



Next Generation Frame - Black (NGFB)

Optical Distribution Frame Solution

COMMSCOPE®

Table of contents

Introduction	3
Fiber Main Distribution Frame (FMDF).....	4
Frame Accessories	5
Fiber Optic Terminal Jumper Storage Panel	5
End Guard	6
Fiber Termination Blocks (FTBs) – Factory Terminated Stubs	7
Configuration Information	7
LC Style FTBs with Factory Terminated Stubs	8
Fiber Termination Blocks (FTBs) – Unterminated (Adapter Only).....	9
Configuration Information	9
144-position Blocks.....	10
192-Position Blocks	10
Cable Clamping/Block Conversion Kits	11
Sliding Adapter Packs	12
Enhanced High Density Fiber Blocks and Frame	13
288 Fiber LC-MPO Block	13
288 Fiber LC Block Pre-Terminated OFNR Trunk Cable Stub	14
288 Fiber LC Block Pre-Terminated LSZH Trunk Cable Stub	14
Enhanced High Density NGF Frame	14
Cable Clamp Kit.....	15
Frame Installation Kit.....	15
Standard Cross-Connect Patch Cord Lengths	15

Next Generation Frame - Black (NGFB) Introduction

Many organizations need a fast, efficient, secure and reliable way to move information. This increasing need for bandwidth is leading many data center, central office, head end and broadcast network operators to shift away from copper and embrace the efficiency of fiber optic cable feeds. This drives an ever more critical need for flexibility without sacrificing reliable scalability. The Next Generation Optical Distribution Frame - Black (NGFB) can do just that. This high density, robust solution serves as your facility's main fiber cross-connect. An industry tested design, this frame is essential to any modern communications facility, no standard fiber offering can compare.



The NGFB solution is comprised of the following components:

FRAMES

The NGFB was developed for high-fiber count applications. At 2304 terminations in a standard frame and 3456 terminations in a high density frame, its unique, user-friendly design and superior cable management enable enterprise customers to implement optimized solutions to handle applications with high fiber counts such as data centers.

The NGFB 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, and provide 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 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.

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 LC and MPO 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

