



Multilink[®]
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Technical Information on Optical Terminal Product



Introduction

Too often, companies find themselves determining how to manage and design their future network when thinking about FTTX. There are many products out in the market that offer different types of solutions, some costly or not very practical. Like most industry's technology and methodology, there is constant change improving the product, simplifying the product, and reducing the costs. Multilink prides itself on providing customers with the solution to their needs with leading edge technology and products. To understand how our product will provide you with the best solution, we must first understand how we got to this point.

Background/Problem

As more and more companies continue to expand the utilization of their fiber network or FTTx (Fiber to The X), more fiber optic solutions with future expandability and cost effectiveness will be required. Achieving these objectives is not always obvious to the person or person's making the decisions.

As the installation of more Fiber Taps (MST or Multiple Service Terminals) has been deployed to feed homes or businesses, companies have rushed to get the popular device to provide this service. Some of the older style Fiber Taps or MSTs required what is called a "Hardened or Proprietary Connector", meaning you were locked into that manufacturer on this product with a pre-determined length of fiber feeding the MST. The issue that remains is that you have no other avenue to get this product, and this potentially results in long lead times and higher costs.

Solution

Providing solutions to the industry, Multilink stepped up to address this concern. We have developed a revolutionary new product called the Optical Terminal, or OT Fiber Tap. The goal of the OT is to focus on factors that will have a better outcome in the network with reduced costs and faster deployment while allowing use of a standard 4 or 8 port OT Fiber Tap. On the exterior of the OT housing, each port is numbered to align with the proper fiber input. First, let us understand what the OT is and what role it will play once the decision is made to purchase the OT for your network.

The OT is a device which serves as the service provider end point of the passive optical network. What differentiates the OT from other Fiber Terminals with pre-determined fiber pigtail lengths is it is designed to be assembled in the field. The OT has a non-captive housing allowing the use of multiple lengths of terminated fiber pigtails to be used with it. Fiber lengths from 10ft to 2000ft can be ordered with factory terminated

SC/APC connectors ready to plug into the “Color Coded Bulkheads” inside the OT. By doing so, this allows the technician to select the proper length of fiber to be used with the OT, as multiple situations arise where the “Designed Fiber Length” is now inaccurate. Doing this will reduce fiber waste due to incorrect lengths designed. Now you can have the proper length to fit the actual length required, the ability to have multiple lengths on trucks ready for use, and all while reducing multiple stock or part numbers as well as inventory on the trucks and in the warehouse.

The OT has most of the operational characteristics of a standard Fiber Tap/MST terminal. However, one significant difference is that the input fiber in other Fiber Tap Terminals is in a “Captive or Sealed Housing”. With the OT, the contractor or installer can select the most suitable fiber pigtail length needed for the installation at that moment. By selecting the most suitable length, the installer or contractor never has to determine the appropriate length or length’s before doing the construction or installation of the OT. Even when the design does call for specific lengths to be used, having multiple options available will always allow them to make the appropriate decision while minimizing waste or cost due to network changes.

By not having to specify pre-determined fiber lengths when ordering the Fiber Tap, the real secret behind the non-captive OT is discovered. It allows for minimal lead times for the OT as well as fiber pigtails in various lengths. You can pick the proper length and use the standard OT 4 or 8 port Fiber Tap models, allowing for cost savings and minimal waste.

Three key points that make the OT stand out above the rest;

- 1 FAST DEPLOYMENT,**
- 2 IMMEDIATE DELIVERY,**
- 3 COST EFFECTIVE.**

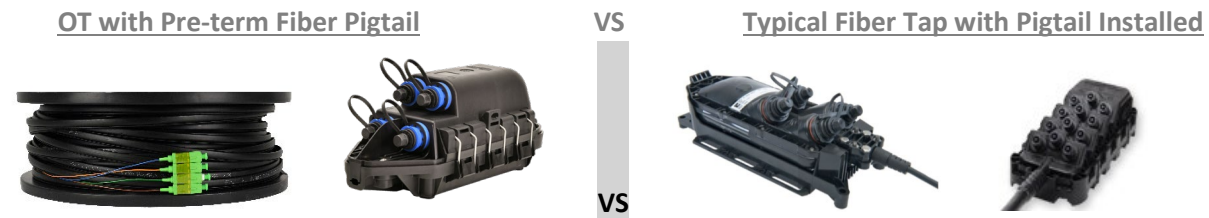
Now that you have an understanding of this product, we need to examine what makes the details of the change beneficial and advantageous to move forward with us now and in the future.

