Sapphire™ Micro Drop Terminal
Installation Instruction

**PPC®**
A **BELDEN** BRAND

IMPORTANT INSTRUCTIONS

When using fiber optic equipment, basic precautions should always be followed to reduce the risk of injury to persons, including the following:

1. Read and understand all instructions.
2. Follow all warnings and instructions marked on the product.
3. Laser light can be visible or invisible and can cause serious eye injury.
   Do not look directly into the end of a fiber optic connector.
   Do not look directly into the end of a fiber optic adapter having a fiber optic connector.
4. Install dust caps or plugs onto unused fiber optic connectors or non-shuttered fiber optic adapters.
5. Use an optical power meter to verify active fibers as necessary.

SAVE THESE INSTRUCTIONS
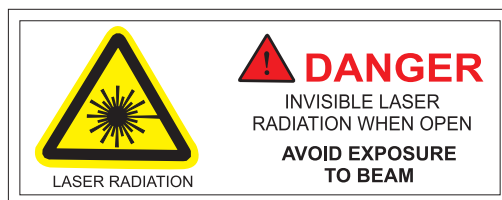
Contents of the Box
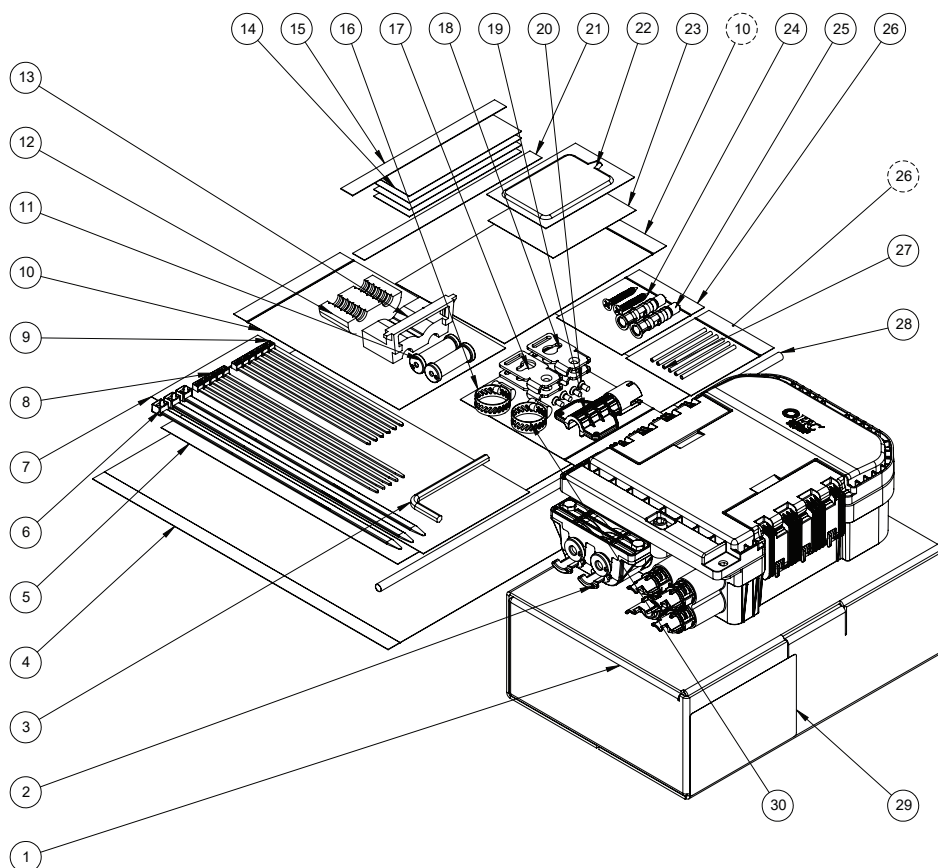
NO.	DESCRIPTION	QTY
1	MINI SPLICE TERMINAL-PACKAGING	1
2	MINI SPLICE TERMINAL	1
3	M5 SCREW ALLEN KEY	1
4	PE CLEAR BAG 300X290 MM	1
5	MDT INSTALLATION GUIDE	1
6	STANDARD CABLE TIES - PA- 3.6 X 200 MM	3
7	ZIP LOCK COVER 230 X 90 MM	1
8	STANDARD CABLE TIES - PA- 2.5 X 150 MM	5
9	STANDARD CABLE TIES - PA- 2.5 X 100 MM	6
10	ZIP LOCK BAG 140 X 90 MM	2
11	MST 8MM BLANK WITH 3MM MFX ENTRY	2
12	MST 8MM CABLE GROMMET BOTTOM	1
13	MST 8MM CABLE GROMMET TOP	1
14	SPONGE TAPE 95 X 30 MM	4
15	CABLE DIAMETER MEASURING TAPE	1