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

Intuitive Cable Routing System

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

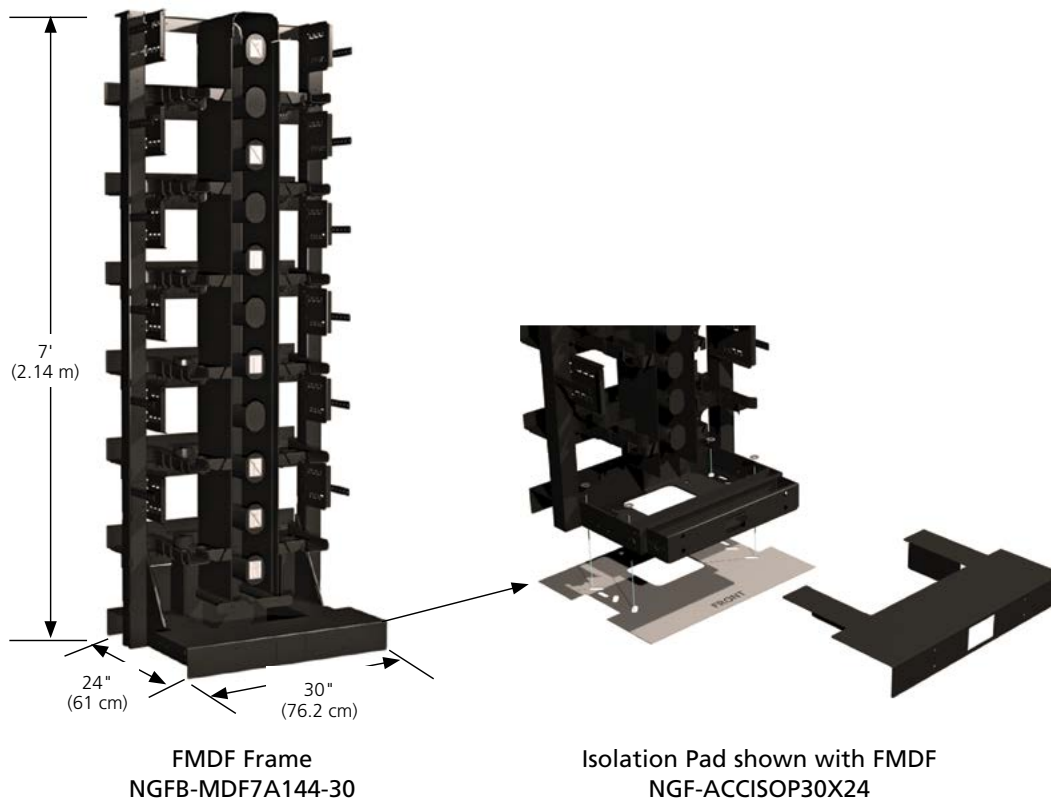
Bend Radius Protection at Every Turn

- Ensures network performance and reliability

NGFB Optical Distribution Frame Solution

Fiber Main Distribution Frame (FMDF)

The Fiber Main Distribution Frame (FMDF) is the cornerstone of the NGFB 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	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.

* Maximum 1.7 mm OD jumpers

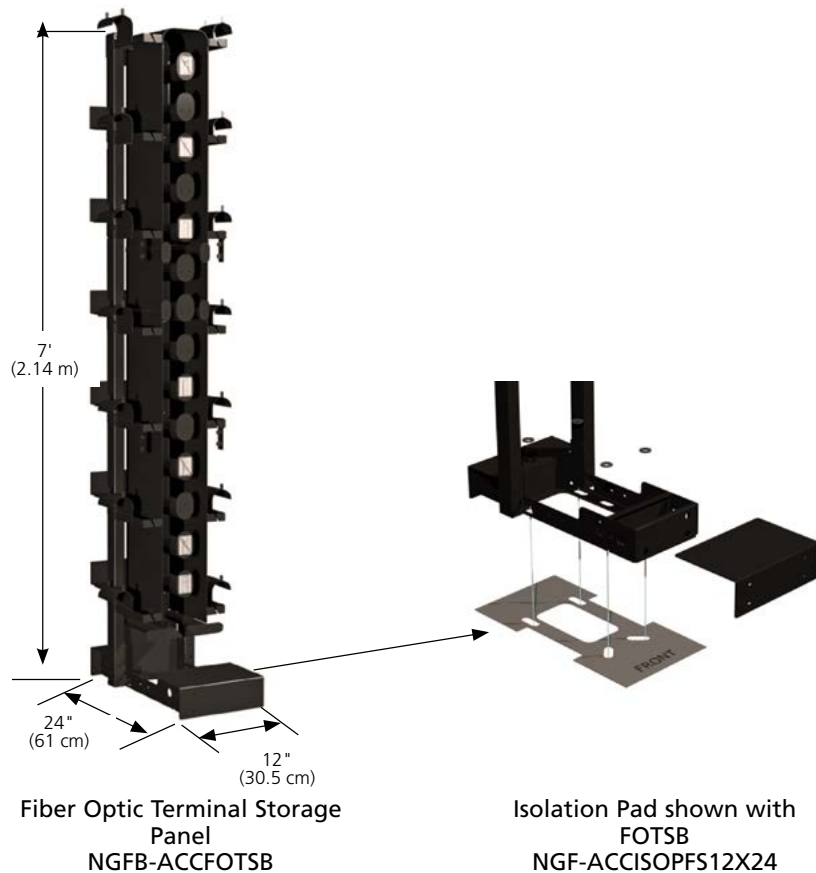
* Not for use with the 288 fiber FTB's

NGFB Optical Distribution Frame Solution

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 NGFB 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 NGFB frame lineup between NGFB frames. The fiber optic terminal storage panels are available in two different configurations depending on the way the NGFB frame system is zoned. NGFB 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

