

# FTTX Solutions

## Outdoor FDH 3000



### UNIQUE DESIGN TO MEET DIVERSE CUSTOMER REQUIREMENTS

"Engineering Friendly" to support both low and high-density applications, different network system designs, and diverse installation environments

### FLEXIBLE AND MODULAR

Standardized splitter modules and accessories for all FDH 3000 cabinets

### EASY TO ORDER

Streamlined configurations simplify the process

TE Connectivity's (TE) FTTX infrastructure solutions are designed from the ground up to meet the unique requirements of FTTX networks. Designed for operational efficiency and scalability, TE's FTTX solutions simplify network installation, maintenance and management from the central office/head end to the outside plant.

The FDH 3000 is designed to meet and serve the distinct needs of diverse markets and customer segments. The unique design of the FDH 3000 provides for rapid connection between fiber optic cables and passive optical splitters in the outside plant segment of the network, facilitating fast service connection and reconfiguration, simplified network installations and improved installation efficiencies in the field.

### INCORPORATES TE CONNECTIVITY QUALITY AND INNOVATION

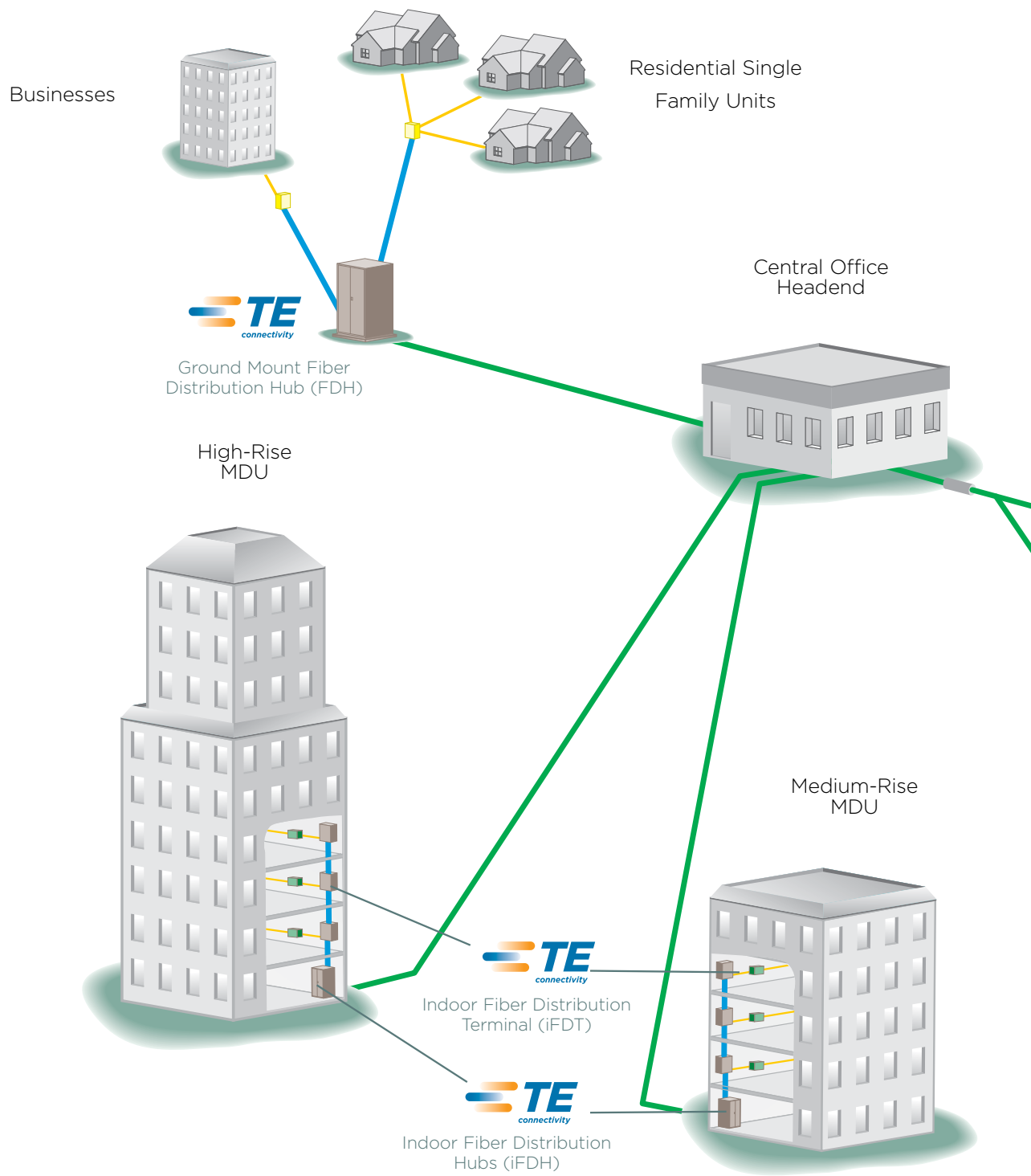
TE is a high quality, industry-leading brand you can rely on to future-proof your network, with a complete portfolio of FTTX products and services to ensure seamless deployment and maintenance over the life of the network

The FDH 3000 incorporates four time-tested elements that have long impacted reliability, flexibility and operational costs within the in fiber networks:

- Bend radius protection
- Intuitive cable routing
- Easy fiber/connector access
- Physical protection

