



# Cisco Metro 1500 Series Optical Isolator Configuration Note

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This configuration note describes the usage of the optical isolator (OI) that can be used with the Cisco Metro 1500 series metropolitan area network (MAN) dense wavelength division multiplexing (DWDM) system.

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### Note

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This configuration note is used in conjunction with the *Cisco Metro 1500 Series Management Guide* and the *Cisco Metro 1500 Series Operations Guide*. Refer to these guides for complete operating instructions.

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# Introduction

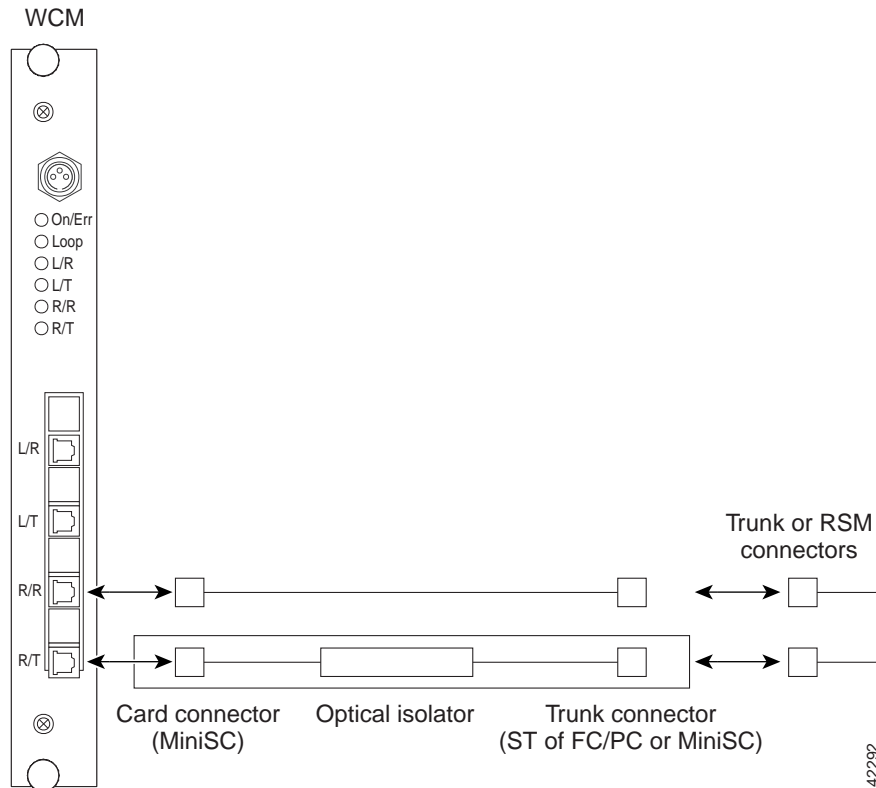
The Cisco Metro 1500 series optical isolator (OI) allows direct transmission from a wavelength channel module (WCM) over a remote (or trunk) fiber. The OI enables a WCM to bypass the multiplexing/demultiplexing (MUX/DMX) module in the Cisco Metro 1500 series chassis. By connecting the WCM to the OI through fiber jumpers, you can transmit directly over the remote fiber and obtain an additional 3 dB to 5 dB for use in your optical budget.

The OI minimizes optical back reflection. Optical back reflection is common in fiber-based transmissions. Back reflection is a small amount of light that is reflected back towards the transmitting optical component. The OI absorbs this reflected light so that the transmitting optical component operates with minimal interference.

# Installation Notes

The OI is connected directly to a jumper that extends from the remote connection of the WCM. The OI sits between the WCM and the remote (or trunk) fiber. See Figure 1.

**Figure 1** *Optical Isolator Connection Scenario*



To connect the OI, follow these guidelines:

- The optical connector coming out of a WCM is MU type. Cisco stocks fiber jumpers that use an "MU to SC" type connection. This is the standard jumper configuration. However, the isolator can be used with a number of different connector types if needed.
- The fiber jumper coming out of the WCM is connected to the fiber attached to the OI. Two SC connectors (for example) are connected.
- The fiber on the other side of the OI is connected to the trunk or remote fiber; two SC connectors (for example) are connected.

## Specifications

Table 1 lists the specifications of the OI.

**Table 1** *Optical Isolator Specifications*

Category	Value
Wavelength band	1520 - 1620 nm
Typical peak isolation	53 dB (min.)
Minimum isolation	32 dB (min.)
Typical insertion loss	0.7 dB
Maximum insertion loss	1.2 dB (max.)
Return loss	58 dB (min.)
PDL	0.15 dB (max.)
PMD	0.07 ps (max.)
Maximum optical power	300 mW
Maximum tensile load	5 N
Operating temperature	- 20 to + 60 C
Storage temperature	- 40 to + 85 C
Fiber length	1 m

## Related Documentation

The following documents are available for the Cisco Metro 1500 series:

- *Cisco Metro 1500 Series Management Guide*  
Customer order number DOC-7810590=
- *Cisco Metro 1500 Series Operations Guide*  
Customer order number DOC-7810588=
- *Cisco Metro 1500 Series Spares Installation Note*  
Customer order number DOC-7810595=
- *Cisco Metro 1500 Series Release Notes*  
Customer order number DOC-7810596=

For further information, see the “Obtaining Documentation” section on page 4.

## Obtaining Documentation

### World Wide Web

You can access the most current Cisco documentation on the World Wide Web at <http://www.cisco.com>, <http://www-china.cisco.com>, or <http://www-europe.cisco.com>.

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  - From North America, call 408 526-8070
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## Technical Assistance Center

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To contact by e-mail, use one of the following:

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Thai	<a href="mailto:thai-tac@cisco.com">thai-tac@cisco.com</a>

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<http://www.cisco.com/warp/public/687/Directory/DirTAC.shtml>.

This document is to be used in conjunction with the documents listed in the “Related Documentation” section.

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