guard

End guards provide protection for the fibers entering and exiting frames at the end of a lineup. They are designed for universal fit to be used on either end of the lineup.



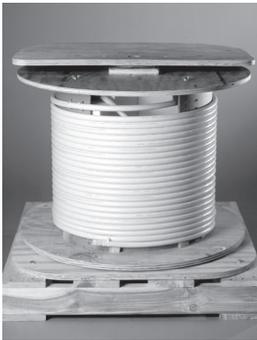
Ordering information

Description	Dimensions	Part number
End Guard; Use with FMDF Frames, Color: Black		NGFB-ACCEGD007
Isolation Pad – End Guard; A template for frame installation providing isolation between the frame and the ground	7' x 5" x 24" (2.14 m x 12.7 cm x 61 cm)	NGF-ACCISOPEG24

Fiber Termination Blocks (FTBs) – factory terminated stubs

Configuration information

Fiber Termination Blocks (FTB) are available with factory terminated indoor rated cable (IFC) in ribbon or stranded configurations. All blocks are 100% factory tested to guarantee continuity and reliable connections. Factory terminated FTBs make installation quick and easy, reducing labor costs. Before ordering, determine the block orientation and cable exit direction. Factory terminated FTBs may be ordered with a “left” orientation (mounts on the left side of the frame) or a “right” orientation (mounts on the right side of the frame). The cable exit direction will be either “upward” (cables terminated to the rear side of the block exit up toward the top of the frame) or “downward” (cables terminated to the rear side of the block exit down toward the bottom of the frame).



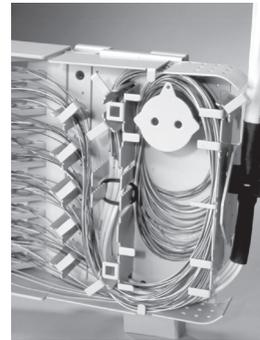
Preterminated Fiber Termination Blocks arrive from the factory with either IFC or OSP cables



Fiber cable easily uncoils during installation



Fiber termination block ships inside the drum



IFC cables loaded into FTB

Definition of variables

1	Block style General adapter type required in the FTB
2	Block configuration Maximum number of terminations that the FTB will accommodate when fully loaded
3	Block orientation Vertical column of the frame the FTB is to be mounted on
4	Cable exit direction Direction the equipment jumpers or IFC cable will exit from the FTB
5	Adapter/connector #1 Specific adapter/connector type required in the FTB. Refers to the adapter/connector type at the FTB
6	Connector #2 Specific connector type required at the cable end opposite the FTB
7	Cable type Type of cable to be terminated to the FTB
8	Cable length Required length of the cable terminated to the FTB

SC style FTBs with factory terminated stubs

144-position blocks

Ordering information

NGFB - TB1M -

1	X
2	X
3	X
4	X
5	XX
6	XXX

Block orientation

1	L	Left
	R	Right

Cable exit direction

2	U	Upward
	D	Downward

Connector and adapter type #1

3	Singlemode	
	7	SC ultra polish
	Multimode	
	9	SC
	T	SC aqua (10G) ¹

Connector type #2

4	Singlemode	
	0	No connector/stub end
	7	SC ultra polish
	Multimode	
	9	SC

Cable type (IFC riser)²

5	Singlemode	
	ZD	144-fiber stranded
	FJ	144-fiber ribbon
	62.5/125 µm multimode fiber	
	YM	144-fiber stranded
	50/125 µm multimode fiber	
	VZ	144-fiber stranded
	50/125 µm LOMMF 300m multimode fiber	
	WG	144-fiber stranded

Cable length

6	Standard single-ended	
	016	16 m (50')
	023	23 m (75')
	031	31 m (100')
	046	46 m (150')
	061	61 m (200')
	077	77 m (250')
	092	92 m (300')
	122	122 m (400')
	153	153 m (500')
	Non-Standard	
	Use XXX for non-standard length in meters	

¹ CommScope recommends the use of aqua colored adapters with laser optimized multimode fiber for identification of 10 Gigabit circuits.

² Panels using CommScope's standard cable offering have a shorter lead time than panels using a specific cable manufacturer. CommScope provides GR-409 compliant cable that meets or exceeds our high quality standards. Standard cable offering above will use Corning SMF28-e, Sumitomo, Alcatel or similar singlemode fiber based on current market availability.

See previous page for definition of variables.

LC style FTBs with factory terminated stubs

Ordering information

NGFB - TB4 -

1	2	3	4	5	6	7
X	X	X	X	X	XX	XXX

Block capacity

1	M	144
	Q	192

Block orientation

2	L	Left
	R	Right

Cable exit direction

3	U	Upward
	D	Downward

Connector and adapter type #1

4	Singlemode	
	K	LC ultra polish
	Multimode	
	P	LC
	C	LC aqua (10G) ¹

Connector type #2

5	Singlemode	
	O	No connector/stub end
	K	LC ultra polish
	Multimode	
	O	No connector/stub end
	P	LC

Cable type (IFC riser)²

6	Singlemode	
	ZD	144-fiber stranded
	GT	192-fiber stranded (2 x 96)
	FJ	144-fiber ribbon
	EJ	192-fiber ribbon
	62.5/125 μm multimode fiber	
	YM	144-fiber stranded
	MR	192-fiber stranded (2 x 96)
	50/125 μm multimode fiber	
	VZ	144-fiber stranded
	JM	192-fiber stranded (2 x 96)
	50/125 μm LOMMF 300 m multimode fiber	
	WG	144-fiber stranded
	TF	192-fiber stranded (2 x 96)

Cable Length

7	Standard single-ended	
	016	16 m (50')
	023	23 m (75')
	031	31 m (100')
	046	46 m (150')
	061	61 m (200')
	077	77 m (250')
	092	92 m (300')
	122	122 m (400')
	153	153 m (500')
	Non-Standard	
	Use XXX for non-standard length in meters	

¹ CommScope recommends the use of aqua colored adapters with laser optimized multimode fiber for identification of 10 Gigabit circuits.

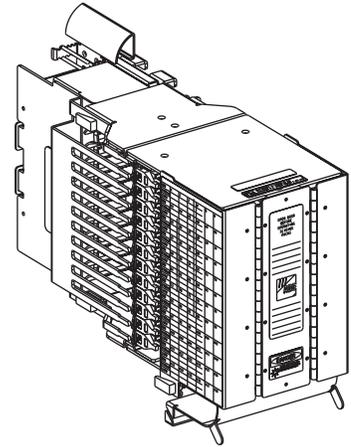
² Panels using CommScope's standard cable offering have a shorter lead time than panels using a specific cable manufacturer. CommScope provides GR-409 compliant cable that meets or exceeds our high quality standards. Standard cable offering above will use Corning SMF28-e, Sumitomo, Alcatel or similar singlemode fiber based on current market availability.

See previous page for definition of variables.

