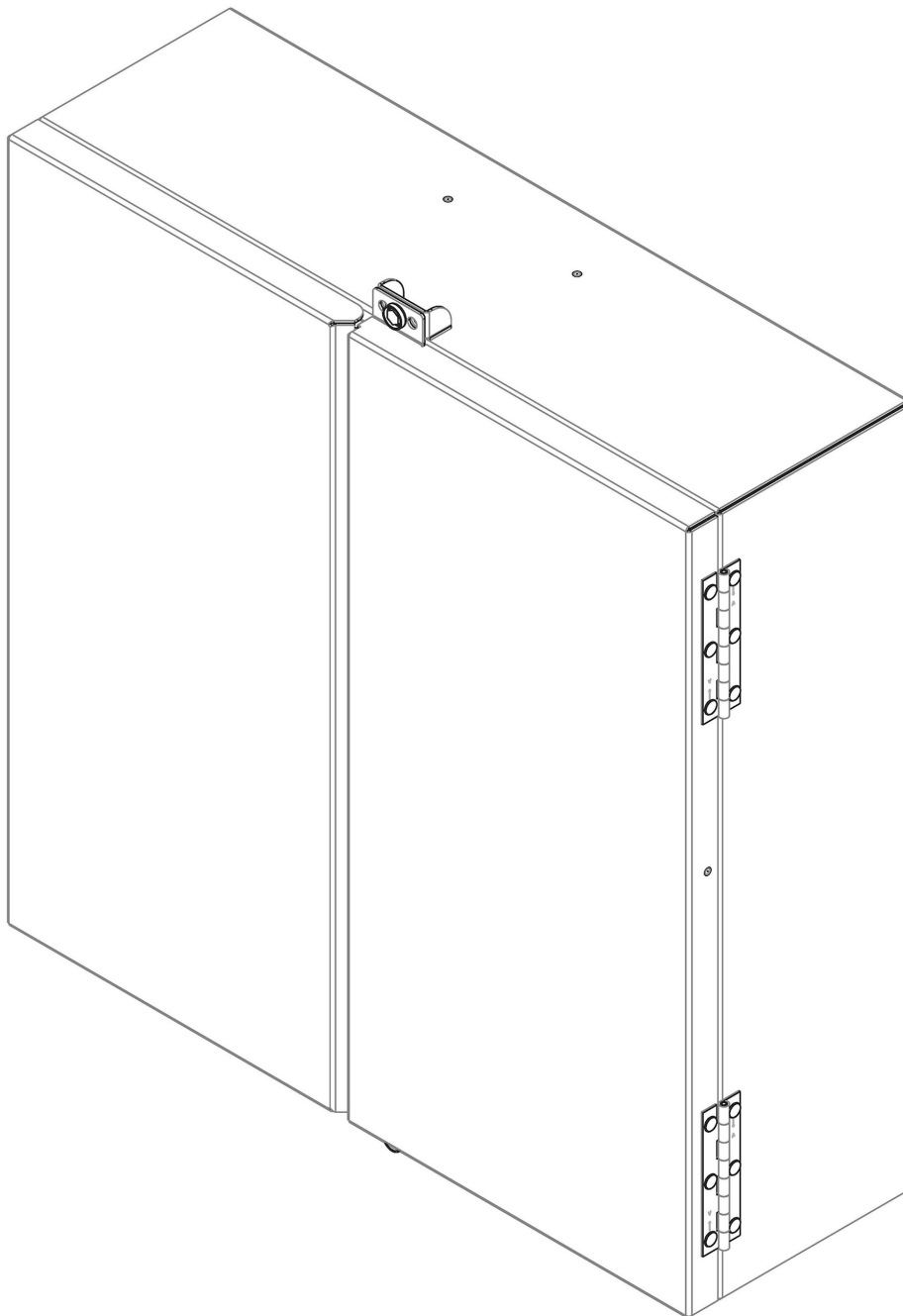


FDH 5000 432, 576 & 864 OUTDOOR CABINET



Contents

1	ABOUT THIS MANUAL	3
2	RELATED PUBLICATIONS	3
3	ADMONISHMENTS	3
4	GENERAL SAFETY PRECAUTIONS	3
5	LIST OF ACRONYMS AND ABBREVIATIONS	4
6	DESCRIPTION	4
6.1	FDH 5000 Cabinet	4
7	ALL CABINET VERSIONS	6
8	BEFORE STARTING THE INSTALLATION	8
8.1	Installation Overview	8
8.2	Unpacking and Inspection	8
8.3	Cabinet Installation Hardware	8
8.4	Grounding the Cabinet and OSP Cables	8
8.5	Tools and Materials Required for Installation	8
8.6	Outdoor Applications	8
8.7	Craft Requirements	8
8.8	Cabinet Mounting	8
9	CABINET WALL MOUNT APPLICATION	9
10	CABINET POLE MOUNT APPLICATIONS	10
10.1	Pole-Mounting Procedure for Wooden Utility Pole	10
10.2	Grounding Wire Connection to Pole Mounted Cabinets	11
11	GROUND MOUNTING THE CABINET	12
11.1	Mounting the Cabinet on a Fiberglass Mounting Sleeve (FMS)	12
11.2	Mounting the Cabinet on the Pad Mount	13
11.2.1	Installation Guidelines	14
11.2.2	Base Construction and Conduit Installation	14
11.2.3	Concrete Pad Construction	15
11.2.4	Mounting the Cabinet on the Concrete Pad	15
11.3	Grounding Wire Connection to Pad Mounted Cabinets	17
12	INSTALLING SPLITTER MODULES	17
12.1	Remove the plastic tray out of the slot	17
12.2	Remove the splitter from its original tray	18
12.3	Install the splitter module on the FDH 5000 plastic tray	18
12.4	Reinstall the plastic tray with the splitter module installed	18
12.5	Install the parking modules	19
13	CONNECT SPLITTER INPUT PIGTAIL	19
14	CONNECT SPLITTER OUTPUT PIGTAILS	20
15	POINT TO POINT CONNECTION	20
16	MAINTENANCE AND REPAIR PROCEDURES	21
16.1	Painting	21
16.2	Door Gasket Replacement	21
16.3	Rear access to Feeder and distribution cables	22
16.4	Door Replacement	23
16.5	Screen Vent Service	24
17	DISCLAIMER	24
18	CONTACT INFORMATION	24

1 ABOUT THIS MANUAL

This publication describes the FDH5000 864 Outdoor Cabinet. Also included are procedures for mounting the cabinet, installing additional splitter modules, installing additional connector panels, storing the splitter output fibers, connecting the splitter output fibers to the distribution fibers, and replacing damaged components.

2 RELATED PUBLICATIONS

Listed below are related manuals and their publication numbers. Copies of these publications can be ordered by contacting the CommScope Technical Assistance Center at 1.800.830.5056, or by e-mail to TAC.Americas@commscope.com.

Title	Publication Number
Optical Fiber Connector Wet and Dry Cleaning Instructions II FDH 5000 144_288 Cabinet	ADCP-90-159 TC-1437-IP

3 ADMONISHMENTS

Important safety admonishments are used throughout this manual to warn of possible hazards to persons or equipment. An admonishment identifies a possible hazard and then explains what may happen if the hazard is not avoided. The admonishments — in the form of Dangers, Warnings, and Cautions — must be followed at all times. These warnings are flagged by use of the triangular alert icon (seen below) and are listed in descending order of severity of injury or damage and likelihood of occurrence.



Danger: *Danger is used to indicate the presence of a hazard that will cause severe personal injury, death, or substantial property damage if the hazard is not avoided.*



Warning: *Warning is used to indicate the presence of a hazard that can cause severe personal injury, death, or substantial property damage if the hazard is not avoided.*



Caution: *Caution is used to indicate the presence of a hazard that will or can cause minor personal injury or property damage if the hazard is not avoided.*

4 GENERAL SAFETY PRECAUTIONS



Warning: *Wet conditions increase the potential for receiving an electrical shock when installing or using electrically-powered equipment. To prevent electrical shock, never install or use electrical equipment in a wet location or during a lightning storm.*



Danger: *Do not look into the ends of any optical fiber. Exposure to laser radiation may result. Do not assume the laser power is turned-off or that the fiber is disconnected at the other end.*



Danger: *Use adequate lifting equipment when moving or installing Fiber Distribution Hub cabinets. Verify that the maximum lift weight rating of the equipment is sufficient to handle the weight of the cabinet.*



Danger: *Do not stand under a Fiber Distribution Hub cabinet as it is being hoisted into position for mounting. A failure of the lifting equipment or apparatus could result in serious personal injury and cause significant damage to the cabinet.*



Warning: *Before digging, check with all local utilities for the presence of buried cables or pipes. Contact with underground cables or pipes, especially electric power cables and gas service lines, could interrupt local utility service and cause serious personal injury and extensive property damage.*

5 LIST OF ACRONYMS AND ABBREVIATIONS

The acronyms and abbreviations used in this manual are detailed in the following list:

AWG	American Wire Gauge
C	Centigrade
F	Fahrenheit
FDH	Fiber Distribution Hub
FTTP	Fiber To The Premises
ID	Inside Diameter
OSP	Outside Plant
PNP	Plug and Play
RBR	Reduced Bend Radius
RMA	Return Material Authorization

6 DESCRIPTION

This section provides a description of the FDH 5000 Cabinet and the cabinet specifications.

6.1 FDH 5000 Cabinet

The FDH 5000 Cabinet is a secure, above-ground, outdoor fiber optic distribution cabinet that is designed to hold splitters, adapters, and cables required for Fiber To The Premises (FTTP) network applications. The FDH 5000 cabinet has two columns of thirty mounting slots (60 slots total) for virtually any combination of splitters, parking lots, feeder and distribution modules. The 864 cabinet configuration with 144 feeder and 864 distribution appearances occupies 42 slots in the cabinet while the remaining 18 slots are used for splitter and parking modules. 432 and 576 cabinet configurations are also available.