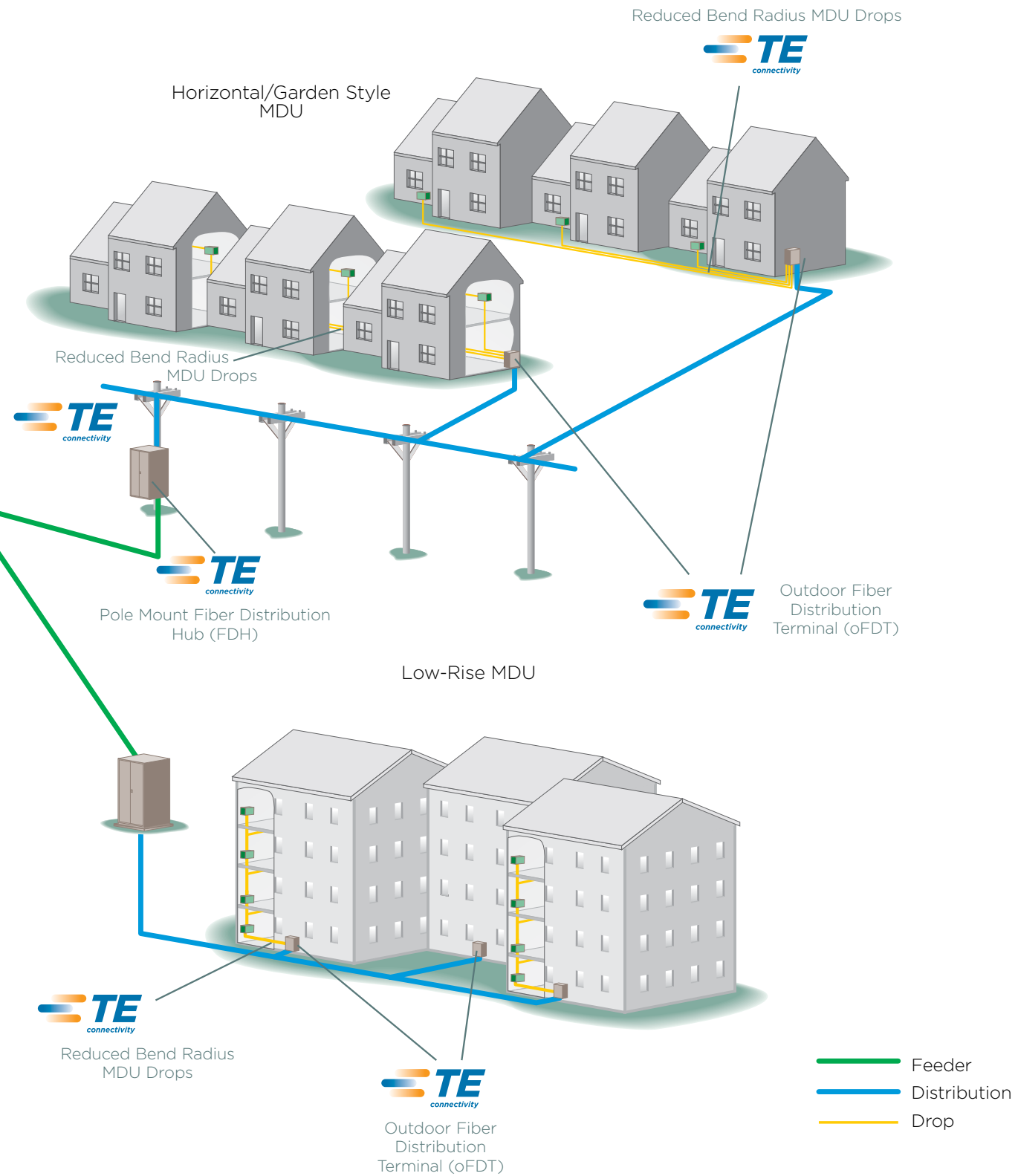
# FTTX Solutions

## Outdoor FDH 3000



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## Outdoor FDH 3000

TE-the innovation leader with over 35 patented and pending patent applications

### FEATURES AND BENEFITS

- **Unique “swing-out frame” design**  
Allows for easy maintenance and access to back of distribution panels and cables
- **In-hub distribution splicing option**  
Incorporates splicing of distribution cables within the cabinet.
- **Three-point latch**  
Provides weather-tight seal



### FEATURES AND BENEFITS

- **Angled bulkhead panels**  
Eliminates 90° bends and assists technician with routing
- **Integrated slack storage spools**  
Allows for storage of excess fiber while providing positive bend radius control
- **Dust-cap friendly parking lot**  
Conveniently stores splitter output ports not in service  
144 terminations: up to 64 parking lots;  
288 terminations: up to 72 parking lots;  
432 terminations: up to 144 parking lots;  
864 terminations: up to 288 parking lots
- **Six-inch spacer/riser**  
Included with spacer/riser  
Included with ground mount cabinets



### FEATURES AND BENEFITS

- **Pole mounting configurations**  
Available with extra small (24-144), small (72-288) and medium (72-432) termination models



# FTTX Solutions

## Outdoor FDH 3000



### FEATURES AND BENEFITS

- **Intelligent design**  
Allows for standardized splitter modules and accessories across all cabinet sizes
- **Common “mini plug & play” splitter module with common output length**  
Allows for true plug and play functionality
- **Supports diverse splitter module configurations**  
1x32, 2x32, 1x16, 1x64, dual 1x16, 1x8, dual 1x8, 1x4, dual 1x4, 1x2, dual 1x2
- **Craft friendly splitter module design**  
Easy to insert and remove without affecting adjacent splitters



### FEATURES AND BENEFITS

- **Discrete ground and cable location access**  
Allows for locating wires without entry into the cabinet



### FEATURES AND BENEFITS

- **Re-skinable casing design**  
Allows replacement of cabinet shell without break in customer service



### FEATURES AND BENEFITS

- **Extreme temperature tubing**  
Improved performance at high and low temperatures

# FTTX Solutions

## Outdoor FDH 3000

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### Product Line Overview

Outdoor FDH 3000 Cabinets are available in three application types

- Ground Mount with 100' Stubs
- Pole Mount with 100' Stubs
- Ground Mount with In-Hub Feeder/Distribution Splicing

All FDH 3000 Cabinets include superior features such as a swing frame, plug and play splitter chassis and dust cap friendly parking lots.

#### Ground Mount FDH 3000 Cabinets

Ground Mount FDH 3000 Cabinets are designed to be installed over a hand hole or concrete pad. All four sizes of ground mount cabinets include 100' feeder and distribution stub cables that exit downward through the base of the cabinet. Each ground mount cabinet is shipped with a factory installed 6" riser attached to the cabinet bottom. A kit is available to attach some configurations of ground mount FDH 3000 cabinet to a pole. Contact TE technical assistance center for ordering details.



Ground Mount Small 288 Configuration Shown

#### Pole Mount FDH 3000 Cabinets

Pole Mount FDH 3000 Cabinets are designed for overhead/aerial cable plant installations and are available in extra small, small and medium cabinet sizes. All three sizes of pole mount cabinets include 100' feeder and distribution stub cables that exit upward out the back side of the cabinet. Only dielectric cable types can be configured in pole mount cabinets. A field kit is available to rotate the cables that exit out the back side of an existing cabinet from an upward orientation to a downward orientation. See accessory section ordering pages for more details.



Rear View Pole Mount Medium 432 Configuration rear and open swing frame views shown

### FDH 3000 Cabinets with In-Hub Distribution Splicing Option

Ground Mount FDH 3000 Cabinets are designed to be installed over a hand hole or concrete pad and integrate the ability to splice both feeder and distribution cables within the cabinet. This product offers design flexibility for applications where a hand hole for stub cable splicing is not available or desirable. In-Hub Distribution Splicing Cabinets are available in extra small, small and medium cabinet sizes, and are shipped with a factory installed 6" riser attached to the cabinet bottom.



