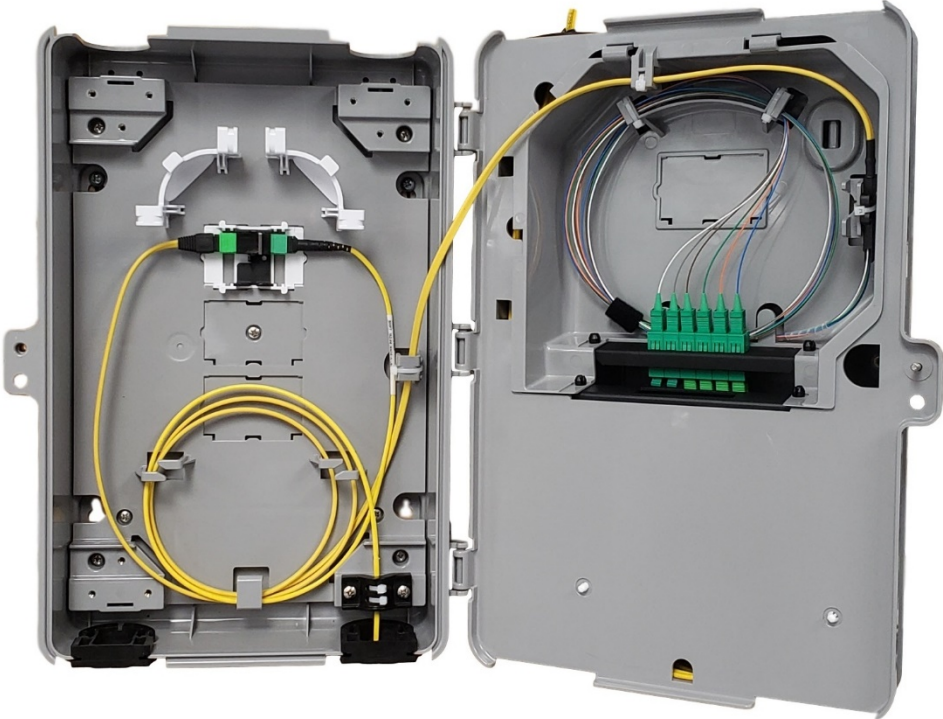


Layered Fiber Demarcation Box with Multiple-Fiber Push-On (LFD24 with MPO) Installation Guide



Installation Guide, LFD24 with MPO

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About

Amphenol Network Solutions is a global innovative original equipment manufacturer that serves the data and communications markets. We design, manufacture, and distribute products for customers who need an end to end solution for network connectivity, fiber, power distribution and rack management. We collaborate with our customers to deliver product solutions that exceed expectations with innovative designs and world class quality. Amphenol Network Solutions is the industry thought leader on network cable management.

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1.0 General Product Information

Amphenol Network Solutions offers a Layered Fiber Demarcation Box designed for high-density fiber connectivity for indoor wall mount applications.

This compact demarcation fiber enclosure can accommodate one or two SC or MPO adapters per cradle adapter. Incorporated in a layered, split-housing design are separate carrier and customer areas with individual security bolts and padlock hasps. This enclosure is available with or without a feeder cable stub for ease and speed of installation. The flexible enclosure layout enables a variety of splicing and patching combinations as well as cable entrance/exit ports top and bottom.

1.1 Safety Precautions

⚠ ALERT

Danger: Direct eye exposure to laser light will cause serious eye damage. Avoid looking directly into an optical fiber, optical connector or optical adapter that is connected to an active source.

⚠ WARNING

Warning: Wear safety glasses to prevent accidental eye injury. Wear protective gloves and clothing to prevent accidental injury.

Warning: Observe company policies and procedures regarding personal safety.

Warning: Follow local and national safety and construction codes.

⚠ CAUTION

Caution: Handle fiber optic cable per manufacturer's recommendation for minimum bend radius, maximum tensile loading, and maximum crush resistance.

1.2 Tools Required

- 216 Tool
- #2 Phillips Screwdriver
- Fiber Optic Cleaning Supplies
- Scissors

1.3 Package Contents

- Layered Fiber Demarcation Box, LFD24
- LFD Box Standard Sub-Assembly Kit
 - Tie-wraps
 - Mounting template
 - Mounting screws
 - Installation Instructions
 - MPO fanout
 - MPO adapter
 - MPO adapter bracket
 - Cradle adapter
- Additional component kits per ordered configuration

Components may be selected at time of order using the information in the product datasheet.