NO.	DESCRIPTION	QTY
16	ZIP LOCK COVER 100 X 75 MM	1
17	MST MOUNTING CLAMP LEFT	2
18	MST MOUNTING CLAMP RIGHT	2
19	MST DROP CABLE PLUG KEY	1
20	IS 7485 - M3 x 6 -CSK	4
21	VELCRO TAPE 150 X 10 MM	1
22	SILICONE LUBRICANT 5G PACKET	1
23	NITRILE GLOVE	1
24	4X 30 SS PHILLIPS FLAT HEAD SELF TAPING SCREW	2
25	5x 30 WALL PLUG	2
26	ZIP LOCK COVER 70 X 55 MM	2
27	DIA 2.3 X 45 MM SPLICE SLEEVE	6
28	FLEXIBLE CLEAR TUBE DIA 5 X 350 MM	1
29	90X60MM PRODCUT LABEL	1
30	HOSE CLAMP DIA 30MM X 8MM WIDTH	2

Sapphire Micro Drop Terminal
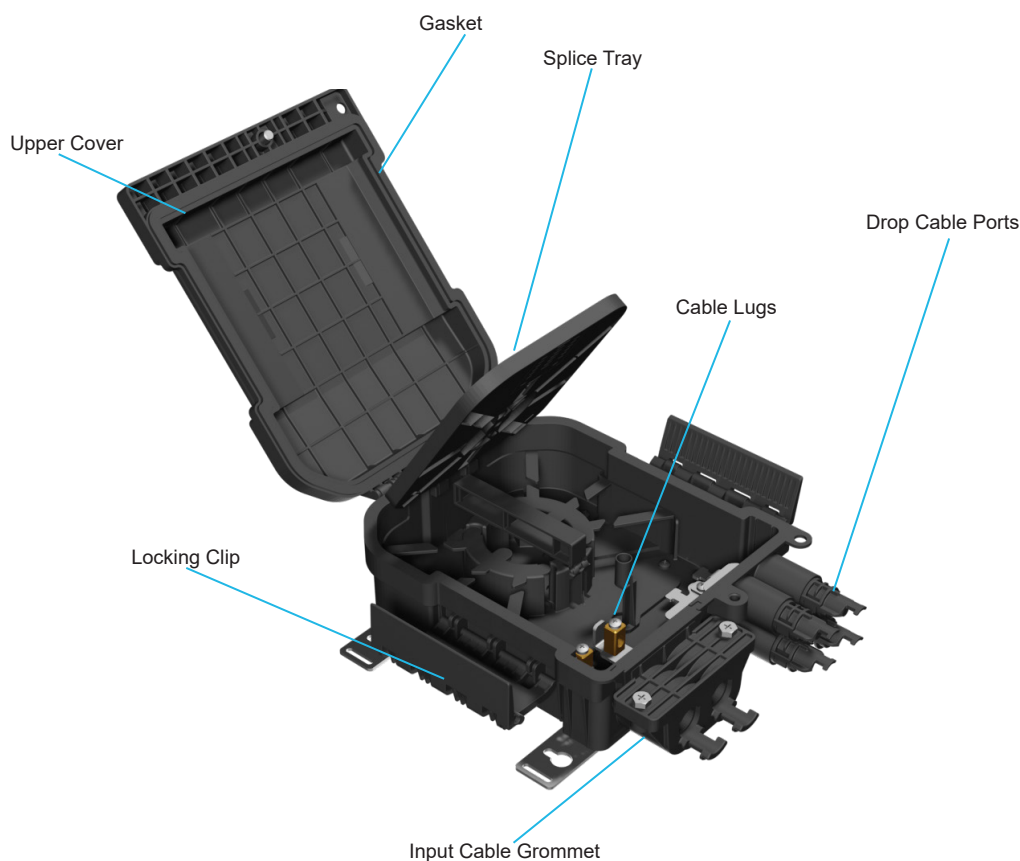## Installation Instruction

Product Description

The Sapphire™ Micro Drop Terminal (MDT) is an outdoor fiber enclosure, designed especially for last-mile FTTH connections. Smaller than any other product with similar functionality and capacity, the MDT supports a wide range of applications, including pass-through, direct splicing, pre-terminated, tapping, splitting and other custom options.

Designed to exceed IP-67 requirements, the Sapphire MDT provides reliable protection for the fiber connections inside. Its fully mechanical sealing allows quick and easy servicing and re-entry for adding new subscribers.