Ground Mount Small 288 Configuration with In-Hub Distribution Cable Splicing

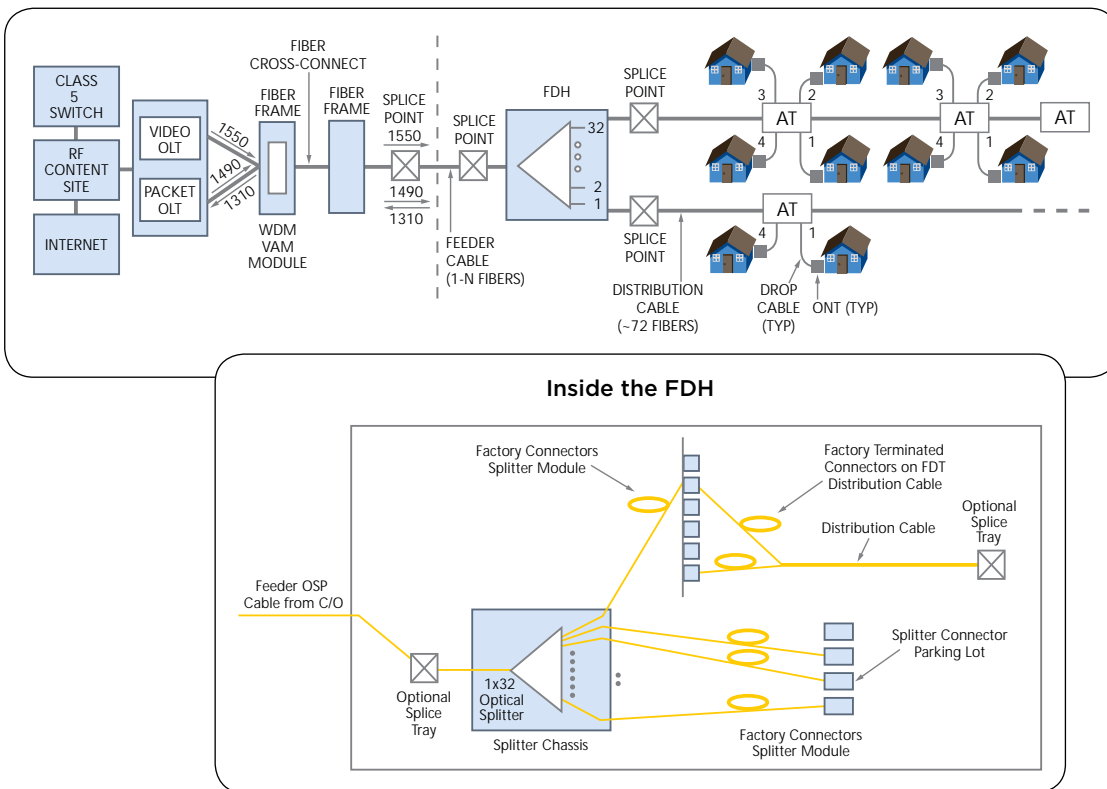
	Cabinet	Size (HxWxD)	Distribution Area Size	Access	Mounting Options	Splitter Slots	Cable Exit Location
Ground Mount	Extra Small (24-144)	36" x 21" x 14" (91.4 x 53.3 x 35.6 cm)	24-144 Homes	All Front	Ground	9	Bottom
	Small (72-288)	36" x 27" x 18" (91.4 x 68.58 x 45.72 cm)	72-288 Homes	All Front	Ground	12	Bottom
	Medium (72-432)	42" x 27" x 18" (106.68 x 68.58 x 45.72 cm)	72-432 Homes	All Front	Ground	24	Bottom
	Large (72-864)	49" x 47" x 20" (124.5 x 119.4 x 50.8 cm)	72-864 Homes	All Front	Ground	48	Bottom
Pole Mount	Extra Small	30" x 21" x 14" (76.2 x 53.3 x 35.6 cm)	24-144 Homes	All Front	Pole	9	Rear
	Small	30" x 27" x 18" (76.2 x 68.58 x 45.72 cm)	72-288 Homes	All Front	Pole	12	Rear
	Medium	36" x 27" x 18" (91.4 x 68.58 x 45.72 cm)	72-432 Homes	All Front	Pole	24	Rear
In-Hub Splice	Extra Small	36" x 21" x 14" (91.4 x 53.3 x 35.6 cm)	24-144 Homes	All Front	Ground	9	Bottom
	Small	36" x 27" x 18" (91.4 x 68.58 x 45.72 cm)	72-288 Homes	All Front	Ground	12	Bottom
	Medium	42" x 27" x 18" (106.68 x 68.58 x 45.72 cm)	72-432 Homes	All Front	Ground	22	Bottom

### Centralized Splitting

There are two main approaches to FTTX optical splitters: centralized and cascaded. TE recommends the centralized approach for several significant reasons.

- The centralized splitter approach maximizes the highest efficiency of expensive OLT cards. Since each home in this approach is fiber-connected directly back to a central hub, all ports on the OLT card are used and 100% efficiency is achieved.
- Provides easy testing and troubleshooting access. It is very difficult to use an optical time-domain reflectometer (OTDR) to test multiple splitters unless the network is built with each fiber characterized to enable the OTDR to recognize each individual fiber run.
- Minimizes signal loss by eliminating extra splices and/or connectors from the distribution network. Each time an optical signal encounters a network component or connection, such as a splitter, it suffers a certain degree of signal loss. Therefore, when splitters are cascaded together, loss will occur at each device. The combined loss effect can reduce the distance a signal can travel, imposing distance limitations on fiber runs.
- Reducing the number of components in the network decreases the number of opportunities for failure.

### Schematic Diagram of PON Architecture - Central Office to Outside Plant



### Mini Plug & Play Splitter Modules

The FDH 3000 utilizes a Mini Plug & Play Splitter Module which is common to all of the cabinets and features a common output length. This module allows for true plug & play functionality.

- Standardized splitter modules for all cabinet sizes
- Features bend-optimized fiber and ruggedized extreme temperature cabling rated for material handling in cold temperatures and superior loss performance at 1490 and 1550 nm wavelengths
- Rated from -55° C to 85° C
- Allows pass-through of up to 2 fibers per splitter set
- Splitters are easy to insert and remove without affecting adjacent splitters
- Reversible dust cap makes test and turn-up easy
- Wide band pass 1260-1635 nm to ensure optical performance for all applications

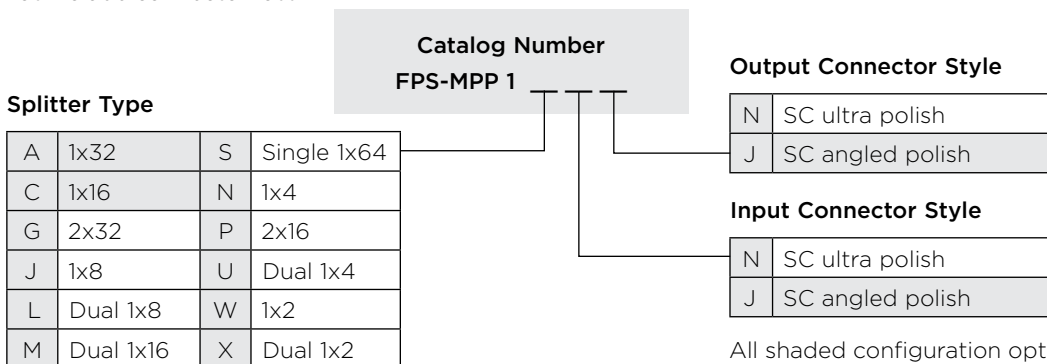


Feeder Pass-Thru Feature

### Splitter types supported with specifications

Standard	Max Loss*	Typical Loss*	Uniformity	Return Loss	Directivity	PDL
1x2	3.7 dB	3.1 dB	0.8 dB	≥55 dB	≥55 dB	0.3 dB
1x4	7.2 dB	6.2 dB	0.8 dB	≥55 dB	≥60 dB	0.2 dB
1x8	10.7 dB	9.8 dB	1.0 dB	≥55 dB	≥60 dB	0.2 dB
1x16	13.5 dB	13.2 dB	1.5 dB	≥55 dB	≥60 dB	0.3 dB
1x32	16.7 dB	16.5 dB	1.5 dB	≥55 dB	≥60 dB	0.3 dB
1x64	20.4 dB	19.7 dB	2.0 dB	≥55 dB	≥60 dB	0.4 dB
2x16	14.7 dB	13.0 dB	2.0 dB	≥55 dB	≥60 dB	0.4 dB
2x32	17.9 dB	16.3 dB	2.5 dB	≥55 dB	≥60 dB	0.4 dB

