1U, 2U, and 4U Fiber Optic Shelves with Internal Sliding Tray Instructions

General

The CommScope® RFE-SLC-IS-EMT-type fiber optic shelves are 19-inch (483mm) wide rack mounted, internal sliding shelves that slide both to the front and to the rear. They are available in a 1U, 2U, and 4U size in either black or white. The shelves can accommodate ReadyPATCH® MPO modules equipped with keyed single/duplex multi-port LC adapters on the front and MPO adapters on the rear or adapter panels. Shelves have the following capacities:

- **1U** – 72 LC or keyed LC, 36 ST®, or 36 SC fiber connector adapters depending on configuration. Can be used as a splice unit to store up to 48 fusion splices or 36 rotary mechanical splices using the optional splice wallets or up to 96 fusion splices using the optional stackable splice trays.
- **2U** – 144 LC or keyed LC, 72 ST, or 72 SC fiber connector adapters depending on configuration. Can be used as a splice unit to store up to 144 fusion splices or 108 rotary mechanical splices using the optional splice wallets or up to 144 fusion splices using the optional stackable splice trays.
- **4U** – 288 LC or keyed LC, 144 ST, or 144 SC fiber connector adapters depending on configuration. Can be used as a splice unit to store up to 192 fusion splices or 144 rotary mechanical splices using the optional splice wallets or up to 288 fusion splices using the optional stackable splice trays.

Shelf ordering information is listed below:

<table>
<thead>
<tr>
<th>Material ID</th>
<th>Part No.</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>760147439</td>
<td>RFE-SLC-EMT-BK/1U-PNL</td>
<td>1U internal sliding shelf, black</td>
</tr>
<tr>
<td>760147462</td>
<td>RFE-SLC-EMT-WH/1U-PNL</td>
<td>1U internal sliding shelf, white</td>
</tr>
<tr>
<td>760147447</td>
<td>RFE-SLC-EMT-BK/2U-PNL</td>
<td>2U internal sliding shelf, black</td>
</tr>
<tr>
<td>760147470</td>
<td>RFE-SLC-EMT-WH/2U-PNL</td>
<td>2U internal sliding shelf, white</td>
</tr>
<tr>
<td>760147454</td>
<td>RFE-SLC-EMT-BK/4U-PNL</td>
<td>4U internal sliding shelf, black</td>
</tr>
<tr>
<td>760147488</td>
<td>RFE-SLC-EMT-WH/4U-PNL</td>
<td>4U internal sliding shelf, white</td>
</tr>
</tbody>
</table>

CommScope Internal Sliding Shelves in 1U, 2U, and 4U Configurations
How to Contact Us

- To find out more about CommScope® products, visit us on the web at [http://www.commscope.com/](http://www.commscope.com/)
- For technical assistance:
  - Within the United States, contact your local account representative or technical support at 1-800-344-0223. Outside the United States, contact your local account representative or Authorized Business Partner.
  - Within the United States, report any missing/damaged parts or any other issues to CommScope Customer Claims at 1-866-539-2795. Outside the United States, contact your local account representative or Authorized Business Partner.

Tools Required

- Phillips head screwdriver
- Isopropyl alcohol, 91% pure or higher
- Lint-free wipes or tissues

Parts List

<table>
<thead>
<tr>
<th>Quantity</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Sliding shelf</td>
</tr>
<tr>
<td>4</td>
<td>12-24 mounting screws</td>
</tr>
<tr>
<td>4</td>
<td>M6 x 12 mounting screws</td>
</tr>
<tr>
<td>4</td>
<td>Hook-and-loop straps</td>
</tr>
<tr>
<td>1</td>
<td>Instruction sheet</td>
</tr>
</tbody>
</table>

Separately Orderable Items

The MPO modules, panel adapters, and splice kits (including fiber storage drums) must be ordered separately. Build-out blocks, coupler, splicing materials, and other equipment used with this shelf are optional and must be ordered separately.

