

Charles Fiber Sealed Drop Closure FSDC-G Series General Description and Installation

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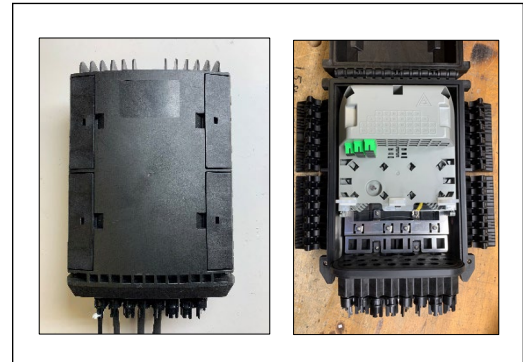


Figure 1 FSDC-G

1. GENERAL INTRODUCTION

1.1 Document Purpose

This document provides installation instructions for the Charles Fiber Sealed Drop Closure, New Generation Design (FSDC-G). The FSDC-G is shown in Figure 1.

-NOTE-
Hereafter the Charles Fiber Sealed Drop Closure, New Generation Series will be referred to as the “FSDC-G” or “closure.”

1.2 Product Purpose

The FSDC-G is a sealed splice closure used for distributing fiber to subscribers in Fiber to the Home networks. It can also serve as a hub or splitter closure within a distributed split architecture.

1.3 Product Mounting and Location

The FSDC-G is a butt-spliced, fully sealed (IP68 rated) closure that is quite versatile. It can be strand mounted, pole mounted, wall mounted, pedestal mounted, or deployed below grade in a hand-hole or vault.

2. PRODUCT DESCRIPTION

The FSDC-G is a drop closure that is most often used in the last portion of the outside plant network to distribute fiber to subscribers. The unit has a main dual fiber feeder port, two fiber branch ports and sixteen drop ports on the front panel. The large fiber basket can store one 144-fiber cable. The internal SC adapter bulkhead and the two 24-fiber splice trays are hinged over the fiber basket, protecting the splicing section and keeping the splice and drop sections separate. The unit can be equipped with 1x4, 1x8, or 1x16 PLC splitters.

The FSDC-G dimensions are shown in Figure 2. The FSDC-G ships with several tools and accessories, shown in Figure 3.