Fiber Termination Blocks (FTBs) – Unterminated (adapter only)

FTBs without fiber can be ordered fully loaded with adapters. Before ordering, determine the block orientation and cable exit direction. Unterminated FTBs may be ordered with a “left” orientation (mounts on the left side of the frame) or a “right” orientation (mounts on the right side of the frame). The cable exit direction will be either “upward”* (cables terminated to the rear side of the block exit up toward the top of the frame) or “downward” (cables terminated to the rear side of the block exit down toward the bottom of the frame). All blocks with adapters only are configured to terminate single or dual jumpers on the rear of the block. If a multifiber breakout style cable (i.e., OSP/IFC) is to be terminated to the rear of the block, a separate clamping kit and replacement rear storage area kit is required (see next page). FTBs cannot be ordered with a combination of singlemode and multimode adapters. If this combination is desired, CommScope recommends purchasing a fully loaded adapter only termination block, and separate sliding adapter packs to customize the block on-site.

* When using the Fiber Optic Terminal Storage Panels, a cable exit UP block must be used.



144-Position right upward FTB shown

Configuration information

Definition of variables	
1	Block style General adapter type required in the FTB
2	Block configuration Maximum number of terminations that the FTB will accommodate when fully loaded
3	Block orientation Vertical column of the frame the FTB is to be mounted on
4	Cable exit direction Direction the equipment jumpers or OSP cable will exit from the FTB
5	Adapter type Specific adapter type required in the FTB

Ordering information continues on next page

Fiber Termination Blocks (FTBs) – Unterminated (adapter only)

144-position blocks

Ordering information

Description	Part number
Multimode LC	
LC (beige) adapters; cable exit up; RIGHT block orientation	NGFB-TB4MRUP
LC (beige) adapters; cable exit up; LEFT block orientation	NGFB-TB4MLUP
LC (beige) adapters; cable exit down; RIGHT block orientation	NGFB-TB4MRDP
LC (beige) adapters; cable exit down; LEFT block orientation	NGFB-TB4MLDP
Multimode SC	
SC (beige) adapters; cable exit up; RIGHT block orientation	NGFB-TB1MRU9
SC (beige) adapter; cable exit up; LEFT block orientation	NGFB-TB1MLU9
SC (beige) adapters; cable exit down; RIGHT block orientation	NGFB-TB1MRD9
SC (beige) adapters; cable exit down; LEFT block orientation	NGFB-TB1MLD9
10G Multimode LC1	
LC (aqua) adapters with zirconia sleeves; cable exit up; RIGHT block orientation	NGFB-TB4MRUC
LC (aqua) adapters with zirconia sleeves; cable exit up; LEFT block orientation	NGFB-TB4MLUC
LC (aqua) adapters with zirconia sleeves; cable exit down; RIGHT block orientation	NGFB-TB4MRDC
LC (aqua) adapters with zirconia sleeves; cable exit down; LEFT block orientation	NGFB-TB4MLDC
10G Multimode SC	
SC (aqua) adapters with zirconia sleeves; cable exit up; RIGHT block orientation	NGFB-TB1MRUT
SC (aqua) adapters with zirconia sleeves; cable exit up; LEFT block orientation	NGFB-TB1MLUT
SC (aqua) adapters with zirconia sleeves; cable exit down; RIGHT block orientation	NGFB-TB1MRDT
SC (aqua) adapters with zirconia sleeves; cable exit down; LEFT block orientation	NGFB-TB1MLDT
Singlemode LC	
LC (blue) adapters with zirconia sleeves; cable exit up; RIGHT block orientation	NGFB-TB4MRUK
LC (blue) adapters with zirconia sleeves; cable exit up; LEFT block orientation	NGFB-TB4MLUK
LC (blue) adapters with zirconia sleeves; cable exit down; RIGHT block orientation	NGFB-TB4MRDK
LC (blue) adapters with zirconia sleeves; cable exit down; LEFT block orientation	NGFB-TB4MLDK
Singlemode SC	
SC (blue) adapters with zirconia sleeves; cable exit up; RIGHT block orientation	NGFB-TB1MRU7
SC (blue) adapters with zirconia sleeves; cable exit up; LEFT block orientation	NGFB-TB1MLU7
SC (blue) adapters with zirconia sleeves; cable exit down; RIGHT block orientation	NGFB-TB1MRD7
SC (blue) adapters with zirconia sleeves; cable exit down; LEFT block orientation	NGFB-TB1MLD7

1 CommScope recommends the use of aqua colored adapters with laser optimized multimode fiber for identification of 10 Gigabit circuits.

Fiber Termination Blocks (FTBs) – Unterminated (adapter only)

192-Position blocks

Ordering information

Description	Part number
Multimode LC	
LC (beige) adapters; cable exit up; RIGHT block orientation	NGFB-TB4QRUP
LC (beige) adapters; cable exit up; LEFT block orientation	NGFB-TB4QLUP
LC (beige) adapters; cable exit down; RIGHT block orientation	NGFB-TB4QRDP
LC (beige) adapters; cable exit down; LEFT block orientation	NGFB-TB4QLDP
10G Multimode LC1	
LC (aqua) adapters with zirconia sleeves; cable exit up; RIGHT block orientation	NGFB-TB4QRUC
LC (aqua) adapters with zirconia sleeves; cable exit up; LEFT block orientation	NGFB-TB4QLUC
LC (aqua) adapters with zirconia sleeves; cable exit down; RIGHT block orientation	NGFB-TB4QRDC
LC (aqua) adapters with zirconia sleeves; cable exit down; LEFT block orientation	NGFB-TB4QLDC
Singlemode LC	
LC (blue) adapters with zirconia sleeves; cable exit up; RIGHT block orientation	NGFB-TB4MRUK
LC (blue) adapters with zirconia sleeves; cable exit up; LEFT block orientation	NGFB-TB4MLUK
LC (blue) adapters with zirconia sleeves; cable exit down; RIGHT block orientation	NGFB-TB4MRDK
LC (blue) adapters with zirconia sleeves; cable exit down; LEFT block orientation	NGFB-TB4MLDK

¹ CommScope recommends the use of aqua colored adapters with laser optimized multimode fiber for identification of 10 Gigabit circuits.

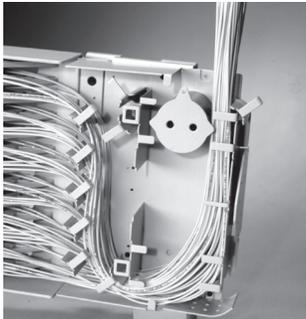
Note: CommScope recommends the use of 1.7 mm/1.6 mm jumpers when deploying 192-position FTBs.

Fiber Termination Blocks (FTBs) – Unterminated (adapter only)

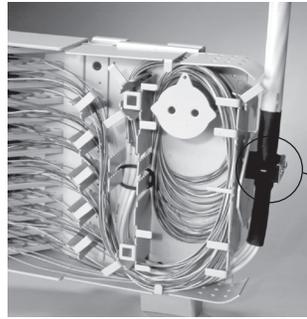
Cable clamping/block conversion kits

Adapter-only blocks are configured to accommodate single fiber jumpers or multifiber breakout cables. If loading a preterminated intrafacility (IFC) cable or a preterminated OSP cable is desired, additional hardware will be required. Block conversion kits are available to convert adapter only blocks to blocks that will accept preterminated IFC or OSP style cables. The conversion kits contain the cable management hardware, brackets and cable clamps required to convert the block.

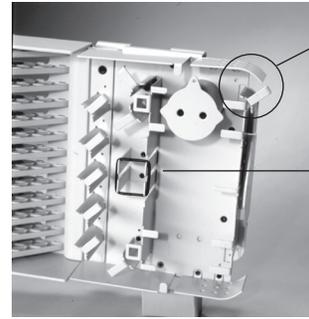
The kit required will depend on the block style originally purchased.



