

What are the power supply methods for optical splitters



Overview

Introduction to Passive Optical Network Splitter Architectures These various methods can be mixed in a network to best meet the performance and cost require.

Key Takeaways

Optical splitters are passive devices and do not require any external power supply to operate. Passive Operation

Optical splitters, including both Fused Biconic Taper (FBT) and Planar Lightwave Circuit (PLC) types, function by physically dividing a single optical signal into multiple outputs using the properties of light transmission through fiber. Because they rely entirely on passive optical coupling, no electrical power is needed for the splitting process. This makes them highly reliable and low-maintenance components in fiber networks.

Implications for Network Design

Since optical splitters do not require power:

- They can be installed in locations without access to electricity, such as underground cabinets or aerial enclosures.
- They reduce operational costs and simplify deployment in Passive Optical Networks (PONs), including GPON, EPON, and FTTH systems.

- The only power considerations in the network are for active devices at either end of the fiber link, such as the Optical Line Terminal (OLT) and Optical Network Terminal (ONT), which generate and receive the optical signals .

Summary

In essence, optical splitters do not have power supply methods because they are inherently passive. Their operation depends solely on the optical signal provided by upstream active equipment. Any network power planning focuses on the OLT, ONT, or other active transceivers, not the splitter itself . This passive nature is a key advantage in large-scale fiber deployments, allowing multiple endpoints to share a single fiber without additional electrical infrastructure.

Article Content

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