

Charles Flexible Compact Hub

FCH-32

General Description and Installation

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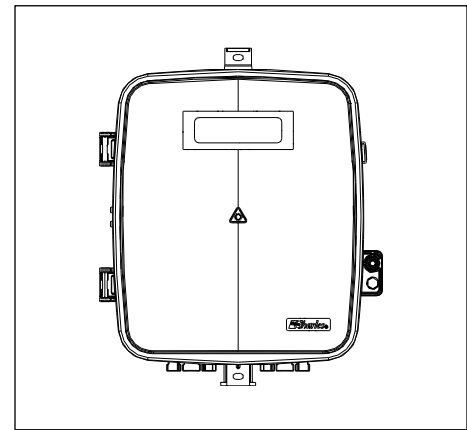


Figure 1 Front View of the FCH

1. GENERAL INTRODUCTION

1.1. Document Purpose

This document provides general information for the Charles Industries’ Flex™ Compact Hub (FCH) enclosures.

1.2. Product Purpose

The FCH is a 32 port enclosure that can house a up to three fiber trays. It is used to deliver service to FTTB or low density dwellings. Fiber is routed through knockouts on the bottom of the FCH and routed through a splicing splitter tray (trays are ordered separately).

1.3. Product Mounting and Location

The FCH enclosures can be mounted on a wall or pole. There are two pole/wall-mount tabs at the top and bottom of the enclosures.

2. PRODUCT DESCRIPTION

The FCH is a compact enclosure with the following features:

- Interchangeable, removable bottom “feed and drop” cable port plates with variable entry grommets to maximize in/out flexibility while maintaining environmental protection integrity
- Accepts a variety of cable sizes and types
- Top knockouts for indoor use
- Hinged security door
- Swinging fiber bulkhead allows easy access to feed and drop fibers and provides bend radius control and strain relief.
- Efficient internal cable management and routing with multiple tie-down locations.
- Feed pass-through capability
- Backplane accommodates three small hinged splice or splitter trays and cable tie points for fiber splicing.
- Molded-in mounting brackets for pole or wall mounting

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 MSDS 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.

