

# CORNING

## Evolv<sup>®</sup> Terminals with Pushlok<sup>®</sup> Technology

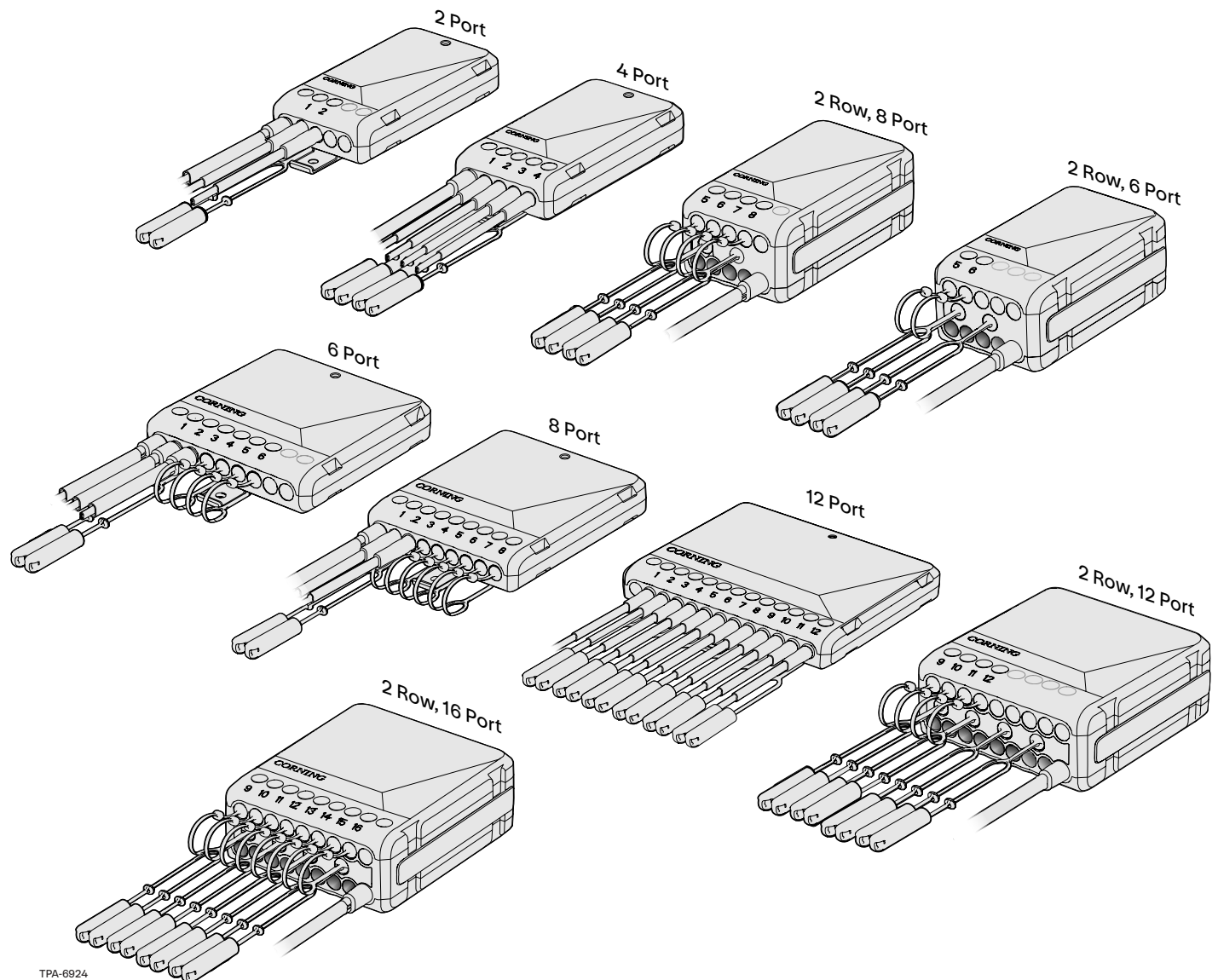
P/N 009-235-AEN, Issue 7

related literature | Search [www.corning.com/opcomm](http://www.corning.com/opcomm). Click on "Resources/Standard Recommended Procedures."

[009-237-AEN](#) [Evolv<sup>®</sup> Port Cleaner \(with Pushlok<sup>®</sup> technology\)](#)

[009-236-AEN](#) [Evolv<sup>®</sup> Drop Assemblies with Pushlok<sup>®</sup> Technology](#)

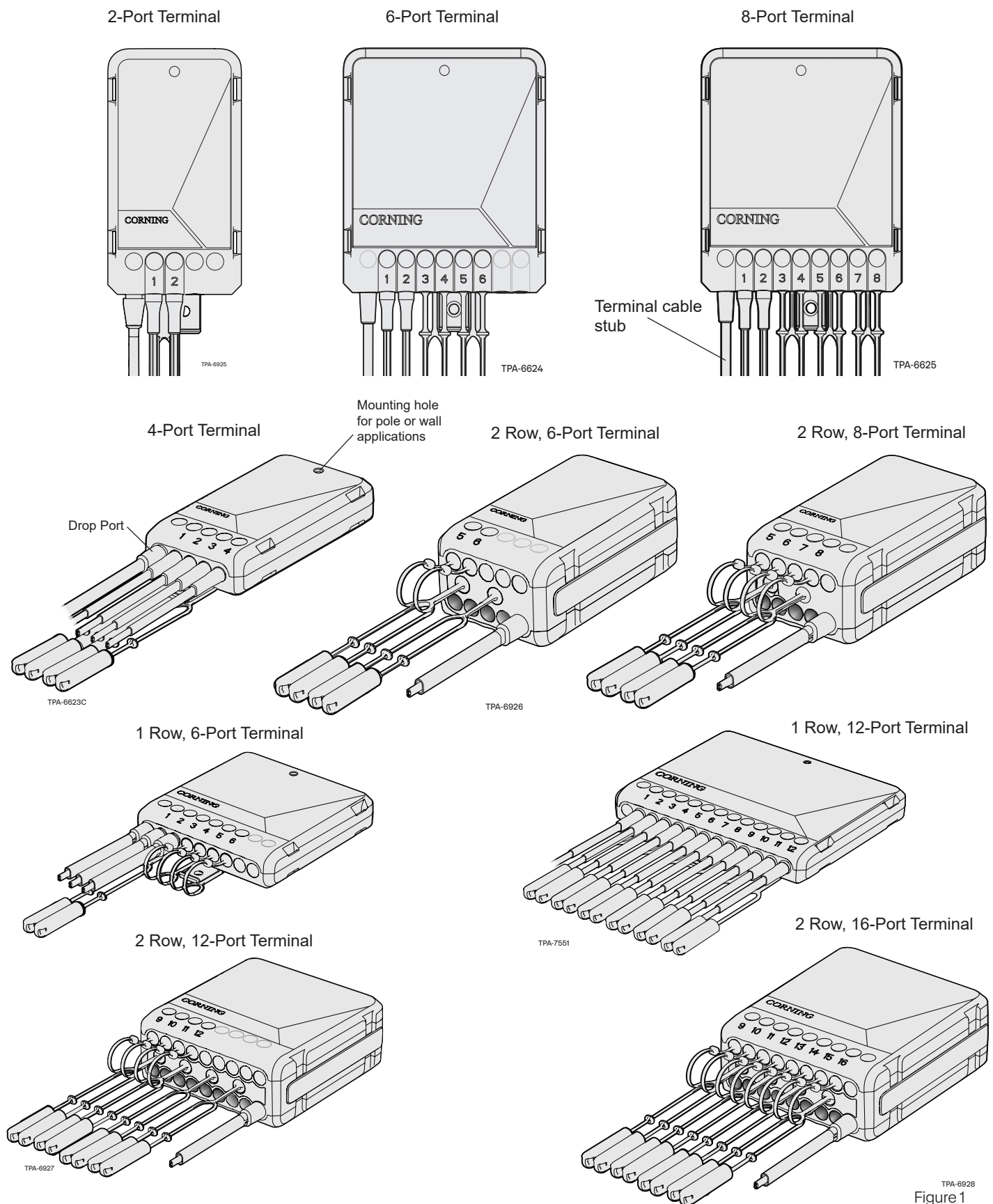
### Evolv Terminal Configurations



TPA-6924

# 1. Carton Contents

- One 2-, 4-, 6-, 8-, 12-, or 16-port terminal (Figure 1)



TPA-6928  
Figure 1

## 2. Materials and Tools Required

### 2.1 Materials

The following materials are required to install the terminal in all applications described in this instruction:

- Requires cable straps, bands, cable spacers, or lag bolts or screws for mounting terminals or brackets (not provided)
- Preconnectorized drop cable

### 2.2 Tools

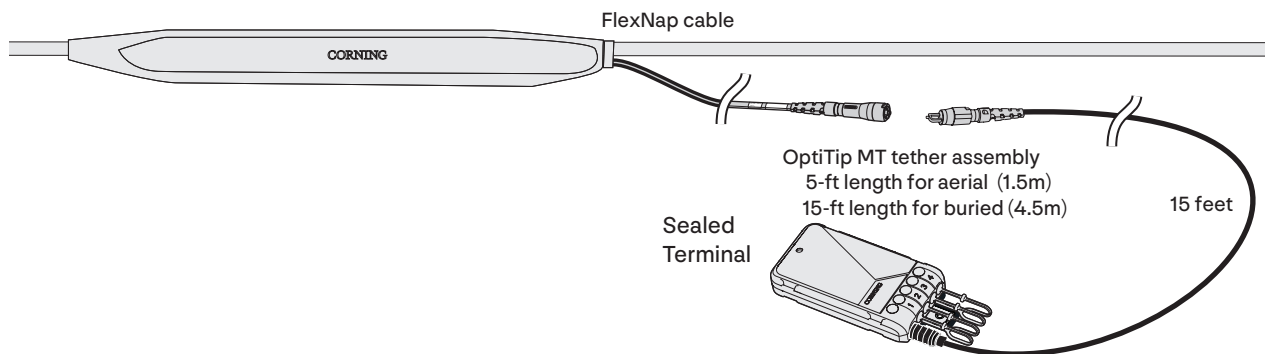
The following tools are required:

- Corning's connector cleaning kit (CLEANER-PUSHLOK) (purchased separately)
- Corning's OptiTip® cleaning kit (TKT-OTMT-CLN-001) (purchased separately), if installing the terminal onto a FlexNAP™ system cable tether
- Tools appropriate for the wall or wooden pole fasteners

## 3. Planning

Figure 2 describes installation of the 2-, 4-, 6-, 8-, and 12- and 16-port sealed terminals. The terminal has a fiber optic cable factory-installed into one end of the terminal. The terminal can be ordered in several configurations:

- Unconnectorized for splicing to distribution cable,
- Connectorized with an OptiTip connector for mating with a FlexNAP cable or with an OptiTip connector on another terminal or cable.



