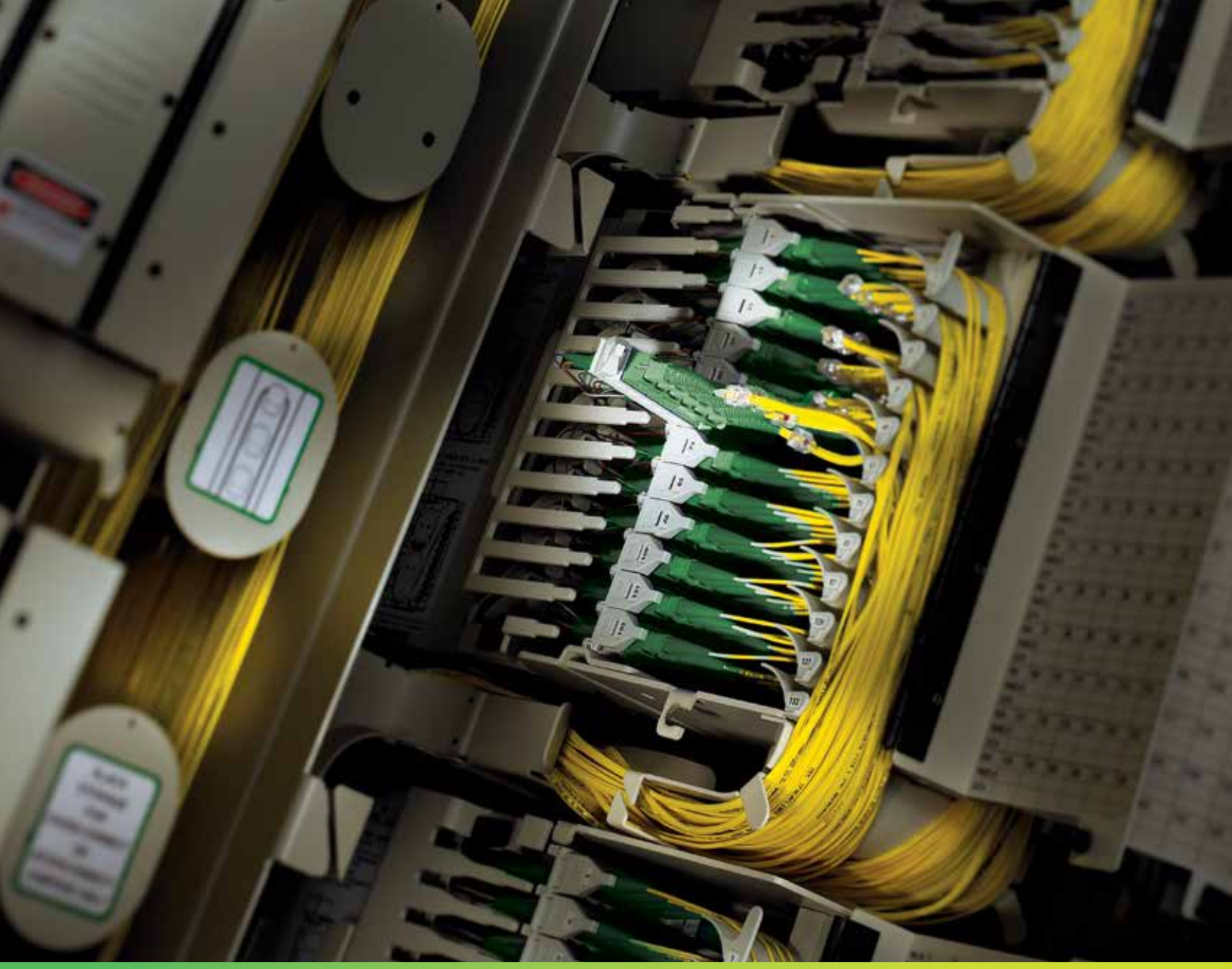


NGF optical distribution frame

COMMSCOPE®

Contents

Introduction

Frame

CommScope's next generation frame (NGF) product line has fiber frames designed to fit a variety of network applications. Each frame option 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 integrated jumper slack storage.

Fiber termination block (FTB)

CommScope's FTB is available with industry-standard adapters in block configurations of 72-, 96- and 144- positions. Also, a 192-position FTB is available using LC adapters. FTBs utilize sliding adapter packs to gain easy access to both the front and rear terminations. To accommodate varying network requirements and speed installation, FTBs can be ordered with adapters only or preterminated with either intrafacility cable (IFC) or outside plant (OSP) cables.

Value-added module block (VAM)

Adding signal management and enhancement functions, such as splitters, couplers and wavelength division multiplexers, optimizes the value of your fiber network, by providing nonintrusive access to the optical signal for monitoring and testing signal integrity. There is a block configuration available to accommodate Micro Value-Added Modules (MicroVAMs) for applications requiring splitters or WDMs.