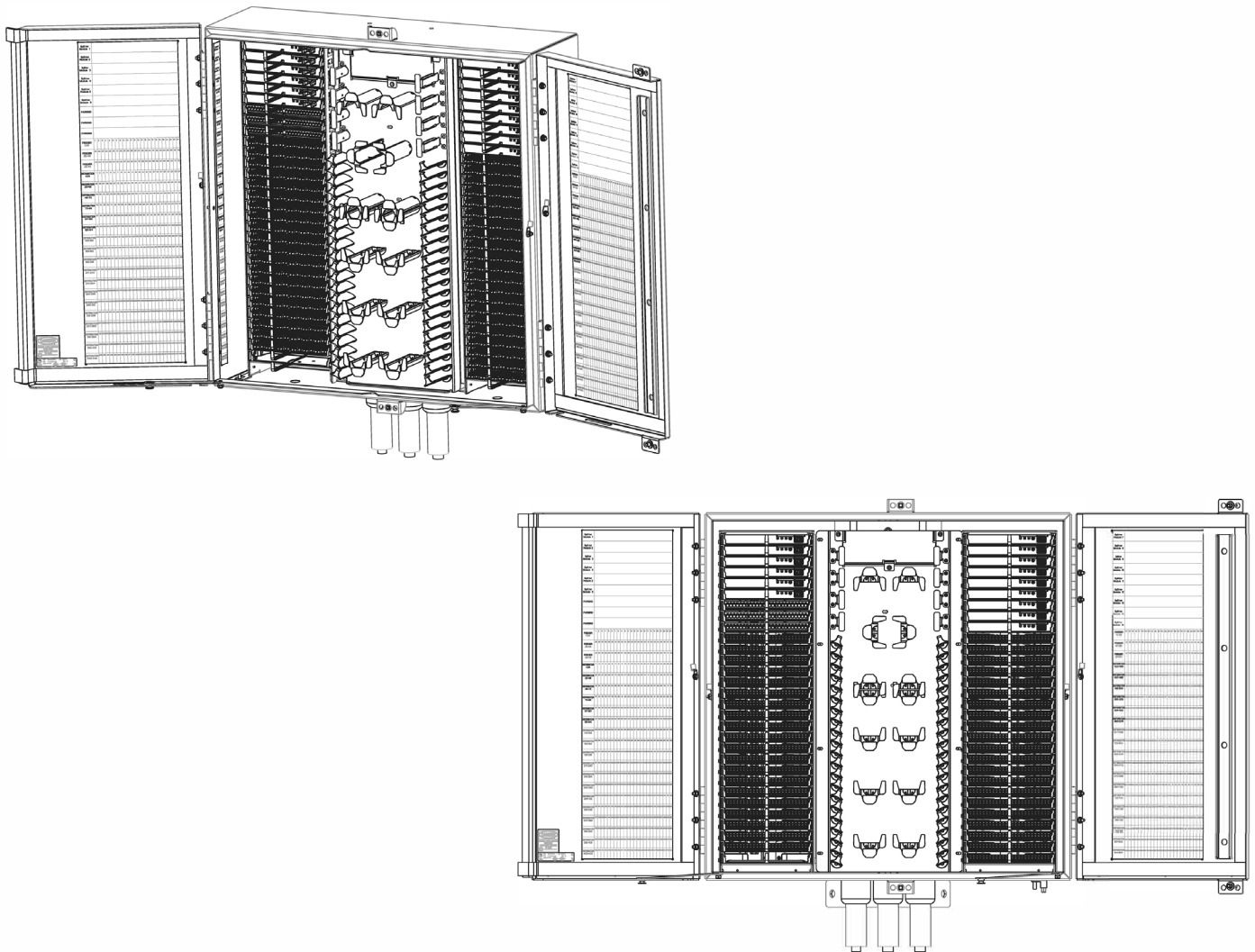


Figure 1. FDH 5000 Cabinet

432 FDH 5000 Configuration

- Applications: Pad mount, pole mount
- 144F Feeder, 432F Distribution
- (14) Slots for splitters
- (18) Slots for parking



432 FDH 5000		
Row#	Column A	Column B
1	Splitter 7	Splitter 14
2	Splitter 6	Splitter 13
3	Splitter 5	Splitter 12
4	Splitter 4	Splitter 11
5	Splitter 3	Splitter 10
6	Splitter 2	Splitter 9
7	Splitter 1	Splitter 8
8	PARKING	PARKING
9	PARKING	PARKING
10	PARKING	PARKING
11	PARKING	PARKING
12	PARKING	PARKING
13	PARKING	PARKING
14	PARKING	PARKING
15	PARKING	PARKING
16	PARKING	PARKING
17	Feeder 1-24	Feeder 73-96
18	Feeder 28-48	Feeder 97-120
19	Feeder 48-72	Feeder 121-144
20	Distribution 1-24	Distribution 217-240
21	Distribution 25-48	Distribution 241-264
22	Distribution 49-72	Distribution 265-288
23	Distribution 73-96	Distribution 289-312
24	Distribution 97-120	Distribution 313-336
25	Distribution 121-144	Distribution 337-360
26	Distribution 145-168	Distribution 361-384
27	Distribution 169-192	Distribution 385-408
28	Distribution 193-216	Distribution 409-432
29	Empty	Empty
30	Empty	Empty

576 FDH 5000 Configuration

- Applications: Pad mount, pole mount
- 144F Feeder, 576F Distribution
- (18) Slots for splitters
- (12) Slots for parking



576 FDH 5000		
Row#	Column A	Column B
1	Splitter 9	Splitter 18
2	Splitter 8	Splitter 17
3	Splitter 7	Splitter 16
4	Splitter 6	Splitter 15
5	Splitter 5	Splitter 14
6	Splitter 4	Splitter 13
7	Splitter 3	Splitter 12
8	Splitter 2	Splitter 11
9	Splitter 1	Splitter 10
10	PARKING	PARKING
11	PARKING	PARKING
12	PARKING	PARKING
13	PARKING	PARKING
14	PARKING	PARKING
15	PARKING	PARKING
16	Feeder 1-24	Feeder 73-96
17	Feeder 25-48	Feeder 97-120
18	Feeder 49-72	Feeder 121-144
19	Distribution 1-24	Distribution 289-312
20	Distribution 25-48	Distribution 313-336
21	Distribution 49-72	Distribution 337-360
22	Distribution 73-96	Distribution 361-384
23	Distribution 97-120	Distribution 385-408
24	Distribution 121-144	Distribution 409-432
25	Distribution 145-168	Distribution 433-456
26	Distribution 169-192	Distribution 457-480
27	Distribution 193-216	Distribution 481-504
28	Distribution 217-240	Distribution 505-528
29	Distribution 241-264	Distribution 529-552
30	Distribution 265-288	Distribution 553-576

864 FDH 5000 Configuration

- Applications: Pad mount, pole mount
- 144F Feeder, 864F Distribution
- (15) Slots for splitters and parking
- (3) Slots dedicated for parking



864 FDH 5000		
Row#	Column A	Column B
1	Splitter 6	Splitter 15
2	Splitter 5	Splitter 14
3	Splitter 4	Splitter 13
4	Splitter 3	Splitter 12
5	Splitter 2	Splitter 11
6	Splitter 1	Splitter 10
7	PARKING	Splitter 9
8	PARKING	Splitter 8
9	PARKING	Splitter 7
10	Feeder 1-24	Feeder 73-96
11	Feeder 25-48	Feeder 97-120
12	Feeder 49-72	Feeder 121-144
13	Distribution 1-24	Distribution 433-456
14	Distribution 25-48	Distribution 457-480
15	Distribution 49-72	Distribution 481-504
16	Distribution 73-96	Distribution 505-528
17	Distribution 97-120	Distribution 529-552
18	Distribution 121-144	Distribution 553-576
19	Distribution 145-168	Distribution 577-600
20	Distribution 169-192	Distribution 601-624
21	Distribution 193-216	Distribution 625-648
22	Distribution 217-240	Distribution 649-672
23	Distribution 241-264	Distribution 673-696
24	Distribution 265-288	Distribution 697-720
25	Distribution 289-312	Distribution 721-744
26	Distribution 313-336	Distribution 745-768
27	Distribution 337-360	Distribution 769-792
28	Distribution 361-384	Distribution 793-816
29	Distribution 385-408	Distribution 817-840
30	Distribution 409-432	Distribution 841-864

Figure 2. FDH 5000 Cabinet Configurations

7 ALL CABINET VERSIONS

Each cabinet is configured with LC/APC connectors/adapters, and pre-terminated feeder, and distribution cables. There are open slots leftover in the cabinet that are used for either splitters or parking.

Splitter Modules – Splitters are mounted in open slots above the feeder cable appearances in the cabinet. In the 864 cabinet configuration, up to 16 splitter modules may be installed in this area with 2 slots leftover for parking. Splitter modules are equipped with 54-inch pigtailed and reduced bend radius (RBR) fiber. Dual splitter modules in several sizes are available.

Parking Modules – Provides a temporary “parking lot” for unused splitter output fibers. Each splitter comes with a parking module that mounts to a plastic tray in open splitter/parking slots.

Interior Grounding Studs – Provide a connection point for grounding OSP cables with metallic elements.

The feeder and distribution cables enter/exit the cabinet from the bottom. Compression fittings are provided for securing each cable to the **outside** of the cabinet. The compression fitting grips the cable sheath and also prevents dirt and moisture from entering the cabinet at the cable entry/exit point.

The cabinet itself may be grounded by connecting a #6 solid copper grounding cable (from an approved ground source) to exterior grounding on the outside of the cabinet.

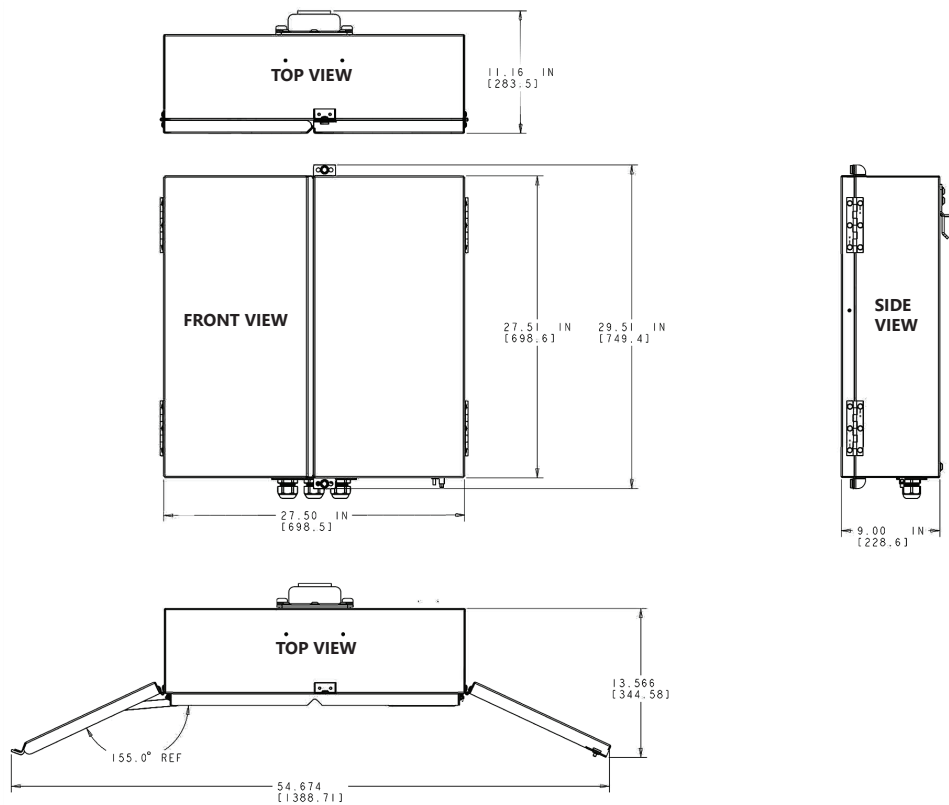
The exterior shell of the outdoor cabinet is constructed of heavy gauge aluminum and is coated with an almond-colored finish. The cabinet is equipped with one front door for pad mounting option and two doors for pole mounting option providing full access to the optical components. The cabinet door is equipped with stainless steel hinges, a door catch that prevents accidental closing, and two tamper-resistant door keepers that may be fitted with padlocks. Access to the cabinet requires a 216B key tool (accessory) to release the door keeper screws. A screen vent allows any moisture that may accumulate within the cabinet to be released.

The cabinet specifications are provided in Table 1.

