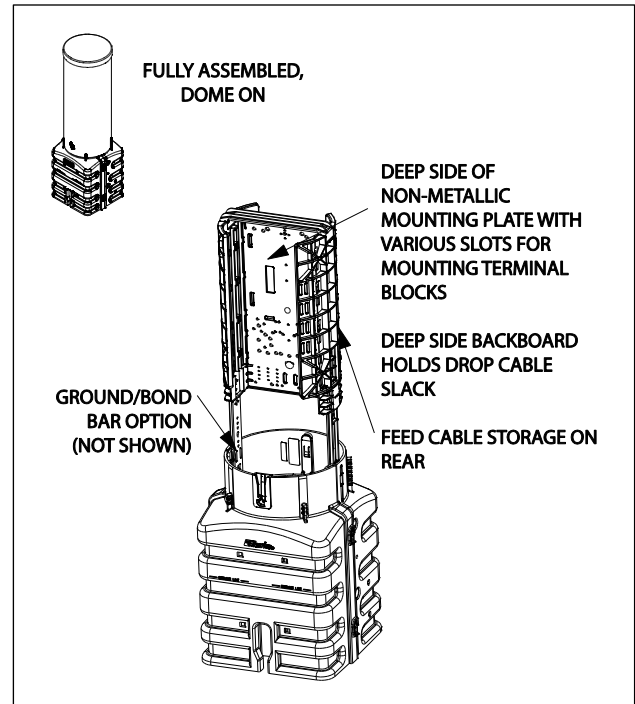# Charles Buried Distribution Optical (BDO™)

Cabling Instructions for Sealed Fiber Terminal Block Applications

General Description and Installation

Figure 1   Dome Off, Interior View of Pedestal

1. GENERAL INTRODUCTION

1.1. Document Purpose

This document provides Telco-to-customer fiber optic cable connection instructions for the Charles Industries' Buried Distribution Optical (BDO™) Series 2 BDO-ET 10" Pedlock® pedestals in preconnectorized terminal block applications. These instructions facilitate home-run

(end of line) configuration installations. Figure 1 an interior, dome-off view of a BDO ET model. See Section 9 for information on models in the series or call Charles Industries (Section 6) to request more information or literature.

-NOTE-

Hereafter the Charles Pedlock BDO-ETS pedestal will be commonly referred to as the "BDO" or "pedestal." Specific model numbers are specified where key differences apply.

1.2. Product Purpose

Charles' nonmetallic BDO pedestal provides storage for sealed fiber terminal blocks and for drop cable slack.

2. HOME-RUN CONFIGURATION INSTALLATION

The instructions in this section help the cable technician to perform the terminal block mounting, to perform all final feed cable preparations, and to install the preconnectorized drop cables. The following presumptions and conditions apply:

- Cable Architecture/Deployment: The CO/feed cabling architecture is a "home-run" type (end of line) configuration with fiber cables.
- Equipment Installation: A BDO base has been properly installed at the desired field site (for base installation information, see the pedestal base installation document that was factory-attached to the pedestal). A sealed terminal block (not provided) is typically installed on the pedestal fiber organizer, as described herein.
- Trench Setup: The trench is either dug and open, or backfilled but with feed cable conduit installed and present within the pedestal base.
- Feed Cable Design and Placement: This application uses a special feed cable which is factory-terminated at one end with a preconnectorized, sealed, terminal block. This terminal block is equipped with either a long cable tail or shorter, preconnectorized multi-fiber cable, which will be installed by the technician or crew as described in this document. No splicing is required at the pedestal.
- • Drop Cable Design: The drop cables are factory-terminated on the pedestal end with a special sealed fiber connector, as described herein. No splicing is required at the pedestal for the drop cable. Careful consideration should be given to determine correct drop cable lengths, as splicing is not performed at the preconnectorized terminal blocks in this pedestal.

## 2.1. Obtain Tools, Materials, and Equipment

Obtain the following tools and equipment to perform fiber feed/drop cable connections in the installed pedestal.

- 216 tool/can wrench
- Typical technician hand tools
- Cable ties
- Grounding equipment (as required)
- Drop cable labels
- Safety glasses and work gloves

Sealed fiber terminal block (not included)

2.2. Remove Dome From Base

If the dome is installed, remove it with a 216 tool/CAN wrench (Figure 2). Turn the snap lock's hex nut 1/4-turn counterclockwise; hold it in that position, then lift up on the dome. Set dome aside until needed when the installation is complete.
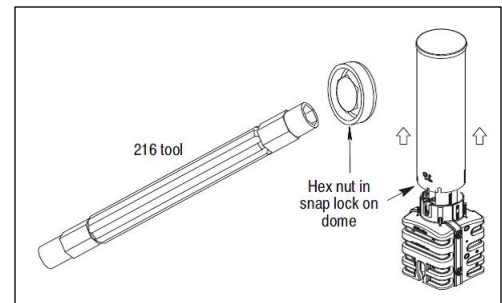
Figure 2   Remove Dome From Base

2.3. Remove Any Kitted Items from the BDO

Locate and retain the package attached to the interior fiber organizer of the pedestal and verify the following remaining contents.

