

# CRS310-1G-5S-4S+IN



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### Safety Warnings

Before you work on any equipment, be aware of the hazards involved with electrical circuitry, and be familiar with standard practices for preventing accidents.

Ultimate disposal of this product should be handled according to all national laws and regulations.

The Installation of the equipment must comply with local and national electrical codes.

This unit is intended to be installed in the rackmount. Please read the mounting instructions carefully before beginning installation. Failure to use the correct hardware or to follow the correct procedures could result in a hazardous situation for people and damage to the system.

This product is intended to be installed indoors. Keep this product away from water, fire, humidity, or hot environments.

Use only the power supply and accessories approved by the manufacturer, which can be found in the original packaging of this product.

Read the installation instructions before connecting the system to the power source.

We cannot guarantee that no accidents or damage will occur due to the improper use of the device. Please use this product with care and operate at your own risk!

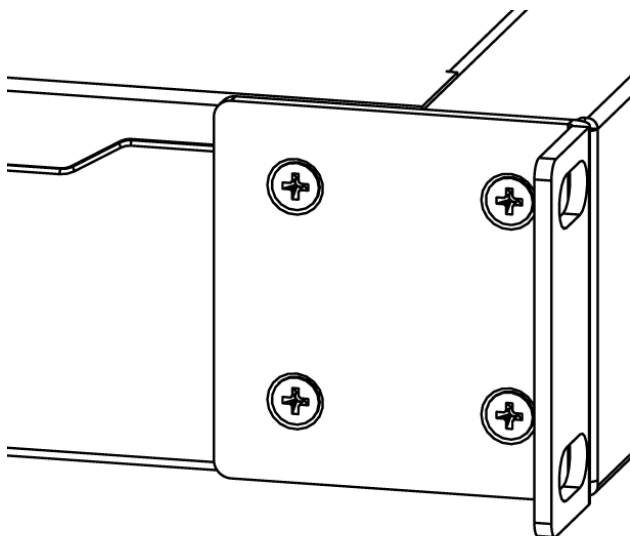
In the case of device failure, please disconnect it from power. The fastest way to do so is by unplugging the power plug from the power outlet.

It is the customer's responsibility to follow local country regulations, including operation within legal frequency channels, output power, cabling requirements, and Dynamic Frequency Selection (DFS) requirements. All Mikrotik devices must be professionally installed.

### Quickstart

- Mount unit or place on the flat surface, please see the [Mounting](#) paragraph for instructions.
- Choose your powering solution, please see the [Powering](#) section for possibilities.
- The Initial connection has to be done via the Ethernet cable, using the MikroTik Winbox utility.
- Use Winbox to connect to the default IP address of 192.168.88.1 from any port, with the username admin and no password (or, for some models, check user and wireless passwords on the sticker), the device is set up as a switch.
- Update the device by clicking the "Check for updates" button to v6.49.5 or the latest RouterOS software to ensure the best performance and stability. The device needs to have an active internet connection.
- To manually update the device, go to our download page <https://mikrotik.com/download>
- Choose your architecture (ARM) and download the latest packages from any channel to your PC.
- Open Winbox and upload packages in the Files menu.
- Reboot the device.
- Updating software will ensure the latest security fixes and regulations set by local law.
- Choose your Country.
- Set up your password to secure the device.

### Mounting



The device is designed to use indoors and it can be mounted in a rackmount enclosure using provided rack mounts, or it can be placed on the desktop. Please attach rubber pegs on the bottom of the router if the desired placement is on the flat surface or use a Phillips screwdriver to attach rackmount ears on both sides of the device if the designated use is for rackmount enclosure.

1. Attach rack ears to both sides of the device and tighten four screws to secure them in place, as shown in the picture to the right.
2. Place the device in a rackmount enclosure and align it with the holes so that the device fits conveniently.
3. Tighten screws to secure it in place.

The IP rating scale for this device is IPX0. The device has no protection from water contamination, please ensure the placement of the device in a dry and ventilated environment.

We recommend shielded Cat5/6 cables for our devices.

*The mounting and configuration of this device should be done by a qualified person.*

## Powering

The device accepts 18-57 V DC from the direct-input power jack (5.5 mm outside and 2 mm inside, female, pin positive plug) accepts. The management port accepts 802.3af/at and passive PoE power input (18-57 V DC).

The power consumption of this device under maximum load is up to 20 W.

## Specifications

- Product code CRS310-1G-5S-4S+IN
- CPU 98DX226S 800 MHz
- CPU architecture ARM 32bit
- CPU core count 1
- Size of RAM 256 MB
- RAM type DDR3
- Storage 16 MB, Flash
- Number of 1G Ethernet ports 1
- Number of 1G SFP ports 5
- Number of 10G SFP+ ports 4
- Switch chip model 98DX226S
- Dimensions 200 x 166 x 45 mm
- Operating system RouterOS, License level 5
- Operating temperature -40°C to +70°C

## Configuration

RouterOS includes many configuration options in addition to what is described in this document. We suggest starting here to get yourself accustomed to the possibilities: <https://help.mikrotik.com/docs/display/ROS/CRS3xx%2C+CRS5xx%2C+CCR2116%2C+CCR2216+switch+chip+features>. In case the IP connection is not available, the Winbox tool (<https://mt.lv/winbox>) can be used to connect to the MAC address of the device. The device is equipped with an RS-232 serial port, set by default to 115200 bit/s, 8 data bits, 1 stop bit, and no parity. For recovery purposes, it is possible to boot the device for reinstallation, see the next section.