Table 1. FDH 5000 Outdoor Cabinets

PARAMETER	SPECIFICATIONS
Cabinet	
Nominal cabinet dimensions (H x W x D) (See Figure 3 for exact dimensions)	Cabinet 27.5 x 27.5 x 9 x inches Riser 8 x 27.5 x 13
Weight (without packaging - pole mount, pad mount)	112 lbs (50.802 kg), 116 lbs (52.617 kg)
Distribution ports	432, 576 or 864
Distribution port adapters/connectors	LC/APC
Distribution Cable Type	OSP Rollable Ribbon Dielectric or Armored
Splitter/Parking slot capacity	18 (864), 30 (576) and 36 (432)
Feeder ports	144
Feeder port adapters/connectors	LC/APC
Feeder Cable Type	OSP Rollable Ribbon Dielectric or Armored

Pole mount cabinet dimensions



Pad mount cabinet dimensions

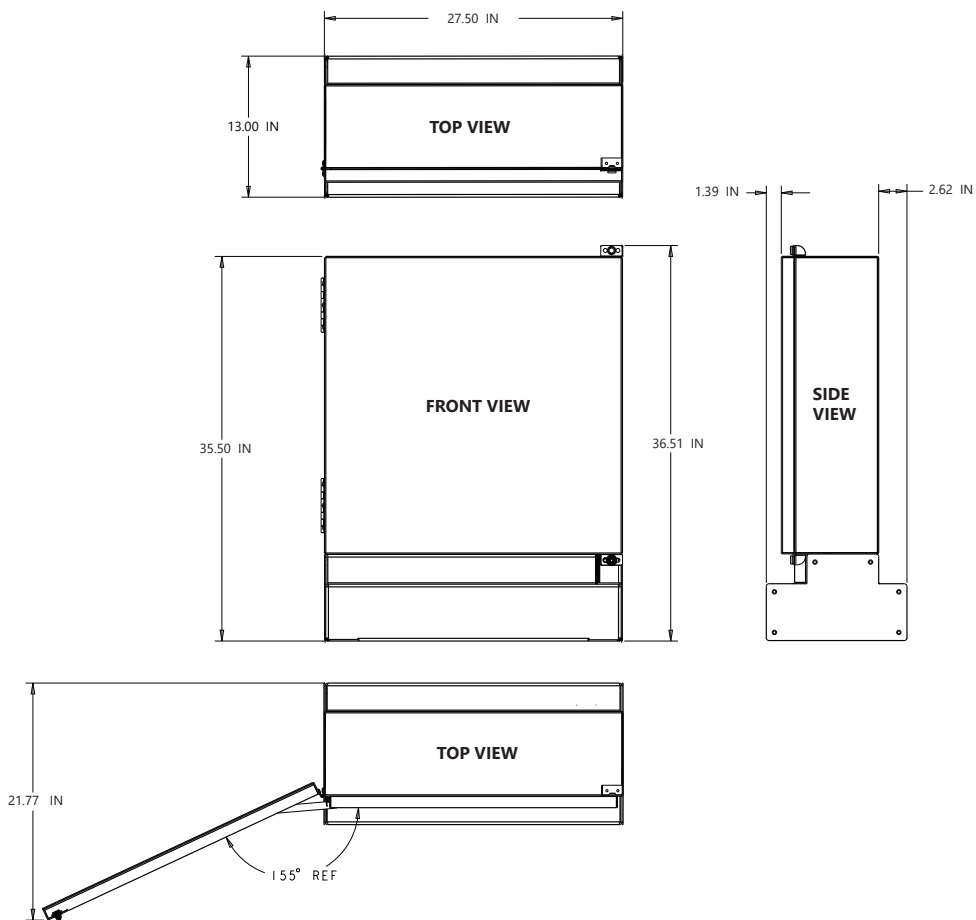


Figure 3. FDH 5000 Cabinet Dimensions

8 BEFORE STARTING THE INSTALLATION

This section provides general installation considerations, unpacking and inspection procedures, and lists the tools and materials required for installing the FDH 5000 Cabinet.

8.1 Installation Overview

Installation of the FDH 5000 Outdoor Cabinet involves the following main tasks:

Mounting the Cabinet – The cabinet must be mounted on a vertical surface that is sufficiently strong to support the weight of the cabinet plus any additional loads that may be intentionally or accidentally applied to the cabinet. Typical mounting methods include pole-mounting and pad mounting.

Feeder Cable Installation – The feeder cable must be unfurled properly when being removed from the packaging to avoid twisting the cable.

Distribution Cable Installation – The distribution cables must be unfurled properly when being removed from the packaging to avoid twisting the cable.

Splitter Installation – The splitter modules must be ordered separately and must be installed in the splitter/parking slots.

8.2 Unpacking and Inspection

This section provides instructions for opening the shipping boxes, verifying that all parts have been received, and verifying that no shipping damage has occurred.

Use the following procedure to unpack and inspect the cabinet and all accessories:

8.2.1 Open the shipping carton(s) and carefully unpack the cabinet and any accessories from the protective packing material.

8.2.2 Open the cabinet door (requires 216B key tool) and check for missing ship-along parts (see installation drawing via QR code) or broken parts. If there are damages, contact CommScope (see Section 18) for an RMA (Return Material Authorization) and to reorder if replacement is required.

8.3 Cabinet Installation Hardware

The cabinet is shipped with various loose parts that are provided for mounting the cabinet. Verify that the specified parts are received.

8.4 Grounding the Cabinet and OSP Cables

A grounding lug is provided on the underside of the cabinet for attaching a #6 solid copper grounding wire. Information on grounding is provided in the sections that cover cabinet mounting and cable installation.

8.5 Tools and Materials Required for Installation

The following basic tools and materials are required for all cabinet installations. The specific tools and materials required for the various mounting methods are listed in the sections that provide cabinet mounting instructions.

- Utility knife
- 216B key tool (used to open cabinet door)
- Tape measure
- Pen or marker
- Lifting equipment for hoisting the cabinet into position for mounting
- External grounding system with #6 copper wire (per local requirements)
- Wire cutter
- APC LC connector cleaning kit
- 3/16-inch hex-key for pad mounting option

8.6 Outdoor Applications

The FDH 5000 Cabinet and all the components provided with the cabinet are designed to be installed in an outdoor environment. It is the installer's responsibility to ensure that all cables and external components used in the installation are also appropriate for the outdoor environment and will meet any standards requirements (including grounding, flammability, temperature, humidity, corrosion, etc.) that may apply.

8.7 Craft Requirements

The FDH 5000 Cabinet may be assembled, mounted, and installed by one trained craftsperson.

8.8 Cabinet Mounting

The next three sections provide instructions for either wall, pole, or pad mounting the cabinet.

9 CABINET WALL MOUNT APPLICATION

This section provides recommendations and procedures for mounting the FDH 5000 Cabinet on a wall.

Warning: Use appropriate lifting equipment when moving or installing the cabinet. Do not stand under a cabinet as it is being hoisted into position for mounting. A failure of the lifting equipment could result in serious personal injury.

9.1 Using the top mounting bracket as a guide, mark the location of the bracket mounting holes on the wall as shown in Figure 4 and mount the top bracket to the pole using a through-bolt or threaded rod.

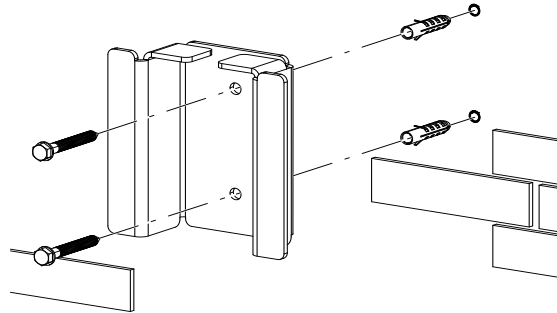


Figure 4. Installing Mounting Bracket on a wall

9.2 Use the 2 bracket mounting capscrews to secure the bottom mounting bracket to the cabinet in the specified mounting location. Tighten each capscrew securely, shown in Figure 5.

9.3 Using appropriate lifting equipment, hoist the cabinet into position for attachment to the top mounting bracket.

Danger: Do not stand directly under the cabinet as it is being hoisted into position for mounting. A failure of the lifting equipment could result in serious personal injury.

9.4 Hang the cabinet from the installed top mounting bracket. The welded bracket on the back of the cabinet, shown in Figure 5, fits into the two slots at the top of the top mounting bracket.

9.5 Check the cabinet to make sure it is level and adjust as needed.

9.6 Using the bottom mounting bracket as a template, drill two 3/8-inch holes into the wall.

9.7 Secure the bottom bracket to the wall using two screws and two flat washers. Tighten each screw securely.

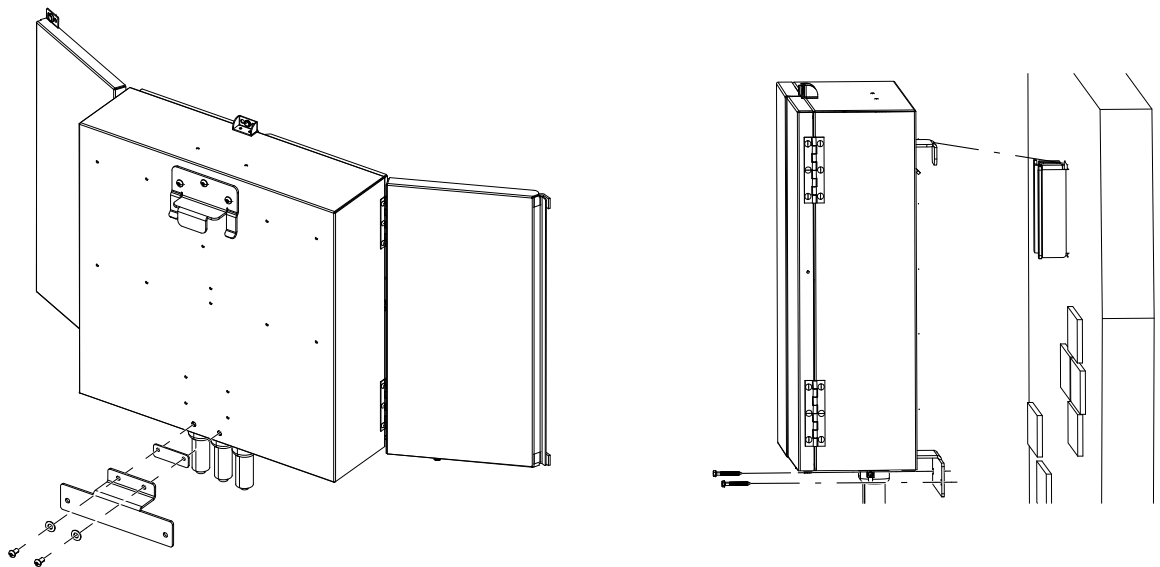


Figure 5. Installing Bottom Bracket to Cabinet and Cabinet on wall-Mounted Bracket

10 CABINET POLE MOUNT APPLICATIONS

This section provides recommendations and procedures for mounting the FDH 5000 Cabinet on a utility pole.

- **Note:** General Recommendations for Pole-Mounting the Cabinet:
The site chosen for the installation must conform to all local codes and any permits required must be obtained prior to the start of installation. The location must be accessible and provide adequate parking for worker and vehicle safety. The installed cabinet must not create a visual or physical obstruction to vehicular or pedestrian traffic. Sufficient space must be provided on all sides to facilitate cabinet installation and maintenance. The top of the installed cabinet must be a minimum of 72-inches above the ground when the cabinet is mounted on the pole. Bond and ground according to governing jurisdictions.

10.1 Pole-Mounting Procedure for Wooden Utility Pole

Use the following procedure to mount the cabinet on a wooden utility pole:

- ⚠ **Warning:** Use appropriate lifting equipment when moving or installing the cabinet. Do not stand under a cabinet as it is being hoisted into position for mounting. A failure of the lifting equipment could result in serious personal injury. Obtain the following fasteners and tools:

- 3/8-inch x 2 inch lag screw suitable for **exterior** application (2)
- 1/2-inch x 3-1/2-inch lag screws (2)
- Bracket mounting capscrews (2)
- 7/32-inch key tool
- Drill
- 9/32-inch drill bit
- 1/2-inch drill bit (optional depending on pole condition)
- 9/16-inch wrench
- 216B key tool (accessory)

The following fasteners are optional depending on the condition of the pole:

- 1/2-inch through-bolt (1), 1/2-inch nut (1), 1/2-inch flat washer (2)
- 1/2-inch threaded rod (1), 1/2-inch nut (1), 1/2-inch flat washer (2), 1/2-inch lock washer (2)

10.1.1 Using the top mounting bracket as a guide, mark the location of the bracket mounting holes on the pole as shown in Figure 6 and mount the top bracket to the pole using a through-bolt or threaded rod.