- Hardware kit including three mounting screws, washers and Keps nut
- Cable tie (used for attaching large terminal blocks without lower mounting holes.

2.4. Remove Fiber Organizer (optional)

The fiber organizer can be removed (Figure 3) to facilitate the routing or fishing of the terminal block's tail through the trench or conduit. To remove the fiber organizer, press the one-finger push tab (located in a hole in the support leg at the inside top collar of the base), pull up on the support leg, press the other leg's
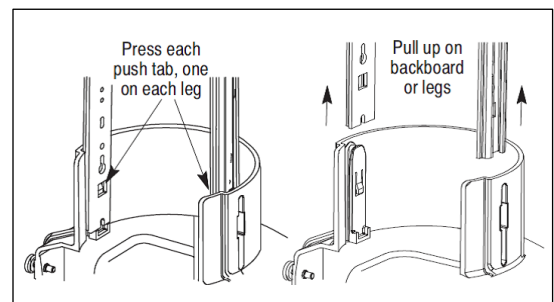
Figure 3   Remove Fiber Organizer

push tab and pull up on the other leg. Once the tabs are unlocked or released, pull the fiber organizer out of the base and temporarily set it aside.

2.5. Verify Earth Ground

Always follow local codes and company practice when grounding cables/equipment.

The fiber organizer of this pedestal is made of non-conductive polycarbonate resin and does not require bonding (bond bar is optional). Most sealed terminal blocks and sealed cable drops utilize a non-metallic construction and do not require bonding. Per local company practice, determine if an earth ground is a requirement and install if needed.

3. PREPARING THE FEED CABLE

3.1. Place/Route Feed Cable

Install the feed cable at the distance required until the terminal block can comfortably extend to the top front of the pedestal's fiber organizer where it will be mounted. Slack feed cable can be stored on the rear of the fiber organizer for additional flexibility.

3.2. Terminate the Tail End (optional)

If the tail is blunt-cut, perform splicing upstream at the centralized splice point per local company practice. If the tail is terminated with connectors, properly connect to the upstream equipment, per company practice.

3.3. Attach Fiber Organizer

Re-install the pedestal's fiber organizer so the terminal block can be mounted. Install the fiber organizer so the front of the fiber organizer (the side on which the terminal block mounts), facing the front of the base (the side with the Charles logo on it). Align the fiber organizer support legs with their matching leg guides in the top collar of the base, and push down on the fiber organizer (or support legs) until it stops (audible clicks indicate proper leg insertion) (Figure 4).

3.4. Connect Earth Ground to Ground/Bond Bar

The BDO may not be equipped with a bond bar as the fiber organizer and pedestal are made of non-metallic resins and may not require bonding to earth ground. If required per local code or company practice, install/attach an earth ground of proper gauge from the earth ground to a pedestal ground/bond bracket. The ground bar is attached to a support leg just above the base collar (Figure 5).
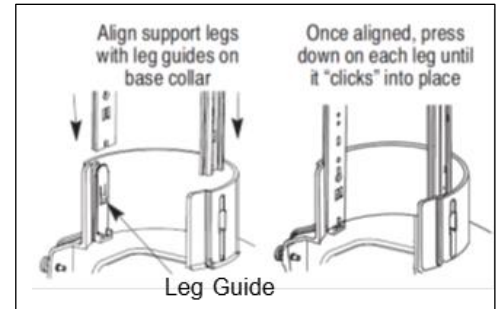

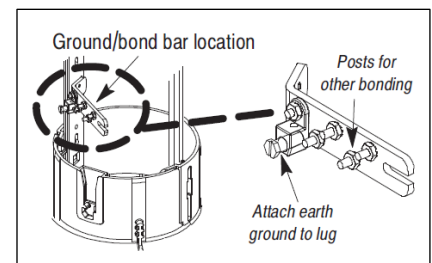**Figure 4   Attach Fiber Organizer**

Figure 5   Connecting Earth Ground

4. MOUNTING TERMINAL BLOCK TO FIBER ORGANIZER

4.1. Store Cable-tail Slack

For feed cable slack left at the pedestal for frost heave or company practice, and/or if sufficient storage is unavailable at the upstream box, surplus cable slack can be looped, grouped or bundled with cable ties and stored on the rear side (Figure 6) of the fiber organizer. The curved sides of the fiber organizer act as cable management flanges and help contain the coiled feed cable slack. When storing cable at the rear, after the last loop in the bundle, bring the terminal block down and route it under the mounting plate to the front of the fiber organizer. Allow approximately 1.5 to 2 feet of tail length from the bottom of the last loop to the bottom of the terminal block for sufficient length to attach the block to the fiber organizer.

