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MikroTik CRS305-1G-4S+IN

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Model: CRS305-1G-4S+IN

1. INTRODUCTION

The MikroTik CRS305-1G-4S+in is a compact and powerful network switch designed for high-speed data transfer. It features four SFP+ ports, each capable of up to 10 Gigabit per second (10Gbit/s) data rates, making it suitable for fiber optic links and high-bandwidth applications. Additionally, it includes a 1 Gigabit Ethernet port for management access and two DC power connectors for redundancy, ensuring reliable operation.

This device operates silently due to its fanless design and sleek metallic case. A key feature is its "Dual boot" capability, allowing users to select between two operating systems: RouterOS for advanced routing and Layer 3 features, or SwOS for a simplified, switch-specific functionality. This flexibility enables customization based on network requirements.



Figure 1: Front-top view of the MikroTik CRS305-1G-4S+in Network Switch, showing the Ethernet port and four SFP+ ports.

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Video 1: An overview of the MikroTik CRS305-1G-4S+in, highlighting its features and suitability for fiber optic links.

2. SETUP

2.1 Powering the Device

The CRS305-1G-4S+in can be powered in two ways:

1. **DC Jacks:** Connect one or both of the provided DC power adapters to the DC1 or DC2 ports on the rear of the device. The device supports 12-57V DC input. Using both provides power redundancy.
2. **PoE (Power over Ethernet):** The 1 Gbit Ethernet port (labeled ETH/BOOT) supports 802.3af/at PoE in. Connect a PoE-enabled Ethernet cable from a compatible power source to this port.



Figure 2: Rear view of the switch, illustrating the two DC power input jacks (DC1 and DC2).

2.2 Initial Connection and Configuration

To access the device for initial configuration, connect a standard Ethernet cable from your computer to the 1 Gbit Ethernet port (ETH/BOOT) on the front of the switch. The default IP address for management is typically 192.168.88.1. Ensure your computer's network adapter is configured to an IP address within the same subnet (e.g., 192.168.88.2) to establish a connection.

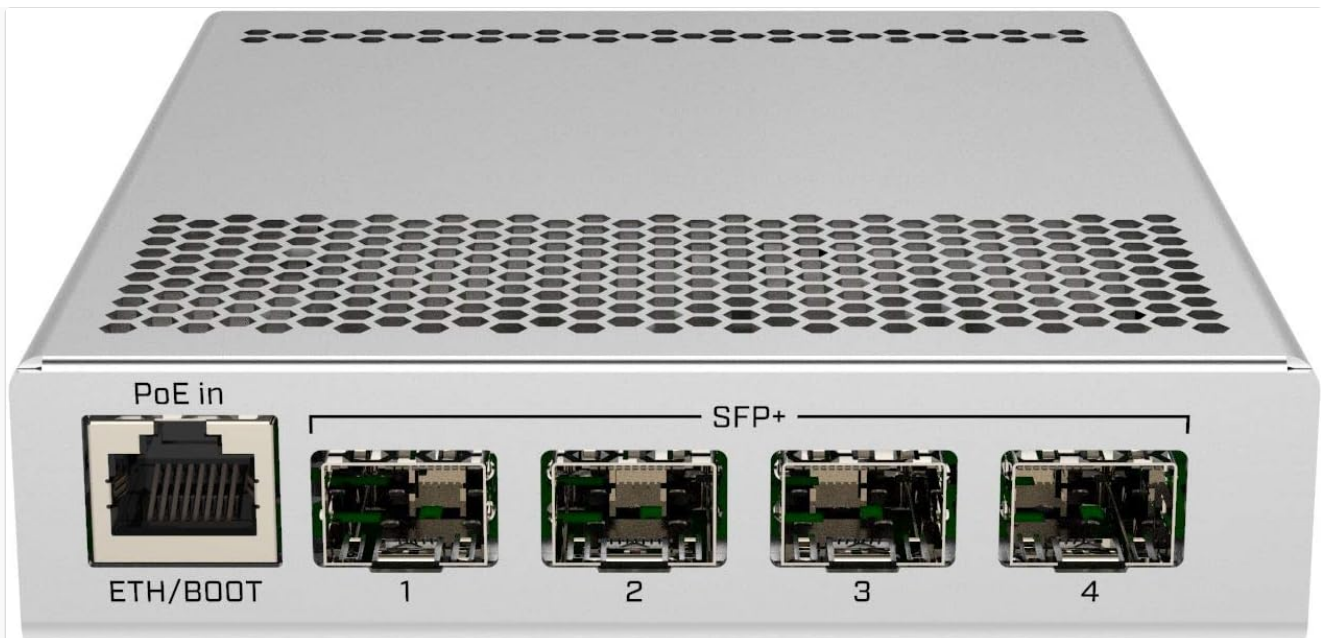


Figure 3: Front view of the switch, detailing the 1 Gbit Ethernet port (ETH/BOOT) and the four SFP+ ports.

