Specification Sheet

CONNECTRIX B-SERIES DS-8820B

128 Gb/s Fibre Channel Data Center Switches

Introducing the Connectrix DS-8820B Switch: Powering the Future of Enterprise AI and Modern Workloads

Overview

The **Connectrix DS-8820B** is a cutting-edge, high-performance 1U Fibre Channel switch engineered to meet the evolving demands of today's data centers. Featuring **56 128G SFP+ ports**, ultra-low latency, and exceptional throughput, it delivers the bandwidth and scalability required to support enterprise AI, high-performance computing, and next-generation workloads.

Designed with space efficiency in mind, its compact form factor maximizes rack utilization while offering seamless scalability for future growth. Powered by **Dell Connectrix B-Series GEN8 technology**, the DS-8820B combines **128 Gb/s performance**, **quantum-safe security**, and **AI-driven autonomy** to ensure reliable, secure, and intelligent data delivery.

As workloads intensify and cyber threats grow more sophisticated, securing the storage network becomes mission critical. The DS-8820B addresses this challenge with **integrated quantum-resistant encryption** and **embedded SAN AI**, providing autonomous operations, streamlined management, and robust protection against emerging threats.

Key benefits include:

- **99.9999% availability** for uninterrupted operations
- **Self-healing capabilities** to maintain up time even during disruptions
- **Built-in congestion management** for consistent performance
- **Set-and-forget automation** that reduces manual intervention and frees IT teams to focus on strategic priorities

In an era where speed, security, and resilience are paramount, the Connectrix DS-8820B Switch delivers the intelligence and performance needed to keep your infrastructure ahead of the curve.

Build High-Performance SAN Fabrics with the Connectrix DS-8820B Switch

2025 Dell Inc. or its subsidiaries. Oct. 2025

The **Connectrix DS-8820B Switch** is a powerful, fixed-port Fibre Channel switch designed to scale out SAN fabrics and deliver exceptional performance. With **56 ports at 128 Gb/s**, ultra-low latency, and a compact 1U form factor, it enables organizations to accelerate workloads and increase workload density—while conserving valuable rack space.

Flexible, Cost-Effective Scalability

The DS-8820B supports **Ports on Demand (POD)**, allowing seamless expansion from 24 to 56 ports in 8-port increments. This **pay-as-you-grow** model minimizes upfront costs, avoids overprovisioning, and enables non-disruptive capacity growth. All software features are included, eliminating the need for additional licenses or installations—unlocking immediate value and operational efficiency.

Simplified SAN Management

To streamline operations, the DS-8820B offers intuitive management tools:

- **Web Tools**: A built-in, simplified interface for everyday tasks
- **SANnav™ Management Portal**: Modern dashboards, accelerated troubleshooting, and rapid deployment of applications, servers, switches, and storage

Cyber-Resilient Architecture for Advanced Security

Built on a **quantum-safe foundation**, the DS-8820B protects critical data and applications from emerging cybersecurity and quantum computing threats.

Key security features include:

- **Fibre Channel isolation** and **role-based access controls**
- **Hardened Fabric OS®** and hardware validation to prevent unauthorized access
- **256-bit quantum-resistant encryption** and **post-quantum cryptography algorithms**
- **Least privilege architecture** to minimize attack surfaces and reduce risk

AI-Powered Autonomy for Modern SAN Management

Connectrix B-Series GEN8 technology brings **embedded SAN AI** and **SAN Fabric Intelligence (SAN FI)** to automate infrastructure management and deliver deep visibility across the network.

Key capabilities:

- Eliminate manual correlation of resources
- Accelerate troubleshooting with end-to-end visibility
- Adapt to changing workloads with **self-optimizing traffic management**
- Prioritize critical application traffic using **Adaptive Traffic Optimizer**

Autonomous SAN Features continuously monitor fabric behavior, detect anomalies, and self-correct before performance is impacted—ensuring maximum uptime and operational efficiency.

