Amphenol Charles Fiber Distribution and Repair Closure
FDRC4P
General Description and Installation

Figure 1 FDRC4P

1 GENERAL INTRODUCTION

1.1 Document Purpose

This document provides installation instructions for the FDRC4P Series Amphenol Charles Industries 4 port distribution and repair closure.

1.1. Product Purpose

The FDRC4P is a compact splice closure with four inline cable ports. It has a modular internal platform that can accept a variety of splicing modules and optics holders such as a splitter or adapters

It is a compact design that can be used in a small hand-hole for low count drops as well as use as a repair closure.

1.2 Product Mounting and Location

The FDRC4P is a fully sealed unit designed to meet Telcordia GR-771 and IP68 water intrusion requirements. It can be used below grade or be direct buried.

It can also be aerially strand mounted or wall mounted.

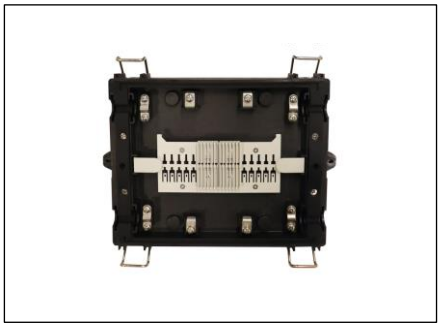


Figure 2: Internal view of platform with 2 splicing modules

2 PRODUCT DESCRIPTION

The FDRC4P has four inline cable ports that can accommodate 5 to 10 mm round drop micro fiber cables as well as 8x4.5mm or 5x3mm flat drop cables. Microduct can also be used.

2.1 Dimensions are shown in Figure 3

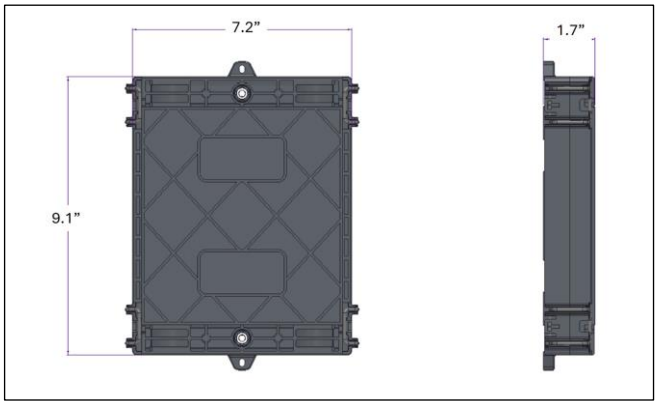


Figure 3 FDRC4P Dimensions in inches

2.3 Included Accessories

The FDRC4P ships with several accessories:

- Single fusion splicing insert
- Splice protection sleeves
- Cable clamp for flat cables
- Plugs for unused ports
- Cable ties
- Gel sealing tape
- Electrical tape
- Transportation tube
- Spiral wrap tube
- Ribbon splicing inserts (optional)
- Ribbon splice protection sleeves (optional)
- Splitter holder (optional)

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.

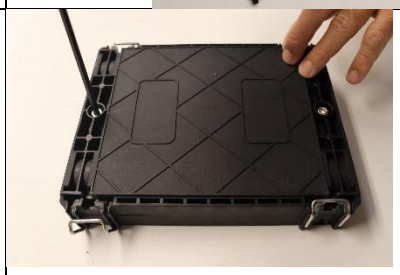
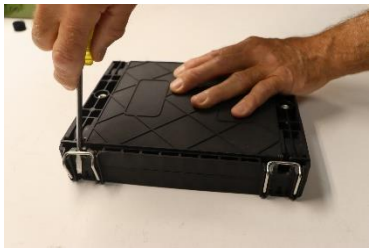
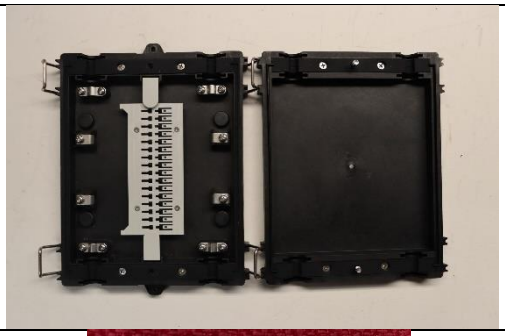
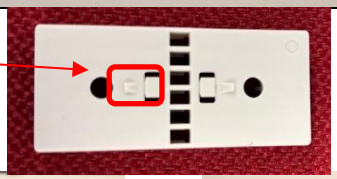
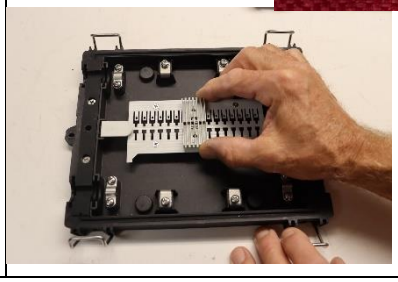
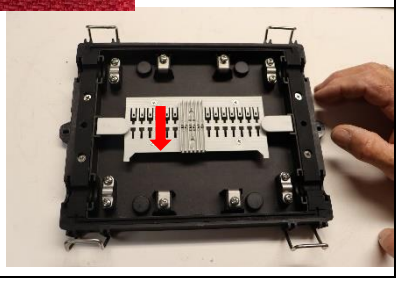
Be careful not to damage any buried cables or service wires while digging either to expose cables or to prepare a hole or trench, or while driving stakes. Buffer tubes and fibers are sensitive to excessive bending, pulling, and crushing forces. To avoid kinking of buffer tubes and fiber damage or breakage,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