Fiber optic terminal storage panel

CommScope's fiber optic terminal storage panel is used as a storage apparatus for up to 16 feet of equipment (FOT) jumpers at the fiber frame lineup. This panel can be installed between fiber frames and at the end of a lineup.

Product overview

Recommended applications	Medium to large fiber count applications or any space constrained applications. Highest fiber count solution available.
Description	High-density solution using 72-, 96-, 144- and 192-position blocks (FTB)
Number of fibers, future growth potential	Up to 29,177 in 17 frames using 144-position blocks, SC connectors and 1.7 mm patch cords Up to 32,939 in 15 frames using 192-position blocks, LC connectors and 1.7 mm patch cords
Interconnect	Good
Cross-connect	Excellent
Accommodates on-frame splicing	Good
Accommodates off-frame splicing	Excellent
Density – terminations per frame	1,728 terminations using standard connectors; 2,304 terminations using LC connectors
Front access to rear connector	Yes
VAM capabilities	Yes. Separate panel required
Slack storage location	On-frame (integrated jumper slack storage)
Connector access	Sliding adapter pack

Things to consider when ordering

Frame capacity requirements (important facts on trough space)

	144 FTB (1,728/frame)	96 FTB (1,152/frame)	72 FTB (864/frame)
NGF	12 frames	18 frames	24 frames
Front-facing NGF	4 frames	6 frames	8 frames

Calculation assumptions:

- Per Telecordia® GR-449-CORE, Issue 2 requirements
- 2.0 mm jumpers (maximum recommended diameter for all NGF products)
- 2" maximum jumper pile
- 50% of jumpers do not appear at any given place in lineup (50% rule)

Frame lineup capacity comparisons

2.0 mm jumpers/maximum recommended diameter for NGF products			
	NGF frame: 1,728 Fiber terminations	**Conventional frame: 1,152 Fiber terminations**	**Conventional frame: 648 Fiber terminations**
Horizontal trough space	30"	10" (5" upper and lower)	5" Lower
Maximum number of terminations allowed in a frame lineup before exceeding 2" pileup	21,081	8,240	4,120

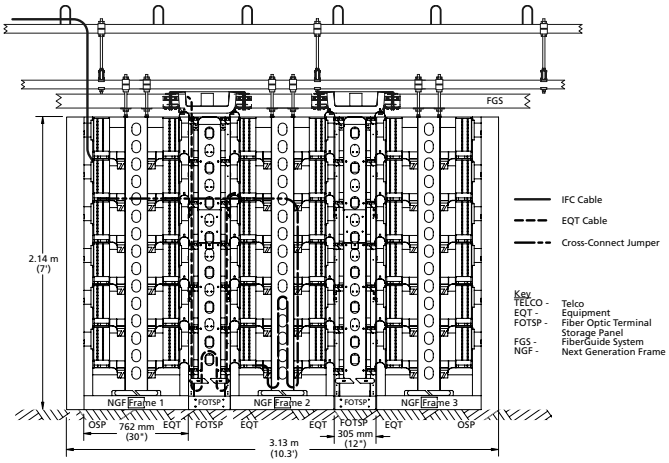
NGF frame considerations

	NGF frame	Front-facing NGF frame	Slim rack
Flexibility/ ability to grow frame lineup	Yes	Yes	No
Interconnect	Supports	Supports	Supports
Cross-connect	Supports	Supports	Supports
On-frame splicing	Supports	Supports	Supports
Off-frame splicing	Supports	Supports	Supports
Rear access required	Yes	No	No
All front access	No	Yes	Yes
Footprint	30" Wide x 24" Deep	30" Wide x 19" Deep	19" Wide x 19" Deep
Horizontal trough space available	30"	9"	N/A

Block and frame termination capacity

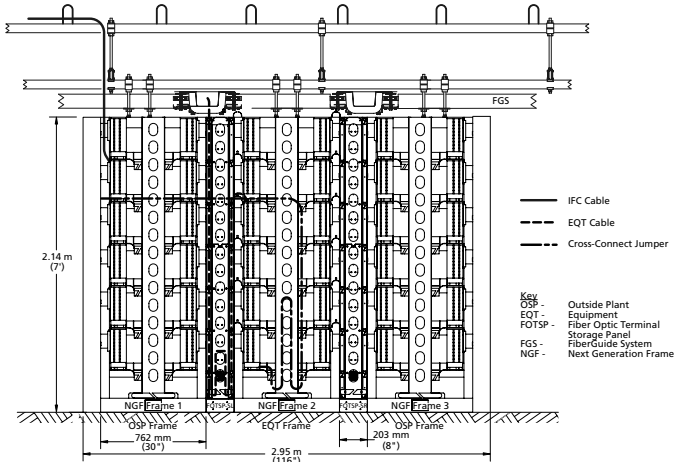
NGF block termination capacity	NGF frame termination capacity
72	864
96	1,152
144	1,728
192 (LC connectors only)	2,304

