COMMSCOPE®

User Manual

TC-96342-IP
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commscope.com

Propel™ Fixed and Fixed Open Panels

Propel Fixed and Fixed Open Panel
2RU Shown (Left), 2RU-OPEN Shown (Right)

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1 INTRODUCTION

The CommScope Propel Fixed Panel, available in the configurations listed in Table 1, is a modular fiber connection platform that allows Propel modules, splice cassettes, and adapter packs of different sizes to be installed in any position in the panel where space is available.

This user manual describes the Propel Fixed Panel and tells how to unpack the panel, mount it on a rack, and install connection components including Propel modules, splice cassettes, and adapter packs. In addition, this manual tells how to route and secure cables and patch cords, and how to obtain technical assistance if needed.

1.1 Propel Fixed Panel Configurations Covered by This User Manual

Table 1 lists the Propel Fixed Panel configurations covered in this user manual.

Table 1. Propel Fixed Panel Configurations

Material ID (MID)	Catalog #	Density
760253796	PPL-1U-HD-FX	48 duplex LC, 48 MPO, 192 SN
760253797	PPL-2U-HD-FX	96 duplex LC, 96 MPO, 384 SN
760253798	PPL-4U-HD-FX	192 duplex LC, 192 MPO, 768 SN
760254865	PPL-1U-HD-FX-OPEN	48 duplex LC, 48 MPO, 192 SN
760254908	PPL-2U-HD-FX-OPEN	96 duplex LC, 96 MPO, 384 SN

1.2 Available Connection Components

For a listing of the available Propel connection components, including MPO modules and adapter packs, see Table 2. Splice cassettes are not available at this time.

Table 2. Available MPO Modules and Adapter Packs

Modules & Adapter Packs	Material ID (MID)	Catalog Number	Fiber Type	Fiber Count
MPO8 Modules with MPO/UPC				
12 per 1RU	760252332	PPL-DM-8U-8LC-OM4-BEU	OM4	8
	760252333	PPL-DM-8U-8LC-OM5-BEU	OM5	8
	760252334	PPL-DM-8AU-8LC-SM-BEU	OS2	8
4 per 1RU	760252337	PPL-DM-8U-24LC-OM4-BEU	OM4	24
	760252338	PPL-DM-8U-24LC-OM5-BEU	OM5	24
	760252339	PPL-DM-8AU-24LC-SM-BEU	OS2	24
MPO8 Modules with MPO/APC in multimode				
12 per 1RU	760252335	PPL-DM-8AU-8LC-OM4-BEU	OM4	8
	760252336	PPL-DM-8AU-8LC-OM5-BEU	OM5	8
8-fiber Adapter Packs				

Table 2. Available MPO Modules and Adapter Packs, continued

Modules & Adapter Packs	Material ID (MID)	Catalog Number	Fiber Type	Fiber Count
12 per 1RU	760252359	PPL-AP-8-LC-SM	OS2	8
	760252360	PPL-AP-8-LC-OM4	OM5	8
	760252361	PPL-AP-8-LC-OM5	OS2	8
	760252371	PPL-AP-4-MPO-ALL-B	All	32
MPO12 Modules				
8 per 1RU	760252343	PPL-DM-12U-12LC-OM4-BEU	OM4	12
	760252344	PPL-DM-12U-12LC-OM5-BEU	OM5	12
	760252345	PPL-DM-12AU-12LC-SM-BEU	OS2	12
4 per 1RU	760252346	PPL-DM-12U-24LC-OM4-BEU	OM4	24
	760252347	PPL-DM-12U-24LC-OM5-BEU	OM5	24
	760252348	PPL-DM-12AU-24LC-SM-BEU	OS2	24
12-fiber Adapter Packs				
8 per 1RU	760252362	PPL-AP-12-LC-SM	OS2	12
	760252363	PPL-AP-12-LC-OM4	OM4	12
	760252364	PPL-AP-12-LC-OM5	OM5	12
	760252372	PPL-AP-6-MPO-ALL-B	All	72
MPO16 Modules				
6 per 1RU	760252352	PPL-DM-16AU-16LC-SM-BEU	OS2	16
	760252353	PPL-DM-16AU-16LC-OM4-BEU	OM4	16
	760252354	PPL-DM-16AU-16LC-OM5-BEU	OM5	16
16-fiber Adapter Packs				
6 per 1RU	760252365	PPL-AP-16-LC-SM	OS2	16
	760252366	PPL-AP-16-LC-OM4	OM4	16
	760252367	PPL-AP-16-LC-OM5	OM5	16
	760252804	PPL-AP-8-MPO16-ALL-B	All	128
12 per 1RU	760252806	PPL-AP-4-MPO16-ALL-B	All	64
8 per 1RU	760252805	PPL-AP-6-MPO16-ALL-B	All	96
4 per 1RU	760252803	PPL-AP-12-MPO16-ALL-B	All	96
MPO24 Modules				
4 per 1RU	760252356	PPL-DM-24U-24LC-OM4-BEU	OM4	24
	760252357	PPL-DM-24U-24LC-OM5-BEU	OM5	24
24-fiber Adapter Packs				
4 per 1RU	760252368	PPL-AP-24-LC-SM	OS2	24
	760252369	PPL-AP-24-LC-OM4	OM4	24
	760252370	PPL-AP-24-LC-OM5	OM5	24
	760252374	PPL-AP-12-MPO-ALL-B	All	288

Table 2. Available MPO Modules and Adapter Packs, continued

Modules & Adapter Packs	Material ID (MID)	Catalog Number	Fiber Type	Fiber Count
S/N Modules				
12 per 1RU	760252342	PPL-DM-8AU-8SN-SM-BEU	OS2	16
8 per 1RU	760252349	PPL-DM-12AU-12SN-SM-BEU	OS2	24
12 per 1RU	760252355	PPL-DM-16AU-8SN-SM-BEU	OS2	16
S/N Adapter Packs				
12 per 1RU	760252375	PPL-AP-8-SN-SM	OS2	16
8 per 1RU	760252376	PPL-AP-12-SN-SM	OS2	24
6 per 1RU	760252377	PPL-AP-16-SN-SM	OS2	32
4 per 1RU	760252378	PPL-AP-24-SN-SM	OS2	48

1.3 Important Safety Cautions

When installing or operating the panel, observe these safety cautions:

- To reduce the risk of fire, electric shock, and injury to persons, read, understand, and adhere to the following instructions as well as any warnings marked on the product.
- This product has a remote risk of electric shock. Never install the product in wet conditions or during lightning storms. Never touch uninsulated communication wires or terminals.
- Wearing safety glasses during installation of this panel is recommended. Although standard safety glasses provide no protection from potential optical radiation, they offer protection from accidental airborne hardware and cleaning solvents.
- Disconnected optical components may emit invisible optical radiation that can damage your eyes. Never look directly into an optical component that may have a laser coupled to it. Serious and permanent retinal damage is possible. If accidental exposure to laser radiation is suspected, consult a physician for an eye examination.

1.4 Precautions

When installing or operating the panel, observe the following precautions:

- Fiber optic trunk cable and jumper performance is sensitive to bending, pulling, and crushing. Minimum bend radius must be maintained during installation per the manufacturer's specification. Appropriate pulling grips must be used during installation, and pulling forces shall not exceed manufacturer's recommendations.
- All wiring that connects to this equipment must meet applicable local and national building codes and network wiring standards for communication cable.
- **IMPORTANT**: Dust covers are installed in the ports to protect the fibers connected to the back of the ports. Do not remove a dust cover from a port until you connect a patch cord to that port. If you remove a patch cord later, replace the dust cover in the port.
- **Prior** to installation, clean the trunk cable and jumper connectors per the manufacturer's recommendations.

- Isopropyl alcohol is flammable, and can cause eye irritation on contact. If eye contact occurs, flush with water for at least 15 minutes. In case of ingestion, consult a physician. Use only in well ventilated areas.
- Care should be taken not to compromise the stability of the rack by installation of this equipment.

1.5 Related Publications

The related publications listed are available by contacting the CommScope Support Center at https://www.commscope.com/SupportCenter

Publication Title	Publication Number
Propel Fixed Panel Quick Start	TC-96341-IP
Propel Fixed Open Panel Quick Start	TC-96355-IP

2 PRODUCT DESCRIPTION

2.1 General Description

The Propel Fixed Panel is a 19-inch rack-mount fiber optic connector panel intended for indoor use. Rack adapter kits are available that enable the panel to be mounted in a 23-inch or ETSI rack. The standard panel is available in one, two, or four rack unit sizes (abbreviated as 1RU, 2RU, or 4RU), while a reduced-depth, open version of the panel is available in one or two rack unit sizes (1RU or 2RU). Figure 1 shows the five Fixed panels.

Note: The open panel is officially called “Propel Fixed Open Panel” to distinguish it from the standard version. The term “Propel Fixed Panel” is often used to refer to the fixed and fixed open panels collectively.

The Propel Fixed Panel contains two fixed position “blades” per RU, installed in the factory. Each blade supports multiple sizes of connection components including MPO modules, adapter packs, and splice cassettes. Connection components are installed by positioning them in any available location on the blade and sliding them in until they click into position.

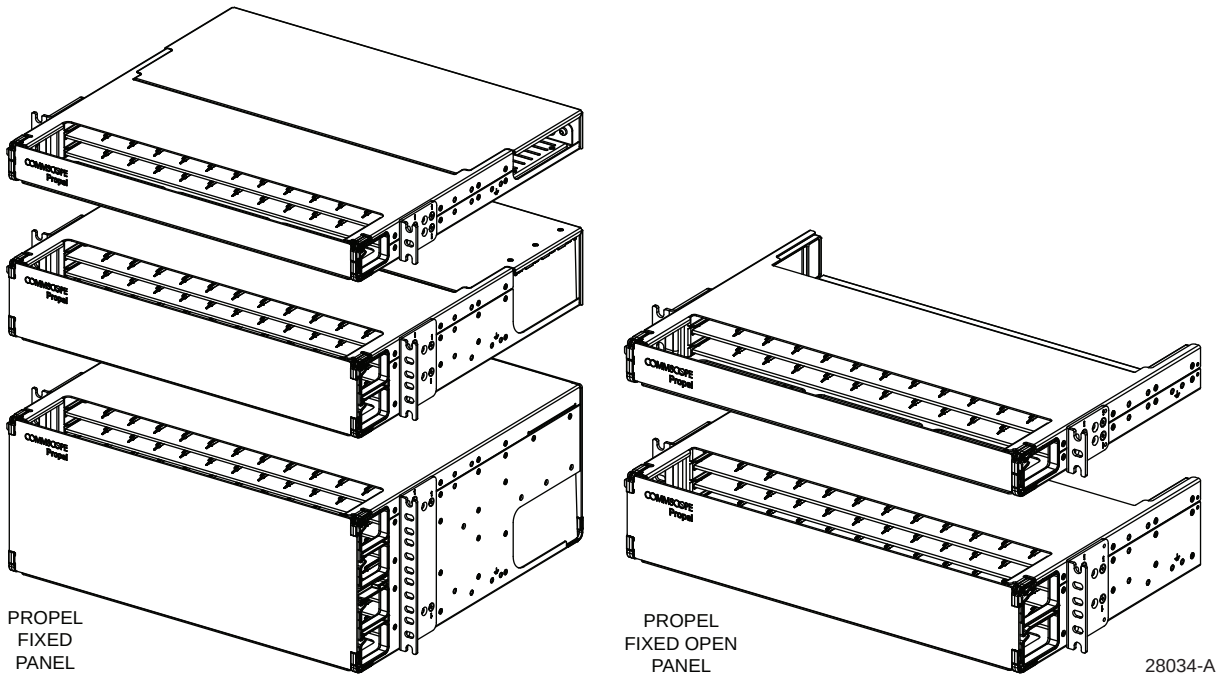


Figure 1. Propel Fixed Panel and Propel Fixed Open Panel

Precise positioning on the blade is enforced by rails that the connection components slide onto when installed. The rails direct the components into 12 equal-sized lanes, labeled A to L. Each lane accommodates 4 fibers or the connector equivalent. For example, an MPO module with 4 front duplex LC ports and a rear MPO 8 connector occupies two lanes. Propel connection components are available in 4 sizes accommodating 8, 12, 16, or 24 fibers. The largest size component occupies 6 lanes, which is half of the blade. The Propel Fixed Panel capacity per blade is 48 fibers

(24 duplex LC ports). Capacity per RU is 96 fibers (48 duplex LC ports). If SN connection components are used, the fiber capacity of the panel doubles in comparison to LC, because a single SN connector has 4 fibers, while LC has 2.