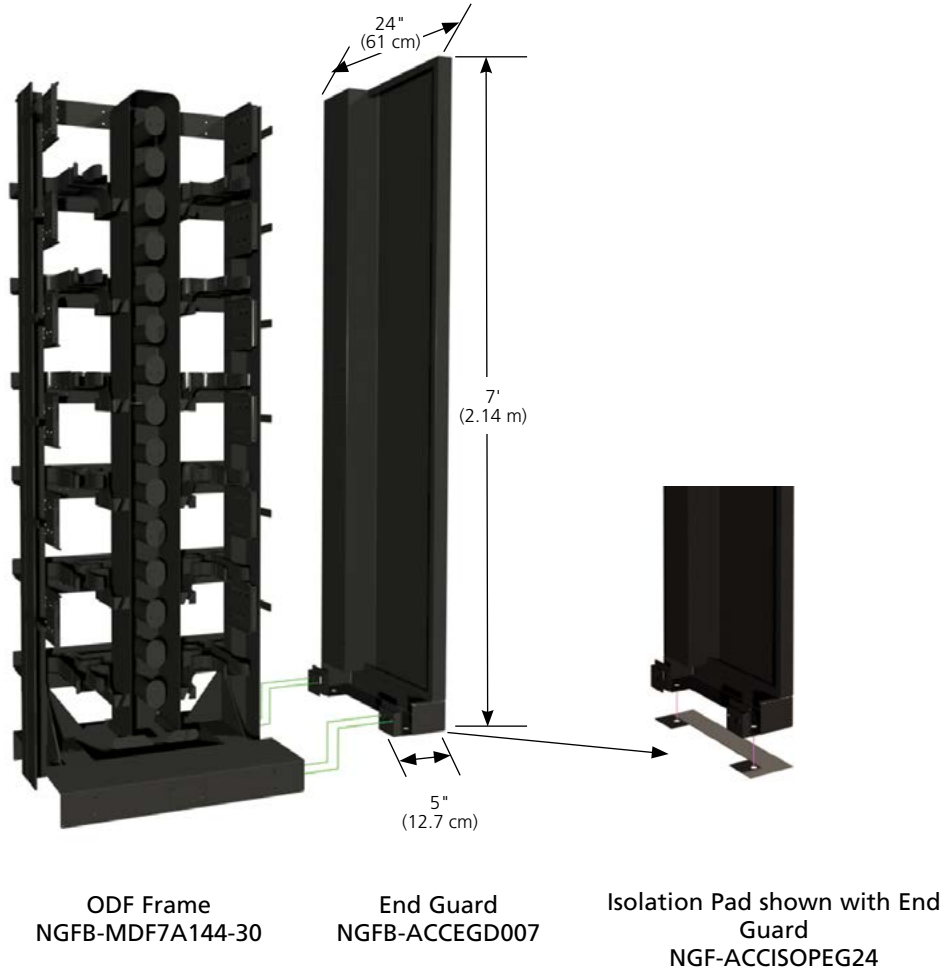
Note: When using the Fiber Optic Terminal Storage Panels, a cable exit UP block must be used.

NGFB Optical Distribution Frame Solution

Frame Accessories

END GUARD

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



ORDERING INFORMATION

DESCRIPTION	DIMENSIONS	PART NUMBER
End Guard; Use with F MDF Frames, Color: Black	7' x 5" x 24" (2.14 m x 12.7 cm x 61 cm)	NGFB-ACCEGD007
Isolation Pad – End Guard; A template for frame installation providing isolation between the frame and the ground		NGF-ACCISOPEG24

NGFB Optical Distribution Frame Solution

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).



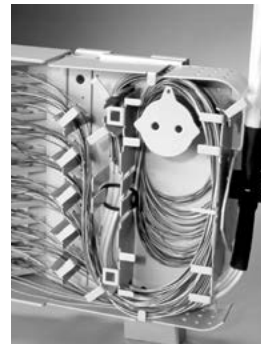
Preterminated Fiber Termination Blocks Arrive from the Factory with Either IFC or OSP Cables