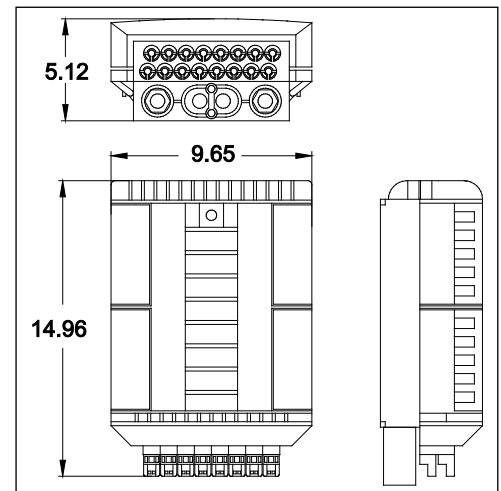


Figure 2 FSDC-G Dimensions

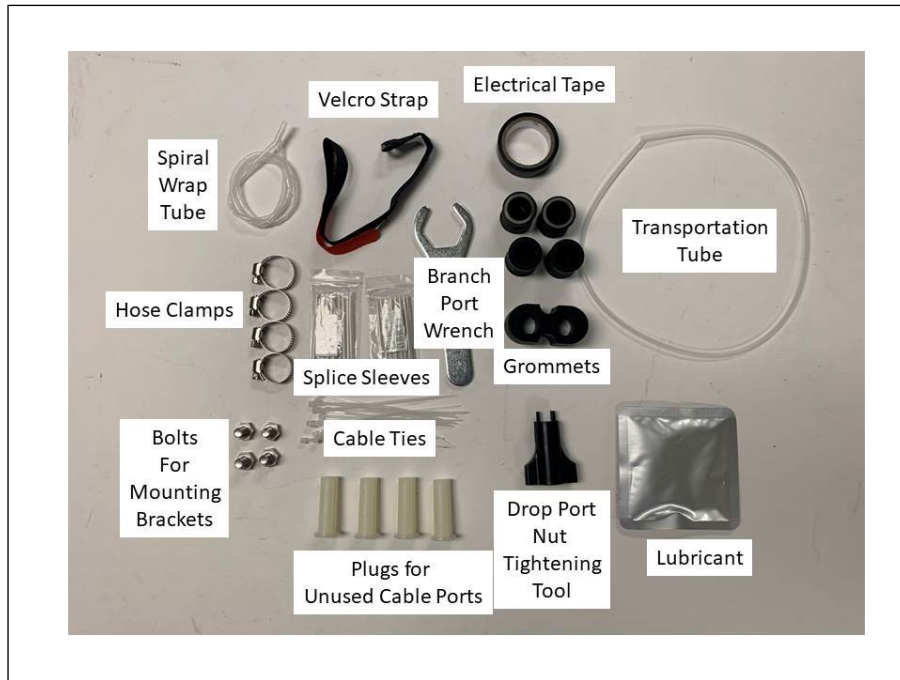


Figure 3 Tools and Accessories

3. SAFETY PRECAUTIONS



— WARNING —

Risk of serious eye damage! Never look into the end of a fiber optic line or use a magnifier in the presence of laser light or radiation. Exercise caution when installing, testing or maintaining live circuits. If eyes are exposed to laser light or radiation occurs, immediately seek treatment by a medical professional.



— WARNING —

Cable and fiber cleaning solvents may contain hazardous or harmful materials. Maintain good housekeeping practices and refer to the SDS when working with cleaning solvents or similar products.

Shards and cleaved glass fibers are very sharp and can easily pierce the skin. Use tweezers to pick up cut glass fibers and place them in a specifically designated container. Do not consume any food products near the cable installation site.

Corrugated metal or armor in feed cables is very sharp when cut or exposed. Exercise extreme caution to prevent personal injury. Use protective work gloves when handling armored cable.



— CAUTION —

Perform all bonding and grounding prior to making any electrical and communications connections.


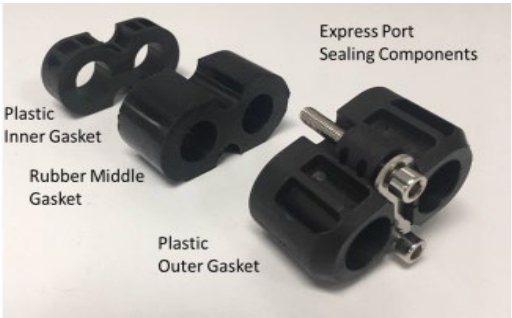
Be careful not to damage any buried cables or service wires while digging either to expose cables or to prepare a hole or trench, or while driving stakes. Buffer tubes and fibers are sensitive to excessive bending, pulling, and crushing forces. To avoid kinking of buffer tubes and fiber damage or breakage, exercise great care when working with fiber, and do not exceed or violate minimum bend radius requirements for fibers, buffer tubes, and cables.

4. INSTALLATION

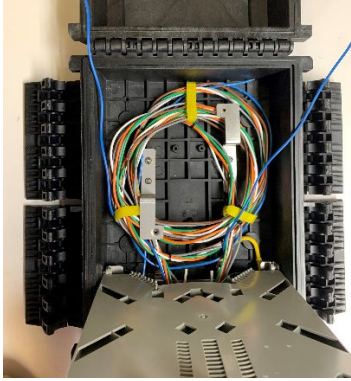
Gather the following equipment to perform the FSDC-G installation.

