

Optical Module Model Identification



Overview

How to identify the model number of a fibre optic module chip
In summary, the chip model number of an optical module is a key identifier that provides impor.

Key Takeaways

Optical modules can be identified through pull tab colors, text markings, internal chip model numbers, and EEPROM or telemetry data.
Physical Identification

Optical modules often have labels and pull tabs that indicate manufacturer, module type, transmission distance, and serial number. If labels are damaged or missing, identification can still be performed by examining:

- Pull Tab Colors: Industry standards define specific colors for different module types, such as Cisco 40G modules, allowing preliminary identification based on color alone .
 - Text on Pull Tabs: Some modules include printed markings, such as the manufacturer logo or transmission rate, which can help distinguish models .
 - Housing Features: While module housings vary, certain core dimensions like insertion depth are standardized, but housing alone is not a reliable identifier .
- Internal Chip Model Numbers

Optical modules contain semiconductor chips such as laser diodes, photodetectors, driver chips, TIAs, and DSPs. Each chip has a model number that encodes information about its type, supported data rate, and technology platform. By examining these numbers, engineers can determine the module's capabilities, including transmission speed (e.g., 25G, 100G, 400G) and application environment .

EEPROM and Telemetry Data

Modern modules support EEPROM or digital diagnostic monitoring (DDM), which stores internal encoding data. Reading this data using a switch, dedicated code reader, or software interface allows precise identification of:

- Module type and manufacturer
- Supported wavelength and data rate
- Laser source type (e.g., Silicon Photonics, VCSEL)
- Single-mode vs. multimode classification For high-speed deployments, such as 800G or 1.6T networks, software-defined auditing via CMIS 5.2 ensures accurate verification and prevents issues like mode field diameter mismatches or "ghost links"

Practical Steps for Identification

- Check Pull Tab Color and Text: Compare with industry standards or vendor-specific tables.
- Inspect Internal Chip Model Numbers: Open the module if safe, or refer to manufacturer datasheets.
- Read EEPROM/DDM Data: Use compatible switches or code readers to extract module information.
- Cross-Reference with Vendor Documentation: Confirm module specifications, wavelength, and supported distances. By combining these methods, optical modules can be reliably identified even when external labels are missing or damaged, ensuring proper deployment and maintenance in fiber-optic networks .

Article Content

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Depending on transmission rates, optical modules are classified into 100GE, 40GE, 25GE, 10GE, FE, and GE optical modules. The

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You can review available optical transceiver options, then ask the technical team to verify the switch model, software

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Optical module

Optical modules typically have an electrical interface on the side that connects to the inside of the system and an optical interface on

Optical module

An optical module is a typically hot-pluggable optical transceiver used in high-bandwidth data

Optical Module: A Comprehensive Analysis from Source

Optical modules are key transmission components in communication networks, and their

Understanding Optical Modules

If you know the model or type of an optical module, you can view the section "Pluggable Modules for Interfaces" in the Hardware

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Brief Introduction To The Data Structure Of SFP Optical Modules

The 256 bytes of A0h mainly contain identification information about the optical module, including basic module

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Optical Module Coding is the digital key ensuring network device compatibility and stability

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Fundamentals of an Optical Module

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Optical Module Guide: Demystifying Optical Modules

Optical modules are essential components in modern communication networks, enabling

What Is an Optical Module

An optical module is a device for converting electrical signals to optical signals and vice versa, widely used in telecommunications

Understanding Optical Modules

Optical modules are the backbone of modern optical communication systems, enabling high-speed, reliable data transmission that

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Also known as an optical transceiver, it sits at the physical layer of the OSI model and serves as the core bridge in any fiber optic

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Internal Structure of Optical Modules

Optical modules are key components in fiber optic communication systems, responsible for electro-optical conversion,

Optical Transceivers-The Ultimate Guide for Beginners and Experts

What is an Optical Transceiver? An optical module is an electronic device that converts optical signals and electrical

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Checking the Optical Module Type

The selected optical modules must be supported by the optical interfaces. Check whether the optical module used on the switch is

Understanding Optical Modules: A Comprehensive Guide

Optical Module Basics: Understanding the Core Concepts Optical modules are compact devices that convert electrical signals into

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Learn what an optical module is, how it works, its internal components, common types, key

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Optical modules work on the switch usually need to read the internal information of the module to understand its

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