\* Does not include connector loss



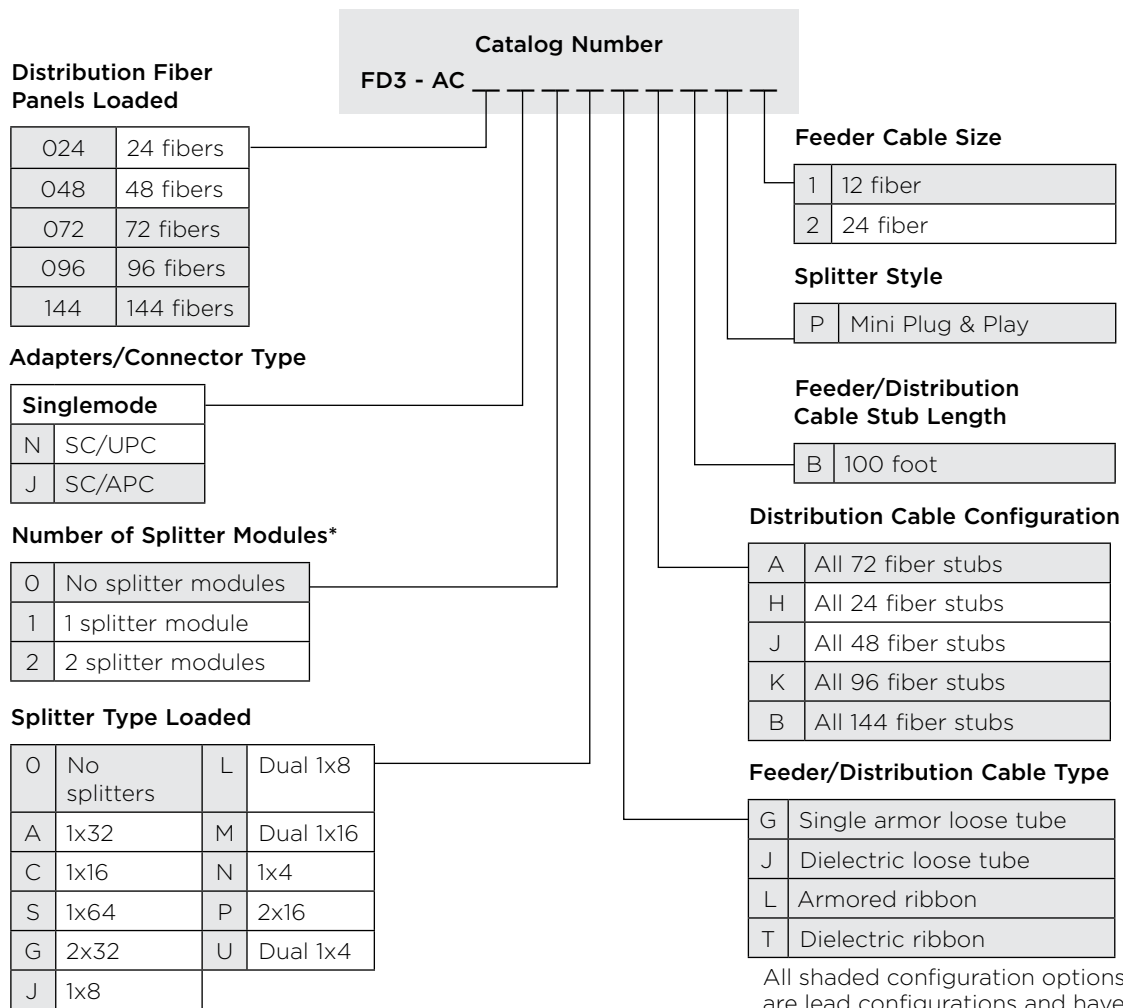
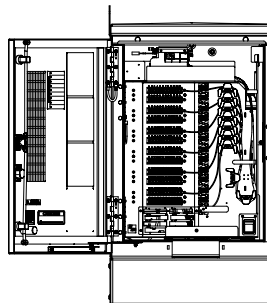
All shaded configuration options are lead configurations and have best delivery dates.

Additional options are available, please contact the TE Technical Assistance Center.

### Extra Small Ground Mount Cabinet (24-144 Fibers)

#### FEATURES

- All front access
- Supports up to 144 distribution fibers
- Bottom cable exit locations
- Includes 9 splitter slots
- **Cabinet Dimensions:**  
36"(H) x 21"(W) x 14"(D)
- Parking for 64 fibers
- 18 adapter pass through patch panel



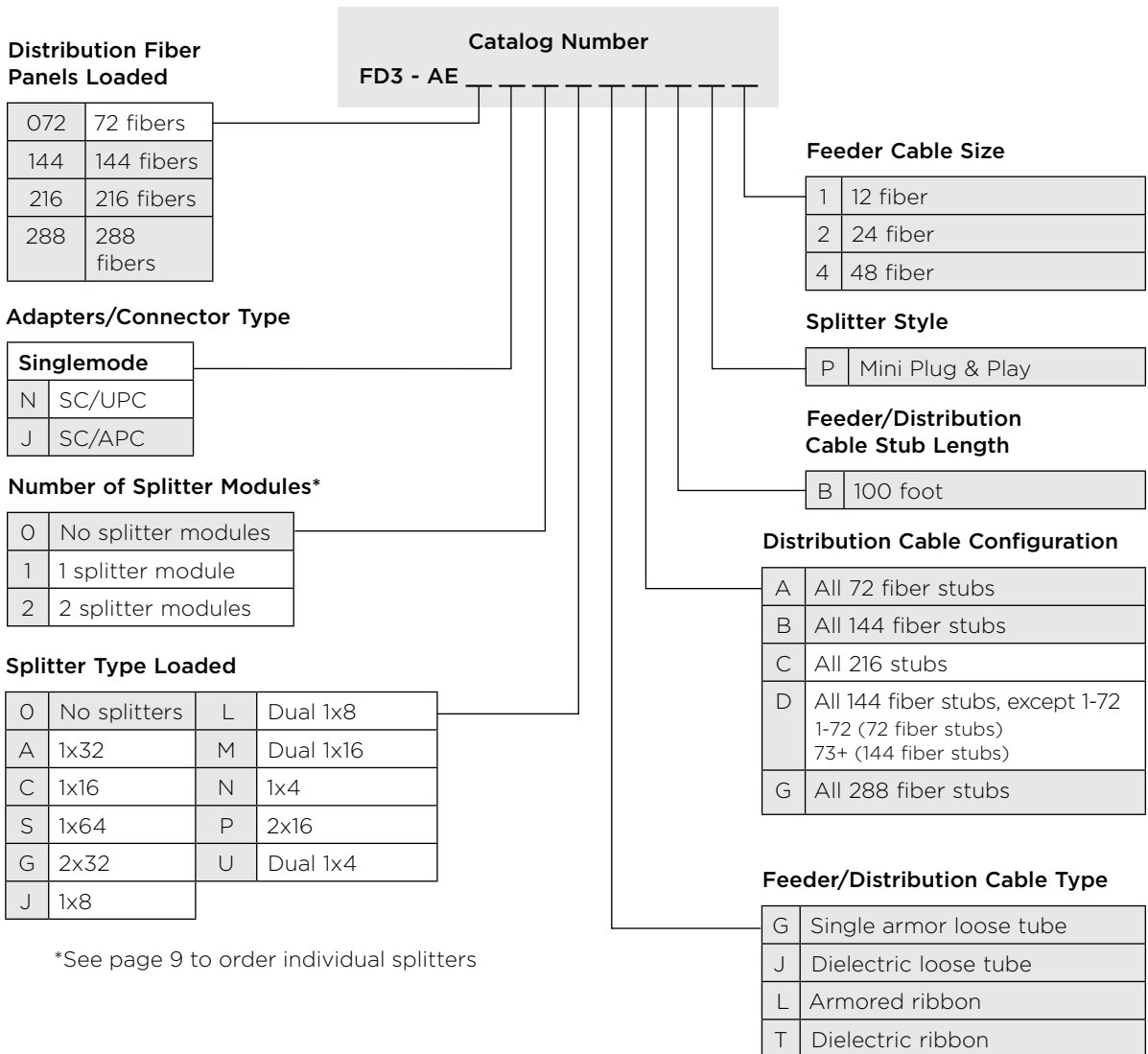
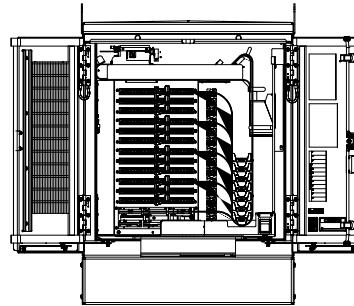
All shaded configuration options are lead configurations and have best delivery dates.