TPA-6627

Figure 2

## 4. Mounting the Terminal



**WARNING:** Never look directly into the end of a fiber that may be carrying laser light. Laser light can be invisible and can damage your eyes. Viewing it directly does not cause pain. The iris of the eye will not close involuntarily as when viewing a bright light. Consequently, serious damage to the retina of the eye is possible. Should accidental eye exposure to laser light be suspected, arrange for an eye examination immediately.



**WARNING:** This product is designed to meet specifications for Class 3 lasers only and should not be used with optical fiber transmission systems containing lasers of classes for which they have not been certified. DO NOT use magnifiers in the presence of laser radiation. Diffused laser light can cause eye damage if focused with optical instruments. Should accidental eye exposure be suspected, arrange for an eye examination immediately.



**WARNING:** Do not install telecommunications equipment or work with telephone wiring during a lightning storm. Telephone lines can carry high voltages from lightning causing electrical shock resulting in severe injury or death.

**Step 1:** Following your engineering plan, determine the location where the terminal will be installed.

**Step 2:** Install the terminal as described below for your installation location (Figure 3).

### 4.1 In an Aerial Application

#### 4.1.1 All Terminals (using strapping)

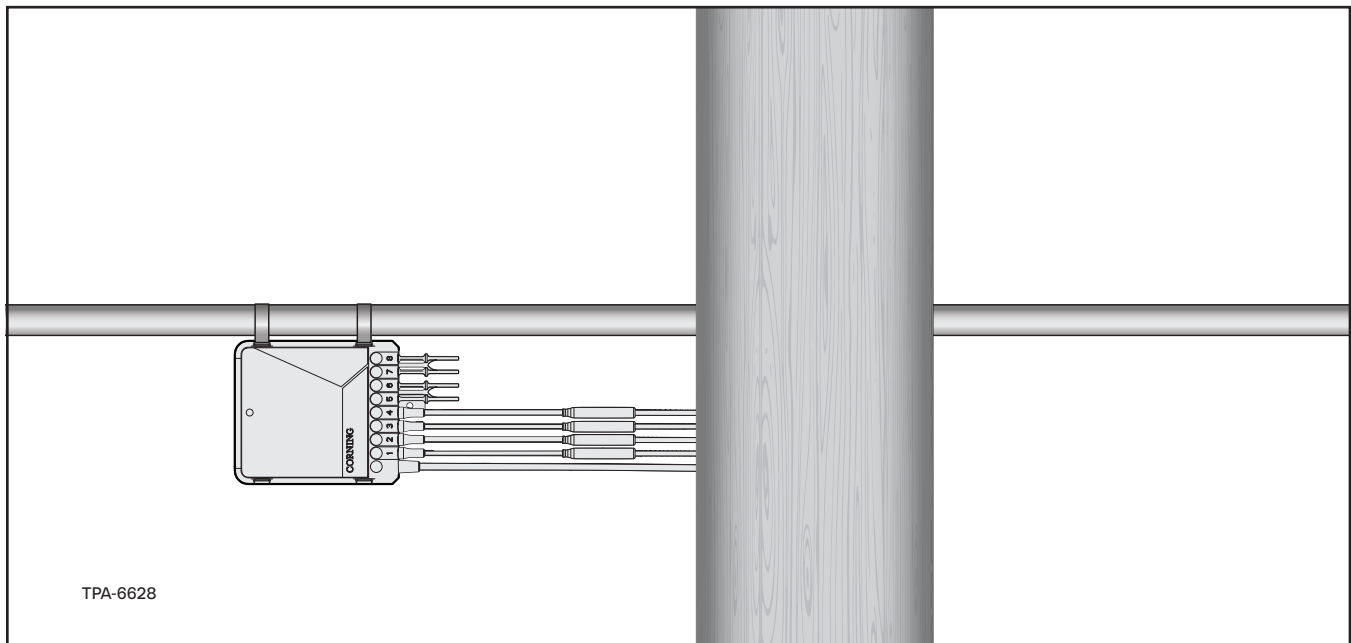


Figure 3

**Step 1:** Thread straps through spacer and slots in base of terminal. With strand between strap, insert locking head onto strap and tighten onto the strand (Figure 4).

