Powered Fiber Cable Transition Box

1. General product information

This document provides the installation procedure for the Powered Fiber Cable (PFC) Transition Box (TB). The TB is designed to facilitate the transition from indoor rated PFC to outdoor rated PFC in a neat and orderly fashion that maintains physical separation of the different media types. See the **CommScope** Product Catalog for available configurations.

2. Tools and additional items required

- Round Cable Stripper
- Electrical Wire Stripper
- Large Flat Screwdriver
- Small Flat Screwdriver
- Power Drill/Driver (as needed)
- Fiber optic termination and cleaning supplies
- ***CommScope** 6 Port Fiber Adaptor in appropriate fiber mode (See Table 1)
- ***CommScope** QWIK-FUSE Fiber Field Installable LC Connector Kits in appropriate fiber mode
- ***CommScope** Furcation Tubing as required

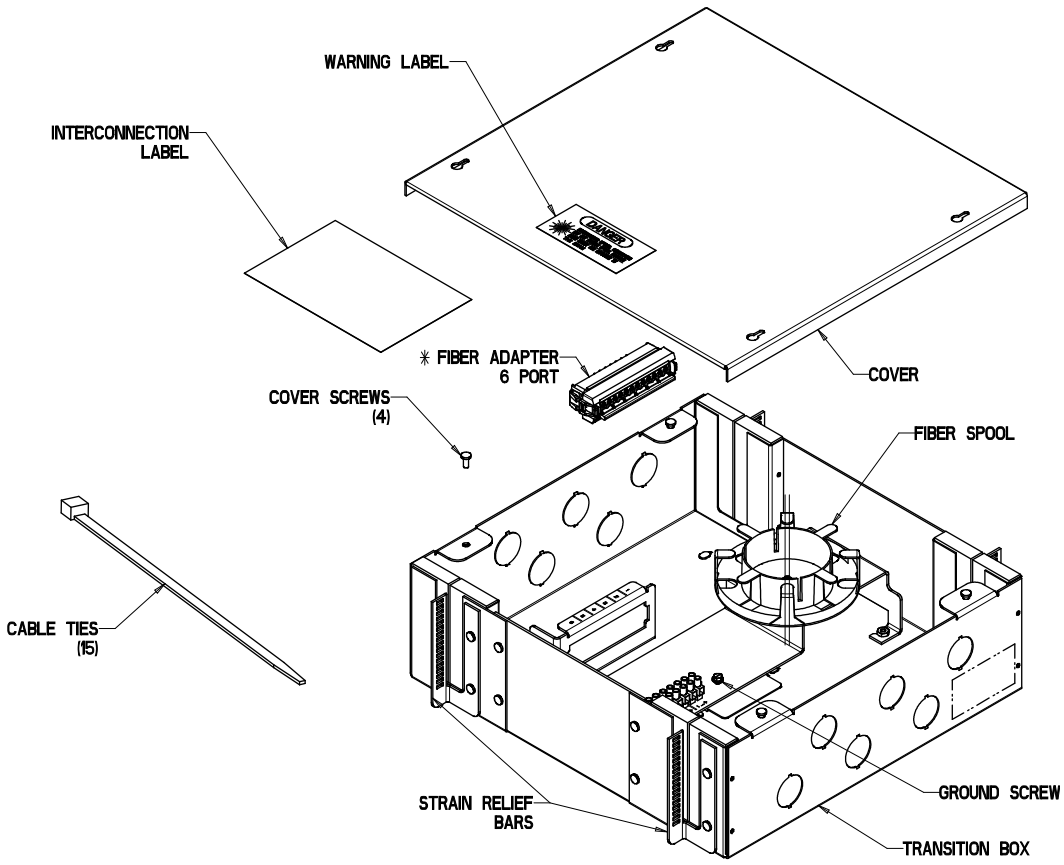
Material ID	Description	Fiber Mode	Color
760230938	360DPis-12LC-LS	MM	AQUA
760230946	360DPis-12LC-SM	SM	BLUE
760230953	360DPis-12LC-MM	MM	GRAY
760230961	360DPis-12LCA-SM	SM	GREEN
760236043	360DPis-12LC-WB	MM	LIME GRN
760242975	360DPiP-12LC-LS	MM	AQUA
760242976	360DPiP-12LC-SM	SM	BLUE
760242977	360DPiP-12LC-WB	MM	LIME GRN
760242978	360DPiP-12LCA-SM	SM	GREEN

