

Optical Module Code Reading



Overview

How to Read SFP & QSFP EEPROM Data — Practical Practical, step-by-step guide to reading and interpreting SFP/QSFP EEPROM and DDM data (A0/A2), with Optical.

Key Takeaways

Optical module codes can be read by decoding the part number and accessing the module's EEPROM to verify specifications and compatibility. Understanding Optical Module Codes

Optical module codes, such as GLC-SX-MMD or SFP-10G-LR, are structured identifiers that reveal key information about the transceiver, including speed, wavelength, supported distance, and power levels . These codes act as a digital fingerprint stored in the module's EEPROM, allowing network devices to quickly identify the module type and ensure compatibility . Vendor-specific codes may create compatibility locks, meaning a module may only work with certain switches unless the code matches the expected specifications .

Decoding Part Numbers

- Prefix: Indicates the module type or standard (e.g., GLC for Cisco SFP modules).
- Speed and Distance: Letters or numbers denote data rate (1G, 10G, 25G) and maximum transmission distance (SR for short-range, LR for long-range, ZX for extended range).
- Wavelength or Mode: Some codes include wavelength (e.g., 850nm, 1310nm) or single-mode/multi-mode designation.

- Special Features: Optional letters may indicate duplex type, digital diagnostics, or vendor-specific enhancements .

Reading Module Information on Switches

To verify the code and module parameters, you can use switch commands to access the EEPROM and diagnostic data:

- Cisco Switches:
 - show interface displays link status, speed, and transceiver type.
 - show inventory provides model, serial number, and EEPROM-stored specifications.
 - show idprom interface reveals detailed coding information .
- Extreme Switches:
 - show port configuration shows interface speed, duplex, and module type.
 - show ports transceiver information detail returns module identification and digital diagnostic monitoring (DDM) data, including wavelength, vendor, and serial number .
- Huawei Switches:
 - display transceiver [interface interface-type interface-number | slot slot-id] shows module information.
 - display transceiver diagnosis interface provides DDM data such as optical power, temperature, voltage, and current .

Practical Tips

- Always check vendor compatibility; non-certified modules may not be recognized or may show unsupported status.
- Use the EEPROM data to confirm module specifications before deployment to avoid network instability.
- For multi-vendor environments, understanding the coding system helps ensure modules meet the Multi-Source Agreement (MSA) standards while avoiding proprietary lockouts . By combining part number decoding with switch-based EEPROM reading, you can accurately identify, verify, and monitor optical modules in your network.

Article Content

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- The CodingBox is designed for reading and writing transceiver codes, it facilitates I2C testing and EEPROM read/write for optical

Optical module coding illustrated tutorial

This manual is applicable to ICHIB-X1 and X2 series (ICHIB-X1 series only has read and write code function, and cannot realize

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Arduino Motor Encoder (Optical Encoder) Interfacing

Optical Encoder Module Pinout This is the pinout diagram for the optical encoder module

What Is an Optical Reader? Types, Uses, and More

Optical Sensors The heart of any optical reader is its sensor. It captures visual data from

Optical Character Recognition (OCR) Scanners Information

Optical character recognition (OCR) scanners read handwritten, typed, or printed text from paper and translate the data into a format

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Real-world compatibility is the combination of correct coding + host acceptance + proven optical/electrical margins. If

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More Information OHV1000 DPM Handheld Reader Ultimate Reading Performance for Reliable Processes With its patented dual

MT-029: Optical Encoders

MT-029 TUTORIAL Optical Encoders by Walt Kester Among the most popular position measuring sensors, optical encoders find use

Optical Incremental Encoder Reading

I have a HP Optical Incremental Encoder (256 CPR) in which Pin 1 = A, Pin 2 = VCC, Pin 3 = GND, Pin 8 = B. I

Unlocking the Power of Optical Character Recognition

Scene text recognition extends the capabilities of traditional optical character recognition to

Making an optical encoder with an optointerrupter and Arduino

Learn to use an optointerrupter with Arduino to build an optical encoder and measure the speed and position of a motor

Optical Design Engineering | Keysight

Learn how Keysight's photonic device tools and optical engineering software enable optical engineers to design, simulate, validate,

Detecting and Reading QR Codes Using Computer Vision

In this article, we're going to walk through how to detect and read QR codes using Roboflow and Python.

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

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Barcode

These can be read using purpose-built 2D optical scanners. Both matrix codes and linear barcodes can also be read by a digital

Optical Character Recognition and Barcode Reading

SMART 3D OPTICAL CHARACTER RECOGNITION The Surface OCR tool recognizes and extracts a string of text from surfaces,

TCRT5000 Reflective Optical Sensor module example

In this example we look at a module based on the TCRT5000 Reflective Optical Sensor with Transistor Output. A very

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