

Aerospace-grade QSFP28 optical module SFP selection guide



AI Overview

Selecting the right QSFP28 or SFP28 module requires matching form factor, lane architecture, fiber type, reach, power/thermal limits, and operational requirements to ensure reliable high-speed connectivity.

Form Factor and Lane Architecture

- SFP28: Single-lane module, typically 25G per lane, ideal for server or access-layer deployment where port density and long-term scalability are priorities .
- QSFP28: Four-lane module, each lane 25G, aggregated to 100G Ethernet. Commonly used in spine/aggregation layers for high-density, high-throughput networks .
- QSFP-DD: Supports 400G and 800G, backward-compatible with QSFP28 ports, suitable for future-proofing aerospace networks .

Fiber Type and Reach

- SR4 (Short Reach): Uses 850nm parallel MMF, optimal for intra-rack links under 100m. Cost-effective and low-latency .
- LR4 (Long Reach): Uses 1310nm WDM-multiplexed SMF, supports up to 10km, ideal for DCI or long-haul aerospace links where stability is critical .
- CWDM4: Coarse WDM over SMF, efficient for 500m–2km campus or spine-leaf fabrics, balances CAPEX and thermal efficiency

Article Content

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