2025 Dell Inc. or its subsidiaries. Oct. 2025

Access Gateway Mode for Seamless Integration

The DS-8820B can operate in **full-fabric switch mode** or **Access Gateway mode**, simplifying integration with existing SAN environments. Using **Fibre Channel NPIV**, Access Gateway mode connects servers to core SAN switches transparently, offering:

- Improved scalability for growing server environments
- Reduced edge management overhead
- Support for heterogeneous SAN configurations

Access Gateway can be enabled via **Command Line**, **Web Tools**, or **SANnav™ Management Portal**.

Dell Global Support

With over 30 years of expertise in storage networking, Dell Global Support provides world-class technical assistance, implementation, and migration services. Organizations benefit from accelerated deployments, optimized performance, and maximum return on investment.

DS-8820B	
System Architecture	**Technical Specification**
Fibre Channel ports	Switch mode (default): 56 128G SFP+ ports, each supporting E_Ports, F_Ports, N_Ports, M_Ports, D_Ports, and EX_Ports 24-port base configuration; additional ports are enabled with four 8-port SFP+ PODs (Ports on Demand), scaling the switch from 24 ports to 56 ports Access Gateway default port mapping: 56 F_Ports, 8 N_Ports
Scalability	Full-fabric architecture with a maximum of 239 switches
Certified maximum	4K active nodes; 56 switches, 19 hops in Fabric OS fabrics
Performance	Fibre Channel: 112.2Gb/s line speed, full duplex; 57.8Gb/s line speed, full duplex; 28.05Gb/s line speed, full duplex; 14.025Gb/s line speed, full duplex; autosensing of 128G, 64G, 32G, and 16G port speeds depending on SFPs used
ISL Trunking	Frame-based trunking with up to eight SFP+ ports per ISL trunk; up to 1,024Gb/s per ISL trunk. Exchange-based load balancing across ISLs with Dynamic Path Selection (DPS) included in Fabric OS
Aggregate bandwidth	DS-8820B 7.168Tb/s
Maximum fabric latency	Latency for locally switched ports is 580 ns at 128G with dual forward error correction (FEC)
Maximum frame size	2112-byte payload
Frame buffers	40K
Classes of service	Class 2, Class 3, Class F (interswitch frames)
Port types	D_Port (ClearLink® diagnostic port), E_Port, EX_Port, F_Port, M_Port; optional port-type control Access Gateway mode: F_Port and NPIV-enabled N_Port
Data traffic types	Fabric switches supporting unicast
Media types	DS-8820B 128G FC SFP+ LC connector: SWL 64G FC SFP+ LC connector: SWL, LWL, ELWL
USB	One standard USB port for firmware download, SupportSave, and configuration upload or download

2025 Dell Inc. or its subsidiaries. Oct. 2025

Fabric Services and Extension	BB Credit Recovery; Advanced Zoning (Default Zoning, Port/WWN Zoning, Peer Zoning); Congestion Signaling; Dynamic Path Selection (DPS); Extended Fabrics; Fabric Performance Impact Notification (FPIN); Fabric Vision; FDMI; FICON CUP; Flow Vision; F_Port Trunking; FSPF; Integrated Routing; ISL Trunking; Management Server; Name Server; NPIV; NTP v3; Port Decommission/Fencing; QoS; Registered State Change Notification (RSCN); SAN Fabric Intelligence (SAN FI); Slow Drain Device Quarantine (SDDQ); Target-Driven Zoning; Adaptive Traffic Optimizer; Virtual Fabrics (Logical Switch, Logical Fabric); VMID+ and AppServer