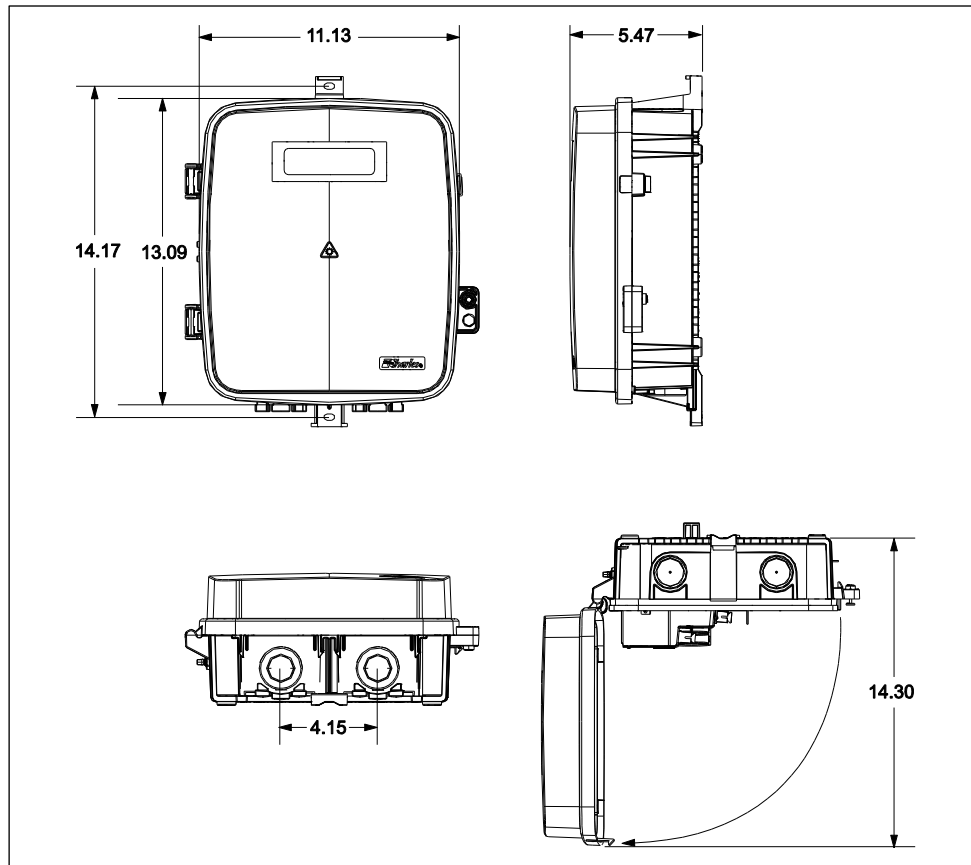


Figure 2 FCH Dimensions (in inches)

