

Mellanox MSN3700-CS2FC

Mellanox Spectrum-2 MSN3700-CS2FC Ethernet Switch User Manual

Model: MSN3700-CS2FC

1. INTRODUCTION

This manual provides comprehensive instructions for the installation, operation, and maintenance of the **Mellanox Spectrum-2 MSN3700-CS2FC Ethernet Switch**. The MSN3700-CS2FC is a high-performance 1U 32-port 100GbE spine switch, also capable of functioning as a high-density 10/25GbE leaf switch when used with splitter cables. It offers exceptional flexibility with port speeds ranging from 1GbE to 100GbE, enabling full rack connectivity and various blocking ratios. Its ports are fully splittable, supporting up to 128 x 10/25GbE connections.

Key features of this switch include:

- Supports optical fiber cable for extended distances and high data transmission rates.
- 100 Gigabit Ethernet for high bandwidth, ease of use, and network backbone reliability.
- Integrated Layer 3 switching capabilities for enhanced performance.
- Advanced management features for efficient and unrestricted control.
- Built-in power supply ensuring stable voltage delivery to all components.
- Rack-mountable form factor for reliable and dependable deployment.

2. SAFETY INFORMATION

Please read all safety warnings and precautions before installing or operating the switch. Failure to follow these instructions may result in injury, damage to the equipment, or voiding of the warranty.

- **Electrical Safety:** Ensure the power source matches the voltage requirements (264 Volts). Connect the power cord to a grounded outlet. Do not operate the switch with damaged power cords or plugs.
- **Ventilation:** Ensure adequate airflow around the switch. Do not block ventilation openings. Operate within the specified temperature range (up to 40°C).
- **Handling:** The switch weighs approximately 32 pounds. Use proper lifting techniques or assistance to prevent injury.
- **Environment:** Avoid exposing the switch to moisture, dust, or extreme temperatures.
- **Servicing:** Refer all servicing to qualified service personnel. Do not attempt to open or repair the switch yourself.

3. PACKAGE CONTENTS

Upon unpacking, verify that all components are present and undamaged. While specific included components are not detailed, a typical package for the Mellanox MSN3700-CS2FC Ethernet Switch usually contains:

- Mellanox Spectrum-2 MSN3700-CS2FC Ethernet Switch unit
- Power cord(s)
- Rack-mounting kit (rails or brackets)
- Documentation (Quick Start Guide, Safety Information)

If any items are missing or damaged, contact your vendor or Mellanox support immediately.

4. SETUP

4.1 Physical Installation

The Mellanox MSN3700-CS2FC is designed for rack-mounting.

1. **Prepare the Rack:** Ensure the rack has sufficient space and proper ventilation for a 1U device.
2. **Install Mounting Hardware:** Attach the provided rack-mounting rails or brackets to the rack posts according to the instructions included with the mounting kit.
3. **Mount the Switch:** Carefully slide the switch into the rack, aligning it with the installed rails. Secure the switch to the rack using the appropriate screws.
4. **Connect Power:** Connect the power cord(s) to the power input(s) on the rear of the switch and then to a grounded AC power outlet. The switch features a built-in power supply.

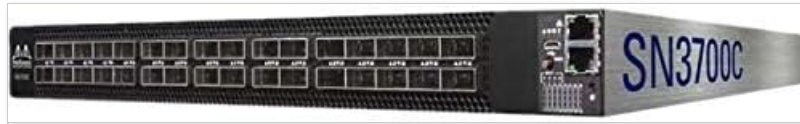


Figure 4.1: Front view of the Mellanox Spectrum-2 MSN3700-CS2FC Ethernet Switch, showing the 32 SFP+ ports and management interfaces.

4.2 Network Connection

The MSN3700-CS2FC features 32 SFP+ ports for data connectivity and additional management ports.

1. **Data Ports (SFP+):** Insert compatible SFP+ transceivers or direct attach cables (DACs) into the 32 SFP+ ports. Connect these ports to your servers, other switches, or network devices. These ports support 100GbE and can be split into 10/25GbE connections using appropriate splitter cables and transceivers.
2. **Management Ports:** Connect an Ethernet cable from your management network to the dedicated management port(s) on the switch for out-of-band management.
3. **Console Port:** For initial configuration or direct access, connect a console cable (e.g., RJ-45 to DB-9) from your computer to the console port on the switch.

