-Fiber Sealed Drop Closure
FSDCS4 Series
General Description and Installation Guide

Figure 1 FSDCS4

1. GENERAL INTRODUCTION

1.1 Document Purpose

This document provides installation instructions for the Charles Fiber Sealed Drop Closure S Series 4 ports. (FDCS4P) A unit is shown in Figure 1.

1.2 Product Purpose

The FSDCS4 is a small terminal splice closure used in Fiber to the Home networks to distribute network connections to the premises.

1.3 Product Mounting and Location

The FSDCS4 is a sealed unit that can be used below grade in a hand-hole or vault as well as being mounted in a pedestal. It can also be pole, wall, or aerial mounted with the appropriate bracket kit.

2. PRODUCT DESCRIPTION

2.1 Product Overview

FSDCS4 is a fiber splice closure that has 3 cable ports and 4 drop ports. There is an internal bulkhead with 4 SC/APC adapters to plug in SC/APC drop cables. An extra slot is included that can hold an additional adapter. This can be used for the input of a pre-connectorized splitter or can be used as a test port. There is an optional configuration with 4 duplex SC/APC adapters that allows the unit to accommodate 8 drop cables in a stacked configuration for drop cables that are 5mm or smaller.

The closure has been designed to be used with fiber micro cable or flat cable in the feeder cable ports. Cables from 6 to 14mm OD can be accommodated. The unit comes with a ground stud and self-connecting ground clamps for use with armored cables.

2.2 Dimensions

Product outline dimensions are shown in the below figure

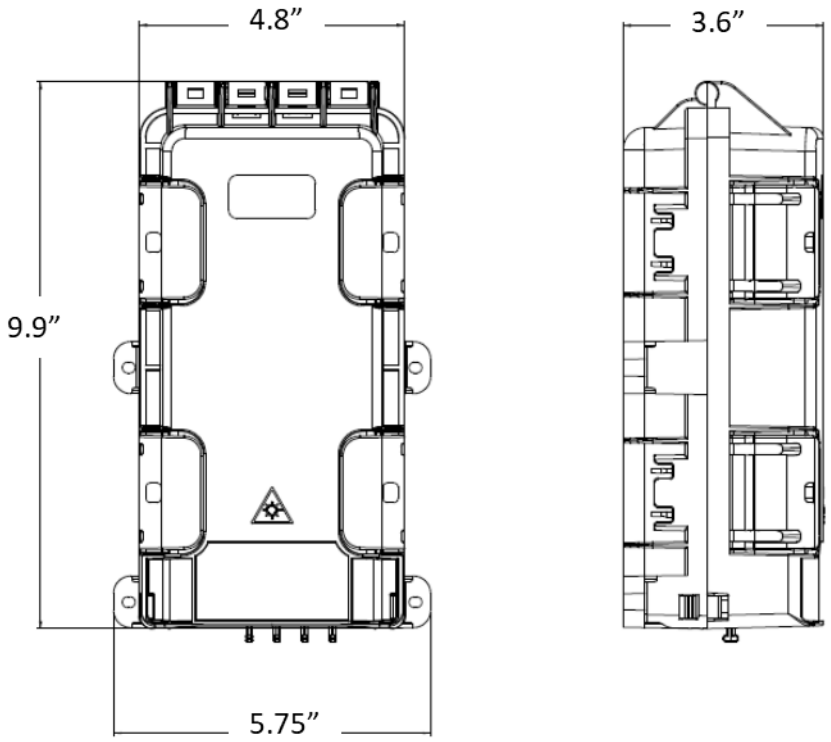
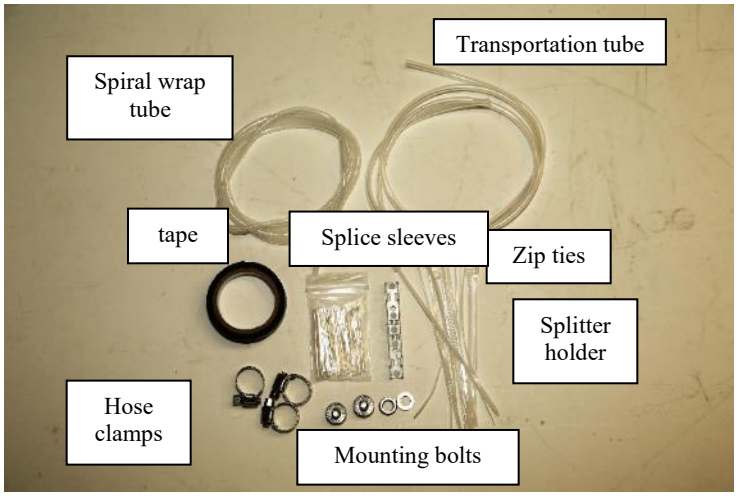