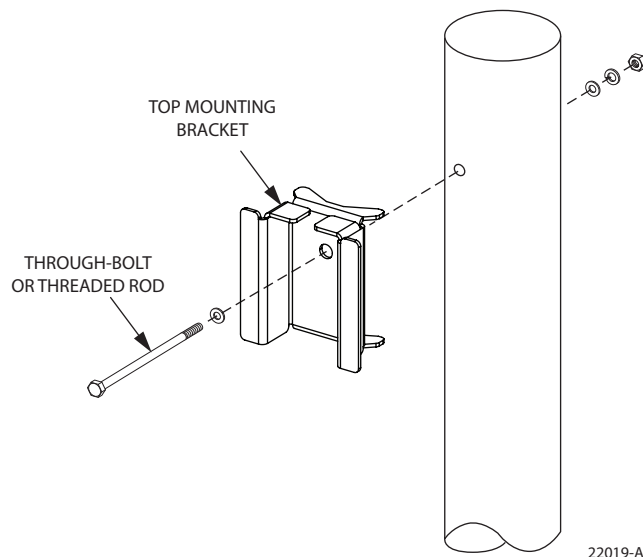


Figure 6. Installing Mounting Bracket on a Utility Pole

10.1.2 Use the 2 bracket mounting capscrews to secure the bottom mounting bracket to the cabinet in the specified mounting location. Tighten each capscrew securely, shown in Figure 7.

10.1.3 Using appropriate lifting equipment, hoist the cabinet into position for attachment to the top mounting bracket.

- ⚠ **Danger:** Do not stand directly under the cabinet as it is being hoisted into position for mounting. A failure of the lifting equipment could result in serious personal injury.

- 10.1.4 Hang the cabinet from the installed top mounting bracket. The welded bracket on the back of the cabinet, shown in Figure 7, fits into the two slots at the top of the top mounting bracket.
- 10.1.5 Check the cabinet to make sure it is level and adjust as needed.
- 10.1.6 Using the bottom mounting bracket as a template, drill two 3/8-inch holes into the pole to a depth of at least 3-1/2 inches.
- 10.1.7 Secure the bottom bracket to the pole using two 1/2-inch x 3-1/2-inch lag screws and two 1/2-inch flat washers. Tighten each lag screw securely.

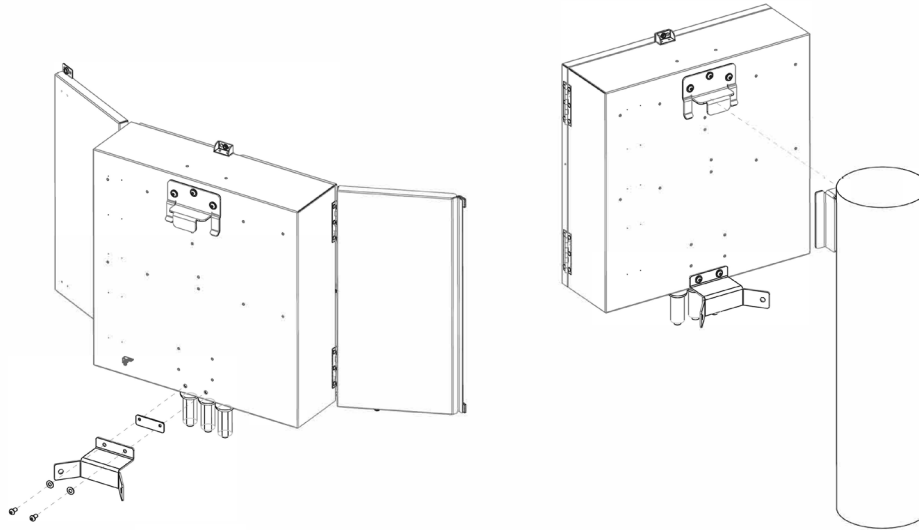


Figure 7. Installing Bottom Bracket to Cabinet and Cabinet on Pole-Mounted Bracket

10.2 Grounding Wire Connection to Pole Mounted Cabinets

Use the following procedure to connect the grounding wire to the cabinet:

- 10.2.1 Locate the cabinet grounding lug which is mounted on the underside of the cabinet as shown in Figure 8.

► **Note:** The grounding lug may be removed for other approved grounding practices.

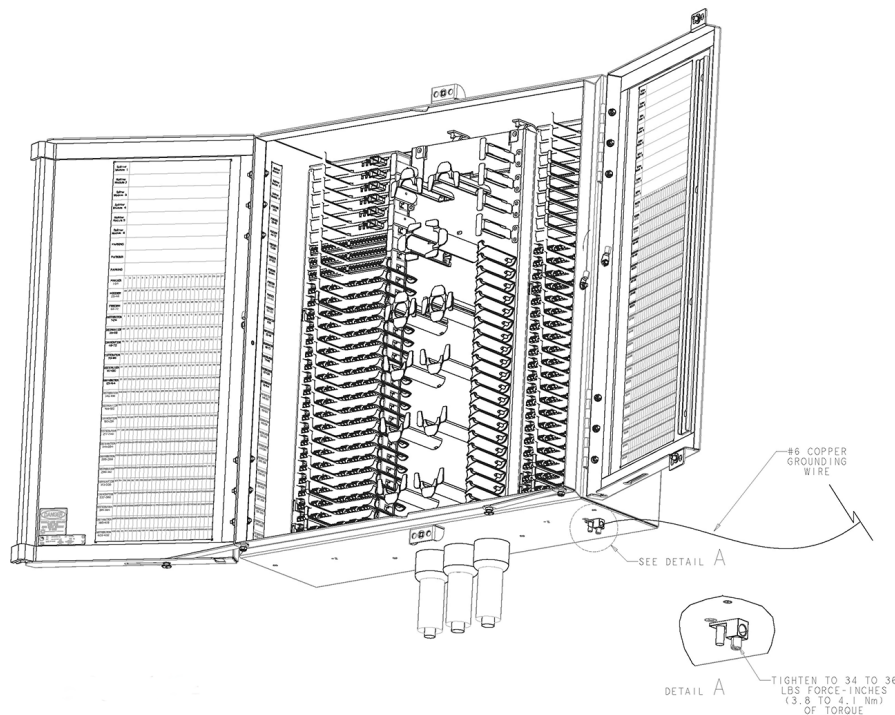


Figure 8. Grounding Wire Connection To Cabinet

- 10.2.2 Obtain a length of #6 AWG copper wire for use as a grounding wire.
- 10.2.3 Insert one end of the grounding wire into the cabinet grounding lug. Tighten the grounding lug set screw to 34 to 36 lbs-force inches (3.8 to 4.1 Nm) of torque.
- 10.2.4 Route the free end of the grounding wire to an approved ground source.
- 10.2.5 Cut the grounding wire to length and connect it to the ground source as specified by local code or practice.

Warning: Failure to properly tighten the screw on the grounding lug could result in improper grounding of the cabinet and result in performance or safety issues.

11 GROUND MOUNTING THE CABINET

11.1 Mounting the Cabinet on a Fiberglass Mounting Sleeve (FMS)

Use the 216B key tool to un-latch and latch the cabinet door as needed during the mounting process. Refer to Figure 9 as necessary when mounting the cabinet.

Warning: Use appropriate lifting equipment when moving or installing the cabinet. Do not stand under a cabinet as it is being hoisted into position for mounting. A failure of the lifting equipment could result in serious personal injury.

Note: Illustration below is for reference only.

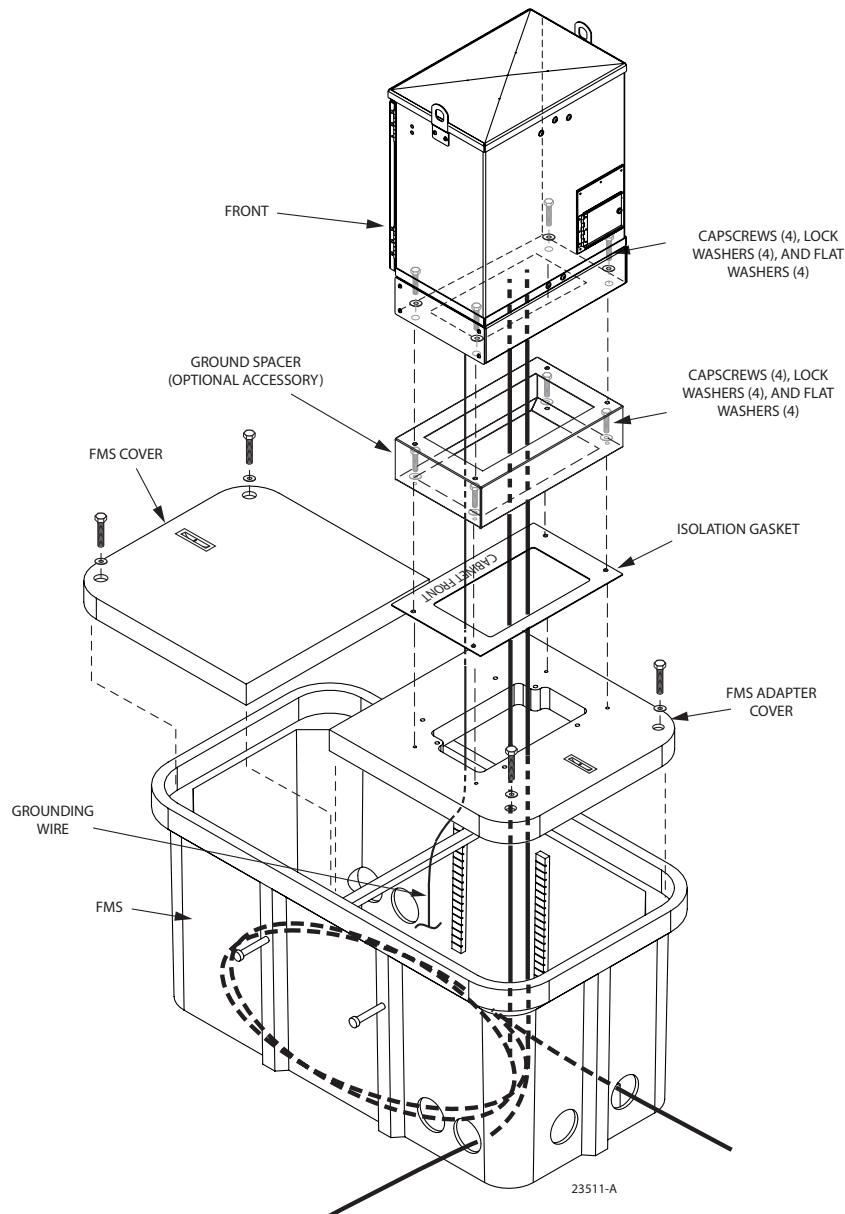


Figure 9. Mounting Cabinet on the FMS

Use the following procedure to mount the cabinet on the FMS:

11.1.1 Use a 3/16-inch hex-key to remove the screws that secure the access covers to the left and right sides of the cabinet ground spacer/riser as shown in Figure 10.

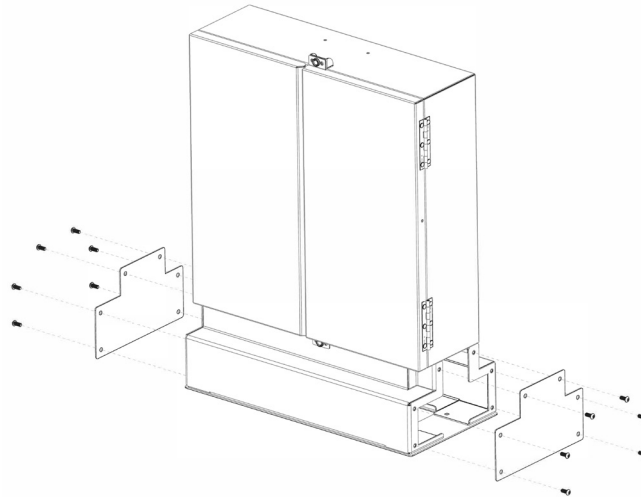


Figure 10. Removing Side Access Covers From Ground Spacer/Riser

11.1.2 Remove the access covers from the ground spacer/riser and set aside both the covers and the screws for reuse.

11.1.3 Mount the FMS adapter cover on the FMS and secure using the two capscrews and flat washers provided. Tighten each capscrew securely.

