

FieldSmart® Fiber Distribution Point (FDP)

24 & 48 Port Outdoor Wall Box

Installation Manual



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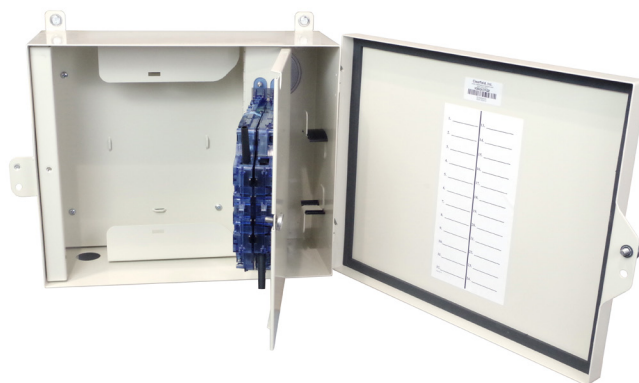
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Application

The FieldSmart FDP 24 and 48 Port Outdoor Wall Boxes are ideal for both residential MDUs and business-class environments. Configurable for either patch only, patch and splice (Clearfield's in-cassette splicing solution) or MPO plug-and-play, Outdoor Wall Boxes support all cable scenarios for the outside plant. The OSP platform is designed for the harshest environments, supporting NEMA 4 performance requirements, while providing conduit entry through field-deployed knock-outs on both the rear and bottom of the unit. Additional applications include fiber demarcations, entrance facilities, and security systems (CCTV).



Description

Designed from conception to provide fast and easy fiber jumper routing with ease of access to all circuits, the FieldSmart FDP Outdoor 24 and 48 Port Wall Boxes are craft-friendly, keeping the installer's needs for quick deployment, intuitive use and ease of maintenance as the top priorities. Utilizing the Clearview® Cassette, the box easily scale from 12 to 48 ports with the industry standard adapter of choice. Ring cut or mid-span capabilities allow distribution cables to be daisy-chained and for fiber hand-off through the riser, while a swinging bulkhead provides rear-access to cassettes and protects sub-unit slack storage. With lockable doors for added protection and a solid enclosure design to protect fiber terminations from damage, the FieldSmart Fiber Delivery Point (FDP) Wall Box product line provides superior fiber management for outdoor environments.

Technical Specifications

	24 Port Outdoor Wall Box	48 Port Outdoor Wall Box
Dimensions	12.52" H x 16.22" W x 5.75" D	12.52" H x 18.92" W x 7.26" D
Port Density	Up to 24 ports	Up to 48 ports
Cassette Types Supported	Clearview Blue	
Connector Types	SC/UPC, SC/APC, LC/UPC, LC/APC, FC/UPC, FC/APC, ST/UPC, MPO	
Cable Types	Indoor/Outdoor, Outdoor (Riser/Non-Rated), Outdoor Armored (Riser/Non-Rated)	
Splice Capacity	12 or 24 splice configurations in each Clearview Cassette	
Storage Capacity	One meter of 900 μ m fiber and up to 20 feet buffer tube	
Material	16 gauge cold rolled steel (zinc chromate with almond powder coating)	

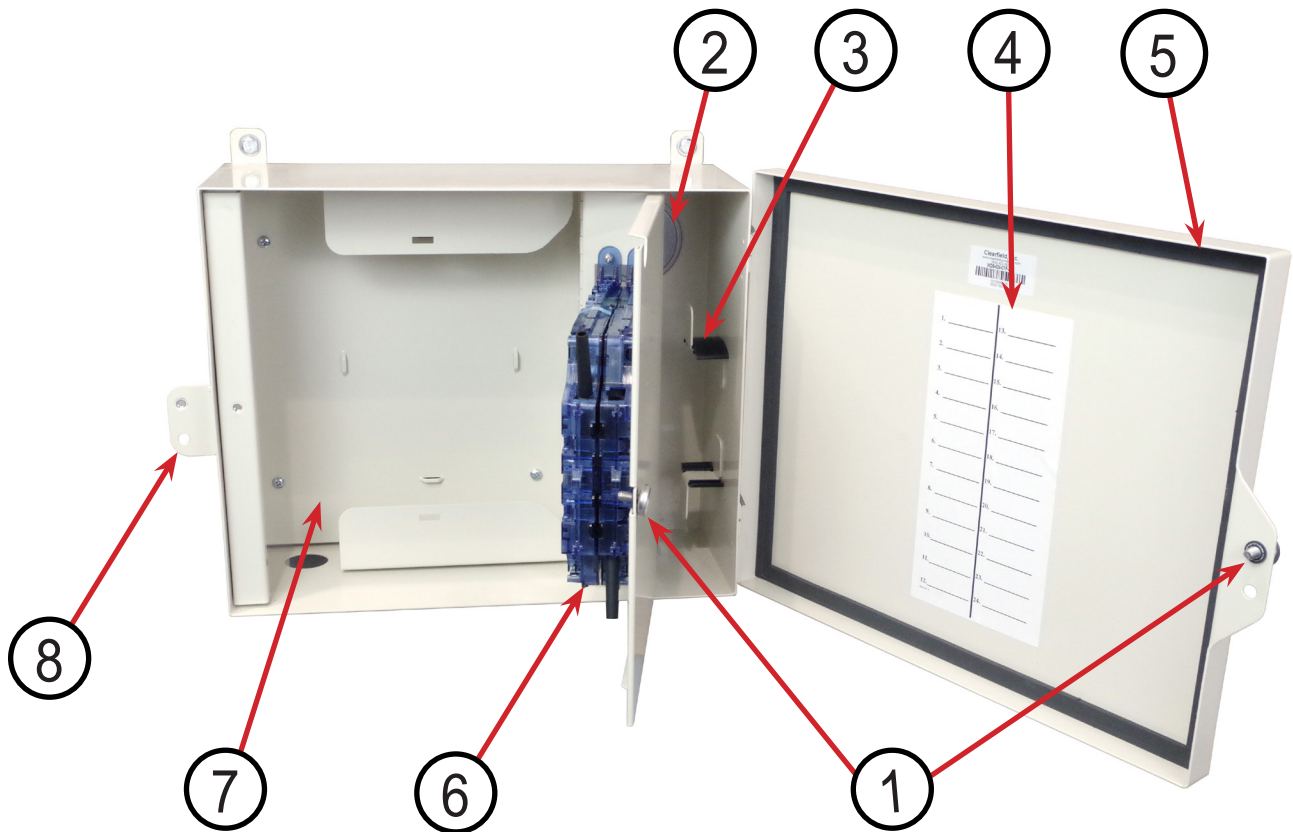
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Outdoor Wall Box Components



