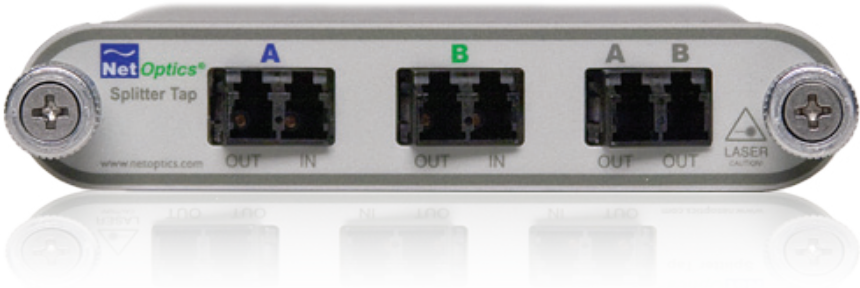




Installation Guide for Fiber Taps



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Additional Information

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Introduction

Get total traffic visibility for monitoring and security devices by placing Net Optics Fiber Slim Taps on critical network links. The all-optical design of the Fiber Tap is optimized and tested for high-performance on fiber networks. Available in LC or SC connector types for singlemode or multimode fiber networks running at ATM, Gigabit and 10 GigaBit speeds.

All Optical Design

Requiring no power, Fiber 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 Fiber 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 in-line, including Layer 1 and Layer 2 errors.

Key Features

Passive, Secure Technology

- Provides passive access without data stream interference or introducing a point of failure
- All-optical design is optimized and tested for fiber networks
- Permanent in-line installation without affecting network performance
- Passes all full-duplex traffic (including errors) from all layers for comprehensive troubleshooting
- No IP address is needed for the Tap or monitoring device, enhancing monitoring security
- Completely transparent to the network and requires no power
- Fully RoHS compliant

Ease of Use

- Front-mounted connectors make installation and operation quick and easy
- Connectors are perfectly angled to reduce cable strain
- Optional 19-inch rack frames hold up to 6 or 8 Taps depending on model purchased
- Compatible with all major manufacturers' monitoring devices, including protocol analyzers, probes, and intrusion detection systems

Support

- Net Optics offers free technical support throughout the lifetime of your purchase. Our technical support team is available from 8 am to 5 pm Pacific Standard Time, Monday through Friday at +1 (408) 737-7777 and via email at ts-support@netoptics.com. FAQs are also available on Net Optics website at www.netoptics.com.

About This Guide

Please read this guide before attempting to install the Fiber Tap. This guide covers the following models:

Part Number	Description
TP-MMn*-SCSLM	ATM Multimode SC Fiber Slim Tap
TP-SMn*-SCSLM	ATM Singlemode SC Fiber Slim Tap
TP-SXn*-SCSLM	GigaBit Multimode SC Fiber Slim Tap (SX)
TP-LXn*-SCSLM	GigaBit Singlemode SC Fiber Slim Tap (LX)
TP-ZXn*-SCSLM	GigaBit Singlemode SC Fiber Slim Tap (ZX) 1550nm
TP-50SXn*-SCSLM	GigaBit Multimode SC Fiber Slim Tap (SX) 50um
TP-SRn*-SCSLM	10 GigaBit Multimode SC Fiber Slim Tap (SR)
TP-LRn*-SCSLM	10 GigaBit Singlemode SC Fiber Slim Tap (LR)
TP-ERn*-SCSLM	10 GigaBit Singlemode SC Fiber Slim Tap (ER)
TP-50SRn*-SCSLM	10 GigaBit Multimode SC Fiber Slim Tap (SR) 50um
TP-MMn*-LCSLM	ATM Multimode LC Fiber Slim Tap
TP-SMn*-LCSLM	ATM Singlemode LC Fiber Slim Tap
TP-SXn*-LCSLM	GigaBit Multimode LC Fiber Slim Tap (SX)
TP-LXn*-LCSLM	GigaBit Singlemode LC Fiber Slim Tap (LX)
TP-ZXn*-LCSLM	GigaBit Singlemode LC Fiber Slim Tap (ZX) 1550nm
TP-50SXn*-LCSLM	GigaBit Multimode LC Fiber Slim Tap (SX) 50um
TP-SRn*-LCSLM	10 GigaBit Multimode LC Fiber Slim Tap (SR)
TP-LRn*-LCSLM	10 GigaBit Singlemode LC Fiber Slim Tap (LR)
TP-ERn*-LCSLM	10 GigaBit Singlemode LC Fiber Slim Tap (ER)
TP-50SRn*-LCSLM	10 GigaBit Multimode LC Fiber Slim Tap (SR) 50um

* “n” is the split ratio where 5 is 50/50, 4 is 60/40, 3 is 70/30, 2 is 80/20, and 1 is 90/10.