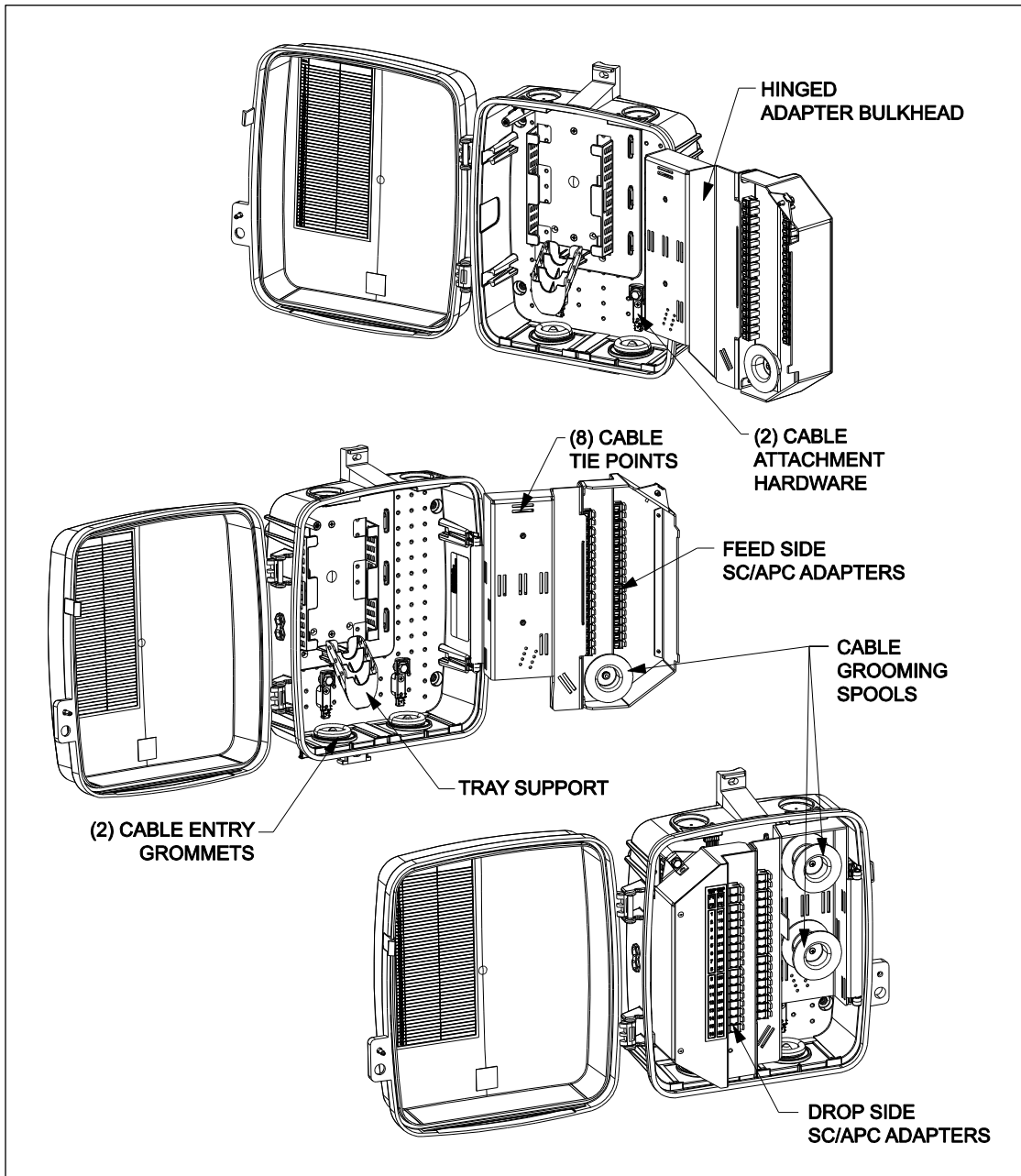


Figure 3 FCH Components

4. INSTALLATION

4.1. Inspecting the Product

The FCH is shipped in a carton. Unpack the unit and dispose of the packaging material.

-INSPECTION NOTE-

Visually inspect the unit for damages prior to installation. If the equipment was damaged in transit, immediately report the extent of the damage to the transportation company.

4.2. Obtaining Tools and Equipment

The installer must obtain the following:

- Sufficient length and quantities of fiber cable (or pigtails)
- Cable scoring, opening, and cutting tools for cable sheathing, shields, wrappings, strength members and buffer tubes
- Cable, tube, wire, and fiber cleaning materials
- Protective and/or insulated work gloves
- Safety glasses
- Tape measure
- Marking utensil
- Bond strap (optional, from cable bond clamp to bond post)
- Any exterior cable strain relief, per company practice
- Slotted and Phillips screwdrivers
- Assorted cable ties, clips, or fasteners (optional)
- Mounting hardware (bolts/washers/nuts or straps)
- Level

4.3. FCH Mounting

The FCH can be mounted on a wall or pole.

The FCH has mounting holes at the top and bottom of the housing for wall mounting (Figure 4). Charles recommends using a minimum SAE Grade 2, 1/4" diameter corrosion-resistant bolts, washers and nuts for mounting. Bolts need to be of sufficient length depending on the mounting surface used. A minimum of 3/4" thick plywood or similar surface is required for wall mounting.

The FCH is mounted on a pole using mounting straps (Figure 5).

All mounting hardware is customer supplied. Ensure that the unit is level.



Figure 4 **Wall Mounting**

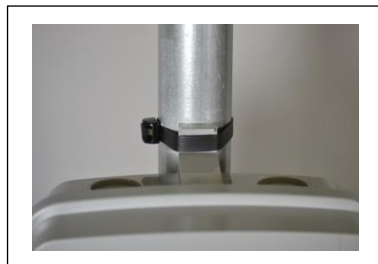


Figure 5 **Pole Mounting**

4.4. Tray Installation

Fiber splicing and splitter trays are customer supplied. The FCH can accommodate up to three trays. To install a tray, squeeze the tray hinge and press the hinge into a pair of holes on the tray support (Figure 6)