Feature rich and modular, the MDT comes with everything that is needed for installation – cable grommets, storage basket for uncut tubes, splice tray for six splices and one mini-PLC splitter, and bulkhead bracket for two SC Duplex or LC Quad adapters.
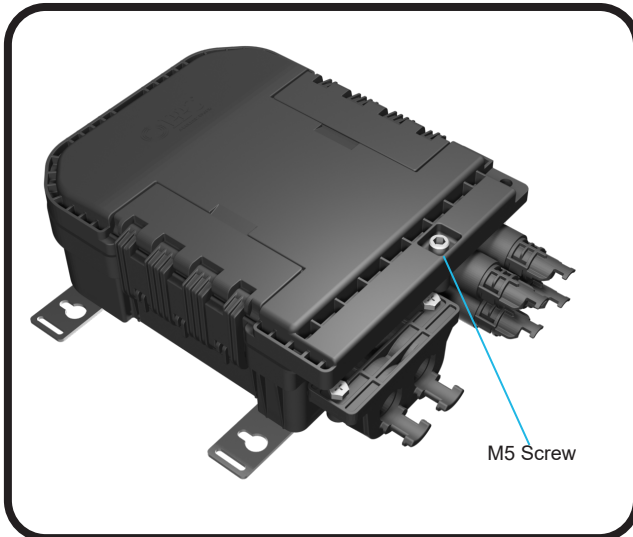
Gasket

Splice Tray

Upper Cover

Drop Cable Ports

Cable Lugs

Locking Clip

Input Cable Grommet

Designed for:
3mm, 6mm, 8-13mm Input Cable.
4.5x8mm Flat Drop Cable.
2-4mm Round Drop Cable.
4-6mm Round Drop Cable.
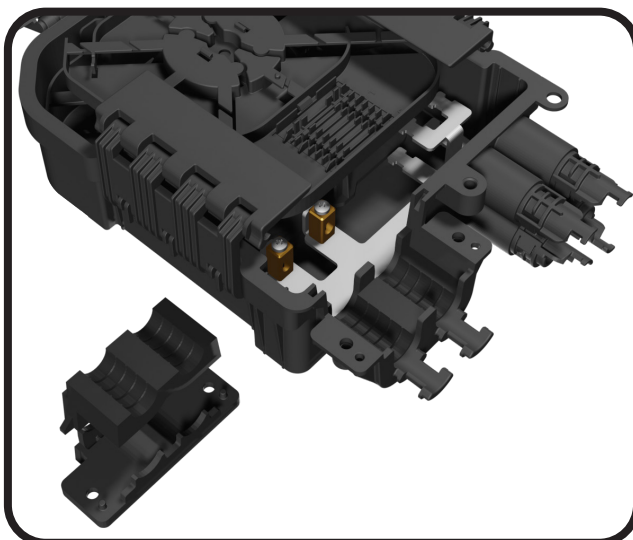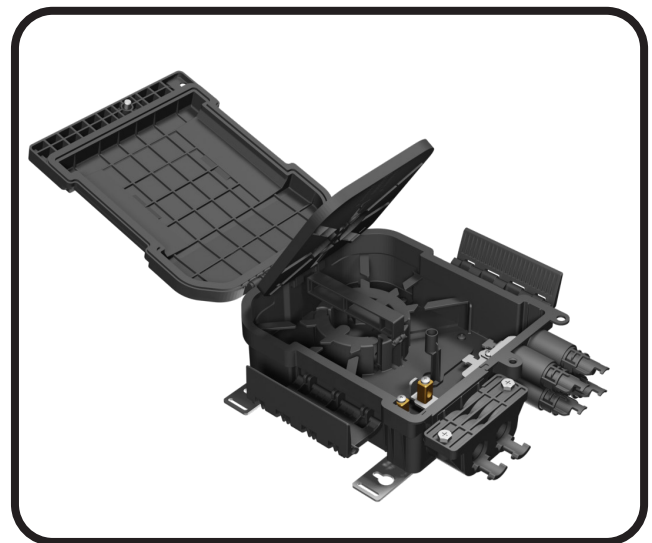
Sapphire Micro Drop Terminal
Installation Instruction

Prepare for Installation

M5 Screw

1.1. Remove the unit from the carton and locate all accessories.

1.2. Open the cover by releasing the locking clips and unscrewing the captive M5 screw with the large Allen Key Tool.

1.3. Loosen the screws in the input cable clamp with a Nut Driver or Phillips Screw Driver. Remove the input cable clamp from the base