Accessory kits are also available and can be ordered separately. See product datasheet for details. These kits are also listed on the Accessory List found on www.amphenol-ns.com




2.0 Installing the Product

2.1 Unpacking

Ensure all components are available per the configuration ordered.

2.2 Mounting

 Caution: Exercise care when mounting box to avoid damaging fiber.

1. Locate an acceptable mounting location for the box.
2. Place the box or mounting template against the wall. While making sure it is level, mark the four [4] mounting locations at the keyholes.
3. Drill four 1/8" pilot holes at the marks.
4. Install screws into wall at the four [4] locations, keeping head of screws ~ 1/8" from wall.
5. Install box into position and tighten screws (Fig. 1).

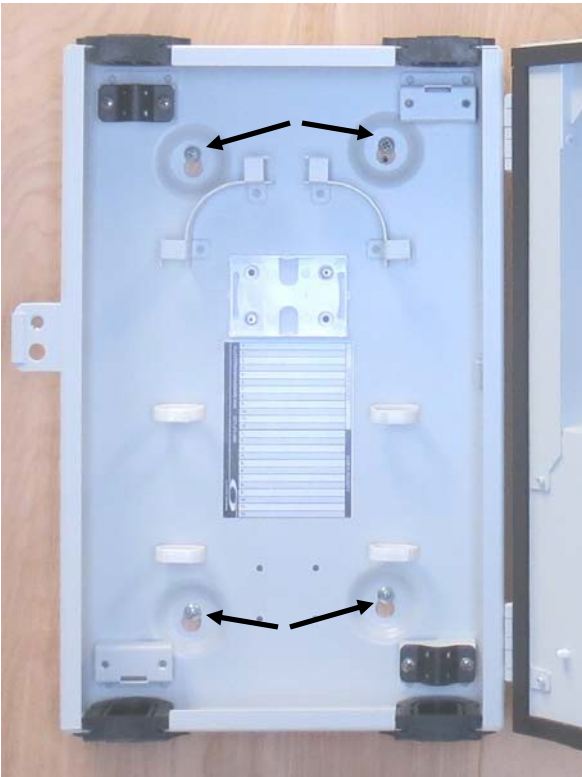


Fig. 1



Fig. 2



Fig. 3



Fig. 4



Fig. 5

2.3 Chassis Grounding

All grounding should follow local codes and practices.

Grounding components are available for grounding the box and/or non-dielectric cable(s). Refer to the Ordering Guide section of the product datasheet for details.

1. Locate and remove the small metal knock-out that is closest to the non-dielectric cable or external ground wire you are connecting (Fig. 2).

Note: *Ensure that the circular masking around the inside of the ground feed-thru knock-out hole is removed before installing the ground feed-thru lug.*

2. Attach Ground Feed-Thru Lug by placing the longer threaded section into the hole from the outside of the enclosure. Sufficiently tighten the box retaining nut to >40 in-lbs. (Fig. 3 & 4).



Warning: Company practices may apply to stacking order and torque of various ground components.

3. Next, attach the external ground wire, then the star washer, then the nut. Torque the external nut per company-approved practices (Fig. 5).
4. If included in the kit, the internal braided ground wire can be installed next, followed by the washer and nut. Orient the eyelet for routing to the port that will contain the non-dielectric cable and torque nut to recommended level.