Zoning recommendations (by vertical)

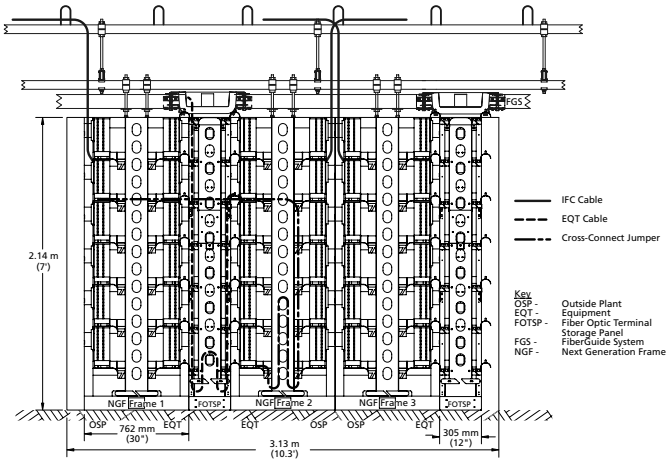


Cross-connect application using 12-inch wide FOTSP in a 2:1 application
(2 Equipment to 1 OSP)

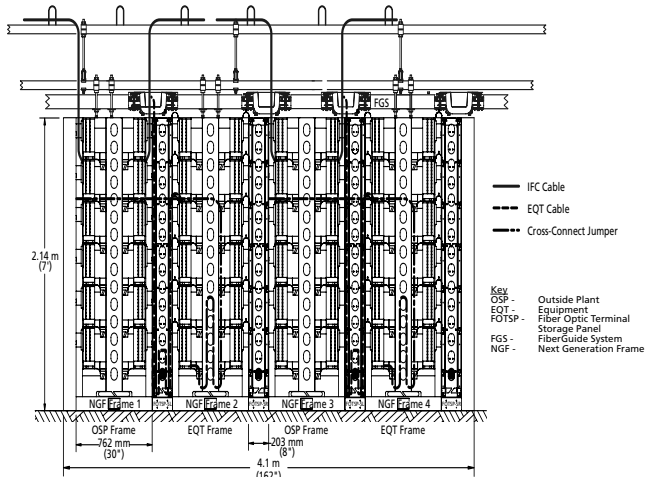
Zoning recommendations (by frame)



Cross-connect application using 8-inch wide FOTSP in a 2:1 application
(2 Equipment to 1 OSP)



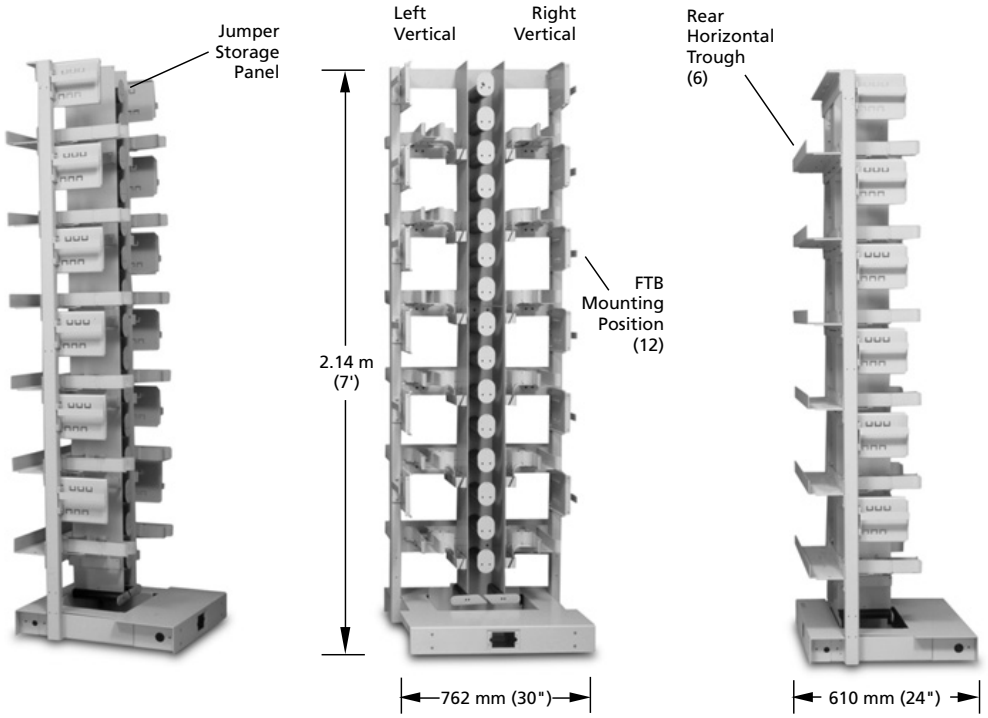
Cross-connect application using 12-inch wide FOTSP in a 1:1 application
(1 Equipment to 1 OSP)