1. Can Wrench Accesible Security Doors
2. 2" Conduit Opening
3. Slack Storage for Incoming Jumpers
4. Port Designation Card
5. Weather Tight Seal
6. Clearview Blue Cassettes (Left Exit for Patch and Splice)
7. Buffer Tube Slack Storage Area
8. Optional Padlock Location



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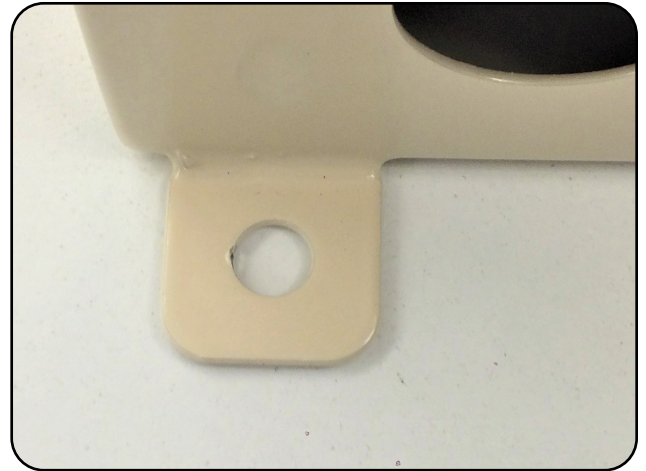
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Wall Box Installation

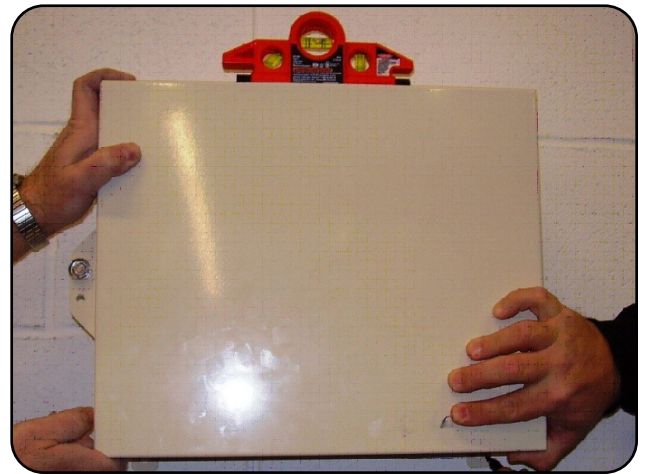
48 Port Wall Box

The wall box is installed via the 4 holes located on the tabs on each corner of the rear of the enclosure.



Hold the wall box up to the mounting surface and mark the hole locations with a marker.

Note: A level may be used to ensure that the wall box is mounted straight.



Pilot holes can then be drilled at each mark. Using appropriate fasteners for the material, attach the wall box to the surface.



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24 Port Wall Box

Mount the mounting bracket to the wall approximately 1.5 inches below the desired max height of the wall box. The wall box will hang on this mounting bracket using a slot located near the top of the wall boxes back side.



Hang the wall box on the mounting bracket. The lower mounting bracket, attached to the wall box, can be adjusted to stand off the back side of the box to allow for a vertical mounting position.



Secure the wall boxes lower bracket to the wall.





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Wall Box Access

The interior of the wall box can be accessed by loosening the security screws on each of the two doors using a 7/16" thin wall socket or a telecommunications industry "can wrench".

The cassette splicing area can then be accessed by loosening the security on the secondary internal door.



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Cable Preparation and Installation

1. The slack storage compartment of the wall box is large enough to accommodate more buffer tube than would typically be used in this application. It is recommended, however, that you only prep as much cable as you will need to perform your work.

Note: You will need approximately 3 feet of fiber inside the splice tray so add that to the total prep length.

