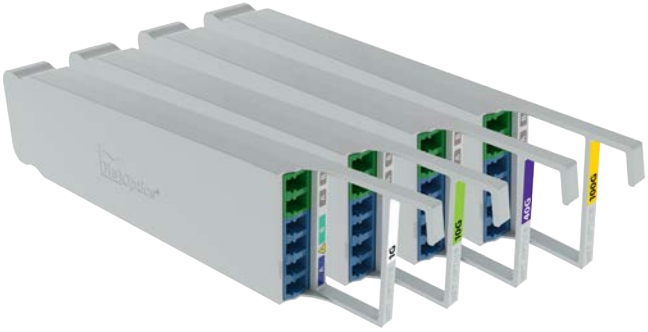
Installation Guide

for Flex Tap



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Introduction

Get total traffic visibility for monitoring and security devices by placing Net Optics Flex Taps on critical network links. The all-optical design of the Flex Tap is optimized and tested for high-performance on fiber networks. Available for LC and MTP connector types for single mode or multimode fiber networks running at ATM, 1 Gigabit, 10 Gigabit, 40 Gigabit, and 100 Gigabit speeds.

All-Optical Design

Requiring no power, Flex Taps maintain permanent passive access ports without introducing a point of failure or disturbing other network connections. These passive Taps deliver full-duplex monitoring with zero impact on network traffic around the clock.

Simply Plug It In

Full-duplex monitoring is a snap with a custom monitoring cable that sends each side of the signal to a separate NIC on the monitoring device. All monitoring and network cables are included with Net Optics Flex Taps for plug-and-play deployment.

Security and Visibility

Without an IP address, monitoring devices are isolated from the network, dramatically reducing their exposure to attacks. However, the monitoring device connected to the Tap still sees all full-duplex traffic as if it were inline, including Layer 1 and Layer 2 errors.

Key Features

Passive, Secure Technology

- High density design saves rack space
- Each model is tested and optimized for 1 Gigabit, 10 Gigabit, 40 Gigabit, and 100 Gigabit speeds
- Available in Single Mode and Multimode
- All split ratios available: 50, 60, 70, 80, and 90
- No IP address protects against attacks
- Compatible with all protocols and monitoring devices
- Passes all full-duplex traffic (including errors) from all layers
- Non-disruptive and transparent
- Quick, easy installation saves time with front-mounted connectors
- Requires no power
- Removable, flexible and scalable

Ease of Use

- Front-mounted connectors make installation and operation quick and easy
- Optional 19-inch rack mount holds up to 24 LC Flex Taps or 12 MTP Flex Taps
- Compatible with monitoring devices from major manufacturers, including protocol analyzers, probes, and intrusion detection systems
- MTP Y-cable provided with each MTP Flex Tap

About This Guide

Please read this guide before attempting to install the Net Optics LC and MTP Flex Taps.

Unpacking and Inspection

Flex Taps are individually packaged in smaller cartons and are shipped in a larger, multi-pack shipping carton. Carefully open the multi-pack shipping carton and remove the individual Flex Taps from the containers.

The LC Flex Tap multi-pack carton ships with the following:

- Flex Taps (ordered quantity up to 12 per multi-pack carton)
- Flex Tap Spacer (if ordererd)
- Quick Installation Guide (printed on each tap box)

Each MTP Flex Tap carton ships with the following:

- One MTP Flex Tap
- One MTP Y-cable
- Quick Installation Guide (printed on each MTP Flex Tap box)

You may have also ordered a Flex Tap Rack Mount panel for rack mounting and an extended warranty. Carefully check the packing slip against parts received. If any part is missing or damaged, contact the Net Optics Customer Service Department immediately.

Notes:_____

The Flex Tap Rack Mount panel ships with a spacer unit for use with an odd number of LC Flex Tap deployments. Do not discard.

_____

Unpack and Rack Mount the Flex Tap Rack Mount Panel

The Flex Tap Rack Mount panel is a purchased option and shipped in a separate carton. If you purchased a Flex Tap Rack Mount panel, carefully remove the panel, mounting screws and the spacer from the shipping carton.

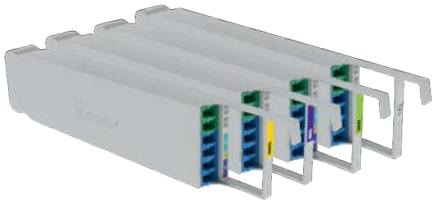
1. Find an appropriate mounting location for the Flex Tap panel in your cabinet or equipment rack.