2.2 Main Product Features

Figure 2 shows a front view of a 2RU Propel Fixed Panel with front door removed. The main features are:

- **Rear Cover**—can be removed providing top access to rear of the panel.
- **Cable Entry Area**—is the portal through which cables are routed into the rear of the panel.
- **Mounting Brackets (one on each side)**—provide for mounting the panel in a frame or cabinet. The panel is shipped with 19-inch mounting brackets. Kits are available for mounting in a 23-inch or ETSI rack or cabinet.
- **Blade**—supports the slide-in connection components and holds them in position.
- **Integral Patch Cord Entry Managers**—are used to manage patch cords.

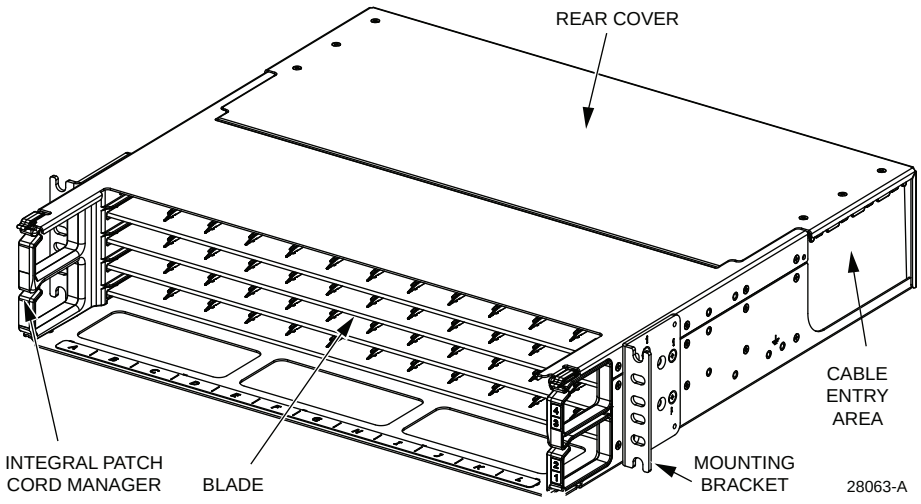


Figure 2. Propel Fixed Panel Front View (2RU Shown)

Figure 3 shows rear views of a 2RU Propel Fixed Panel with rear cover present and removed. The main features visible from this view include the following.

- **Rear Cover**—can be removed providing top access to the panel.
- **Cable Entry Area**—is the portal through which cables are routed into the rear of the panel.
- **Cable Management Bracket**—holds the rear cable management clips. Each clip holds one cable tied to it with hook-and-loop straps.
- **Cable Routing Platform**—is a surface across which cables are routed from connection components out of the panel.

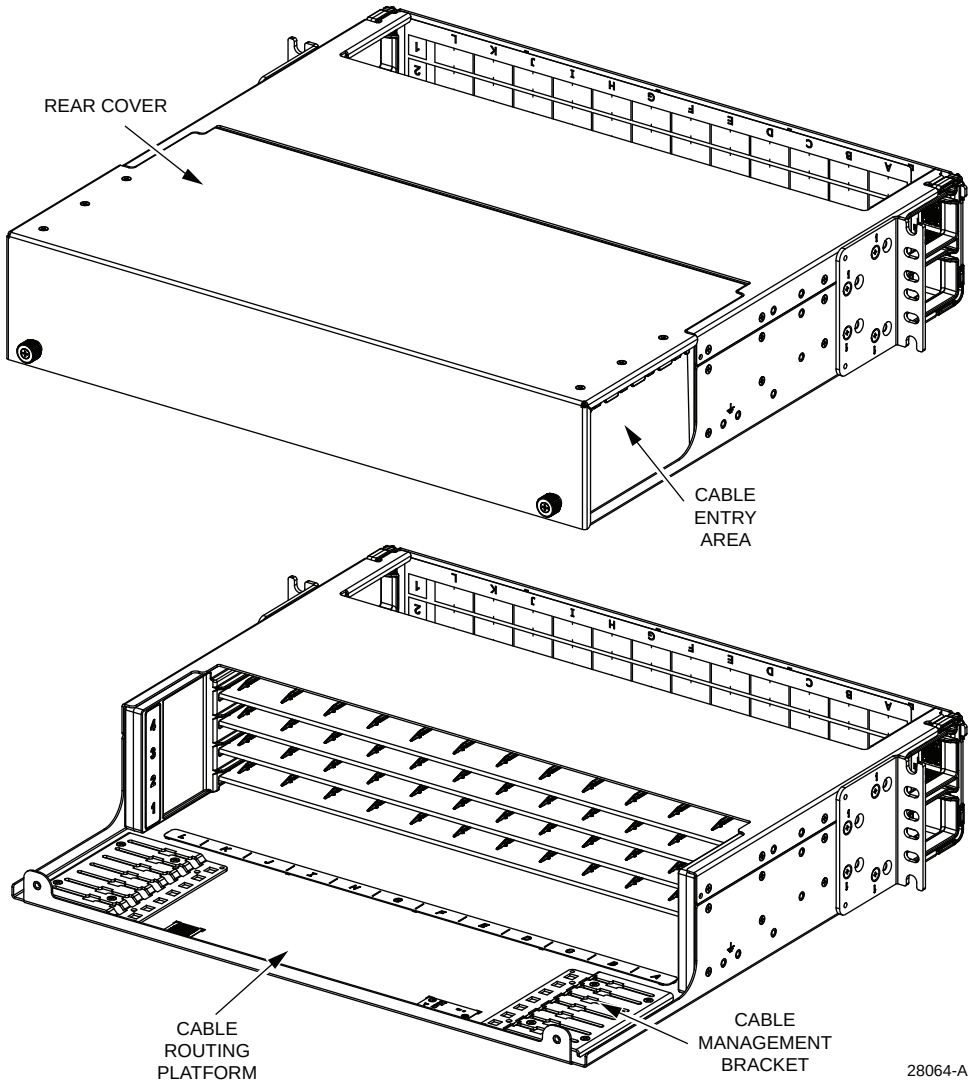


Figure 3. Propel Fixed Panel (2RU Shown)

Figure 4 shows the rear of the 2RU Propel Fixed Open Panel. The main features visible from this view include the following.

- **Patch Cord Entry Area**—is the portal through which cables are routed into the front of the panel.
- **Cable Management Strip**—supports cables routed from connection components and provides tie-down locations via cable management slots.
- **Cable Management Slots**—allow hook-and-loop straps or cable ties to secure rear cables to cable management strip.

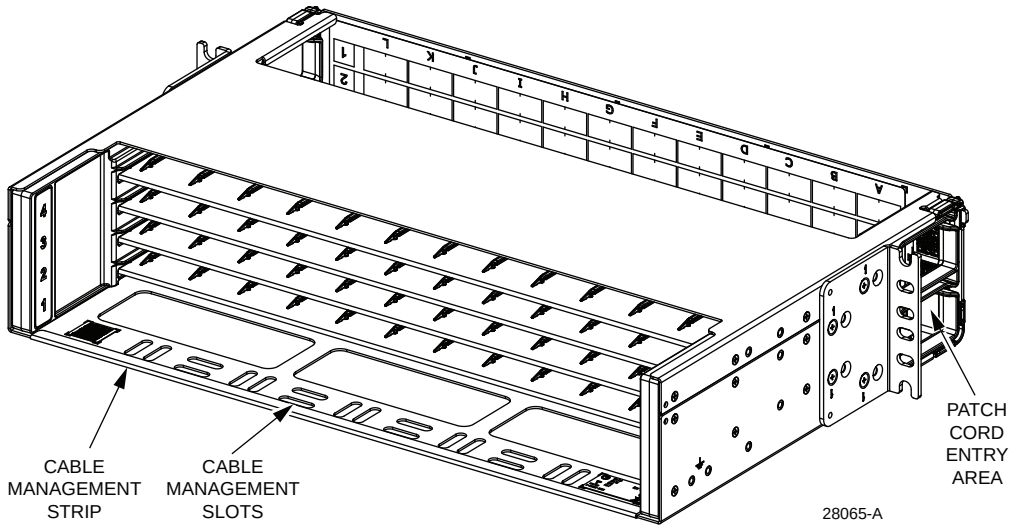


Figure 4. Rear View of Propel Fixed Open Panel (2RU Shown)

2.3 Specifications and Dimensions

Table 3 lists dimensions for the Propel Fixed and Fixed Open Panels. Figure 5 shows dimensions for the Propel Fixed Panels. Figure 6 shows dimensions for the Propel Fixed Open Panels.

Table 3. Propel Fixed and Fixed Open Panel Specifications

Parameter	PPL-1U-HD-FX	PPL-2U-HD-FX	PPL-4U-HD-FX	PPL-1U-HD-FX-OPEN	PPL-2U-HD-FX-OPEN
Height	1.72 in (4.36 cm)	3.47 in. (8.81 cm)	6.97 in (17.70 cm)	1.72 in (4.36 cm)	3.47 in. (8.81 cm)
Width	19.0 in. (48.26 cm)	19.0 in. (48.26 cm)	19.0 in. (48.26 cm)	19.0 in. (48.26 cm)	19.0 in. (48.26 cm)
Depth	18.55 in. (47.11 cm)	18.55 in. (47.11 cm)	18.55 in. (47.11 cm)	11.51 in. (29.24 cm)	11.51 in. (29.24 cm)
Weight (Panel Only)	8.65 lbs. (5.92 kg)	12.15 lbs. (5.51 kg)	22.15 lbs. (10.05 kg)	6.05 lbs. (2.74 kg)	8.80 lbs. (3.99 kg)
Weight (Packaged)	13.20 lbs. (5.99 kg)	17.05 lbs. (7.73 kg)	28.10 lbs. (12.75 kg.	9.20 lbs. (4.17 kg)	12.15 lbs. (5.51 kg)