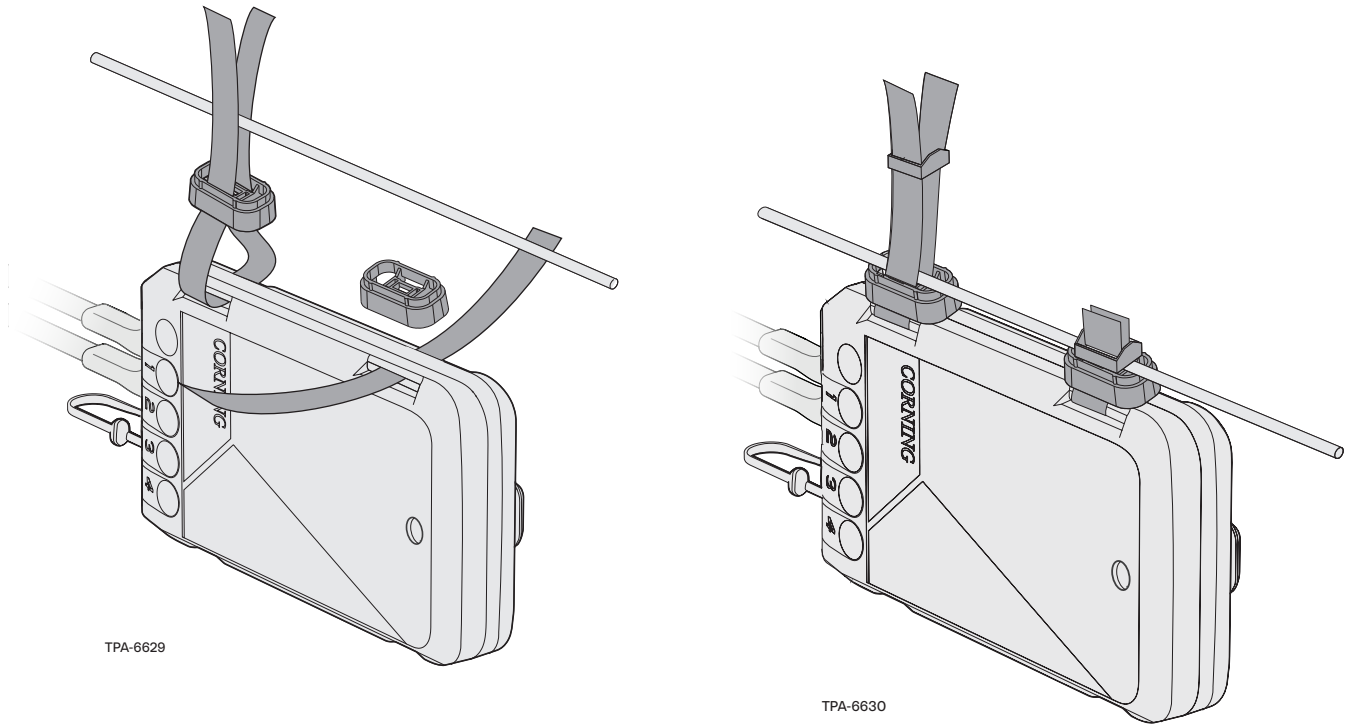


Figure 4

#### 4.1.2 All Terminals (using optional brackets)

**Step 1:** Slide main bracket into side slots on terminal, from the rear (Figure 5).

**Step 2:** Slide retaining clip into side slots on terminal, from the front (Figure 6).

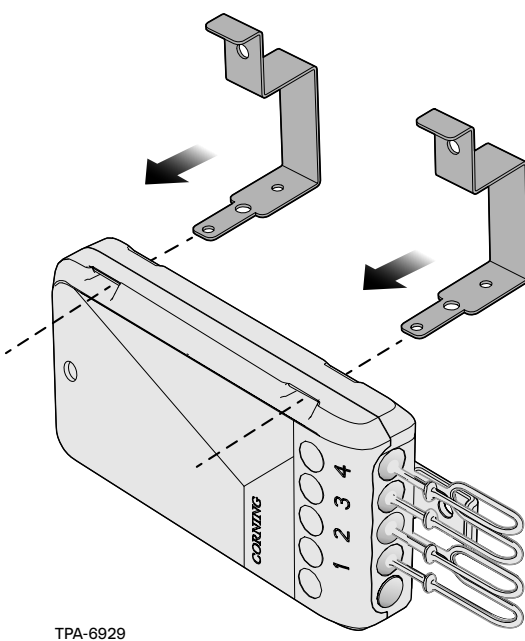


Figure 5

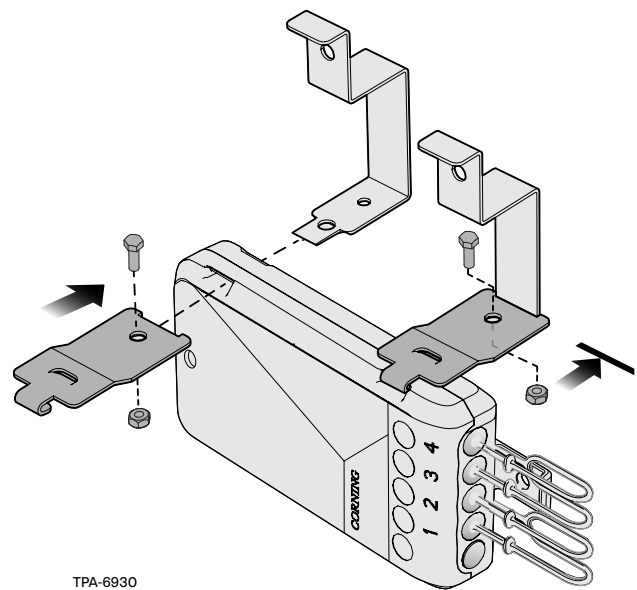


Figure 6

**Step 3:** Secure retaining clip to main bracket using the supplied bolt (Figure 7).

**Step 4:** Secure the strand clamp to the bracket, install over the messenger and tighten (Figure 8).

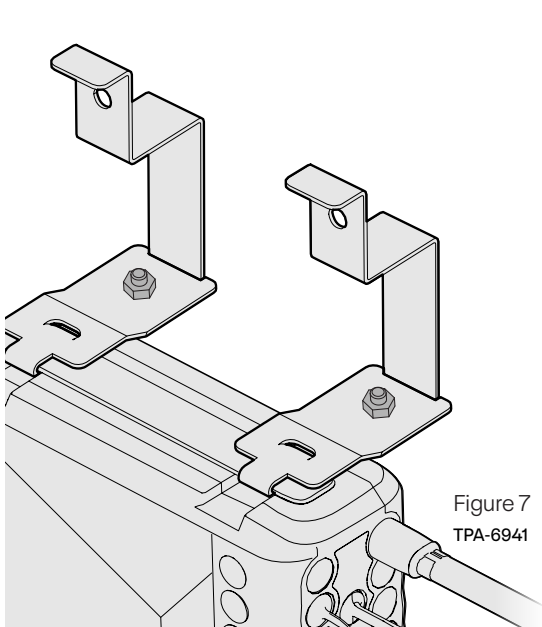


Figure 7  
TPA-6941

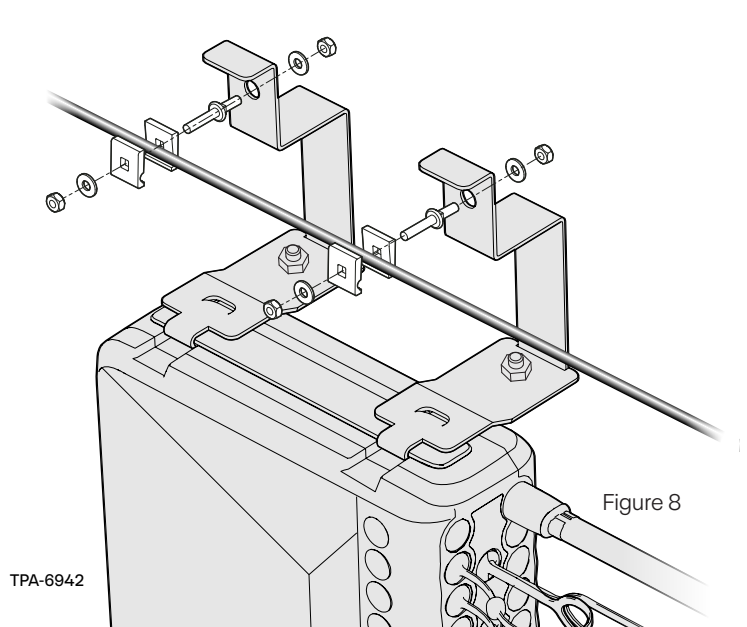
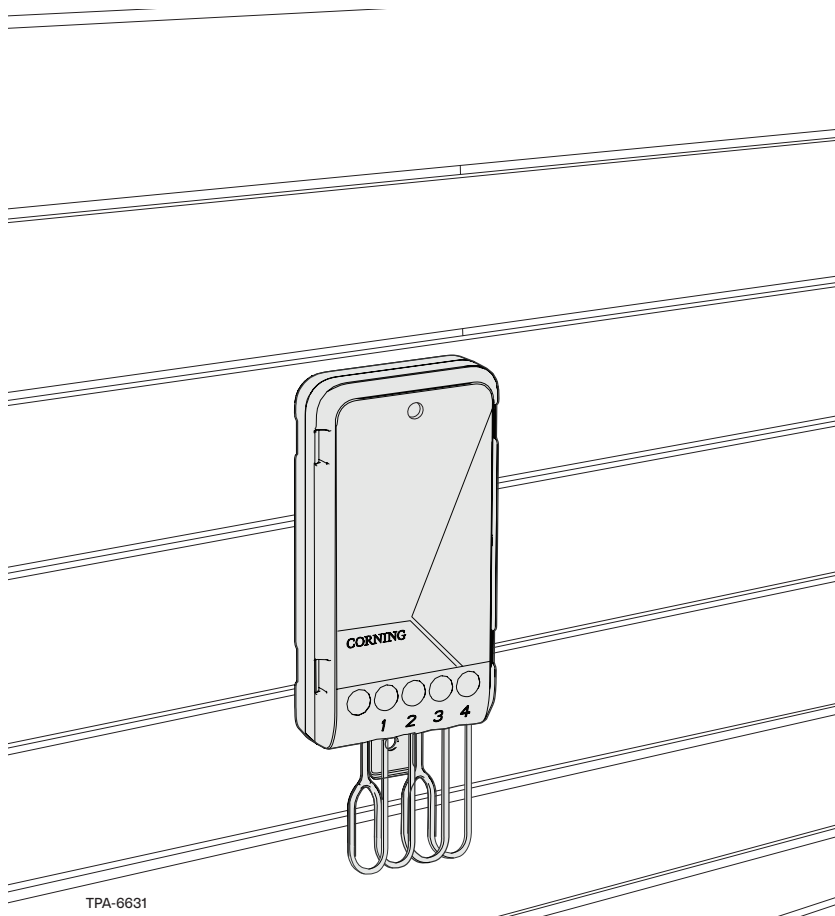


Figure 8

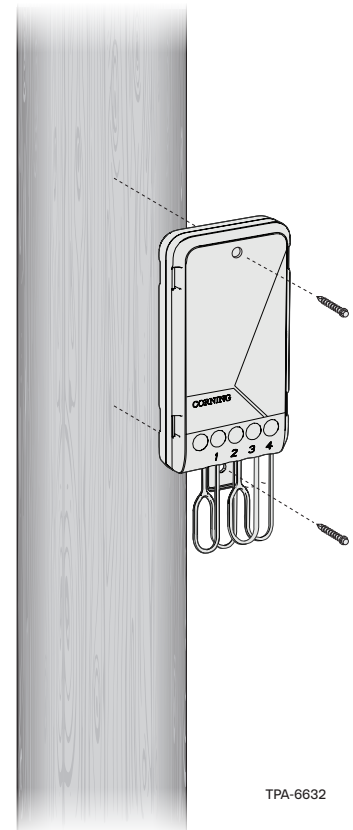
## 4.2 On a Wall or Wooden Pole

### 4.2.1 Single Row Terminals

**Step 1:** Use 1/4-in (6 mm) threaded fasteners to secure the top and bottom to the wall or pole (Figure 9).



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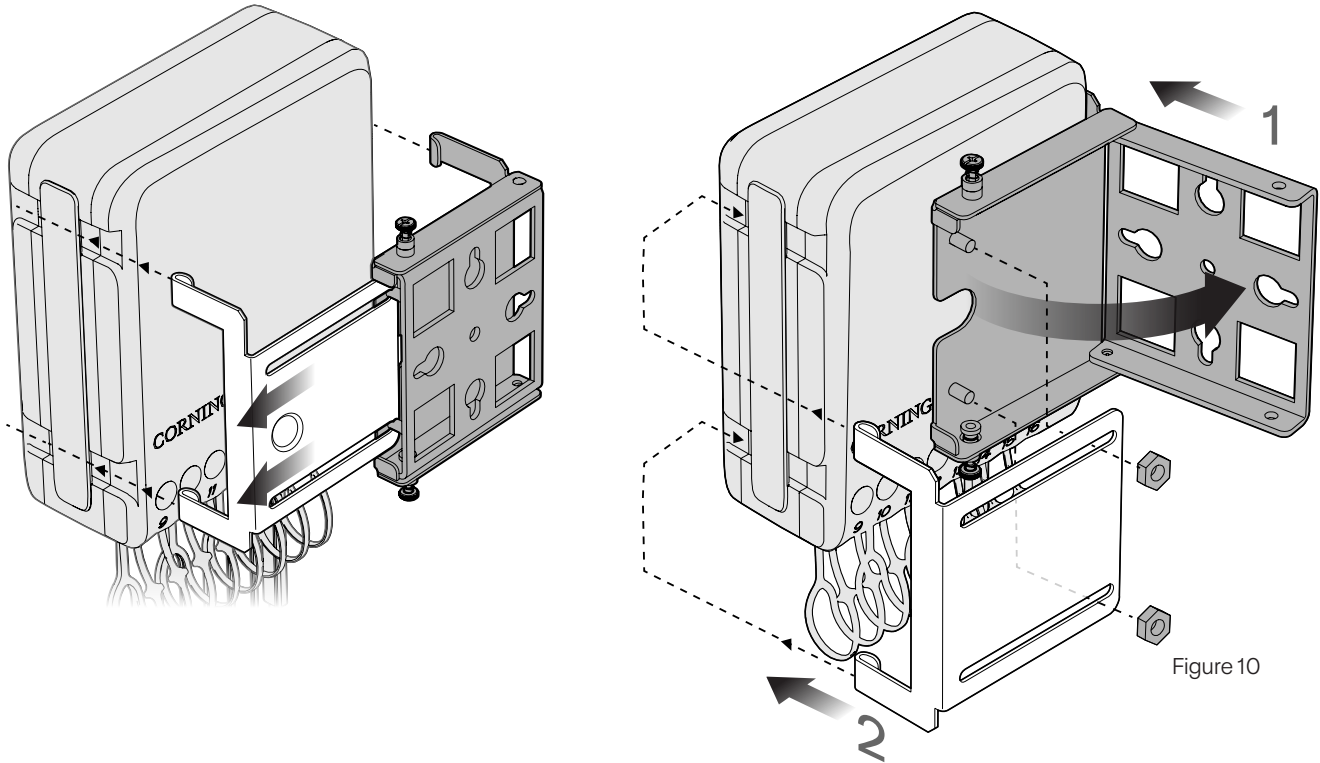
TPA-6632

Figure 9

## 4.2.2 Double Row Terminals

**Note:** Use wall/pole mounting brackets to secure the terminal to the pole or wall.

**Step 1:** Outwardly adjust and secure the terminal hooks to the side slots of the terminal (Figure 10).



**Step 2:** Secure the halves together using the supplied 10/32 nuts. Secure the bracket to the pole or wall with two screws in the top and bottom slotted holes (Figure 11).