\*See page 9 to order individual splitters

### Small Ground Mount Cabinet (72-288 Fibers)

#### FEATURES

- All front access
- Supports up to 288 distribution fibers
- Bottom cable exit locations
- Includes 12 splitter slots
- **Cabinet Dimensions:**  
36"(H) x 27"(W) x 18"(D)
- Parking lot for 72 fibers
- 36 adapter pass through patch panels

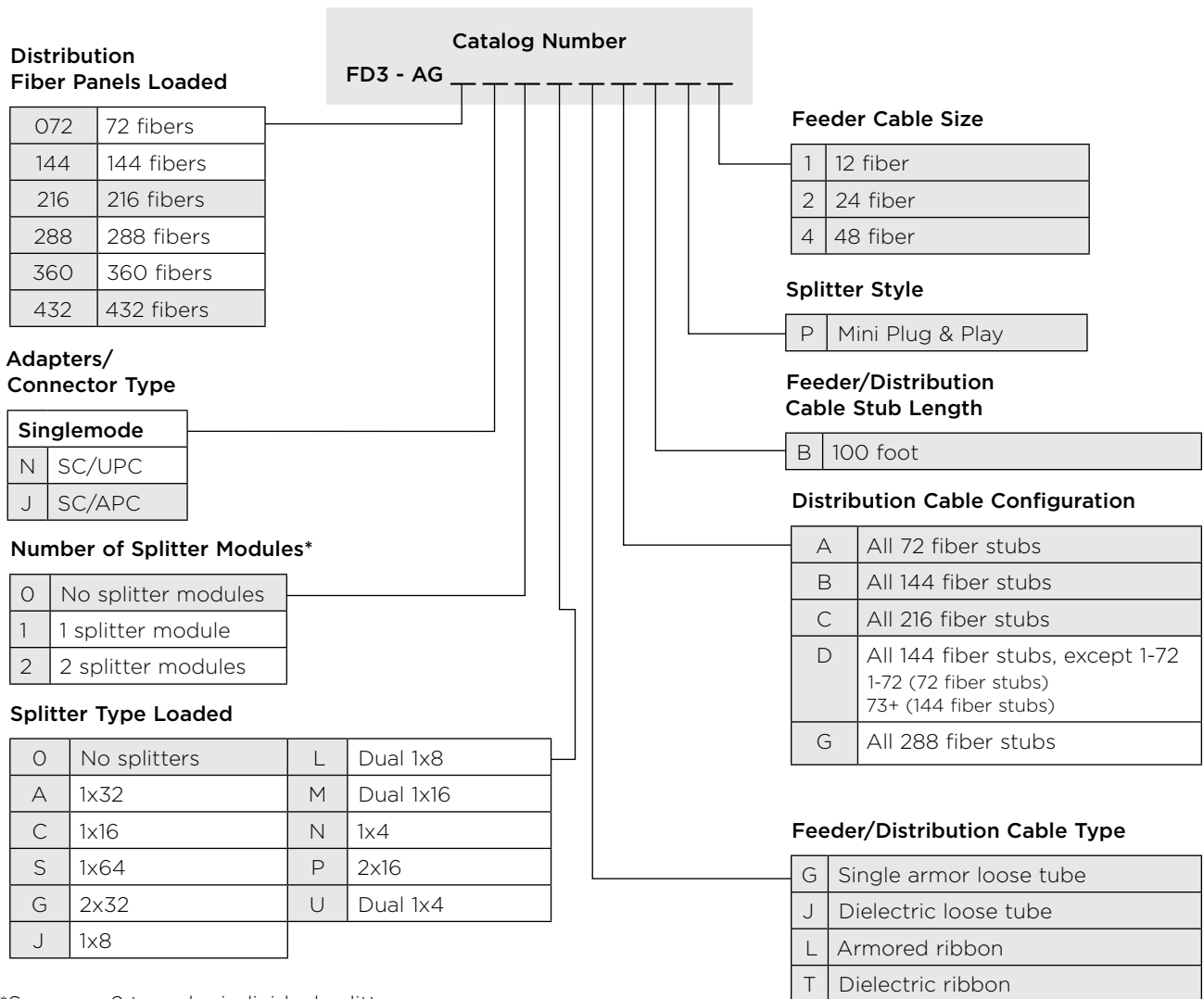
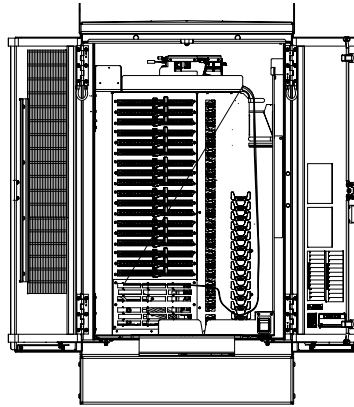


All shaded configuration options are lead configurations and have best delivery dates.

### Medium Ground Mount Cabinet (72-432 Fibers)

#### FEATURES

- All front access
- Supports up to 432 distribution fibers
- Bottom cable exit locations
- Includes 24 splitter slots
- **Cabinet Dimensions:**  
42"(H) x 27"(W) x 18"(D)
- Parking lot for 144 fibers
- 36 adapter pass through patch panels



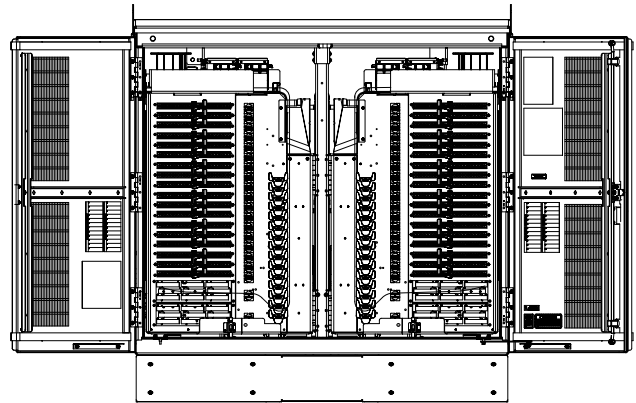
\*See page 9 to order individual splitters

All shaded configuration options are lead configurations and have best delivery dates.