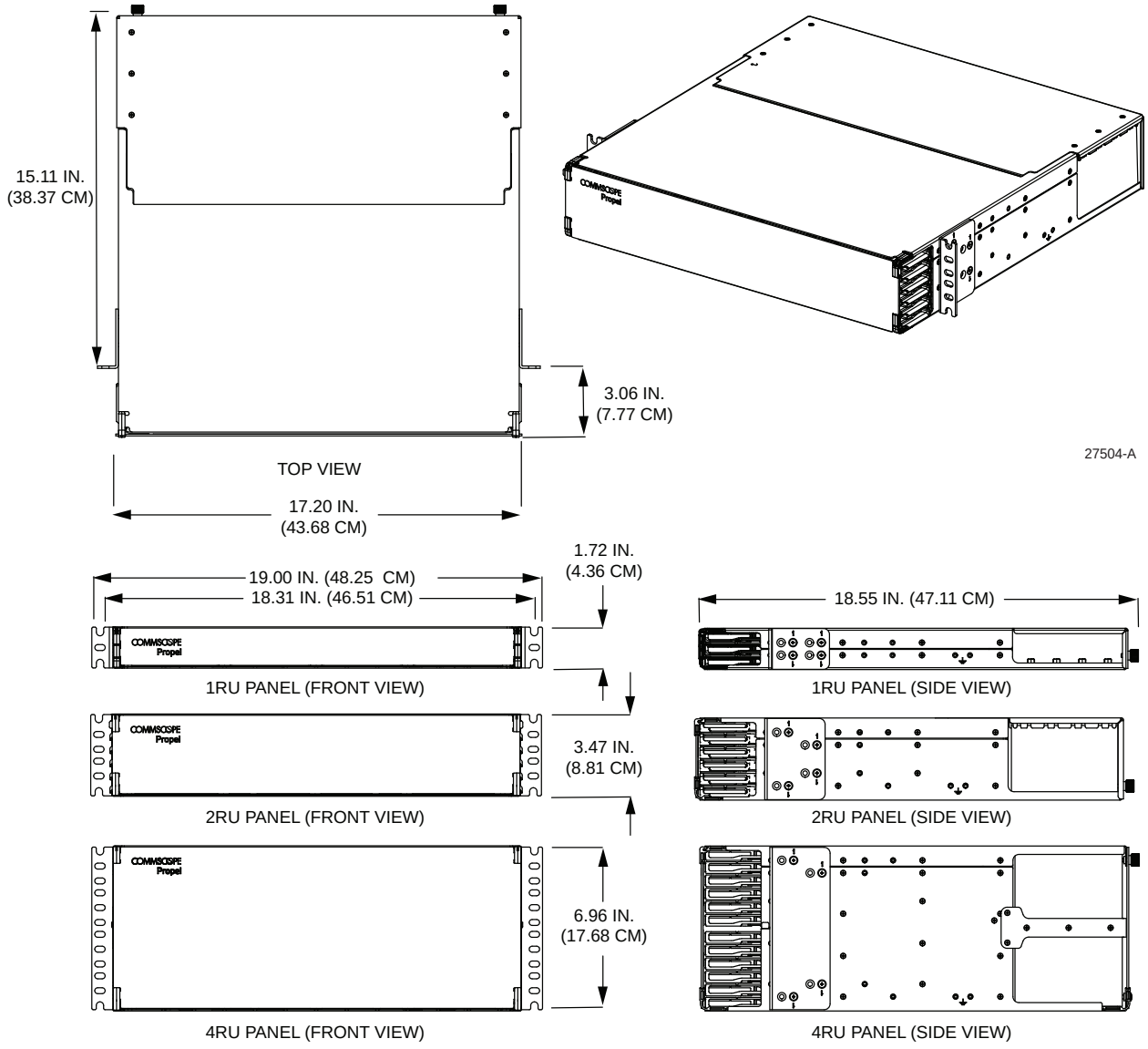


Figure 5. Propel Fixed Panel Dimensions

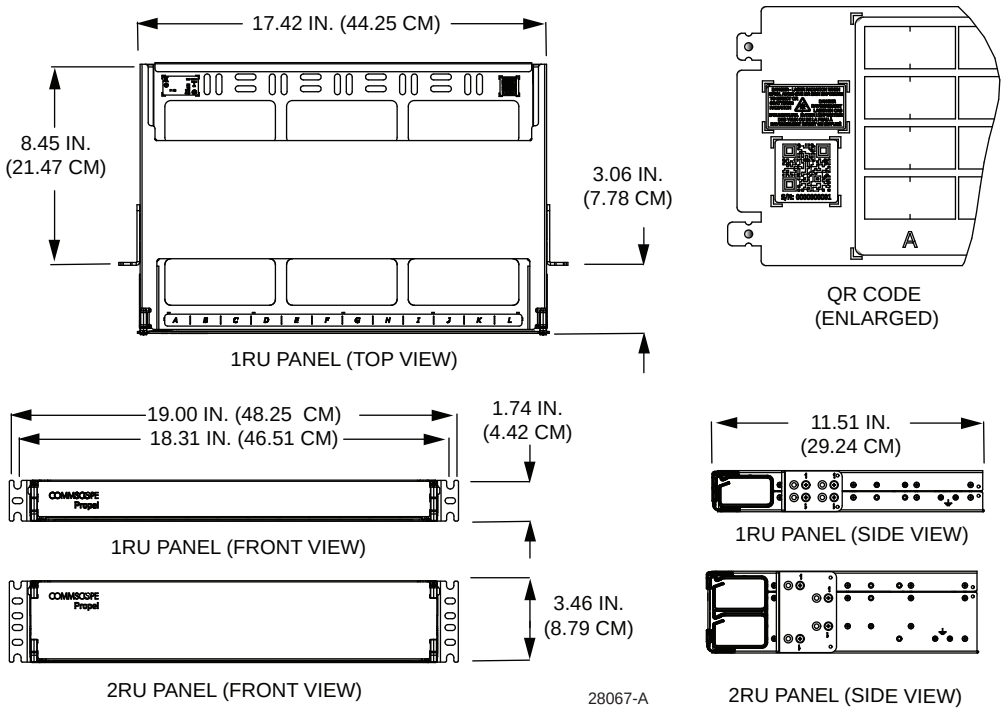


Figure 6. Propel Fixed Open Panel Dimensions

2.4 Blades

Propel blades have rails that guide Propel connection components into lanes. Each blade has 12 lanes labeled A to L. Table 4 lists the available Propel Panel Fixed and Fixed Open configurations.

Table 4. Available Modules and Adapter Packs

Fixed Panel Catalog #	8-fiber modules/ adapter packs	12-fiber modules/ adapter packs	16-fiber modules/ adapter packs	24-fiber modules/ adapter packs
PPL-1U-HD-FX/ PPL-1U-HD-FX-OPEN	up to 6 per blade/ 12 per panel	up to 4 per blade/ 8 per panel	up to 3 per blade/ 6 per panel	up to 2 per blade/ 4 per panel
PPL-2U-HD-FX/ PPL-2U-HD-FX-OPEN	up to 6 per blade/ 24 per panel	up to 4 per blade/ 16 per panel	up to 3 per blade/ 12 per panel	up to 2 per blade/ 8 per panel
PPL-4U-HD-FX	up to 6 per blade/ 48 per panel	up to 4 per blade/ 32 per panel	up to 3 per blade/ 24 per panel	up to 2 per blade/ 16 per pane
Each blade has 12 lanes				
	Requires 2 lanes	Requires 3 lanes	Requires 4 lanes	Requires 6 lanes

Figure 7 shows a fully occupied blade. The components shown are 3 of the available 4 sizes. The largest component, which occupies half of the blade, is not shown. As shown in Figure 8, Propel components can be installed from the front or rear of a blade.

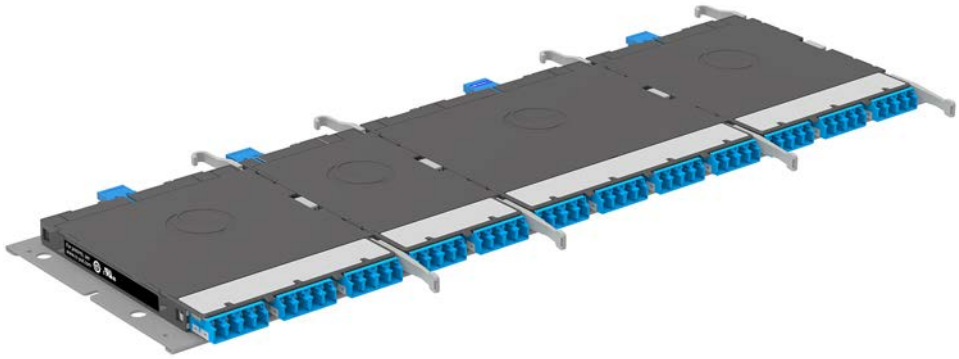


Figure 7. Fully Loaded Blade

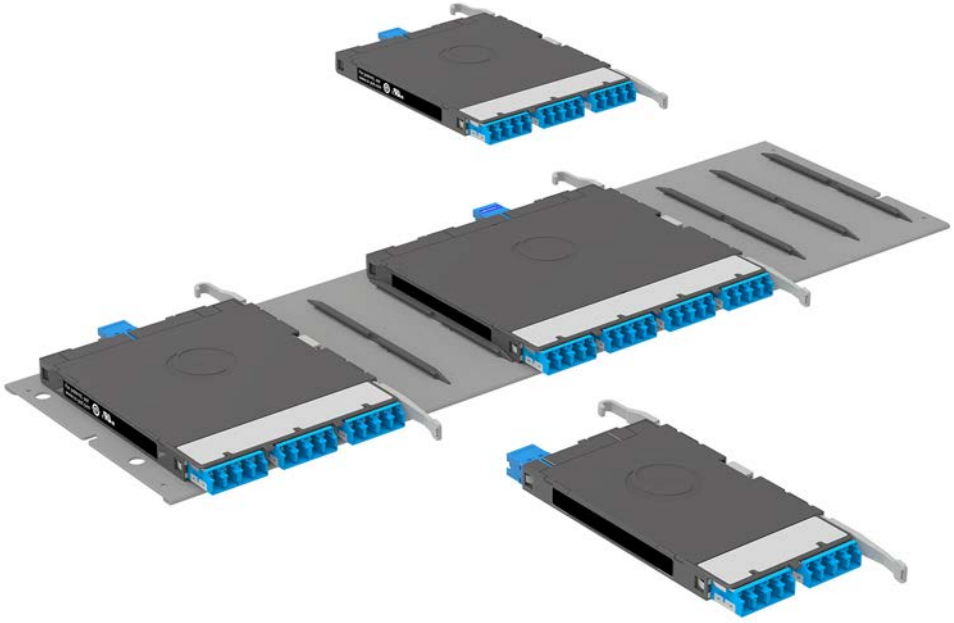


Figure 8. Connection Components Can Be Installed from Front or Rear

2.5 QR Codes

Propel products are labeled with QR codes providing different types of information of interest to the user. Included are the QR code types described below.

2.5.1 Product QR Codes on Panel

Each panel is affixed with a QR code that goes to the Propel Panels product page in the CommScope electronic catalog. The product page has documentation, including specifications, the quick start guide, and electronic only user manuals, for all types of Propel panels. Other customer aides such as videos when available are also placed on the product page for viewing online or downloading by the customer

Figure 9 shows the front QR code location on the Propel Fixed and Fixed Open Panel. Figure 10 shows the rear QR code locations in the Propel Fixed and Fixed Open Panel.