Figure 2 Outline Dimensions

2.3 Included Accessories

Accessories that come with the closure as shown in the picture below.



3. SAFETY PRECAUTIONS

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.

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.

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

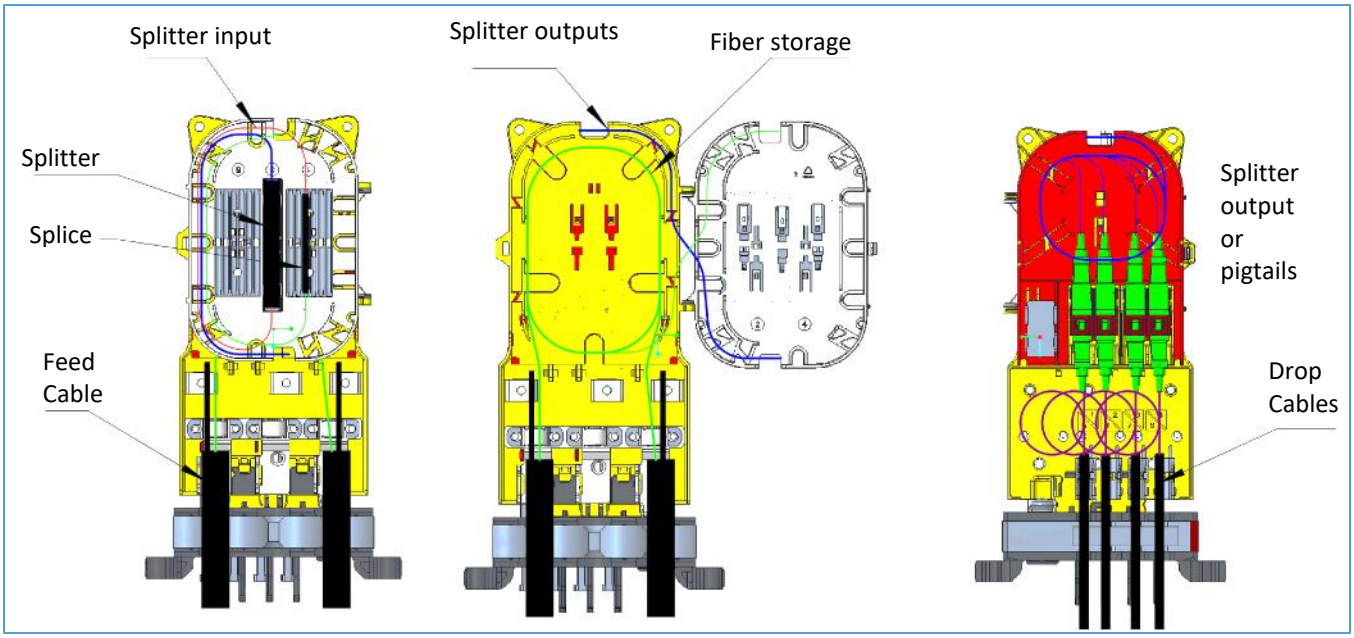
Be careful not to damage any buried cables or service wires while digging either to expose cables or to prepare a hole or trench, or while driving stakes. Buffer tubes and fibers are sensitive to excessive bending, pulling, and crushing forces. To avoid kinking of buffer tubes and fiber damage or breakage,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