72-Position block loaded with jumpers



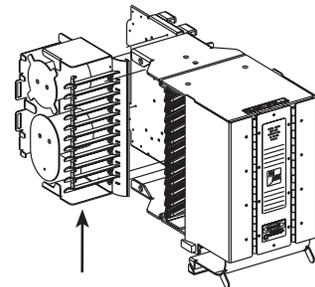
72-Position block loaded with multifiber breakout cable



72-Position block with clamping kit

Ordering information

Description	Part number
Block style originally purchased	
144- or 192-position left up blocks	NGFB-ACCRCMSLU
144- or 192-position right up blocks	NGFB-ACCRCMSRU
144- or 192-position left down blocks	NGFB-ACCRCMSLD
144- or 192-position right down blocks	NGFB-ACCRCMSRD



Rear cable management tray for 144 block conversion kit

Sliding adapter packs

Sliding adapter packs house groups of fiber optic adapters and are mounted in Fiber Termination Blocks to provide easy access to connectors. Sliding Adapter Packs are available with SC and LC adapters. The adapters come in packs of six and eight depending on the adapter type and the desired termination density. See table below for configuration guidelines.



SC pack
(Style K)



LC pack 144-position
(Style K)

Sliding adapter pack configuration guidelines

Block configuration	Adapter type	Adapter pack configuration	Adapter pack option
144-position (block code 'M')	SC, LC	6 Pack/6 Pack	K (shown above)
192-position (block code 'Q')	LC	8 Pack/8 Pack	J

Ordering information

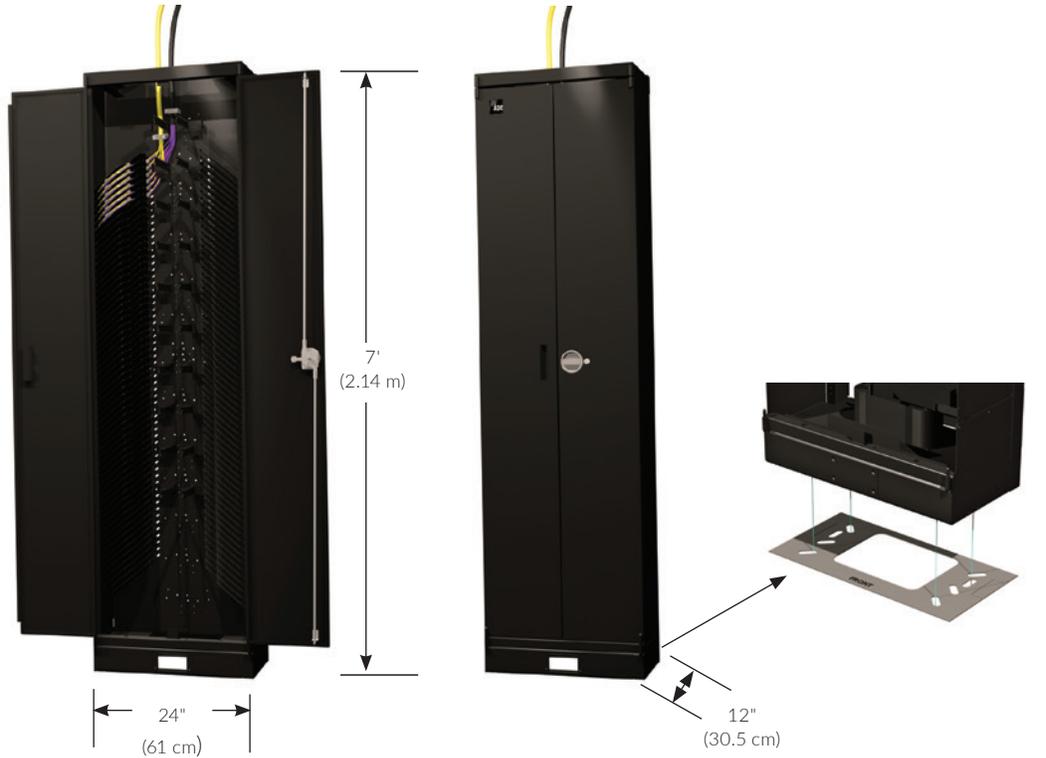
Description	Part number
144-position blocks	
Multimode LC	NGF-SAPP0K00
Multimode SC	NGF-SAP90K00
10 G Multimode LC1	NGF-SAPC0K00
10 G Multimode SC1	NGF-SAPT0K00
Singlemode LC	NGF-SAPK0K00
Singlemode SC	NGF-SAP70K00
192-position blocks	
Multimode LC	NGF-SAPP0J00
10G Multimode LC1	NGF-SAPC0J00
Singlemode LC	NGF-SAPK0J00

1 CommScope recommends the use of aqua colored adapters with laser optimized multimode fiber for 10 Gigabit circuit identification.

Note: CommScope recommends the use of 1.7 mm/1.6 mm jumpers when deploying 192-position FTBs.

OMX splice cabinet

The OMX Splice Cabinet is a high-density splice solution, housing up to 1,440 splices within a 23.6- by 11.8-inch footprint. Shipped complete with the necessary cable management, it features slots which secure and protect the round splice trays and can hold up to sixty 12-fiber splice trays on each vertical. The cabinet is shipped with lockable front doors and may be ordered for applications in which the cables enter from above or below.



OMX splice cabinet
MX6-BSPL-1440-U7
doors open and closed

Isolation pad shown with OMX cabinet
MX6-BAYTEMPLATE

Ordering information

Description	Dimensions	Part number
Fully Configured Splice Cabinets; Accommodate up to 1440 fiber splices, Cable enters from top, Color: black	7' x 24" x 12" (2.14 m x 61 cm x 30.5 cm)	
Cable Exit Up; Cable enters from above		MX6-BSPL-1440-U7
Cable Exit Down; Cable enters from below		MX6-BSPL-1440-D7
Isolation Pad – Splice Cabinet; A template for cabinet installation providing isolation between the cabinet and the ground		MX6-BAYTEMPLATE

Next Generation Frame with plug-and-play cassettes

Splice wheel

Ordering information

Description	Part number
Splice wheel	
Accommodates up to 24 fiber splices, heat shrink fusion chip	FST-DRS24-NT
Accommodates 2x12 mass ribbon fusion splices	FST-DRS12-MT

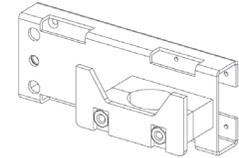


FST-DRS24-HS

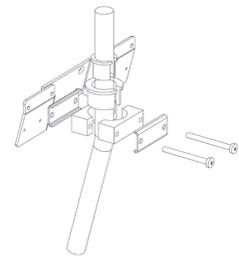
Cable clamps

Ordering information

Description	Part number
OMX splice frame cable clamps	
For OSP cable	FEC-ACCCLMP01
For IFC cable	MX6-SPLIFCCLMP



FEC-ACCCLMP01



MX6-SPLIFCCLMP

Cable clamp kit

Cable clamp kits are available for securing IFC/OSP cable or equipment jumpers on the rear of the Fiber Termination Block (FTB). Each FTB has three cable clamp mounting positions.