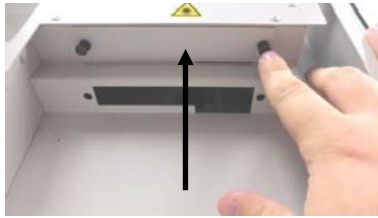


Fig. 6

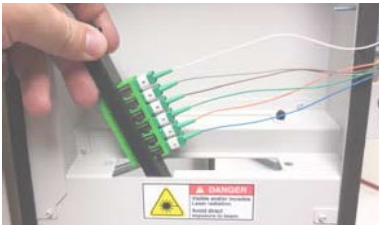


Fig. 7



Fig. 8



Fig. 9



Fig. 10

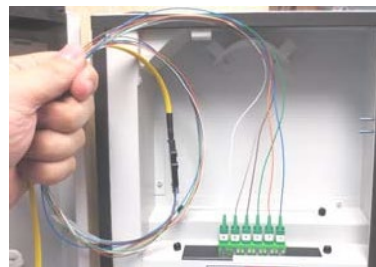


Fig. 12



Fig. 14



Fig. 11

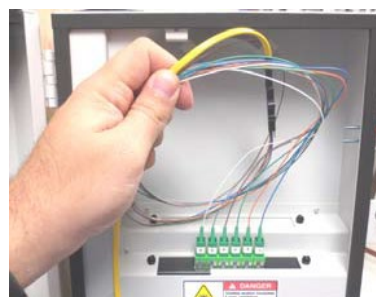


Fig. 13

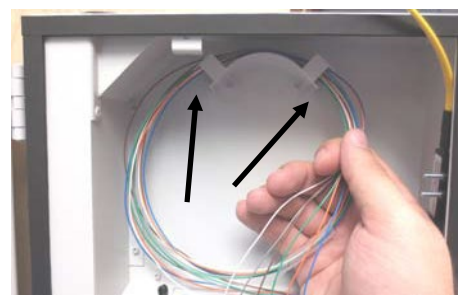


Fig. 15

2.4 Fanout Assembly Installation, Routing, and Storage

1. If installing one fanout, insert the blank out plate into the second slot in the bulkhead (Fig. 6).
2. Place the fanout package box next to the housing. Remove the fanout bulkhead with adapters out of the box. Make sure the connector with the blue fiber is always on the right side.
3. Insert the bulkhead into the slot at the top of the box (Fig. 7-8). **The bottom slot will be for fibers the first fanout and the top slot is for a second fanout if needed.**
4. Secure the fanout assembly into the box by pressing the black pushpins found on the fanout (Fig. 9-10). Secured fanout assembly shown in Figure 11.
5. Loop the fiber behind itself as shown in Figures 12-13. **The fiber will have two natural loops from packaging. Use this to your advantage when installing the fanout assembly.**
6. Install the fanout plastic housing onto the studs found on the right side of the box (Fig. 14).
7. Store the two loops of fiber around the bend control (Fig. 15 black arrows).

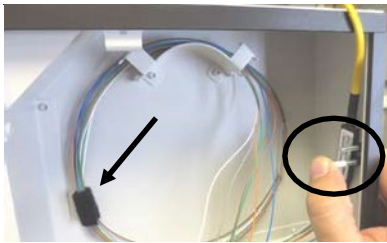


Fig. 16

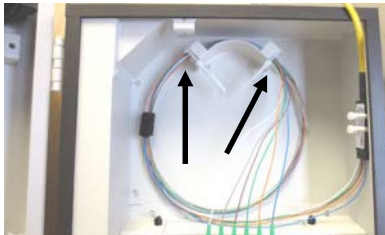


Fig. 17



Fig. 18

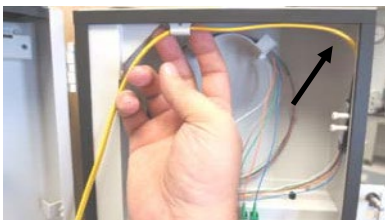


Fig. 19



Fig. 20

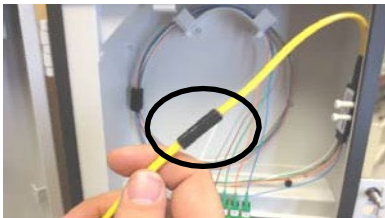


Fig. 21

8. Install the provided caps over the studs to secure the breakout housing to the box (Fig. 16 circle). Wrap the provided hook and loop strap around the fiber loops on the left side (Fig. 16 black arrow).
9. Secure the fiber to the bend control with tie-wraps and trim the remaining excess (Fig. 17 black arrows and Fig. 18). **The fiber should slide freely when attached.**
10. Create a gentle arc in the cord from the breakout housing to the attachment point at the top of the box (Fig. 19 black arrow). Mark the ribbon cord on the left and right sides of the bracket (Fig. 20).
11. Wrap the ribbon cord with 1-1/2 wraps of felt wrap (Fig. 21 circle).
12. Attach the ribbon cord using the supplied tie wrap and trim the remaining excess (Fig. 22).
13. Route the ribbon cord to the opposing side of the box (Fig. 23).
14. Capture the ribbon cord with the supplied tie-wrap to the bracket on the right side of the box and trim the remaining excess (Fig. 24). **Note: Felt wrap is not needed for this bracket.**