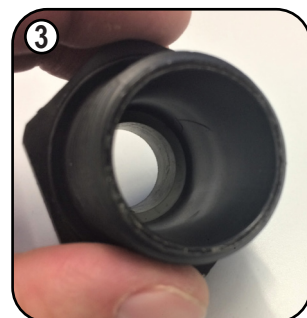
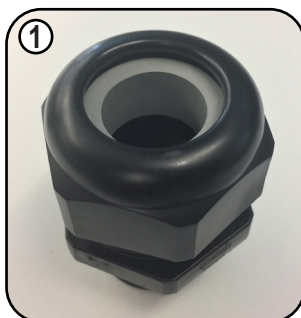


2. Included in each wall box are 2 liquid tight fittings (sealcons) and an assortment of rubber inserts (grommets). Choose the insert that is close to, but larger than, the size of the cable.

Compression Fitting Grommet	Cable Size (Inches)
Small Black Grommet	0.3 - 0.4
Medium Black Grommet	0.41 - 0.5
Gray Grommet	0.51 - 0.79

3. In order to swap grommets, remove the dome nut from the sealcon and pry the current grommet out, being careful not to damage the compression fitting. Push the new one in to place. Ensure new grommets are installed with the tapered side up (see pictures).

Note: It is sometimes easier to remove the grommet by using a blunt ended tool to push at it from the bottom, inside the sealcon. Take care not to damage the grommet.



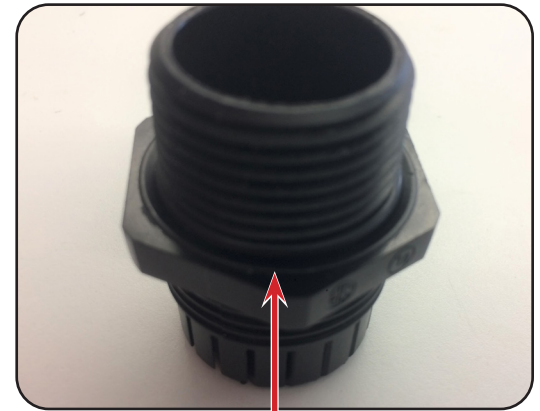


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4. Ensure the O-ring on the underside of the sealcon is present before installation.



O-Ring

5. The sealcon can then be installed by inserting the thread through the bottom of the wall box and securing with the included lock nut. (Figure 1)

Note: The optional strength member clamp shown is only available in the 48 port Outdoor. The 24 port utilizes bridge lances for strain relief.

6. The stripped cable can then be inserted into the sealcon. (Figure 2)

Note: If utilizing the strength member clamp, leave enough strength member after prepping cable to trim to length and tighten into the clamp securely.



Figure 1

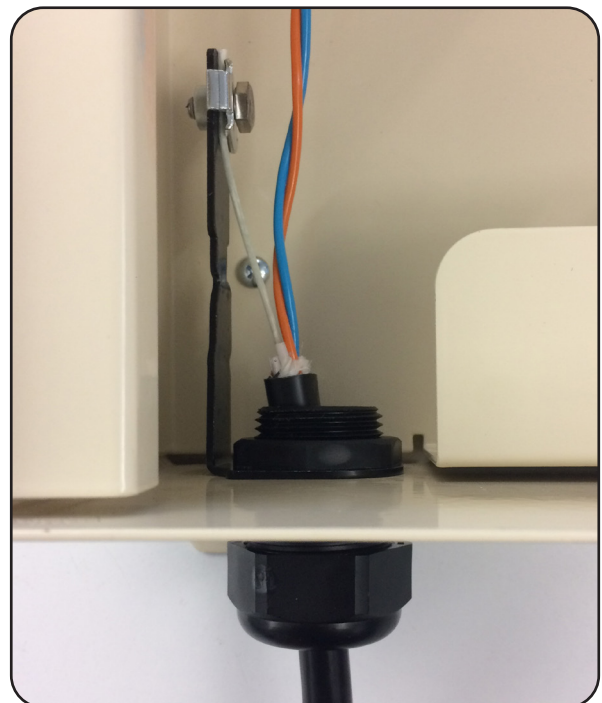


Figure 2

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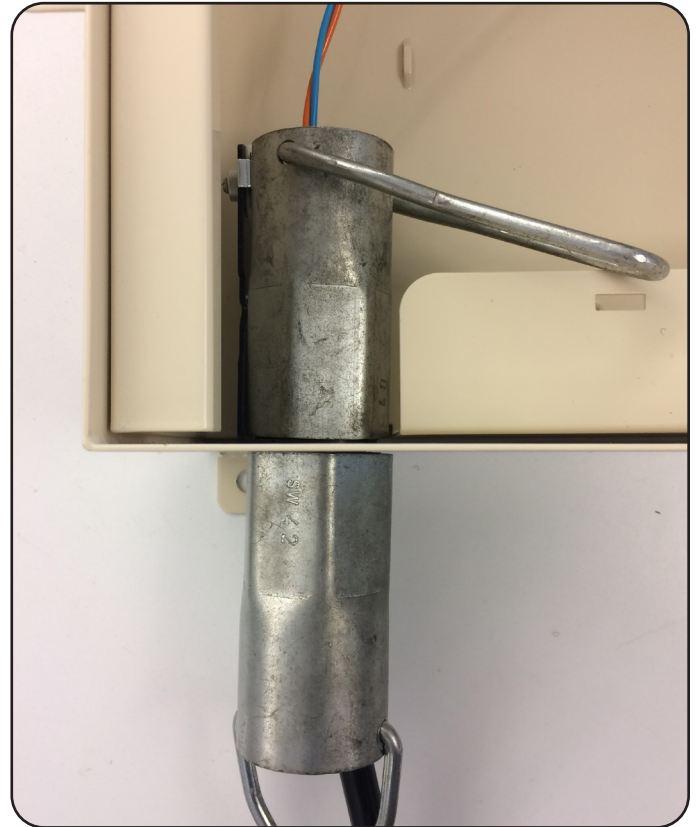
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7. Tighten the dome nut on the sealcon to secure the cable.