4.2. Choose Terminal Block Mounting Hardware

Follow local company practice or the terminal block manufacturer's instructions when selecting and using terminal block mounting hardware; otherwise, locate the mounting hardware (bolts, washers and nuts and cable tie) provided with the fiber organizer.

4.3. Attach Terminal Block to Fiber Organizer

To provide adequate drop cable bend radius, **THE FIBER TERMINAL BLOCK ATTACHES TO THE DEEP SIDE OF THE BACKBOARD**. To mount the terminal block, follow local company practices, the terminal block manufacturer's instructions or the instructions herein. Most terminal blocks are attached with mounting screws (provided). Lift the terminal block and place it in a mounting position that aligns with the
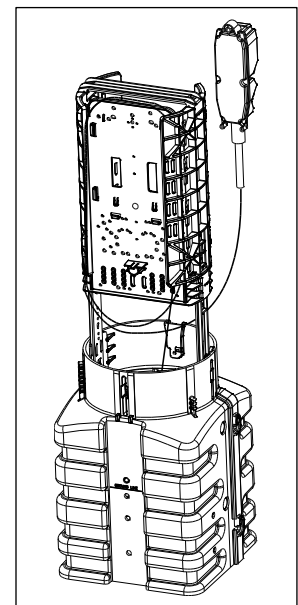

Figure 6   Storing Feed Cable Slack (rear)

provided fiber organizer holes. Attach the block to the fiber organizer using the mounting screws provided (Figure 7).

NOTE: Some manufacturer's terminal blocks do not have lower mounting holes. For these terminals, use the provided cable tie, looping the cable tie around the terminal block's feed cable entry area and through the two large slots in the backplane; cinching the cable tie to secure the block to the backplane.

4.4. Ground the Cable

Per local company practice and the type of fiber cable construction being placed in service, perform any tracer wire or feed cable tail grounding at this time. The optional ground bar attach to the BDO fiber organizer support leg contains several ground/bond posts for the purpose (see Figure 5 in Step 3.4).

5. DROP CABLE INSTALLATION

5.1. Prepare Trench from Premise to Pedestal

Per local company practice, prepare a trench to route the drop cable from the customer premises or house to the pedestal base. Clear out all the soil from around the bottom front of the base where the drop cable will enter at the drop cable access port.

5.2. Route Cable Up the Drop Cable Channel

If a foam plug is installed at the top of the pedestal's drop cable channel in the inside front of the base, remove it and reinstall it after all drop cables are connected. Route the drop cable through the drop cable access port at the bottom front of the base, and bring it up through the drop cable channel, extending it upward to reach the correct terminal block port (Figure 8).

5.3. Store Drop Cable Slack

Determine where any excess drop cable slack will be stored. If slack storage is available at the NID, route, place and secure the drop cable slack in or at the NID per company practice and NID manufacturer instructions. If drop cable slack is to be left at the pedestal, loop the cable, then store the cable bundle at the front side of the fiber organizer, using cable ties as necessary to secure and manage the cable. Do not use metallic hose clamps on fiber drop cables.

5.4. Attach Drop Cable to Terminal Block

Clean connector. Find and align the arrow on the drop cable connector with the notch on the terminal block adapter, then attach the drop cable to the terminal block adapter by turning the drop cable connector clockwise until it is tight (Figure 9). If desired, caps can be connected to each other for storage.

5.5. Ground the Cable

Per local company practice and according to the type of drop cable used, perform any drop cable grounding or tracer wire bonding at this time.

5.6. Label the Drop Cable

Per local company practice, label or otherwise identify the drop cable for quick and easy cable identification.