Unpacking and Inspection

Carefully unpack the Fiber Tap and check for damaged or missing parts. The Fiber Tap ships with the following:

- Fiber Tap
- Test report
- Installation Guide

You may have also ordered a 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.

Product Diagrams

Figure 1: Front Panel SC Models

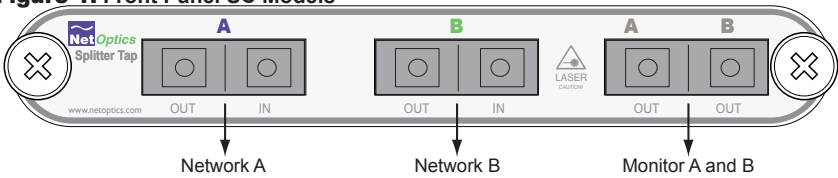
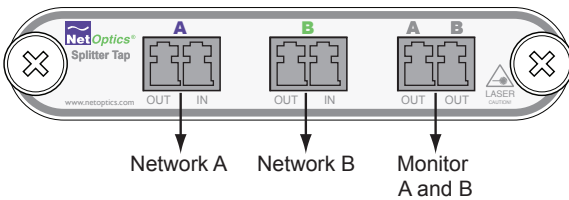


Figure 2: Front Panel LC Models



Connecting to the Network

1. Connect Network Port A to the appropriate network device using a Duplex SC or LC cable.
2. Connect Network Port B to the appropriate network device using a Duplex SC or LC cable.
3. Verify that the Tap Network Ports are cabled in-line between two devices.

Note:

The use of Singlemode (8.5µm), Multimode (50µm or 62.5µm), SC or LC cabling is determined by the model purchased.

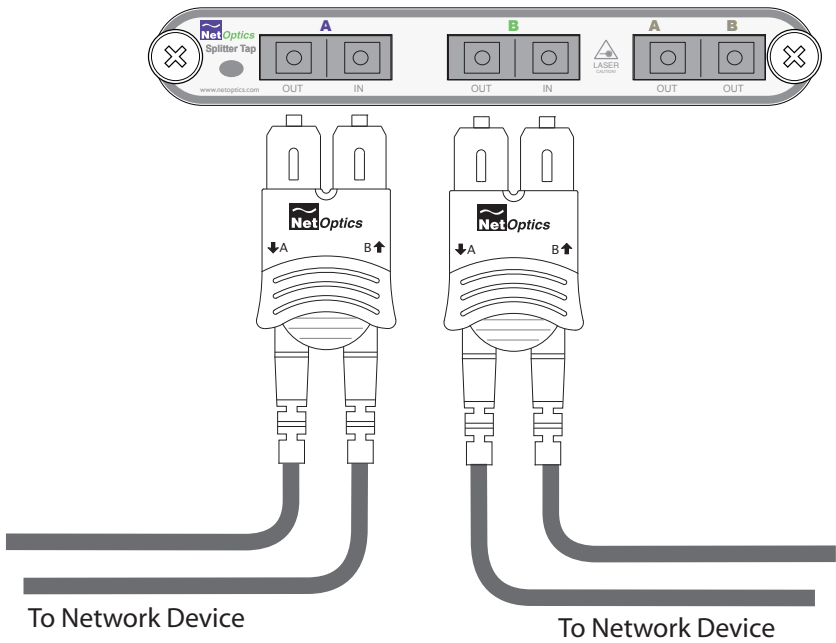


Figure 3: Connecting to the Network (SC model shown)

Connecting to the Monitoring Device

1. Connect to the Monitor Port using the included custom SC or LC analyzer cable.
2. Connect one side of the twin-duplex fiber cable into a RX port on the monitoring device to view one side of the full-duplex link.
3. Connect the other side of the twin-duplex fiber cable into another RX port on the monitoring device to view the other side of the full-duplex link.
4. Verify that the Tap Monitor Port is cabled to the monitoring device.