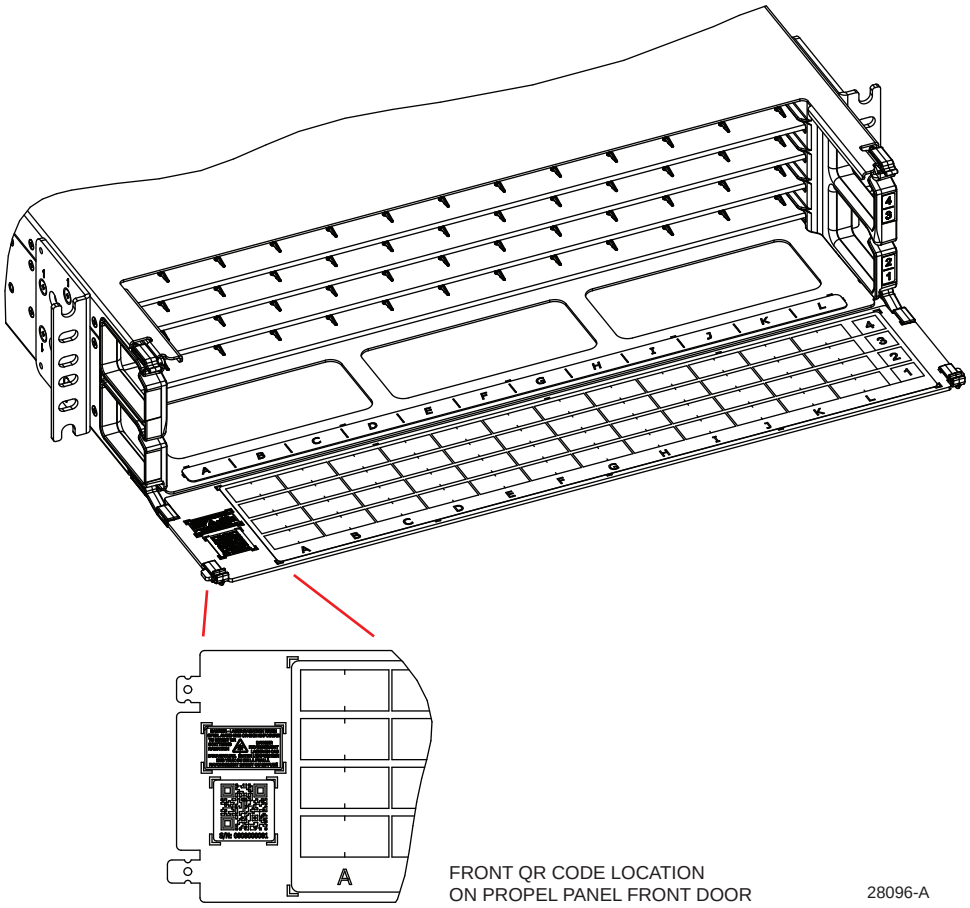


Figure 9. Front QR Code Location, Propel Fixed and Fixed Open Panel

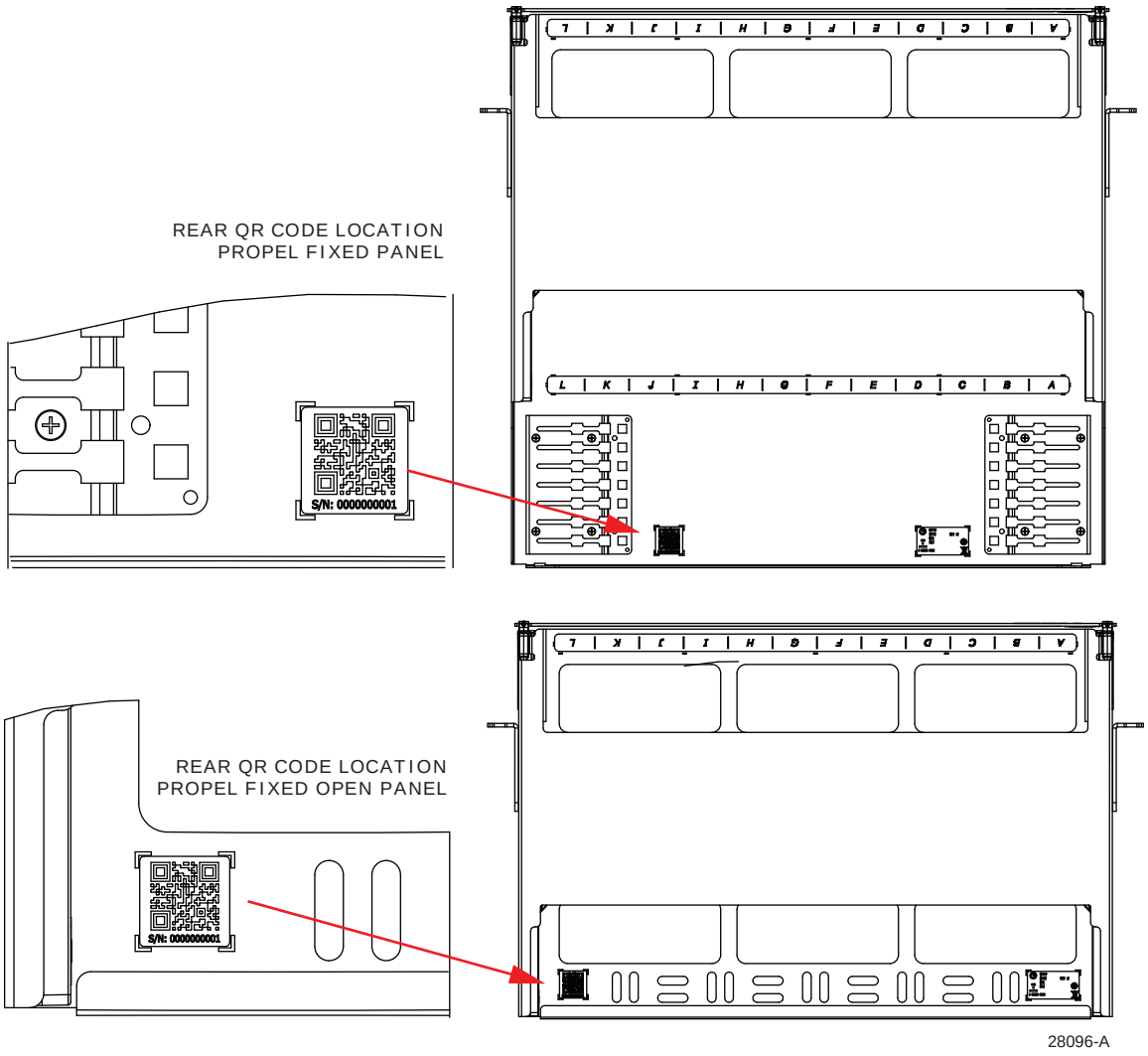


Figure 10. Rear QR Code Location, Propel Fixed and Fixed Open Panel

2.5.2 Component QR Codes

Each Propel connection component (module, adapter pack, or splice cassette) has a label specific to that particular item. The label is sized to the width of the component and has information such as the item serial number (for a module only) and test results. See Figure 11.

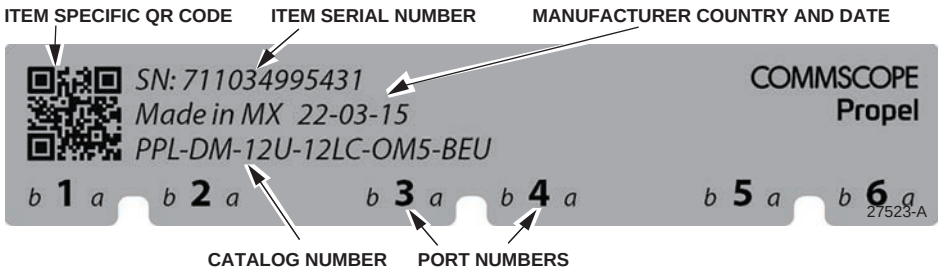


Figure 11. Example of Propel Connection Component Labeling

3 UNPACKING AND INSPECTION

Use the following procedure to unpack and inspect the product. Verify parts against Table 5 below.

Table 5. Propel Fixed Panel Parts List

Description	Quantity
Propel Fixed Panel Quick Start (TC-96341-IP or TC-96355-IP)	1
Propel Fixed Panel (1RU, 2RU, 4RU, 1RU-OPEN, or 2RU-OPEN)	1
Panel fastener pack	1 per panel

1. Inspect the exterior of the shipping container(s) for evidence of rough handling that may have damaged the components in the container.
2. Unpack each container while carefully checking the contents for damage.
3. If damage is found or parts are missing, contact the CommScope Support Center using the URL: http://www.commscope.com/SupportCenter
4. Save any damaged cartons for inspection by the carrier.

For an exploded view of product packaging, refer to Figure 12 for the Propel Fixed Panel and to Figure 13 for the Propel Fixed Open Panel.

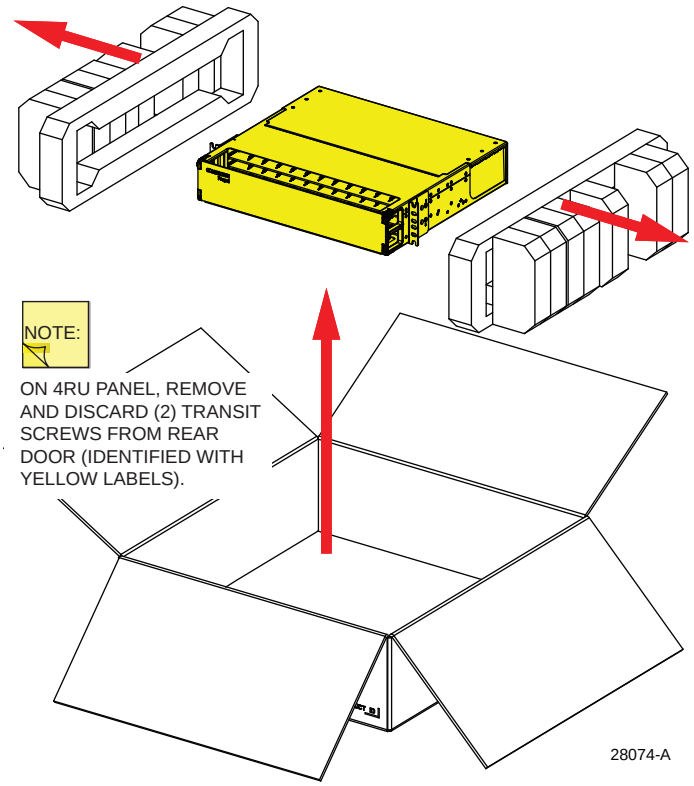


Figure 12. Unpacking a Propel Fixed Panel

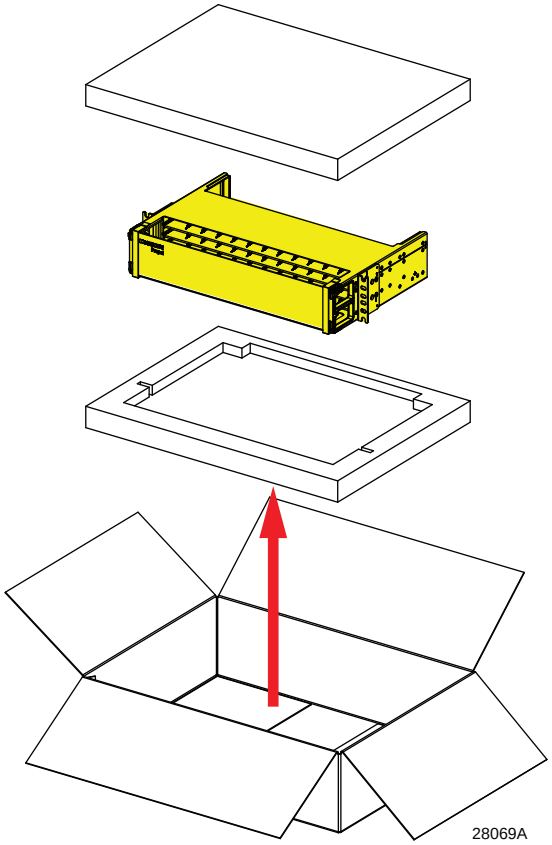


Figure 13. Unpacking a Propel Fixed Open Panel

4 OVERVIEW OF INSTALLATION

Installing the panel and accessories involves the following procedures:

- Determining rack size and mounting hardware (covered in Section 5.1 on Page 19).
- Installing kits for alternative rack sizes (not 19-inch) (Section 5.2 on Page 19).
- Selecting panel recess options for a fixed panel (Section 5.3 on Page 19).
- Selecting panel recess options for a fixed open panel (Section 5.4 on Page 21).
- Mounting the panel on a rack (Section 5.5 on Page 23).
- Installing connection components (Section 5.6 on Page 25).
- Installing cables (Section 5.7 on Page 27).
- Installing patch cords (Section 5.8 on Page 29).

The installation procedures listed above describe the sequential steps for a typical installation in a way that facilitates going quickly and efficiently through the installation. For operational details for covers, doors, connection components, cables, cable management clips, and patch cords, refer to

Section 6 on Page 30. Refer to these sub-sections during installation if any problem arises in moving through the installation procedures.

5 INSTALLING THE PANEL

5.1 Determining Rack Size and Mounting Hardware

The Propel Fixed Panel is shipped with mounting brackets suitable for mounting on a 19-inch equipment rack or cabinet.

Accessory kits are available for mounting on a 23-inch or ETSI rack. Whatever the type of rack being used, four recess options are available for positioning the mounting brackets.

The mounting brackets shown in illustrations are those used for 19-inch rack mounting. Refer to the following sections for more information.

5.2 Installing Kits for Alternative Rack Sizes (Not 19-Inch)

5.2.1 23-Inch Rack (584mm) Mount Kit

To mount the panel on a 23-inch (584mm) rack**,** use the G2-23BRKT accessory kit (one kit per RU, available separately) and install two conversion brackets to the pre-installed mounting brackets, using the four #10-32 x 3/8-inch conversion screws included in the accessory kit.

Use one conversion bracket and two screws per side. Mount the panel to rack using four #12-24 x 1/2-inch screws (provided as part of basic panel).

5.2.2 ETSI Rack Mount Kit

To mount the panel on an ETSI rack**,** use the G2-23BRKT accessory kit (available separately) and install one conversion bracket to either of the pre-installed mounting brackets, using two of four #10-32 x 3/8-inch conversion screws included in accessory kit.

The panel will not be centered when mounted in rack.

Mount the panel to rack using four M6 x 12mm screws (provided as part of basic panel).

5.3 Panel Recess Options, Fixed Panel

The Propel Fixed Panel is shipped with the mounting brackets in a 3-inch offset position for front of rack mounting.

The mounting brackets can be relocated to 3.5-inch or 6-inch offset positions for front of rack mounting, or to a 9-inch offset position for rear of rack mounting.

Note: The mounting brackets are stamped with the letter “1” at key locations to assist in orienting the mounting brackets in the following procedures.

5.3.1 Mounting Bracket Position on Panel as Shipped

Figure 14 shows the mounting bracket position when shipped.

Note: The holes used for this mounting location are stamped with a “1” on the physical bracket and are also shown in these illustrations.

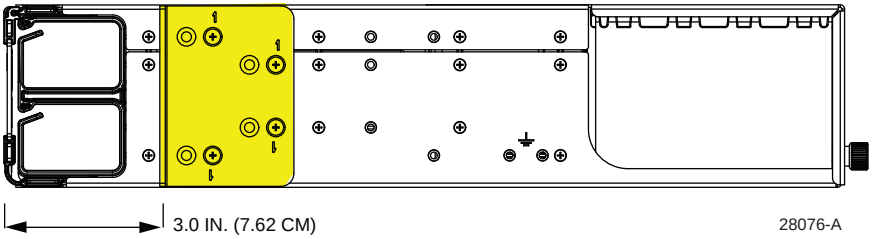


Figure 14. Rack Mounting Position for 3.0-Inch Recess (Shipped Panel)

5.3.2 Mounting Bracket in 3.5-Inch Offset Position (Front of Rack Mounting)

Figure 15 shows the mounting bracket in the 3.5-inch offset position for front of rack mounting. To mount a mounting bracket at this position, remove screws from holes marked “1” and remount the mounting bracket using the unmarked holes shown in Figure 15.

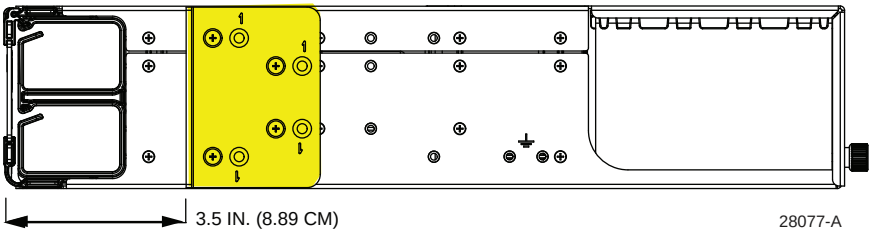


Figure 15. Rack Mounting Position for 3.5-Inch Recess

5.3.3 Mounting Bracket in 6-Inch Offset Position (Front of Rack Mounting)

Figure 16 shows the mounting bracket in the 6-inch offset position for front of rack mounting. To mount a mounting bracket at this position, remove screws from holes marked “1” and rotate the bracket 180 degrees. Reinstall 4 screws in holes marked “1”.