1.4. Remove the input cable grommets from the input cable clamp and base. Place them in a clean area.

Prepare the Input Cable for Pass-Through

1.00 m
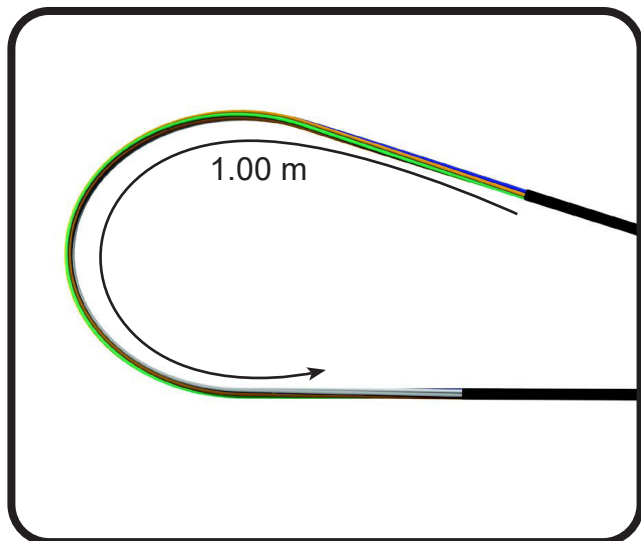
Note: Skip to step 2.4 if not installing a Pass-Through Input Cable.

2.1. Mark the length on the cable jacket for the pass-through/mid-span cable jacket removal (maximum length 39 inches or 1 meter).

2.2. Open the cable jacket using the appropriate cable slitting tool (not provided).

2.3. Cut the strength member(s) to remove the excess material. Trim the exposed length to about 2 inches or 50mm.

NOTE: the #3 and the #6 Grommet Plugs are sealed until punctured for cable access.
DO NOT PUNCTURE if using as Input Plugs.

a. for 3mm Miniflex - use #3 Small Input Grommet Plugs with #8 Small Input Grommets.

b. for 6mm Miniflex - use #6 Large Input Grommet Plug with Large Input Grommets.
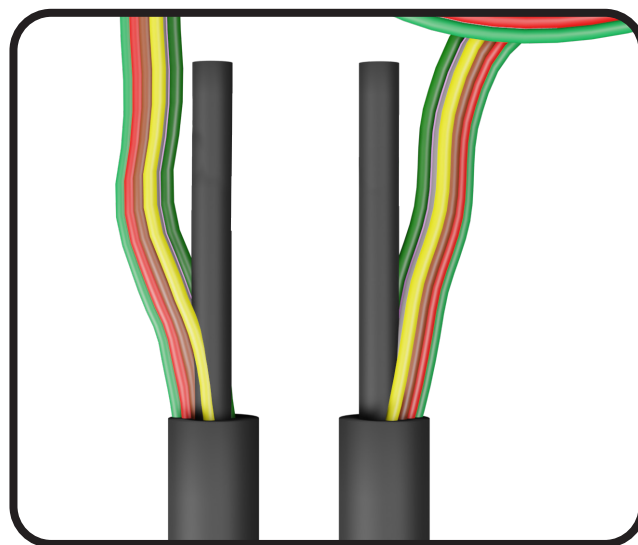
2.4.

a. Measure the 8-13mm input cable diameter with the measuring tape gauge. Select the proper size Input Grommet Set (#8 Small Input Grommet Set for cable diameter up to 10mm; Large Input Grommet Set for cable diameter up to 13mm).

b. Wrap vinyl tape (not provided) around the input cable jacket to create or maintain a 0.38-inch (9.6mm) cable diameter for the Small Input Grommet Set or 0.50-inch (12.5mm) cable diameter for the Large Input Grommet Set.

c. Use the measuring tape gauge to check and verify the final cable diameter is within the acceptable range for the appropriate Input Grommet Set.

10 mm

50 mm

50 mm

Ø12
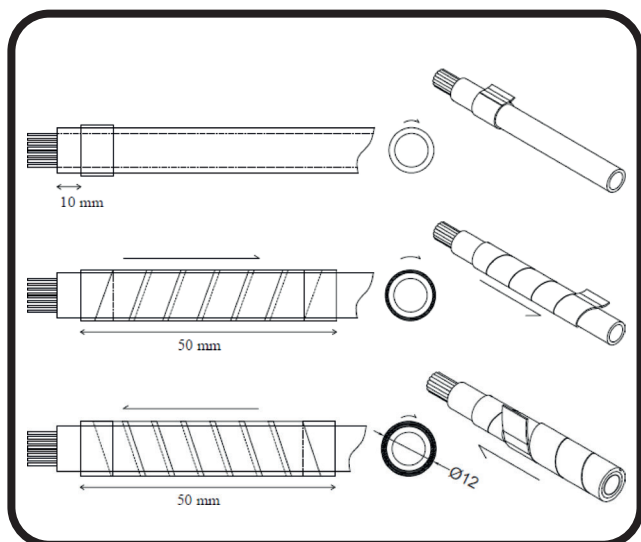
Sapphire Micro Drop Terminal
## Installation Instruction