- Philips and flathead screwdrivers
- 5 mm (or 3/16") Allen wrench (ball-ended ,T-handle is recommended)
- Measuring tape
- Hose clamps
- Cable marking tool
- Assorted cable ties
- Bag of accessories (provided with the FSDC-G)
- Knife or snips (to cut grommets)
- Buffer tube stripper tool (score/cut buffer tubes)
- Fiber optic stripper tool
- Fiber splicing tools and equipment
- Safety glasses and work gloves

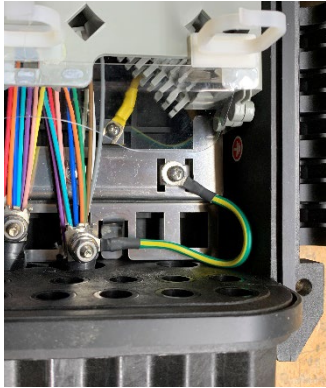
4.1 Route Express Cable Loop into Closure

Step Number	Instruction	
1	<p>Use a flathead screwdriver to pry open the four hinged latches that hold the FSDC-G closed.</p> <p>Note: The accessory bag includes a closure cover stop that can be placed in the door hinge to hold the door securely open.</p>	
2	<p>Locate the express port (oval port) on the bottom of the FSDC-G. Use a 5 mm (or 3/16") Allen wrench to remove the sealing components.</p> <p>Note: The express port can accommodate cable with OD from 10 to 17.5 mm (0.394 to 0.689 inches).</p>	 
3	<p>Slit the rubber middle gasket apart on the outsides.</p> <p>Separate the pieces of the plastic inner gasket.</p> <p>Set these gaskets aside.</p>	



<p>4</p>	<p>Set aside the screws from the plastic outer gasket.</p> <p>Remove the metal compression plate that seals the express loop plug in the port.</p> <p>Disassemble the plastic outer gasket and set the components aside.</p>	
<p>5</p>	<p>Locate the attachment plate in the FSDC-G closure.</p> <p>There are four brackets for securing a strength member and six positions for attaching a hose clamp. The brackets and slots on the far left and far right are used for branch cables. The two in the middle are for the express loop feed cables.</p>	
<p>6</p>	<p>Pull a 6.5 to 7.5 foot length of unsheathed cable into the express loop port.</p>	
<p>7</p>	<p>Guide the strength members on each side of the cable loop under the strength member clips, using a Phillips screwdriver to tighten the clips in place. If necessary, peel back the black coating on the strength members to fit under the clips. Use a hose clamp on each cable to secure in place (clamps included in the accessory bag).</p>	
<p>8</p>	<p>Take the plastic inner gasket and connect the pieces around the sheathed cables. Push this grommet into the express loop port.</p> <p>Fit the rubber middle gasket around the cables. Push this gasket into the express loop port.</p>	
<p>9</p>	<p>Reassemble the plastic outer gasket around the cables. Put the metal compression plate back in place and retrieve the express port screws. Use the 5 mm (or 3/16") Allen wrench to secure the express port sealing components together in the express loop port. To ensure a good seal, tighten by hand until the screws will not tighten further.</p>	

10	Separate the buffer tube that will be used for splicing. Coil the buffer tubes in the fiber basket, located underneath the hinged adapter bulkhead and splice trays.	
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4.2 Use With Armored Cable

Step Number	Instruction	
1	If grounding is needed (armored cable), then install a ground strap between the bond clamp on the armored cable and the attachment point on an unused cable attachment bracket.	