Note: Clearfield recommends the use of a set of sealcon wrenches (P/N's 013190 - 40mm, and 013191 - 42mm) to properly tighten the sealcon lock nut and dome nut. These feature an open channel, which allows the wrench to slide over cables and onto the sealcon.



Grounding

The wall box and all associated cables can be grounded to the provided lug in the splicing side of the wall box. Ground per your local practices.





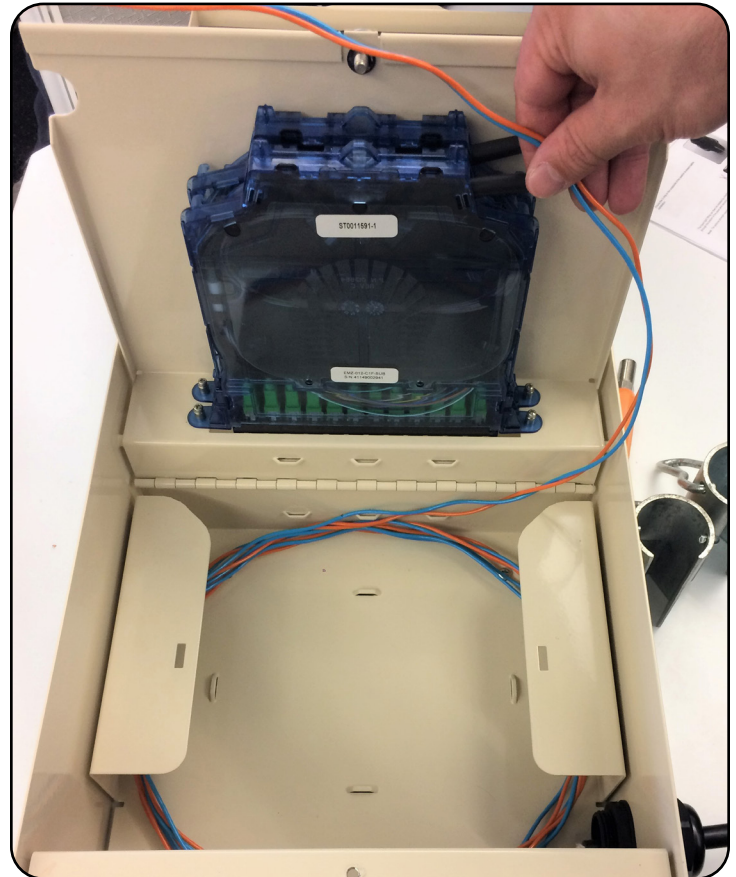
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Fiber Splicing

1. Route the buffer tube to be spliced in the slack storage area and up to the cassette to be spliced.
2. Mark the tie off point of the cassette with a marker. Make sure to leave around 3 feet of extra buffer tube after the mark to allow for slack in the cassette's splice tray.



3. Remove all Clearview Blue Cassettes from the wall box that need to be spliced. This can be done by opening the bulkhead and loosening the captive screws on each side of the cassette which hold the cassette to the bulkhead.



4. Consult the Clearview Blue Cassette Installation Manual for splicing instructions, located under the Resources tab of the Clearfield website, www.seeclearfield.com.

Viewable here:

<https://www.seeclearfield.com/assets/documents/installation-manuals/clearview-blue-cassette-install-manual.pdf>

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5. After splicing is complete, return the cassettes to the wall box and store the buffer tubes, securing them with the provided Velcro and bridge lances.

Note: Secure the sweep of the buffer tubes up to the cassette by utilizing the bridge lances on the bulkhead as well as the floor of the wall box.