Fiber Cable Easily Uncoils During Installation



Fiber Termination Block Ships Inside the Drum



IFC Cables Loaded into FTB

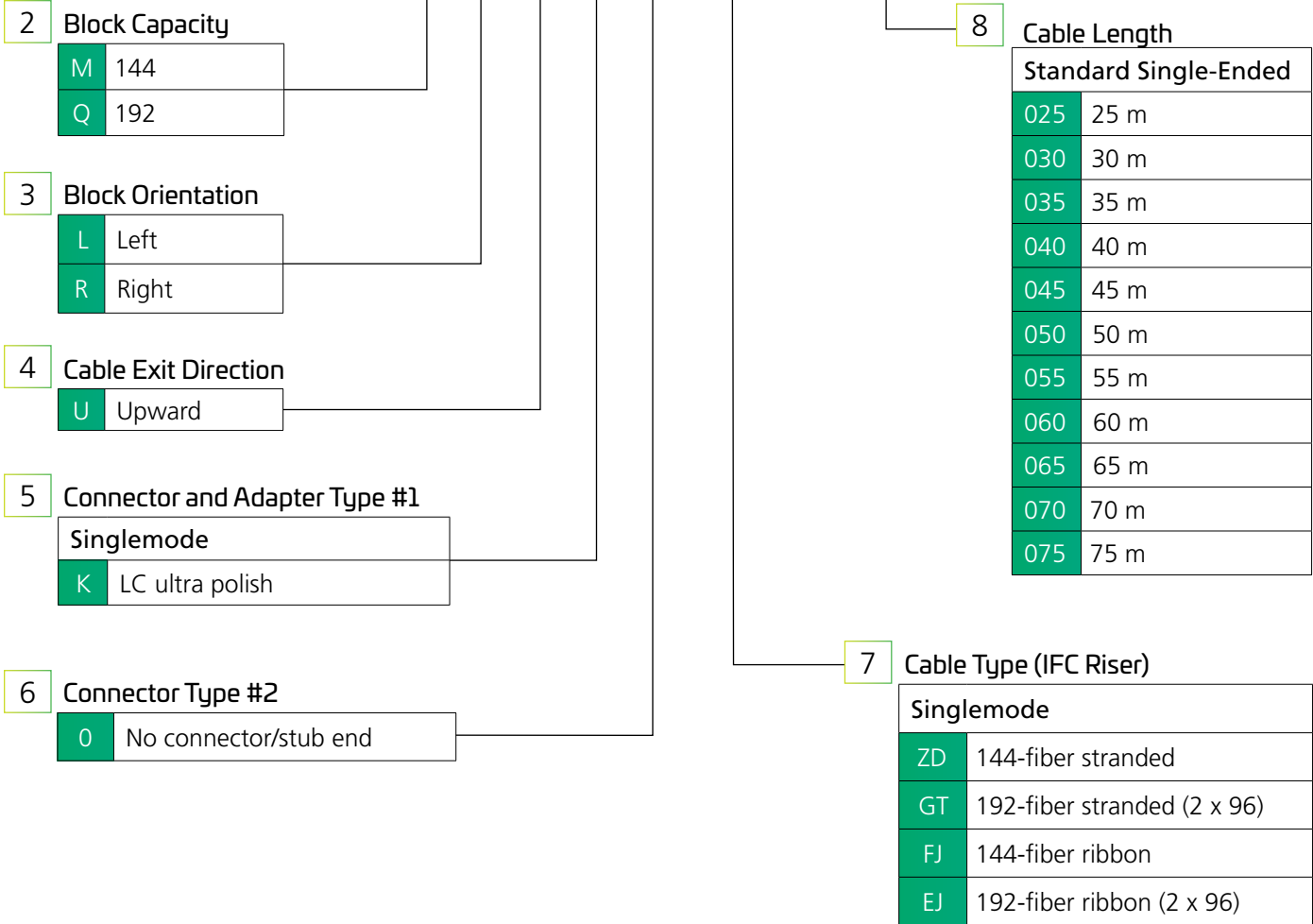
Definition of Variables

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

NGFB Optical Distribution Frame Solution

LC Style FTBs with Factory Terminated Stubs

NGFB-TB4



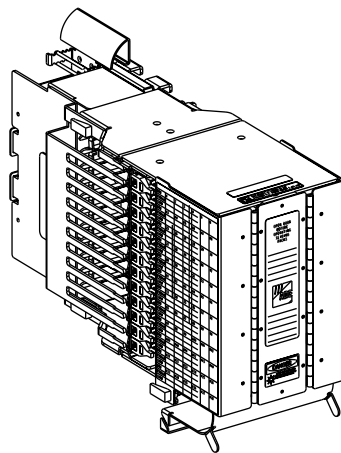
See previous page for definition of variables.