4.3 Branch Cable Installation and Sealing Unused Ports

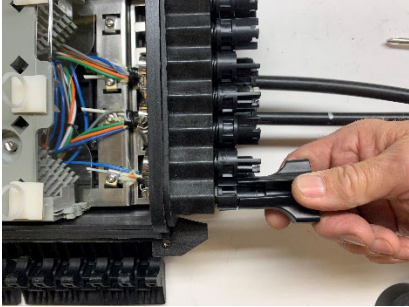

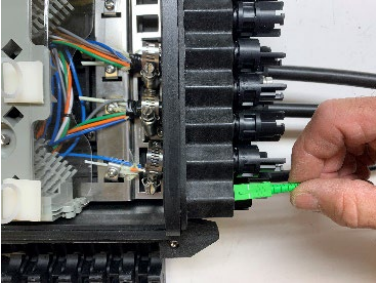
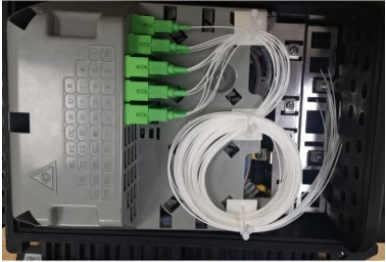
Step Number	Instruction	
1	Use the branch port wrench from the bag of tools to open the branch port nut.	
2	<p>Select a grommet of the proper size for the branch cable (either the grommet from the branch port or another from the accessory bag). Insert the branch cable through the nut and through the grommet. Push branch cable into the FSDC-G until the unsheathed section of cable is inside the splice case. Note: if the grommet is not snug on the cable, add sealing tape around the cable sheathing.</p> <p>Push the grommet into the branch cable port. Use the branch port wrench to fully tighten the branch port nut into position.</p>	

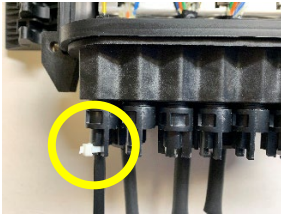
<p>3</p>	<p>Guide the strength member under the clamps, and then use a screwdriver or nut driver to tighten the clamps in place.</p> <p>Use the hose clamps included in the accessory bag to secure the cables in place.</p>	
<p>4</p>	<p>If a branch port will not have a cable, it must be sealed with a plug (included with accessory kit). Push the plug through the grommet, then insert the grommet into the port and fully tighten with the port wrench to ensure the grommet is compressed and the cable sealed.</p>	

4.4 Splicing in the Trays

<p>1</p>	<p>Route the branch buffer tube into one of the splicing trays.</p> <p>Mark the points on the buffer tube where it enters the tray.</p>	
<p>2</p>	<p>Use a buffer tube slitting tool to remove the tubing and expose the fibers.</p> <p>Route these fibers inside the splicing tray.</p>	
<p>3</p>	<p>After performing splicing operations, use splice sleeves (either the ones included, or customer supplied) to protect spliced fibers.</p>	


4.5 Route Drop Cable into Closure

Step Number	Instruction	
1	<p>Locate the drop cable ports on the front of the closure. The FSDC-G tool bag includes a drop port nut tool specially fit for removing and tightening the nuts that seal these ports.</p> <p>For those drop ports that will be used, remove the nut, and set it aside.</p> <p>Note: all drop ports have a thin membrane inside that helps to seal from environmental intrusion. If a drop port will not be used in the installation, then DO NOT PIERCE this membrane.</p>	
2	<p>The FSDC-G includes two sizes of drop port grommets: medium (for 4.5-6 mm cable) and large (for 7mm round or flat drop cable, nominal 8 x 4.5mm for flat drop cable).</p> <p>Standard units come configured with either 8 large and 8 medium drop ports or 16 medium/large drop ports. All have two branch ports.</p> <p>If other grommets are needed, please contact Charles Industries for grommet retrofit kits or additional configurations.</p> <p>If using un-connectorized drop cable, then run the cable through the grommet.</p> <p>If using pre-connectorized drop cable, then cut a slit through the side of the grommet and insert the cable into the grommet.</p>	
3	<p>Route the drop cable through the drop cable port into the FSDC-G.</p> <p>If using un-connectorized cable, terminate a connector onto the end of the cable.</p> <p>Plug the connector into the drop side adapter that corresponds to the appropriate feed fiber connection.</p> <p>Push the grommet into the drop cable port.</p> <p>Reattach the drop cable port nut. Use the tightening tool to tighten the nut just until snug. Overtightening may push the nut past its sealing point and possibly damage the threads on the nut.</p> <p>Manage drop cable fiber slack using the cable clips.</p> <p>Tip: When installation is complete, use Velcro or some other fastener to secure the nut tightening tool inside the closure for future use.</p>	 

4	Secure the drop cable with a cable tie to the drop port nut.	
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4.6 Closing the FSDC-G

When securing the four hinged latches on the cover, it is important to use care to avoid pinching the skin.

