

Optical Module Configuration Example



Overview

Configure Optical Modules This chapter describes how to configure the Optical Amplifier Module and Protection Switching Module (PSM). When you plan to Conf.

Key Takeaways

Optical modules can be configured by setting interface parameters, channel IDs, and alarm thresholds to ensure proper transmission and monitoring. DWDM Optical Module Configuration Example

For a DWDM system, optical modules are installed on router interfaces to output colored optical signals that comply with ITU-T G.694. The signals are sent to a MUX, multiplexed, transmitted, and then demultiplexed at the receiving end. Example steps include:

- Assign interfaces (e.g., GigabitEthernet 0/1/0 to 0/1/3) to optical modules.
- Configure transmission mode for each interface.
- Set channel IDs corresponding to the center wavelengths of the optical modules.
- Verify the center wavelengths on both transmitting and receiving devices to ensure proper alignment ().

Coherent Optics Module Configuration Example

For coherent optics modules:

- Enable soft-tx-disable on the local node to control transmission.

- Verify host interfaces on both nodes go down after enabling soft-tx-disable.
- Configure host loopback on the local node and confirm the interface comes up.
- Monitor alarms such as LOF (loss of frame), LOM (multiframe alignment errors), and ODU-AIS signals to detect signal degradation or absence from the far end ().

GPON Optical Module Parameter Configuration

For GPON OLT optical modules, key parameters include:

- Transmitting optical power
- Receiving optical power
- Temperature
- Power-supply voltage
- Bias current Example commands:
- Enable transmitting optical power alarm on port e8/1 and set maximum and minimum thresholds.
- Enable temperature alarm on PON port and configure thresholds.
- Enable voltage and current alarms with upper and lower limits.
- Clear alarm thresholds as needed to reset monitoring ().

Best Practices

- Always clear previous module configurations before installing a new module ().
- Verify channel presence and per-channel power monitoring for optical amplifiers.
- Use gridless configuration for flexible channel frequencies and widths if supported.
- Regularly monitor alarms and module parameters to prevent packet loss or registration issues. This example demonstrates a practical approach to configuring optical modules across DWDM, coherent optics, and GPON systems, ensuring proper signal transmission, monitoring, and fault detection.

Article Content

Configure Optical Modules

This chapter describes how to configure the Optical Amplifier Module and Protection Switching Module (PSM). When you plan to

The Most Comprehensive Guide Of Optical Modules

Explore the ultimate guide to optical modules. Learn types, functions, performance metrics & how to choose the right

Optical-Module Parameter Inquiry and Alarm Configuration

1.4.2 The following example shows how to browse the parameters of the OLT optical module. The following command shows how to

How a Tiny, Low-Power MCU Meets the Needs of an Optical Module

At the same time, optical module customers generally need an MCU with an online upgrade function so that the host

Everything You Need to Know About Optical Modules

Optical modules are electronic devices used in communication systems to transmit optical signals. These modules

The Key External Components of Optical Modules

An optical module serves as the backbone of modern fiber-optic communication. Its appearance often resembles a

Optical module

An optical module is a typically hot-pluggable optical transceiver used in high-bandwidth data communications applications. Optical

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TI DLP® System Design: Optical Module Specifications

The presentation provides a comprehensive overview of the guidelines specific to designing an optical system with DLP Products

Configure OTDR Module

When you plan to replace a configured optical module with a different type of optical module, you must clear the configurations of the

Displaying Optical Module Information

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This document describes the principles and

Understanding Optical Module Interconnection Principles

Understanding Optical Module Interconnection Principles In data centers and enterprise networks, optical modules

Configuration Guide for Cisco NCS 1001, IOS XR Release 7.1.1

When you plan to replace a configured optical module with a different type of optical module, you must clear the

Displaying Optical Module Information

Displaying Optical Module Information You can use the display commands to view information about the optical module on an

What Is an Optical Module and Its FAQs (V200)

What Is an Optical Module and Its FAQs (V200) Describes what an optical module is and FAQs, including the fundamentals,

Understanding Optical Modules: Types and Troubleshooting Guide

What is an Optical Module? The Ultimate Guide to Principles, Types, and Troubleshooting Working Principle of Optical Modules

View the Optical Module Status on a Switch through the Command

Once the transceiver and fiber optic cable are plugged in properly in the switch optical module, you should be able to

What Is An Optical Module?

An optical module is an important part of today's data systems. It helps send data using light signals through fiber optic

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