### 5.7. Reinstall Foam Drop Channel Plug

When all cables are in place, routed and connected, reinstall the foam plug in the top area of the drop cable channel by positioning it in front of the cables (cables at the back of the channel), angling the front edge of the plug down and forward toward the first rib of the base front, and sliding it down and forward until it rests on top of the first rib of the base (Figure 10). Press down on the back edge of the plug until it rests on the bent flange provided for it on the rear of the channel.
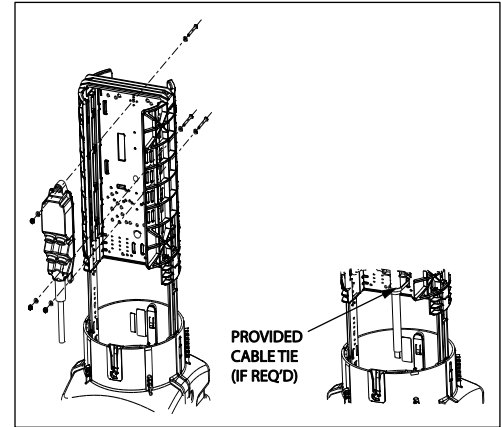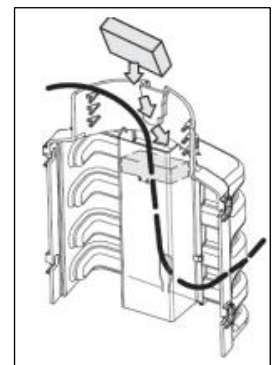

Figure 7 **Attach Terminal Block to Fiber Organizer**
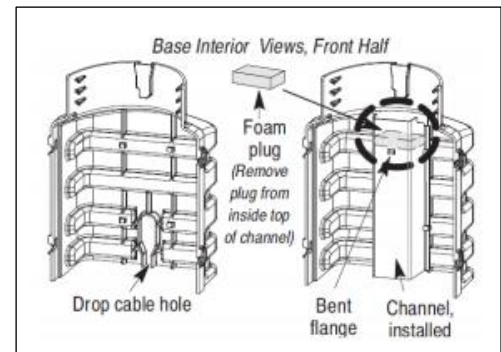
Figure 8 **Route Cable Up the Drop Cable Channel**
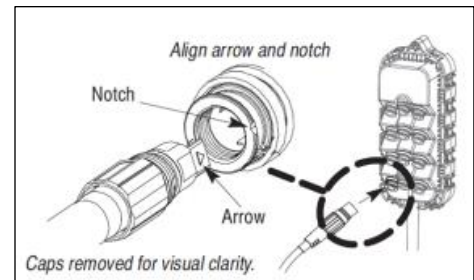
Figure 9 **Attach Drop Cable to Terminal Block**

Figure 10 **Reinstall Plug**

5.8. Recheck Cable Management

Verify all cabling is neat and not kinked. Verify no cables, wires, straps or cable ties protrude beyond the fiber organizer walls, allowing for a smooth and safe dome placement.

5.9. Clean Up Site(s)

Fill and tamp any trenches, replace any removed sod, restore the landscape to original condition, and pick up all tools and materials.

6. TECHNICAL ASSISTANCE AND REPAIR SERVICE

For questions on product repair or if technical assistance is required, contact Charles Technical Support at:

> 847-806-8500
> 800−607−8500
> 847−806−8556 (FAX)
> techserv@charlesindustries.com (email)
> http://www.charlesindustries.com/main/tech_support.htm

7. WARRANTY & CUSTOMER SERVICE

Charles Industries, Ltd. offers a five-year warranty on the BDO product. The Charles warranty is limited to the operation of the BDO hardware as described in this documentation and does not cover equipment integrated by a third party or user. The terms and conditions applicable to any specific sale of product shall be defined in the resulting sales contract. For questions on warranty or other customer service assistance, contact your Charles Customer Service Representative at:

> 847-806-6300
> 847-806-6653 (FAX)
> mktserv@charlesindustries.com (email)
> http://www.charlesindustries.com/main/telecom_sales_support.htm

8. PHYSICAL SPECIFICATIONS

FEATURE	U.S.	METRIC
Height, overall	42.75 in.	109 cm
Height, base only, incl. collar	18.5 in.	47 cm
Height, base bottom to ground line	8.5 in.	21.5 cm
Height, dome top to ground line	34.25 in.	87 cm
Height, dome only	28.5 in.	72.4 cm.
Depth, base	12.8 in.	32.5 cm
Width, base	13.9 in.	35.3 cm
Diameter, dome, O.D.	11.2 in.	28.5 cm.
Weight	27.5 lbs	12.5 Kg

9. MODEL NUMBERS AND ORDERING INFORMATION

MODEL*	DESCRIPTION
BDO205-ET	Buried Distribution Optical (BDO™) Pedlock® Pedestal, with an 10" diameter dome, a square, expanded capacity split, 2-piece base, a two-legged non-metallic fiber organizer with a terminal block mounting plate, Provides up to 200' of drop cable slack storage.

* Pedestal part number variants may be available.

10. OPTIONAL EQUIPMENT

MODEL	DESCRIPTION
UMS30-STD	30" universal mounting stake with hardware
UMS42-STD	42" universal mounting stake with hardware
UMB-102A	Pole mount bracket with hardware
97-500513-A	Bond bar with ground lug, package of 25 pcs.
97-PKOR10-A	Dome cap, high visibility, orange, 10"