4. Fiber Cable installation

The following tools are recommended for cable installation

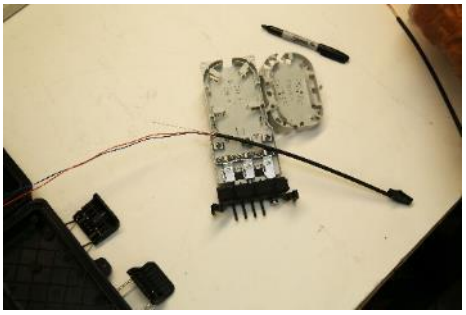
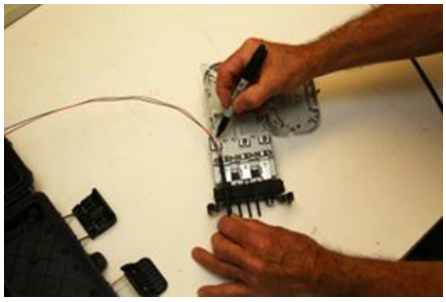
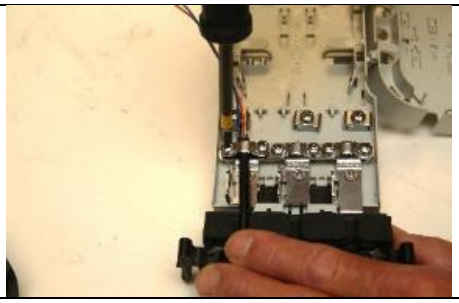
- Philips and flathead screwdrivers
- Measuring tape
- Cable marking tool
- Accessories kit (included with closure)
- Knife or snips
- Buffer tube stripper tool
- Fiber optic stripper tool
- Fiber splicing tools and equipment
- Safety glasses and work gloves

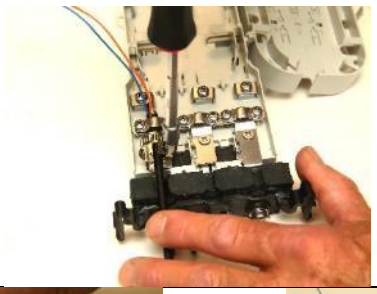
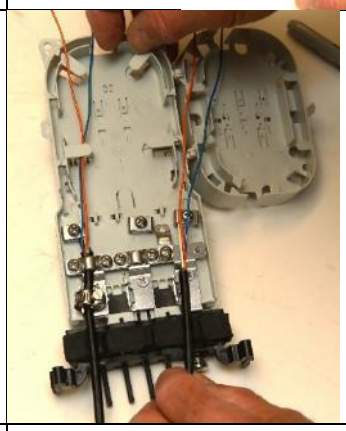
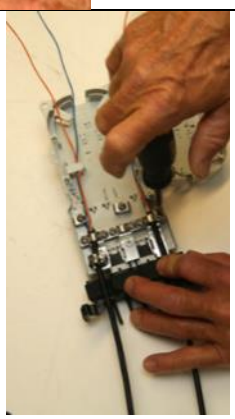
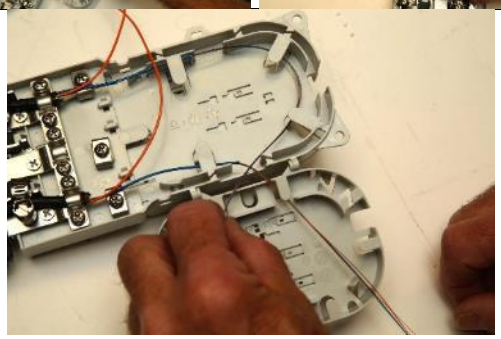
4.1 Recommended Fiber Routing Diagram