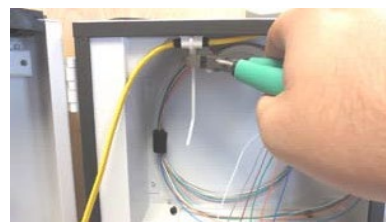


Fig. 22



Fig. 23

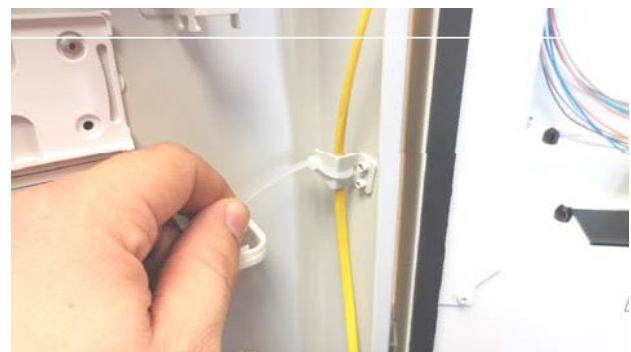


Fig. 24

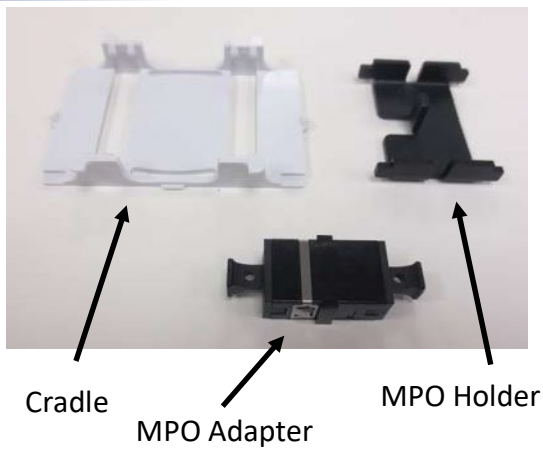


Fig. 25

15. Assemble the cradle, MPO Adapter, and MPO Adapter Holder before inserting into cradle adapter (Fig. 25).
16. Place the MPO Adapter into the MPO Adapter Holder (Fig. 26). **Press the spring clip on the MPO Adapter in to fully seat the adapter in the holder (Black Arrow).**
17. Fully seated MPO Adapter is shown in Figure 27.
18. To snap the MPO Adapter Holder in place, first place the bottom edge into the bottom of the cradle. Push top center with finger to snap holder into the cradle (Fig. 28).



Fig. 26

Fig. 27

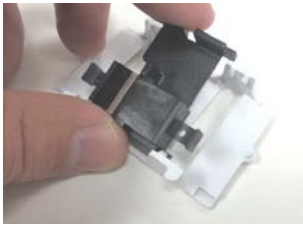


Fig. 28

19. To snap the cradle in place, first place the bottom edge into the bottom of the cradle adapter (Fig. 29).
20. Lay cradle flat and push top center with finger to snap cradle tab into cradle adapter (Fig. 30 black arrow).
21. Starting with the bottom, right routing ring, route the ribbon cord through the routing rings in a clockwise rotation (Fig. 31). Create another loop through the routing rings ending with the bottom, left routing ring.
22. Remove dust cap, clean connector, and insert MPO Connector into the MPO Adapter (Fig 32).
23. The completed routing is shown in Figure 33.