Prepare the Gasket and Grommets
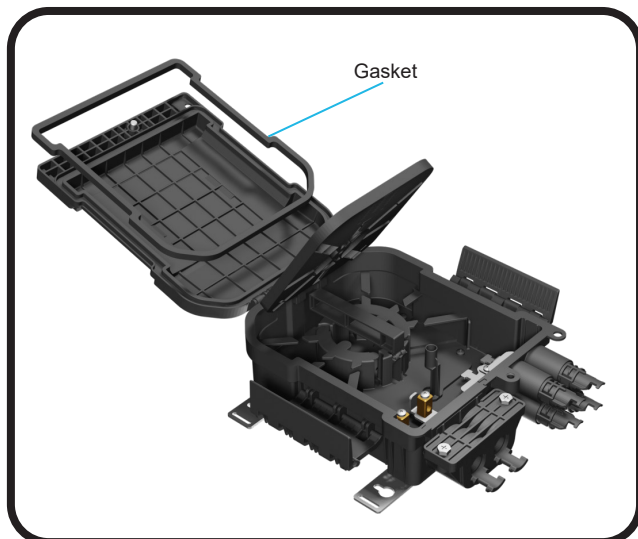
Gasket

3.1. Remove the gasket from the cover and place it in a clean area. Locate the input cable grommets

3.2. Wear eye protection during this step. DO NOT TOUCH EYES after contact with the silicone adhesive.

3.3. Wear a protective rubber glove on the hand of which you will use when applying the silicone adhesive.

3.4. Ensure the gasket and grommets are clean and free of debris before and after applying the silicone lubricant.

3.5. Apply a thin coating of silicone lubricant to all surfaces of the gasket. Ensure all sides are coated with silicone lubricant before installation.
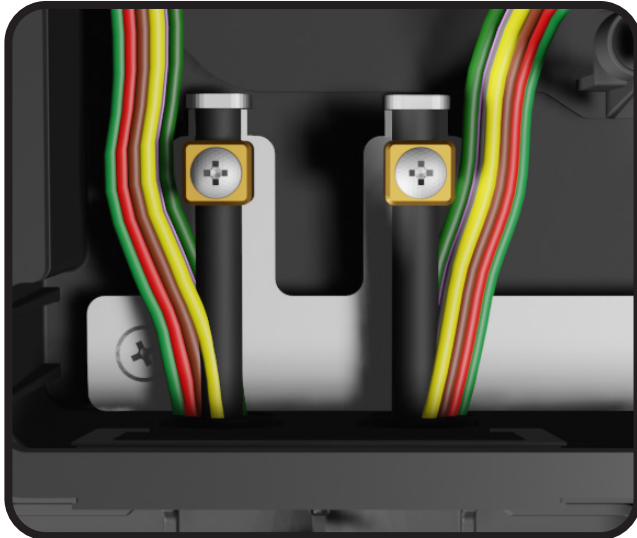
3.6. Place the gasket back into the cover.
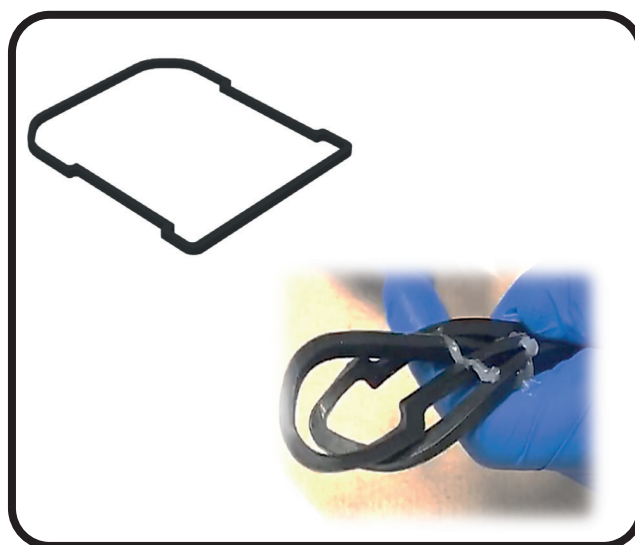
3.7. Apply a thin coating of silicone lubricant to all surfaces of the grommets (and plugs). Ensure all sides are coated with silicone lubricant before installation

3.8. Install the top half of the grommet onto the input cable clamp. Place the bottom half of the grommet into the base.

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Sapphire Micro Drop Terminal
Installation Instruction

Install the Input Cable

4.1. Place both halves of the input cable into the bottom grommet.

4.2. Partially-loosen the screws in both cable lugs. Insert the strength members all the way into the cable lugs until they contact the stopper plate. Trim the excess length of the strength members and tighten the screws to ensure proper fit and function.