Cable clamp kit for active equipment patch cord includes:

Cable clamp bracket	1 each
O-ring	1 each
Screws	2 each

Cable clamp kit for trunk cables includes:

Clamp cover	1 each
Clamps	2 each
0.5" Grommet (inner diameter)	1 each
0.6" Grommet (inner diameter)	1 each
0.7" Grommet (inner diameter)	1 each
#14 - #6 AWG split bolt	1 each
Shield bonding connector	1 each
1-foot lead wire	1 each
#6 AWG ring terminal lug	1 each
Clamp cover plate	1 each

Ordering information

Description	Part number
Cable clamp kit for equipment patch cords (included with fiber termination blocks loaded with adapters only)	NGF-ACCCLMP04
Cable clamp kit for trunk cables, dielectric cable without grounding hardware (included with fiber termination blocks with IFC)	NGF-ACCCLMP08

Accessories

Frame installation kit

Frame installation kits may be used on network frames and are seismic zone 4 rated.

Computer floor kit includes:

Threaded rods	4 each, 5/8" – 11" x 30"
Heavy nuts, locks and flat washers	12 each
Nuts with springs	4 each, 1/2" x 30" and shoulder washers
Unistrut and anchor kit	1 each, 10'

Overhead support kit includes:

Designation card holder	1 each
Two-bar channel	4 each
Framing clip with 0.56	4 each
Framing clip with 0.69	4 each
Clip J-bolt	4 each, 1/2" – 13" x 18" long
Threaded rod	2 each, 5/8" x 18" long
Hex nut	4 each, 1/2" x 13"
Hex nut	4 each, 5/8" x 11"

Ordering information

Description	Part number
Frame installation kits	
For computer floor	FDf-ACC146
For overhead support	RINST-TOP7P

Standard cross-connect patch cord lengths

Total number of sections traversed ¹	Approximate patch cord length meters (feet)
Same frame	6 m (18')
Adjacent frames	7 m (23')
3 to 4	8 m (26')
5 to 6	10 m (33')
7 to 8	11 m (36')
9 to 10	12 m (39')

¹ Depending on office requirements, 11 or more frame sections may require the use of interbay tie panels.

For additional information, please call CommScope Technical Assistance Center, 1-800-366-3891.

For recommended cross-connect method and installation instructions, refer to User Manual TEP-90-285.

Introduction

Broadcast facilities operate at very high levels of reliability and demand design flexibility to easily accommodate frequent adds and changes to equipment. Managing the thousands of cables should always be a high priority for the network engineer—particularly for maximizing system performance and uptime.

CommScope's Fiber plug-and-play solutions are designed to address the reliability, scalability, and thermal needs of today's mission-critical master control. These solutions promote increased reliability of broadcast centers through properly managed and scalable cable density, which encourages proper airflow and reduces overall installation and maintenance costs.

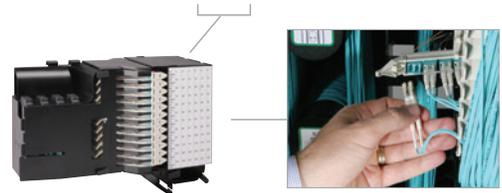
CommScope's Next Generation Frame (NGF) with plug-and-play (MPO) cassettes is the highest density optical distribution frame solution available today. It efficiently manages up to 1,728 fiber terminations using the 144-position block in a single frame in either a cross-connect or inter-connect design.

Its patented design incorporates the fundamentals of cable management while using the industry's highest fiber count MPO plug-and-play cassettes.



Features

- Rapid installation of new deployments
- MPO trunks can enter rack from either under-floor or overhead
- Slack storage included in each rack allows for the use of a single jumper length
- On frame jumper routing provides bend radius and physical protection with slack easily and intuitively managed

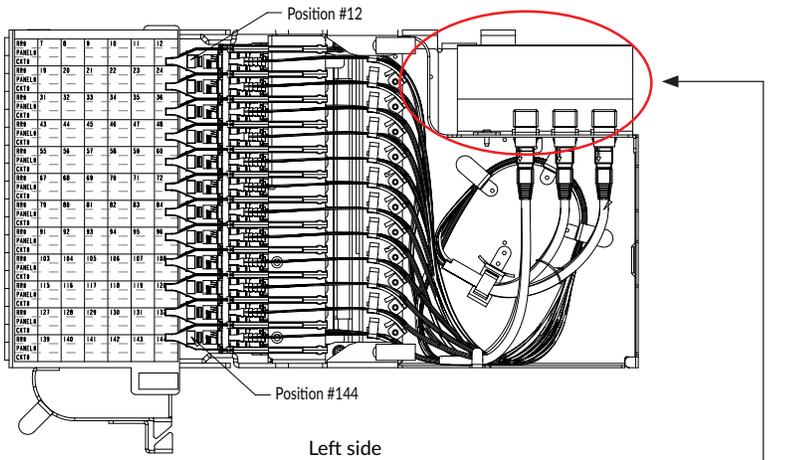


Applications

- Provides managed high-density solution for optical distribution frames in the main distribution area of the data center
- Can be successfully deployed in the cross-connect architecture and still provide clear, managed pathways for fiber

Next Generation Frame with plug-and-play cassettes

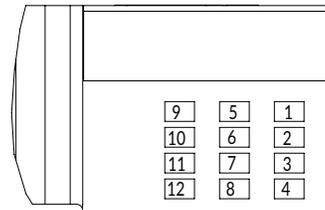
Specifications



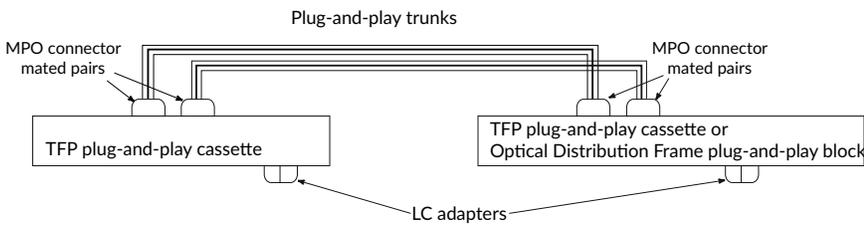
CONNECTION TABLE 144 POS
MPO CONECTOR TRAY

1-48			49-96			97-144			FIBER COLOR			
FIBER BUNDLE NUMBER												
1	2	3	4	5	6	7	8	9		10	11	12
T/B POSITION												
1	13	25	37	49	61	73	85	97	109	121	133	BLUE
2	14	26	38	50	62	74	86	98	110	122	134	ORANGE
3	15	27	39	51	63	75	87	99	111	123	135	GREEN
4	16	28	40	52	64	76	88	100	112	124	136	BROWN
5	17	29	41	53	65	77	89	101	113	125	137	SLATE
6	18	30	42	54	66	78	90	102	114	126	138	WHITE
7	19	31	43	55	67	79	91	103	115	127	139	RED
8	20	32	44	56	68	80	92	104	116	128	140	BLACK
9	21	33	45	57	69	81	93	105	117	129	141	YELLOW
10	22	34	46	58	70	82	94	106	118	130	142	VIOLET
11	23	35	47	59	71	83	95	107	119	131	143	ROSE
12	24	36	48	60	72	84	96	108	120	132	144	AQUA

Top View
Fiber bundle/MPO connector locations



Optical specifications



	850nm	1310nm
Module loss (measured through MPO mated pair to LC adapter)		
Insertion loss		
Maximum	0.5 dB	1.0 dB
Typical	0.25 dB	0.4 dB
Return loss		
Maximum	—	-65 dB
Trunk loss (per meter)		
Maximum	.0035 dB	.001 dB
Channel/link loss with 31 meter trunk (100 feet) (as in figure above)		
Maximum	1.1085 dB	2.031 dB
Typical	0.6085 dB	0.831 dB

Fiber Termination Blocks (FTBs) – Unterminated (adapter only)

One of the most common questions regarding MPO deployments is how the system design addresses the polarity issue of the fiber. Plug-and-play trunks use a key up/key down fiber array. The plug-and-play cassettes are wired straight through. In addition, duplex jumpers have a duplex clip that is easily removed for polarity changes in the field.

