



ATTO Technology, Inc.



8Gb/s Fibre Channel Switches

FibreConnect™ 8308, 8316, 8324

Scalable SAN connectivity that provides enterprise-level features for small to mid-range SANs to enable high performance and low latency collaborative workflows.

Superior Workflow Performance

FibreConnect switches provide high-performance connectivity with all ports capable of operating at 2, 4 and 8Gb/s to enable up to 192Gb/s of uncongested throughput. ATTO-exclusive latency management features ensure smooth and reliable data transfer on the SAN, a critical requirement for high-bandwidth video streaming or backup applications. This level of SAN performance provides organizations with improved storage utilization and enables faster LAN-free backup to increase overall system performance and productivity.

Increased Efficiency

FibreConnect switches significantly increase performance and functionality for SANs at a reasonable price, combining auto-sensing 2, 4 and 8Gb/s throughput with features that greatly enhance workflow efficiency. Implementing FibreConnect switches into a SAN allow users to interconnect and share media resources for applications such as video production, editing and post-production. FibreConnect switches are an affordable solution for consolidating storage on a SAN, which increases productivity and streamlines workflow processes to meet project deadlines.

Advanced Scalability

The FibreConnect family of switches integrate innovative hardware and software features that make it easy to manage and deploy into a wide range of video and IT environments. With powerful and flexible Ports-On-Demand scalability from 8 to 16 or 24 ports in 8-port increments, FibreConnect allows organizations to start small and grow their storage networks in a non-disruptive manner.

Simplified Management

FibreConnect switches are easy to setup and configure with the Web Tools interface, making switch configuration, deployment and management an easy process. The FibreConnect has self-configuring switch ports that adjust to match device speeds and allows for firmware updates and error logging to increase overall serviceability.

Technical Highlights

- Ports-On-Demand ("pay-as-you-grow") scalability from 8 to 16 or 24 ports
- Provides an affordable foundation for small to mid-range SANs
- Web Tools interface simplifies configuration and management
- Delivers full 8Gb/s, 1:1 performance for up to 24 ports in a 1U form factor
- Energy efficient solution with low power consumption
- Dual functionality as a full-fabric SAN switch or as an NPIV-enabled gateway
- Protects existing investments with auto-sensing 2, 4 and 8Gb/s capabilities
- Extensive ATTO and Brocade interoperability with leading video and IT infrastructure vendors
- Complete Fibre Channel SAN connectivity solution when combined with ATTO's Celerity Fibre Channel HBAs



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Technical Specifications

Applications

FibreConnect switches are easy-to-configure SAN switches that allow SMBs and high-end media and entertainment professionals to efficiently and reliably share data. FibreConnect is ideal for video editing, post production, video-on-demand, and complex database applications that run on multiple workstations or servers. The FibreConnect family allows multiple users to share media resources while working simultaneously on projects, creating a productive and efficient workflow.

System Architecture

Fibre Channel Standards

- FC-PH, FC-PH-2, FC-PH-3, FC-GS-2, FC-FLA, FC-FG, FC-SW3

Certified Maximum

- Single FOS fabric: 56 domains, 19 hops

Fibre Channel Ports

- 24 ports in 8-port increments through Ports-on-Demand licenses at 8,16 and 24 universal (E, F, M, FL, or N) ports

Performance

- Full line-speed switching at:
 - 2.125Gb/s line speed, full duplex
 - 4.25Gb/s line speed, full duplex
 - 8.50Gb/s line speed, full duplex
- Auto-sensing of 2, 4, and 8Gb/s port speed
- Optionally programmable to fixed port speed
- Speed matching between 2, 4, and 8Gb/s

ISL Trunking

- Up to 68Gb/s per ISL trunk (8 ports x 8.5Gb/s (line rate))
- Exchange-based load balancing across ISLs with DPS included in Fabric OS

Aggregate Bandwidth

- 408Gb/s: 24 ports x 8.5Gb/s (line rate) x 2 (full duplex)