Fig. 29

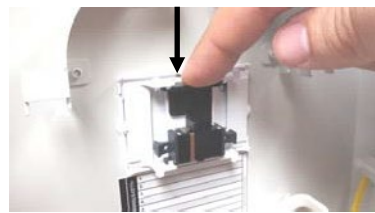


Fig. 30



Fig. 31

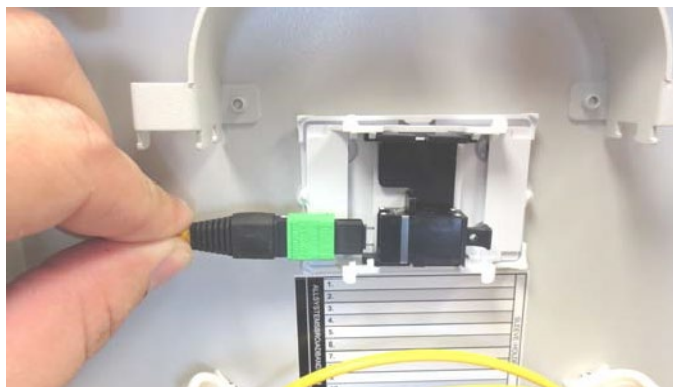


Fig. 32

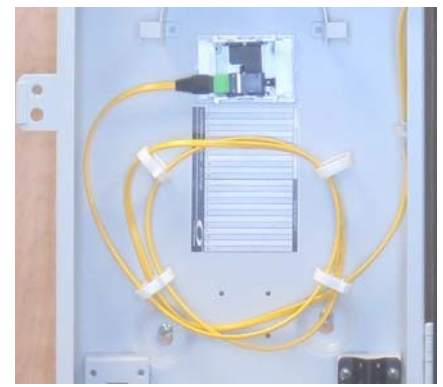


Fig. 33

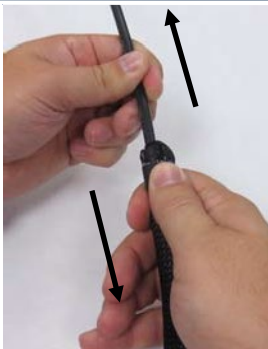


Fig. 34



Fig. 35



Fig. 36



Fig. 37



Fig. 38



Fig. 39



Fig. 40



Fig. 41



Fig. 42



Fig. 43



Fig. 44



Fig. 45



Fig. 46



Fig. 47

2.5 Cable Preparation

Pulling Eye Removal

1. Slide the pulling eye down until it bottoms out on the heat shrink (Fig. 34 black arrows).
2. Stretch the pulling eye material down and away from the heat shrink inside (Fig 35). **This will make cutting the material easier and less susceptible to cutting into the cable heat shrink.**
3. Using scissors cut a small section of the pulling eye material 1" from the bottom of the pulling eye. A large section of heat shrink is below this point (Fig. 36 & 37).
4. Hold pulling eye material away from cable and finish cutting with scissors. Pull the two halves apart to expose the cable (Fig. 38).
5. Remove the pulling eye material from MPO cable end (Fig. 39).
6. The cable should now look like Figure 40 after removing the pulling eye.



Warning: Take care to avoid damaging the cable when cutting away the pulling eye

Cable Installation into Port

1. Remove the single cable bracket in the bottom, right port by removing the screws (Fig. 41).
2. Remove the rubber grommet seal in the port (Fig. 42).
3. Slit length-wise and trim raised thin section of grommet to allow MPO cable to pass through as needed (Fig. 43).
4. Reinstall grommet into port. Full insertion will cause raised buttons on grommet to engage into keyhole (see arrows Fig. 53).
5. Push the MPO cable through the grommet (Fig. 44).
6. Position the MPO cable as shown in Figure 45.
7. Secure the MPO cable to the single cable bracket with the supplied tie wraps. (Fig. 46).
8. Reinstall the single cable bracket by tightening the screws (Fig. 47).



Fig. 48



Fig. 49



Fig. 50



Fig. 51



Fig. 52

2.6 MPO Connector and Cable Storage

1. Route the incoming MPO cable from bottom, right port in a counter-clockwise direction to store and connect the MPO connector. The cable should first be routed through the top, right routing ring (Fig. 48 circle).
2. Continue in a counter-clockwise rotation through the routing rings to create two loops. After completing one loop the cable should be similar to Fig. 49.
3. The cable should be routed through the bottom, right routing ring and then up to the MPO Adapter (Fig. 49).
4. Remove dust cap, clean connector, and insert MPO connector into the MPO Adapter (Fig. 50). The finished routing of the cable is shown in Figure. 51.
5. Another routing option is to route the MPO cable over the bend controls at the top of the box (Fig. 52).



Fig. 53



Fig. 54

2.7 Jumper Routing

Note: It is recommended to route jumpers with optimal accessibility and in compliance with the fibers minimum bend radius.

1. Slit length-wise and trim raised thin section of grommet to allow cords to pass through as needed.
2. Place rubber grommet in either the top or bottom jumper port of the access side of box; full insertion will cause raised buttons on grommet to engage into keyhole (see arrows Fig. 53).
3. Route jumpers out the top or bottom grommet locations, leaving appropriate jumper slack for handling and reaching the adapter (Fig. 54).
4. Remove dust caps, clean connectors, and insert into appropriate adapter.
5. Manage jumper slack using routing rings inside access panel.

2.8 Connector Cleaning

Recommended prior to product usage

Note: Utilize connector and adapter protective caps whenever possible; however, this practice does not guarantee cleanliness of the optical interface.

Before connecting, or after each disconnect, it is recommended to perform the following cleaning procedure. A connector inspection scope, lint-free wipes and optical cleaning solvent are necessary equipment.

This procedure conforms to the IPC 8491-1, "Cleaning Methods and Contamination Assessment for Optical Assembly."

- Make sure the fiber is not active.
- Remove the protective caps.
- Gently wipe connector ferrule end with a lint-free wipe.
- Verify cleanliness of the connector with an inspection scope.
- If necessary, gently wipe the fiber end with a lint-free wipe moistened with a small amount of cleaning solvent. Then dry with a clean, lint-free wipe.
- Verify the cleanliness of the connector with an inspection scope.