Cross-connect application using 8-inch wide FOTSP in a 1:1 application
(1 Equipment to 1 OSP)

Fiber main distributing frame

The zone 4 rated fiber main distributing frame (FMDF) is the cornerstone of the NGF product line. The footprint of the frame is GR-449-CORE, Issue 2 compliant. 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 jumper traceability and removal. The frame has 12 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 provides sufficient vertical trough space for the highest termination density applications and includes built-in jumper storage that will store up to 3.5 meters of jumper slack. The NGF is designed such that only a single jumper length (6 meters) is required to go between any two termination points within a frame.



Front ISO view | Front view | Side view

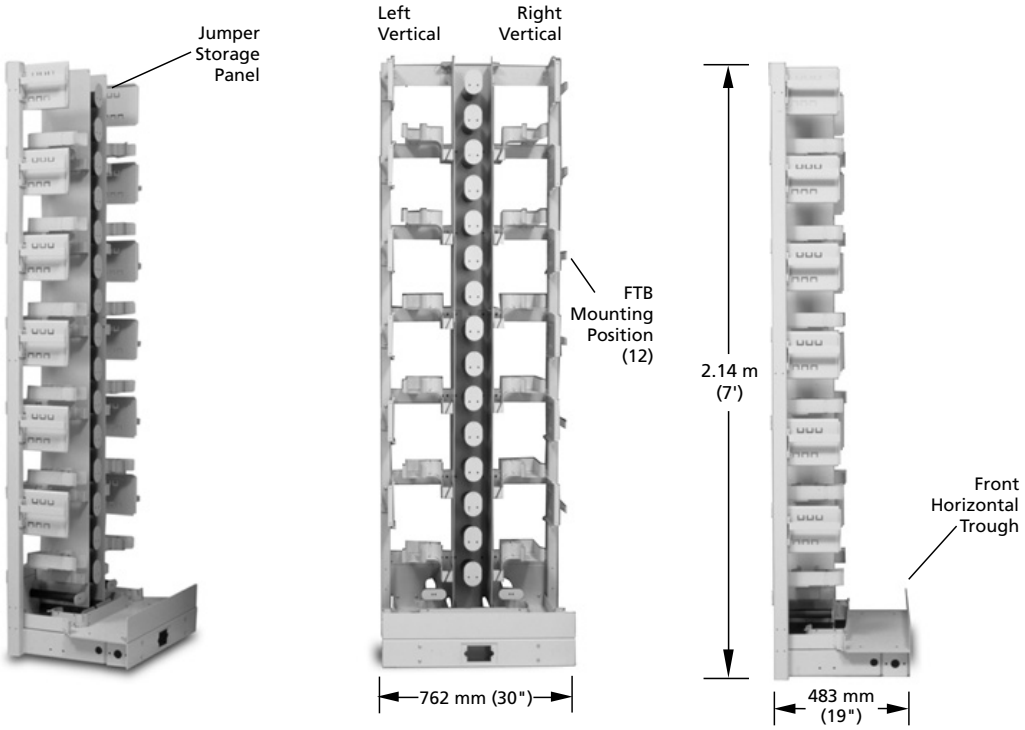
Ordering information

Description	Dimensions (HxWxD)	Maximum termination capacity	Catalog number
NGF fiber main distributing frame	2.14 m x 762 mm x 610 mm (7' x 30" x 24")	1,728 (2,304 using LC connectors)	NGF-MDF7A100-30

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

Front facing fiber main distributing frame

The zone 4 rated front facing fiber main distributing frame (F3MDF) is designed for single-sided access applications and may be mounted up against a wall or back-to-back to save floor space. Unlike the FMDF, the more compact F3MDF is equipped with a single 9-inch horizontal trough on the front. The F3MDF has 12 fiber termination block (FTB) mounting positions equally divided between vertical columns on the left and right sides of the frame as shown below. The frame provides sufficient vertical trough space for the highest termination density applications and includes built-in jumper storage that will store up to 3.5 meters of jumper slack.



Front ISO view | Front view | Side view

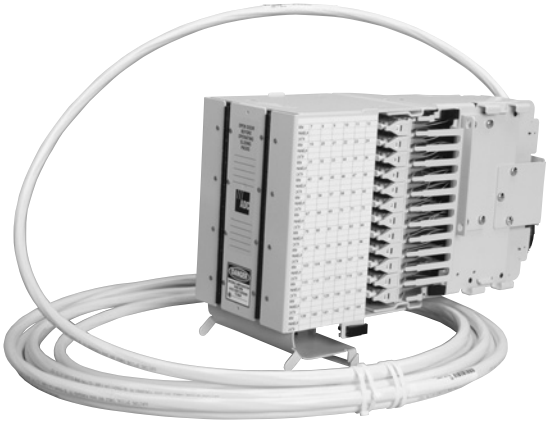
Ordering information

Description	Dimensions (HxWxD)	Maximum termination capacity	Catalog number
NGF front facing fiber main distributing frame	2.14 m x 762 mm x 483 mm (7' x 30" x 19")	1,728 (2,304 using LC connectors)	NGF-F3MDF7A100-30

Each frame section includes heavy duty floor anchor bolts for concrete floor applications. See page 15 for additional mounting options.