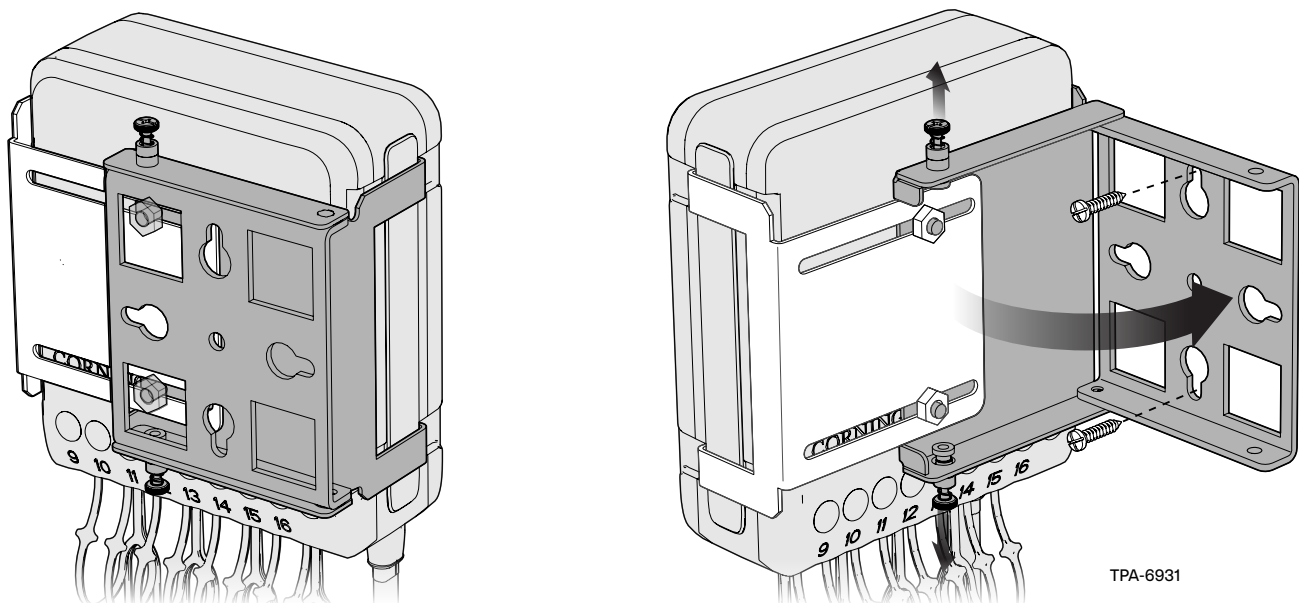


Figure 11



### 4.3 Single Row on a Metal or Concrete Pole

**Step 1:** Run cable strap through mounting slot in the back of the terminal (Figure 12).

**Step 2:** Run cable strap around the mounting tab on the bottom of the terminal.

**Step 3:** Secure the straps to the pole using a Band-It-type tool.

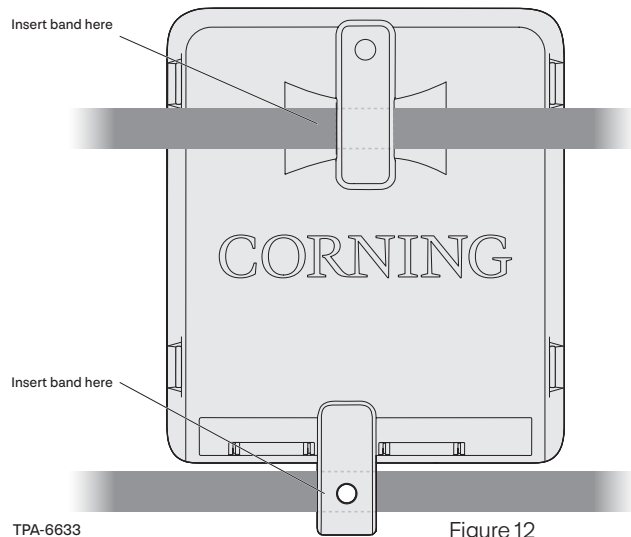
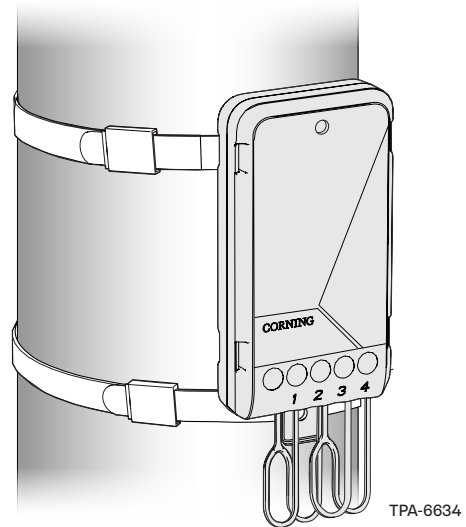


Figure 12



### 4.4 Double Row on a Metal or Concrete Pole

**Step 1:** Follow steps 1 and 2 in Section 4.2.2 on previous page. Close outer bracket and lock pins.

**Step 2:** Run cable strap/band through the square slots of the bracket (Figure 13).

**Step 3:** Secure the straps to the pole using a Band-It-type tool (Figure 14).

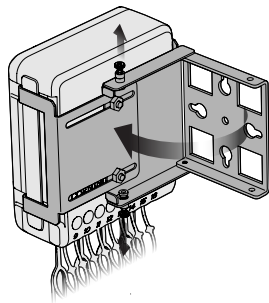


Figure 13

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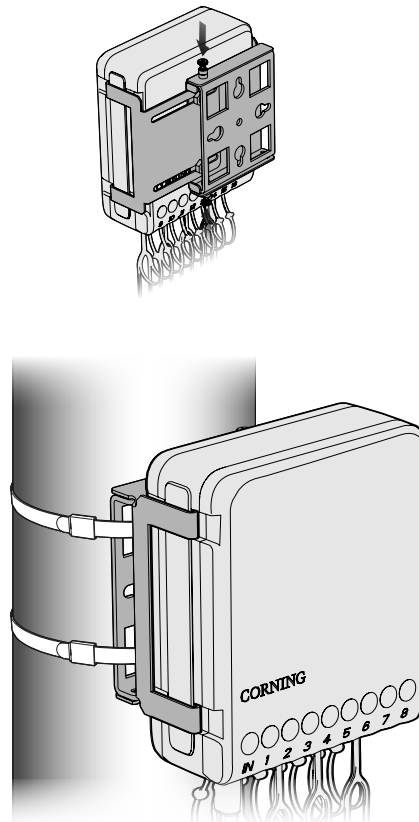


Figure 14



## 4.5 In a Handhole or Pedestal

### 4.5.1 Single Row Terminals

**Step 1:** Position the terminal in the handhole or pedestal with the mounting hole at the top and bottom of the terminal against the vertical mounting channel or wall (Figure 15) and attach the terminal with a cable tie or 1/4-in (6 mm) bolt/screw (Figure 15).

