

## Коммутатор Cisco MDS DS-C9148-48P-K9



DS-C9148-48P-K9

### Описание

Поставляется с 48 активированными портами 2, 4 и 8 Гбит/с.,

В комплекте 2 блока питания AC

Cisco MDS 9148 Multilayer Fabric Switch - доступный, универсальный, легко управляемый коммутатор для сетей

[SAN](#)

начального уровня и для сетей отделов предприятий.

Коммутатор, выполненный на специализированных ИС для сетей хранения типа «коммутатор на кристалле», обеспечивает выделенную полосу пропускания Fibre Channel 8 Гбит/с на каждом Cisco MDS 9148 поставляется в полной 48-портовой конфигурации.

### Тип коммутатора

Тип коммутатора	Управляемый L2
Линейка Cisco	MDS 9100

### Интерфейсы

Количество основных портов	48
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### Доп. описание

Minimum software requirements

- Cisco MDS 9000 NX-OS Software Release 5.0(1) supporting Cisco MDS 9148 and Cisco Fabric Manager
- Cisco MDS 9000 NX-OS Release 5.2(1) supporting Cisco DCNM for SAN



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- Zero-touch installation capability is scheduled for a future release of Cisco MDS 9000 NX-OS Software

Performance and port configuration

- Port speed: 8-, 4-, 2-, and 1-Gbps autosensing with 8 Gbps of dedicated bandwidth per port

- Buffer credits: Up to 128 for a group of 4 ports, with a default of 32 buffer credits per port and a maximum of 125 buffer credits for a single port in the group

- Ports per chassis: Up to 48 8-Gbps ports

○ Base configuration with 16 ports; additional configurations for 32 and 48 ports available

○ Upgrade ports in 8-port increments from any configuration with the port activation license

- PortChannel: Up to 16 ports in a PortChannel with automatic load balancing

Security

- VSAN fabric isolation

- Intelligent packet inspection @ port level

- Hardware zoning by access control lists (ACLs)

- Extended broadcast zoning

- FC-SP switch-to-switch authentication

- FC-SP host-to-switch authentication

- RBAC using RADIUS or TACACS+ authentication, authorization, and accounting (AAA) functions

- Management access

- Secure FTP (SFTP)

- Secure Shell Version 2 (SSHv2)

- Simple Network Management Protocol Version 3



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(SNMPv3) implementing Advanced Encryption Standard (AES)

- Control-plane security

Virtual Computing Environment (VCE) coalition

Cisco MDS 9148 is supported as a VCE coalition option for Vblock1

®  
, Vblock2

®  
, Vblock  
™

300, and Vblock  
™

700

Compatibility

Fibre Channel protocols

- FC-PH, Revision 4.3 (ANSI/INCITS 230-1994)

- FC-PH, Amendment 1 (ANSI/INCITS 230-1994/AM1 1996)

- FC-PH, Amendment 2 (ANSI/INCITS 230-1994/AM2-1999)

- FC-PH-2, Revision 7.4 (ANSI/INCITS 297-1997)

- FC-PH-3, Revision 9.4 (ANSI/INCITS 303-1998)

- FC-PI, Revision 13 (ANSI/INCITS 352-2002)

- FC-PI-2, Revision 10 (ANSI/INCITS 404-2006)

- FC-PI-3, Revision 2.1 (BSR INCITS 460-200x)

- FC-PI-4, Revision 8.0 (INCITS 450-2009)

- FC-FS, Revision 1.9 (ANSI/INCITS 373-2003)

- FC-FS-2, (BSR INCITS 424-200x)

- FC-FS-3, Revision 0.9 (BSR INCITS PN-1861-D-200x)

- FC-LS, Revision 1.62 (ANSI/INCITS 433-2007)

- FC-AL, Revision 4.5 (ANSI/INCITS 272-1996)

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FC-AL-2, Revision 7.0 (ANSI/INCITS 332-1999)

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FC-AL-2, Amendment 1 (ANSI/INCITS 332-1999/AM1-2003)

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FC-AL-2, Amendment 2 (ANSI/INCITS 332-1999/AM2-2006)

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FC-SW-2, Revision 5.3 (ANSI/INCITS 355-2001)

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FC-SW-3 , Revision 6.6 (ANSI/INCITS 384-2004)

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FC-SW-4, Revision 7.5 (ANSI/INCITS 418-2006)

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FC-SW-5, (BSR INCITS 461-200x)

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FC-GS, (ANSI INCITS 288-1999)

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FC-GS-3, Revision 7.01 (ANSI/INCITS 348-2001)

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FC-GS-4, Revision 7.91 (ANSI/INCITS 387-2004)

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FC-GS-5, (ANSI INCITS 427-2007)

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FC-GS-6, (BSR INCITS 463-200x)

●  
FC-BB, Revision 4.7 (ANSI/INCITS 342-2001)

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FC-BB-2, Revision 6.0 (ANSI/INCITS 372-2003)