### Large Ground Mount Cabinet (72-864 Fibers)

#### FEATURES

- All front access
- Supports up to 864 distribution fibers
- Bottom cable exit locations
- Includes 48 splitter slots
- **Cabinet Dimensions:**  
49"(H) x 47"(W) x 20"(D)
- Parking lot for 288 fibers
- 72 adapter pass through patch panels



#### Catalog Number

FD3 - AJ

#### Distribution Fiber Panels Loaded

072	72 fibers	504	504 fibers
144	144 fibers	576	576 fibers
216	216 fibers	648	648 fibers
288	288 fibers	720	720 fibers
360	360 fibers	792	792 fibers
432	432 fibers	864	864 fibers

#### Adapters/Connector Type

Singlemode	
N	SC/UPC
J	SC/APC

#### Number of Splitter Modules\*

0	No splitter modules
1	1 splitter module
2	2 splitter modules

#### Splitter Type Loaded

O	No splitters	L	Dual 1x8
A	1x32	M	Dual 1x16
C	1x16	N	1x4
S	1x64	P	2x16
G	2x32	U	Dual 1x4
J	1x8		

#### Feeder Cable Size

1	12 fiber
2	24 fiber
4	48 fiber
7	72 fiber

#### Splitter Style

P	Mini Plug & Play
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#### Feeder/Distribution Cable Stub Length

B	100 foot
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#### Distribution Cable Configuration

A	All 72 fiber stubs
B	All 144 fiber stubs
C	All 216 fiber stubs
D	All 144 fiber stubs, except 1-72 1-72 (72 fiber stubs) 73+ (144 fiber stubs)
G	All 288 fiber stubs

#### Feeder/Distribution Cable Type

G	Single armor loose tube
J	Dielectric loose tube
L	Armored ribbon
T	Dielectric ribbon

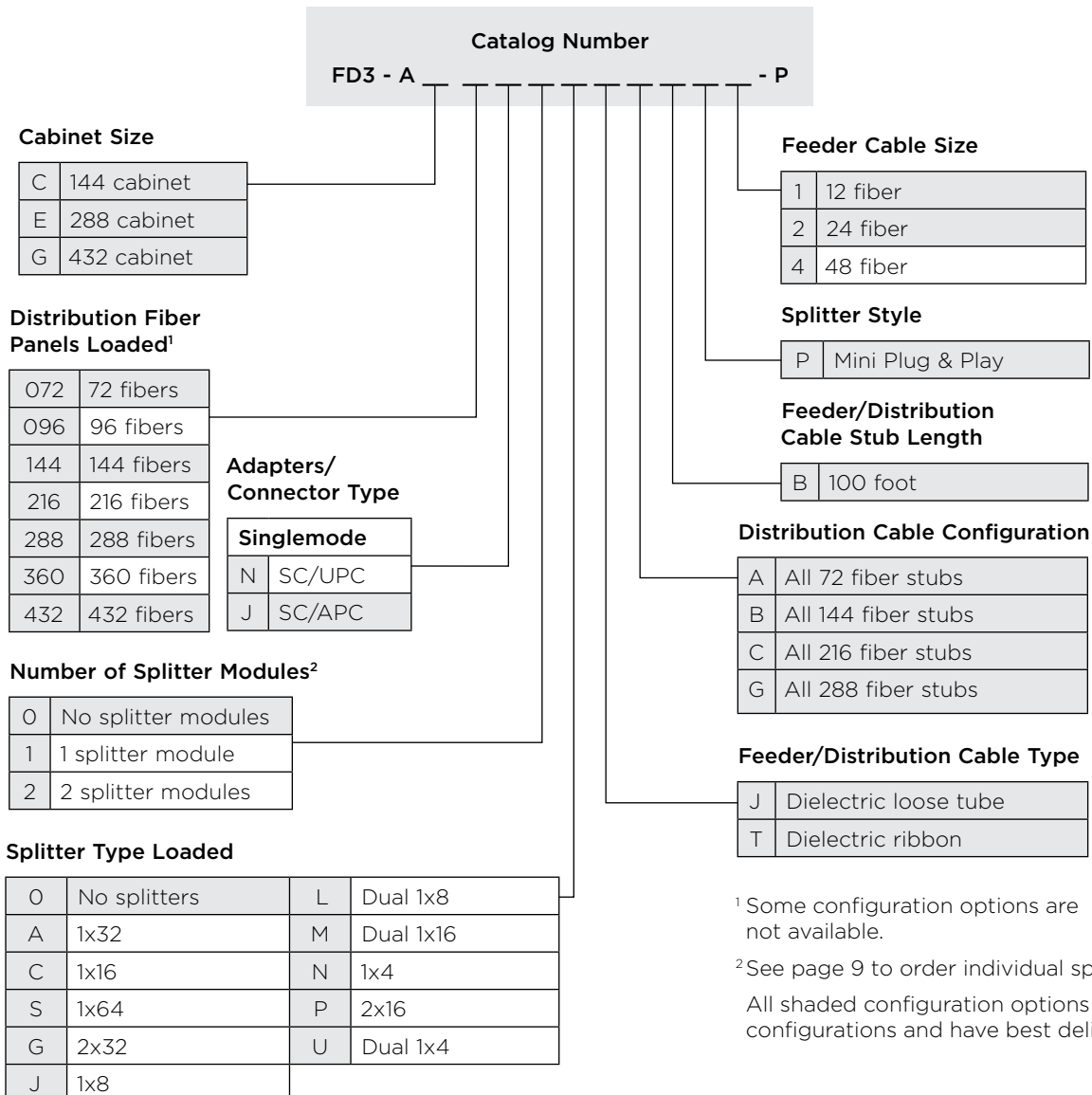
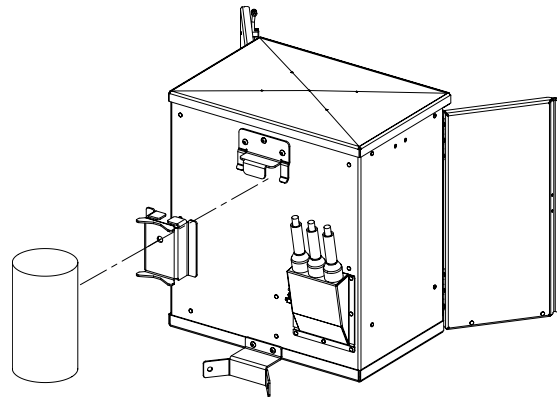
\*See page 9 to order individual splitters

All shaded configuration options are lead configurations and have best delivery dates.

### Pole Mount Configurations

#### FEATURES

- All front access
- Maximum of two distribution cables allowed
- Available in extra small, small and medium cabinet sizes
- **Cabinet Dimensions:**  
 Extra Small: 30"(H) x 21"(W) x 14"(D)  
 Small: 30"(H) x 27"(W) x 18"(D)  
 Medium: 36"(H) x 27"(W) x 18"(D)



<sup>1</sup> Some configuration options are not available.