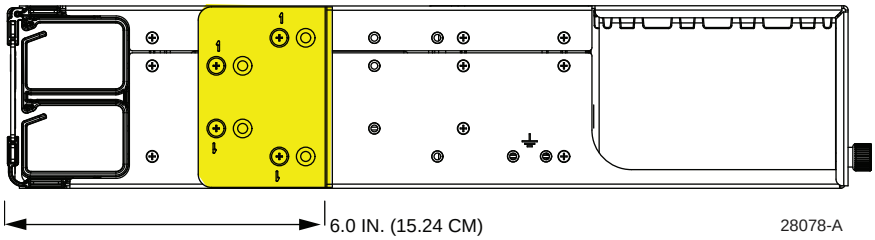


Figure 16. Rack Mounting Position for 6-Inch Recess

5.3.4 Mounting Bracket in 9-Inch Offset Position (Rear of Rack Mounting)

Figure 17 shows the mounting bracket at the 9-inch offset position for rear of rack mounting. To mount a mounting bracket at this position, remove the 4 screws from holes marked “1”, rotate the bracket 180 degrees, reposition the bracket at the rearward position, and reinstall 4 screws in the holes marked “1”.

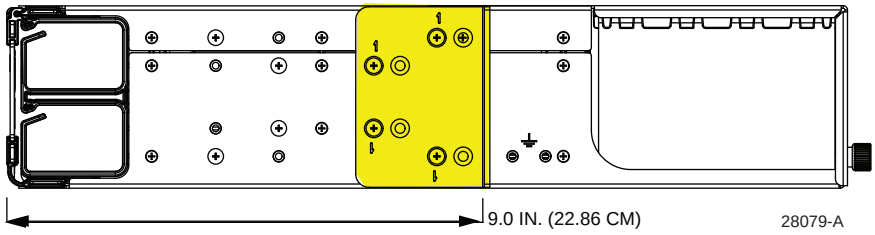


Figure 17. Rack Mounting Position for 9-Inch Recess

5.4 Panel Recess Options, Fixed Open Panel

The Propel Fixed Open Panel is shipped with the mounting brackets in a 3-inch offset position for front of rack mounting.

The mounting brackets can be relocated to 3.5-inch or 6-inch offset positions for front of rack mounting, or to a 9-inch offset position for rear of rack mounting.

Note: The mounting brackets are stamped with the letter “1” at key locations to assist in orienting the mounting brackets in the following procedures.

5.4.1 Mounting Bracket Position on Panel as Shipped

Figure 18 shows the mounting bracket position when shipped.

Note: The holes used for this mounting location are stamped with a “1” on the physical bracket and are also shown in these illustrations.

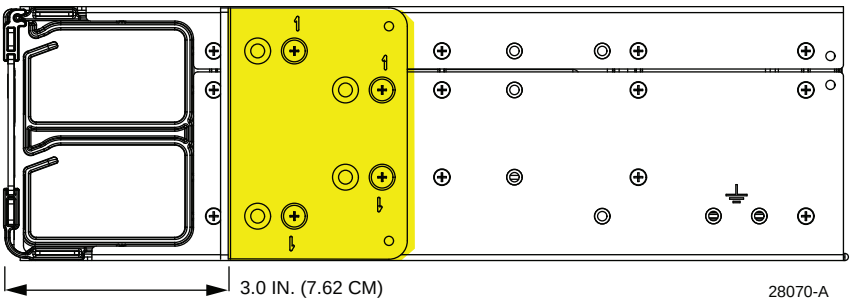


Figure 18. Rack Mounting Position for 3.0-Inch Recess (Shipped Panel)

5.4.2 Mounting Bracket in 3.5-Inch Offset Position (Front of Rack Mounting)

Figure 19 shows the mounting bracket in the 3.5-inch offset position for front of rack mounting. To mount a mounting bracket at this position, remove screws from holes marked “1” and remount the mounting bracket using the unmarked holes shown in Figure 19.

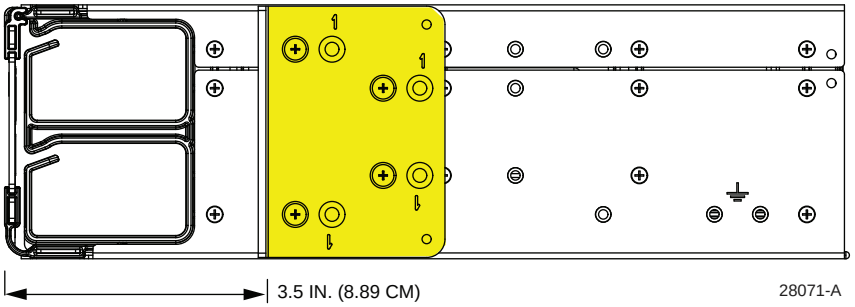


Figure 19. Rack Mounting Position for 3.5-Inch Recess

5.4.3 Mounting Bracket in 6-Inch Offset Position (Front of Rack Mounting)

Figure 20 shows the mounting bracket in the 6-inch offset position for front of rack mounting. To mount a mounting bracket at this position, remove the screws from the holes marked “1” and rotate the bracket 180 degrees. Reinstall 4 screws in holes marked “1”.

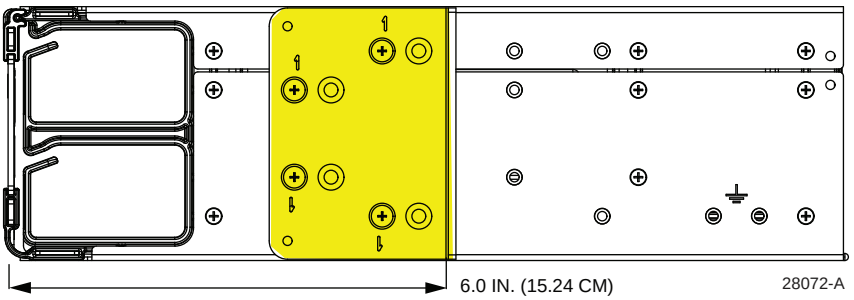


Figure 20. Rack Mounting Position for 6-Inch Recess

5.4.4 Mounting Bracket in 9-Inch Offset Position (Rear of Rack Mounting)

Figure 21 shows the mounting bracket at the 9-inch offset position for rear of rack mounting. To mount a mounting bracket at this position, remove the 4 screws from holes marked “1”, rotate the bracket 180 degrees, reposition the bracket at the rearward position, and reinstall 4 screws in the holes marked “1”.

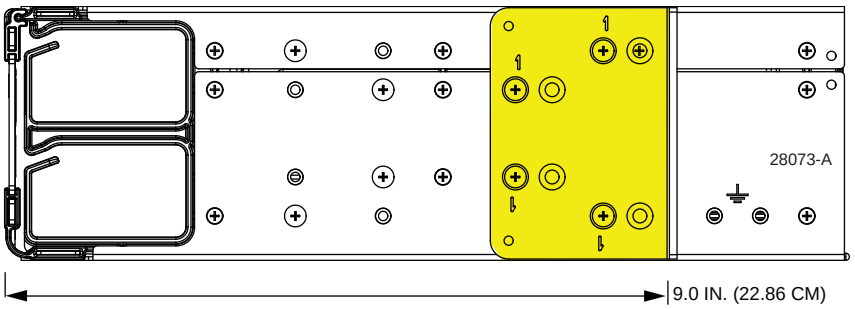


Figure 21. Rack Mounting Position for 9-Inch Recess

5.5 Mounting the Panel on the Rack

Note: The panel is shipped with mounting brackets suitable for mounting on a 19-inch equipment rack or cabinet. If mounting on a 23-inch or ETSI equipment rack or cabinet, install the mounting kit per Section 5.2 on Page 19, then return to this procedure.

To install the panel on the rack, use the following procedure, referring to Figure 22 for the Propel Fixed Panel and to Figure 23 for the Propel Fixed Open Panel.

The steps shown are numbered corresponding to numbered steps below.

1. Install the bottom two screws at the desired panel location.
2. Set the panel into position on the screws just installed.
3. Secure the panel to the rack by installing the remaining two mounting screws.
4. If required, connect panel to earth ground per local practice.

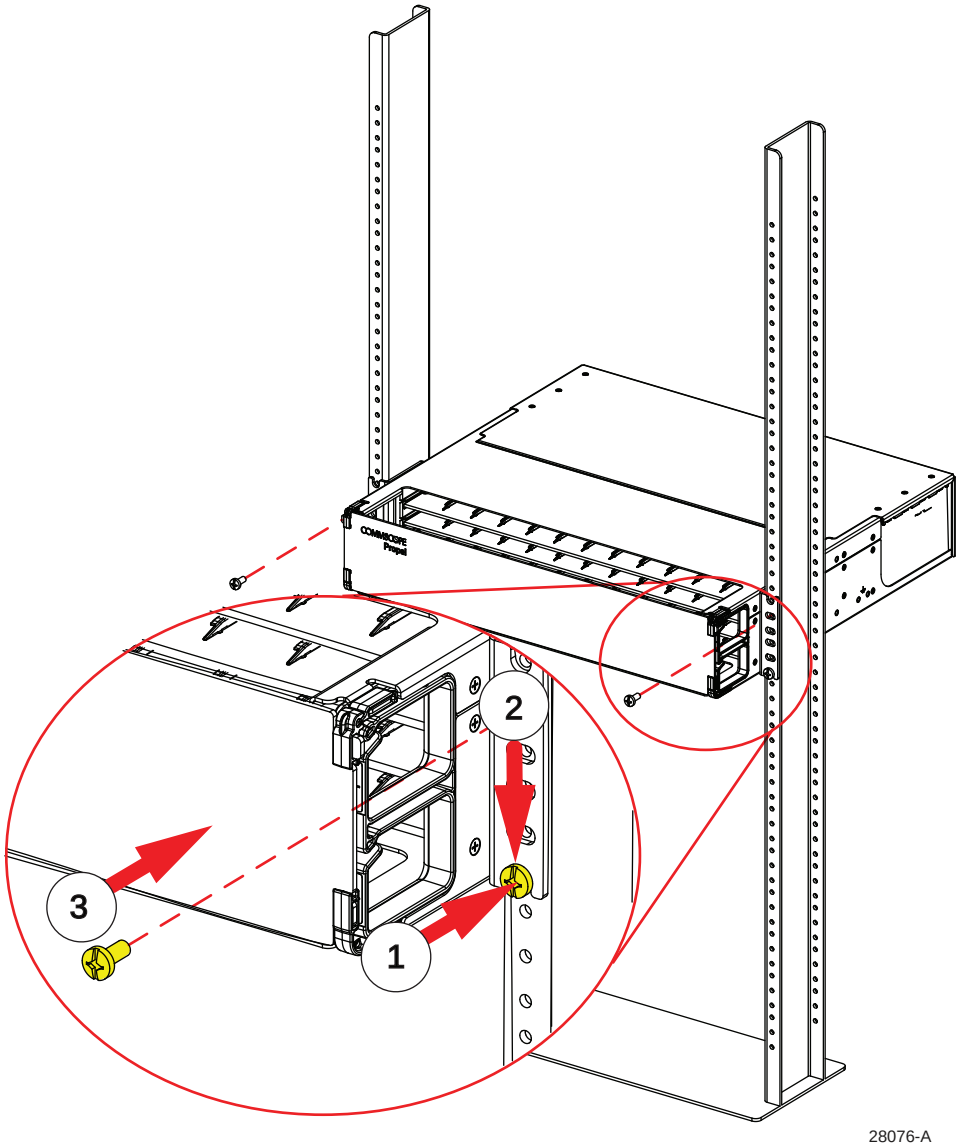


Figure 22. Mounting the Propel Fixed Panel (2RU Panel Shown)