Table 1 – Recommended **CommScope** 6 Port Fiber Adaptors

*Can be ordered from www.commscope.com

For RoHS Inquiries:
CommScope Inc.
Corke Abbey, Bray
Co. Dublin, Ireland
Attn: Legal Department

3. Components



***CommScope** 6 Port Fiber Adaptor must be ordered separately. See Table 1 for recommended MIDs.

4. Description

The TB kit contains the plenum rated transition box and cover, plenum rated cable ties, and connectivity label. The G2 6 port fiber adapter can be ordered separately from www.commscope.com. The TB is designed to accommodate up to six (6) PFC channels, with each channel consisting of two power conductors (+ and -) and one duplex fiber connection (TX/TR).

The TB is designed for indoor use, and may be located in the plenum space. Cable can enter the box through fire foam lined cable slots or through standard ¾ inch electrical conduit. Excess fiber can be safely managed and stored on the built-in fiber spool.

5. Installation steps

Step 1 – Mounting and Grounding the Transition Box (TB)

1. Mount the TB to a flat surface using the four mounting knockouts as shown in **Figure 1**.
   Note: Customer provided installation hardware must match the intended application with a minimum pull-out requirement of 20 lbs-f (88 N) per hardware location.

2. Attach 12 AWG (or larger) ground wire to the TB using the green ground screw as shown in **Figure 1**. Attach wire to Earth ground.

3. Secure the ground wire to the strain relief bar with a supplied cable tie as shown in **Figure 2**.

4. Insert the 6 port fiber adapter into the G2 opening with the shutters facing in the direction of the terminal strip, as shown in **Figure 3**.

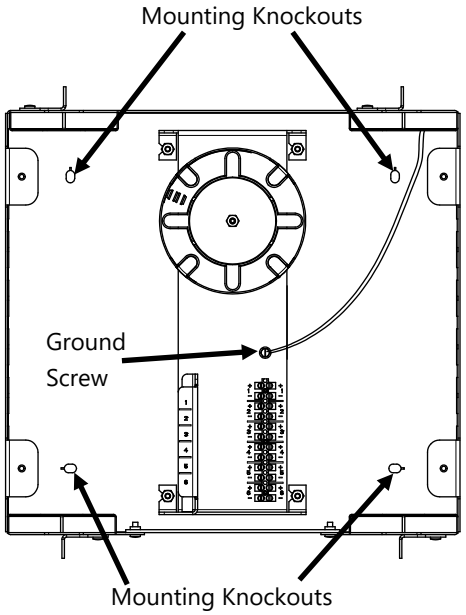


Figure 1

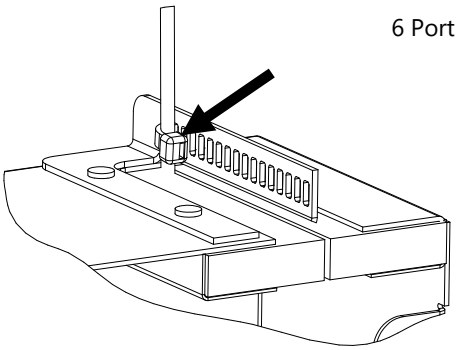


Figure 2

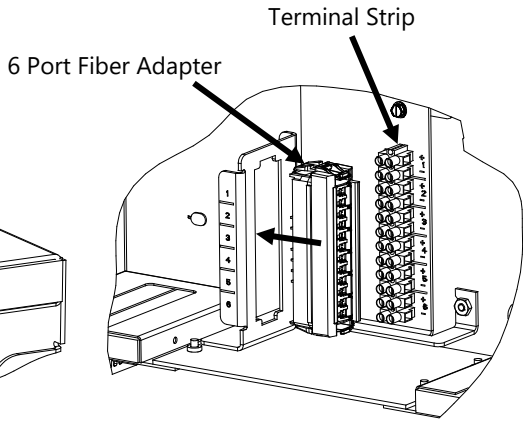


Figure 3

6. Powered Fiber Cable (PFC) Termination and Closeout

⚠ WARNING

Disconnect power before installation. All electrical work should be done in accordance with all applicable local and national electrical codes.