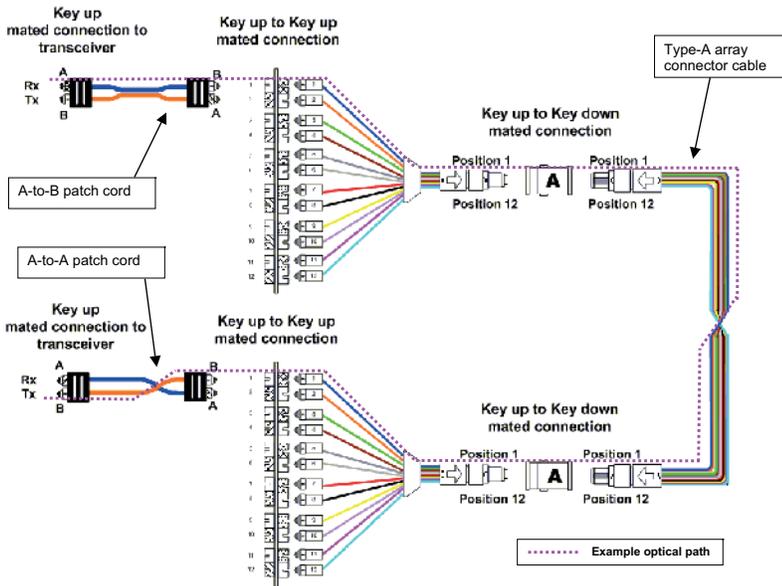


Figure 1: Connectivity method A for duplex signals

Environmental characteristics

Storage temperature: -40° to 70° C (-40° to 158° F)
 Operating temperature: 0° to 70° C (32° to 158° F)
 Installation temperature: 0° to 70° C (32° to 158° F)

Ordering information

Description	Part number
Blocks loaded with Plug-and-Play Cassettes; black	
144-position block; MPO - LC (aqua) multimode adapters; 50/125 fiber laser optimized to 300 meters	
LEFT block orientation	NGFB-MPML0C112
RIGHT block orientation	NGFB-MPMR0C112
144-position block; MPO-LC singlemode adapters; Zero water peak singlemode fiber	
LEFT block orientation	NGFB-MPML0K512
RIGHT block orientation	NGFB-MPMR0K512
Rack	
30" x 24" x 7 ft frame; black	NGFB-MDF7A144-30
Rack accessories	
ISO pad	NGF-ACCIOSP30X24
End guard	NGFB-ACCEGD007
End guard ISO pad	NGF-ACCISOPEG24
Rack installation kit raised floor	FDF-ACC146

TFP plug-and-play cassettes

CommScope's Fiber Panels (TFP) combine the unique features of vertical cable guides and our patented angle-left/angle right adapters, which offers bend radius protection, intuitive routing and easy connector access. Our TFP series can be ordered in one, two, or five rack-unit sizes to fit your unique needs. Designed for rack or cabinet mounting in the horizontal or equipment distribution area, the TFP's modularity, functionality and density make them ideal for mounting in close proximity to servers, switches, routers and SANs.



The TFP's functionality can be extended with its plug-and-play angled cassettes, which add up to 24-fiber terminations each for jumper management in SANs-rich environments. These cassettes snap into place effortlessly; and even come from the factory pre-labeled with simple installation instructions.

Features

- Eliminates the need for on-site fiber terminations, which means rapid deployments
- Incorporates angle left/angle right adapters to ensure proper bend radius
- Use the same 1, 2, and 5 rack unit standard TFP chassis, which simplifies ordering

Specifications

Panel configurations

TFP Series chassis utilize modular adapter packs which are unique to either the right or left position of the chassis. The left/right position must be specified to ensure proper adapter orientation and color order in the backplane. Information below illustrates the various configurations for the three TFP chassis.

1 RU chassis	
MPL	MPR

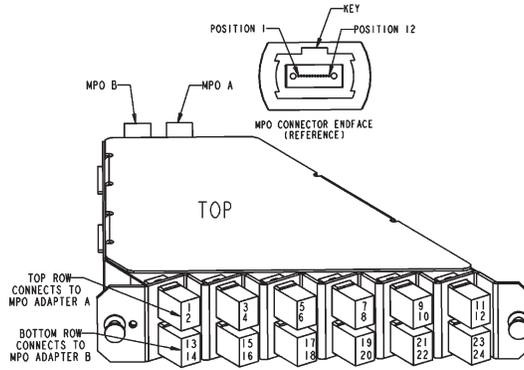
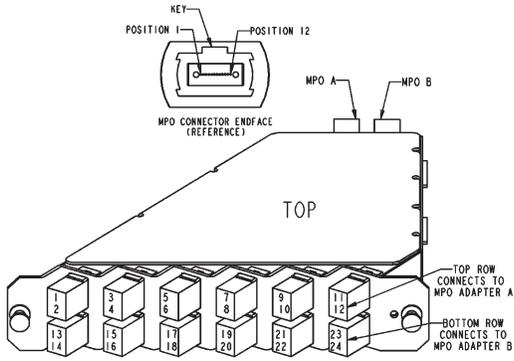
2 RU chassis	
MPL	MPR
MPL	MPR

5 RU chassis	
MPL	MPR

MPL = angle left plug-and-play cassette

MPR = angle right plug-and-play cassette

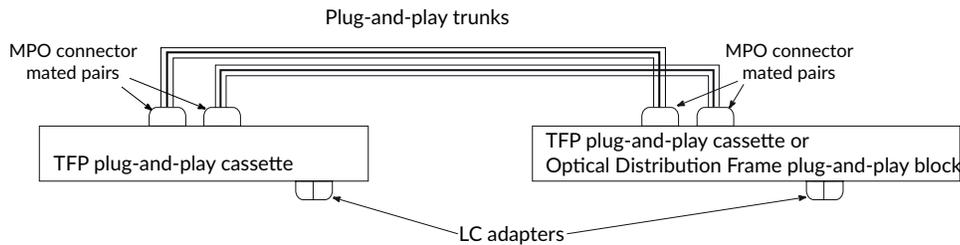
TFP plug-and-play cassettes



Angle left polarity/wiring scheme		
MPO - fiber position	LC connector	Fiber color
MPO-1	LC-1 & LC-13	Blue
MPO-2	LC-2 & LC-14	Orange
MPO-3	LC-3 & LC-15	Green
MPO-4	LC-4 & LC-16	Brown
MPO-5	LC-5 & LC-17	Slate
MPO-6	LC-6 & LC-18	White
MPO-7	LC-7 & LC-19	Red
MPO-8	LC-8 & LC-20	Black
MPO-9	LC-9 & LC-21	Yellow
MPO-10	LC-10 & LC-22	Violet
MPO-11	LC-11 & LC-23	Rose
MPO-12	LC-12 & LC-24	Aqua