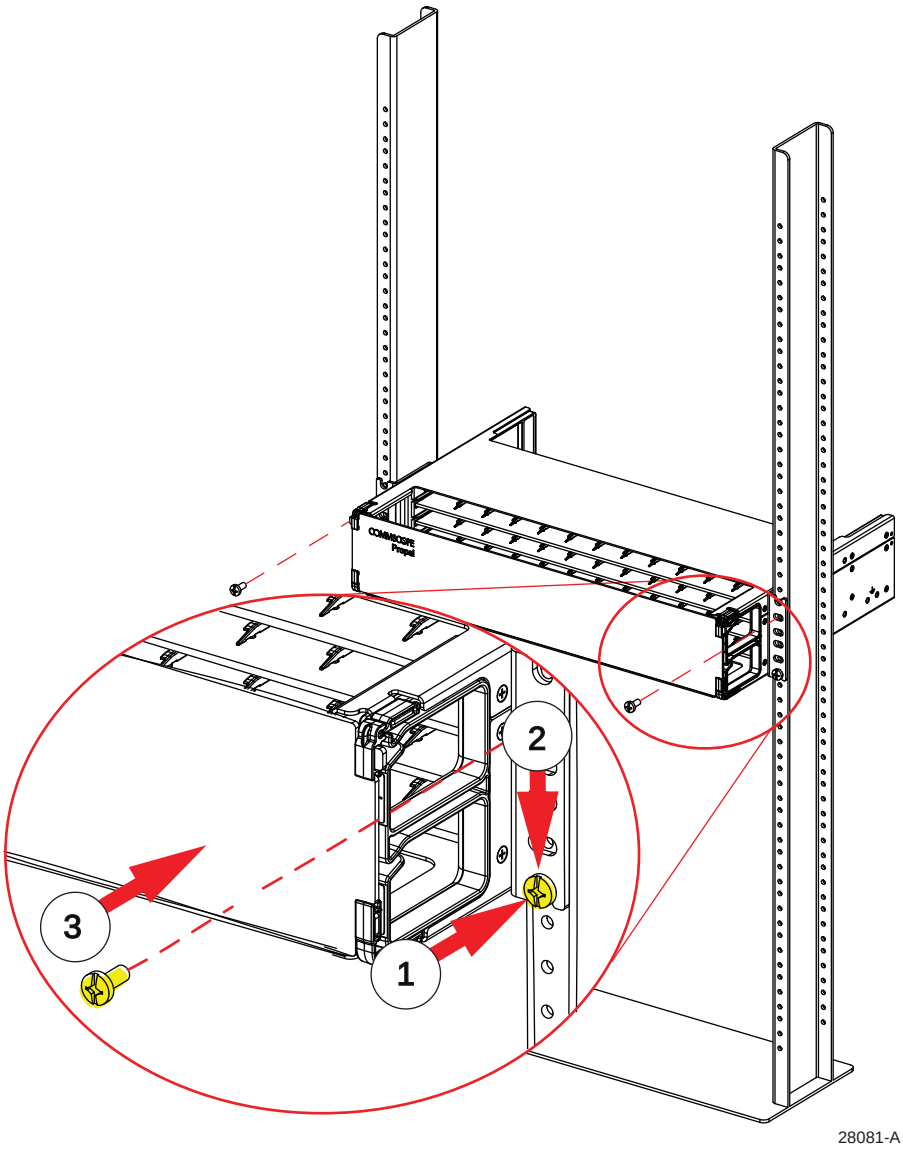


Figure 23. Mounting the Propel Fixed Open Panel (2RU-OPEN Panel Shown)

5.6 Installing Connection Components

Connection components include modules, adapter packs, and splice cassettes. Precise positioning on the blade is enforced by rails that the connection components slide onto when installed. The rails direct the components into 12 equal-sized lanes, labeled A to L. Connection components are available in 4 sizes occupying 2, 3, 4, or 6 lanes.

Use the following procedure, referring to Figure 24.

1. Open the front cover of the panel.

2. Determine where the connection component will be installed. It can be installed anywhere there is enough space for it.
3. Determine whether the component will be installed from the front or rear, as shown in Figure 24. Either option is possible, though connection components with pre-attached or spliced in cables are more easily installed from the rear.

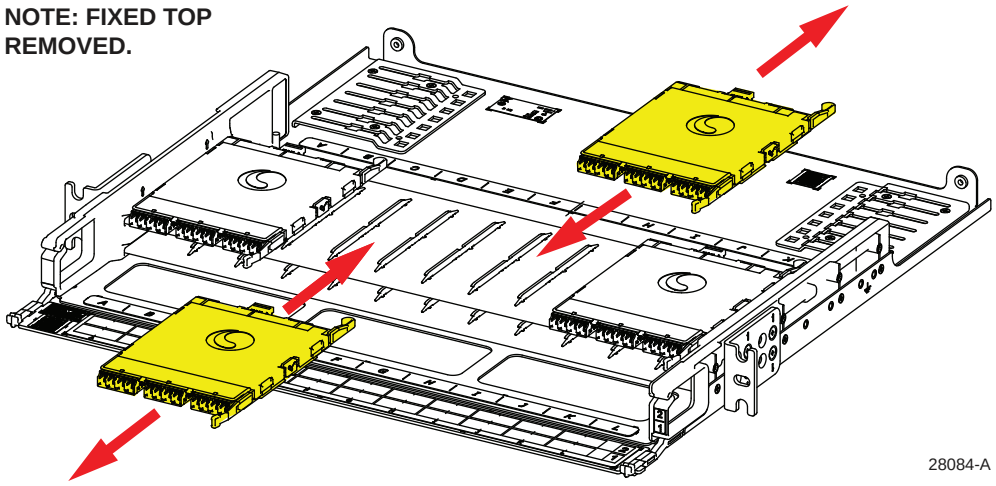


Figure 24. Connection Components Can be Installed from Front or Rear

4. Position the component on the rails as indicated in Figure 25.

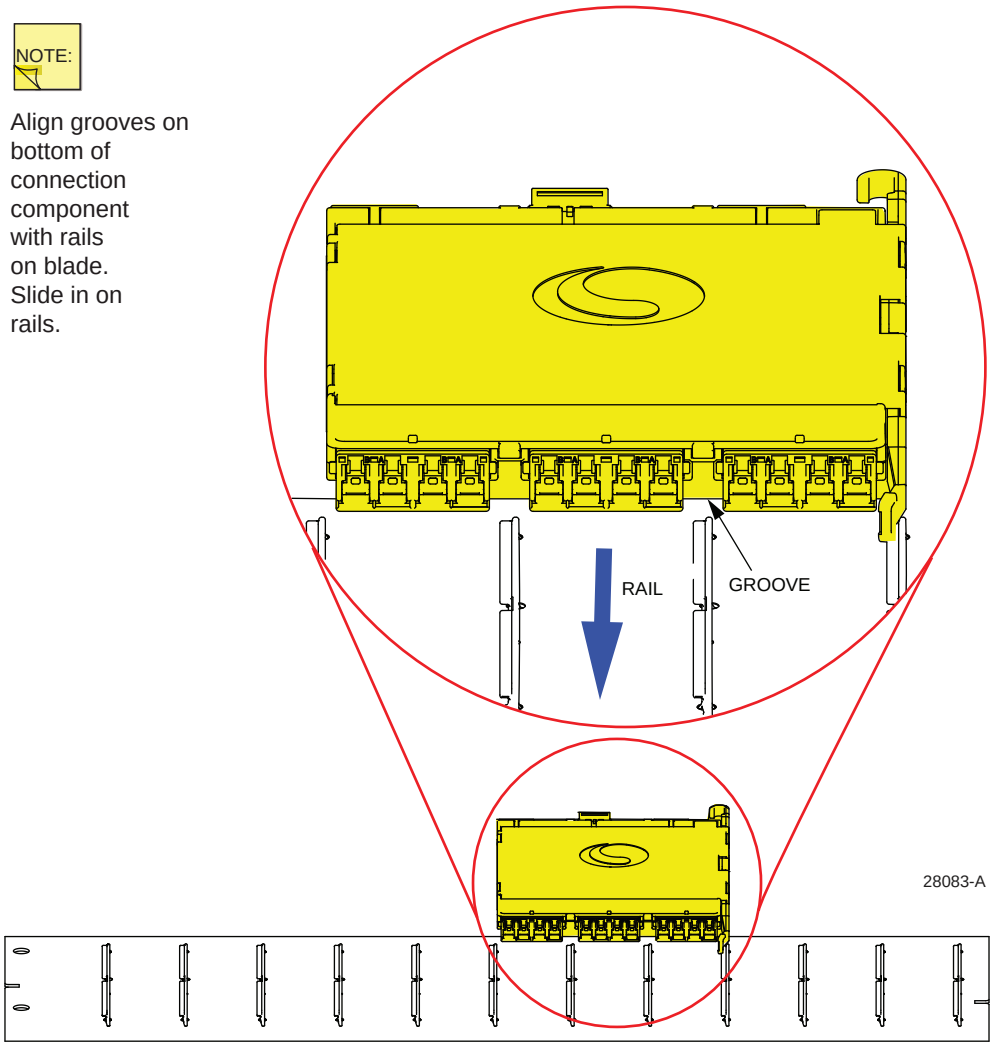


Figure 25. Positioning Connection Component on Rails

5. Slide in the connection component until it clicks into place.

5.7 Installing Cables

Cables are installed on the rear of the Propel Fixed Panel or Propel Fixed Open Panel to transition from the rear of the connection components to other equipment. If the connection component is a module or adapter pack, the cable needs to be terminated with the appropriate connectors. If the connection component is a splice cassette, the cable must have a pigtail termination for splicing to the fibers within the splice cassette.

Procedures follow below for the Propel Fixed Panel (Section 5.7.1) and the Propel Fixed Open Panel (Section 5.7.2).

5.7.1 Installing Cables in a Propel Fixed Panel

On a Propel Fixed Panel, once connected or spliced, the cables are routed from the connection components across the cable management platform to the cable management bracket where the individual cables are secured using cable management clips. From the cable management bracket, the cables are routed to the far end equipment.

Use the following procedure.

1. Route the cable in an arc to the cable management bracket. Avoid kinking the cable or bending it beyond the minimum bend radius as specified by the cable manufacturer.
2. At the point where the cable passes over the cable management bracket, install a cable management clip. For detailed instructions, refer to Section 6.4.1 on Page 34.

Note: Further instructions for the cable management clip are provided with each Propel cable assembly.

3. Insert the cable management clip into the cable management bracket, as also instructed in Section 6.4.1 on Page 34.
4. Route the cables out of the panel, through the vertical cable guide of the frame structure, and to the far end equipment.

5.7.2 Installing Cables in a Propel Fixed Open Panel

On a Propel Fixed Open Panel, once connected or spliced, the cables are routed from the connection components across the cable management strip, where they can be secured to the cable management slots with hook-and-loop straps, cable ties, or other means of cable fastening. From the cable management strip, the cables are routed to the far end equipment.

Use the following procedure.

1. Route the cable to the desired slots of the cable management strip. Avoid kinking the cable or bending it beyond the minimum bend radius as specified by the cable manufacturer.
2. Secure the cable to the cable management strip using the cable management slots and the preferred means of cable fastening (hook-and-loop strap, cable tie, etc). For detailed instructions, refer to Section 6.4.2 on Page 38.
3. Route the cables out of the panel, through the vertical cable guide of the frame structure, and to the far end equipment. Optionally, the cables can be secured to the frame structure. Refer to Section 6.4.3 on Page 38.

5.8 Installing Patch Cords

Patch cords are installed on the front of the Propel Fixed Panel or Propel Fixed Open Panel to connect the front of the connection components to other equipment at the same site.

Patch cords are grouped and secured by routing them through the nearest patch cord manager at the front of the panel.

To install patch cords, adhere to the following procedure.

1. Connect the patch cords to the desired ports.
2. Route the patch cords neatly to both sides of the blade as shown in Figure 26. The number of patch cords routed to each side does not matter so long as the patch cords are neatly arranged.

Figure 26. Patch Cords Fanned to Both Sides of a 4RU Fixed Panel

3. Route the opposite patch cord ends to the desired equipment location.

6 OPERATIONAL DETAILS

This section contains operational details that can be accessed separately outside of the installation procedures. Electronically, the most direct way to access these operational details is through the table of contents for this user manual on page 1.

6.1 Front Door

The front door is present in both the Propel Fixed Panel and the Propel Fixed Open Panel. The front door can be opened and closed as described in the following sub-sections.

6.1.1 Opening the Front Door

To open the front door of the Propel Fixed Panel, adhere to the following procedure.

1. Grasp the top corners of the door with thumb and forefingers as shown in Figure 27. Look for the tabs on the upper corners of the door.
2. Swing open the top of the door as shown in Figure 27.

Figure 27. Swinging Down the Front Door of the Propel Fixed Panel

6.1.2 Closing the Front Door

To close the front door of the Propel Fixed Panel, swing the door upward until it clicks into place.

6.2 Rear Cover (Propel Fixed Panel)

The Propel Fixed Panel has a rear cover that can be removed as described in the following sub-sections.

6.2.1 Removing the Rear Cover on the 1RU and 2RU Panel (Propel Fixed Panel)

Note: Rear cover operation on the 4RU panel is different than on the 1RU and 2RU panels.

To remove the rear cover of the Propel Fixed Panel, loosen the two captive screens on the bottom corners of the cover, and lift off the cover.