Typical Design Utilization of the OT

The OT is a new concept approach to an old existing product or method of how networks are built today. When networks are designed, a “System Walkout” is performed gathering vital information on Pole and Vault locations, distances, and Strand mapping, all to provide accurate footages. Some of this information may change due to pole transfers, street widening, new developments, or other items that change the footages when a “Walkout” is performed, or over the next year or two. Having the

ability to make adjustments on the spot now allows for instant changes to the required Fiber Tap and allows for the construction or installation of the Fiber Tap to proceed without delay. Simply grab the proper length pigtail, install, and plug into the OT.

Pictured below is the OT on the left with a separate Pigtail (available in various lengths or your choice) and on the right is the typical Fiber Tap or MST with pre-configured fiber length. Both can be installed the same if you wish or pull the fiber pigtail first (Joint Trenching), leave the pigtail coiled on the spool and then come back to install the Ped, Vault, or mount in an Aerial application. A versatile product in our ever-changing industry.



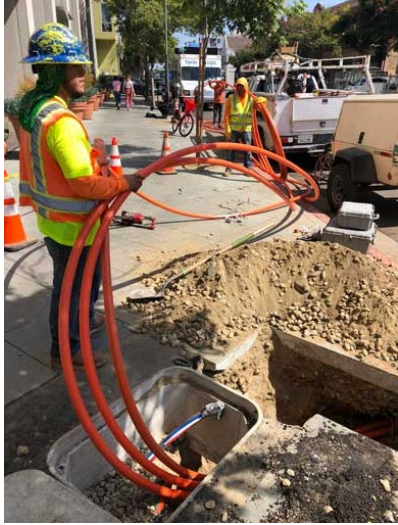
Features and Benefits

The benefits are clear, simple to understand and make more sense for future network designs.

- Construction and Joint Trenching Installation – deployment can be faster without the OT housing terminal attached and by pulling in just the bare end of the fiber thru the conduit leaving the connectorized end stable, coiled, and protected in a vault, pedestal, or aerial application until ready for use.
- Leadtime reduced by 90% – no custom configuration is needed when ordering a Fiber Tap and pre-terminated fiber lengths. Utilize the standard OT model and desired Fiber Pigtail length, and when fiber installation is completed, install the OT in the field.
- Maintenance to OT – If one of the bulkheads or internal SC/APC connectors are damaged, you can easily replace the damaged part now WITHOUT having to replace the whole unit PLUS installing new fiber to feed it.
- Servicing ability in the field – you can repair or replace the OT with minimal construction costs if the unit is damaged– NO FIBER REPLACEMENT COSTS AND MINIMAL OUTAGE TIME FOR THE CUSTOMERS, saving thousands of dollars.
- **FIBER COST SAVINGS** – By utilizing pre-terminated pigtails at multiple different lengths on a spool, you reduce the amount of Fiber WASTE when installing the OT. If utilizing your own fiber, now you cut to the proper length with minimal waste, so multiple options are available when using the OT.

- Flexibility of product – ability to order Multilink’s pre-terminated SC/APC pigtails in various lengths, use your own Flat Drop Fiber and connectorize yourself with Field Installable SC/APC (available from Multilink), or thru another fiber vendor source.
- Ability to use other vendors drops with proprietary connector, OR purchase Multilink’s drop with H IP connector, compatible with other vendors MST or Fiber Tap with same style bulkhead.
- Ability to pick proper fiber pigtail length.
- Reduced Inventory in warehouse – with standard models, inventory is simplified by not having to have multiple part numbers.





Specifications

General	
Parameter	Specification
Dimensions:	4.9"W x 4.6"H x 10.7"L (4-port) 7.5"W x 4.6"H x 10.7"L (8-port)
Material:	UV Stabilized Plastic
Feeder Ports:	1 Flat or 1 Round
Output Ports:	4 or 8
Mounting:	Pole, Strand, Pedestal, Wall
Standard:	IP68, designed to GR-771

*Installation is FAST, with minimal training to assemble, and is cost effective!!!!
The OT assembles within 5 to 10 minutes when using a pre-connectorized pigtail.*



4. Installation



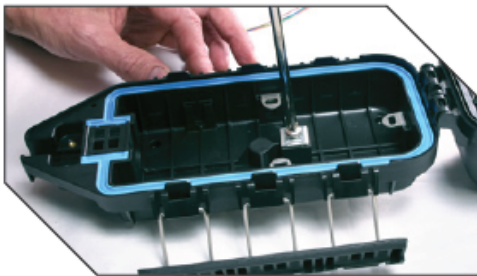
4.1 Open Terminal

Using a Phillips screwdriver, unscrew 2 bolts. Release latches on sides as well as the back. Then open to lay flat.