Preterminated fiber termination blocks with multifiber cable—IFC

Preterminated fiber termination blocks (FTBs) are available with either indoor or outdoor rated cable in ribbon or stranded configurations. All blocks are 100% factory tested to guarantee continuity and reliable connections. Preterminated FTBs make installation quick and easy, reducing labor costs. Before ordering, determine the block orientation and cable exit direction. Preterminated 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 FTB with IFC

	Definition of variables
1	**Block type** General adapter type required in the FTB
2	**Block capacity** 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	**Connector and adapter type #1** Specific adapter/connector type required at the FTB
6	**Connector type #2** Specific connector type required at the far 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

Ordering information follows on next page.

Catalog number

	1	2	3	4	5	6	7	8
NGF - TB	0	0	0	0	0	0	00	000

Block type

1	1	SC
	4	LC

Block capacity

2	B	72
	C	96
	M	144[1]
	Q	192 (LC only)[1]

Block orientation

3	L	Left
	R	Right

Cable exit direction

4	U	Upward

Connector and adapter type #1

5	Singlemode	
	7	SC ultra polish
	L	SC angled polish
	K	LC ultra polish (144 and 192 only)
	M	LC angled polish (144 and 192 only)

Cable length

8	Standard single-ended	
	016	16 m (50')
	023	23 m (75')
	031	31 m (100')
	046	46 m (150')
	061	61 m (200')
	092	92 m (300')

Cable type (IFC riser)[2]

7	Singlemode	
	ZB	72-fiber stranded
	KA	72-fiber ribbon
	ZC	96-fiber stranded
	EG	96-fiber ribbon
	ZD	144-fiber stranded
	FJ	144-fiber ribbon
	GT	192-fiber stranded (2 x 96)
	EJ	192-fiber ribbon (2 x 96)

Connector type #2

6	Singlemode	
	0	No connector/stub end

[1] 192 and 144 blocks using block type 1 or 2 **cannot** be used in legacy 26" wide NGF frames.

[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.

See previous page for definition of variables.

Other configurations are available upon request. Please contact CommScope Technical Assistance Center.

Preterminated fiber termination blocks with MPO connectors

Fiber termination blocks (FTBs) with MPO connectors provide MPO connectability on the rear of the block for easy connection of MPO fiber cables. The termination portion of the fiber block utilizes sliding adapter packs to gain easy access to standard connectors and adapters on the front of the block and provides a location for standard patch cord connections. The block is internally cabled at the factory for easy installation and occupies one position of the frame. Before ordering, determine the block orientation needed as the blocks 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).

Preterminated FTB with MPO Connectors

	Definition of variables
1	**Block capacity** Maximum number of terminations that the FTB will accommodate when fully loaded
2	**Block orientation** Vertical column of the frame the FTB is to be mounted on
3	**Front connector and adapter type** Specific adapter/connector type required at the FTB
4	**Pigtail type** Type of pigtail used within the FTB
5	**Number of pigtail assemblies** Number of pigtails to be pre-installed in the FTB

Catalog number

NGF - MP 1: 0 | 2: 0 0 | 3: 0 | 4: 0 | 5: 00

Block capacity

1	M	144[1]
	Q	192 (LC only)[1]

Block orientation

2	L	Left
	R	Right

Front Connector and Adapter Type

3	Singlemode	
	7	SC ultra polish
	L	SC angled polish
	K	LC ultra polish (144 and 192 only)
	M	LC angled polish (144 and 192 only)

Number of Pigtail Assemblies

5	Number of Pigtail Assemblies	
	12	Used with 144-position block
	16	Used with 192-position block

Pigtail Type

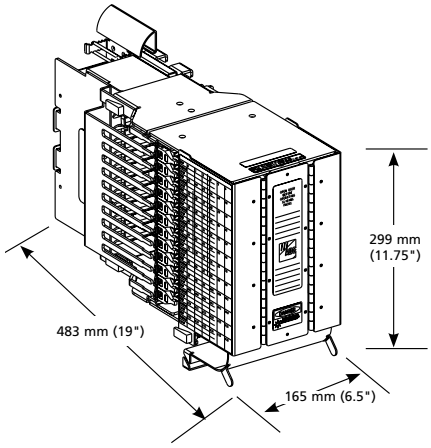
4	5	Standard singlemode

[1] 192 and144 blocks cannot be used in legacy 26" wide NGF frames.