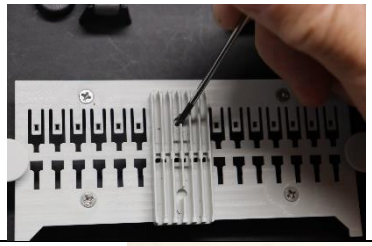
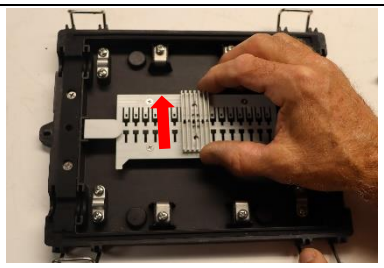
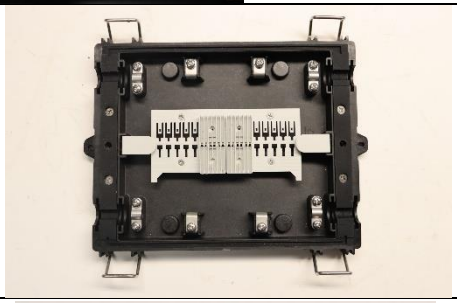
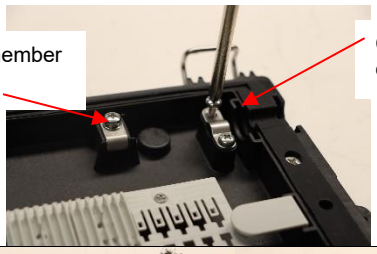
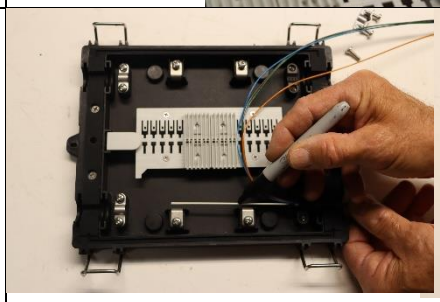
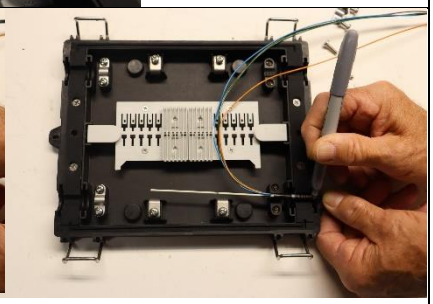
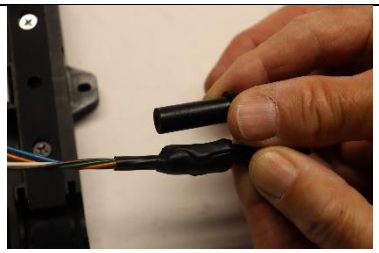
4 INSTALLATION PROCEDURE

