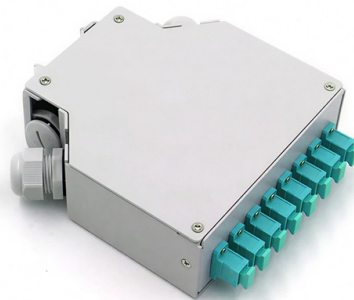


SDH Optical Module Power Consumption



AI Overview

Typical SDH SFP optical modules consume around 1 watt per module, regardless of STM-1 or STM-4 line rates.

Overview of SDH SFP Modules

SDH (Synchronous Digital Hierarchy) optical modules, often in the SFP (Small Form-Factor Pluggable) form factor, are used to convert electrical signals from telecom equipment into optical signals for fiber transmission. They support standardized line rates such as STM-1 (155 Mbps), STM-4 (622 Mbps), and STM-16 (2.5 Gbps) and are widely deployed in routers, multiplexers, and transport platforms .

Power Consumption Details

- STM-1 / OC-3 SFP modules: Typical power consumption is approximately 1 W per module .
- STM-4 / OC-12 SFP modules: Also consume around 1 W, despite the higher line rate .
- Gigabit Ethernet SFP modules: Power consumption remains in the 1 W range, showing that SFP modules are designed for low power operation across different speeds . These modules are designed to be hot-swappable and energy-efficient, which allows network operators to scale or upgrade optical links without significant increases in power usage .

Factors Affecting Power Consumption

- Transmission distance: Long-reach modules using DFB lasers (e.g., 1550 nm for 8...

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