Other configurations are available upon request. Please contact CommScope Technical Assistance Center.

Adapter-only fiber termination blocks

Fiber termination blocks (FTBs) without fiber can be ordered fully loaded with adapters. Before ordering, determine the block orientation and cable exit direction. Adapter-only 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 page 15).



144-position right upward FTB

Definition of variables	
1	**Block type** General adapter type required in the FTB
2	**Block capacity** 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

Catalog number

NGF - TB 1: 0 | 2: 0 | 3: 0 | 4: 0 | 5: 00

Block type

1	1	SC
	4	LC

Block capacity

2	C	96 (SC only)
	M	144[1]
	Q	192 (LC only)[1]

Block orientation

3	L	Left
	R	Right

Adapter type

5	Singlemode	
	7	SC ultra polish
	L	SC angled polish
	K	LC ultra polish (144 and 192 only)
	M	LC angled polish (144 and 192 only)

Cable exit direction

4	U	Upward

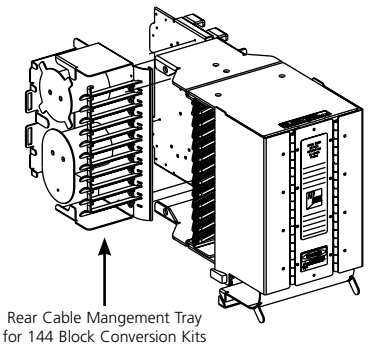
[1] 192 and 144 blocks using block type 1 or 2 **cannot** be used in legacy 26" wide NGF frames.

Other configurations are available upon request. Please contact CommScope Technical Assistance Center.

Adapter-only fiber termination blocks—conversion kits

Cable clamping kit and block conversion kit

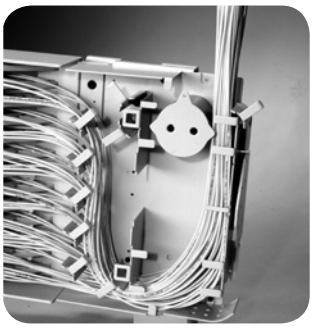
Adapter-only blocks are configured to accommodate single fiber jumpers or multifiber breakout cables. Additional hardware is required if loading a preterminated intrafacility cable (IFC) or OSP cable. Block conversion kits are available to convert adapter-only blocks to blocks that will accept preterminated 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.



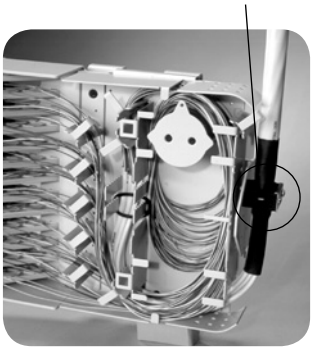
144-position right FTB
(Shown with IFC conversion kit loaded)

Ordering information

Description	Catalog number
Block type originally purchased	
72-position blocks	NGF-ACCOSPKIT02
96- or 144-position **left up** blocks	NGF-ACCRCMSLU
96- or 144-position **right up** blocks	NGF-ACCRCMSRU
96- or 144-position **left down** blocks	NGF-ACCRCMSLD
96- or 144-position **right down** blocks	NGF-ACCRCMSRD



72-position FTB loaded with jumpers



72-position FTB loaded with multifiber breakout cable

Value-added module (VAM) microVAM chassis

The new NGF MicroVAM chassis is designed to mount on all standard NGF frames and is interchangeable with termination, splice, and storage modules. Each chassis accommodates up to 12 MicroVAM modules. The NGF MicroVAM chassis accommodates MicroVAM modules only.

CommScope offers Monitor, Splitter and CWDM modules in the MicroVAM form factor. These modules are available with up to 6 SC or 8 LC front facing connectors. For details please contact your account manager or field application engineer in regards to available configurations.

MicroVAM chassis—left orientation
(Shown Loaded)

