Optical modules in blue and dark blue



Overview

Many different forms of optical modulation and multiplexing have been employed in optical modules. The most common modulation technique historically has been on-off keying or NRZ. Pulse-amplitude modulation (PAM-4) has also been extensively used. In the 2010s, coherent optical modulation has been used. Techniques include Dual Polarization Quadrature Phase Shift Keying (DP-QPSK) and QAM-16.

Key Takeaways

Blue optical modules typically indicate a 1310nm wavelength for single-mode fiber, used for medium-distance transmission, while dark blue may represent similar or slightly extended medium-range applications.

Blue Optical Modules

Blue pull tabs or rings on optical modules generally correspond to a 1310nm wavelength, which is standard for single-mode fiber (SMF). These modules are commonly used for medium-distance transmissions, typically up to 10 km, and are often found in LX or LH SFP transceivers. The blue color helps technicians quickly identify the module type and its compatible fiber without checking the label, streamlining installation and maintenance.

Dark Blue Optical Modules

Dark blue is sometimes used to indicate medium-distance single-mode modules or slight variations in wavelength within the 1310nm range. While the exact designation can vary by manufacturer, the dark blue color still generally signals single-mode fiber and is intended for medium-range applications, making it visually distinct from standard blue modules for easier identification in complex networks.

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Practical Implications

Fiber Type: Both blue and dark blue modules are for single-mode fiber, not multimode fiber. Transmission Distance: Suitable for medium-range links, typically up to 10 km. Network Applications: Common in enterprise networks, data centers, and metro access networks where medium-distance single-mode connections are required.

Identification: Color coding allows for quick troubleshooting, port mapping, and error reduction in high-density environments.

Summary

Using blue and dark blue optical modules helps network engineers rapidly distinguish 1310nm single-mode transceivers for medium-distance applications. Always verify the module's printed label or manufacturer documentation to ensure correct deployment, as color coding serves as a first reference rather than a definitive specification.

Article Content

Optical module

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Many different forms of optical modulation and multiplexing have been employed in optical modules. The most common modulation technique historically has been on-off keying or NRZ. Pulse-amplitude modulation (PAM-4) has also been extensively used. In the 2010s, coherent optical modulation has been used. Techniques include Dual Polarization Quadrature Phase Shift Keying (DP-QPSK) and QAM-16.

The Most Comprehensive Guide Of Optical Modules

Explore the ultimate guide to optical modules. Learn types, functions, performance metrics & how to choose the right module for your fiber network.

How to Identify Optical Transceiver Wavelengths by Pull-Tab Color:

In fiber optic networks, accurately identifying the wavelength of an optical transceiver module is essential for ensuring optimal network performance and reliability. One of the most

Understanding Transceiver Pull Tab Colors: Wavelengths & Fiber Types

Learn how to identify optical transceivers by pull tab color. This guide explains wavelength, distance, and fiber compatibility for SFP, QSFP, BIDI & CWDM modules.

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Meaning of Optical Module Pull Tap Colors

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Description: Decode optical module pull tab colors for SFP, QSFP+, BIDI, and CWDM modules. Learn how color identifies fiber type, wavelength, and transmission distance to simplify data

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The CWDM transceivers are working in a specific optical frequency ranges defined by the ITU-T. In 2002 the ITU standardized a channel spacing grid for use with CWDM (ITU-T G.694.2),

Shades of blue

Varieties of the color blue may differ in hue, chroma (also called saturation, intensity, or colorfulness), or lightness (or value, tone, or brightness), or in two or three of these qualities. Variations in value are

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