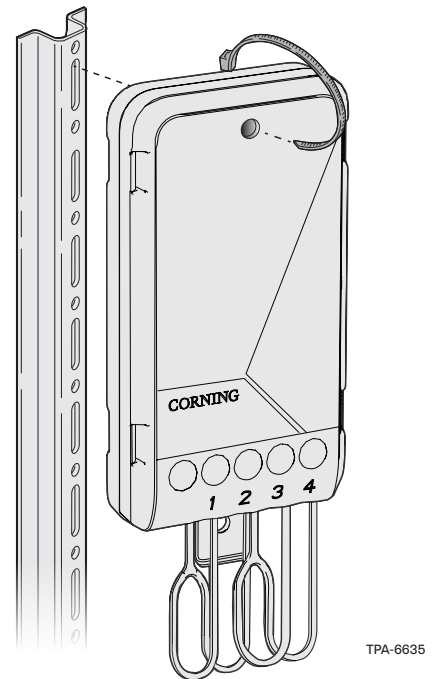


Figure 15

### 4.5.2 All Terminals using Handhole or Pedestal Bracket

**Step 1:** Secure the bracket to the wall/pedestal using cable straps or 1/4-in (6mm) screws/bolts (Figure 16).

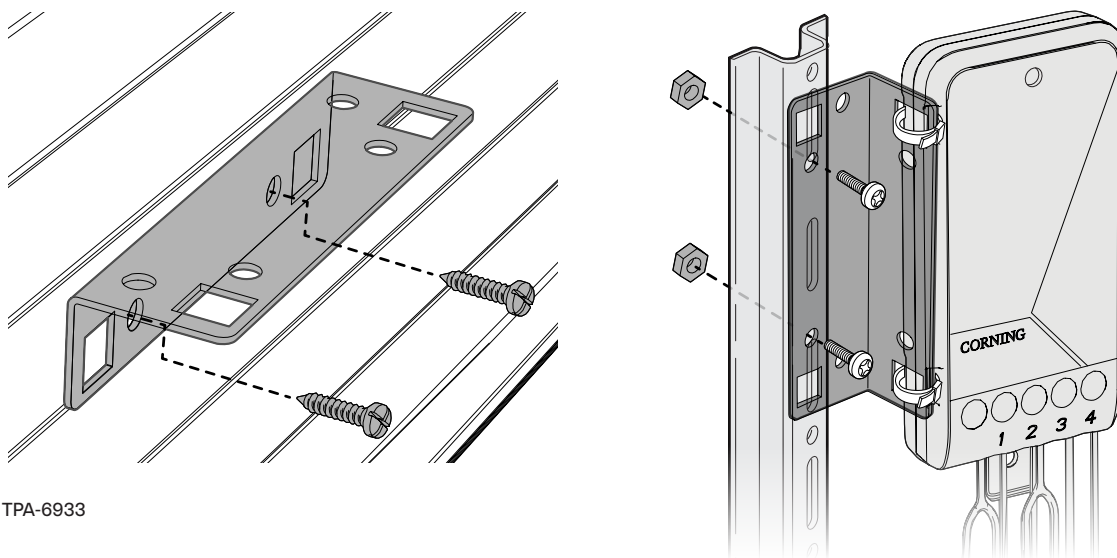


Figure 16

### 4.5.3 All Terminals using Handhole Bracket

**Step 1:** Secure the bracket to the container wall using cable straps or 1/4-in (6mm) screws/bolts (Figure 17).

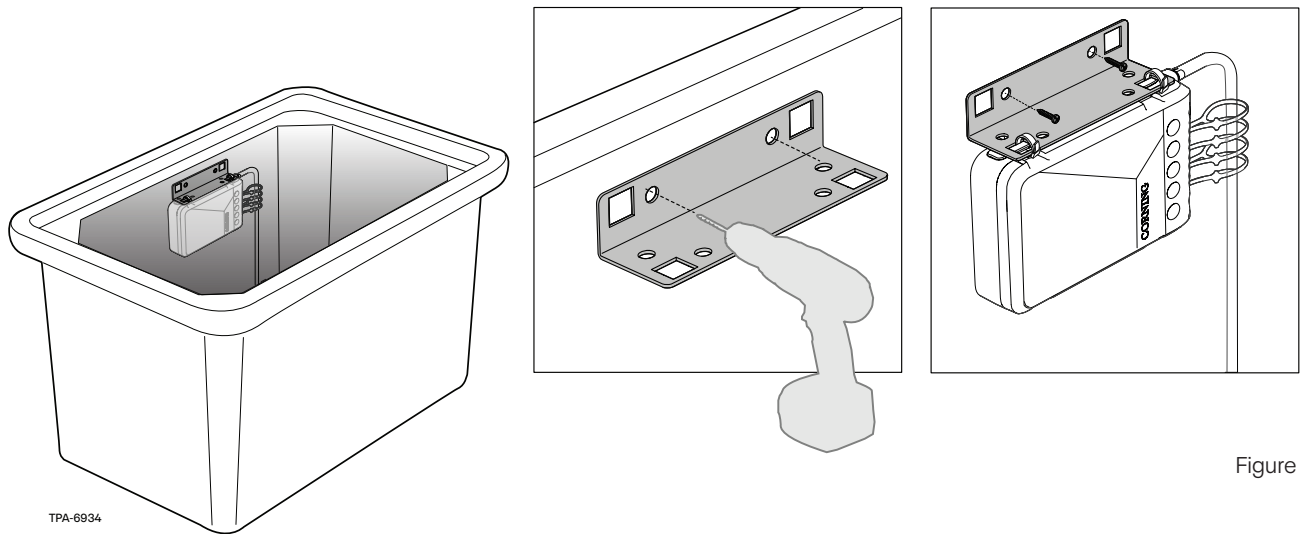
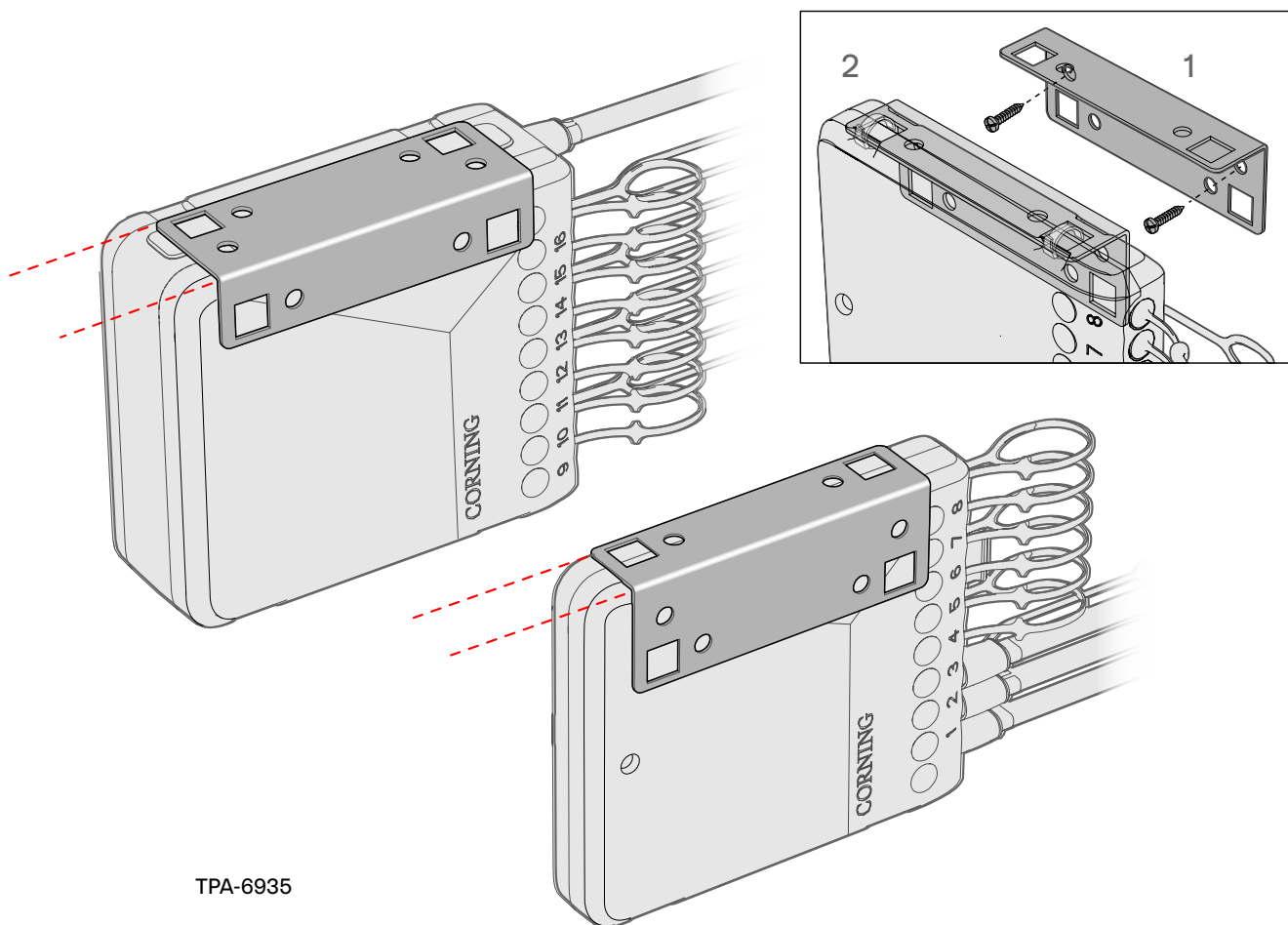


Figure 17

**Step 2:** Secure the bracket to the terminal using cable ties. The terminal can hang from the bracket or sit on top of the bracket.

**NOTE:** This bracket has sides that are different depths. The deeper bracket is designed to be used with the double-row terminals, and shallower bracket to be used with the single-row terminals.



## 5. Determining Type of Terminal Stub

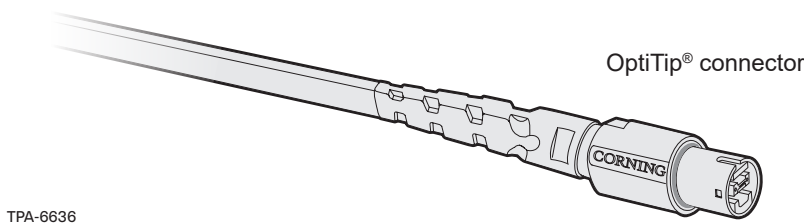
### 5.1 Unconnectorized Terminal Stub

If terminal stub is unconnectorized, splice raw end to the feeder cable per standard company practices and skip to Section 7 to install drop cables. Refer to table below.

| Cable Type         | Installation Methods                         | Max Tensile Load Short-Term | Minimum Bend Radius-Loaded | Minimum Bend Radius-Installed |
|--------------------|--|-----------------------------|----------------------------|-------------------------------|
| SST-Drop           | Self-Support<br>Lashed, Duct,<br>Direct Bury | 1350 N (300 lbf)            | 80 mm (3.15 in)            | 80 mm (3.15 in)               |
| MiniXtend®         | Duct (pushed)                                | 890 N (200 lbf)             | 108 mm (4.3 in)            | 82 mm (3.2 in)                |
| SST-Drop Long Span | Self-Support<br>Lashed, Duct,<br>Direct Bury | 1350 N (300 lbf)            | 135 mm (5.3 in)            | 135 mm (5.3 in)               |

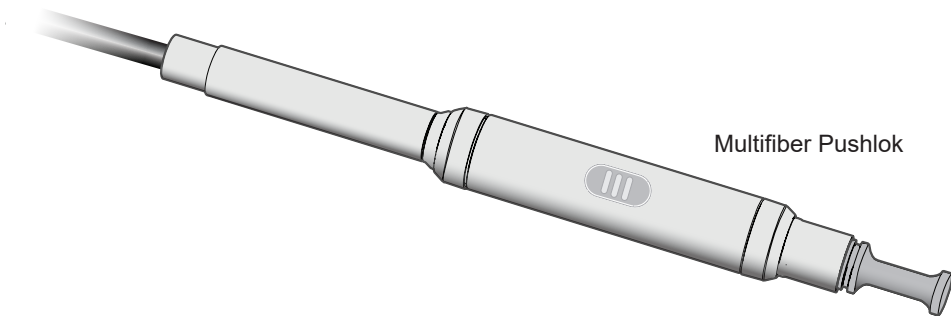
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### 5.2 Connectorized Terminal Stub



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- If terminal stub is connectorized with an OptiTip connector, proceed to Section 6.



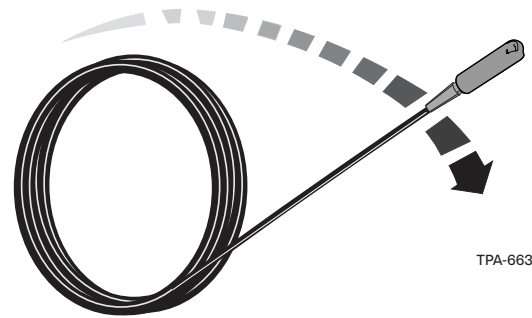
TPA-7958

- If terminal stub is connectorized with a Multifiber Pushlok connector, proceed to Section 7.

## 6. Mating a Terminal with OptiTip® Connector to an OptiTip Connector FlexNAP™ Distribution Cable, or to an OptiTip Connector on another Terminal



**WARNING:** Unrestrained cable ends may cause injury to your eyes or body and damage the cable, fitting, or fibers if suddenly released from a coil. Wear eye protection and use extreme care when handling a coiled cable assembly which uses flat-drop cable; gently release the energy stored in the cable coil to avoid possible personal injury or damage to the cable or fitting components.



TPA-6637

**Step 1:** Locate the FlexNAP distribution cable. On aerial applications, use scissors to carefully cut the cable ties which secure the tether to the cable.

**Step 2:** Remove the dust cap from the tether assembly by turning the cap counter-clockwise (Figure 18).

**NOTE:** The terminal assembly's dust cap has a tamper-proof factory seal which verifies that the connector has been cleaned and tested prior to shipping. This seal will break during dust cap removal in Step 3; if the seal is already broken, visually examine the connector end-face inside to ensure that the end-face has not been exposed to dust or other contaminants. If necessary, clean the end faces with an OptiTip® cleaning tool (p/n TKTOTMTCLN-002) as described in the instruction provided with the tool.