11.1.4 Place the isolation gasket (provided with cabinet) on the adapter cover and align the holes in the gasket with the holes in the adapter cover. Make sure the wide side of the gasket is on the side of the adapter cover that corresponds to the front side of the cabinet.

11.1.5 If a ground spacer/riser (optional accessory) will be installed, place the spacer in position for mounting on the adapter cover. The isolation gasket installed in step 11.1.4 should remain in place between the adapter cover and ground spacer. If a ground spacer will not be installed, proceed to step 11.1.8.

11.1.6 Align the mounting holes in the spacer/riser with the mounting holes in the adapter cover.

11.1.7 Secure the spacer/riser to the adapter cover using the four capscrews, four lock washers, and four flat washers provided with the spacer. Tighten all capscrews securely.

11.1.8 Using appropriate lifting equipment, hoist the cabinet into position for mounting on the spacer/riser or adapter cover.

Danger: Do not stand directly under the cabinet as it is being hoisted into position for cable installation. A failure of the lifting equipment could result in serious personal injury.

11.1.9 Lower the cabinet onto the ground spacer/riser or adapter cover and align the mounting holes in the cabinet base with the threaded holes in the spacer/riser or adapter cover. If a spacer/riser was not installed, leave the isolation gasket (installed in step 11.1.4) in place on the adapter cover.

11.1.10 Install access covers on the sides of the cabinet using 3/16-inch hex key.

11.1.11 Install the FMS sleeve cover on the FMS and secure using the two capscrews and washers provided. Tighten both capscrews securely.

Note: The FMS sleeve cover may be installed at a later time so the interior of the FMS sleeve to be accessed for cable installation, ground wire installation, or splicing.

11.2 Mounting the Cabinet on the Pad Mount

Use the 216B key tool to un-latch and latch the cabinet door as needed during the mounting process. Refer to Figure 15 as necessary when mounting the cabinet.

Warning: Use appropriate lifting equipment when moving or installing the cabinet. Do not stand under a cabinet as it is being hoisted into position for mounting. A failure of the lifting equipment could result in serious personal injury.

The Pad Mount Frame (PMF), shown in Figure 11, is a stainless steel frame that provides a mounting base for the cabinet when embedded in a concrete foundation.



Caution: Mounting the cabinet directly on a concrete pad may cause chemical corrosive action to the cabinet. Use only the Pad Mount Frame (PMF) as a mounting base for the cabinet. Do not use caulking compounds as a sealer between the cabinet and the PMF.

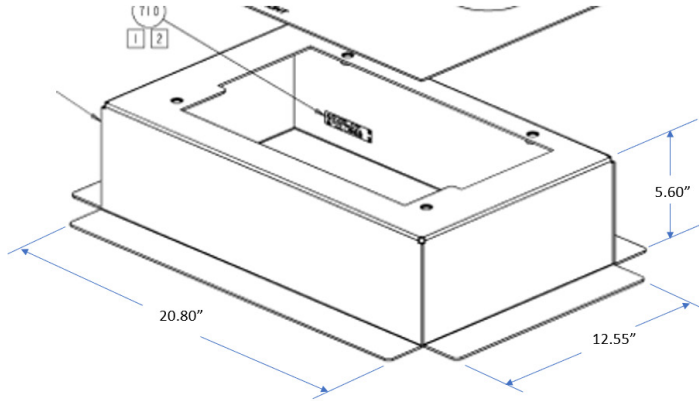


Figure 11. Pad Mount Frame Dimensions

11.2.1 Installation Guidelines

The site chosen for the installation must conform to all local codes and any permits required must be obtained prior to the start of installation. The location must be accessible and provide adequate parking for worker and vehicle safety. Situate the concrete pad close to the trench that was used for routing the OSP fiber cables for the network distribution system. The installed cabinet must not create a visual or physical obstruction to vehicular or pedestrian traffic. Ensure that there is sufficient space on all sides to facilitate cabinet installation. Depending on the landscaping requirements, the top surface of the concrete pad may be located from 0 to 3 inches (7.6 cm) above the surrounding grade.

11.2.2 Base Construction and Conduit Installation

Prepare a base for the concrete pad that meets all local code requirements. The base must have a footing of 4 to 6 inches (10.2 to 15.2 cm) of sand or gravel (per local practice) on firmly compacted soil. Refer to the construction diagram in Figure 12 for details.

Install the cable conduit from below and position it so that the top of each upward bend will be located within the PMF opening at the indicated point. When installed, the top of the conduit should be located 1 to 2 inches (2.54 to 5.08 cm) below the top of the finished concrete pad. Install the conduit before pouring the pad.

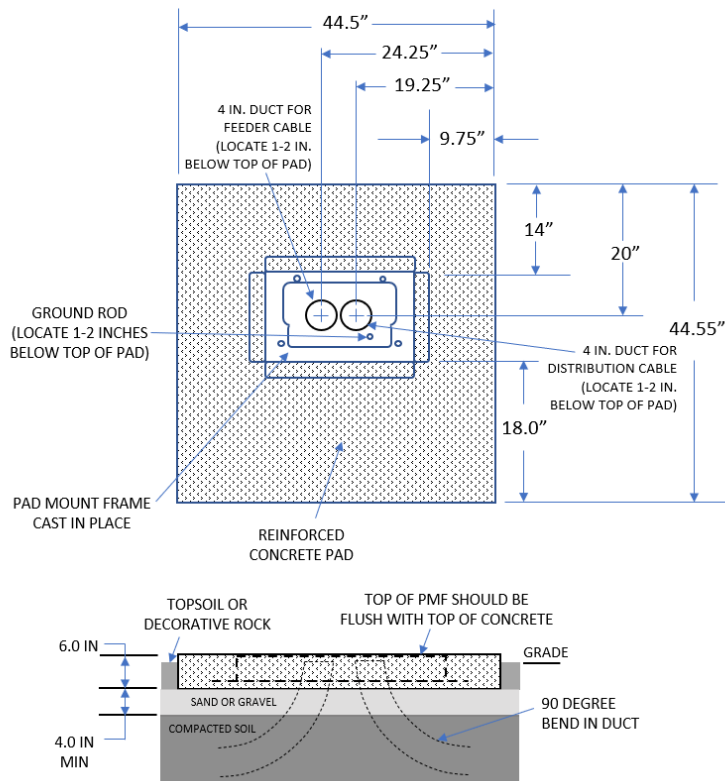


Figure 12. Constructing the Concrete Pad

11.2.3 Concrete Pad Construction

Use the following procedure to construct the concrete pad:

11.2.3.1 Build a wood form for the concrete pad using 2 x 6 framing lumber as shown in Figure 14.

11.2.3.2 Locate the PMF as shown in the construction diagram (see Figure 12). When installed, the top surface of the PMF must be flush and level with the top of the concrete pad.

► **Note:** Use temporary top framing to keep the top surface of the PMF flush and level with the top of the concrete pad (see Figure 13).

11.2.3.3 Place reinforcing material inside the form but outside of the PMF.

11.2.3.4 Verify that the PMF and form are level. Depending on the landscaping requirements, the top surface of the concrete pad may be 0 to 3 inches (0 to 7.6 cm) above the final grade. The weld nuts are covered with plugs which must be left in place until the enclosure is mounted.

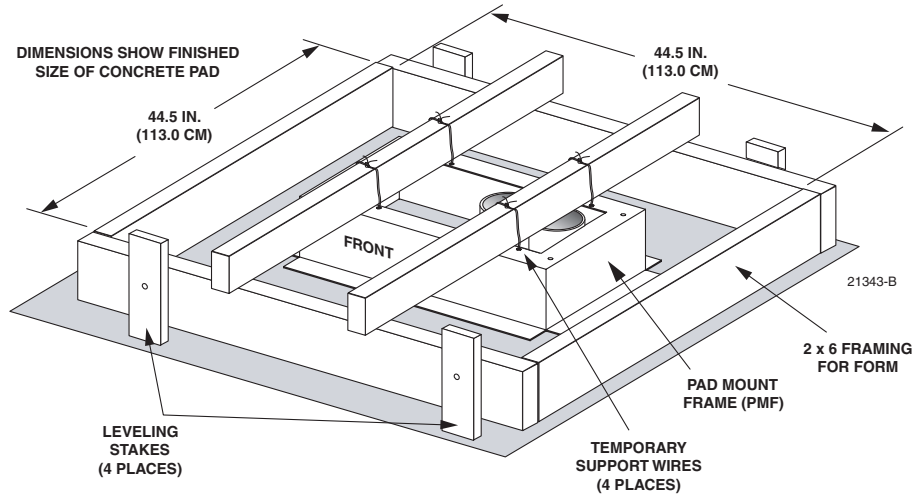


Figure 13. Concrete Pad Framing

11.2.3.5 Pour the concrete to form the pad but do not pour concrete into the center area of the PMF.

► **Note:** Allow some concrete to flow under the flanges on the bottom of the PMF so the PMF will be locked in place when the concrete hardens. However, do not allow concrete to fill the center of the PMF. If necessary, partially fill the center of the PMF with sand or gravel to prevent an inflow of concrete.

11.2.3.6 Remove the top framing and the temporary support wires when the concrete is ready to be finished.

11.2.3.7 Allow concrete to cure before proceeding with the installation.

11.2.4 Mounting the Cabinet on the Concrete Pad

Use the 216B key tool to un-latch and latch the cabinet doors as needed during the mounting process. Refer to Figure 14 as necessary when mounting the cabinet.

⚠ **Warning:** Use appropriate lifting equipment when moving or installing the cabinet. Do not stand under a cabinet as it is being hoisted into position for mounting. A failure of the lifting equipment could result in serious personal injury.

Use the following procedures to mount the cabinet on the concrete pad.

11.2.4.1 Use a 3/16-inch hex-key to remove the screws that secure the access covers to the left and right sides of the cabinet ground spacer/riser as shown in Figure 15.

11.2.4.2 Remove the plastic plugs that are installed in the threaded corner holes of the PMF and clean off any concrete that may have adhered to the top of the PMF.

11.2.4.3 Place the isolation gasket (provided with cabinet) on the PMF and align the holes in the gasket with the holes in the PMF. Make sure the wide side of the gasket is on the side of the PMF that corresponds to the front side of the cabinet.

11.2.4.4 If a ground spacer/riser (accessory) will be installed, place the spacer/riser in position for mounting on the PMF. The isolation gasket installed in step 11.2.4.3 should remain in place between the PMF and spacer/riser. If a spacer/riser will not be installed, proceed to step 11.2.4.7.

11.2.4.5 Align the mounting holes in the spacer/riser with the mounting holes in the PMF.

11.2.4.6 Secure the spacer/riser to the PMF using the four capscrews, four lock washers, and four flat washers provided. Tighten all capscrews securely.

11.2.4.7 Using appropriate lifting equipment, hoist the cabinet several feet into the air to provide access to the feeder and distribution cables.

Danger: Do not stand directly under the cabinet as it is being hoisted into position for cable installation. A failure of the lifting equipment could result in serious personal injury.

Note: Label or tag the stub end of each cable so it can be identified after it is routed to the splice enclosure.

11.2.4.8 Feed the stubbed feeder and distribution cables into the appropriate conduit sections and route to the splice enclosure (not provided).

Note: A separate splice enclosure (not provided) is required for splicing the cabinet OSP feeder and distribution cables to the network cables.

11.2.4.9 Lower the cabinet onto the ground spacer/riser or PMF and align the mounting holes in the cabinet base with the threaded holes in the spacer/riser or PMF. If a spacer/riser was not installed, leave the isolation gasket (installed in step 11.2.4.3) in place on the PMF.

Note: Illustration is for reference only ("Figure 14. Mounting Cabinet on the Concrete Pad").