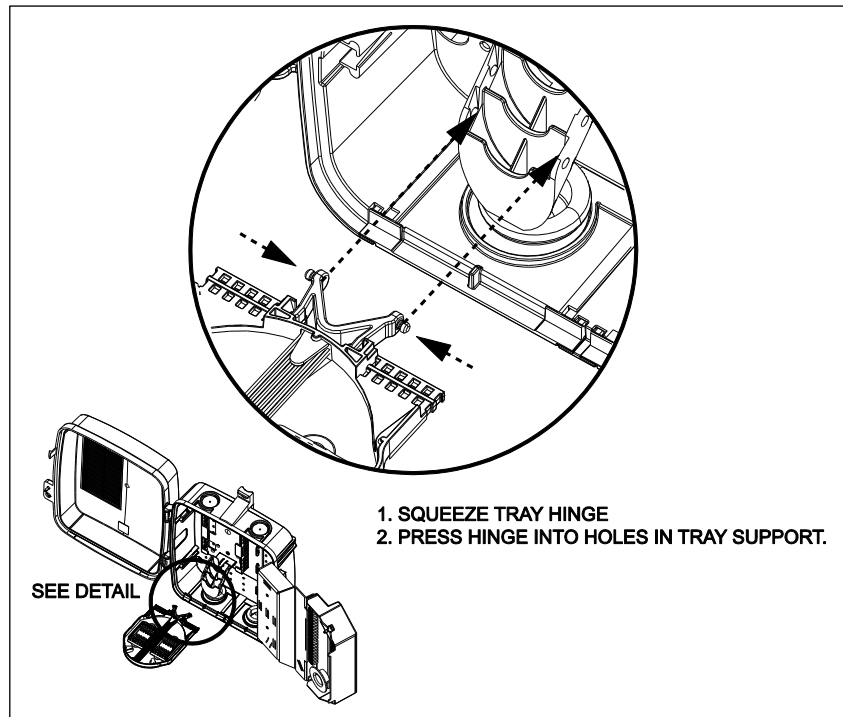


Figure 6 Install Tray

4.5. Fiber Routing

Before routing fiber, use a 216 tool to open the enclosure. Then open the hinged adapter panel to access the splicing tray.

4.5.1. Feed Fiber

1. Feed fiber enters the FCH through the grommet on the bottom of the housing, on the left side.
2. Use a hose clamp to secure the cable to the cable attachment hardware inside the enclosure, just above the grommet.
3. Strip the cable sheathing just above the hose clamp.
4. Route buffer tubing around the fiber basket, using Velcro to secure the buffer tube to the cable tie points (Figure 7).

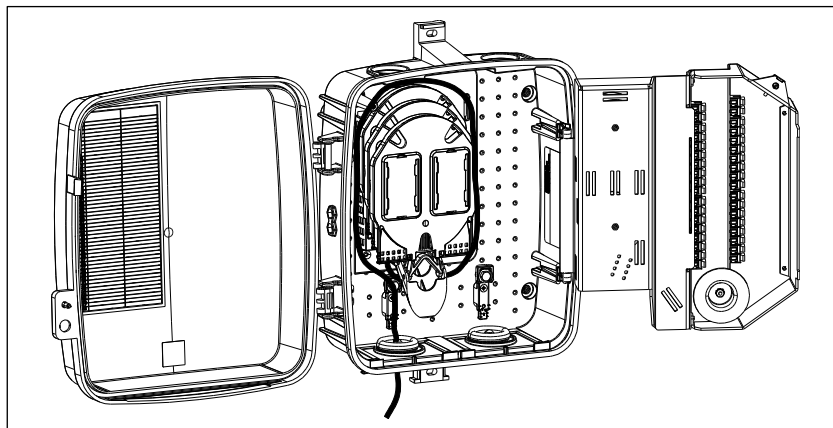


Figure 7 Route Feed Buffer Tube to Tray

5. Route the buffer tube underneath the tray hinge so that the buffer tube enters the tray on the left side. Secure the buffer tube to the tray using cable ties or similar.
6. Strip the buffer tubing away to expose the fibers. Route the fibers into the tray. Splice the fibers as needed in the splicing area (Figure 8).
7. Route the connectorized tray output fibers out of the right side of the tray and across to the adapter ports in the bulkhead. Secure to the cable tie points using Velcro. Ensure that there is enough slack to open and close the hinged adapter bulkhead and that the fibers will not get pinched when the bulkhead is closed.
8. Connect all feed fiber connectors to the adapters on the inside of the adapter bulkhead.
9. Close the hinged adapter bulkhead.

Note: the top two adapters on each row of the adapter bulkhead are intended for direct feed connections. Use these for connections that do not need to be routed through the trays.