Step 1 – Route and terminate incoming/indoor Powered Fiber Cable (PFC)

1. Route the incoming PFC into the TB and secure to the strain relief bar with a supplied cable tie, as shown in **Figure 4**. Ensure adequate length for fiber slack (1-1.5 meters).

2. Strip the outer jacket of the PFC using a round cable stripper so that there is approximately 25mm of jacket extending inside the box, as shown in **Figure 5**. Trim any strength members or other cable components except for power conductors and fibers.

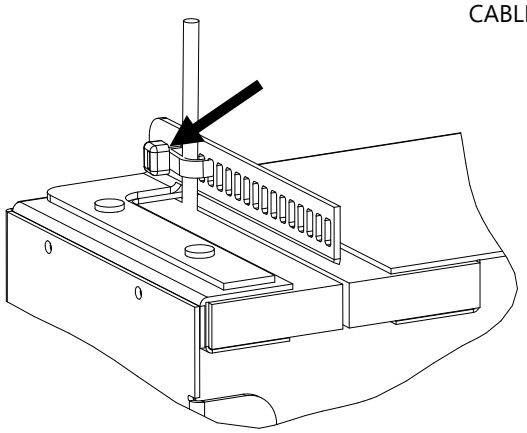


Figure 4

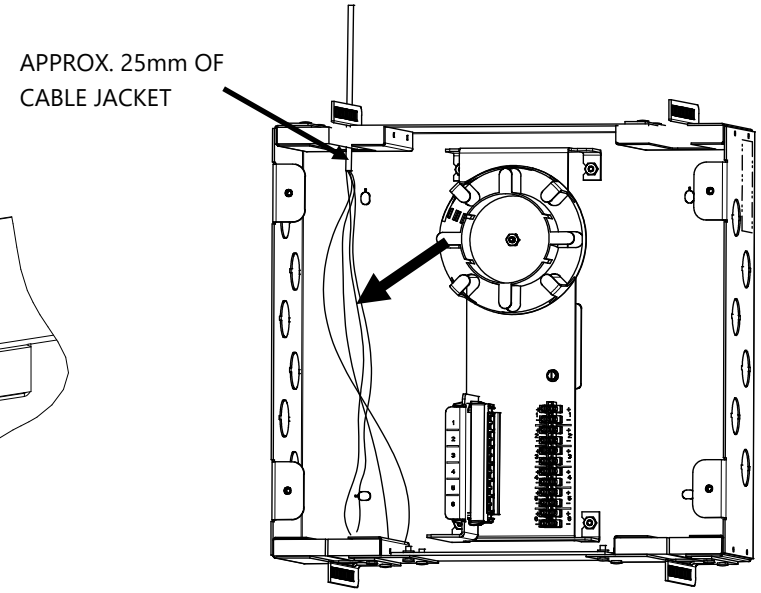


Figure 5

3. Cut the insulated power conductors to length. Strip off 5mm of insulation from the conductors using an electrical wire stripper (12 AWG – 2.0mm; 14 AWG –1.6mm; 16 AWG – 1.3mm; 18 AWG -1.0 mm; 20 AWG– 0.8mm; 22 AWG – 0.65mm; 24 AWG – 0.5mm).

4. Match the wire polarity from the cable plant with the terminal strip polarity, as shown in **Figure 6**.

5. Using a small flat screwdriver open the screw terminals until the wires insert into the terminal ports. Push each wire into its port. Screw each terminal down hand tight to make contact between the terminal and the wire conductor. Verify the wires are secure in the terminals with no exposed wire conductor, as shown in **Figure 7**.

6. Terminate the LC Fiber Optic plugs (see section 2) per the product specifications instructions. Visit www.commscope.com for LC Connector application, instructions, and tool kit information.

7. Clean and install the LC terminations into the adapter; see installation and cleaning instructions: TECP-96-194. Store excess fiber on the spool, as shown in **Figure 8**.