4.2 Fiber Management Clip

Press fiber management clips into slots on top and bottom pieces of the enclosure.



4.3 Strain Relief Bracket

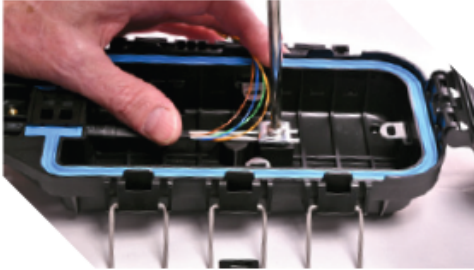
Loosely install strain relief in base.

4.4 Grommet

Remove pre-cut Grommet from fiber entrance and slide fiber into position through the slit in the grommet. Coat grommet with gel before pressing back into fiber entry.



Installation (Cont.)

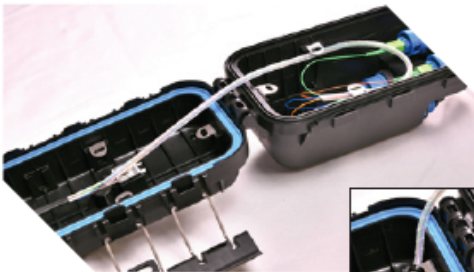


4.5 Strain Relief

Place strain relief under bracket as indicated and tightened screw to secure.

4.6 Install Fiber

Remove inside cover from each port as needed. Leave any unused ports covered. Then remove cover first (blue) fiber connector. Insert fiber in the port with the matching color. Repeat for each fiber connector.



4.7 Wrap Fiber

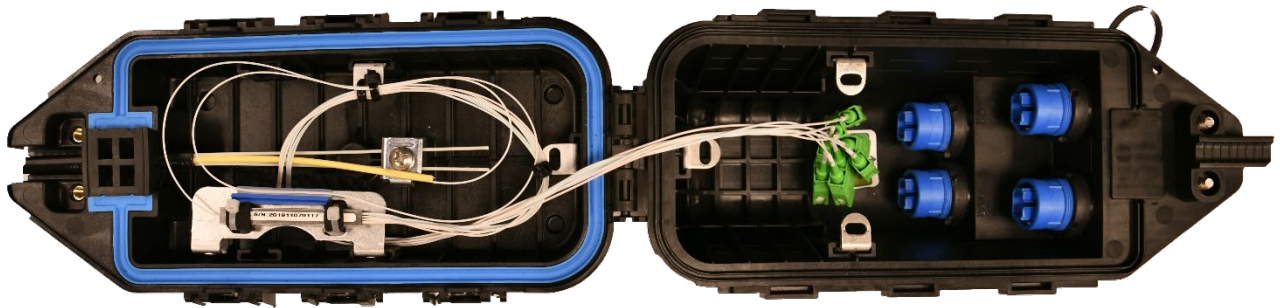
To protect fiber, wrap with spiral wrap and secure to fiber management clips with tie wraps.

4.8 Close Lid

Seal gasket with a thin coat of gel seal and close lid. Snap latches into place and tighten bolt with Philips Screwdriver.



Optional accessory, it can also be used with a Small Form Splitter in a 1x4 or 1x8 configuration with the splitter bracket.



Summary

Now that you have reviewed all the information in this document, you have seen how the Multilink Optical Terminal can support your FTTX now and in the future. The innovative design of the OT allows you to make adjustments during construction, installation, or when required instantly by choosing the correct length fiber pigtail and minimizing waste, down time, or delays to due inaccurate footages. Simple maintenance can now be performed during the day or in maintenance windows with minimal downtime for your customers. Overall, the OT is a new way to install your fiber termination product in your network with the flexibility to perform service and maintenance, with cost savings in mind.

For more information on this product or any other Multilink product, go to gomultilink.com.

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