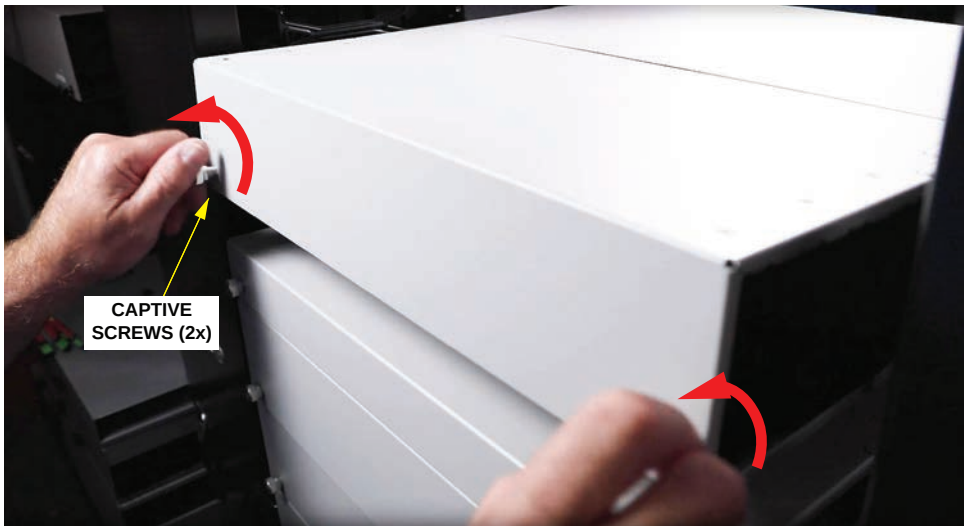


Figure 28. Loosening the Captive Screws

6.2.2 Re-installing the Rear Cover on the 1RU and 2RU Panel (Propel Fixed Panel)

To re-install the rear cover on a 1RU or 2RU panel, place it into position and secure it with the two captive screws.

6.2.3 Opening the Rear Cover on the 4RU Panel (Propel Fixed Panel)

To open the rear cover of the 4RU panel, loosen the two captive screws to release the door and swing it down on its hinges.

6.2.4 Closing the Rear Cover on the 4RU panel (Propel Fixed Panel)

To close the rear cover of the 4RU panel, swing the door up into its closed position. Secure it with its two captive screws.

6.3 Connection Components

6.3.1 Placement of Connection Components on a Blade

When installing a connection component, take care to align the grooves on the bottom of the component with the rails on the blade, as shown in Figure 29.

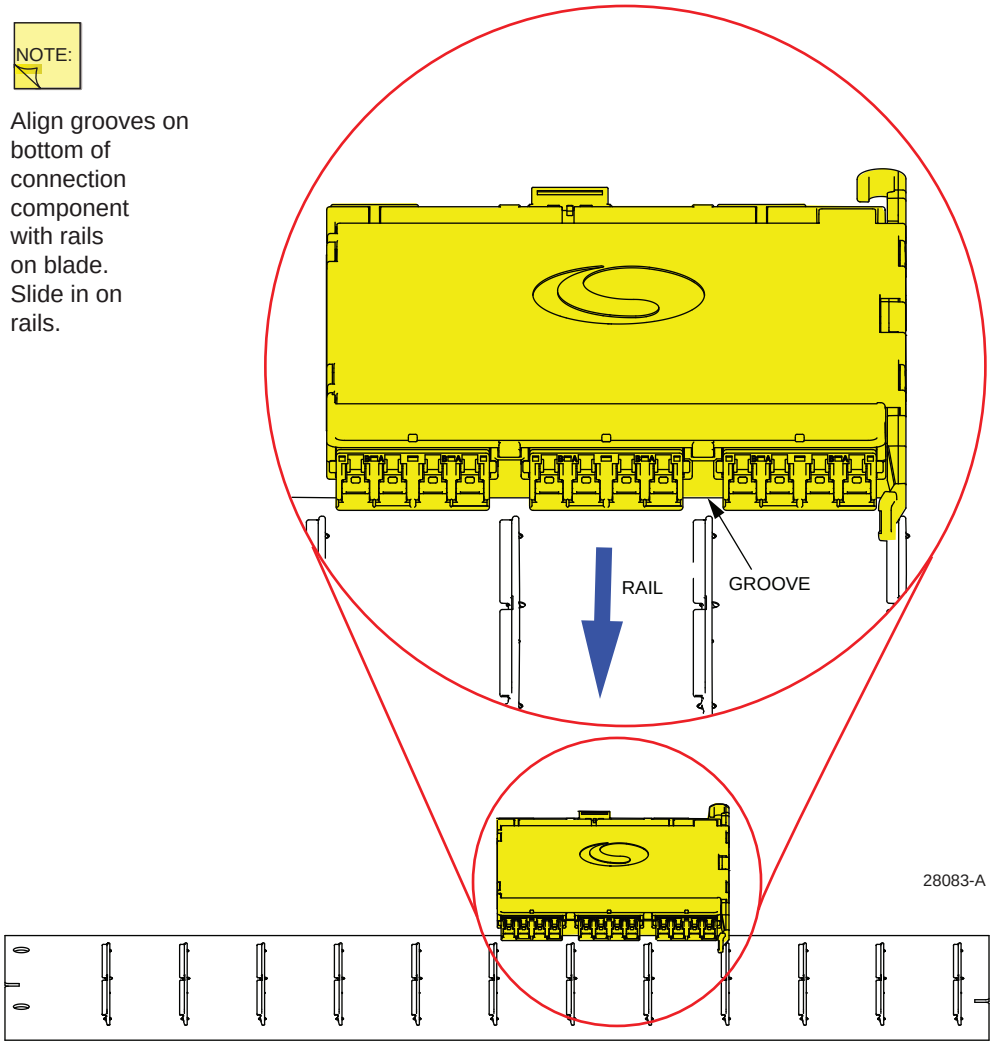


Figure 29. Positioning Connection Component on Rails

6.3.2 Installing a Connection Component

To install a connection component, position it on the blade rails wherever there is space for it. Slide the component in until it clicks into place. Refer to Figure 30

Figure 30. Installing a Connection Component

6.3.3 Removing a Connection Component

Danger! *Disconnected optical components may emit invisible optical radiation that can damage your eyes. Never look directly into an optical component that may have a laser coupled to it. Serious and permanent retinal damage is possible. If accidental exposure to laser radiation is suspected, consult a physician for an eye examination.*

To remove a connection component, disconnect it by pulling on the light gray handle, and slide it off the blade, heeding the **Danger** warning above.

6.4 Cables and Rear Cable Management Clips

6.4.1 Installing a Cable on a Propel Fixed Panel

To attach a cable management clip on a cable, perform the following steps:

1. Obtain two hook-and-loop straps and a cable management clip (provided with each Propel cable assembly). Refer to Figure 31.

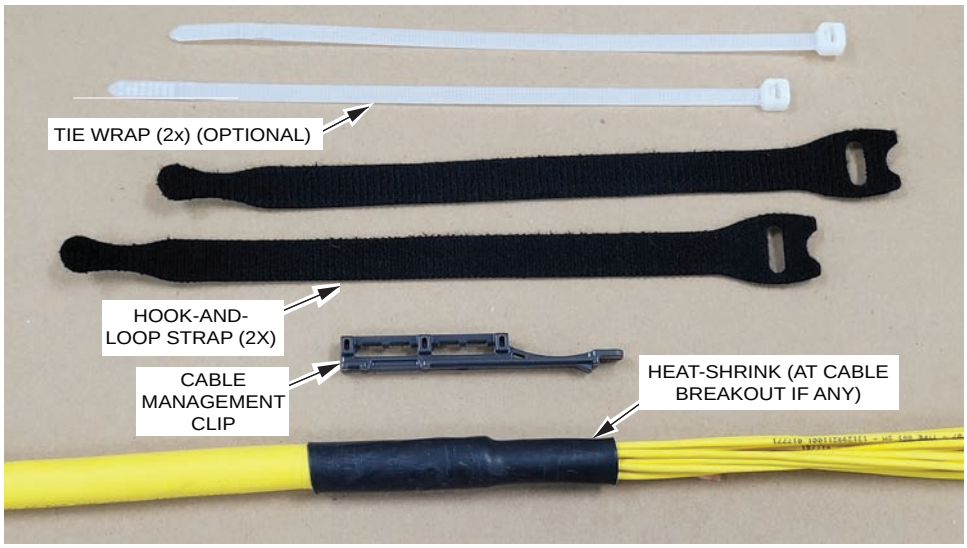


Figure 31. Cable Ties (Optional), Hook-and-Loop Straps, Cable Management Clip, and Cable

2. Lay out the cable in a gentle arcing route to the cable management bracket. Mark the cable at the point where it will enter the cable management bracket. If the cable has multiple sub-units, break out the cable per local practice at the mark just made on the cable.
3. Wrap the cable at the breakout location in heat-shrink or, if no breakout is present, at the mark made on the cable in the previous step

4. Secure the cable jacket to the clip with the hook-and-loop straps or cable ties as follows (refer to Figure 32):

   a. Attach the cable or cables to the snap-in mounting clip with the included hook-and-loop straps or with any style of cable tie you prefer.

Note: The snap-in cable mounting clip can accommodate single or multiple cables in a variety of cable sizes. For more instructions and an illustration, refer to the installation drawing that came with the cable assembly.

   b. After securing the hook-and-loop straps or cable ties to the cable, use a side cutter or scissors to remove excess material.

Note: Ensure that the cable breakout is not retained by the hook-and-loop strap or cable tie, referring to the guidelines provided in Figure 32 and in the installation drawing provided with the cable assembly.

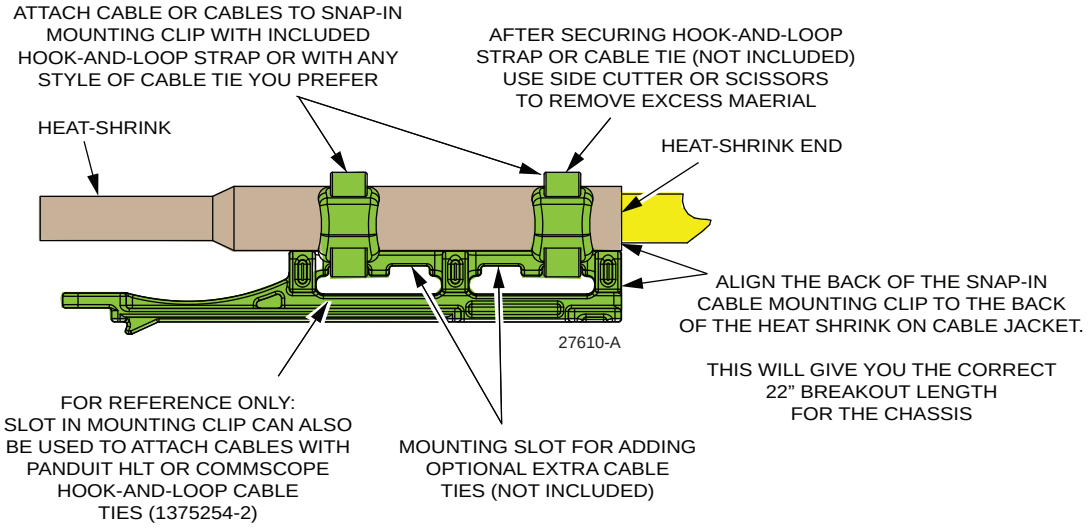


Figure 32. Cable Management Clip Detailed View

5. Insert the lead bottom feature of the clip into the selected slot, and slide it in to the final position, as shown in Figure 33 and Figure 34. Start at forward most position and install additional cables working toward back of panel. Figure 35 shows a fully-installed cable assembly routed in a slack loop on the cable management platform, with connections made to the rear module ports.

Note: Detailed instructions for the cable management clip are provided with each Propel cable assembly.