DS-8820B

Management	Technical Specification
Long Distance	Fibre Channel, in-flight compression (LZO) and encryption (AES-GCM-256 encryption on FC ISLs [E_Port]); support for DWDM MAN connectivity
Management	Advanced Web Tools; SANnav Management Portal and SANnav Global View; Command Line Interface (CLI); HTTP/HTTPS; RESTful API; SNMP v1/v3 (FE MIB, FC Management MIB); SSH
Management access	1000Mb/s Ethernet (RJ-45) port and serial console port (mini-USB with thumb screws, plus a mini-USB to RJ-45 adapter for regular RJ-45 console port access)
Diagnostics	Active Support Connectivity (ASC) and Brocade Support Link (BSL); built-in flow generator; ClearLink optics and cable diagnostics, including link traffic/latency/distance; Fabric Performance Impact Monitoring (FPI); flow mirroring; Dual Forward Error Correction (FEC); frame viewer; IO Insight for SCSI and NVMe monitoring; Monitoring and Alerting Policy Suite (MAPS); non-disruptive daemon restart; optics health monitoring; POST and embedded online/offline diagnostics, including environmental monitoring, FCping, and Pathinfo (FC traceroute); power monitoring; RAStrace logging; Rolling Reboot Detection (RRD); SAN Fabric Intelligence (SAN FI); Syslog/Audit Log; VM Insight

DS-8820B

Mechanical	Technical Specification
Enclosure	Front-to-back airflow; non-port-side exhaust; power from back, 1U Back-to-front airflow; non-port-side intake; power from back, 1U
Size	Width: 44.00 cm (17.32 in.) Height: 4.37 cm (1.72 in.) Depth: 39.68 cm (15.62 in.)
System weight	8.39 kg (18.5 lb) with two power supplies, fans, without transceivers 9.48 kg (20.9 lb) with two power supplies, fans, fully populated with transceivers

DS-8820B

Environment	Technical Specification
Operating environment	Temperature: 0°C to 40°C (32°F to 104°F) Humidity: 8% to 90% (non-condensing)
Non-operating environment	Temperature: –25°C to 70°C (–13°F to 158°F) Humidity: 8% to 90% (non-condensing)
Operating altitude	Up to 3000 m (9842 ft)
Storage altitude	Up to 12 km (39,370 ft)

2025 Dell Inc. or its subsidiaries. Oct. 2025

Shock	Operating: Up to 10G, 11 ms half-sine Non-operating: Up to 40G, 18 ms half-sine, 3 axis
Vibration	Operating: 1.0 Grms sine, 0.40 Grms random, 5.9 Hz to 500 Hz Non-operating: 2.4 Grms sine, 1.2 Grms random, 5.9 HZ to 500 Hz
Heat Dissipation	Typical: 56 ports at 1146.79 BTU/hr Maximum: 56 ports at 1638.28 BTU/hr

DS-8820B

Power	Technical Specification
Power Supply	Dual, hot-swappable, redundant power supplies with integrated system cooling fans. 80 Plus Platinum.
AC Input	90V to 264V, maximum input current 9.7A
AC Input Line Frequency	50 Hz to 60 Hz nominal, 47 Hz to 63 Hz range
AC Power Consumption	Measured based on 240V input and 128G SWL SFP+ optics Idle power draw: • 146W for an empty chassis with no transceivers Typical power draw: • 262W with 28 128G SWL optics modules under 50% traffic rate, low fan speed, ambient temperature 25°C • 336W with 56 128G SWL optics modules under 50% traffic rate, low fan speed, ambient temperature 25°C Maximum power draw: • 478W with 56 128G SWL optics modules under 100% traffic rate, max. fan speed, ambient temperature 40°C

2025 Dell Inc. or its subsidiaries. Oct. 2025

Dell Technologies Services

Plan, deploy, manage and support IT transformation with our top-rated services

Consulting
Dell Technologies Consulting Services provides industry professionals with a wide range of tools and the experience you need to design and execute plans to transform your business.

Deployment
Accelerate technology adoption with ProDeploy Enterprise Suite. Trust our experts to lead deployments through planning, configuration and complex integrations.

Management
Regain control of operations with flexible IT management options. Our Residency Services help you adopt and optimize new technologies and our Managed Services allow you to outsource portions of your environment to us.

Support
Increase productivity and reduce downtime with ProSupport Enterprise Suite. Expert support backed by proactive and predictive artificial intelligence tools.

Education
Dell Technologies Education Services help you develop the IT skills required to lead and execute transformational strategies. Get certified today.

Learn more at DellTechnologies.com/Services

2025 Dell Inc. or its subsidiaries. Oct. 2025