

EMC Connectrix MDS 9148 Switch



The EMC® Connectrix® MDS 9148 Fibre Channel switch supports up to 48 ports capable of speeds of 8/4/2/1 gigabit (Gb) per second and offers cost-effective high availability, security, and ease of use in a compact one-rack unit (1RU) form factor. The MDS 9148 supports intelligent network services such as Virtual SANs (VSANs), Port Channels, Quality of Service (QoS), and security. The base configuration has sixteen 8 Gb/s active ports and the flexibility to expand from 16 to 48 ports in eight-port increments. The high-performance MDS 9148 offers the densities required to scale from an entry-level departmental switch to a top-of-the-rack switch to edge connectivity in enterprise storage area networks (SANs).

Specifications

System Architecture

Fibre Channel Standards

- FC-PH (Revision 4.3), FC-PH (Amendment 1), FC-PH (Amendment 2), FC-PI, FC-PI-2, FC-FS, FC-FS-2, FC-LS, FC-AL, FC-AL-2 (Revision 7.0), FC-AL-2 (Amendment 1), FC-AL-2 (Amendment 2), FC-SW-2, FC-SW-3, FC-SW-4, FC-GS-3, FC-GS-4, FC-GS-5, FC-BB, FC-BB-2, FC-BB-3, FCP, FCP-2, FCP-3, FC-SB-2, FC-SB-3, FC-VI, FC-FLA, FC-PLDA, FC-TAPE, FC-MI, FC-MI-2, FC-SP, and FC_DA

Fibre Channel Ports

- Up to 48 ports; base units ship with 16, 32, or 48 active ports

Cascade Maximum

- Up to 56 switches, three hops, depending on the configuration

Virtual SAN (VSAN) Support

- Up to 16 VSANs

Performance

- 8 Gb/s, full duplex; 8 Gb/s dedicated ports

Switch Core

- Non-blocking

Classes of Service

- Class 2, Class 3, Class F

Fibre Channel Port Types

- F_Port
- FL_Port
- E_Port

Media Types

- Hot-pluggable, industry-standard LC Small Form-factor Pluggable (SFPs)
- Short-wave laser up to 1,640 ft/500 meters
- Long-wave laser up to 6.21 miles/10 km, 300 meters for 2 Gb/s

Fabric Services

- Simple Name Server, Registered State Change Notification (RSCN), Login Services, Public Loop, Broadcast, In-order Delivery, Name Server Zoning

Hot-swappable Components

- Power supply, SFPs

Installation Options

- 19-inch EIA-compliant rack

Optional Features

- Enterprise Package
- Fabric Manager Server

Availability Features

- Redundant AC input
- Hot-swappable power supplies
- Hot swappable fans and SFPs
- Non-disruptive firmware upgrades
- Stateful process restart
- Per VSAN fabric services

Diagnostics and Troubleshooting Tools

- Power-on-self-test (POST) diagnostics, online diagnostics, internal loopbacks, SPAN, Fibre Channel Traceroute capability, Fibre Channel Ping, Fibre Channel Debug, Cisco Fabric Analyzer, Syslog, Port-level statistics

Supported Operating Systems

- AIX, HP/UX, Microsoft Windows, Linux (Refer to the EMC Support Matrix on www.EMC.com for complete details.)

Management Interfaces

Cisco Fabric Manager, Device Manager with quick configuration wizard
Cisco Fabric Manager Server (Optional license)
SNMP support
Scriptable CLI

Access Methods

- Out-of-band 10/100 Ethernet port
- EIA/TIA-232 serial console port
- In-band IP over Fibre Channel

Access Protocols

- CLI, SNMP, SMI-S

Security

- Hardware-enforced zoning and logical unit number (LUN) zoning and read-only zones, FC-SP for host-to switch and switch-to-switch authentication, VSAN-based roles, SSHv2, SNMPv3

Physical Characteristics

Dimensions

Height	Width	Depth	Weight
1.72 in./4.47 cm.	17.16 in./43.59 cm.	18.89 in./47.98 cm.	22.2 lb/10 kg

Environmental Specifications

Description	Specification
Ambient operating temperature	32 to 104°F (0 to 40°C)
Ambient non-operating temperature	-40 to 158°F (-40 to 70°C)

Power Specifications

Description	Specification
Power supplies	(300 W AC; maximum two per switch)
Input	100 to 240 VAC nominal (+/- 10% for full range)
Input Current Maximum	20 A
Input Current Steady State	4 A @ 110 VAC, 2 A @ 220 VAC, 50 to 60 Hz nominal (+/- 3 Hz for full range)
Output	300 W @ 100 VAC, 300 W @ 220 VAC

Cooling

Airflow

- Rear to front

Regulatory Compliance

Safety

- UL 60950 -1
- CAN/CSA-C22.2 No. 60950 -1
- EN 60950 -1
- IEC 60950 -1
- AS/NZS 60950
- IEC 60825
- EN 60825
- 21 CFR 1040

EMC

- FCC Part 15 (CFR 47) Class A
- ICES-003 Class A
- EN55022 Class A
- CISPR22 Class A
- AS/NZS CISPR22 Class A
- VCCI Class B
- EN55024
- ETS300 386
- EN50082-1
- EN61000-3-2
- EN61000-3-3
- EN61000-6-1
- CISPR24

NEBS

- GR-63-Core NEBS Level 3
- GR-1089-Core NEBS Level 3
- ETSI
- ETS 300 019 Storage Class 1.1
- ETS 300 019 Transportation Class 2.3
- ETSI 300 019 Stationary Use Class 3.1

Regulatory Specifications

Product Ecology

- Restriction of Hazardous Substances in Electrical and Electronic Equipment (ROHS) Directive (2002/95/EC)
- Waste Electrical and Electronic Equipment (WEEE) Directive (2002/96/EC)



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