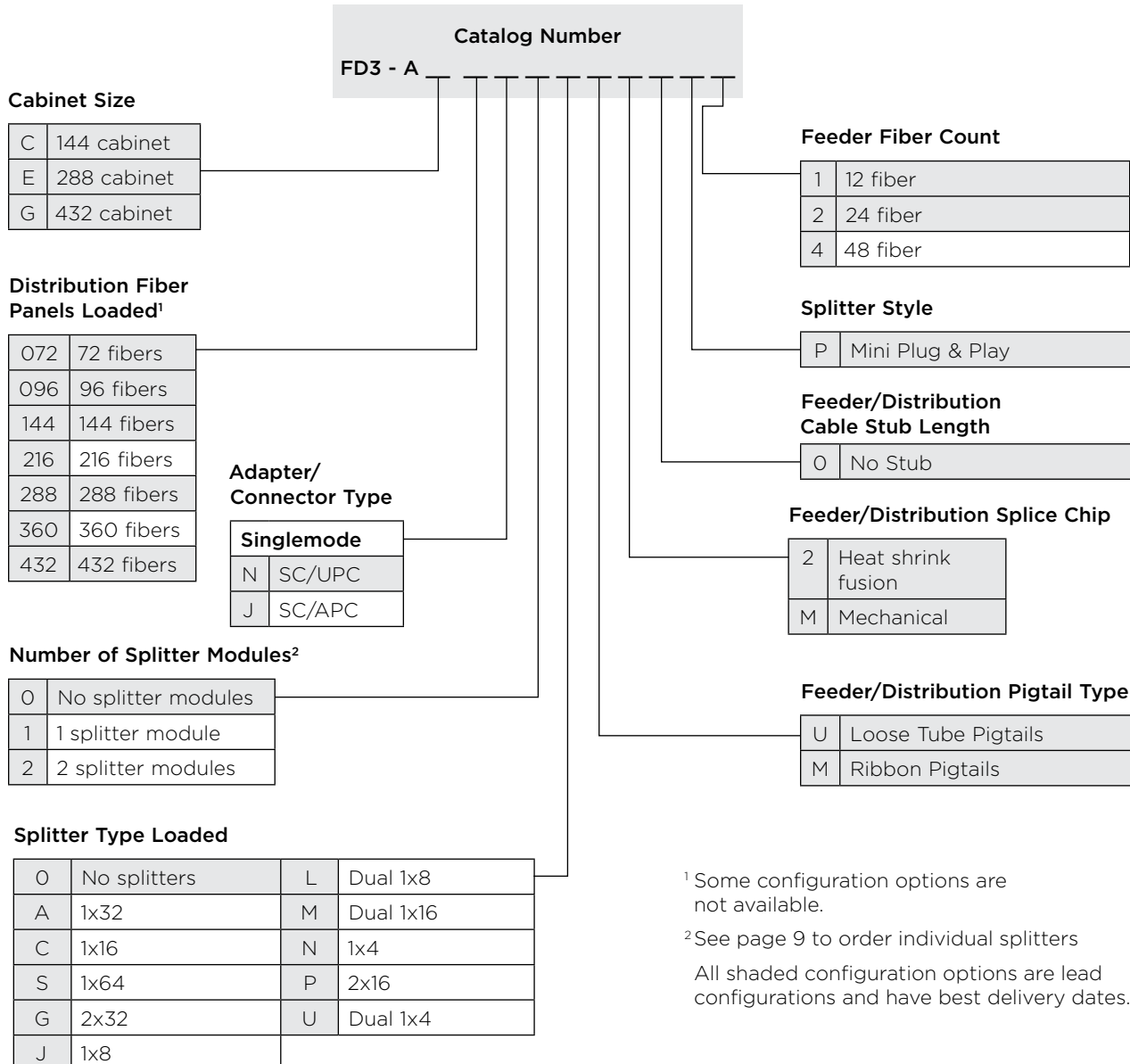
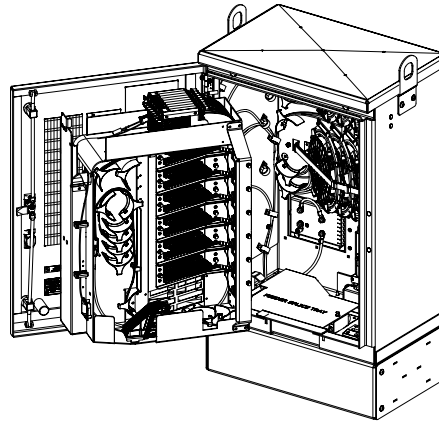
<sup>2</sup> See page 9 to order individual splitters

All shaded configuration options are lead configurations and have best delivery dates.

### In-Hub Distribution Splicing Configurations

#### FEATURES

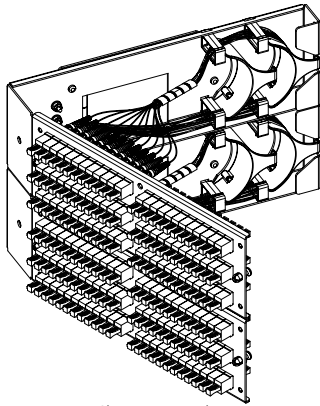
- All front access
- Space trays inside cabinet
- Available in extra small, small and medium cabinet sizes
- **Cabinet Dimensions:**  
 Extra Small: 36"(H) x 21"(W) x 14"(D)  
 Small: 36"(H) x 27"(W) x 18"(D)  
 Medium: 42"(H) x 27"(W) x 18"(D)



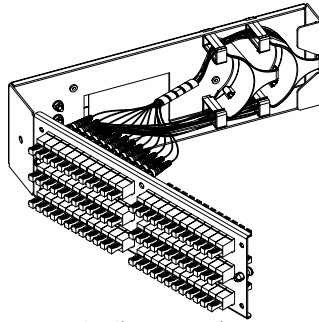
<sup>1</sup> Some configuration options are not available.

<sup>2</sup> See page 9 to order individual splitters

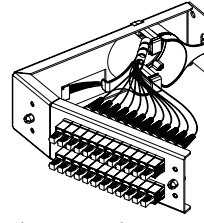
All shaded configuration options are lead configurations and have best delivery dates.



144 Fiber Panel



72 Fiber Panel



24 Fiber Panel

## Growth Panel Options

For adding distribution panels to existing partially loaded **small, medium** and **large\*** cabinets

### ORDERING INFORMATION

Description	Catalog Number
Single Armor Loose Tube 72 position APC SC with 100' stub	FD3MOD-072JGAB
Dielectric Loose Tube 72 position APC SC with 100' stub	FD3MOD-072JJAB
Single Armor Ribbon 72 position APC SC with 100' stub	FD3MOD-072JLAB
Dielectric Ribbon 72 position APC SC with 100' stub	FD3MOD-072JTAB
Single Armor Loose Tube 144 position APC SC with 100' stub	FD3MOD-144JGBB
Dielectric Loose Tube 144 position APC SC with 100' stub	FD3MOD-144JBBB
Single Armor Ribbon 144 position APC SC with 100' stub	FD3MOD-144JLBB
Dielectric Ribbon 144 position APC SC with 100' stub	FD3MOD-144JTBB

\*Growth panels available for right side swing frame only

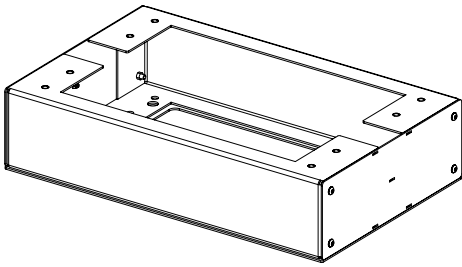
For adding distribution panels to existing partially loaded **extra small** cabinets

### ORDERING INFORMATION

Description	Catalog Number
Single Armor Loose Tube 24 position APC SC with 100' stub	FD3MOD-024JGHB
Dielectric Loose Tube 24 position APC SC with 100' stub	FD3MOD-024JJHB
Single Armor Ribbon 24 position APC SC with 100' stub	FD3MOD-024JLHB
Dielectric Ribbon 24 position APC SC with 100' stub	FD3MOD-024JTHB