4.3. Place the input cable clamp onto the input cables.

4.4. Tighten the screws in the input cable clamp with a Nut Driver or Phillips Screw Driver to ensure proper function and seal.

> NOTE: Build-up the input cable diameter with tape as necessary to secure the input cable to the base.

4.5. Secure small diameter cable stubs to the base (below the input cable grommet) with 8-inch (200mm) cable ties. Use hose clamps to secure 10-13mm cable.
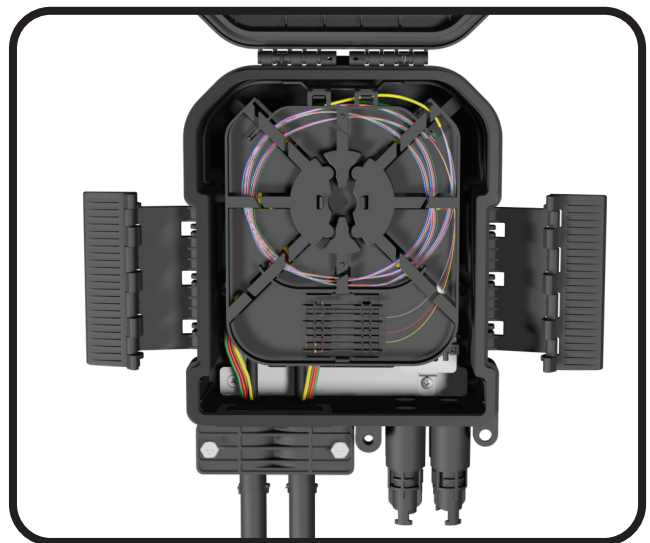
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Sapphire Micro Drop Terminal
Installation Instruction

Prepare the Buffer Tubes
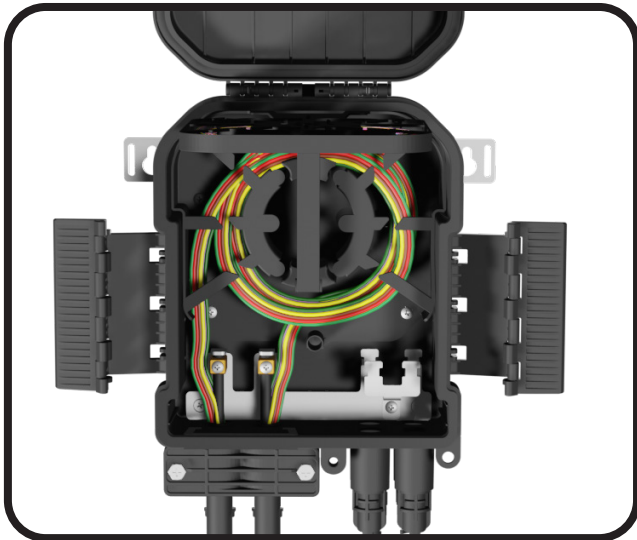
5.1. Swing open the splice tray.

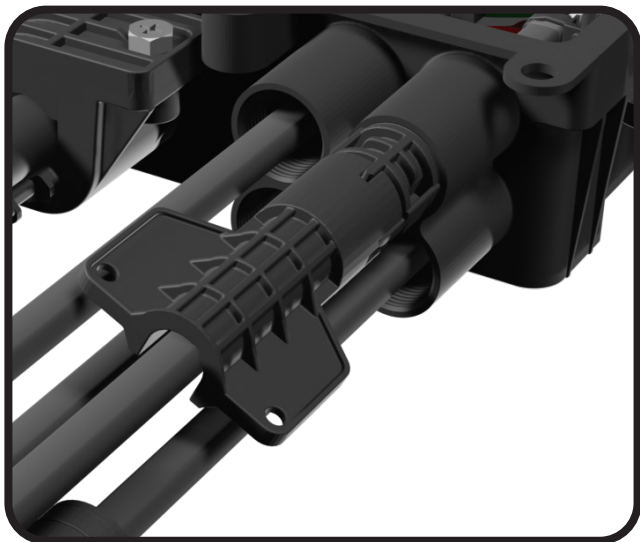5.2. Separate and cut the buffer tube of the fibers for splicing.