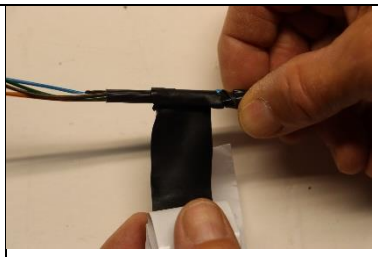
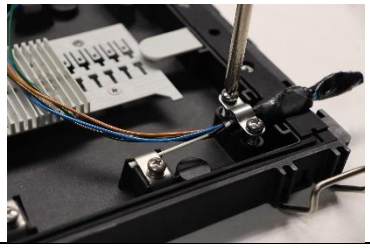
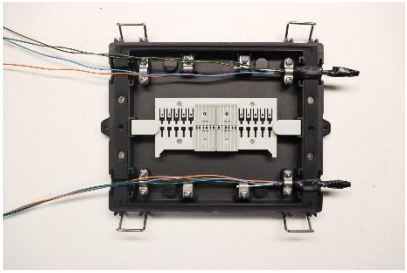
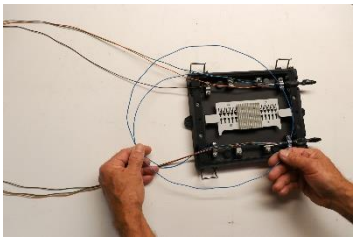
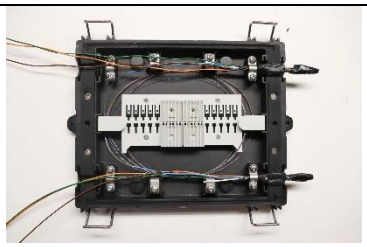
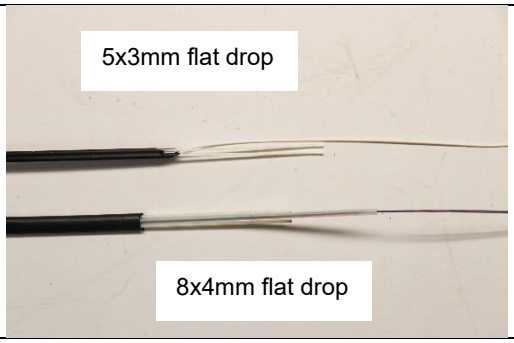
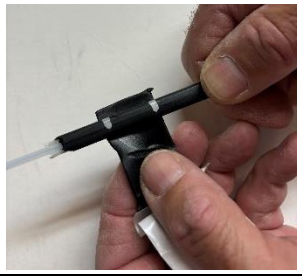
The following tools will be needed to perform the FDRC4P installation.

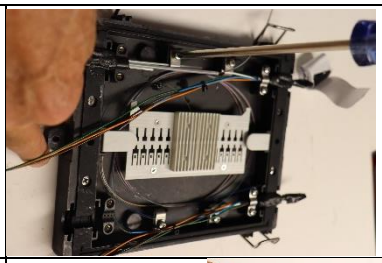
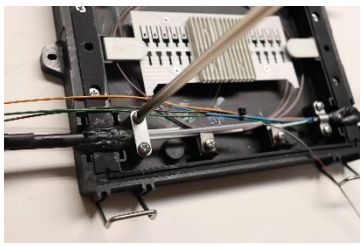
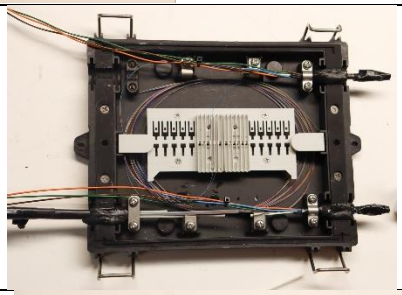
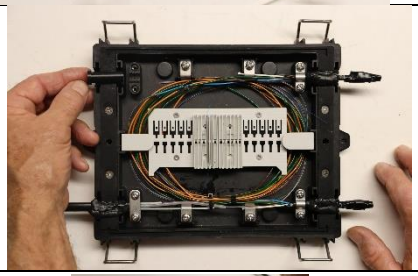
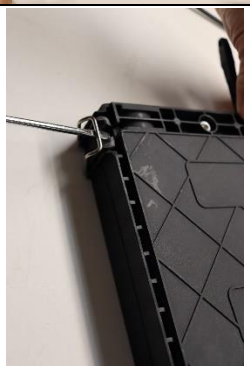
- Measuring tape
- Cable marking tool
- 5mm (3/16") Allen wrench or T-handle
- Sharp scissors
- Flat head and Phillps screwdrivers
- Calipers
- Buffer tube stripper tool (score/cut buffer tubes)
- Fiber optic stripper tool
- Fiber splicing tools and equipment
- Safety glasses and work gloves
- Accessories bag with FDRC4P closure

4.1 Installing Fiber

Step #	Instruction	
1	***Fiber Preparation*** Prepare fiber to be spliced following company practices It is recommended to open and unsheathe 72 to 84 inches for pass through or mid-sheath cable. For cut cable, open 36 to 42 inches.	
2	***Opening the Unit*** To open the case, first unscrew the two hex head bolts using a 5mm or 3/16" Allen wrench. Then unhook the buckles with a flat head screwdriver	 
3	Separate the cover and base of the unit. The base has a modular platform that accepts various modules including splicing inserts. The splicing inserts are shipped loose in the accessories kit.	
4	The splicing insert modules have small tabs on the bottom Place the splicing insert module over the dove tails on the platform and slide insert module back slightly to snap the tabs in place	Tabs on bottom of inserts   