<table>
<thead>
<tr>
<th>Material ID</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Various (See note)</td>
<td>ReadyPATCH® MPO modules – numerous modules are available to accommodate LC, keyed LC, ST, and SC fiber connectors</td>
</tr>
<tr>
<td>Various (See note)</td>
<td>Adapter panels – numerous panels are available to accommodate LC, keyed LC, ST, and SC fiber connectors</td>
</tr>
<tr>
<td>Various (See note)</td>
<td>Splicing kit – includes splice wallet, trays for either fusion or rotary mechanical splices and fiber storage drums or stackable splice tray</td>
</tr>
</tbody>
</table>

**Note:** Contact your local account representative for ordering information.
Identification of Shelf Components

Cautions

- 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.

- 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.

- Wearing safety glasses during installation of this shelf is recommended. Although standard safety glasses provide no protection from potential optical radiation, they offer protection from accidental airborne hardware and cleaning solvents.

Step 1 – Mount Shelf in Rack and Slide Tray

Note: 2U shelf shown, mounting the 1U and 4U shelves is similar.

1. Mount panel to equipment rack using the four provided mounting screws.

2. Before sliding tray forward or to the rear, open and remove the door in the direction tray will be sliding. Lift up on tray to release it before sliding in either direction.
3. Lift up and pull forward to slide tray to front. Lift up again and pull to slide tray past automatic stop and to full open position.

4. Lift up and pull rearward to slide tray to rear. Lift up again and pull to slide tray past automatic stop and to full open position.

**Step 2a – Configure and Install MPO Modules**

MPO Module in ALPHA Configuration for 1U, 2U Shelf

MPO Module in BETA Configuration for 1U, 2U Shelf

MPO Module in ALPHA Configuration for 4U Shelf

MPO Module in BETA Configuration for 4U Shelf
Note: MPO modules **must** be configured as shown for proper polarity. Identical modules are used at both ends of trunk cable, but module orientation is inverted from end to end. Module at one end of trunk cable **must** be oriented in “ALPHA” configuration, while module at opposite end of trunk cable **must** be oriented in “BETA” configuration.

1. Orient modules in the “ALPHA” or “BETA” configuration as shown on previous page before installation.

2. Install MPO modules from front of panel and secure modules using captive rivets. Pull out on head of rivet to release it before insertion and push in to secure once module is inserted.

   **Note:** The 2U shelf is shown and modules install in 1U shelf the same. Modules install vertically in the 4U shelf.

**Step 2b – Install Panel Adapters**

1. Orient panel adapter so that port labeled no. 1 is on the left. Install panel adapters from front of panel and secure adapters using captive rivets. Pull out on head of rivet to release it before insertion and push in to secure once adapter is inserted.

   **Note:** The 2U shelf is shown and adapters install in 1U shelf the same. Adapters install vertically in the 4U shelf.
Step 3a – Fiber Routing and Termination in Rear Section Using MPO Modules

1. Pull internal sliding tray to the full rear position.

2. Route ReadyPATCH cables along either side of shelf and into openings provided on rear as shown above. Loosely secure cables to outside of shelf using a hook-and-loop strap in the slots provided.

   Note: Do not tighten hook-and-loop straps on fiber cable or damage to cable will result.

3. Connect ReadyPATCH cables to rear of modules and store slack cable in tray floor in no less than 3-inch (76mm) loops.

4. Push internal tray to closed position while carefully controlling slack in ReadyPATCH cables that will occur. Excess slack can be carefully pushed into internal tray while closing or left on outside of shelf and dressed accordingly.
Step 3b – Fiber Routing and Termination in Rear Section Using Adapter Panels (No Splicing)

1. Pull internal sliding tray to the full rear position.
2. Route cables along either side of shelf and into openings provided on rear as shown above. Loosely secure cables to outside of shelf using a hook-and-loop strap in the slots provided.

   **Note:** Do not tighten hook-and-loop straps on fiber cable or damage to cable will result.
3. Connect cables to rear of adapter panels and store slack cable in tray floor in no less than 3 inch (76mm) loops.
4. Push internal tray to closed position while carefully controlling slack in fiber cables that will occur. Excess slack can be carefully pushed into internal tray while closing or left on outside of shelf and dressed accordingly.
Step 3c – Fiber Routing and Termination in Rear Section Using Adapter Panels
(With Optional Splicing Components)

1. Pull internal sliding tray to the full rear position.
2. Using a lint-free wipe and isopropyl alcohol, clean area of tray splice wallet will be mounted.
3. Peel off paper backing from hook-and-loop strip on bottom of splice wallet. Orient splice wallet so that opening flap faces towards center of shelf (bulkhead) and in location shown above. Press splice wallet firmly onto the sliding tray and hold for several seconds.
4. Secure splice trays using adhesive pads provided on leaves of splice wallet. Clean back of splice trays with a clean wipe and isopropyl alcohol. In order to function properly, all splice wallet leaves must be populated with splice trays, whether or not they are to be used.