6. Close the bulkhead and use the 7/16" thin wall socket or can wrench to secure the door closed.



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Jumper Installation

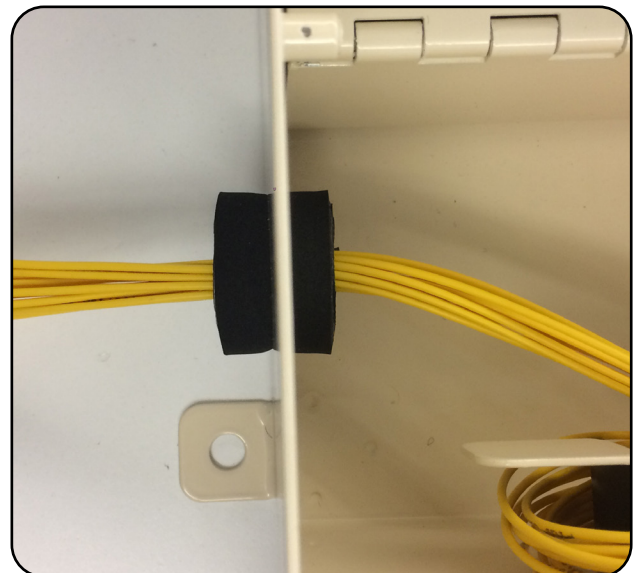
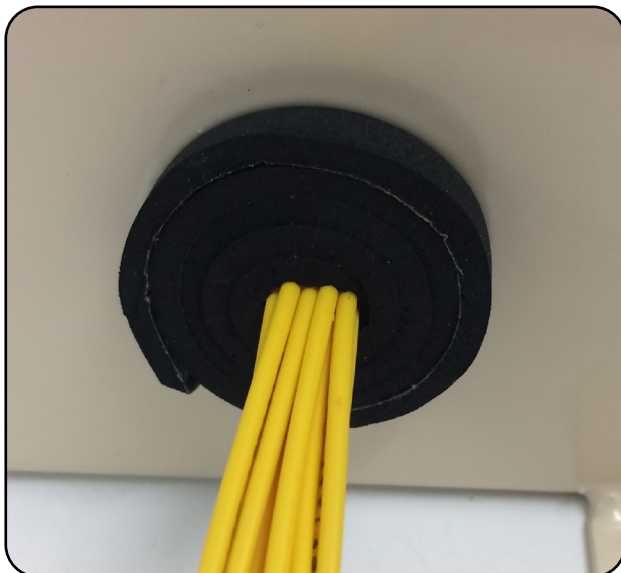
Access to the jumper side of the wall box is done via the security screw on the outside door.



Individual jumpers can be inserted through either the upper or lower hole in the enclosure.

You will want to wrap the group of jumpers with some of the provided grommet tape to protect them from the edge of the sheet metal at the opening and provide an environmental seal.

Make sure to use enough tape to fully seal the gap around the jumpers.



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Store the slack from the jumpers on the slack management spools provided. **(Figure 1)**

It is recommended that the jumpers leave the radius spools toward the back wall opposite the cable entrance, and then transition forward to the adapters. This will allow for proper jumper swing if the bulkhead is opened. **(Figure 1)**

The slack can then be dressed up using the supplied Velcro strips. **(Figure 1)**

Jumpers can also enter through the 2" conduit opening provided in the rear of the wall box by removing the conduit sealing plug.

Note: 2" conduit sealing plug only present in 48 port wall box, rear entrance in the 24 port wall box is present in the form of a knock-out.

Pre-connectorized jumpers or OSP cables can be sealed in the same fashion as the distribution side by using a liquid tight fitting around the cable. **(Figure 2)**