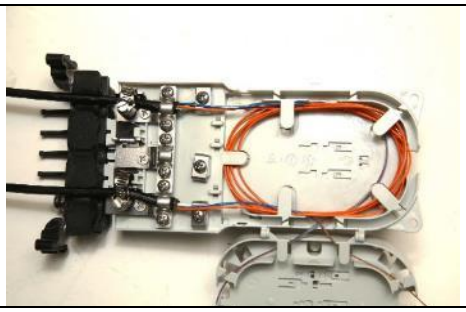
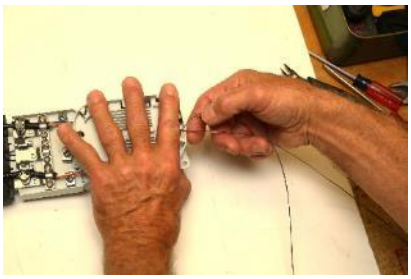
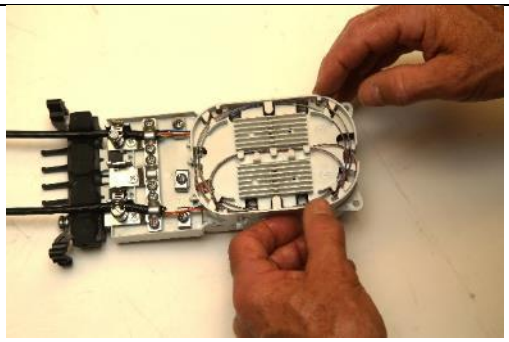
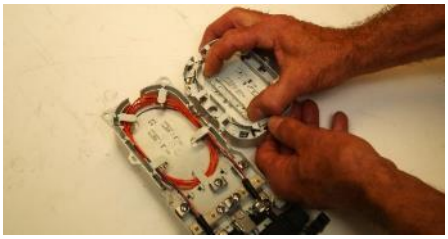
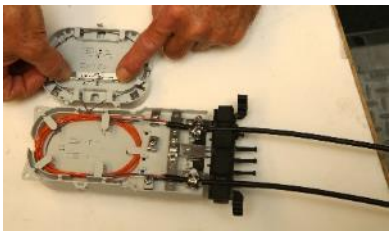
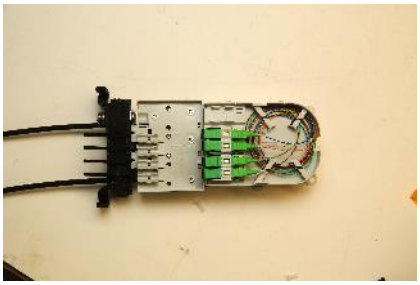


4.2 Installing feeder cables

Step Number	Instruction		
1	Open the unit. For ease of opening, place a small flat head screwdriver or tool in the slot on the buckles and pull down		

2	Remove the spicing tray sub-assembly from the housing by squeezing the ends	 
3	The gel blocks are covered with tape for shipping to enable easier opening of the unit. Remove the protective tape from the gel block in the base and on the splice sub-assembly	
4	Cable Preparation: The FSDCS4 has been designed to be used with flat feeder cables and microfiber cables. Prepare the cable per company practice It is recommended to open up a min. of 48 inches of fiber cable to reach the splicer. Many users may prefer longer lengths	
5	Place the feed cable in one of the feed port openings. Mark the strength member and cut to length. Open the strength member clamp, insert the strength, and tighten.	
4	Open the cable clamp and tighten down on the cable	