●  
FC-BB-3, Revision 6.8 (ANSI/INCITS 414-2006)

●  
FCP, Revision 12 (ANSI/INCITS 269-1996)

●  
FCP-2, Revision 8 (ANSI/INCITS 350-2003)

●  
FCP-3, Revision 4 (ANSI/INCITS 416-2006)

●  
FCP-4, (BSR INCITS PN-1828-D-200x)

●  
FC-SB-2, Revision 2.1 (ANSI/INCITS 349-2001)

●  
FC-SB-3, Revision 1.6 (ANSI/INCITS 374-2003)

●  
FC-VI, Revision 1.84 (ANSI/INCITS 357-2002)

●  
FC-FLA, Revision 2.7 (INCITS TR-20-1998)



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- FC-PLDA, Revision 2.1 (INCITS TR-19-1998)
- FC-Tape, Revision 1.17 (INCITS TR-24-1999)
- FC-MI, Revision 1.92 (INCITS TR-30-2002)
- FC-MI-2, Revision 2.6 (INCITS TR-39-2005)
- FC-SP, Revision 1.6 (ANSI/INCITS 426-2007)
- FC-DA, Revision 3.1 (INCITS TR-36-2004)
- SNPing (ANSI INCITS 443-2008)
- MIB-FA (INCITS/TR-32:2003 (R2008))
- FAIS Revision 1
- Extensive IETF-standards-based TCP/IP, SNMPv3, and Remote Monitoring (RMON) MIBs
- Class of service: Classes 2, 3, and F
- Fibre Channel standard port types: E, F, and FL
- Fibre Channel enhanced port types: SD, and TE
- Fabric services
  - Name server
  - Registered state change notification (RSCN)
  - Login services
  - Broadcast
  - In-order delivery
  - Name-server zoning
- Advanced services
  - NPIV
  - VSANs



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- PortChannels
- NPV mode
- FlexAttach
- F-port trunking and channeling
- IVR
- Diagnostics and troubleshooting tools
  - POST diagnostics
  - Online diagnostics
  - Internal loopbacks
  - SPAN (remote SPAN not supported)
  - Fibre Channel traceroute
  - Fibre Channel ping
  - Fibre Channel debug
  - Cisco Fabric Analyzer
  - Syslog
  - Port-level statistics
- Management
  - Access methods
    - Out-of-band 10/100/1000 Ethernet port
    - EIA/TIA-232 serial console port
    - In-band management using IP over Fibre Channel
  - Access protocols
    - CLI



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- SNMP

- SMI-S

- Security

- RBAC using RADIUS or TACACS+ authentication, authorization, and accounting (AAA) functions

- VSAN-based roles

- SSHv2

- SNMPv3

Management applications

- Zero-Touch Installation deployment and provisioning with DHCP (scheduled for a future release of Cisco MDS 9000 NX-OS Software)

- Cisco MDS 9000 Family CLI

- Quick Configuration Wizard

- Cisco Device Manager

- Cisco DCNM for SAN Essentials Edition

- Cisco DCNM for SAN Advanced Edition (optional software package)

Availability

- Nondisruptive In-Service Software Upgrade (ISSU)

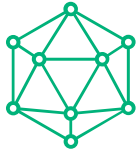
- Process monitoring and stateful process restart

- Per-VSAN fabric services

- Redundant, hot-swappable power supplies and redundant, hot-swappable power supply and fan trays

- Hot-swappable SFP and SFP+ optics

- PortChannels aggregating up to 16 ports with redundant load balancing



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- F-port channeling and trunking

- Online diagnostics

Serviceability

- Configuration file management

- Call Home

- Port beaconing

- System LEDs

- SNMP traps for alerts

Environmental

- Physical dimensions (H x W x D) of 1RU: 1.72 x 17.16 x 18.89 in. (4.47 x 43.59 x 47.98 cm)

- Weight of switch with dual power supplies: 22.2 lb (10 kg)

- Ambient operating temperature: 32 to 104°F (0 to 40°C)

- Ambient nonoperating temperature: -40 to 158°F (-40 to 70°C)

- Humidity (RH), ambient (noncondensing) operating: 10 to 90%

- Humidity (RH), ambient (noncondensing) nonoperating and storage: 5 to 95%

- Operating altitude: -197 to 6500 ft (-60 to 2000m)

Power and cooling

- Power supplies (300W AC) (maximum of 2 per switch)

- AC Input: 100 to 240 VAC nominal (+/-10% for full range)

- Frequency: 50 to 60 Hz nominal (+/-3 Hz for full range)

- Maximum power consumption:

- With 4-Gbps optics (48 ports fully populated): 99W with





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0.89A at 110 VAC and 0.45A at 220 VAC

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With 8-Gbps optics (48 ports fully populated): 101W with  
0.90A at 110 VAC and 0.46A at 220 VAC

●  
Airflow: Rear to front (toward ports)

Safety

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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 A

●  
EN55024

●  
KN24

●  
EN50082-1

●  
EN61000-3-2



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- 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