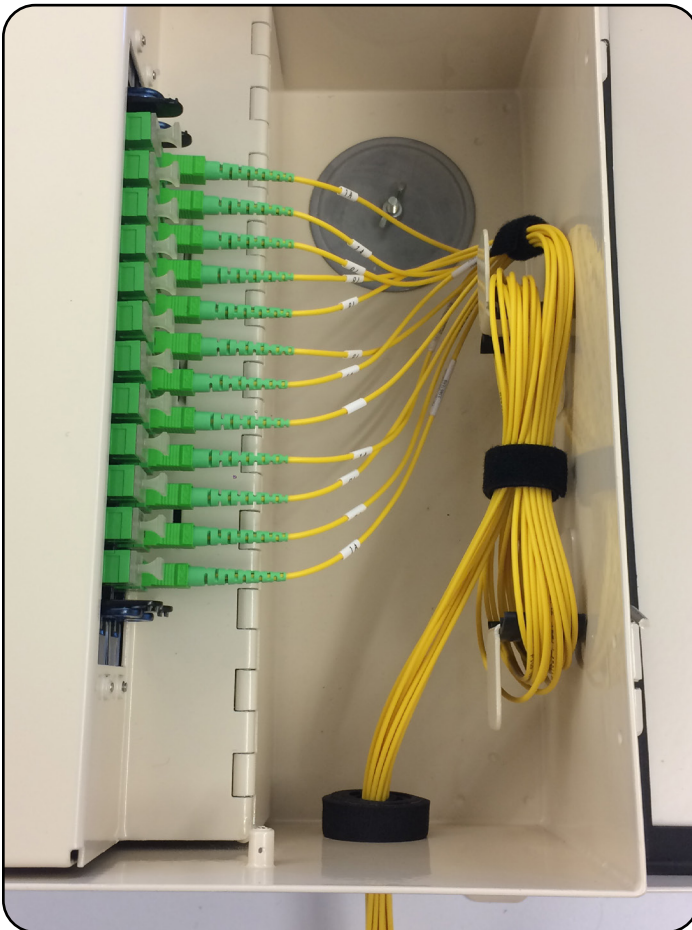


Figure 1

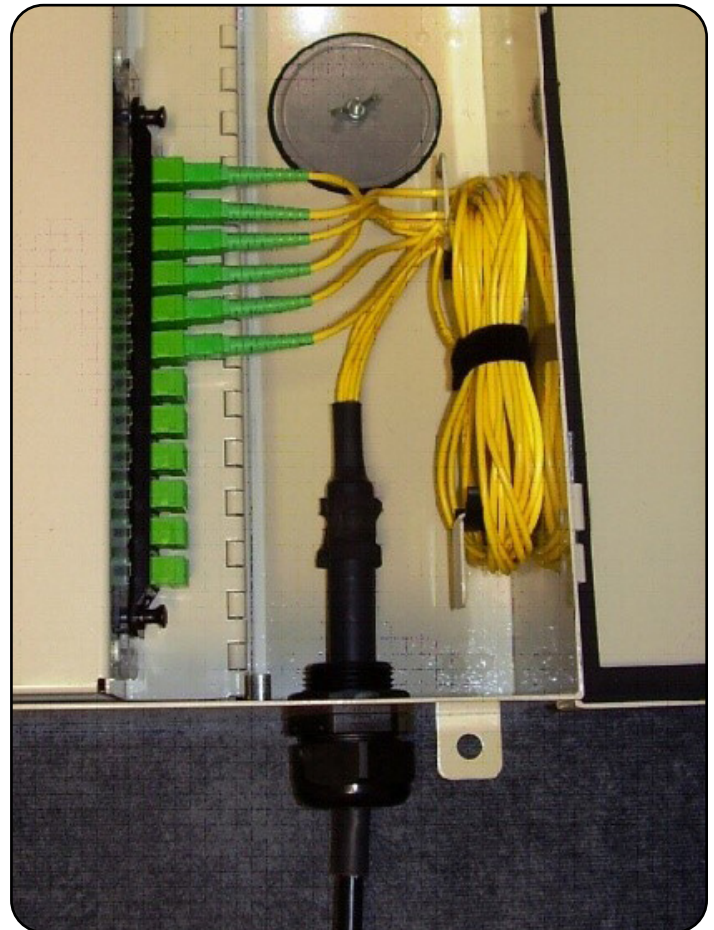


Figure 2



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Connector Cleaning Procedure

Whether factory terminated or field spliced, clean connectors are essential for proper system operation. Even the smallest dust particle can cause transmission problems, so for optimal network performance inspect, and if necessary, clean connectors and adapters prior to mating.

Inspect Then Connect

These are Clearfield recommended products/applications. Use the product you feel will complete your cleaning procedures. Create a “best practice” for your company and follow those procedures.

The use of Chemtronics end face and bulkhead cleaning products and techniques ensures a clean end face, no matter the type of contamination.

Before cleaning any connector, be sure you know what type of contaminate you are cleaning (dry, fluidic, or combination). All the available products are good, it's the process that you need to be aware of. Using a dry cleaning method to clean “dirt” can lead to scratching of the end face. Learn the process of cleaning properly.

Note: It is **NOT** recommended to use isopropyl alcohol to clean the end face.

Cleaning an SC/LC Connector

Cleaning the End Face

- Place one wiping paper on QbE-2 FiberSafe™ Cleaning Platen. (Figure 1)
- Apply small amount of precision cleaner (about 1” in diameter) with Electro-Wash MX pen on to one end of the wipe. (Figure 2)
- Hold end face at a 90 degree angle. For APC connection, adjust by slightly tilting the container or end face. Angle is correct when no drag is felt on the end face. (Figure 3)
- Draw end face from wet to dry part of the wipe 3 times. Use just enough pressure to ensure complete contact between end face and the wipe.

Note: **DO NOT** retrace previous step.



Figure 1



Figure 2



Figure 3

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Cleaning the Ferrule

- Lightly moisten the fiber optic swab (2.5mm/38542F or 1.25mm/38040) by spotting a small amount (about 1") of Electro-Wash PX or Electro-Wash MX pen onto the QbE. Hold the swab, 1 side down to the wetted area and hold for a count of 1-2-3-4-5. (**Figure 4**)

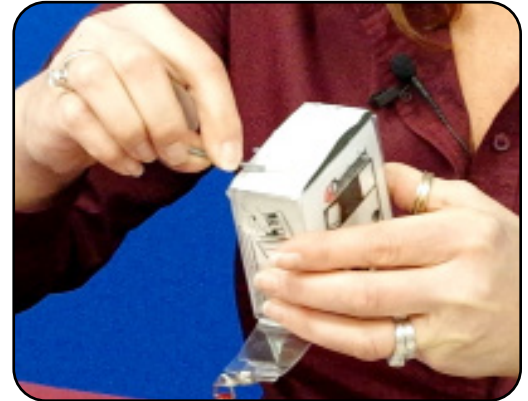


Figure 4

- Insert swab into side of ferrule, wet side to the ceramic ferrule and circle around 2-3 times and remove. Turn swab to dry side and repeat. (**Figure 5**)



Figure 5

Cleaning the Mate Through an Adapter AND the Adapter Itself

- Lightly moisten the fiber optic swab (2.5mm/38542F or 1.25mm/38040) by spotting a small amount (about 1") of Electro-Wash PX or Electro-Wash MX pen onto the QbE. Hold the tip of the swab onto the wetted area and hold for a count of 1-2-3-4-5.
- Insert the swab into the adapter to the connector, press lightly against the connector, twist 2-3 times, remove and discard.
- Dry with a second dry swab.
- Inspect, repeat cleaning if necessary, and test for signal strength.
- Use additional swabs to clean inside the actual adapter. Moisten swab, like above, and insert through hole and remove while twisting. (**Figure 6**)