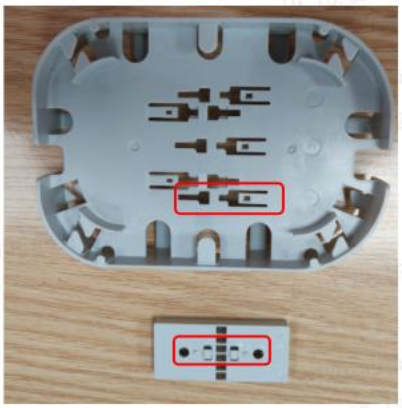
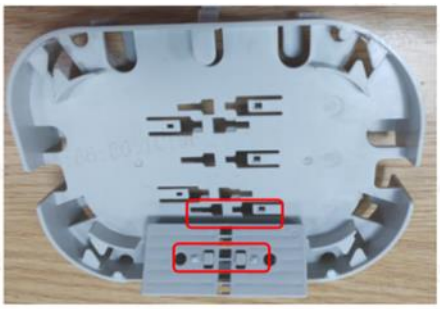
5	Attach hose clamp for round cables For flat cables, use a zip tie to secure the flat cable	
6	Attach second side of the cable	 
7	Separate tube to be spliced, and strip the jacket	 
8	Route fiber to be spliced into the splicing tray. Storage pass-through fiber cable in the storage area	 

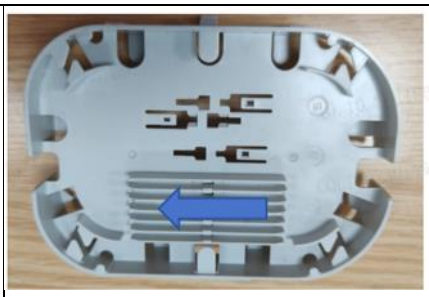
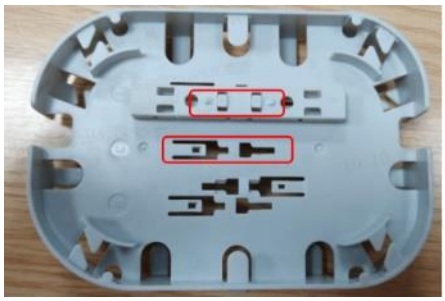
9	Store fiber cable in the fiber storage area under the tray assembly	
10	Route fibers to be spliced over the top of the splice tray into the splicing area	
11	Store fiber to be spliced in the tray.	
12	Install a splitter (or optical tap) holder module into the splice tray	 
13	Run splitter (or tap) drop legs to the top side of the tray assembly, store slack, and plug into adapters Shown is a 1 x 4 PLC splitter with drop legs waterfalled and plugged into adapter bulkhead	

14	Conduct splicing operation to optical device or pigtails. Insert splice protection sleeve(s) into slot in the splice insert module	
15	Replace tray cover on the splice tray	