# FTTX Solutions

## Outdoor FDH 3000



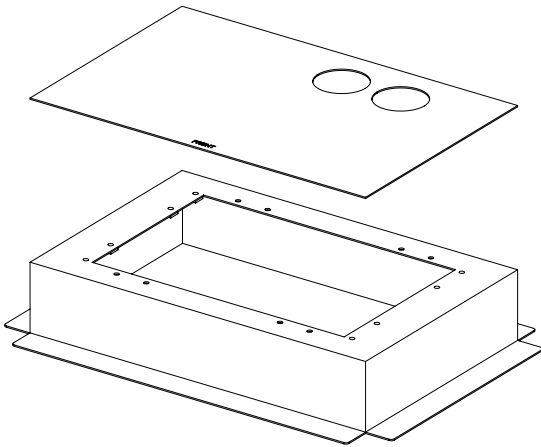
6" Split Spacer/Riser

## Risers for Ground Mount Style Cabinets

Including in-hub splice option cabinets. Note: All Ground Mount FDH 3000 cabinets ship with one riser

### ORDERING INFORMATION

Description	Catalog Number
<b>6" ground spacer/riser for extra small (24-144 fibers) cabinets</b> Raises cabinet an additional 6"	FD3-RSRC06
<b>6" ground spacer/riser for small (72-288 fibers) and medium (72-432 fibers) cabinets</b> Raises cabinet an additional 6"	FD3-RSRE06
<b>6" ground spacer/riser for large (72-864 fibers) cabinets</b> Raises cabinet an additional 6"	FD3-RSRJ06

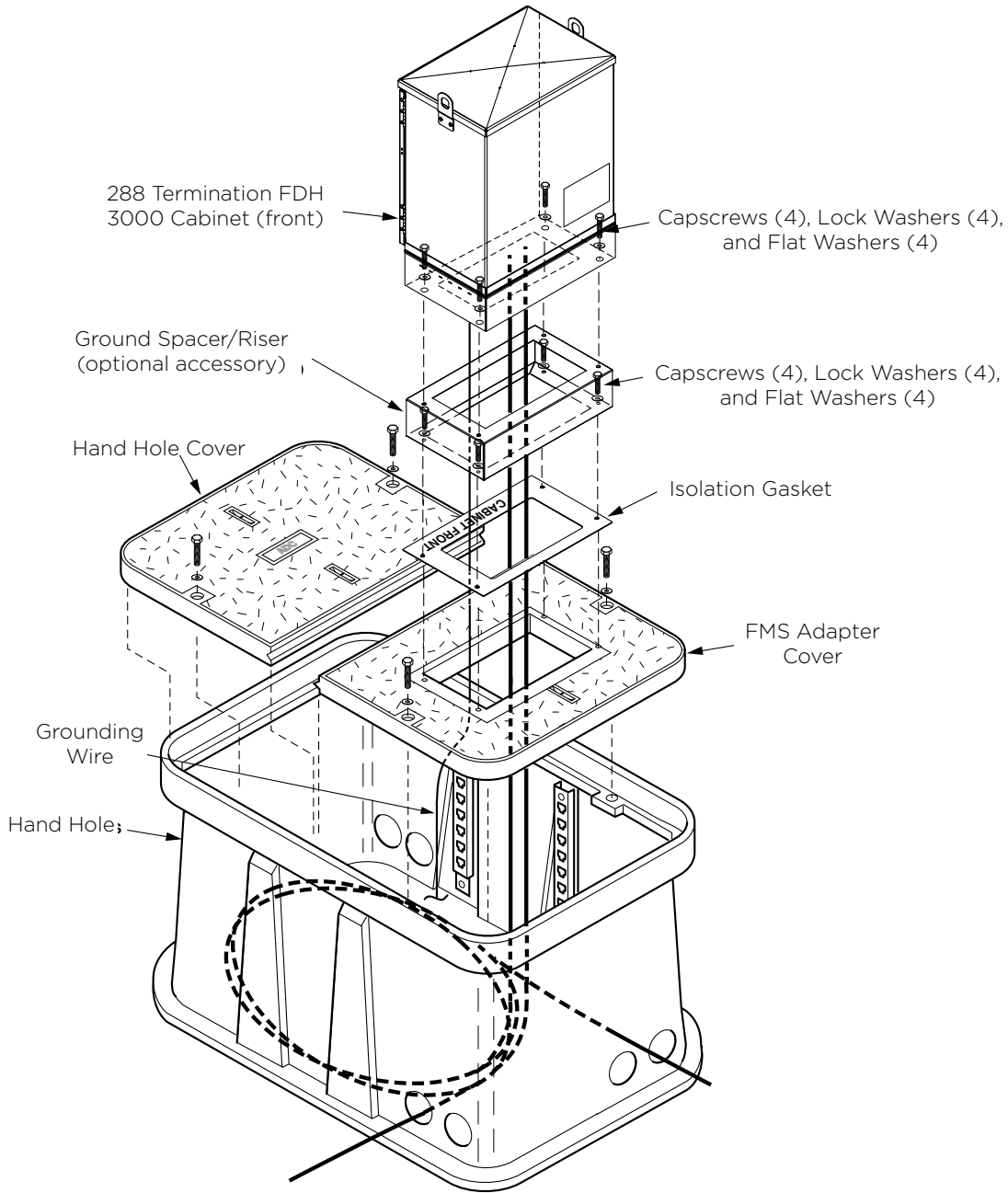


Kit Pad Mount Frame

## Pad Mount Frames

### ORDERING INFORMATION

Description	Catalog Number
Extra small (24-96 fibers) pad mount frame	FD3-PMFC06
Small (72-288 fibers) and medium (72-432 fibers) pad mount frame	FD3-PMFE06
Large (72-864 fibers) pad mount frame	FD3-PMFJ06



## Hand Hole Kits

### ORDERING INFORMATION

Description	Catalog Number
30" x 60" Hand Hole and cover kit for extra small (24-144 fibers), small (72-288 fibers) and medium (72-432 fibers) cabinets	FMS-ACE100-KIT-A
48" x 60" Hand Hole and cover kit for extra small (24-144 fibers), small (72-288 fibers) and medium (72-432 fibers) cabinets	FMS-FD3EG-LKIT-A
48" x 60" Hand Hole and cover kit for large (72-864 fibers) cabinets	FMS-FD3J-KIT-A

### Pole Mount Cabinet Cable Direction Kit

For pole mount cabinets to convert orientation of cables to exit downward instead of upward

#### ORDERING INFORMATION

Description	Catalog Number
Extra small (144) size cabinet	FD3-ACCPL144CBLDWN
Small (288), and medium (432) size cabinet	FD3-ACCPLCBLDWN

### Cable Clamp Kits

Each kit contains 2 cable clamps

#### ORDERING INFORMATION

Description	Catalog Number
For cables up to .7" diameter	FD3-ACCSMCLMP
For cables .7" to .9" diameter	FD3-ACCLGCLMP

Additional configurations are available, please contact the TE Technical Assistance Center.

### 216 Tools - Can Wrench Keys

#### ORDERING INFORMATION

Description	Catalog Number
For cables up to .7" diameter	FD3-ACCSMCLMP
For cables .7" to .9" diameter	FD3-ACCLGCLMP

### Cleaning Kits and Touch Up Paint

#### ORDERING INFORMATION

Description	Catalog Number
Alcohol cleaning kit for connector end faces	FPC-CLNKIT1
Almond touch up paint	ACE-ACC-PTALMD

## DATA SHEET

**Contact us:**

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