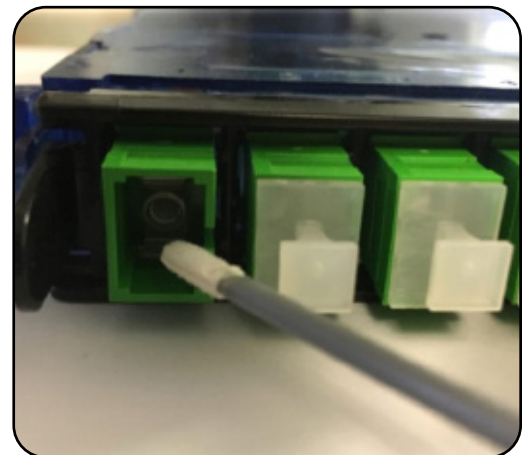


Figure 6



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Cleaning an MPO/MTP Connector

Male Connector

- Use of Chemtronics MTP Connector Cleaning Swabs (CC505F) is recommended. Even after cleaning with a probe cleaner, you should always clean the pins with this (or an equivalent) type swab. Cleans ALL MTP/MPO connector end faces. This swab also cleans the “pins” of the male connector
- Lightly “spot” a QbE-2 wipe on the platen with Electro-Wash PX Fiber Optic Cleaner, the FiberWash or MX Pen.
- Lightly touch short side of the MTP/MPO Connector Swab to the wetted area (3-5 secs) to absorb some cleaning solution (DO NOT over saturate the swab).
- Wipe connector areas to be cleaned, sliding pad from bottom of pad across and forward to tip of swab, from 1 side to the other, turn over and use long side to dry in same movement.

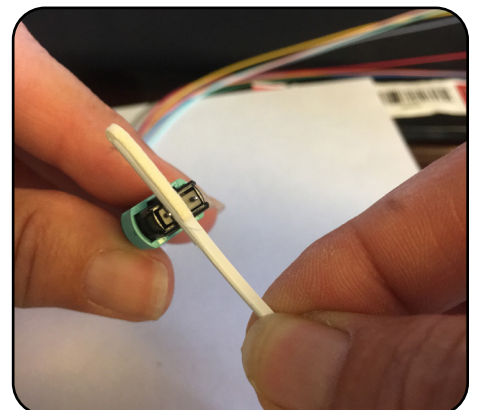


Figure 3

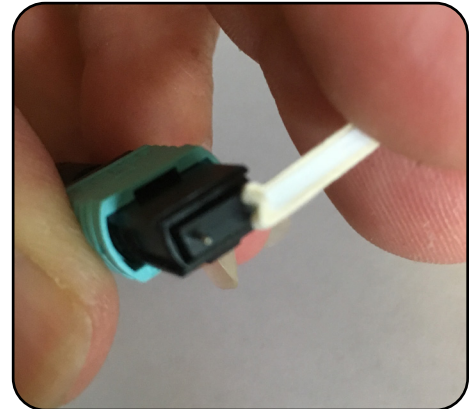
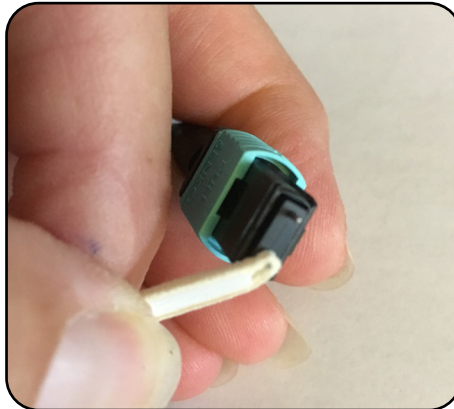
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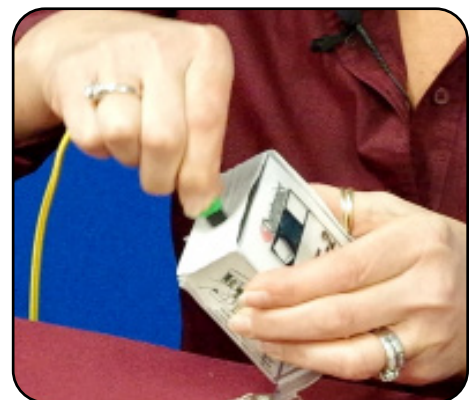


- Use the hole on end of pad to clean one alignment pin, then press the end of the swab into the other pin to clean.
- Check your work with a fiber scope. This can take several attempts to get the endface clean.



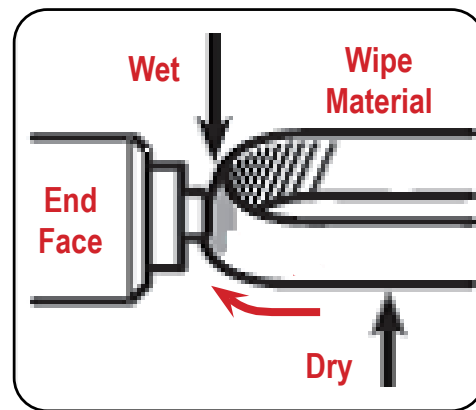
Female Connector (without pins)

- Cleaned like a single fiber connector, using a cleaning platform. The receptacles will be cleaned as long as you are using a combination cleaning process as recommended.
- Again, using a platen, moisten the platen with cleaning solvent on one end to accommodate 3 swipes of the MPO female endface.
- Holding the connector (If APC, slightly at an angle to accommodate for 8° angle) swiping with medium pressure, from the wet area into the dry area 3 times, without wiping over previous area.
- Inspect, and if clean, make the connection. If NOT, repeat above steps until clean or if determined that the end face is damaged (based on standards of 5 cleanings per connection), replace.