NGFB Optical Distribution Frame Solution

Fiber Termination Blocks (FTBs) – Unterminated (Adapter Only)

CONFIGURATION INFORMATION

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).



144-Position Right Upward FTB Shown

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

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.

NGFB Optical Distribution Frame Solution

Fiber Termination Blocks (FTBs) – Unterminated (Adapter Only)

144-POSITION BLOCKS - SINGLEMODE LC

ORDERING INFORMATION	
DESCRIPTION	PART NUMBER
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

192-POSITION BLOCKS - SINGLEMODE LC

ORDERING INFORMATION	
DESCRIPTION	PART NUMBER
LC (blue) adapters with zirconia sleeves; cable exit up; RIGHT block orientation	NGFB-TB4QRUK
LC (blue) adapters with zirconia sleeves; cable exit up; LEFT block orientation	NGFB-TB4QLUK
LC (blue) adapters with zirconia sleeves; cable exit down; RIGHT block orientation	NGFB-TB4QRDK
LC (blue) adapters with zirconia sleeves; cable exit down; LEFT block orientation	NGFB-TB4QLDK

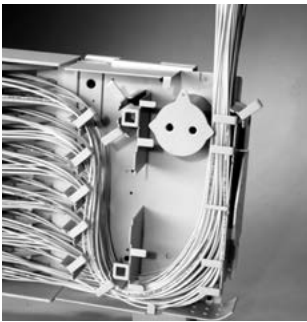
Note: Maximum 1.7 mm OD jumpers

NGFB Optical Distribution Frame Solution

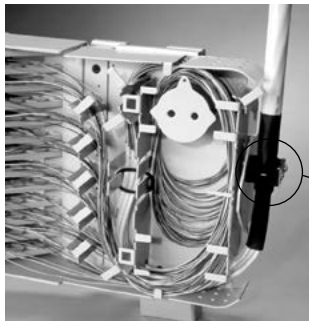
Fiber Termination Blocks (FTBs) – Unterminated (Adapter Only)

CABLE CLAMPING/BLOCK CONVERSION KITS

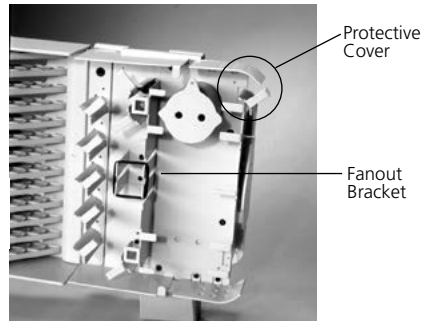
Adapter-only blocks are configured to accommodate single fiber jumpers or multifiber breakout cables. If loading a preterminated intrafacility (IFC) cable or a preterminated OSP cable is desired, additional hardware will be required. Block conversion kits are available to convert adapter only blocks 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.



Block Loaded with Jumpers

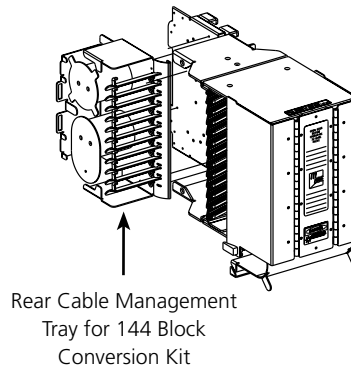


Block Loaded with Multifiber Breakout Cable



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



NGFB Optical Distribution Frame Solution

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 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.