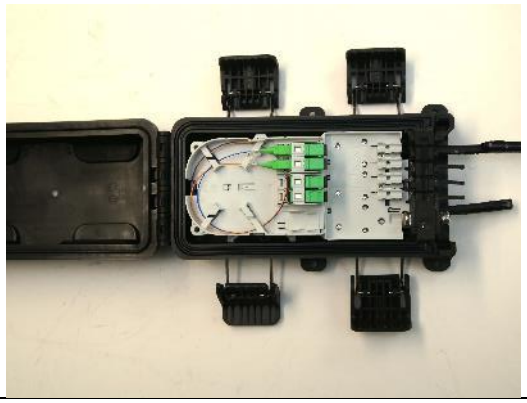
4.3 Installing insert modules

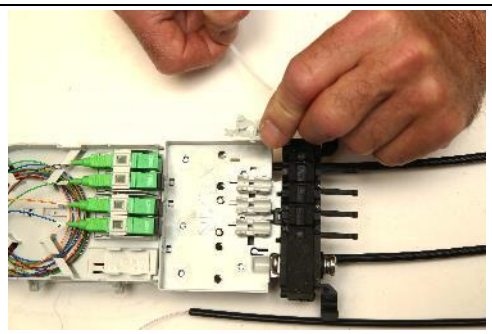
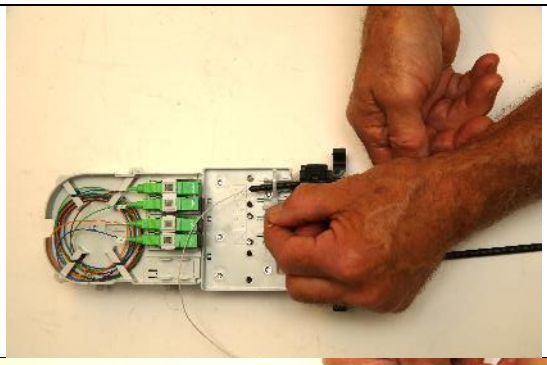
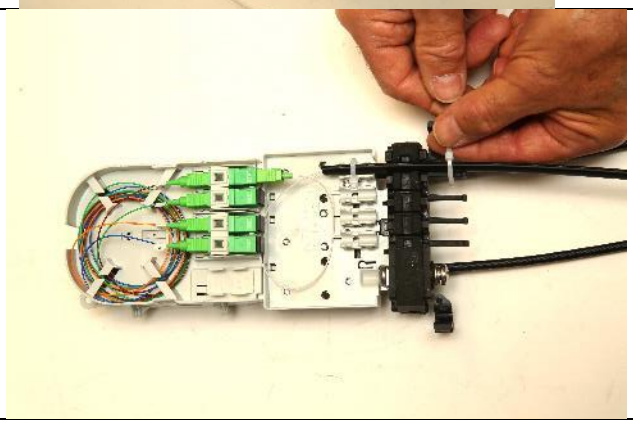
FSDCS4 has modular inserts for splice sleeves, splitters, fiber fingers, and tap holders. These can be installed in various locations in the trays. The splice sleeve modules have 6 slots and can hold 12 splices double stacked. The splitter holders are individual and hold one splitter each. There are insert modules for other optic devices such as taps, and these generally come with an adapter insert with the optic device that can slide into the dove tails

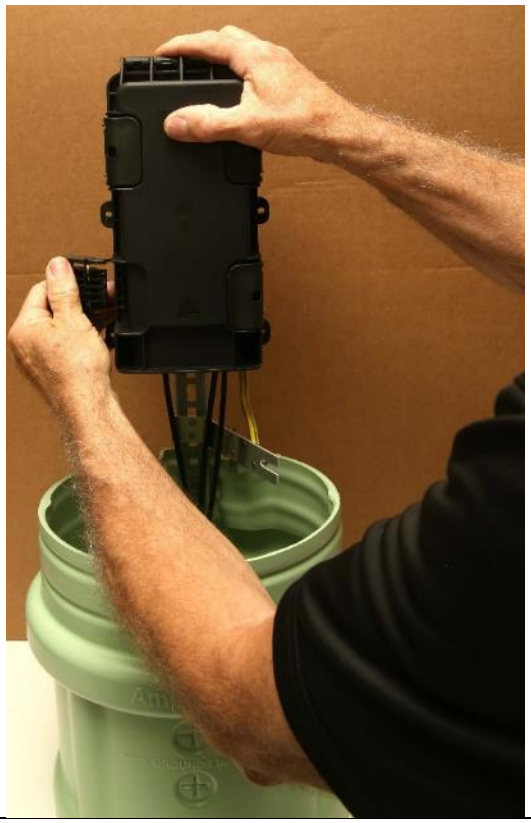
1	Align the bottom installation position of the splice holder insert with the splice tray installation position dove tails, as shown in the red frame in the above picture	 
2	The bottom of the splice holder should face down and be placed flat along the hole position, as shown in the picture	 

3	Hold the splice holder with and slide it along and into the dove tail slot. The picture on the right shows the underside of a fully installed module	 
4	Splice module removal Use a small flat head screwdriver to lift up slightly the frame on the underside, and slide the front out in the direction of the arrow to remove the splice module insert	 
5	The splitter holders, tap holders, and fiber finger inserts are installed and removed in a similar manner.	 