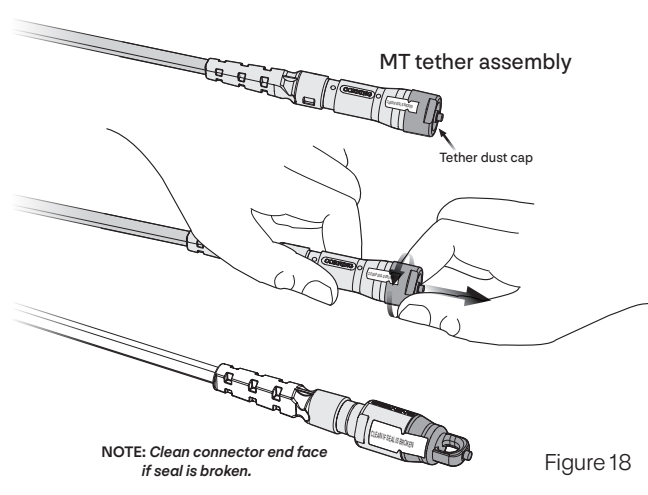
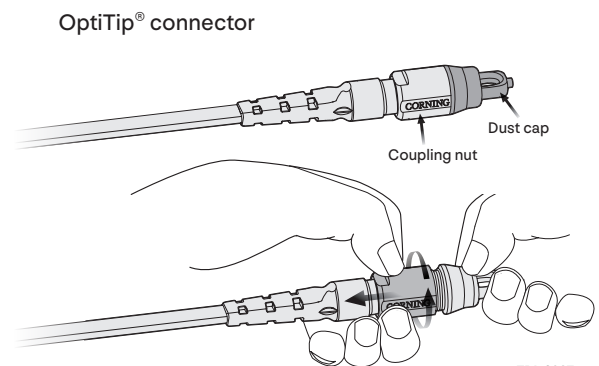


Figure 18

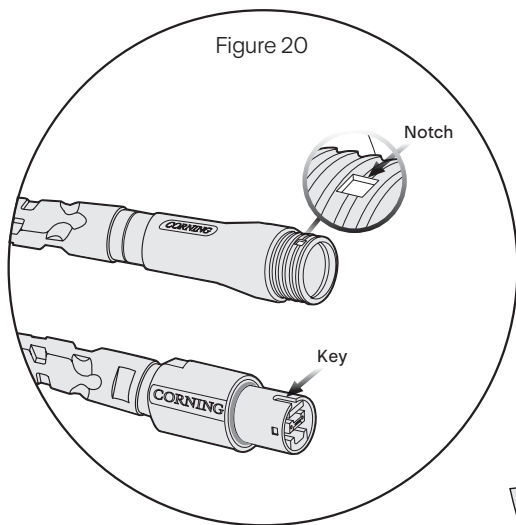


TPA-6937

Figure 19

**Step 3:** To remove the terminal assembly's dust cap, hold the dust cap with one hand and back off the coupling nut as shown in Figure 19. Locate the reference keys on each assembly (see Figure 20 inset).

**Step 4:** Align the reference keys and gently turn the assembly coupling nut onto the tether assembly until the nut is hand tight (Figure 21).



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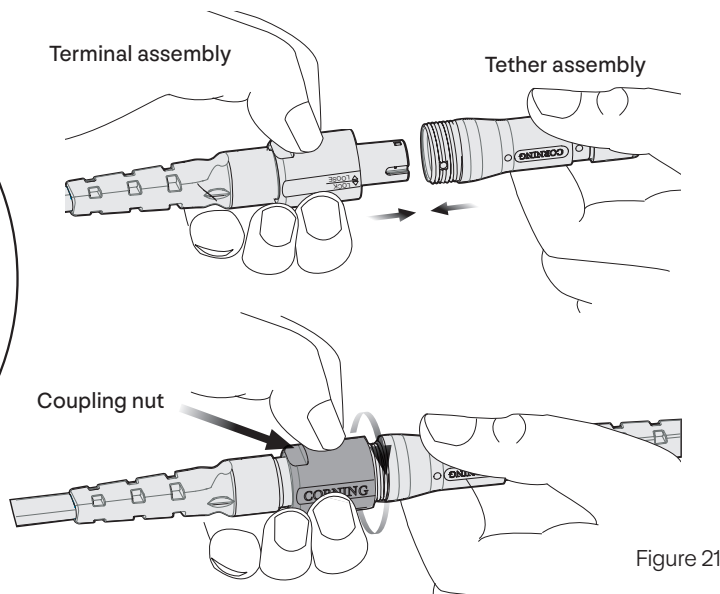


Figure 21

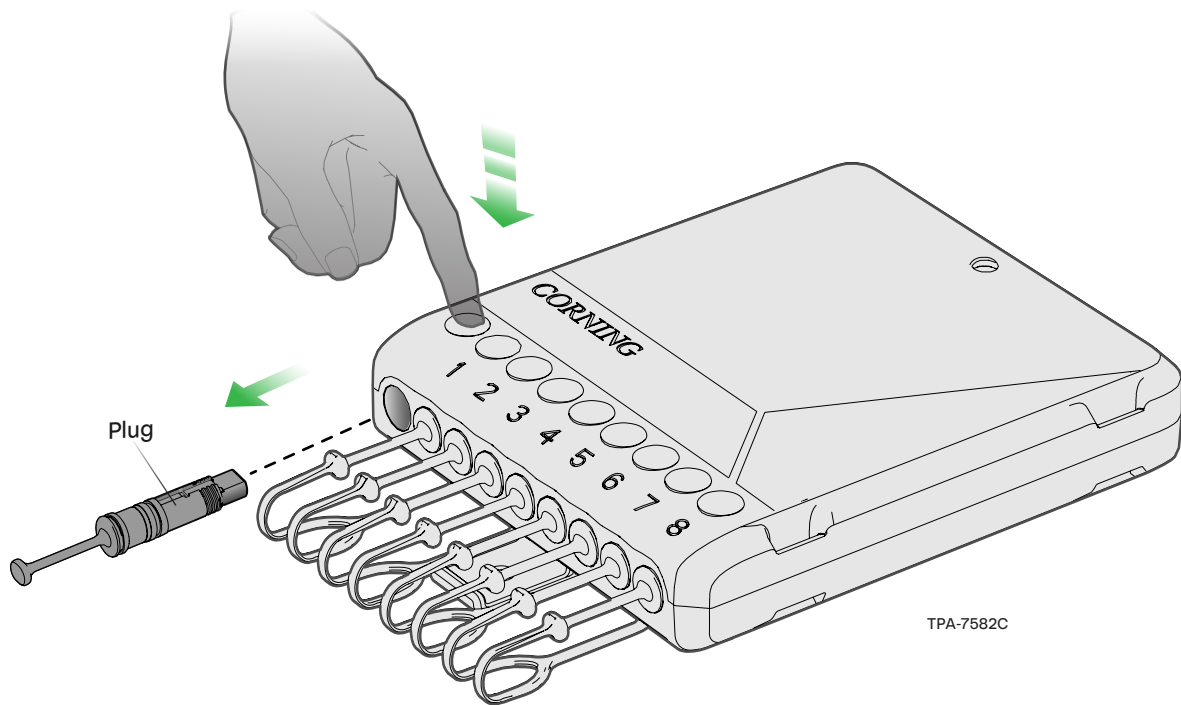
**Step 5:** Manage any cable slack per standard local practices.

**Step 6:** Proceed to Section 8 to install drop cables.

## 7. Mating Multifiber Pushlok® Connectors

### 7.1 Mating Multifiber Pushlok Assemblies to Evolv® Terminal Ports

**Step 1:** Depress the button for the port and pull out the dust plug.



**Step 2:** Follow the instructions in [SRP-009-300-AEN](#) to clean the terminal port.

**Step 3:** The Pushlok™ multifiber connector comes clean from the factory. If the seal is not broken, the connector does not need to be cleaned prior to mating (Figure 22). If cleaning needs to happen, follow the steps in [SRP-009-300-AEN](#).

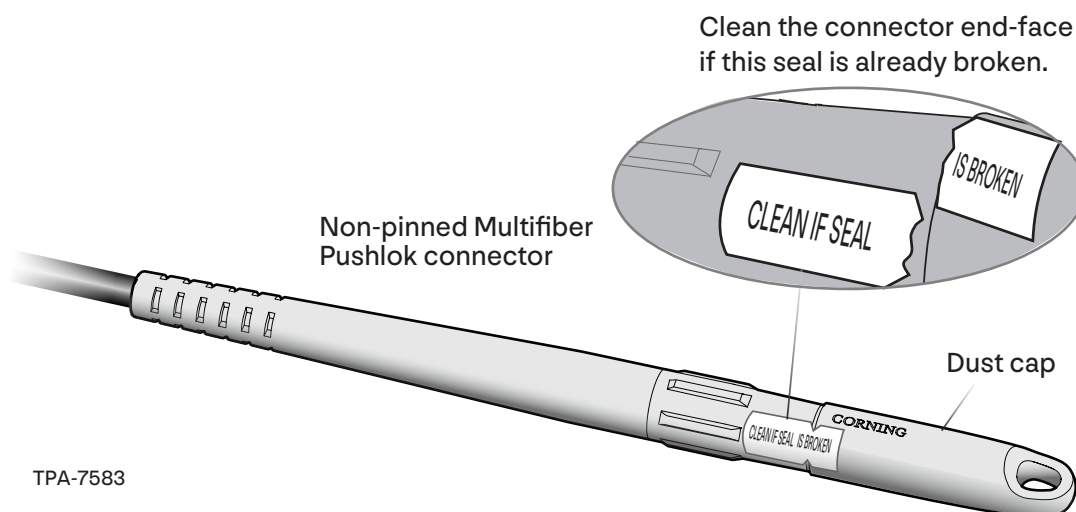
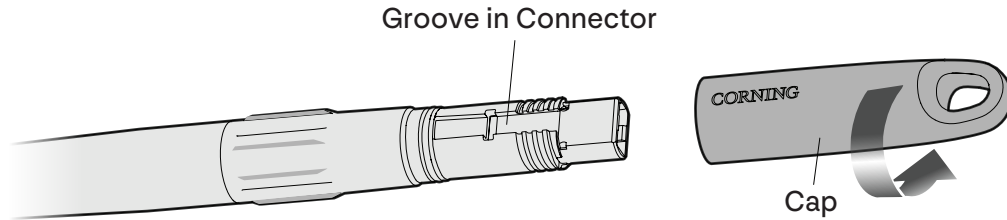


Figure 22

**Step 4:** Unscrew the non-pinned multifiber Pushlok® dustcap. Locate the alignment groove on the connector.



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**Step 5:** Align the notch on top of the connector with the port button on the terminal. (Figure 23)

**Step 6:** Insert the drop connector into the terminal port, until the button clicks and the latch is engaged. (Figure 24)