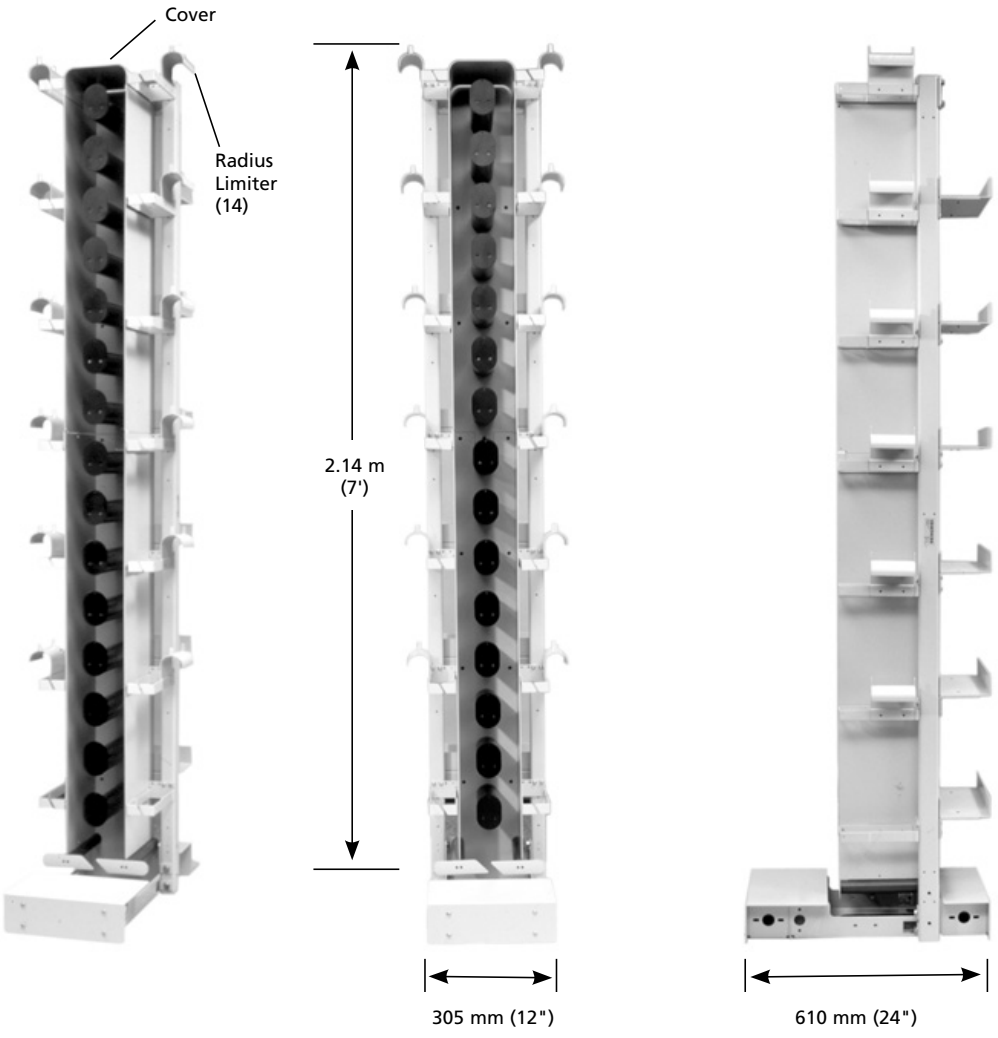
Ordering information

Description	Dimensions (HxWxD)	Catalog number
NGF MicroVAM chassis, unloaded–left orientation; accommodates 12 MicroVAM modules	300 mm x 455 mm x 132 mm (11.8" x 17.9" x 5.2")	NGF-VSPM-7000L
NGF MicroVAM chassis, unloaded–right orientation; accommodates 12 MicroVAM modules	300 mm x 455 mm x 132 mm (11.8" x 17.9" x 5.2")	NGF-VSPM-7000R

Frame accessories

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.