Angle right polarity/wiring scheme		
MPO - fiber position	LC connector	Fiber color
MPO-1	LC-2 & LC-14	Blue
MPO-2	LC-1 & LC-13	Orange
MPO-3	LC-4 & LC-16	Green
MPO-4	LC-3 & LC-15	Brown
MPO-5	LC-6 & LC-18	Slate
MPO-6	LC-5 & LC-17	White
MPO-7	LC-8 & LC-20	Red
MPO-8	LC-7 & LC-19	Black
MPO-9	LC-10 & LC-22	Yellow
MPO-10	LC-9 & LC-21	Violet
MPO-11	LC-12 & LC-24	Rose
MPO-12	LC-11 & LC-23	Aqua

Optical specifications



	850 nm	1310 nm
Module Loss (measured through MPO mated pair to LC adapter)		
Insertion loss		
Maximum	0.5 dB	1.0 dB
Typical	0.25 dB	0.4 dB
Return loss		
Maximum	-	-65 dB
Trunk loss (per meter)		
Maximum	.0035 dB	.001 dB
Channel/Link loss with 31 meter trunk (100 feet) (as in figure above)		
Maximum	1.1085 dB	2.031 dB
Typical	0.6085 dB	0.831 dB

TFP plug-and-play cassettes

Environmental characteristics

Storage temperature: -40° to 70° C (-40° to 158° F)
Operating temperature: 0° to 70° C (32° to 158° F)
Installation temperature: 0° to 70° C (32° to 158° F)

Ordering information

Description	Part number
Termination only rack or cabinet mount panel; black, T-handle latch close	
1 RU empty panel; accommodates 2 plug-and-play cassettes	TFP-1TT00-000B
2 RU empty panel; accommodates 4 plug-and-play cassettes	TFP-2TT00-000B
5 RU empty panel; accommodates 12 plug-and-play cassettes	TFP-5TT00-000B
Plug-and-Play Cassettes	
12-fiber cassettes; 6 LC (aqua) multimode adapters; 50/125 fiber laser optimized to 300 meters	
Angle LEFT cassette	TFP-12MPLDQ2
Angle RIGHT cassette	TFP-12MPRDQ2
24-fiber cassettes; 12 LC (aqua) multimode adapters; 50/125 fiber laser optimized to 300 meters	
Angle LEFT cassette	TFP-24MPLDQ2
Angle RIGHT cassette	TFP-24MPRDQ2
12-fiber cassettes; 6 LC singlemode adapters; singlemode fiber	
Angle LEFT cassette	TFP-12MPLSQ5
Angle RIGHT cassette	TFP-12MPRSQ5
24-fiber cassettes; 12 LC singlemode adapters; singlemode fiber	
Angle LEFT cassette	TFP-24MPLSQ5
Angle RIGHT cassette	TFP-24MPRSQ5

TFP MPO pack

CommScope introduces an MPO adapter pack for the TFP series fiber panel enclosures. This unique adapter pack contains 6 MPO adapters to terminate 6 12 fiber trunks in each one. Due to their high density, the MPO adapter packs are only available for the 1 and 2 RU TFP chassis. With the use of these adapter packs, the 1 RU will hold 144 fiber terminations, and the 2 RU will hold 288 terminations.



The TFP MPO adapter pack is ideally suited for applications with high density switches, where the additional loss of the MPO cassette is not desired. Either the Microcable Trunks or High Count Plug-and-play trunks can be terminated in the back of the adapter pack and a Plug-and-Play Array cable can be terminated in the front of the adapter pack.

Features

- Provides higher density in 1,2 RU TFP chassis by terminating 12 fibers in each adapter
- Limits insertion loss for loss sensitive optical budgets
- Unique angle right /angle left design allows for optimal management of the array cables off the front of the panel

Ordering information

Description	Part number
Termination Only Rack Mount Panel	
1 RU empty panel, black; accommodates 2 modular adapter packs; T-handle latch close	TFP-1TT00-000B
2 RU empty panel, black; accommodates 24 modular adapter packs; T-handle latch close	TFP-2TT00-000B
MPO adapter pack; Contains 6 MPO adapters; can be installed in either left or right position	TFP-72APOMP
Cable Clamp; For use with 1/ 2RU chassis with high fiber count trunk applications	TFP-ACC002

Plug-and-play microcable trunks

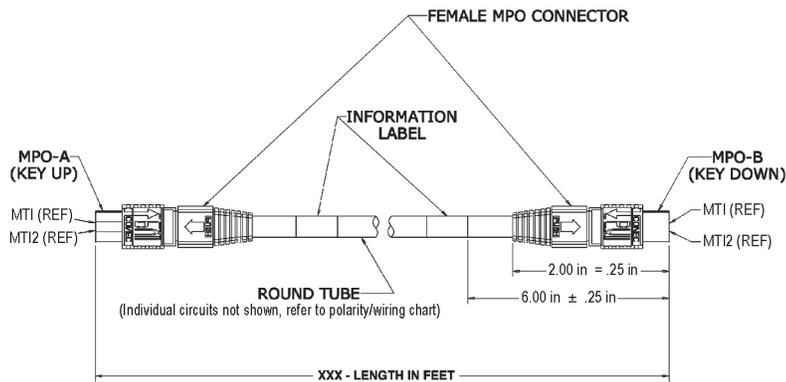
CommScope's plug-and-play microcable trunk assemblies are round 12 fiber optical trunk cables pre-terminated with a high-density MPO connector on both ends. They can be used in conjunction with any of the other plug-and-play connectivity products to rapidly deploy fiber into a broadcast center. The Microcable assemblies can simply be plugged into any plug-and-play cassette in the optical distribution frame or fiber enclosure which eliminates the need for on-site fiber termination and preparation.