	<p>USE CAUTION WHEN CLOSING THE HINGED LATCHES.</p>
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1. To close the latch, place a hand on the exterior side of the latch. Ensure that the hand is entirely clear of the interior side (Figure 4).
2. Push the latch toward the center of the FSDC-G until the latch snaps into place (Figure 5).
3. When all latches are closed, use an Allen wrench to tighten the securing screws in the upper right and left corners of the FSDC-G. This tightens the latches to ensure a proper seal (Figure 6).



Figure 4 Closing the Hinged Latch



Figure 5 Latch After Closing

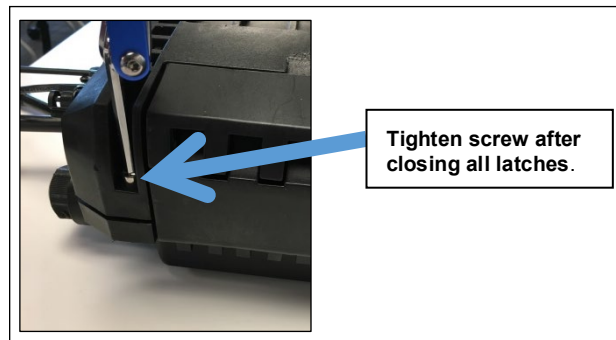


Figure 6 Tighten Screws

4.7 Mounting the Closure

The FSDC-G has bolts on the back for attaching mounting brackets for either aerial strand or pole mounting. The mounting bolts are shown in Figure 7.

4.7.1 Aerial Mounting

The FSDC-G can be mounted on an aerial strand using the mounting kit 97-FSDC-GAMKT, which includes two tap brackets.

4. Attach the tap brackets using the included mounting bolts on the back of the FSDC-G (Figure 8).
5. Loosen the screws on the tap brackets so that the clamps can be hung over the strand.
6. Tighten the clamps around the strand to suspend the FSDC-G (Figure 9). The tap brackets can accommodate strands of 1/4" to 3/8" diameter.



Figure 7
Mounting Points for Brackets

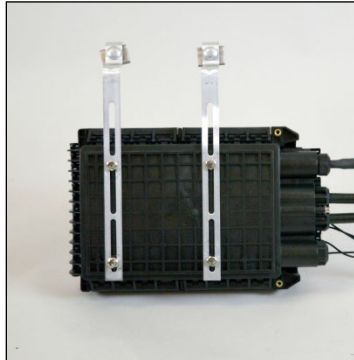


Figure 8
FSDC-G with Strand Mounting Brackets

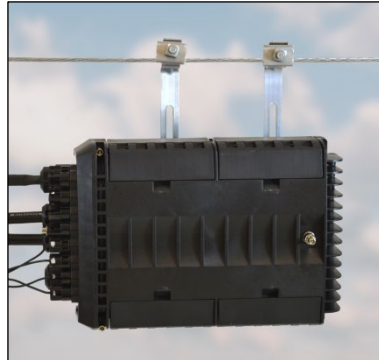


Figure 9
FSDC-G Aerial Strand Mounting

4.7.2 Pole Mounting with Bands

To mount the FSDC-G on a pole with bands, order the pole mounting kit 97-FSDC-GPLKTA, which includes two mounting brackets and two mounting bands.

1. Attach the pole mounting brackets using the included mounting bolts on the back of the FSDC-G (Figure 10).
2. Route the two mounting bands through the brackets and around the pole and tighten (Figure 11).