5. OPERATION

Once physically installed and connected, the Mellanox MSN3700-CS2FC switch can be configured and operated.

5.1 Basic Functionality

- **Power On:** After connecting power, the switch will typically power on automatically. Observe the LED indicators for power and port status.
- **Network Connectivity:** The switch provides high-speed 100 Gigabit Ethernet connectivity. Ensure connected

devices are configured for compatible speeds.

- **Layer 3 Switching:** The switch supports Layer 3 routing capabilities, allowing for efficient inter-VLAN routing and network segmentation.

5.2 Management

The MSN3700-CS2FC offers robust management capabilities for configuration, monitoring, and troubleshooting.

- **Command Line Interface (CLI):** Access the CLI via the console port or SSH for detailed configuration and control.
- **Web-based Interface (GUI):** If available, access the web interface via a web browser for graphical configuration and monitoring.
- **SNMP:** The switch supports SNMP for integration with network management systems.
- **Firmware Updates:** Regularly check the Mellanox support website for the latest firmware updates to ensure optimal performance and security.

6. MAINTENANCE

Proper maintenance ensures the longevity and reliable operation of your Mellanox switch.

- **Environmental Control:** Maintain a stable operating environment within specified temperature and humidity ranges. Ensure proper ventilation and prevent dust accumulation.
- **Cleaning:** Periodically clean the exterior of the switch with a soft, dry cloth. Do not use liquid cleaners or aerosols. Ensure ventilation openings are clear of obstructions.
- **Firmware Management:** Keep the switch firmware updated to the latest stable version. Refer to Mellanox documentation for firmware upgrade procedures.
- **Cable Management:** Ensure all network and power cables are neatly organized and securely connected to prevent accidental disconnections or damage.

7. TROUBLESHOOTING

This section provides solutions to common issues you might encounter.

Problem	Possible Cause	Solution
Switch does not power on.	No power, faulty power cord, or power supply issue.	Verify power cord connection to switch and outlet. Check outlet functionality. Ensure voltage matches specifications.
Port LED is off or amber.	No link, incorrect cable, or faulty transceiver.	Check cable connection at both ends. Ensure correct cable type (fiber/DAC) and transceiver. Verify connected device is powered on and configured correctly.
Cannot access management interface.	Incorrect IP configuration, network issue, or firewall.	Verify switch IP address and subnet mask. Check network connectivity to the management port. Temporarily disable client firewall for testing. Try console access.
Poor network performance.	Congestion, misconfiguration, or faulty hardware.	Check port statistics for errors or discards. Verify duplex and speed settings. Ensure proper network design and avoid oversubscription.

For more complex issues, consult the detailed Mellanox documentation or contact technical support.

8. SPECIFICATIONS

Attribute	Detail
Model Number	MSN3700-CS2FC
Brand	Mellanox
Number of Ports	32
Interface Type	SFP+
Data Transfer Rate	100 Gigabits Per Second
Voltage	264 Volts
Case Material	Metal
Upper Temperature Rating	40 Degrees Celsius
Product Dimensions	31 x 23 x 4 inches
Item Weight	32 pounds
Compatible Devices	Desktop (Note: Primarily for network infrastructure, not typical desktop use)
Date First Available	June 14, 2020

9. WARRANTY AND SUPPORT

For detailed warranty information, please refer to the warranty card included with your product or visit the official Mellanox (now NVIDIA Networking) website.

Technical Support: If you encounter issues that cannot be resolved using the troubleshooting steps in this manual, or require further assistance, please contact Mellanox technical support.

- **Online Resources:** Visit the Mellanox/NVIDIA Networking support portal for FAQs, knowledge base articles, and driver/firmware downloads.
- **Contact Information:** Refer to the official website for the most current contact details for technical support, including phone numbers and email addresses.

When contacting support, please have your product model number (MSN3700-CS2FC) and serial number ready.

ASK A QUESTION ABOUT THIS MANUAL

Ask about setup, troubleshooting, compatibility, parts, safety, or missing instructions. Manuals+ will review the question and use this page’s manual context to help answer it.

Name

Anonymous

Email

you@example.com

After a successful submission, we securely hash the supplied account or form email before sending it to Microsoft Advertising for conversion attribution. [Privacy details](#).

Question

Example: How do I reset this device or fix this error?

Details

Model number, symptoms, what you tried, or the section of the manual you are using.

Submit question