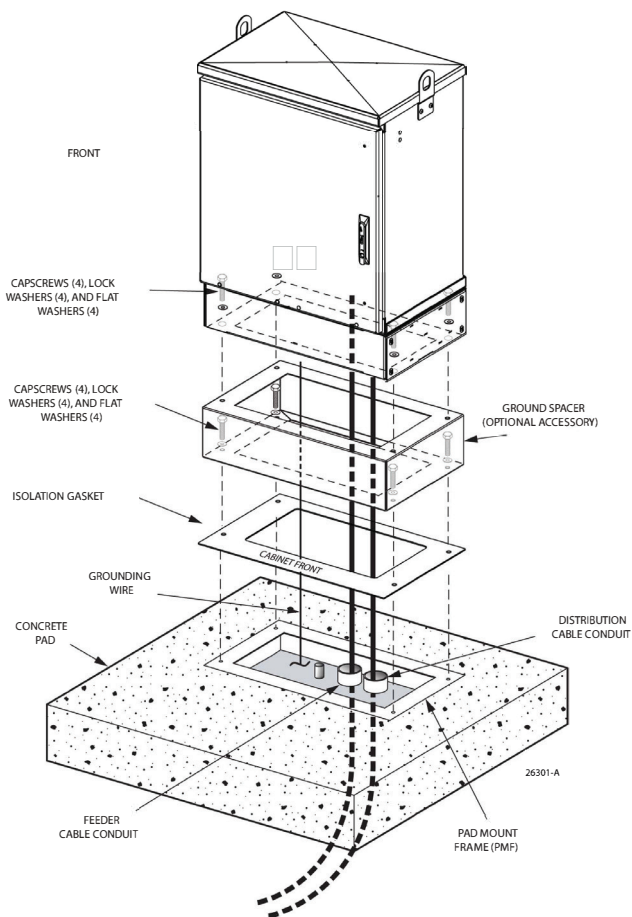


Figure 14. Mounting Cabinet on the Concrete Pad

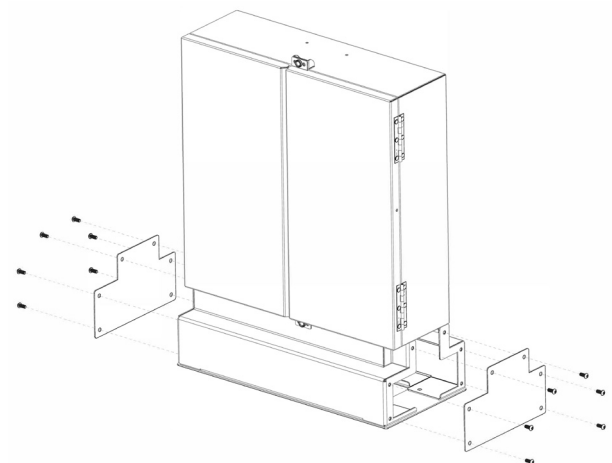


Figure 15. Removing Side Access Covers From Ground Spacer/Riser

11.2.4.10 Secure the cabinet to the spacer/riser or PMF using the four capscrews, four lock washers, and four flat washers provided with the cabinet. Tighten all four capscrews securely.

11.3 Grounding Wire Connection to Pad Mounted Cabinets

Install a grounding system (not provided) that meets all local electrical codes. Check local codes for grounding system installation, use of clamps, wire size, and any other grounding requirements. Typically, #6 AWG copper wire is used for the ground wire. If the grounding system includes a ground rod, install the rod (see Figure 12) within the PMF opening at the indicated point. When installed, the top of the rod should be located 1 to 2 inches (2.54 to 5.08 cm) below the top of the finished concrete pad. Leave sufficient slack in the grounding wire to allow it to be routed into the cabinet after the cabinet is mounted on the pad.

12 INSTALLING SPLITTER MODULES

12.1 Remove the plastic tray out of the slot

12.1.1 Splitter modules snap into plastic trays which in turn mount into empty slot positions within the cabinet. Refer to Figure 22 to determine which slot position to pull from. To remove the plastic tray, push the tabs on the right and left side of the slot with your finger and move the tray towards you. The tray will come out completely.

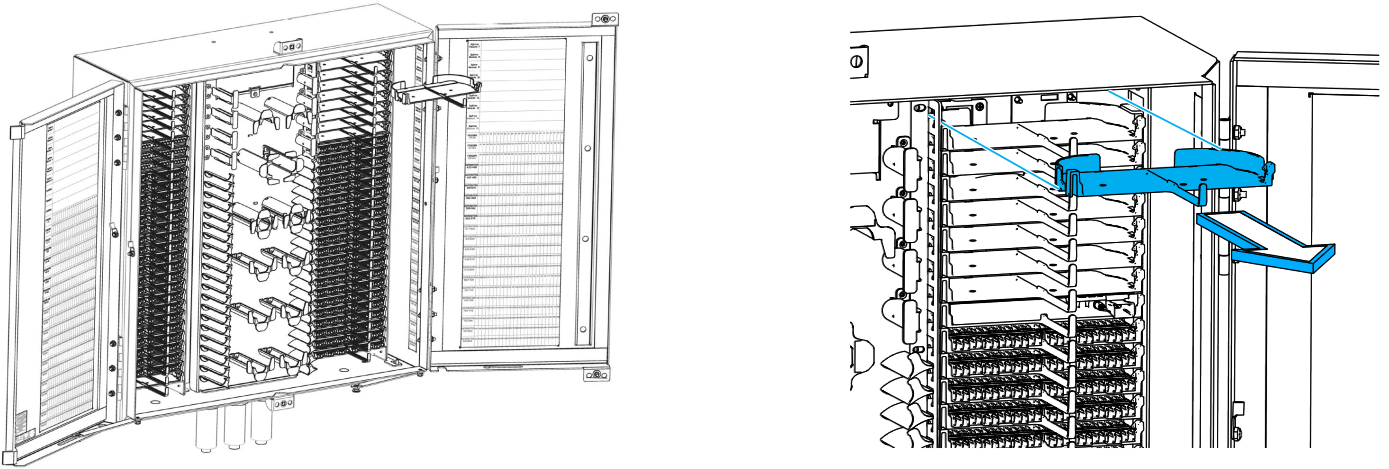


Figure 16. Plastic Tray Removal

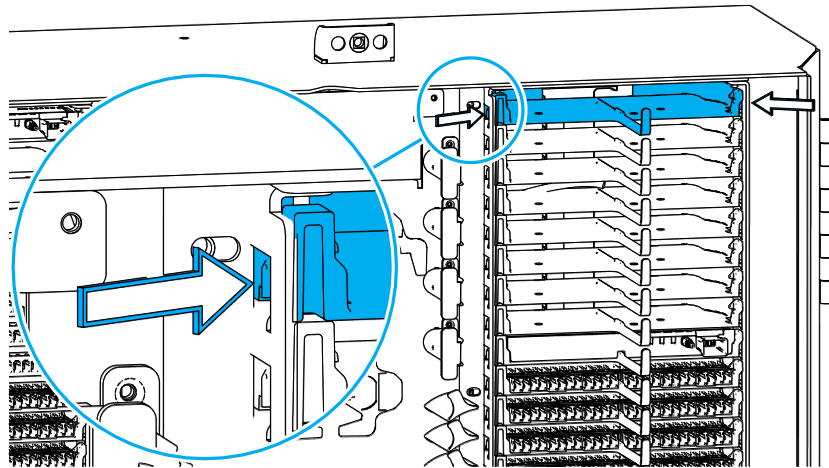


Figure 17. Tabs and Snappers Details

12.2 Remove the splitter from its original tray

12.2.1 The plastic tray that comes originally with the splitter module will need to be removed and discarded. To remove the splitter module, push the two snappers to the outside and lift the splitter out of the tray. The tray can be discarded once it is removed from the splitter.

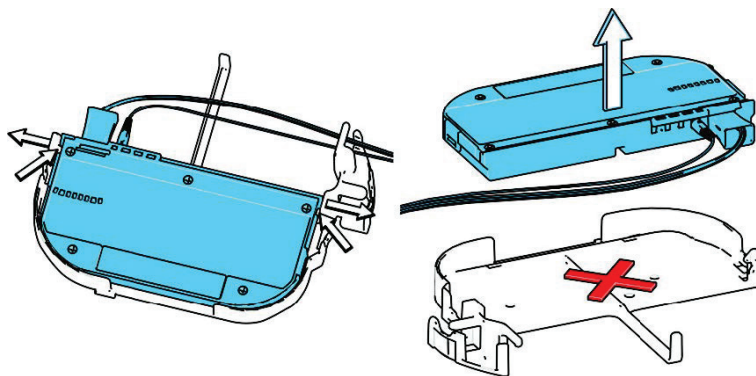


Figure 18. Remove Splitter From its Original Tray

12.3 Install the splitter module on the FDH 5000 plastic tray

12.3.1 Align the splitter module with the new tray taken from the FDH 5000 cabinet and push the splitter inward until the splitter module clicks into place.

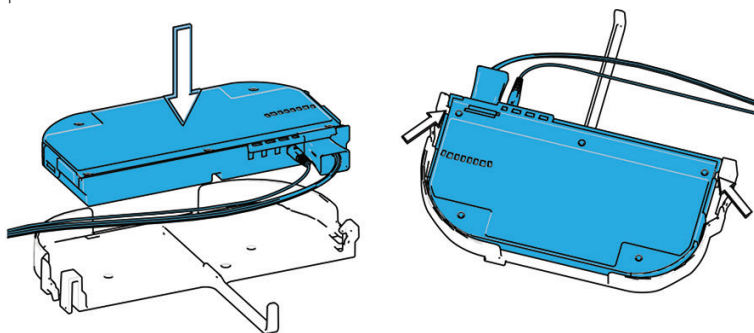


Figure 19. Install the Splitter on the FDH 5000 Tray

12.4 Reinstall the plastic tray with the splitter module installed

12.4.1 Align the tray with the designated slot. (Figure 20 shows the order of the installation of the splitters).

12.4.2 Push the tray inward until the tray clicks into place.

864 FDH 5000		
Row#	Column A	Column B
1	Splitter 6	Splitter 15
2	Splitter 5	Splitter 14
3	Splitter 4	Splitter 13
4	Splitter 3	Splitter 12
5	Splitter 2	Splitter 11
6	Splitter 1	Splitter 10
7	PARKING	Splitter 9
8	PARKING	Splitter 8
9	PARKING	Splitter 7
10	Feeder 1-24	Feeder 73-96
11	Feeder 25-48	Feeder 97-120
12	Feeder 49-72	Feeder 121-144
13	Distribution 1-24	Distribution 433-456
14	Distribution 25-48	Distribution 457-480
15	Distribution 49-72	Distribution 481-504
16	Distribution 73-96	Distribution 505-528
17	Distribution 97-120	Distribution 529-552
18	Distribution 121-144	Distribution 553-576
19	Distribution 145-168	Distribution 577-600
20	Distribution 169-192	Distribution 601-624
21	Distribution 193-216	Distribution 625-648
22	Distribution 217-240	Distribution 649-672
23	Distribution 241-264	Distribution 673-696
24	Distribution 265-288	Distribution 697-720
25	Distribution 289-312	Distribution 721-744
26	Distribution 313-336	Distribution 745-768
27	Distribution 337-360	Distribution 769-792
28	Distribution 361-384	Distribution 793-816
29	Distribution 385-408	Distribution 817-840
30	Distribution 409-432	Distribution 841-864

Day 1		
Row#	Column A	Column B
1	Open Slot	Open Slot
2	Open Slot	Open Slot
3	Open Slot	Open Slot
4	Open Slot	Open Slot
5	Open Slot	Open Slot
6	New 1x32 Splitter	Open Slot
7	PARKING	Open Slot
8	PARKING	Open Slot
9	PARKING	Open Slot
10	Feeder 1-24	Feeder 73-96

Day 2		
Row#	Column A	Column B
1	Open Slot	Open Slot
2	Open Slot	Open Slot
3	Open Slot	Open Slot
4	Open Slot	Open Slot
5	New 1x64 Splitter	Open Slot
6	Existing 1x32 Splitter	Open Slot
7	PARKING	PARKING
8	PARKING	PARKING
9	PARKING	PARKING
10	Feeder 1-24	Feeder 73-96

Figure 20. Order of Splitter Installation

12.5 Install the parking modules

- 12.5.1 Remove the plastic tray from the slot designated for parking (See Figure 16).
- 12.5.2 Snap the parking module into the plastic tray (See Figure 21).