Features

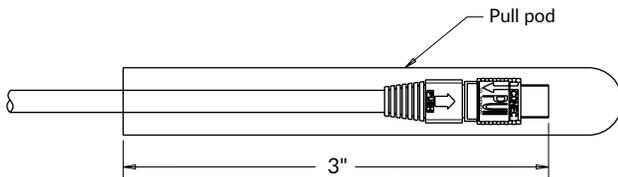
- Consists of a round aramid yarn reinforced cable with integrated MPO strain relief and pulling pod
- Round design with outer diameter of 5.5 mm eliminates preferential bend issues which results in increased density and greater manageability
- Compatible with CommScope's FiberGuide® Optical Raceway system to add increased protection and manageability

Specifications



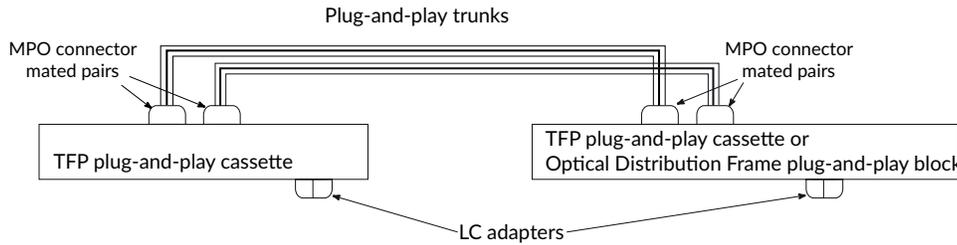
Polarity / Wiring scheme		
MPO - A	MPO - B	Fiber color
MT1	MT1	Blue
MT2	MT2	Orange
MT3	MT3	Green
MT4	MT4	Brown
MT5	MT5	Slate
MT6	MT6	White
MT7	MT7	Red
MT8	MT8	Black
MT9	MT9	Yellow
MT10	MT10	Violet
MT11	MT11	Rose (Pink)
MT12	MT12	Aqua

Pulling pod dimensions



Plug-and-play microcable trunks

Optical specifications



	850nm	1310nm
Module loss (measured through MPO mated pair to LC adapter)		
Insertion loss		
Maximum	0.5 dB	1.0 dB
Typical	0.25 dB	0.4 dB
Return loss		
Maximum	-	-65 dB
Trunk loss (per meter)		
Maximum	.0035 dB	.001 dB
Channel/Link loss with 31 meter trunk (100feet) (as in figure above)		
Maximum	1.1085 dB	2.031 dB
Typical	0.6085 dB	0.831 dB

Environmental characteristics

Storage temperature: -40° to 70° C (-40° to 158° F)
 Operating temperature: 0° to 70° C (32° to 158° F)
 Installation temperature: 0° to 70° C (-32° to 158° F)

Compatibility with FiberGuide®

	Microcable Plug-and-Play Trunk 5.5 mm
Recommended patch cord density (per in2)	10
Maximum patch cord density (per in2)	12

CommScope recommended density

Maximum density

	FiberGuide system						FiberGuide system					
	2x2	2x6	4x4	4x6	4x12	4x24	2x2	2x6	4x4	4x6	4x12	4x24
Trough Pile-up	2x2	2x6	4x4	4x6	4x12	4x24	2x2	2x6	4x4	4x6	4x12	4x24
2-inch	40	120	80	120	240	480	48	144	96	144	288	576
3-inch	-	-	120	180	360	720	-	-	144	216	432	864
4-inch	-	-	160	240	480	960	-	-	192	288	576	1152

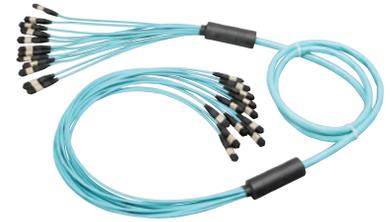
Ordering information

Description	Part number*
MPO-MPO trunk; 12-fiber microcable; plenum jacket with pulling pod	
50/125 multimode laser optimized to 300 meters	MRM-AF/AFEGxxxF
Singlemode reduced water peak fiber	MRE-AF/AFEAxxxF

* XXX = length in feet (standard lengths):
 100 = 100 ft, 125 = 125 ft, 150 = 150 ft.
 For additional custom lengths, please contact CommScope

High fiber count plug-and-play trunks

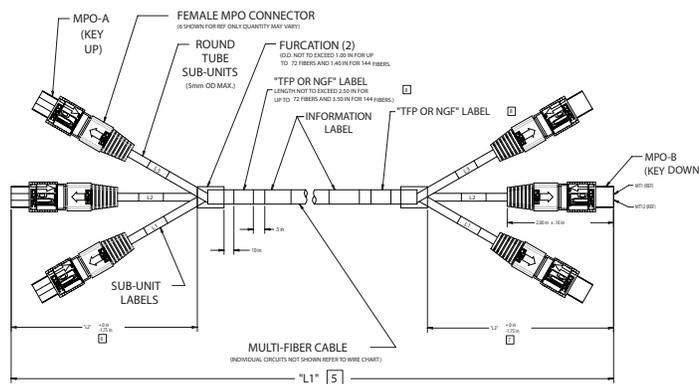
CommScope's High Fiber Count Plug-and-Play Trunks provide the backbone cabling for a Plug-and-Play system. These high count trunk cables come pre-terminated with a high-density MPO connectors on both ends and provide an easy and efficient way to pull large numbers of fibers at one time to help in the rapid deployment of a Plug-and-Play system. Each trunk has custom breakouts designed to work with the CommScope Plug-and-Play connectivity. The High Fiber Count Trunks can simply be plugged into any plug-and-play cassette in the optical distribution frame or fiber enclosure which eliminates the need for on-site fiber termination and preparation.



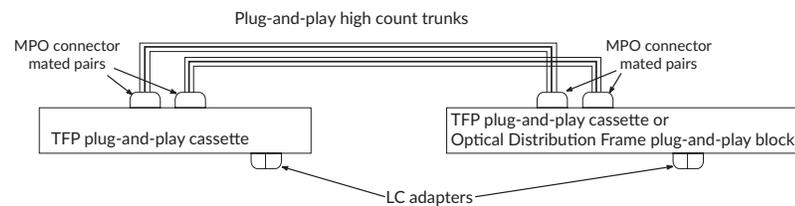
Features

- Construction of rugged loose-tube fiber cable
- Ship with a pulling sock on one end to aid with installation
- Cable assemblies contain OFNP flame rated cable
- Breakouts specifically designed to work with CommScope Plug-and-Play Connectivity

Optical specifications



Polarity / Wiring scheme		
MPO - A	MPO - B	Fiber color
MT1	MT1	Blue
MT2	MT2	Orange
MT3	MT3	Green
MT4	MT4	Brown
MT5	MT5	Slate
MT6	MT6	White
MT7	MT7	Red
MT8	MT8	Black
MT9	MT9	Yellow
MT10	MT10	Violet
MT11	MT11	Rose (Pink)
MT12	MT12	Aqua



	850nm	1310nm
Module loss (measured through MPO mated pair to LC adapter)		
Insertion loss		
Maximum	0.5 dB	1.0 dB
Typical	0.25 dB	0.4 dB
Return loss		
Maximum	-	-65 dB
Trunk insertion loss (per meter)		
Maximum	.0035 dB	.001 dB
Channel/Link insertion loss with 31 meter (100 feet) trunk (as in figure above)		
Maximum	1.1085 dB	2.031 dB
Typical	0.6085 dB	0.831 dB