5	To remove an insert module, press down slightly on the open hole in the insert module, then move the module up or forward slightly and the module will disengage from the platform. ***Be careful not to use excessive force in order to not damage the dove tail of the platform***.	 
6	Two included splicing insert modules installed in the center of the platform are shown. Each module can accommodate up to 12 single fusion splices double stacked. The standard unit has 24 splice capacity.	
7	**Cable Clamps** There are two types of cable clamps one with a bump up for round cables and a flat one for flat cables. The units ship with the rounded clamp in the unit and the flat clamp comes in the accessories kit.	
8	To prepare for installation of the cable, the cable clamps should be removed with a Philips screwdriver. Removing the strength member clamp will also facilitate securing the strength member	
9	Place the cable in the port opening and mark the strength member length as well as the cable section that sits in the port grommet. Cut the strength member to length.	 
11	Depending on the cable size, sealing tape will be needed to provide proper sealing. Place the tape between the two marks made in the previous step. The cable should be built up to approximately 10mm diameter. A wrap of tape is approximately 1mm. For flat or oval cables, the gel tape can be fashioned to approximate a	 

	round shape. If calipers are available, they will be useful to measure the cable. If calipers are not available, then use the included sealing plugs as a guide for proper sizing The tape can be slightly more than 10mm as it will compress in the port	 
12	Place the cable in the port and tighten the cable under the strain relief clamp. Attach the cable clamp.	 
13	Attach and clamp the second side of the cable	
14	Separate the tube which has the fiber(s) to be spliced Store the express fibers in the bottom of the base	 
15	***Drop cable splicing*** There are a few general sizes of drop cable, ~ 8x4mm flat, ~ 5x3mm flat, and ~ 5mm round. This is sized without a tone wire. If using tonable drops, the tone wire should be pulled back before entering the closure Leave ~ 36 inches of fiber for splicing	
16	Build up the drop cable with sealing tape similar as in the previous process. For 8x4 flat, two wraps should be sufficient and 4-5 wraps for 5x3 flat cable	

17	Attach the drop cable strength member clamp and cable clamp as in the previous steps. For flat cable, use the flat cable clamp.	 
18	Splice the drop fiber to the incoming feed fiber and place splice protection sleeve into the holder	
19	Store the rest of the express tubes into the base Place a plug into any unused port	
20	Close the case by lining up the cover. Tighten down the two hex head bolts Then close the buckles with a flat head screwdriver. *Be sure to save sealing tape for future installation of drop cables*.	

5 MOUNTING THE FDRC4P

The FDRC can be mounted in a hand hole, direct-buried, or on an aerial strand using an appropriate mounting kit.

5.1 Hand Hole

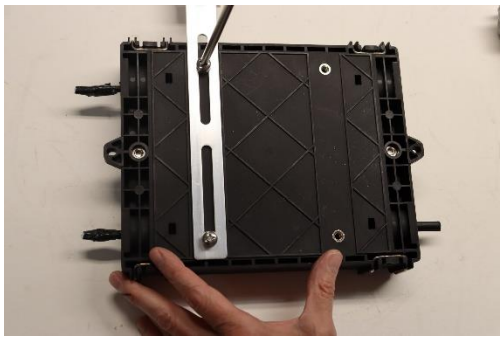
Place the FDRC units loose in a small hand-hole or flowerpot, maintaining the proper bend radius of the drop cable.

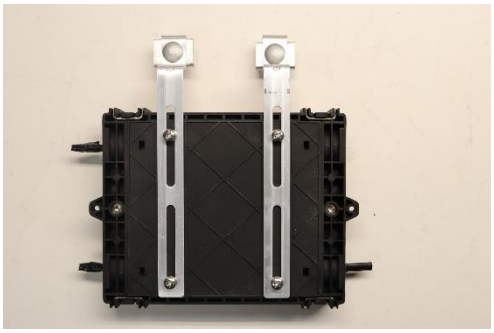
5.2 Direct Buried

FDRC4P can be direct buried up to 10 feet.

5.3 Aerial Strand Mounting

Attach the FDRC to an aerial strand brackets as shown in the picture below.





6 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

7 PART NUMBER INFORMATION

Part number	Description
FDRV4P12S	FDRC 4 port, two 6-slot splice inserts
97-FSDCMAMKT	Aerial strand bracket kit for FDRC4P, FSDC-S, and FSDC-M
P141912ABGTHXXX	14”x19”x12” hand-hole, dark green cover, black base

Contact Amphenol Charles Industries for additional configurations or more information.