2. Use the four rack-mounting screws provided to secure the panel in place.

Unpack the Flex Taps

1. Open one container end flap and slide the protective sleeve out of the container.
2. Inside the sleeve, push out the cardboard retainer tabs.
3. Carefully slide the Flex Tap unit out of its protective sleeve.
4. Check to ensure that there is no damage to the unit.

If the unit appears damaged, contact the Net Optics Customer Service Department immediately.



LC Flex Taps

MTP Flex Taps

Connecting the Fiber Optic Cables to the Flex Taps

Before you connect the fiber optics cable into a Flex Tap, make sure that the Flex Tap characteristics is compatible with the cables. The Tap characteristics is described on the label on the backside of the tap. Complete the following steps to connect the network and monitor cables:

To connect to the network (in-line links):

1. Connect Network Port A to the appropriate network appliance using a Duplex LC or MTP cable.
2. Connect Network Port B to the appropriate network appliance using another Duplex LC or MTP cable.

To connect to the monitoring tool:

1. Connect an LC Y-cable (for an LC Flex Tap) or an MTP Y-cable (for an MTP Flex Tap) to the monitor ports.

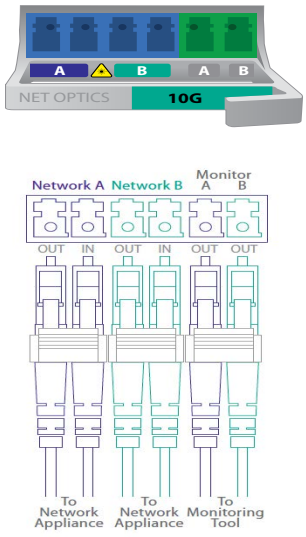
   The MTP connectors are keyed; therefore ensure the connectors are aligned before inserting into the tap.

   The LC Y-cables can be purchased at Net Optics. One MTP Y-cable is supplied with each MTP Flex Tap order.
2. For a full-duplex monitor, plug Monitor Port A and Monitor Port B into two ports on the tool.

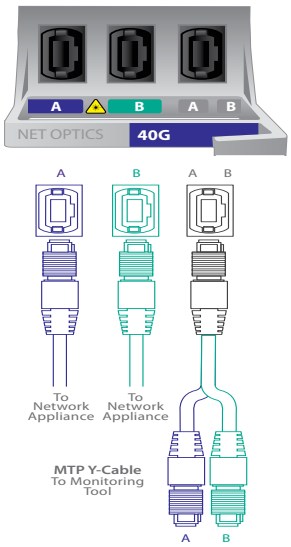
Note: _____

Traffic from Network A is routed to Monitor A and traffic from Network B is routed to Monitor B.

_____



Connecting to the LC Flex Taps



Connecting to the MTP Flex Taps

Loading the Flex Taps into the Panel

The Flex Tap panel is designed with 12 slots. Each slot holds two LC Flex Taps or one MTP Flex Tap.

To load the Flex Taps into the panel:

1. After connecting the cables into the Flex Taps, slide each tap into the panel slot with the handle on top until the tap is seated in the detents at the rear of the panel slot.

2. Repeat Step 1 for each Flex Tap unit until you have either partially or fully populated the panel (see “Figure 1. Fully Populated Flex Tap Panel with LC Model Taps” or "Figure 2: Flex Tap Panel Fully Populated with MTP Flex Taps"). You can put a mixture of LC and MTP Flex Taps in one panel.

3. When inserting the LC taps, insert a Flex Tap spacer unit to hold the odd numbered tap in place if necessary.The spacer ensures the LC Flex Tap is held snugly in place.

Figure 1: Flex Tap Panel Fully Populated with LC Flex Taps

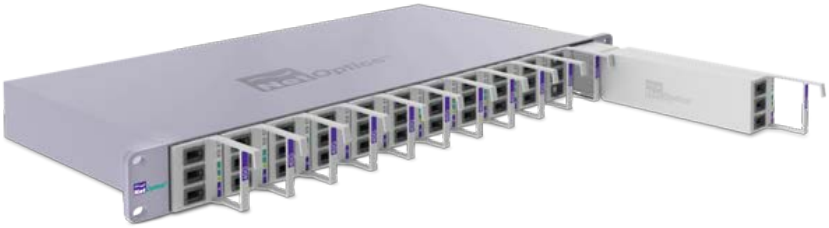


Figure 2: Flex Tap Panel Fully Populated with MTP Flex Taps

Notes:

For the Flex Tap LC Model, the monitor port is green for Single Mode and beige for Multimode.