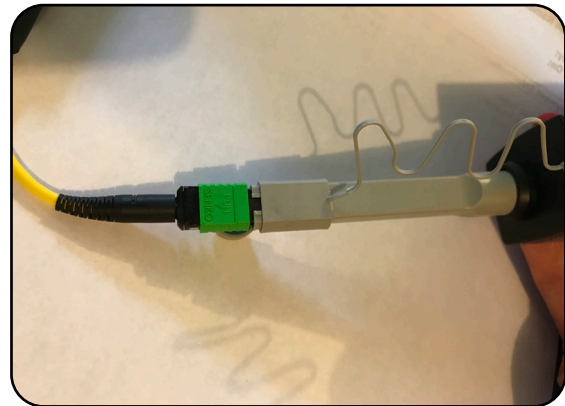
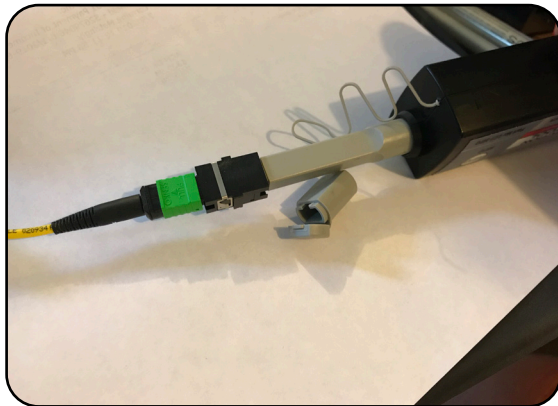


Cleaning Using a Probe-Style Cleaning Tool

- The probe style cleaning tools are capable of cleaning a connector end face separately or through the adapter.
- Slightly engage probe by pulling back but do not allow to click. Lightly “spot” a QbE-2 wipe on the platen with Electro-Wash PX Fiber Optic Cleaner, this will help alleviate “over saturation” of the material.
- Lightly touch the tip of probe and release.



- Insert connector or insert probe through adapter and click 2-3 times to move past the wet area and allow material to dry wipe.



- Inspect connector, repeat if necessary (following standards)
- If cleaning a male connector, clean the pins (see above)

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Standard Warranty

Clearfield warrants to the original purchaser of the Product sold hereunder is free from defects in material and workmanship under normal use and service, subject to exceptions stated herein. Product purchased is warranted as follows: Clearfield designed and branded Products are warranted for three (3) years; Products manufactured by Clearfield to customer prints and/or specifications are warranted for one (1) year; and any Product Clearfield acquires from or through a third-party manufacturer or distributor and resells to Customer as the original customer will carry the manufacturer's pass-through warranty, if any. In all cases, the warranty period commences on the date of shipment to the original purchaser.

Warranty Claim Procedure

If any Product purchased from Clearfield is found defective under the above warranty, the following basic procedure must be followed:

1. Customer must contact Clearfield and obtain a Return Materials Authorization
2. Following authorization, the Customer ships the product-freight collect to Clearfield's manufacturing facility
3. Clearfield shall repair or replace the defective Product at its sole option and discretion, and return the repaired or replacement Product to Customer's site, freight prepaid

Note: If the Product is not found to be defective by Clearfield, the product will be returned to the Customer and the customer billed for freight in both directions.

View our warranty policy here: <https://www.seeclearfield.com/warranty.html>

Limitations of Warranty

Correction of defects by repair or replacement, at the option of Clearfield Inc, shall constitute the exclusive sole remedy for a breach of this limited warranty. Clearfield shall not be liable under any circumstances for any special, consequential, incidental, punitive, or exemplary damages arising out of or in any way connected with the product or with agreement to sell product to buyer, including, but not limited to damages for lost profits, loss of use, or for any damages or sums paid by buyer to third parties. The foregoing limitation of liability shall apply whether the claim is based upon principles of contract, warranty, negligence or other tort, breach of statutory duty, principles of indemnity or contribution, the failure of any limited or exclusive remedy to achieve its essential purpose, or otherwise.

Clearfield will not be responsible for any labor or materials costs associated with installation or incorporation of Clearfield products at customer sites, including any costs of alteration, replacement or defective product, or any field repairs.

Other Limitations

Clearfield assumes no warranty liability regarding defects caused by:

1. Customer's modification of Product, excepting installation activities described in Clearfield documentation
2. Customer re-packaging of Product for shipment to third parties or destinations other than those originally shipped to by Clearfield, or any defects suffered during shipping where the Product has been re-packaged
3. Customer's installation or maintenance, excepting activities described in and performed in accordance with Clearfield documentation
4. Customer's improper or negligent use or application of Product
5. Other causes external to the Product, including but not limited to accidents, catastrophe, acts of God, government action, war, riot, strikes, civil commotion, sovereign conduct, or the acts or conduct of any person or persons not party to or associated with Clearfield
6. Environmental factors and weathering resulting in aging and damage not necessary or applicable to the function of the product



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Proprietary Notice

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However, no guarantee is given or implied that the document is error free or that it is accurate with regard to any specification.

Technical Support

Clearfield, Inc. can be contacted for any issues that arise with the supplied product.

If you need to return the supplied product, you must contact the Clearfield, Inc. Customer Service Department to request a Returned Materials Authorization (RMA) number.

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