5.3. Coil the unused buffer tubes around the fiber management area in the base. Lower the splice tray.

5.4. Remove the clear cover from the splice tray and place in a clean area. Route and secure the unit buffer tube to the splice tray with a 4-inch (100mm) cable tie.

5.5. Route the input fibers into the splice tray.

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# Sapphire Micro Drop Terminal
## Installation Instruction

Prepare the Output Drop Cables

NOTE: round drop port grommets are sealed until punctured for cable access.

6.4. Puncture the round drop port grommet membrane. Insert the fiber + loose tube + drop cable jacket into the drop port grommet. Optional: remove the drop cable grommet from the base and install onto the drop cable jacket.

6.5. Fully insert the drop cable and the port grommet into the base. Locate the drop cable jacket on top of the cable clamp bracket inside the terminal.
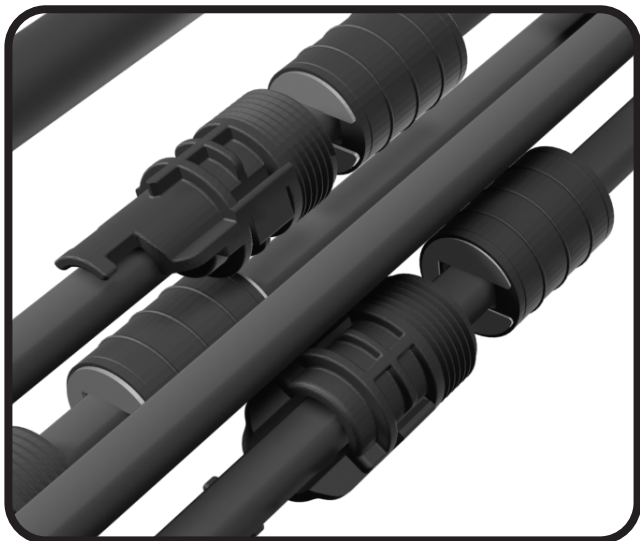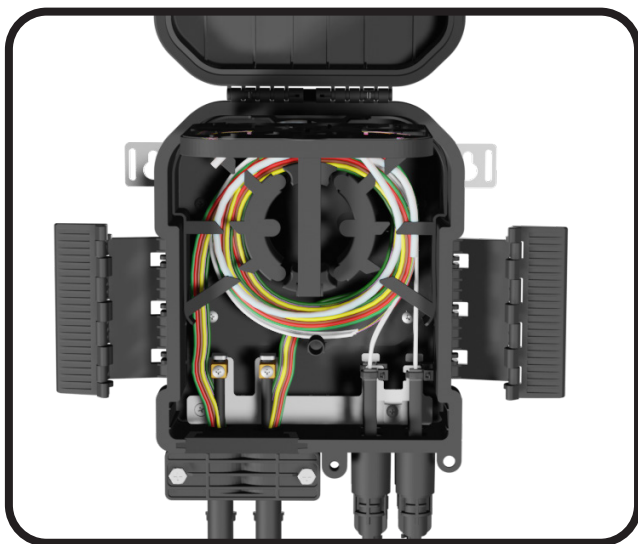

6.1. Cut the cable jacket and loose tube of the output drop cable(s) to a length required for splicing. Allow an excess length of up to 30 inches or 0.75 meters. Trim the strength member to be flush with the end of the cable jacket.

6.2. Use the lower ports first. Unscrew the drop cable plug using the drop cable key tool. If using flat drop cable, remove the blanking plug from the flat drop port grommet and recycle it.

6.3. Place the drop cable plug onto the drop cable jacket, with the threads toward the cut cable end. Optional: split the drop cable plug into two halves by unlocking the snap lock on one side. Snap the drop cable plug halves together around the drop cable jacket, with the threads toward the cut cable end.
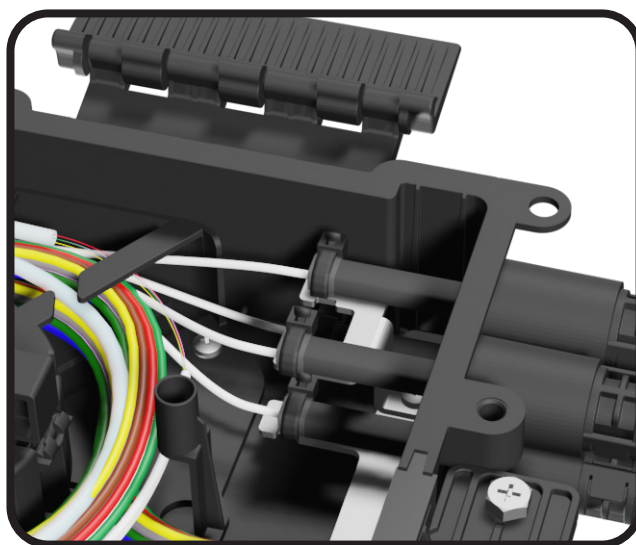
6.6. Cut the sponge tape to the required length. Remove the adhesive backing. Apply the sponge tape onto the drop cable jacket, directly above the cable clamp bracket.