4.4 Drop Cable Installation

1	Open the cover of the unit to expose the drop cable area.	

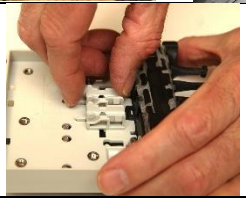
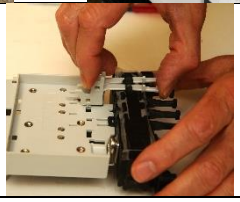
2	There is an internal and external drop cable tie down feature to ensure the cable is level or balanced in the port. It will be easier to tie down the cable internally by first removing the drop cable holder piece. Remove the holder and slide a cable tie through the opening.	
3	Reattach the cable holder. Lay in the drop cable and tighten the cable tie.	
4	Loop the drop fiber slack in the open area and plug drop cable into the adapter. Cable tie off the drop cable to the external strain relief.	

5	Close unit by hand or use a small screwdriver in the hole to close and clamp the buckles.	

4.5 Upgrading from 4 Drop to 8 Drop Capacity

There is an upgrade kit available, 97-FSDCS8DKIT, that allows the FSDCS4P to increase from 4 drops to 8 drops.

The kit contains 4 duplex SC/APC adapters, and 4 two-layer drop cable port holders. For use in with the two-layer drop cable should be 5mm or smaller including 5x3mm drop cable in order to fit and seal properly in the ports.

1	97-FSDCS8DKIT contents: • 4pc Duplex SC/APC adapter with frame • 4pc two-layer drop cable holders	 
2	Remove the simplex adapters one by one by rotating up and unsnapping from the frame Install the duplex adapters by snapping into the frame. Be sure the side nub slides into the guides	  
3	Remove the single layer cable holders gently squeezing and pulling out of place Insert the two layer cable holders in the openings	 

4	Finished 8 drop port configuration	

5 Mounting the Closure

The FSDCS4 can be deployed below grade in a hand-hole or vault, and can be mounted in a pedestal, or wall mounted, or be aerially strand mounted.

5.1 Aerial Strand Mounting

Use aerial mounting kit, 97-FSDCMAMKT. The kit contains two adjustable aerial strand brackets.

Bolt the brackets to the back of closure. Open the bracket clamps, hang on the aerial strand and tighten.



5.2 Mounting in a Pedestal

The closure can simply be bolted to the mounting stake in any Charles industries broadband pedestal such as an R02 or Z02 vertical pedestal.


FSDCS4 mounted in an R02 Pedestal

5.3 Mounting in a Handhole or Vault

Generally, the FSDC-M is simply placed in the handhole without any special mounting hardware

6 Technical Assistance

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

7 Standard Part Numbers

Ordering Number	Description	Standard pack (carton)
FSDCS4P4SAXX	Housing with 3 cable ports, 4 drop ports, 4 SC/APC adapters	12
FSDCS4P4SAPG	Housing with 3 cable ports, 4 drop ports, 4 SC/APC adapters, 4 SC/APC pigtails	12
FSDCS4P4SA104A	Housing with 3 cable ports, 4 drop ports, 4 SC/APC adapters, Installed with 1x4 PLC splitter, 250um fiber input, 900um SC/APC outputs	12
FSDCS4P8SAXX	Housing with 3 cable ports, Double stacked drop ports (8), 4 Duplex SC/APC adapters	12
FSDCS4P8SA108A	Housing with 3 cable ports, Double stacked drop ports (8), 4 Duplex SC/APC adapters, 1x8 PLC splitter, 250um fiber input, 900 um SC/APC outputs	12
97-FSDCS8DKIT	Upgrade kit with Duplex SC/APC and double stacked, kit contains 4 each	10 kits
97-FSDCSSPLICE	Extra splice inserts, each insert has 6 slots (12 double stacked) kit of 10	10 kits
97-FSDCSPLC	Extra splitter holders, kit of 10	10 kits
97-LCAAPTPG	LC Duplex adapter and LC/APC pigtail kit of 10	15 kits

Charles Industries reserves the right to modify part numbers at any time without notice. Please contact Charles Industries, LLC to validate current ordering numbers.