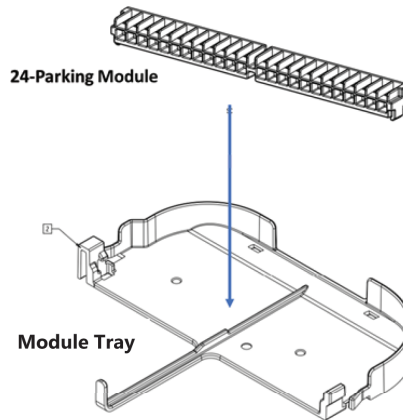


Figure 21. Install the Parking Modules

- 12.5.3 Install the parking module with the tray back into the same slot.
- 12.5.4 Repeat steps 1-3 for any additional parking modules.
- 12.5.5 Route pigtail slack into center storage area as shown in Figure 22.

13 CONNECT SPLITTER INPUT PIGTAIL

- 13.1 Select the designated feeder port. Remove the blue pigtail from the parking module and separate from the pigtail bundle. Remove the dust cap, inspect and clean the connector per local practice and connect to the feeder port.
- 13.2 Route the blue pigtail through the edge protectors on the sides and store the remaining slack within the storage area in the center.

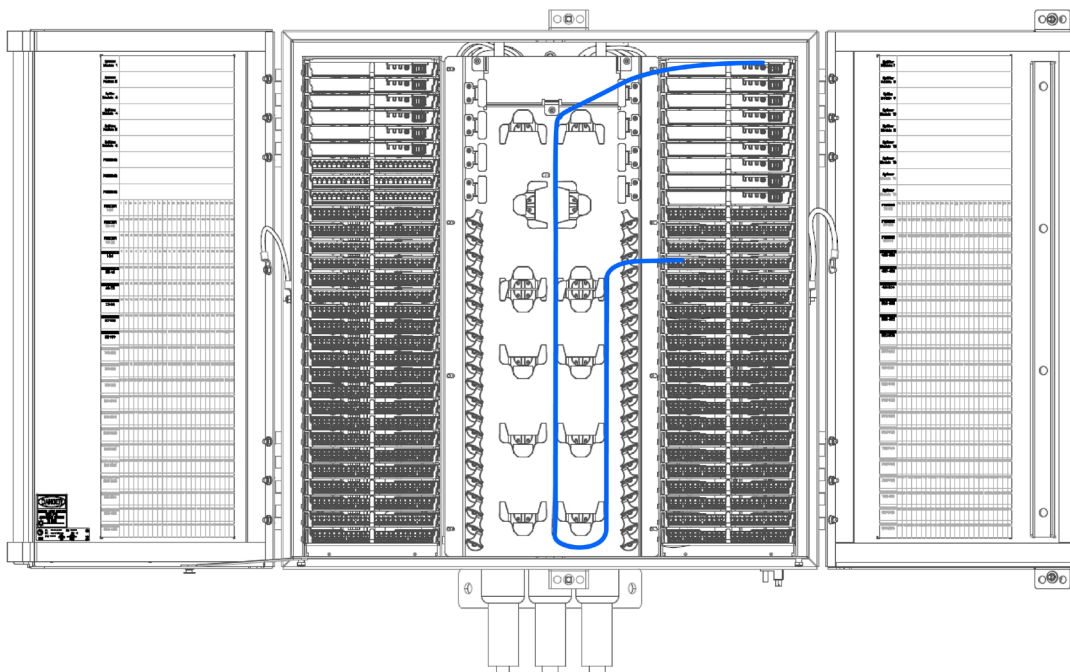


Figure 22. Connect Feeder Input Pigtail

Note: FOR CLARITY ONLY THE INPUT FIBER IS SHOWN.

Warning: Infrared radiation is invisible and can seriously damage the retina of the eye. Do not look into the ends of any optical fiber. Do not look directly into the optical adapters or connectors. Exposure to invisible laser radiation may result. An optical power meter should be used to verify active fibers. A protective cap or hood **MUST** be immediately placed over any radiating adapter or optical connector to avoid the potential of dangerous amounts of radiation exposure. This practice also prevents dirt particles from entering the adapter or connector.

14 CONNECT SPLITTER OUTPUT PIGTAILS

Use the following procedure to enable service to a subscriber:

- 14.1 Check the designation label on the cabinet door to determine the port number that corresponds to the address of the subscriber.
- 14.2 Select the designated distribution port. Remove the yellow pigtail from the parking module and separate from the pigtail bundle. Remove the dust cap, inspect and clean the connector per local practice and connect to the distribution port.
- 14.3 Route the pigtail through the edge protectors on the sides and store the remaining slack within the storage area in the center.

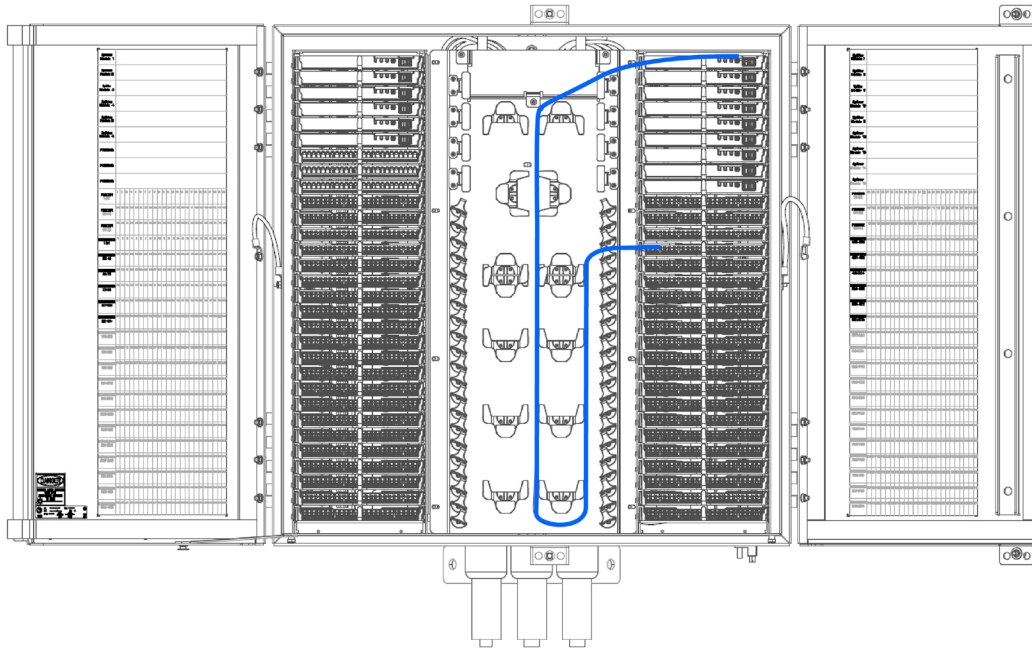


Figure 23. Connect Splitter Output Pigtails

Note: FOR CLARITY ONLY 1 OUTPUT FIBER IS SHOWN.

Warning: Infrared radiation is invisible and can seriously damage the retina of the eye. Do not look into the ends of any optical fiber. Do not look directly into the optical adapters or connectors. Exposure to invisible laser radiation may result. An optical power meter should be used to verify active fibers. A protective cap or hood **MUST** be immediately placed over any radiating adapter or optical connector to avoid the potential of dangerous amounts of radiation exposure. This practice also prevents dirt particles from entering the adapter or connector.

15 POINT TO POINT CONNECTION

Also a direct connection can be made in the FDH 5000 Cabinet. A patch cord should be used.

Note: THE RECOMMENDED PATCHCORD LENGTH IS 40 INCHES.

Use the following procedure to make a point to point connection:

- 15.1 Select the designated feeder port.
- 15.2 Select the designated distribution port.
- 15.3 Remove the ferrule dust cap from both connectors of the patch cord and the two selected bulkhead adapters then clean the connectors per local practice.



Warning: Infrared radiation is invisible and can seriously damage the retina of the eye. Do not look into the ends of any optical fiber. Do not look directly into the optical adapters or connectors. Exposure to invisible laser radiation may result. An optical power meter should be used to verify active fibers. A protective cap or hood **MUST** be immediately placed over any radiating adapter or optical connector to avoid the potential of dangerous amounts of radiation exposure. This practice also prevents dirt particles from entering the adapter or connector.

15.4 Connect the connector to the designated adapter port, a clicking sound is noticed.

15.5 The radius limiters in the center storage area can be used to take up slack. Route and dress the fiber slack as shown in Figure 24.

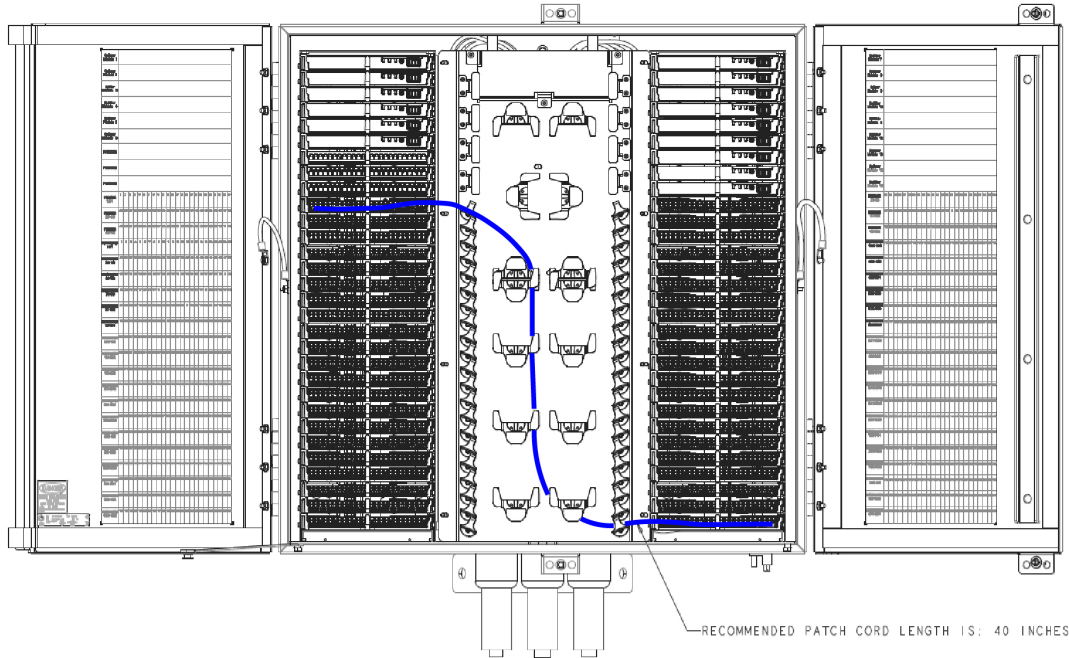


Figure 24. Point to Point Connection

16 MAINTENANCE AND REPAIR PROCEDURES

The FDH5000 Cabinet requires no regular maintenance to insure continuous and satisfactory operation. Maintenance is limited to repairing or replacing any cabinet components that may be damaged or broken in the course of normal operation. The following sections provide procedures for repairing or replacing common cabinet components.