High fiber count plug-and-play trunks

Ordering information

Description	Part number ¹
50/125 laser optimized multimode to 300 meters trunks	
24 fiber, MPO-MPO trunk; ODF-ODF breakout	MRM-AF/AFEJxxxF-BB
24 fiber, MPO-MPO trunk; ODF-TFP breakout	MRM-AF/AFEJxxxF-AB
24 fiber, MPO-MPO trunk; TFP-TFP breakout	MRM-AF/AFEJxxxF-AA
48 fiber, MPO-MPO trunk; ODF-ODF breakout	MRM-AF/AFFGxxxF-BB
48 fiber, MPO-MPO trunk; ODF-TFP breakout	MRM-AF/AFFGxxxF-AB
48 fiber, MPO-MPO trunk; TFP-TFP breakout	MRM-AF/AFFGxxxF-AA
72 fiber, MPO-MPO trunk; ODF-ODF breakout	MRM-AF/AFGGxxxF-BB
72 fiber, MPO-MPO trunk; ODF-TFP breakout	MRM-AF/AFGGxxxF-AB
72 fiber, MPO-MPO trunk; TFP-TFP breakout	MRM-AF/AFGGxxxF-AA
96 fiber, MPO-MPO trunk; ODF-ODF breakout	MRM-AF/AFKGxxxF-BB
96 fiber, MPO-MPO trunk; ODF-TFP breakout	MRM-AF/AFKGxxxF-AB
96 fiber, MPO-MPO trunk; TFP-TFP breakout	MRM-AF/AFKGxxxF-AA
144 fiber, MPO-MPO trunk; ODF-ODF breakout	MRM-AF/AFHGxxxF-BB
144 fiber, MPO-MPO trunk; ODF-TFP breakout	MRM-AF/AFHGxxxF-AB
144 fiber, MPO-MPO trunk; TFP-TFP breakout	MRM-AF/AFHGxxxF-AA
Singlemode elite trunks	
48 fiber, MPO-MPO trunk; ODF-ODF breakout	MRM-AF/AFFAxxxF-BB
48 fiber, MPO-MPO trunk; ODF-TFP breakout	MRM-AF/AFFAxxxF-AB
48 fiber, MPO-MPO trunk; TFP-TFP breakout	MRM-AF/AFFAxxxF-AA
72 fiber, MPO-MPO trunk; ODF-ODF breakout	MRM-AF/AFGAxxxF-BB
72 fiber, MPO-MPO trunk; ODF-TFP breakout	MRM-AF/AFGAxxxF-AB
72 fiber, MPO-MPO trunk; TFP-TFP breakout	MRM-AF/AFGAxxxF-AA
96 fiber, MPO-MPO trunk; ODF-ODF breakout	MRM-AF/AFKAxxxF-BB
96 fiber, MPO-MPO trunk; ODF-TFP breakout	MRM-AF/AFKAxxxF-AB
96 fiber, MPO-MPO trunk; TFP-TFP breakout	MRM-AF/AFKAxxxF-AA
144 fiber, MPO-MPO trunk; ODF-ODF breakout	MRM-AF/AFHAxxxF-BB
144 fiber, MPO-MPO trunk; ODF-TFP breakout	MRM-AF/AFHAxxxF-AB
144 fiber, MPO-MPO trunk; TFP-TFP breakout	MRM-AF/AFHAxxxF-AA

¹Note: xxx = lengths in feet of overall trunk.

12 Fiber plug-and-play array cables

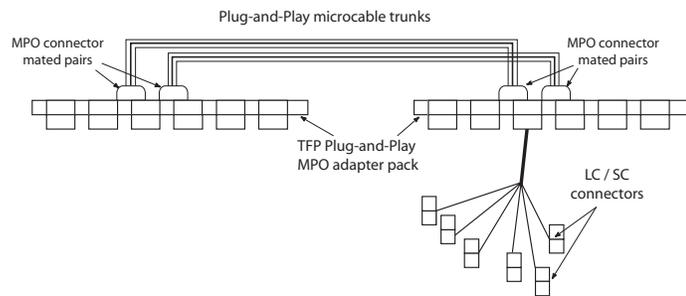
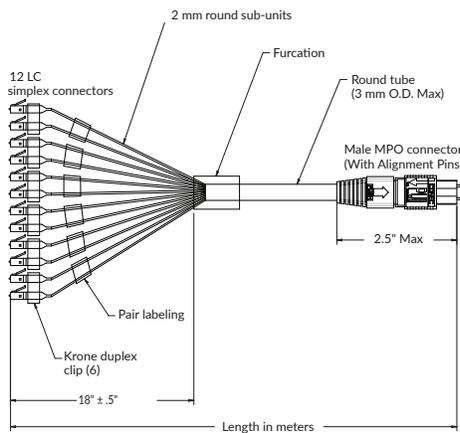
CommScope's 12 Fiber Plug-and-Play Array Cables provide a convenient and efficient method to connect active equipment into the network. These 12 fiber round 3mm cables contain a pre-terminated high density MPO pinned connector on one end and either LC or SC connectors on the other. The 12 Fiber Plug-and-Play Array Cables assemblies can simply be plugged into any plug-and-play cassette in the optical distribution frame or fiber enclosure which eliminates the need for on-site fiber termination and preparation.



Features

- Round design with outer diameter of 3 mm eliminates preferential bend issues which results in increased density and greater manageability
- Each LC or SC leg clearly labeled and identified
- Standard breakout length 18 inches, which is optimum to connect to active equipment
- LC version features CommScope patented clear LC duplex clip for easy removal in field

Optical specifications



	850 nm	1310 nm
Module loss (measured through MPO mated pair to LC adapter)		
Insertion loss		
Maximum	0.50 dB	1.0 dB
Typical	0.25 dB	0.4 dB
Return loss		
Maximum	—	-65 dB
Trunk Insertion loss (per meter)		
Maximum	.0035 dB	.001 dB
Channel/Link insertion loss with 31 meter (100 feet) trunk (as in figure above)		
Maximum	1.1085 dB	2.031 dB
Typical	0.6085 dB	0.831 dB

12 Fiber plug-and-play array cables

Ordering information

Description	Part number
50/125 LOMMF to 300 meters cable assemblies – OFNP rated	
MPO pinned – LC; 18 in breakout; 3 meter length	MRM-AM/0PJG003M-18
MPO pinned – LC; 18 in breakout; 4 meter length	MRM-AM/0PJG004M-18
MPO pinned – LC; 18 in breakout; 5 meter length	MRM-AM/0PJG005M-18
MPO pinned – SC; 18 in breakout; 3 meter length	MRM-AM/09JG003M-18
MPO pinned – SC; 18 in breakout; 4 meter length	MRM-AM/09JG004M-18
MPO pinned – SC; 18 in breakout; 5 meter length	MRM-AM/09JG005M-18
Singlemode elite cable assemblies – OFNP rated	
MPO pinned – LC/UPC; 18 in breakout; 3 meter length	MRE-AM/0KJA003M-18
MPO pinned – LC/UPC; 18 in breakout; 4 meter length	MRE-AM/0KJA004M-18
MPO pinned – LC/UPC; 18 in breakout; 5 meter length	MRE-AM/0KJA005M-18
MPO pinned – SC /UPC; 18 in breakout; 3 meter length	MRE-AM/07JA003M-18
MPO pinned – SC/UPC; 18 in breakout; 4 meter length	MRE-AM/07JA004M-18
MPO pinned – SC/UPC; 18 in breakout; 5 meter length	MRE-AM/07JA005M-18

MPO cleaning kit

Private network MPO connector cleaning kit

The Private Network MPO Connector Cleaning Kit contains all of the necessary components a technician would need to clean MPO connectors on site. The components come neatly arranged in a durable cloth case. Each kit contains the following:

- 100 each 2.5 mm cleaning sticks
- 100 each 1.25 mm cleaning sticks
- 1 each cleaning cassettes
- 1 each MPO bulkhead cleaner

Ordering information

Description	Part number
Private network MPO connector cleaning kit	MPO-CLNKIT

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.



commscope.com

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BR-110905-EN (02/17)