2.3 SFP+ Module Installation

Insert compatible SFP+ modules into the designated SFP+ ports (labeled 1-4) on the front of the device. Ensure the modules are fully seated. These ports support 10 Gbit/s fiber optic or direct attach copper (DAC) connections.

3. OPERATING SYSTEM SELECTION (DUAL BOOT)

The CRS305-1G-4S+in offers a dual boot feature, allowing you to choose between RouterOS and SwOS. This selection can be made from RouterOS, SwOS, or directly from the RouterBOOT loader settings during startup.

- **SwOS:** This operating system provides a simplified interface with features specifically tailored for switch functionality. It is ideal if you require a straightforward Layer 2 switch.
- **RouterOS:** This is MikroTik's full-featured operating system, offering extensive routing capabilities, Layer 3 features, and advanced network management options. Choose RouterOS if your application requires routing, firewall rules, or other complex network configurations.

Refer to the MikroTik documentation for detailed instructions on how to switch between operating systems.

4. MAINTENANCE

The CRS305-1G-4S+in features a fanless design for silent operation. While this design is efficient for general use, it is important to consider heat management, especially when using 10 Gigabit copper SFP+ modules. These modules can generate significant heat.

- **Ventilation:** Ensure the device is placed in an area with adequate airflow. Avoid obstructing the ventilation holes on the chassis.
- **Temperature Monitoring:** If using multiple 10Gb copper SFP+ modules, monitor the device's operating temperature. Excessive heat can lead to performance degradation or unexpected reboots.
- **Active Cooling (Optional):** In environments with high ambient temperatures or when fully populating the switch with heat-generating SFP+ modules, consider adding external active cooling (e.g., a small USB fan) to maintain optimal operating temperatures.



Figure 4: Side view of the switch, highlighting the ventilation patterns on the chassis.

5. TROUBLESHOOTING

- **No Link on 1 Gbit Ethernet Port:** Ensure the Ethernet cable is securely connected and functional. Verify your computer's network settings (IP address, subnet mask) are compatible with the switch's default management IP (192.168.88.1). If issues persist, try a different cable or port on your computer.
- **SFP+ Port Issues:** Confirm that the SFP+ modules are correctly inserted and compatible with the CRS305-1G-4S+in. Check the fiber optic or DAC cables for damage and ensure they are properly connected. Verify that the connected devices also support 10Gbit/s.
- **Device Overheating/Unexpected Reboots:** Refer to the [Maintenance](#) section for guidance on ensuring proper ventilation and considering active cooling, especially when using heat-generating SFP+ modules.
- **Cannot Access Web Interface:** Double-check the IP address and subnet mask settings on your computer. Ensure no firewall rules are blocking access. If using RouterOS, ensure the web service is enabled. For SwOS, the web interface is typically enabled by default.
- **Firmware Update Issues:** Always follow MikroTik's official firmware update procedures. Ensure a stable power supply during updates. If an update fails, consult MikroTik's recovery procedures.

6. SPECIFICATIONS



Figure 5: Bottom view of the switch, showing the product label with model and serial information.

Feature	Detail
Model Number	CRS305-1G-4S+IN
CPU Nominal Frequency	800 MHz

RAM	512 MB
Storage Size	16 MB
Ethernet Ports	1 x 1 Gbit Ethernet (ETH/BOOT)
SFP+ Ports	4 x 10 Gbit SFP+
PoE In	802.3af/at
DC Input Voltage	12-57 V (Dual DC jacks)
Dimensions	141 x 115 x 28 mm (5.55"L x 4.53"W x 1.1"H)
Case Material	Metal
Item Weight	1 Pound

7. WARRANTY AND SUPPORT

This MikroTik product is covered by the manufacturer's standard warranty. For detailed warranty terms and conditions, please refer to the documentation included with your product or visit the official MikroTik website. For technical support, firmware updates, and additional resources, please visit the MikroTik support portal or contact their customer service directly.