Net Optics recommends that you leave enough slack in your service loops so that when you slide the taps out from the panel for servicing, you don't strain the fiber cables.

Extract Cables or Flex Tap

If you want to extract a fiber optic cable from the Flex Tap, gently pull on the Flex Tap tab to slide out the Flex Tap from the panel. Then remove the fiber optic cables by pinching the release tab (on LC connectors) or pulling on the release sleeve (on MTP connectors).

Labels

The label displays the following information pertaining to the particular unit:

Description: Model description

Split Ratio

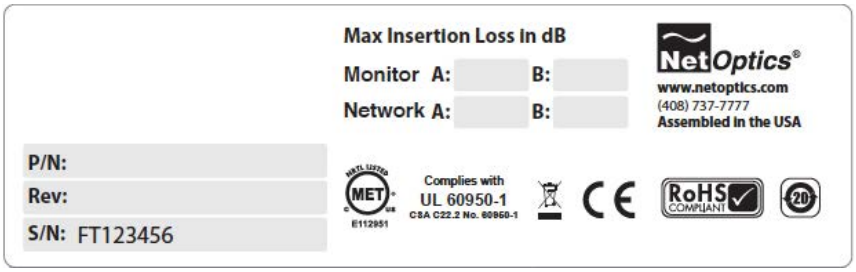
P/N: Part number (model number)

Rev: Revision level

S/N: Serial number

Max Insertion Loss in dB: Light insertion loss measured at each port

Compliance Notifications for the LC and MTP models Taps



Specifications

Operating

Operating Temperature: 0º to 40º C
Storage Temperature: –10º to 70º C
Relative Humidity: 10% minimum, 95% maximum, non-condensing

Mechanical

Tap Dimensions: 1.63 inches High x 7.82 inches Deep x 0.66 inches Wide
Rack Dimensions: 1.74 inches High x 8.41 inches Deep x 19.0 inches Wide

Fiber Type

Multimode:
Core Size: 50/125µm; Wavelength: 850nm/1300nm
Core Size: 62.5/125µm; Wavelength: 850nm/1300nm
Single Mode:
Core Size: 8.5/125µm; Wavelength: 1310nm/1550nm

Connectors

Network Ports: (2) Duplex LC connectors or MTP connectors
Monitoring Port: (1) Duplex LC connector or MTP connector

Split Ratio Multimode

Split Ratio	Network Port Insertion Loss	Monitor Port Insertion Loss
50/50 *	4.5 dB *	4.5 dB *
60/40	3.1 dB	5.1 dB
70/30	2.4 dB	6.3 dB
80/20	1.8 dB	8.1 dB
90/10	1.3 dB	11 .5 dB

* The MTP model is only available in this configuration.

Split Ratio Single Mode

Split Ratio	Network Port Insertion Loss	Monitor Port Insertion Loss
50/50	3.7 dB	3.7 dB
60/40	2.8 dB	4.8 dB
70/30	2.0 dB	6.1 dB
80/20	1.3 dB	8.0 dB
90/10	0.8 dB	12.0 dB

Unsurpassed Support

In the event that you require our assistance, our world-class technical support is available to help you.

Support is available 24x7 for customers with a Premium Service Plan, and from 7:00 a.m. to 5:30 p.m. PST, Monday through Friday, for all other customers.

If, at any time, you have questions, please feel free to contact us by using one of the following methods:

- Phone: (408) 737-7777
- Email: support@netoptics.com
- Customer Portal: http://customer.netoptics.com/

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Net Optics, Inc. warrants this device to be in good working order for a period of ONE YEAR from the date of purchase from Net Optics or an authorized Net Optics reseller.

Should the unit fail anytime during the said ONE YEAR period, Net Optics will, at its discretion, repair or replace the product. This warranty is limited to defects in workmanship and materials and does not cover damage from accident, disaster, misuse, abuse or unauthorized modifications.

If you have a problem and require service, please call the number listed at the end of this section and speak with our technical service personnel. They may provide you with an RMA number, which must accompany any returned product. Return the product in its original shipping container (or equivalent) insured and with proof of purchase.

Additional Information

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Net Optics is always open to any comments or suggestions you may have about its products and/or this manual.

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