16.1 Painting

Brush-in-cap type bottles of paint are available for touching-up nicks and scratches in the factory coat of paint. Lightly sand the area to be painted and then clean it thoroughly to remove any dirt, dust, or foreign matter. Shake the paint bottle until thoroughly mixed and then apply a light coat of paint to the damaged area using the small brush attached to the cap. Wait until the paint is dry and then apply a second coat if necessary. When finished painting, replace the paint bottle cap and tighten securely. The catalog number for the paint kit is ACE-ACC-PTALMD.

16.2 Door Gasket Replacement

Damaged door gaskets may be replaced using the door gasket kit which includes a roll of gasket material. The ideal installation temperature for the adhesive used on the replacement gaskets is between 60 and 100 °F (16 and 38 °C). Installation is not recommended if the temperature is below 50 °F (10 °C). Remove any damaged sections of gasket material from the door. If necessary, use a citrus based adhesive cleaner to remove any adhesive that may stay attached to the door. Cut replacement lengths of gasket material from the roll as needed. Remove the paper backing to expose the adhesive and then carefully apply the replacement gasket to the door. Take care not to leave any gaps between the meeting sections of the gasket strips.

16.3 Rear access to Feeder and distribution cables

16.3.1 To disconnect the entire CMOD and storage area assembly from the cabinet shell, remove the six nuts from the right and left CMOD columns and the two screws in the center storage area. See Figure 25 for the attachment locations.

Note: Remove the CMOD trays near the top and the middle to gain access to the attachment nuts.

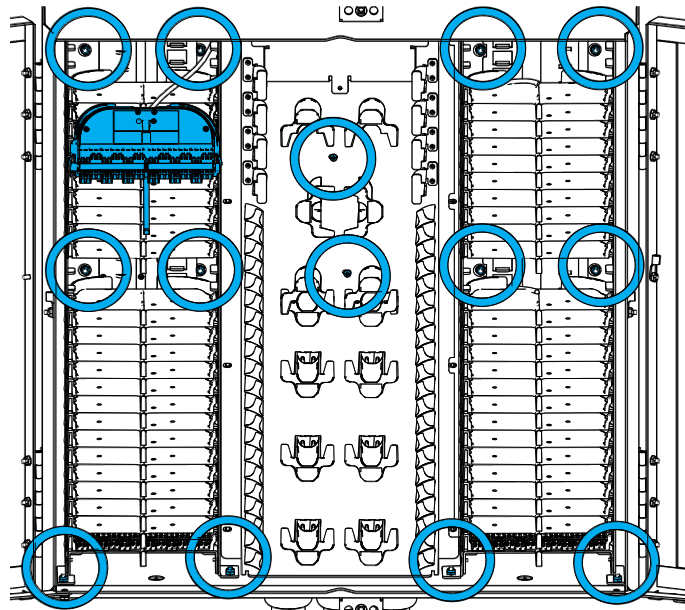


Figure 25. Mounting locations

16.3.2 Remove the top plate to access the subunits to free up slack. See Figure 26 for the top plate location.

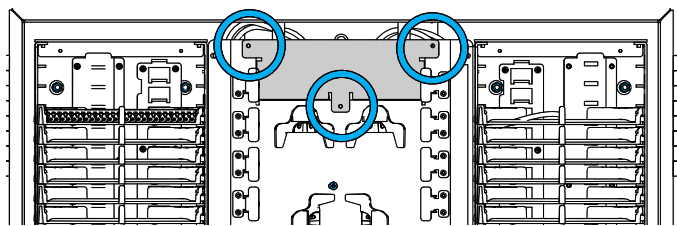


Figure 26. Top plate fastenings

16.3.3 Move the entire assembly forward and then lifted off the lower studs and away from the cabinet shell.

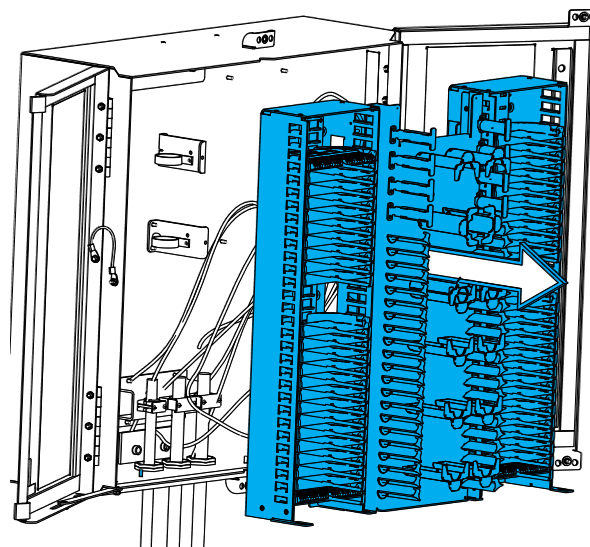


Figure 27. Remove interior

16.3.4 The feeder and distribution cables are now accessible

16.4 Door Replacement

Damaged cabinet doors may be replaced using the door replacement kit.

Use the following procedure to remove and replace the cabinet doors:

16.4.1 Open the cabinet doors and lock it in the open position as shown in Figure 28.

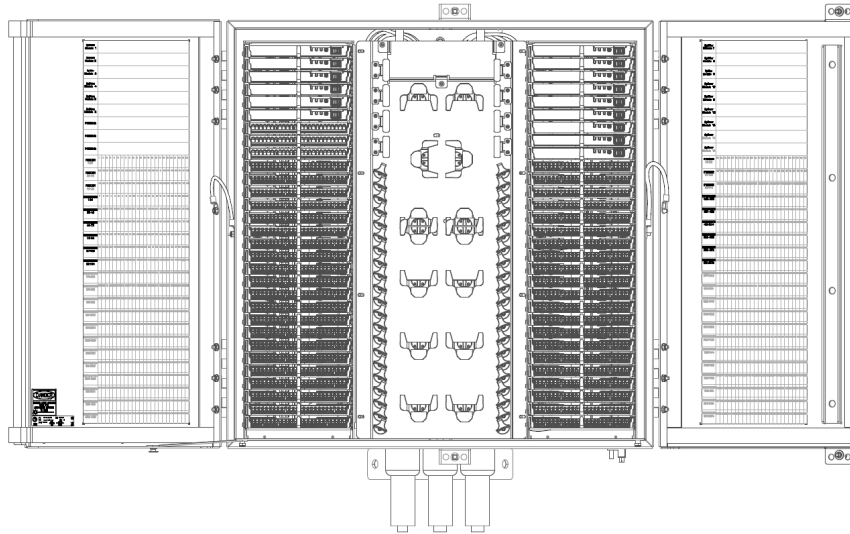


Figure 28. Door Replacement

16.4.2 Use a 3/8-inch nut driver to remove the locking nut that secures the grounding strap ring terminal to the door. Save nut for reuse.

16.4.3 Use a Phillips screwdriver to remove the screw and bushing/nut that secures the door stay to the bottom of the door as shown in Figure 29. Save the screw and bushing/nut for reuse.

16.4.4 Use a 3/8-inch nut driver to remove the locking nuts and flat washers that secure each hinge to the door. Save nuts and flat washers for reuse.

► **Note:** Support the door as the last nuts are removed to prevent the door from falling.

16.4.5 Carefully lift the door away from the cabinet.

16.4.6 Transfer all designation information that may be recorded on the damaged door to the labels on the replacement door.

16.4.7 Place the replacement door in position for installation on the hinges.

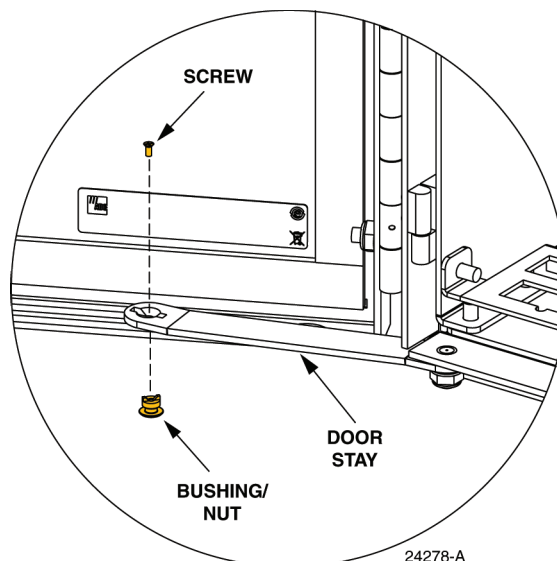


Figure 29. Door Linkage Hardware

- 16.4.8 Reinstall the locking nuts and flat washers (saved in step 16.4.4 that secure the hinges to the door.
- 16.4.9 Reinstall the locking nut (saved in step 16.4.2) that secures the grounding strap to the door.
- 16.4.10 Reinstall the screw and bushing/nut (saved in step 16.4.3) that secure the door stay to the bottom of the door.
- 16.4.11 Close door and check for proper operation.

16.5 Screen Vent Service

A screen vent, shown in Figure 30, allows any moisture that may accumulate within the cabinet to be released. Periodically check the screen vent and remove any debris that may block the vent opening. In addition, wipe dry any moisture that may have accumulated at the bottom of the cabinet.

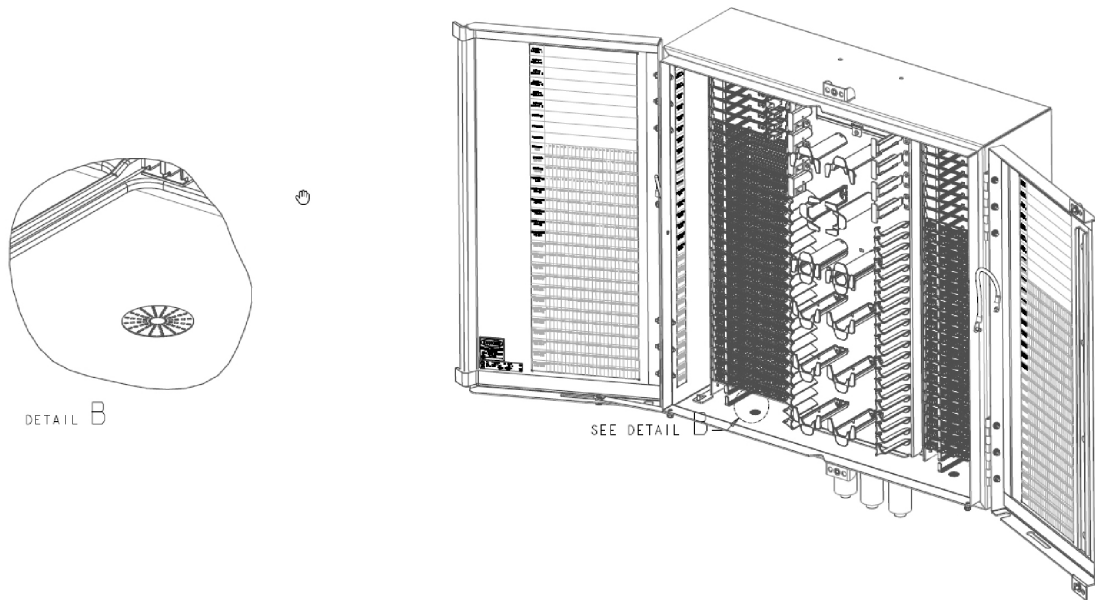


Figure 30. Screen Vent

17 DISCLAIMER

All trademarks identified by ® are registered trademarks in the US and may be registered in other countries. All third party product names, trademarks and registered trademarks are property of their respective owners.

This product may be covered by one or more U.S. patents or their foreign equivalents. For patents, see www.cs-pat.com.

This document is not intended to modify or supplement any specifications or warranties relating to CommScope products or services.

18 CONTACT INFORMATION

Visit our website or contact your local CommScope® representative for more information. www.commscope.com.

For technical assistance, customer service, or to report any missing/damaged parts, visit us at: <http://www.commscope.com/SupportCenter>.