6.7. Secure the drop cable jacket to the cable clamp bracket inside the terminal with a 6-inch (150mm) cable tie.

6.8. Thread the drop cable plug into the drop port and tighten with the drop cable key tool until it's hand snug and tight.

6.9. Secure the drop cable jacket to the drop cable plug outside the terminal with a 4-inch (100mm) cable tie

6.10. Repeat the above procedure for the other output drop cables.

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Sapphire Micro Drop Terminal
Installation Instruction

Prepare the Splice
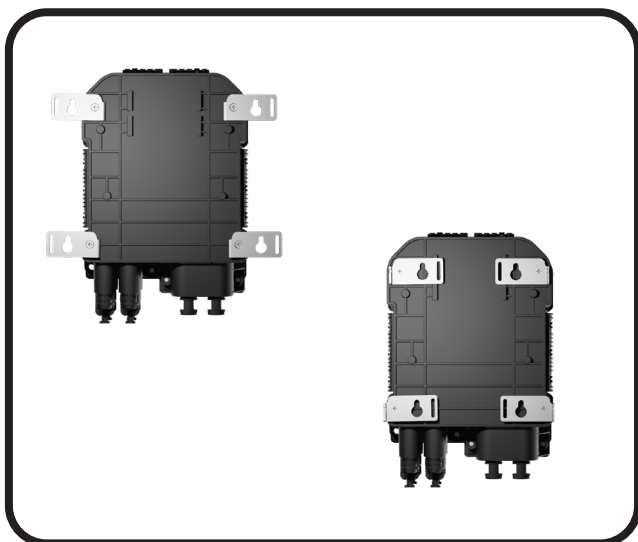

7.1. Route the loose tube(s) around the fiber management area in the base.

7.2. Insert the output drop fibers for splicing into the clear flexible unit tube.

7.3. Route and secure the clear flexible unit tube to the splice tray with a 4-inch (100mm) cable tie.

7.4. Prepare and complete the splice for each fiber. Secure the splice into a splice sleeve holder in the splice tray.

7.5. Install the clear cover onto the Splice Tray.

7.6. Close the cover. Tighten the M5 captive screw with the large Allen Key Tool to ensure proper function and seal.
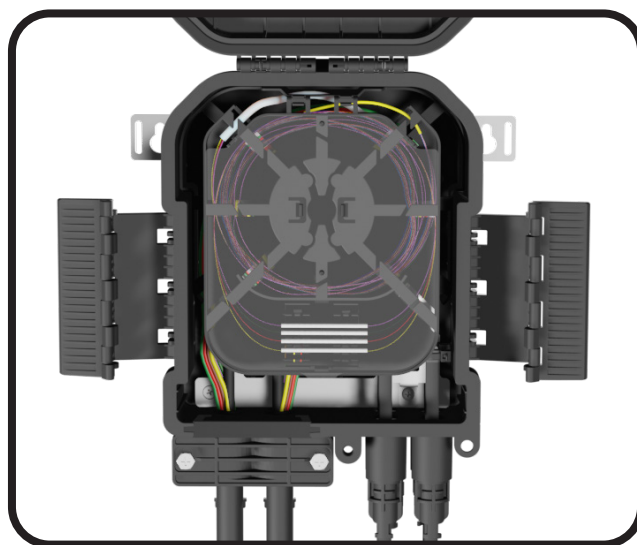
7.7. Engage the latches with the cover to ensure the latch fingers are correctly placed onto the cover. Snap close and secure the latches on the cover.

7.8. Optional: Attach the wall mounting brackets onto the back surface of the base (left or right side with the key hole upright – large diameter circle on the bottom side).

7.9. Optional: Remove the plastic wall mounting bracket by pressing the finger latch away from the base and sliding the bracket down. This bracket can be used as a quick-release indoor surface mounting option.

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