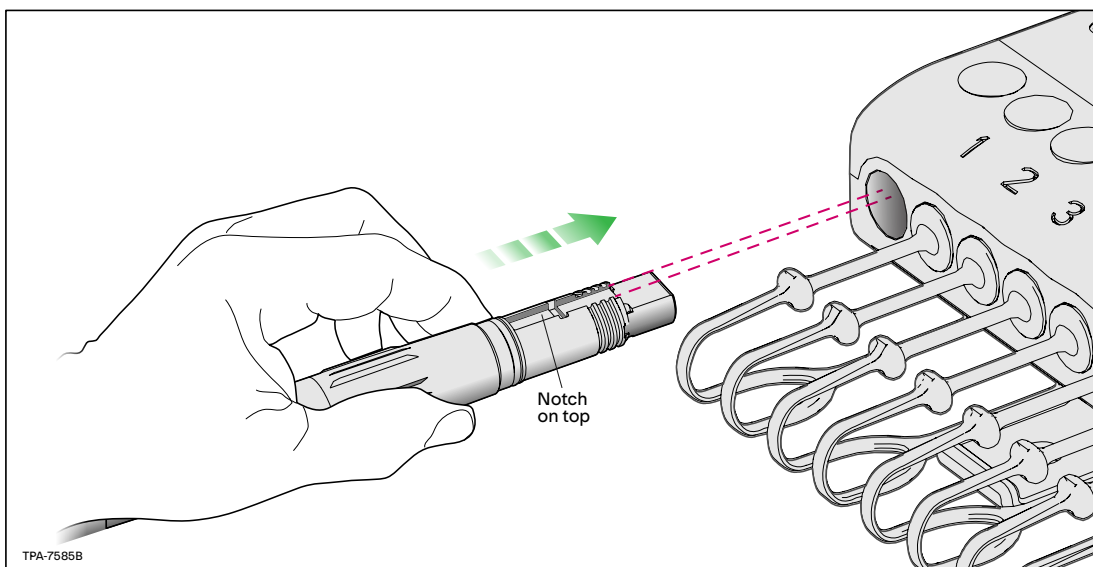


Figure 23

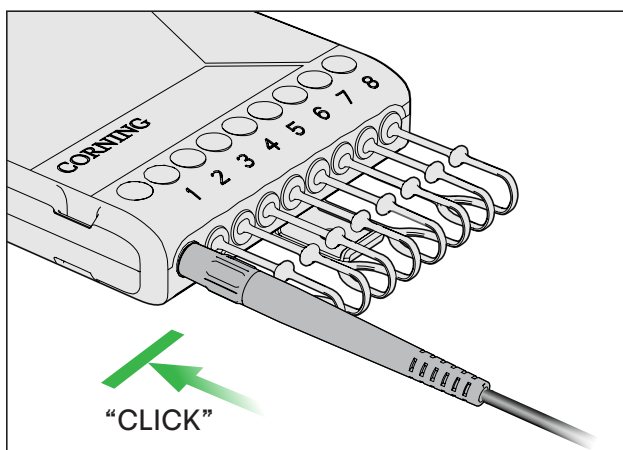


Figure 24

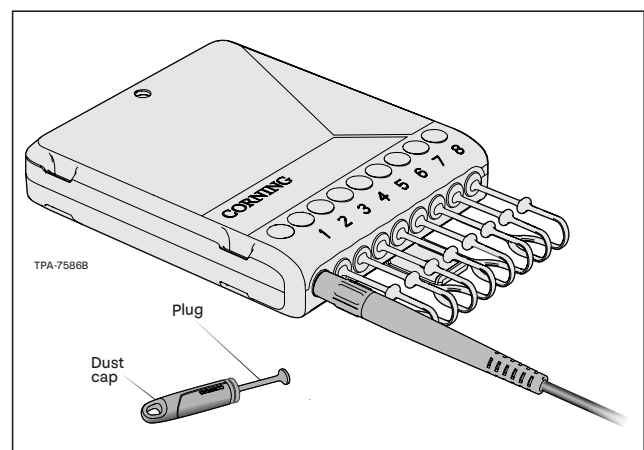


Figure 25

**Step 7:** Connect the terminal port dust plug with the connector dust cap (Figure 25).

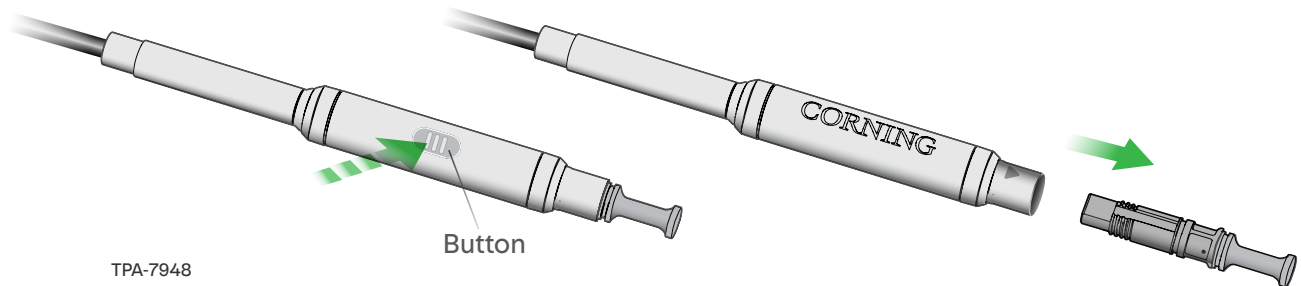
**Step 8:** Repeat Section 7.1 for all multifiber Pushlok connections.

**Step 9:** Manage any cable slack per standard local practices.

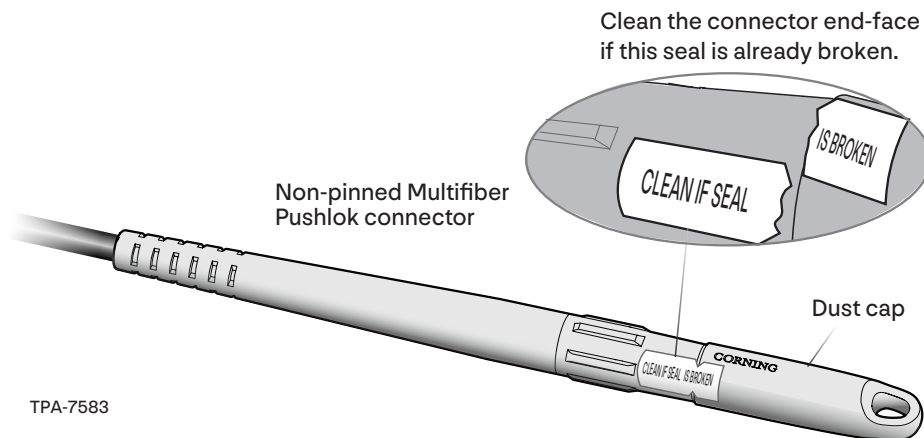


## 7.2 Mating Multifiber Pushlok® Assemblies

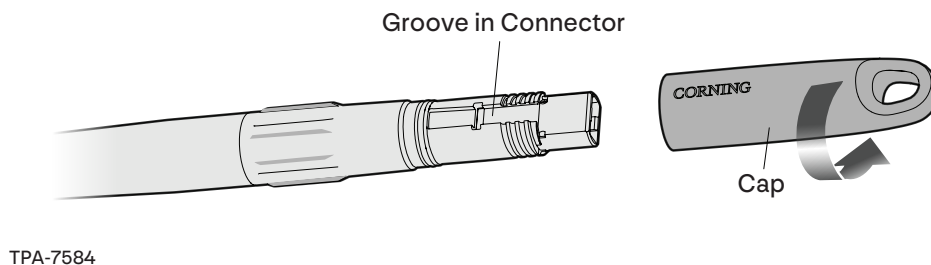
**Step 1:** Depress the button on the pinned multifiber Pushlok connector and pull out the dust plug.



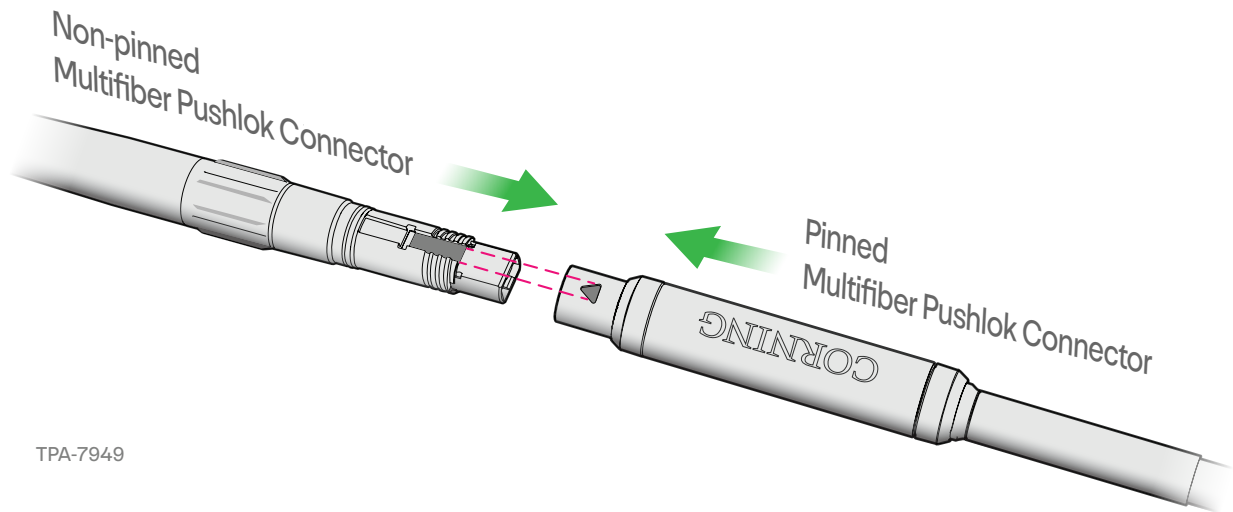
**Step 2:** The Pushlok multifiber connector comes clean from the factory. If the seal is not broken, the connector does not need to be cleaned prior to mating. If cleaning needs to happen, follow the steps in [SRP-009-300-AEN](#).



**Step 3:** Unscrew the non-pinned multifiber Pushlok dustcap. Locate the alignment groove on the connector.



**Step 4:** Align the groove in the non-pinned connector with the arrow of the pinned connector and insert the non-pinned connector into the pinned connector.



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**Step 5:** Manage any cable slack per standard local practices.

## 8. Mating a Pushlok® Connector to the Terminal Port

### 8.1 Clean Pushlok Connector

Clean the connectors with the Optical Connector Cleaning Kit (p/n CLEANER-PUSHLOK) as described in the instructions provided with the kit.