8. Repeat steps 1 – 5 for all incoming PFCs.

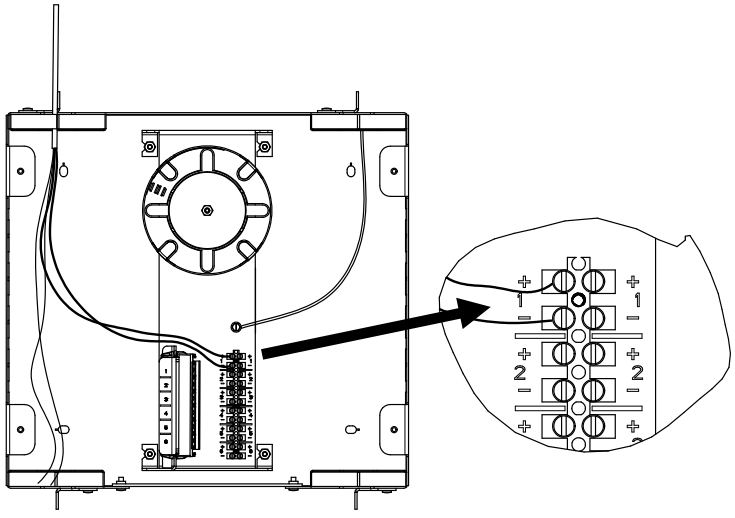


Figure 6

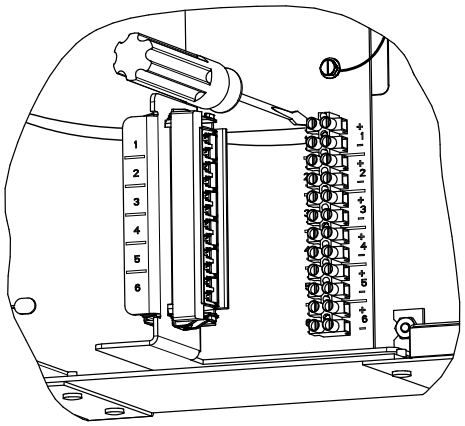


Figure 7

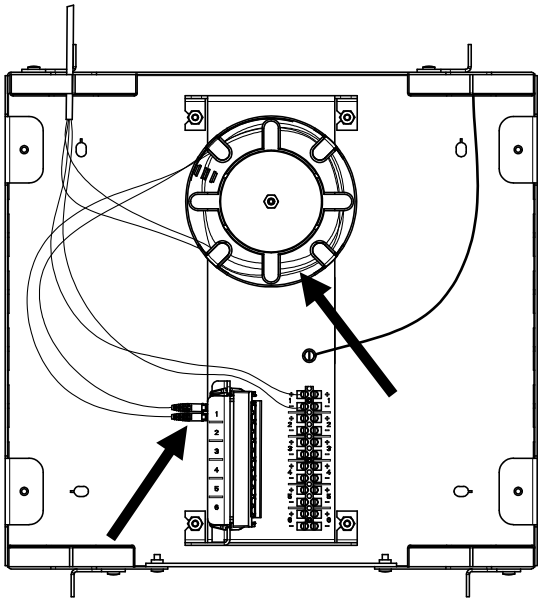


Figure 8

Step 2 – Route and terminate outgoing/outdoor Powered Fiber Cable (PFC)

1. Route the outgoing PFC into the TB and secure to the strain relief bar with a supplied cable tie, as shown in **Figure 9**. Ensure adequate length for fiber slack (1-1.5 meters).

2. Separate the cable into three sections along the tear lines, as shown in **Figure 9**.

3. For the outgoing power termination repeat steps 3 – 5 from Section 6 Step 1, verifying any end device powered equipment wiring polarity with polarity connections on terminal strip, as shown in **Figure 10**.

   Note: Polarization indentation along one side of the cable for polarity identification

4. Terminate the LC Fiber Optic plugs per product specifications instructions. Visit www.commscope.com for LC Connector application, instructions, and tool kit information.

   Note: Furcation tubing can be used to protect coated fiber.
   Visit www.commscope.com for a variety of colors.

5. Clean and install the LC terminations into the adapter; see installation and cleaning instructions: TECP-96-194. Store excess fiber slack on the spool, as shown in **Figure 11**.