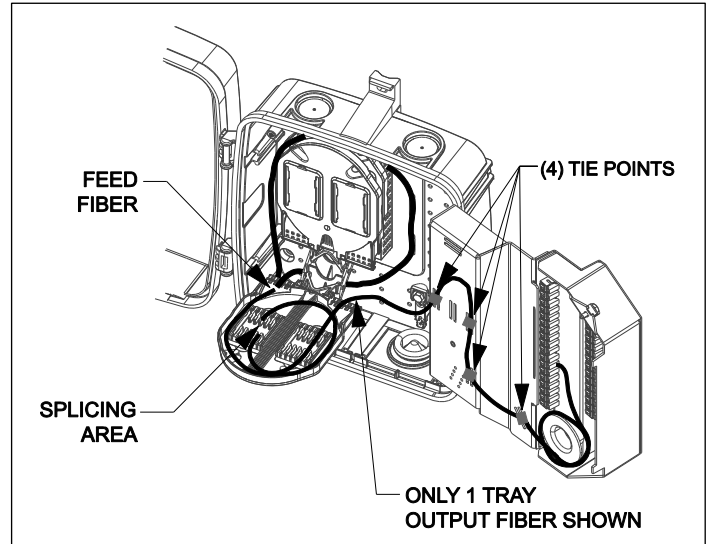


Figure 8 Route Fiber to Adapter

4.5.2. Drop Fiber

1. Connectorized 2mm drop cable enters the FCH through the grommet on the bottom of the housing, on the right side.
2. Use a hose clamp to secure the cable to the cable attachment hardware inside the enclosure, just above the grommet.
3. Use Velcro to secure the cable to the lowest cable tie point on the side of the bulkhead, ensuring that there is enough slack below the tie point to open and close the bulkhead and that the fibers will not get pinched when the bulkhead is closed.
4. Route drop cable around the cable grooming spools and secure to the tie points with Velcro.
5. Connect the cables to the adapters on the drop side of the adapter bulkhead (Figure 9).

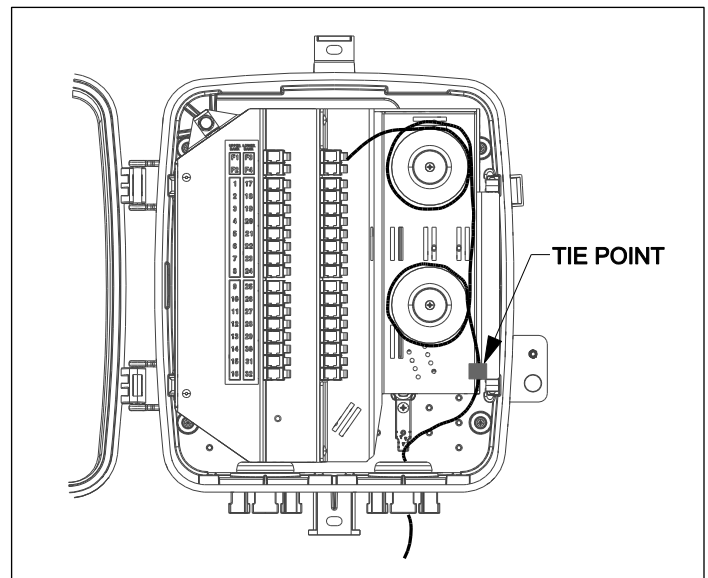


Figure 9 Route Drop Fiber to Adapter

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. WARRANTY & CUSTOMER SERVICE

Charles Industries, Ltd. offers a one-year warranty on the FCH product. The Charles warranty is limited to the operation of the FCH hardware as described in this documentation and does not cover equipment which may be integrated by a third party. The terms and conditions applicable to any specific sale of product shall be defined in the resulting sales contract. For questions on warranty or other customer service assistance, contact your Charles Customer Service Representative.

847-806-6300
mktserv@charlesindustries.com (email)
http://www.charlesindustries.com/main/telecom_sales_support.htm

7. SPECIFICATIONS

7.1. Regulatory Specifications

- Designed to meet GR-950, GR2898

7.2. Product Specifications

Physical	
Dimensions and Weight	13"Hx11"Wx6"D; Approx. 7 lbs. as shipped
Materials	Housing: UL94-5VA Gray Polycarbonate Adapter Bulkhead: 0.063" aluminum
Color	Gray
Fiber Connector Types	SC/APC
Splicing Capacity	Up to three 4"x6" hinged splice trays
Bulkhead Capacity	32 Distribution Adapters
Environmental	
Operating Temp Range	-40° to +115°F, -40° to 46°C
Humidity	0 to 95% (non-condensing)

8. ORDERING INFORMATION

Part Number	Description
(See product datasheet for full list)	Flex Compact Hub Enclosure
97-SMHTRAY	Splicing tray for up to 24 fibers
CFST-S11320A	1x32 PLC splitter mounted on a Charles Industries 4"x6" splice tray, 900µm input stub, SC/APC 900µm output preconnectorized pigtails, tray hinge, 6 tie wraps, address label, and instructions