

OLT Optical Module Selection



Article Overview

Selecting the right OLT optical module depends on network type, subscriber capacity, uplink bandwidth, and compatibility with ONUs/ONTs.

Key Considerations

1. PON Technology: Choose the OLT module based on the type of Passive Optical Network (PON) you plan to deploy. For residential networks, GPON is generally sufficient, while XGS-PON is recommended for high-bandwidth or business-oriented deployments. XPON dual-mode OLTs offer flexibility for mixed environments supporting both GPON and XGS-PON simultaneously . 2. Port Count and Subscriber Capacity: Each PON port typically supports 64-128 ONUs depending on the split ratio. Calculate the number of ports based on current subscribers and projected growth over 3-5 years. For small networks, box-type OLTs with 2-16 PON ports are suitable, while rack-mounted modular OLTs provide higher scalability, supporting 64-256 ports or more for large-scale deployments . 3. Uplink Bandwidth: Ensure the OLT module supports sufficient uplink capacity to handle aggregated traffic. Common uplinks include 10G SFP+ or 40G, with some high-end models offering 100G for large-scale networks. Align uplink capacity with expected traffic from video streaming, cloud services, and enterprise applications . 4. Interoperability: If you plan to use third-party ONUs, select OLT modules known for good interoperability. Compatibility ensures smooth operation, reduces configuration issues, and maintains service quality . 5. Management and Monitoring: Look for modules that support CLI, Web GUI, SNMP, TR-069, and OMCI for remote provisioning, monitoring, and maintenance. Advanced management features help optimize bandwidth allocation, security, and subscriber authentication . 6. Power and Redundancy: Consider OLT modules with d...

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Understand GPON Technology

When an ONU/ONT is not within its time slot, the device disables transmission of its optical transceiver to prevent

Contact Us

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