**Note:** Splice trays may be populated with splices before trays are mounted into splice wallet.

Fiber Management When Using Splice Components

1. Terminate a fiber pigtail into an adapter panel, color keying as required. Repeat for all remaining locations. Bundle all pigtails together with a suitable device that will not damage fibers (such as a cable tie or hook-and-loop strap), at approximately 1-foot (305mm) increments.
2. Perform splicing operations per local practices and store splices in splice trays.
3. Loop fibers into fiber storage reel on right as shown. Fibers from all three adapter panels are dressed through fiber storage reel on right side and fiber bundles entering shelf on left side are routed through fiber storage reel on left side.
4. Secure trunk cable with cable tie at slot as shown.
5. The figure above shows an example of a fully populated shelf using a splice wallet and fibers routed per the previous instructions.
Step 3d – Fiber Routing in Rear Section Using Adapter Panels
(With Optional Stackable Splice Trays)

Note: Stackable splice trays are ordered separately from shelf. Refer to instructions enclosed with splice trays for details not covered here.

1. Pull internal sliding tray to the full rear position
2. Using a lint-free wipe and isopropyl alcohol, clean area where splice tray is to be installed
3. Peel off paper backing from splice tray. Center over sliding tray approximately 1/2” (13mm) from rear lip and press down firmly for several seconds. If permanent adhesion to the sliding tray is not desirable, hook-and-loop or mechanical fasteners (installer provided) may be used.
4. Route buffer tube(s) to tray, as shown above. Buffer tube slack may be spooled around perimeter of tray and restrained with cable ties at tie-down points. Leave sufficient slack loop to allow sliding tray to be fully retracted. Protect exposed buffer tube with spiral wrap.
5. Each splice tray will accommodate up to 48 fusion splices. If additional splices are required, one additional tray may be stacked in the 1U shelf, two additional trays in the 2U shelf, and five additional trays in the 4U shelf. The 1U shelf will accommodate a total of 96 fusion splices, 2U shelf 144 fusion splices, and 4U shelf 288 possible splices.
Fiber Management When Using Stackable Splice Trays

1. Trim all pigtail lengths to 1 meter (39 inches) or less.
2. Terminate a fiber pigtail into an adapter panel, color keying as required. Repeat for all remaining locations.
3. Perform fusion splicing operations per best practices and snap splice sleeves into holders provided inside of tray.
4. Wind and dress pigtails into tray.
5. Wind and dress fibers from buffer tube(s) into tray.
6. After tray is fully populated, snap on clear plastic top cover.
7. Push internal sliding tray to closed position carefully and verify that the external slack loop does not kink or snag. Make adjustments as required.

Step 4 – Fiber Routing and Termination (Front Section)

1. Pull internal sliding tray to the full forward position as shown above.
2. Route patch cords into either side of shelf, along front of tray, and insert fiber connectors into adapter panels.
   Caution: Sufficient slack must be included when routing patch cords to allow tray to slide to the “fully open” rear position for fiber cable termination/organization. A minimum of 16 inches (406mm) is required to open to first position and more than that to open to second position.
3. Loosely secure cords to inside of tray using hook-and-loop straps in the slots provided.
4. Slide tray back inside shelf being careful not to pinch or bind slack fibers in the process.
Step 5 – Install Fiber Identification Label and Laser Warning Label

1. Microsoft® Excel label templates are available on the CommScope website. To print a label, go to http://www.commscope.com/uniprise/eng/support_document/label/index.html Select the appropriate shelf label template.

2. Label information can be entered into the template directly from a PC application and then printed, or entered manually after the label sheet is printed. Print a label sheet using Avery White Full Sheet Laser 5165 printer paper.

3. Remove backing and stick fiber identification label sheet on inside of front door as shown above.

4. A triangular laser warning label is provided and should be applied to the outside of the closed front door. Remove backing and stick label in upper right corner of the closed door.