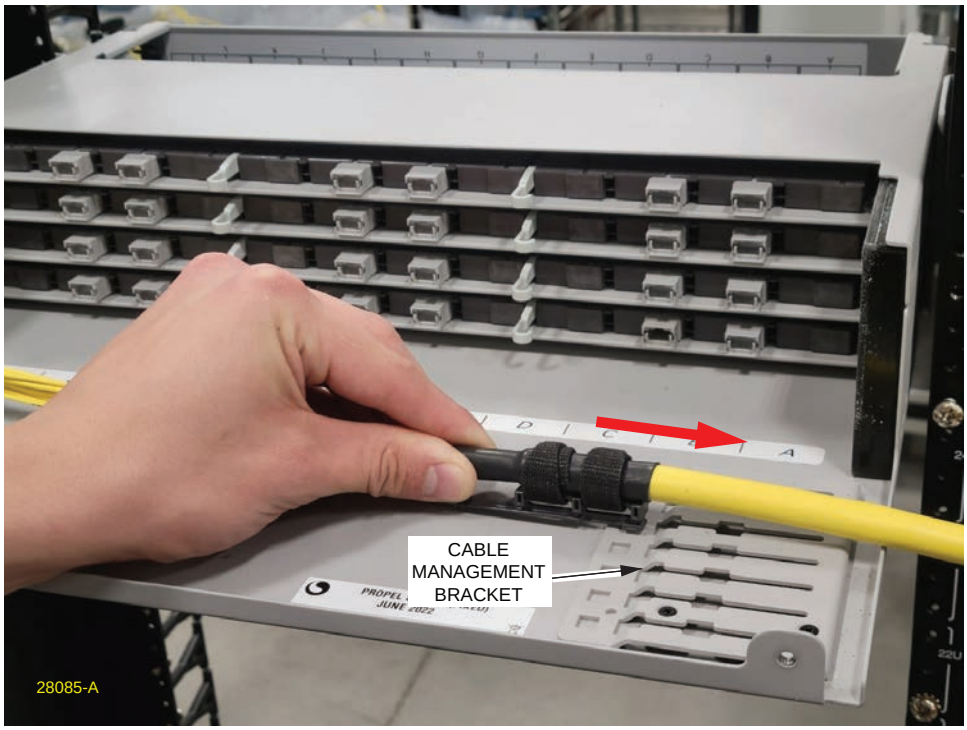


Figure 33. Inserting and Sliding in a Cable and Clip Assembly

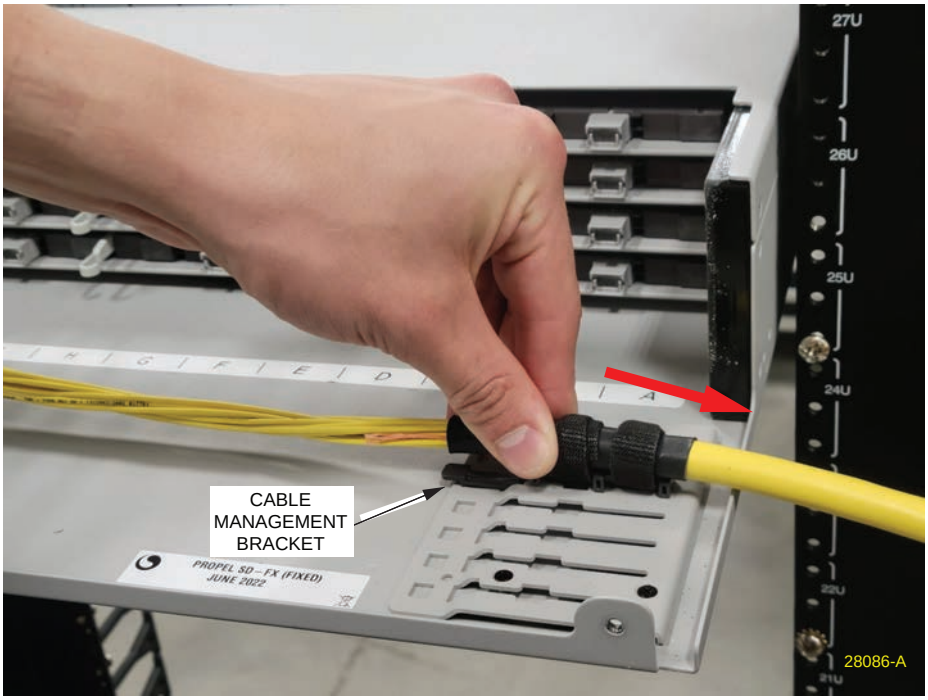


Figure 34. Final Position of Cable and Clip Assembly in Cable Management Bracket

Figure 35. Fully-Installed Cable Assembly with Slack Loop, Propel Fixed Panel

6.4.2 Installing a Cable on a Propel Fixed Open Panel

To install a cable in the Propel Fixed Open Panel, perform the following steps:

1. Connect cable to the selected rear port of the Propel connection component being used. Take care to prevent the trunk cable and any cable subunits from exceeding their manufacturer specified minimum bend radii.
2. Route the cable out the back of the panel and align it with the vertically or horizontally oriented slots in the cable management strip.
3. Use hook-and-loop straps or cable ties to secure the cable to the cable management strip. Refer to Figure 36. Optionally, refer to Figure 37 for an example of using the cable management strip to facilitate and secure slack loops.

Figure 36. Securing Cables on a Fixed Open Panel

6.4.3 Routing Cables from the Panel on the Frame

Route all cables neatly from the cable management strip into the vertical cable management of the supporting infrastructure. Cable mounting bracket accessories can be added to facilitate cable routing outside of the panel. Generic brackets for rack and cabinet applications are outlined in Table 6. Figure 38 shows an example of a Fixed Open Panel used with EHD-RMB cable mounting brackets in a rack mounting application.

Figure 37. Securing Cables with Slack Loops on a Fixed Open Panel

Table 6. Cable Mounting Bracket Accessories

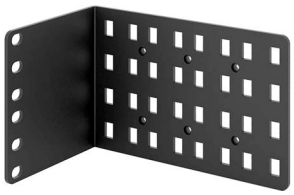
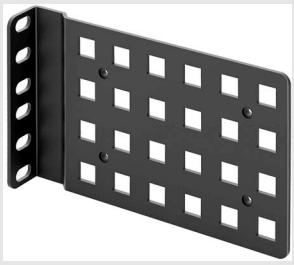
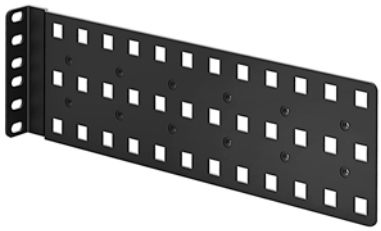
Material ID (MID)	Catalog #	Description	Product Image
EHD-CMB	EHD-CMB	Cabinet mount accessory bracket for attaching cables or breakout kits – 5.5" long	
EHD-RMB	EHD-RMB	Rack mount accessory bracket for attaching cables or breakout kits – 5.5" long	

Table 6. Cable Mounting Bracket Accessories

Material ID (MID)	Catalog #	Description	Product Image
760239859	UMB-RMB-LG	Extended rack mount accessory bracket for attaching cables or breakout kits – 11.3" long	
760239861	UMB-CMB-LG	Extended cabinet mount accessory bracket for attaching cables or breakout kits – 11.3" long	

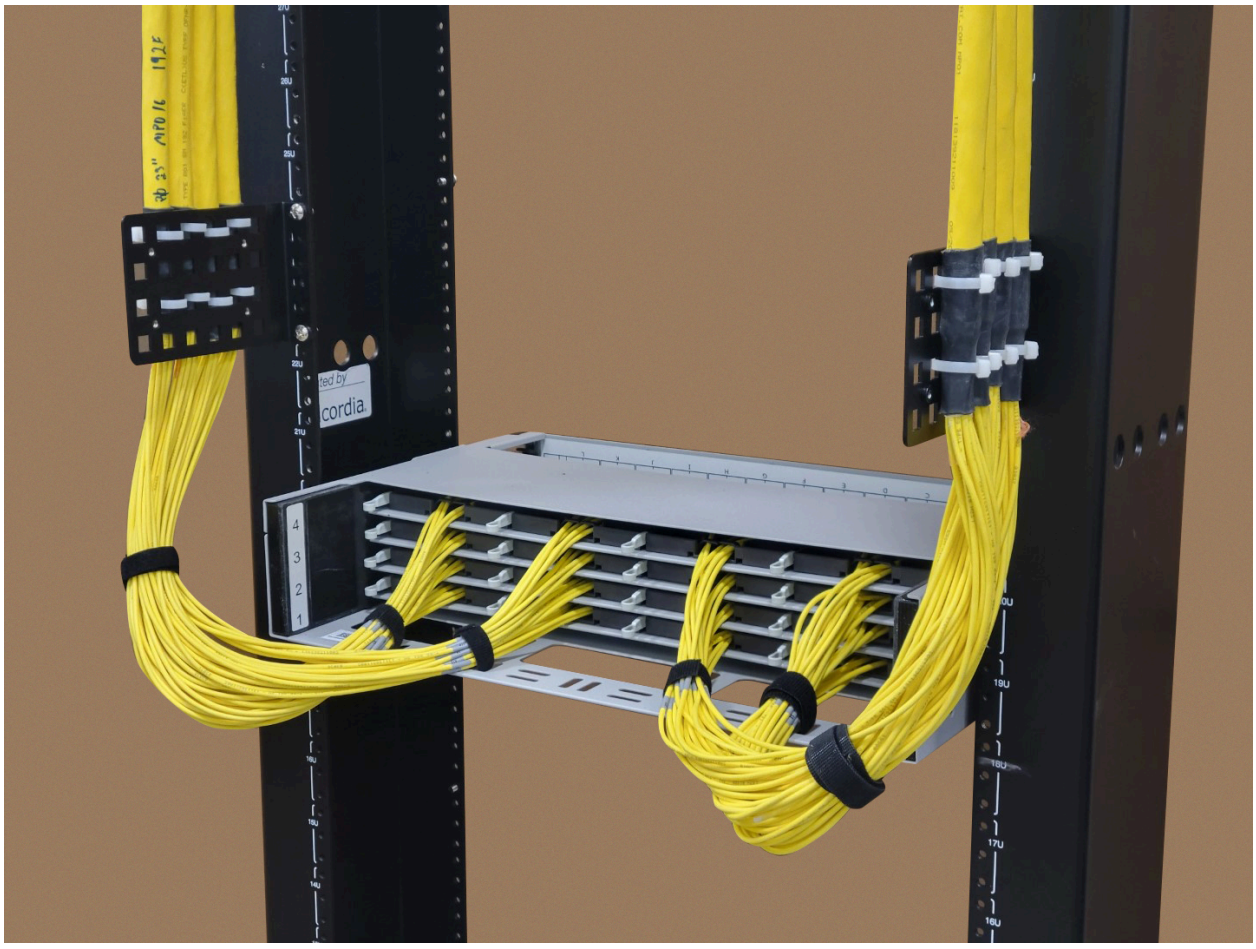


Figure 38. Typical Use of Cable Mounting Brackets (EHD-RMB Shown)

6.5 Patch Cords

To install a patch cord, connect the connector to the selected front port of the connection module. Route patch cords neatly through patch cord managers as needed. Figure 39 shows how to feed patch cords into and out of the integral patch cord managers.

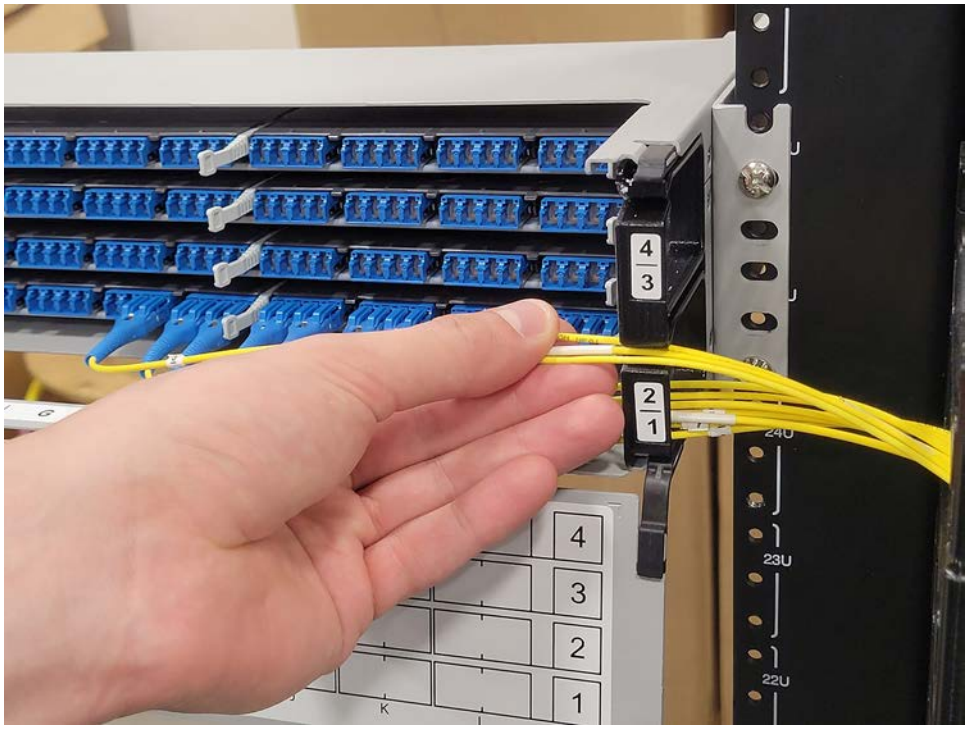


Figure 39. Feeding Patch Cords through Front Cable Managers

Refer to Figure 26 on Page 29 for a fully-patched Propel Fixed Panel example.

7 CONTACT INFORMATION

- To find out more about CommScope® products, visit us on the web at www.commscope.com
- For technical assistance, customer service, or to report any missing/damaged parts, visit us at http://www.commscope.com/SupportCenter