Note:

The connectors on the twin-duplex side of the custom analyzer cable contain RX connections only. The empty TX sides are present to eliminate cabling errors and should also be connected to the monitoring device.

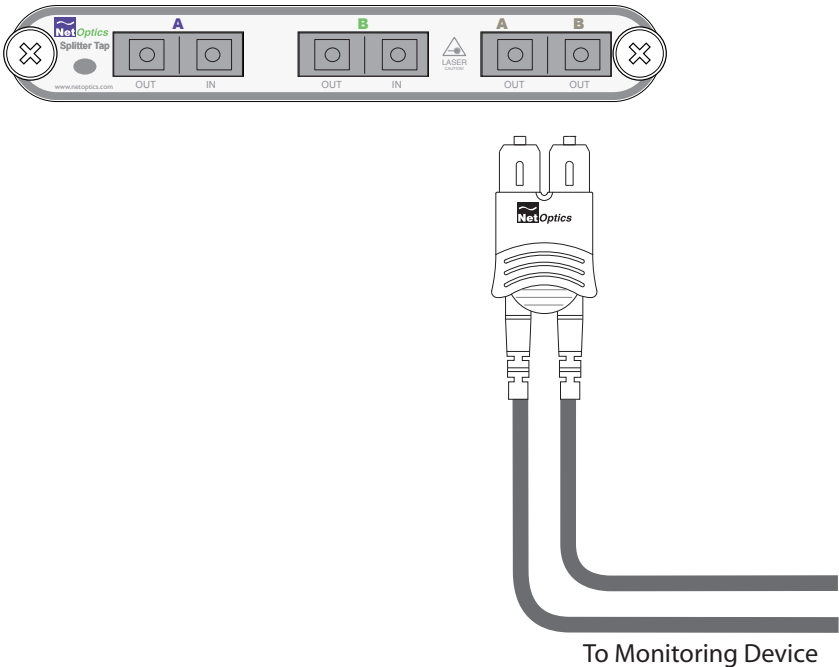


Figure 4: Connecting the Monitoring Device (SC model shown)

Specifications

Splitter Specifications

Fiber Type:

Corning Multimode 62.5/125 μ m, wavelength 850nm *

Corning Multimode 50/125 μ m, wavelength 850nm *

* also 1300nm, models with LC connectors

Split Ratio	Network Port Insertion Loss	Monitor Port Insertion Loss
90/10	≤ 1.3 dB	≤ 11.5 dB
80/20	≤ 1.8 dB	≤ 8.1 dB
70/30	≤ 2.4 dB	≤ 6.3 dB
60/40	≤ 3.1 dB	≤ 5.1 dB
50/50	≤ 4.5 dB	≤ 4.5 dB

Fiber Type:

Corning Singlemode 8.5/125 μ m, wavelength 1310nm

Corning Singlemode 8.5/125 μ m, wavelength 1550nm

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

Environment

Operating Temperature: -40°C to 85°C

Storage Temperature: -55°C to 85°C

Relative Humidity: 10% min, 95% max, non-condensing

Mechanical

SC Model Dimensions: 0.8" high x 4.4" deep x 5.5" wide

LC Model Dimensions: 0.8" high x 5.5" deep x 4" wide

Connectors

- (1) Duplex SC or LC connector (monitor port)
- (2) Duplex SC or LC connectors (network ports)

Certifications

Fully RoHS compliant

Limitations on Warranty and Liability

Net Optics offers a limited warranty for all its products. IN NO EVENT SHALL NET OPTICS, INC. BE LIABLE FOR ANY DAMAGES INCURRED BY THE USE OF THE PRODUCTS (INCLUDING BOTH HARDWARE AND SOFTWARE) DESCRIBED IN THIS MANUAL, OR BY ANY DEFECT OR INACCURACY IN THIS MANUAL ITSELF. THIS INCLUDES BUT IS NOT LIMITED TO LOST PROFITS, LOST SAVINGS, AND ANY INCIDENTAL OR CONSEQUENTIAL DAMAGES ARISING FROM THE USE OR INABILITY TO USE THIS PRODUCT, even if Net Optics has been advised of the possibility of such damages. Some states do not allow the exclusion or limitation of implied warranties or liability for incidental or consequential damages, so the above limitation or exclusion may not apply to you.

Net Optics, Inc. warrants this Tap 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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