

# Refurbished CISCO DS-C9216-K9 Datasheet

CISCO > STORAGE-NETWORKING

## Cisco MDS 9200 Series Multiservice Switches

### Product Specifications

|                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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| <b>Product Compatibility</b>  | Cisco MDS 9000 Family                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Software Compatibility</b> | Cisco MDS SAN-OS Release 1.0(1) or later                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Protocols</b>              | <p>Fibre Channel standards</p> <p>FC-PH, Revision 4.3 (ANSI/INCITS 230-1994)</p> <p>FC-PH, Amendment 1 (ANSI/INCITS 230-1994/AM1-1996)</p> <p>FC-PH, Amendment 2 (ANSI/INCITS 230-1994/AM2-1999)</p> <p>FC-PH-2, Revision 7.4 (ANSI/INCITS 297-1997)</p> <p>FC-PH-3, Revision 9.4 (ANSI/INCITS 303-1998)</p> <p>FC-PI, Revision 13 (ANSI/INCITS 352-2002)</p> <p>FC-FS, Revision 1.9 (ANSI/INCITS 373-2003)</p> <p>FC-AL, Revision 4.5 (ANSI/INCITS 272-1996)</p> <p>FC-AL-2, Revision 7.0 (ANSI/INCITS 332-1999)</p> <p>FC-AL-2, Amendment 1 (ANSI/INCITS 332-1999/AM1-2003)</p> <p>FC-SW-2, Revision 5.3 (ANSI/INCITS 355-2001)</p> <p>FC-SW-3, Rev. 6.6 (ANSI/INCITS 384-2004)</p> <p>FC-GS-3, Revision 7.01 (ANSI/INCITS 348-2001)</p> <p>FC-GS-4, Rev. 7.91 (ANSI/INCITS 387-2004)</p> <p>FC-BB, Revision 4.7 (ANSI/INCITS 342-2001)</p> <p>FC-BB-2, Rev. 6.0 (ANSI/INCITS 372-2003)</p> <p>FCP, Revision 12 (ANSI/INCITS 269-1996)</p> <p>FCP-2, Revision 8 (ANSI/INCITS 350-2003)</p> <p>FC-SB-2, Revision 2.1 (ANSI/INCITS 349-2001)</p> <p>FC-SB-3, Revision 1.6 (ANSI/INCITS 374-2003)</p> <p>FC-VI, Revision 1.84 (ANSI/INCITS 357-2002)</p> <p>FC-FLA, Revision 2.7 (INCITS TR-20-1998)</p> <p>FC-PLDA, Revision 2.1 (INCITS TR-19-1998)</p> <p>FC-Tape, Revision 1.17 (INCITS TR-24-1999)</p> <p>FC-MI, Revision 1.92 (INCITS TR-30-2002)</p> <p>FC-SP, Revision 1.6</p> <p>FC-DA, Revision 3.1</p> <p>IP over Fibre Channel (RFC 2625)</p> <p>Extensive IETF-standards based TCP/IP, SNMPv3, and Remote Monitoring (RMON) MIBs</p> <p>Class of Service: Class 2, Class 3, Class F</p> <p>Fibre Channel standard port types: E, F, FL, B</p> <p>Fibre Channel enhanced port types: SD, ST, TE, TL</p> |
| <b>Cards, Ports, Slots</b>    | <p>Base: 16 fixed auto-sensing 1 /2-Gbps Fibre Channel ports</p> <p>Expansion: 1 empty expansion slot</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Features and Functions</b> | <p>Fabric services</p> <p>Name server</p> <p>Internet Storage Name Server (iSNS)</p> <p>Registered State Change Notification (RSCN)</p> <p>Login services</p> <p>Fabric Configuration Server (FCS)</p> <p>Private loop</p> <p>Public loop</p> <p>Translative loop</p> <p>Broadcast</p> <p>In-order delivery</p> <p>Advanced Functionality</p> <p>VSAN</p> <p>Inter-VSAN Routing</p> <p>PortChannel with Multipath Load Balancing</p> <p>QoS-flow-based, zone-based</p> <p>Fibre Channel Congestion Control</p> <p>Extended Buffer-To-Buffer Credits</p> <p>FC Write Acceleration</p> <p>Network-accelerated serverless backups</p> <p>Network-assisted applications through SANTap</p> <p>Network-hosted applications through FAIS-based Intelligent Storage Application Programmatic Interface (ISAPI)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |

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|                                     | Diagnostics and troubleshooting tools<br>Power-on-self-test (POST) diagnostics<br>Online diagnostics<br>Internal port loopbacks<br>SPAN and Remote SPAN<br>Fibre Channel Traceroute<br>Fibre Channel Ping<br>Fibre Channel Debug<br>Cisco Fabric Analyzer<br>Syslog<br>Online system health<br>Port-level statistics<br>Real Time Protocol Debug<br>Network security<br>VSANs<br>Access Control Lists<br>Per-VSAN role-based access control<br>Fibre Channel Zoning<br>N_Port WWN<br>N_Port FC-ID<br>Fx_Port WWN<br>Fx_Port WWN and interface index<br>Fx_Port domain ID and interface index<br>Fx_Port domain ID and port number<br>LUN<br>Read-only<br>Broadcast<br>iSCSI zoning<br>iSCSI name<br>IP address<br>Fibre Channel Security Protocol (FC-SP)<br>DH-CHAP switch-switch authentication<br>DH-CHAP host-switch authentication<br>Port Security and Fabric Binding<br>IPSec for FCIP and iSCSI<br>IKEv1 and IKEv2<br>Management access<br>SSH v2 implementing AES<br>SNMPv3 implementing AES<br>SFTP<br>Serviceability<br>Configuration file management<br>Call Home<br>Power-management LEDs<br>Port beaconing<br>System LED<br>SNMP traps for alerts<br>Network boot |
| <b>Performance</b>                  | Port speed: 1 /2-Gbps auto-sensing, optionally configurable<br>Buffer credits: Up to 255 per port<br>Ports per chassis: 16 to 48 1 /2-Gbps Fibre Channel ports, up to eight 1-Gbps Ethernet ports<br>Ports per rack: Up to 672<br>PortChannel: Up to sixteen 2-Gbps ports<br>Supported optics, media, and transmission distances:<br>Optics Media Distance<br>1-Gbps-SW, LC SFP 50/125 micron multimode 500 m<br>1-Gbps-SX, LC SFP 50/125 micron multimode 550 m<br>1-Gbps-SW, LC SFP 62.5/125 micron multimode 300 m<br>1-Gbps-SX, LC SFP 62.5/125 micron multimode 275 m<br>1-Gbps-LW, LC SFP 9/125 micron single-mode 10 km<br>1-Gbps-LX/LH, LC SFP 9/125 or 10/125 micron single-mode 10 km<br>1-Gbps-CWDM, LC SFP 9/125 micron single-mode Up to 100 km<br>2-Gbps-SW, LC SFP 50/125 micron multimode 300 m<br>2-Gbps-SW, LC SFP 62.5/125 micron multimode 150 m<br>2-Gbps-LW, LC SFP 9/125 micron single-mode 10 km<br>2-Gbps-CWDM, LC SFP 9/125 micron single-mode Up to 100 km                                                                                                                                                                                           |
| <b>Reliability and Availability</b> | Hot-swappable, 1+1 redundant power supplies<br>Hot-swappable fan tray with integrated temperature and power management<br>Hot-swappable SFP optics<br>Hot-swappable switching module<br>Passive backplane<br>Stateful process restart<br>Any module, any port configuration for PortChannels<br>Fabric-based multipathing<br>Per-VSAN fabric services<br>Port tracking<br>Virtual Routing Redundancy Protocol (VRRP) for management and FCIP or iSCSI connections<br>Online diagnostics                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Network Management</b>           | Access methods<br>Out-of-band 10/100 Ethernet port                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |

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|                                 | RS-232 serial console port<br>In-band IP-over-Fibre Channel<br>DB-9 COM port<br>Access protocols<br>CLI-via console and Ethernet ports<br>SNMPv3-via Ethernet port and in-band IP-over-Fibre Channel access<br>Storage Networking Industry Association (SNIA) Storage Management Initiative Specification (SMI-S)<br>Distributed Device Alias service<br>Network security<br>Per-VSAN role-based access control using RADIUS and TACACS+ based authentication, authorization, and accounting (AAA) functions<br>SFTP<br>SSH v2 implementing AES<br>SNMPv3 implementing AES<br>Management applications<br>Cisco MDS 9000 Family CLI<br>Cisco Fabric Manager<br>Cisco Device Manager<br>CiscoWorks Resource Manager Essentials (RME) and Device Fault Manager (DFM) |
| <b>Programming Interfaces</b>   | Scriptable CLI<br>Fabric Manager GUI<br>Device Manager GUI                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Environmental</b>            | Temperature, ambient operating<br>32° to 104°F (0° to 40°C)<br>Temperature, ambient non-operating and storage<br>40°F to 158°F (-40°C to 75°C)<br>Relative humidity, ambient (non-condensing) operating<br>10 to 90 percent<br>Relative humidity, ambient (non-condensing) non-operating and storage<br>10 to 95 percent<br>Altitude, operating<br>-197 to 6500 feet (-60 to 2000 meter)                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Physical Dimensions</b>      | Dimensions in inches (H x W x D)<br>5.25 x 17.32 x 22.66 inches (13.34 x 43.99 x 57.56 cm), 3 Rack Units (RU)<br>All units rack mountable in standard 19 inch EIA rack<br>Weight<br>Fully configured chassis with optional Switching Module: 70 lbs (32 kg)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Power and Cooling</b>        | Power supply (845W AC)<br>AC input characteristics<br>100 to 240 VAC (10% range)<br>50-60Hz (nominal)<br>Airflow<br>200 linear feet per minute (lfm) through system fan assembly<br>Cisco recommends that you maintain a minimum air space of 2.5 inches (6.4cm) between walls and the chassis air vents and a minimum horizontal separation of 6 inches (15.2 cm) between two chassis to prevent overheating.                                                                                                                                                                                                                                                                                                                                                    |
| <b>Approvals and Compliance</b> | Safety Compliance<br>CE Marking<br>UL 60950<br>CAN/CSA-C22.2 No. 60950<br>EN 60950<br>IEC 60950<br>TS 001<br>AS/NZS 3260<br>IEC60825<br>EN60825<br>21 CFR 1040<br>EMC Compliance<br>FCC Part 15 (CFR 47) Class A<br>ICES-003 Class A<br>EN 55022 Class A<br>CISPR 22 Class A<br>AS/NZS 3548 Class A<br>VCCI Class A<br>EN 55024<br>EN 50082-1<br>EN 61000-6-1<br>EN 61000-3-2<br>EN 61000-3-3                                                                                                                                                                                                                                                                                                                                                                     |

## The next steps...

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