LC 8 Pack



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')	LC	6 Pack/6 Pack	K
192-Position (block code 'Q')	LC	8 Pack/8 Pack	J

ORDERING INFORMATION

DESCRIPTION	PART NUMBER
144-position Blocks	
Singlemode LC	NGF-SAPK0K00
192-position Blocks	
Singlemode LC	NGF-SAPK0J00

Note: Maximum 1.7 mm jumpers are required when deploying 192 position FTBs.

NGFB Optical Distribution Frame Solution

Enhanced High Density Fiber Blocks and Frame

ENHANCED HIGH DENSITY FIBER BLOCKS AND FRAME

Today's advanced data centers, central offices, head ends and broadcast centers are ever more demanding in their need for rapid deployment and space efficiency. Enhanced High Density pre-loaded fiber blocks augment the proven NGFB frame system with even more dense block configurations for LC (up to 288 fibers.) Frequently deployed in building entrances and "meet-me" areas, these enhanced blocks are available with pre-loaded LC to MPO couplers, or with pre-terminated fiber stubs to support rapid deployment of bandwidth.

The pre-terminated 288 LC-MPO modules eliminate the need to individually plug in hundreds of connectors at the rear of the panel; thus replacing a large number of LC installation steps via a small number of 12 fiber MPO interfaces. Installers plug pre-terminated MPO assemblies directly into MPO modules at the rear, which distribute trunk fibers into LC connectors at the front. All pre-terminated blocks are tested and fully assembled, and packaged to provide the maximum craft friendliness through simple, uniform practices.



Features

- Enhanced High Density NGFB blocks enable exceptional fiber density with managed access for connectivity at the front and rear of the patch panel.
- Blocks provide high density, improved connector access, simplified patching and ample cable management provisions.
- Blocks are available in 288 count, LC-MPO and 288 count LC-stub.
- Assured performance – Each module is pre-tested in the factory, and test data is traceable via a bar code to a test database.
- Packaging protects the connectorized blocks and speeds "bolt-in" installation.
- Modules are clearly marked for simplified labeling and documentation.
- 288 blocks with cable stub include cable breakout kit shipped with unit.
- The Enhanced High Density Block is used exclusively with the 42" Enhanced High Density Frame.

288 FIBER LC-MPO BLOCK

ORDERING INFORMATION		
DESCRIPTION	LEFT SIDE PART NUMBER	RIGHT SIDE PART NUMBER
288 Fiber LC-MPO Block (12 fiber MPO connectivity, Single Mode)	NGFB-MPSL0K612	NGFB-MPSR0K612

Note: this block must be used with the 42" frame

NGFB Optical Distribution Frame Solution

Enhanced High Density Fiber Blocks and Frame

288 FIBER LC BLOCK PRE-TERMINATED OFNR TRUNK CABLE STUB

ORDERING INFORMATION		
DESCRIPTION	LEFT SIDE PART NUMBER	RIGHT SIDE PART NUMBER
25 Meters	NGFB-TB5SLUK0KC025	NGFB-TB5SRUK0KC025
30 Meters	NGFB-TB5SLUK0KC030	NGFB-TB5SRUK0KC030
35 Meters	NGFB-TB5SLUK0KC035	NGFB-TB5SRUK0KC035
40 Meters	NGFB-TB5SLUK0KC040	NGFB-TB5SRUK0KC040
45 Meters	NGFB-TB5SLUK0KC045	NGFB-TB5SRUK0KC045
50 Meters	NGFB-TB5SLUK0KC050	NGFB-TB5SRUK0KC050
55 Meters	NGFB-TB5SLUK0KC055	NGFB-TB5SRUK0KC055
60 Meters	NGFB-TB5SLUK0KC060	NGFB-TB5SRUK0KC060
65 Meters	NGFB-TB5SLUK0KC065	NGFB-TB5SRUK0KC065
70 Meters	NGFB-TB5SLUK0KC070	NGFB-TB5SRUK0KC070
75 Meters	NGFB-TB5SLUK0KC075	NGFB-TB5SRUK0KC075

Note: 288 Fiber Blocks with cable stub include cable breakout kit shipped with unit. Blocks contain Single Mode OS2 stubs