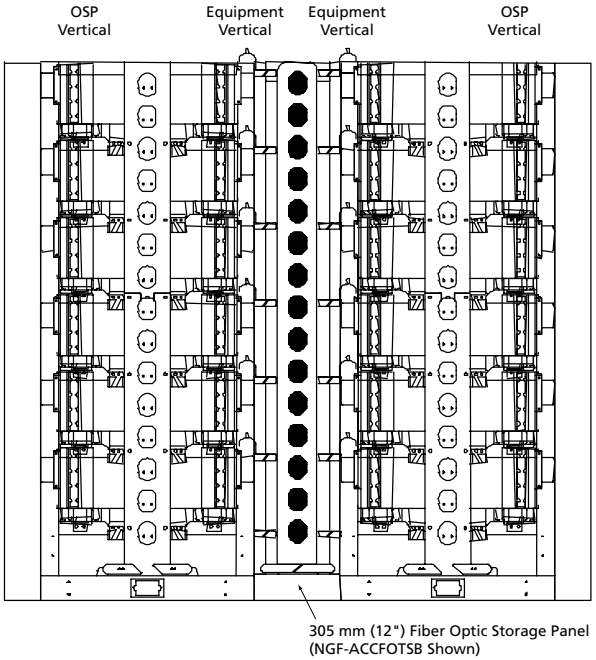


Front ISO view

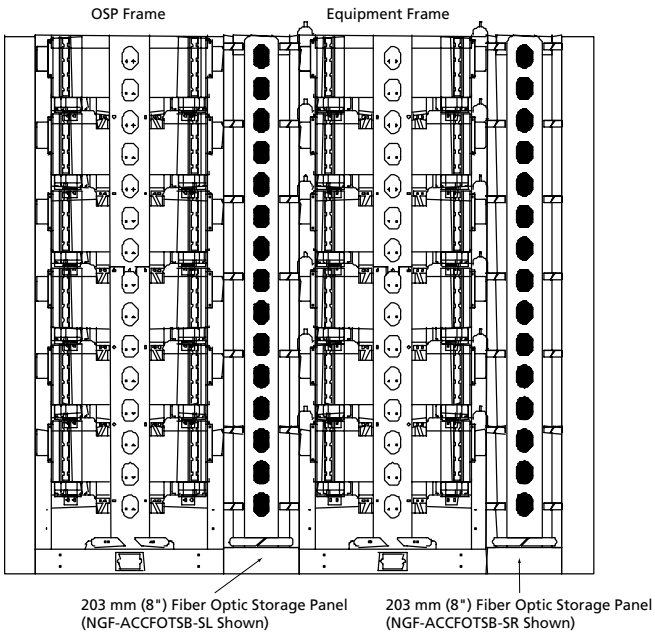
Front view (NGF-ACCFOTSB shown)

Side view

Fiber optic terminal jumper storage panel zoning recommendation



Zoned by vertical



Zoned by frame

Fiber optic terminal jumper storage panel

Ordering information

Description	Dimensions (HxWxD)	Catalog number
Frame zoning: by vertical, 305 mm (12")		
FMDF	2.14 m x 305 mm x 610 mm (7' x 12" x 24")	NGF-ACCFOTSB
Front facing F3MDF	2.14 m x 305 mm x 483 mm (7' x 12" x 19")	NGF-F3ACCFOTSB
Frame zoning: by frame, 203 mm (8")		
FMDF left vertical	2.14 m x 203 mm x 610 mm (7' x 8" x 24")	NGF-ACCFOTSB-SL
FMDF right vertical	2.14 m x 203 mm x 610 mm (7' x 8" x 24")	NGF-ACCFOTSB-SR
Front facing F3MDF left vertical	2.14 m x 203 mm x 483 mm (7' x 8" x 19")	NGF-F3ACCFOTSB-SL
Front facing F3MDF right vertical	2.14 m x 203 mm x 483 mm (7' x 8" x 19")	NGF-F3ACCFOTSB-SR

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.

Description	Dimensions (HxWxD)	Catalog number
FMDF end guard	2.14 m x 127 mm x 610 mm (7' x 5" x 24")	NGF-ACCEGD007
Front facing F3MDF end guard	2.14 m x 127 mm x 483 mm (7' x 5" x 19")	NGF-F3ACCEGD007

Frame extender

Frame extenders are used to extend the height of a 7-foot frame to the appropriate ceiling height so that it can be secured overhead.

Description	Catalog number
762 mm (30") wide frames	
305 mm (12")	NGF-ACCEXT12-30

Grounding kit

The fiber distribution frame is equipped with a grounding kit designed with mechanical fittings including clamps, straps and connectors. Order this kit only if you are building a frame using your own frame. When connecting frame ground to office ground conductor, an H-TAP bonding kit should also be ordered.

Grounding kit includes:	
2 hole terminal lug	1 each
#6 AWG copper tinned wire	13'
Wire clips	8 each
#12-24 x 1/2" screws	10 each
H-TAP bonding kit includes:	
H-TAP	1 each
H-TAP insulated cover	1 each
2 hole terminal lug, crimp	3 each
Terminal lug, screw	4 each
#6 AWG stranded insulated wire	2'
Star washer	6 each
No-ox grease	1 tube

Ordering information

Description	Catalog number
Grounding kit	E-501-L37*
H-TAP bonding kit	E-501-L166

*Included with all NGF frames

Isolation pad

A template for frame installation providing isolation between the frame and the ground.

Ordering information

Description	Catalog number
Isolation pad for	
NGF FMDF and equipment frames	NGF-ACCISOP30X24
NGF front facing F3MDF and equipment frames	NGF-ACCISOP30X19
NGF-ACCFOTSB storage panels	NGF-ACCISOPFS12X24
NGF-F3ACCFOTSB storage panels	NGF-ACCISOPFS12X19
End guards for 610 mm (24") deep FMDF frames	NGF-ACCISOPEG24
End guards for 483 mm (19") deep F3MDF frames	NGF-ACCISOPEG19

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	Catalog number
Frame installation kit for	
Overhead support	RINST-TOP7

Cable clamp kit

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

Cable clamp kit for FOT patch cord includes:	
Cable clamp bracket	1 each
O-ring	1 each
Screws	2 each
Cable clamp kit for IFC/OSP 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	Catalog number
Cable clamp kit* for	
IFC/OSP cables, dielectric cable without grounding hardware (included with fiber termination blocks with IFC)	NGF-ACCCLMP08

* One NGF-ACCCLMP08 is also included with each cable clamp kit and block conversion kit.

Standard cross-connect patch cord lengths

Ordering information

Total number of sections traversed*	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')

*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.

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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