

Article Overview

QSFP28 modules in South Africa provide 100GbE connectivity with multiple form factors and reach options, supporting high-performance data center and enterprise networks.

Overview of QSFP28

QSFP28 (Quad Small Form-Factor Pluggable 28) is a hot-swappable transceiver designed for 100 Gigabit Ethernet (100GbE). It uses four parallel electrical lanes, each capable of 25 Gbps, achieving an aggregate bandwidth of 100 Gbps. QSFP28 modules are widely used in data centers, enterprise core networks, high-performance computing, and service provider environments due to their compact size, low power consumption, and high-density deployment capability .

Key Specifications

- o Data Rate: 100 Gbps aggregate (4 x 25 Gbps lanes)
- o Wavelengths: Typically 850 nm (SR), 1310 nm (LR/ZR), or CWDM for extended reach
- o Reach:
 - o SR4: Short-range, up to 100 m over multimode fiber
 - o LR4: Long-range, up to 10 km over single-mode fiber
 - o ZR4: Extended reach, up to 80 km over single-mode fiber
- o Connector Type: Duplex LC or MPO/MTP for parallel optics
- o Operating Temperature: Standard and extended temperature ranges for harsh environments
- o Power Consumption: Typically 3.5-5 W per module
- o Diagnostics: Digital diagnostic monitoring (DDM) for optical power, temperature, and voltage

Common QSFP28 Models Available in South Africa

- o Netshield QSFP28 100G Compatibles
 - o Locally manufactured, cost-effective alternatives
 - o Compatible with most vendor switches and servers
 - o Hot-swappable, IEEE-compliant, and high-density capable
- o MikroTik QSFP28 100G SM 2 km 1310 nm
 - o Four full-duplex channels, 25 Gbps per channel
 - o Built-in optical power monitoring
 - o Designed for harsh conditions including EMI, temperature, and humidity



South African Active Optical Module QSFP28

- o QSFP28-100G-ZR4-S
- o Supports 100GBASE Ethernet up to 80 km over single-mode fiber
- o Duplex LC connectors, extended case for heat dissipation and reliability
- o Other Variants
- o QSFP28-100G-LR4: 10 km reach
- o QSFP28-100G-SR4: Short-range multimode
- o QSFP28-CWDM4: Coarse Wavelength Division Multiplexing for 2 km-10 km
- o QSFP28-ER4: Extended reach up to 40 km

Applications

- o Data Centers: High-density 100GbE uplinks and spine-leaf architectures
- o Enterprise Networks: Core and distribution layer aggregation
- o Service Providers: High-speed backbone and metro connectivity
- o High-Performance Computing: InfiniBand EDR and low-latency interconnects

Selection Considerations

- o Compatibility: Ensure module matches switch or server vendor specifications
- o Reach Requirements: Choose SR, LR, or ZR based on fiber distance
- o Environmental Conditions: Extended temperature modules for harsh environments
- o Budget: Locally produced compatibles can reduce costs by ~30% without compromising quality QSFP28 modules in South Africa offer a versatile, high-performance solution for modern networking needs, with multiple models and specifications to suit short-range, long-range, and extended-reach applications.

Amphenol's 100G QSFP28 optical modules include SR4, AOC, AOC break out, CWDM4, LR4, ER4 Lite, ER4 and ZR4 series, which

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Based on the industry standard QSFP28 design, these devices are a compact, hot-pluggable transceiver used in

particular for data

This optical module offers four independent full-duplex channels with up to 25 Gbps per channel bandwidth and an

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MikroTik QSFP28 100G module SM 2km 1310nm The MikroTik 100 Gigabit product line is here. This optical module offers four

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This optical module offers four independent full-duplex channels with up to 25 Gbps per channel bandwidth and an aggregate

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