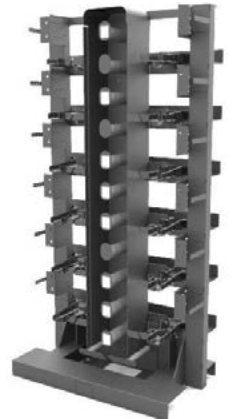
288 FIBER LC BLOCK PRE-TERMINATED LSZH TRUNK CABLE STUB

ORDERING INFORMATION		
DESCRIPTION	LEFT SIDE PART NUMBER	RIGHT SIDE PART NUMBER
25 Meters	NGFB-TB5SLUK0KP025	NGFB-TB5SRUK0KP025
30 Meters	NGFB-TB5SLUK0KP030	NGFB-TB5SRUK0KP030
35 Meters	NGFB-TB5SLUK0KP035	NGFB-TB5SRUK0KP035
40 Meters	NGFB-TB5SLUK0KP040	NGFB-TB5SRUK0KP040
45 Meters	NGFB-TB5SLUK0KP045	NGFB-TB5SRUK0KP045
50 Meters	NGFB-TB5SLUK0KP050	NGFB-TB5SRUK0KP050
55 Meters	NGFB-TB5SLUK0KP055	NGFB-TB5SRUK0KP055
60 Meters	NGFB-TB5SLUK0KP060	NGFB-TB5SRUK0KP060
65 Meters	NGFB-TB5SLUK0KP065	NGFB-TB5SRUK0KP065
70 Meters	NGFB-TB5SLUK0KP070	NGFB-TB5SRUK0KP070
75 Meters	NGFB-TB5SLUK0KP075	NGFB-TB5SRUK0KP075

Note: 288 Fiber Blocks with cable stub include cable breakout kit shipped with unit. Blocks contain Single Mode OS2 stubs

ENHANCED HIGH DENSITY NGFB FRAME

The 288 Fiber blocks require an Enhanced High Density NGFB Frame to provide ample vertical cable routing wireways and slack storage for the larger fiber count blocks. The Enhanced High Density NGFB Frame allows installation of six left and six right side Enhanced High Density NGFB Blocks and occupies 42" width of floor space. The frame is 7' tall and 24" deep and can be installed directly next to existing traditional 30" wide NGFB Frames.



ORDERING INFORMATION		
DESCRIPTION	DIMENSIONS	PART NUMBER
Enhanced High Density NGFB Frame accommodates 288 and 432 size blocks Color: black	7' x 42" x 24" (2.14m x 106.7cm x 61cm)	NGFB-MDF7A288-42
Enhanced High Density Frame Isolation Pad A template for frame installation providing isolation between the frame and the floor		NGF-ACCISOP42X24

NGFB Optical Distribution Frame Solution

Accessories

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.

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

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

FRAME INSTALLATION KIT

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

ORDERING INFORMATION	
DESCRIPTION	PART NUMBER
Frame installation kits	
For computer floor	FDF-ACC146
For overhead support	RINST-TOP7P

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"

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.

CommScope (NASDAQ: COMM) helps design, build and manage wired and wireless networks around the world. As a communications infrastructure leader, we shape the always-on networks of tomorrow. For more than 40 years, our global team of greater than 20,000 employees, innovators and technologists has empowered customers in all regions of the world to anticipate what's next and push the boundaries of what's possible. Discover more at [commscope.com](https://www.commscope.com)

COMMSCOPE®

[commscope.com](https://www.commscope.com)

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

© 2017 CommScope, Inc. All rights reserved.

All trademarks identified by ® or ™ are registered trademarks or trademarks, respectively, of CommScope, Inc. This document is for planning purposes only and is not intended to modify or supplement any specifications or warranties relating to CommScope products or services. CommScope is committed to the highest standards of business integrity and environmental sustainability with a number of CommScope's facilities across the globe certified in accordance with international standards, including ISO 9001, TL 9000, and ISO 14001.

Further information regarding CommScope's commitment can be found at www.commscope.com/About-Us/Corporate-Responsibility-and-Sustainability

CO-112379-EN (11/17)