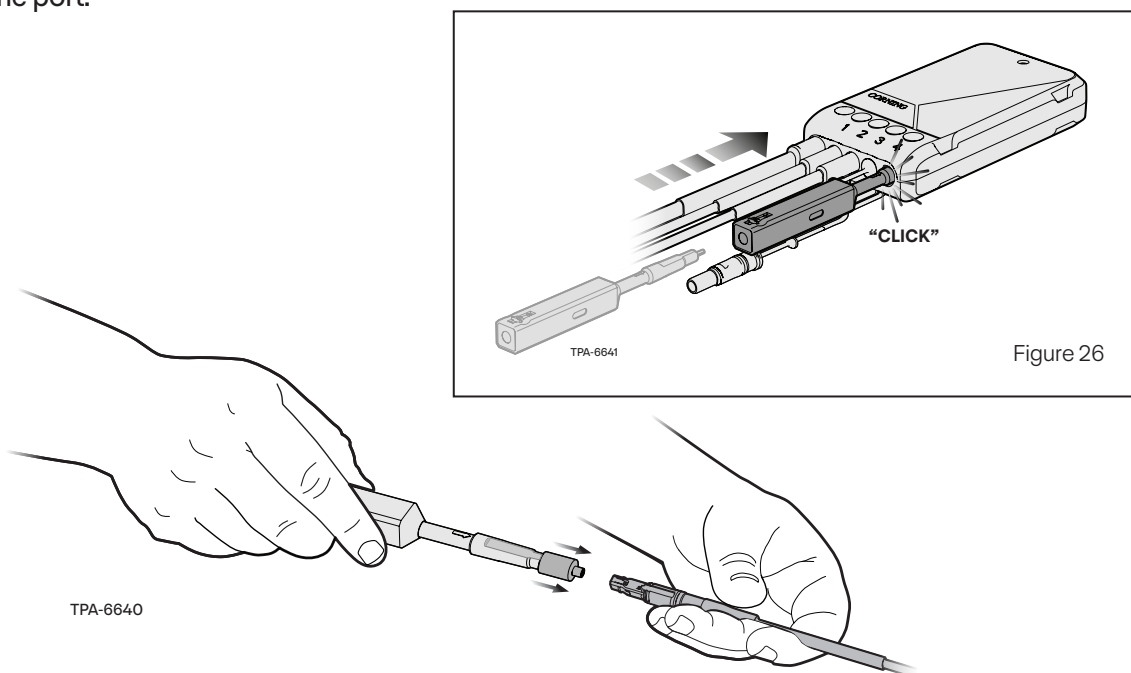


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### 8.2 Clean Pushlok Terminal Ports

**Step 1:** Remove the protective plug from the port where the connector will be mated (Figure 26).

**Step 2:** Use the Optical Connector Cleaning Kit, as described in the instructions, to clean the connector inside the port.



### 8.3 Mating a Drop Cable Connectorized with Pushlok Connector

**Step 1:** Depress the button for the port and pull out the dust plug. Remove the dust cap from the connector (Figure 27).

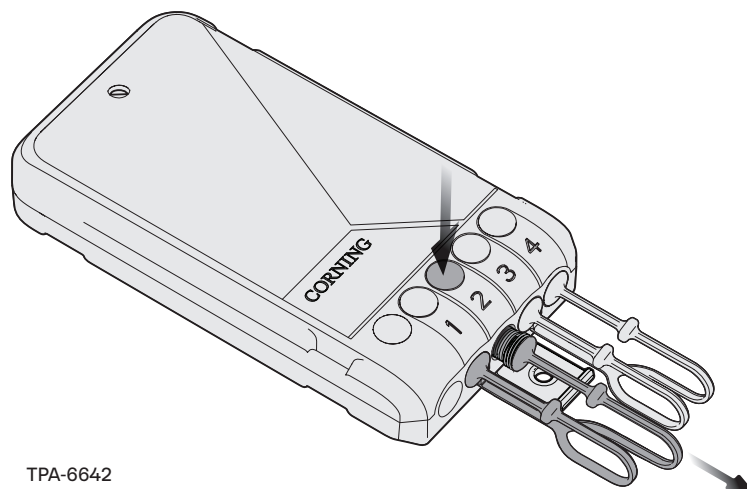


Figure 27

**Step 2:** Align the notch on top of the connector, with the port button on the terminal (Figure 28).

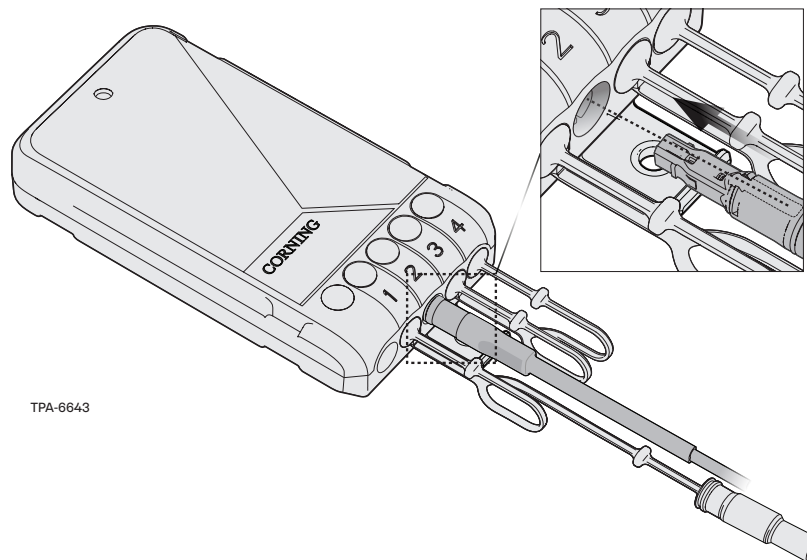


Figure 28

**Step 3:** Insert the drop connector into the terminal port, until the button clicks and the latch is engaged (Figure 29).

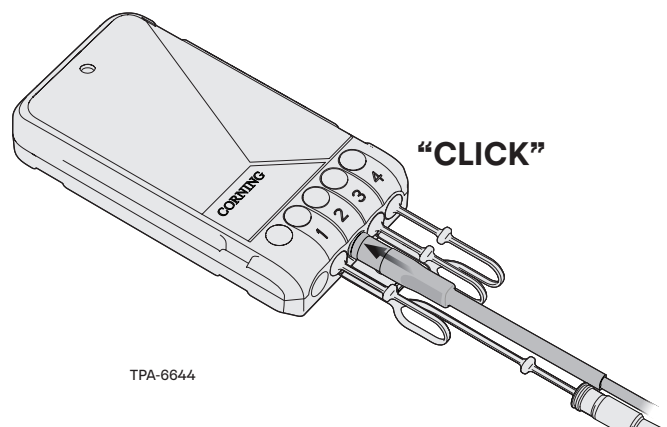


Figure 29

**Step 4:** Connect the terminal port dust plug with the connector dust cap (Figure 30).

**Step 5:** Repeat Section 8.3 for all connectorized drop cables.

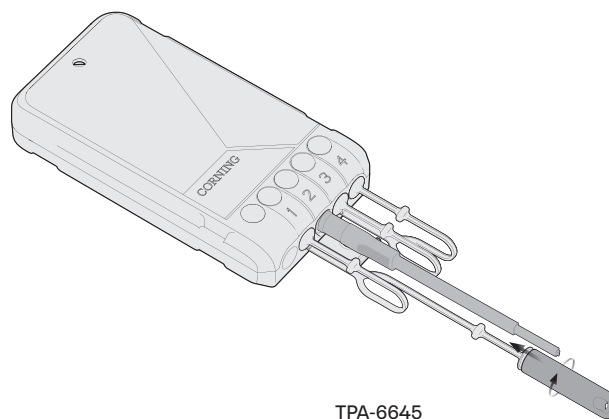


Figure 30

## 9. Mating Drop Cable to the Evolv<sup>®</sup> Terminal with Pushlok<sup>®</sup> Technology After Initial Installation

After the initial installation, the sealed terminal may become covered with mud and dirt due to normal ground water or flooding. Although these contaminants on the outside of the housing will not affect the performance of the unit, care must be taken when removing the drop port dust plugs for drop cable installation to prevent loose dirt particles from entering the adapter sleeve and contaminating a connector end-face.

**NOTE:** Only use clean water to wash the outer housing. Do not use any type of solvent.

**Step 1:** Remove any cable ties or hardware securing the terminal and stubbed cable.

**Step 2:** When handling the terminal, support the terminal and its cable stub to prevent kinking the cable stub at the entrance of the terminal.

**Step 3:** **For light dirt and dust**, soak a rag or towel with clean water and gently clean the housing. Wipe dry with a clean, dry rag or towel. **For heavy, caked-on mud and dirt**, spray the terminal with low-pressure water such as from a garden sprayer. A soft-bristled brush may also be used to lightly scrub the housing to loosen the mud and dirt. Remove any remaining dirt with a water-soaked rag or towel and wipe dry with a clean, dry rag or towel.

**Step 4:** If disconnecting a drop from an installed terminal, there may be dirt particles on the drop connector and around the terminal port. In this instance, use a dampened foam swab inserted shallowly into the port and swabbed to remove debris. For re-mating drops that may have debris accumulation on them, wipe with a dry cloth to remove any debris accumulated around the connector behind the O-ring.

**Step 5:** Although the unit should now be generally clean, there may still be dirt particles around the connector port plugs and lanyards. Therefore, before removing a plug, first turn the terminal so that the adapters face downward and then disconnect the selected plug. In this way, any stray dirt particles will fall to the ground instead of into the port.

**Step 6:** Use the Corning Optical Connector Cleaning Kit as described in Sections 8.1 and 8.2 to clean the Pushlok drop cable assembly and connector ports.

**Step 7:** Keep the ports facing down while inserting and connecting the drop cable assembly.

**Step 8:** Insert the connectorized drop cable into the drop connector port. Orient the notch on the connector with the port button in the terminal (Figure 31).

**Step 9:** Repeat steps 1 through 8 for all connectorized drop cables.

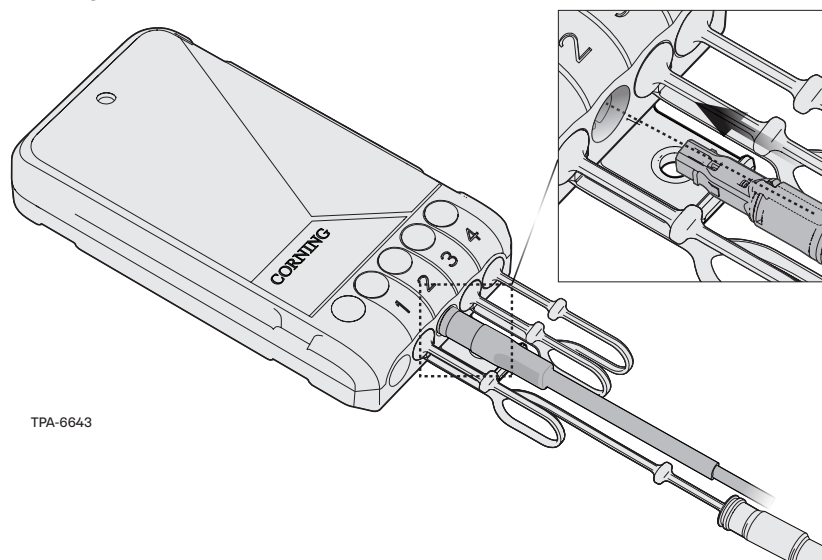


Figure 31

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