Maximum Fabric Latency

- 700ns with no contention, cut-through routing at 8Gb/s

Maximum Frame Size

- 2,112-byte payload

Frame Buffers

- 700 dynamically allocated, 484 maximum per port

Classes of Service

- Class 2, Class 3, Class F (Interswitch Frames)

Media Types

- Requires FibreConnect hot-pluggable SFP+, LC connector; Short-Wavelength Laser (SWL); distance depends on fiber-optic cable and port speed

Data Traffic Types

- Fabric switches supporting unicast, multicast (255 groups), and broadcast

Port Types

- FL_Port, F_Port, M_Port (Mirror Port), and E_Port; self-discovery based on switch type (U_Port)

Fabric Services

- Simple Name Server (SNS); Registered State Change Notification (RSCN); NTPv3; Reliable Commit Service (RCS); Dynamic Path Selection (DPS); NPIV; N-Port Trunking; FDMI; Management Server; FSPF; IPoFC, Frame Redirection; Port Fencing; BB credit recovery

Connectivity Management

Interface

- Telnet, HTTP, SNMPv1/v3 (FE MIB, FC Management MIB); Auditing, Syslog, Change Management tracking; Web Tools; SMI-S compliant, SMI-S scripting toolkit

Management Access

- 10/100 Ethernet (RJ-45), in-band over Fibre Channel; serial port (RJ-45)

Security

- SSL, SSH v2, HTTPS, LDAP, RADIUS, Role-Based Access Control (RBAC), DHCHAP (between switches and end devices), Port Binding, Switch Binding, Secure RPC, Secure Copy (SCP), Trusted Switch, IPsec, IP Filtering

Diagnostics

- POST and embedded online/offline diagnostics, including RASttrace logging, environmental monitoring, non-disruptive daemon restart, FCping and Pathinfo (FC traceroute), port mirroring (SAN port)

Physical Specifications

Enclosure

- Non-port to port-side airflow; 1U; 19-inch EIA-compliant, power from port side
- Includes mounting hardware that will extend the width to fit a 19" rack

Size

- Width: 42.88 cm (16.88 in), Height: 4.29 cm (24.11 in), Depth: 30.66 cm (12.07 in), System Weight: 4.2 kg (9.3 lb), without SFP/SFP+ media

Environmental Specifications

Temperature

- Operating: 0°-40°C (32°-104°F)
- Non-operating: -25°-70°C (-13°-158°F)

Relative Humidity

- Operating: 10% to 85% non-condensing
- Non-operational and storage (non-condensing): 10% to 95% non-condensing

Altitude (meters/feet)

- Operating: Up to 3,000 meters (9,842 feet)
- Storage: Up to 12 kilometers (39,370 feet)

Shock

- Operating: 20 G, 6 ms, half-sine
- Non-operating: Half-sine, 33 G, 11 ms, 3/eg Axis

Vibration

- Operating: 0.5 G sine, 0.4 grms random, 5 to 500 Hz
- Non-operating: 2.0 G sine, 1.1 grms random, 5 to 500 Hz

Heat Dissipation

- Maximum 24 ports: 195 BTU/hr

CO² Emissions

- 210 kg per year (with 16 ports at 0.42 kg/kWh)
- 1.09 kg per Gb/s per year

Input Voltage

- 85 to 264 VAC nominal

Frequency

- 47 to 63 Hz

Power Consumption

- Nominal 48 watts; maximum 57 watts with 24 ports at 8Gb/s

Regulatory Requirements

United States - Safety: UL60950; EMI: FCC Part 15 Class A

Canada - Safety: CSA No. 60950; EMI: ICES-003 Class A

Australia/New Zealand - EMI: EN550022 Level A

Japan - Safety: IEC 60950; EMI: VCCI Class A

International - Safety: IEC 60950; EMI: CSPR22 Class A

European Community - Safety: EN60950, TUV, NEMKO; EMI: EN55022 Level A, EN55024

Taiwan - Safety: CNS; EMI: 13438 Class A

Ordering Information

Phone: 716-691-1999

FCSW-8308-D00 (8 ports activated)

FCSW-8316-D00 (16 ports activated)

FCSW-8324-D00 (24 ports activated)



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