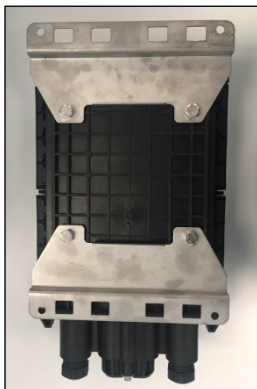


Figure 10 Pole Mounting Brackets



Figure 11 Pole Mounted FSDC-G

4.7.3 Pole Mounting with Lag Bolts

To mount the FSDC-G on a pole with lag bolts, order the pole mounting kit 97-FSDC-GPLKTB, which includes two mounting brackets.

1. Attach the pole mounting brackets using the included mounting bolts on the back of the FSDC-G.
2. Position the FSDC-G where it will be mounted and mark the lag bolt positions on the pole for drilling.
3. Drill holes for lag bolts.
4. Use customer supplied lag bolts and washers to secure the FSDC-G to the pole.

4.7.4 Wall Mounting

The FSDC-G can be wall mounted using the pole mounting bracket kits. To mount horizontally, use kit 97-FSDC-GPLKTA (Figure 12). To mount vertically, use kit 97-FSDC-GPLKTB (Figure 13).

The installer must supply corrosion resistant expansion screws or anchors appropriate for the wall type (e.g., concrete, brick, wood).

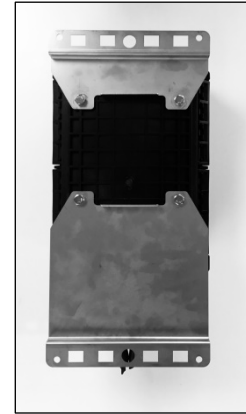


Figure 14
Brackets for Pole Mounting

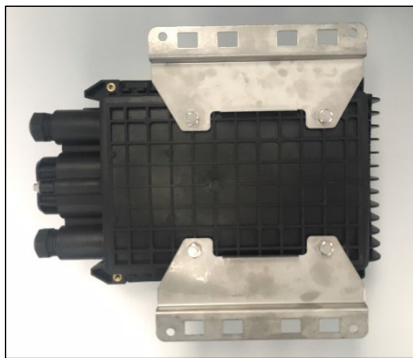


Figure 13
Brackets for Horizontal Mounting



Figure 14
Brackets for Vertical Mounting

5. TECHNICAL ASSISTANCE AND REPAIR SERVICE

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

847-806-8500

techserv@charlesindustries.com (email)

<http://www.charlesindustries.com/techserv.htm>

6. MODEL NUMBER INFORMATION

FSDC-G Closure Configurations				
Part Number	Adapters	Drop Port Grommets	Splitters or Pigtails	Aerial Brackets
FSDCG02S8LMPKT	2 SC/APC	8 Large, 8 Medium	2pc pigtail set	2 pc
FSDCG04S8LMPKT	4 SC/APC	8 Large, 8 Medium	4 pc pigtail set	2 pc
FSDCG08S8LMPKT	8 SC/APC	8 Large, 8 Medium	8 pc pigtail set	2 pc
FSDCG08S8LM104A	8 SC/APC	8 Large, 8 Medium	1x4 PLC splitter	none
FSDCG08S8LM108A	8 SC/APC	8 Large, 8 Medium	1x8 PLC splitter	none
FSDCG16S16L116A	16 SC/APC	16 Large	1x16 PLC splitter	none
FSDCG16S16LPG	16 SC/APC	16 Large	2 sets 8 pc pigtail set	none
FSDCG16S16MPG	16 SC/APC	16 Medium	2 sets 8 pc pigtail set	none
Optional Accessories				
Part Number	Description			
97-FSDCAMKT	FSDC aerial strand mounting kit			
97-FSDCPLKTA	FSDC pole mount kit with two brackets and pole bands. Can also be used for wall mounting. Can be used for ADSS cable mounting with SS cable ties			
97-FSDCPLKTB	FSDC pole mount kit with extended bottom bracket for lag bolt mounting			
B04SS07-21012BK	B04 series vertical pedestal 12x12x28" with universal backboard for mounting FSDC			
B06SS07-21012BK	B06 series vertical pedestal 12x12x30" with universal backboard for mounting FSDC			