6. Repeat steps 1 – 5 for all outgoing PFCs.

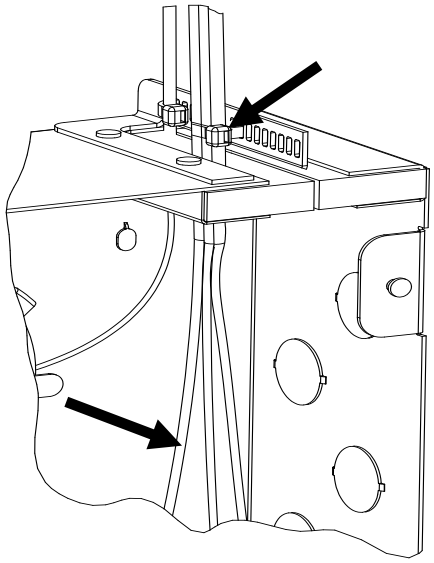


Figure 9

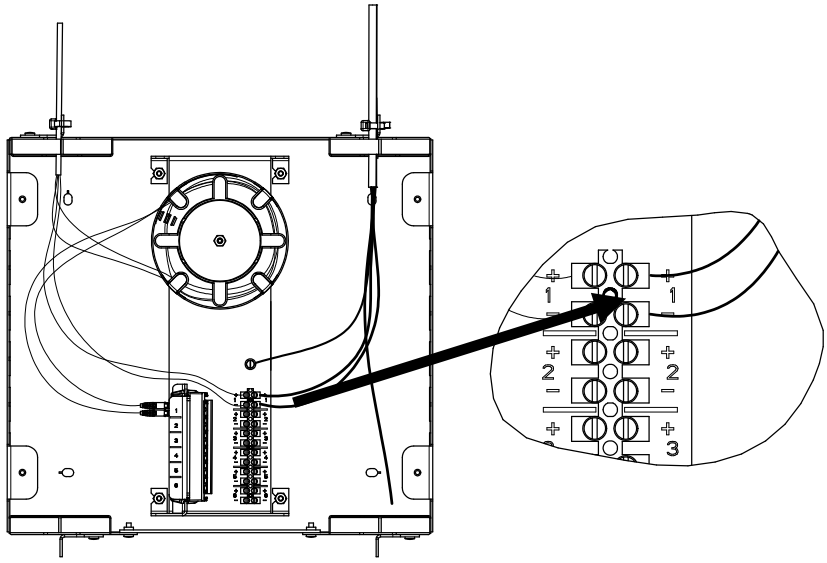


Figure 10

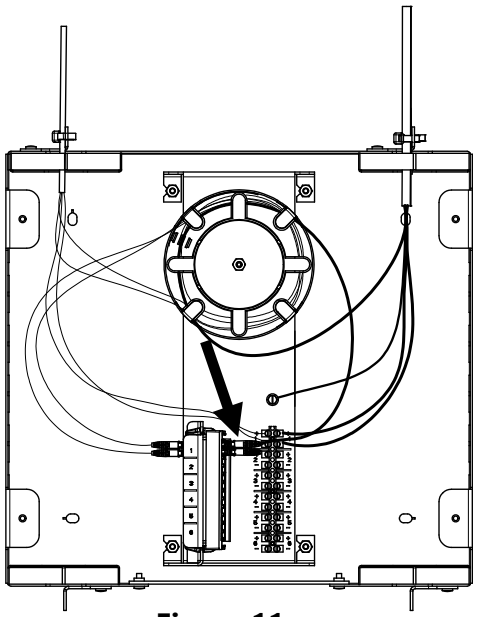


Figure 11

Step 3 – Install Transition Box (TB) cover

1. Fix the connectivity label to the inside or outside of cover and record the channel information as needed.

2. Place the cover over the loose screw heads with the warning label facing outward and slide into place, tighten the cover screws to secure, as shown in **Figure 12**.

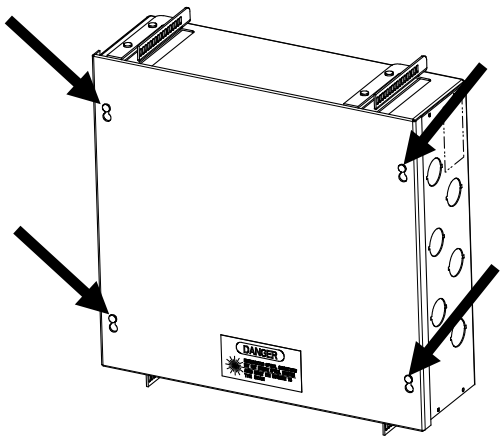


Figure 12

Revision history

- Rev. A – Initial release
- Rev. B – 40132706CMO