## Buttons and Jumpers

The reset button has these functions:

- Hold this button during boot time until the user LED light starts flashing, and release the button to reset the RouterOS configuration.
- Keep holding the button for 5 more seconds or until the user LED turns off, then release it to make the RouterBOARD look for Netinstall servers. The first Ethernet port is used for the Netinstall process.

Regardless of the above option used, the system will load the backup RouterBOOT loader if the button is pressed before power is applied to the device. Release the button before LED begins to flash, to only load the backup RouterBOOT without resetting. This is useful for RouterBOOT debugging and recovery.

## LED indicators

- The power LED is lit when the router is powered by the DC jack or PoE.
- The user LED can be configured from RouterOS.
- The port LEDs indicate the individual Ethernet and SFP port activity.

## Accessories

The package includes the following accessories that come with the device:



24V 1.2A power  
adapter



K48 screw kit



Ears

Please visit the wiki pages for the MikroTik SFP module compatibility table: [https://wiki.mikrotik.com/wiki/MikroTik\\_SFP\\_module\\_compatibility\\_table](https://wiki.mikrotik.com/wiki/MikroTik_SFP_module_compatibility_table)

## Operating system support

The device supports RouterOS v6. The specific factory-installed version number is indicated in the RouterOS menu /system resource. Other operating systems have not been tested.



To avoid pollution of the environment, please separate the device from household waste and dispose of it in a safe manner, such as at designated waste disposal sites. Familiarize yourself with the procedures for the proper transportation of the equipment to the designated disposal sites in your area.

## Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These units are designed to provide reasonable protection against harmful interference in a residential installation.



This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Note: This unit was tested with shielded cables on the peripheral devices. Shielded cables must be used with the unit to ensure compliance.

## Innovation, Science and Economic Development Canada

This device contains license-exempt transmitter(s)/receiver(s) that comply with Innovation, Science, and Economic Development Canada's license-exempt RSS(s). Operation is subject to the following two conditions: (1) This device may not cause interference. (2) This device must accept any interference, including interference that may cause undesired operation of the device.

L'émetteur/récepteur exempt de licence contenu dans le présent appareil est conforme aux CNR d'Innovation, Sciences et Développement économique Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes: 1) L'appareil ne doit pas produire de brouillage; 2) L'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

This Class B digital apparatus complies with Canadian ICES-003.

Cet appareil numérique de la classe [B] est conforme à la norme NMB-003 du Canada.

CAN ICES-003 (B) / NMB-003 (B)

## UKCA marking



***(EN) Technical Specifications / (DE) Technische Spezifikationen / (FR) Spécifications techniques / (IT) Specifiche tecniche / (ES) Especificaciones técnicas / (RU) Технические характеристики:***

|                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                               |            |                                                                                                                                                                                             |                                                                                                                                                                                                |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| (EN) Product Power Input Options<br>(DE) Produkt Stromquellen Optionen<br>(FR) Options d'entrée d'alimentation du produit<br>(IT) Opzioni di ingresso alimentazione del prodotto<br>(ES) Opciones de entrada de energía del producto<br>(RU) Варианты входной мощности продукта | (EN) DC Adapter Output Specification, (V/A)<br>(DE) Ausgangsspezifikationen des Gleichstromadapters, (V/A)<br>(FR) Spécifications de sortie de l'adaptateur de courant continu, (V/A)<br>(IT) Specifiche di uscita dell'adattatore di corrente continua, (V/A)<br>(ES) Especificaciones de salida del adaptador de corriente continua, (V/A)<br>(RU) Выходные характеристики адаптера постоянного тока, (В/А) |            | (EN) IP class of the enclosure<br>(DE) IP-Klasse des Gehäuses<br>(FR) Classe IP du boîtier<br>(IT) Classe IP della custodia<br>(ES) Clase de IP del recinto<br>(RU) Класс защиты корпуса IP | (EN) Operating Temperature<br>(DE) Betriebstemperatur<br>(FR) température de fonctionnement<br>(IT) temperatura di esercizio<br>(ES) Temperatura de funcionamiento<br>(RU) Рабочая Температура |
|                                                                                                                                                                                                                                                                                 | Voltage, V                                                                                                                                                                                                                                                                                                                                                                                                    | Current, A |                                                                                                                                                                                             |                                                                                                                                                                                                |
| DC Jack (18 - 57V DC)                                                                                                                                                                                                                                                           | 24                                                                                                                                                                                                                                                                                                                                                                                                            | 1.2        | IP20                                                                                                                                                                                        | ±0° ..+60°C                                                                                                                                                                                    |
| PoE In Ethernet Port (18 - 57V DC)                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                               |            |                                                                                                                                                                                             |                                                                                                                                                                                                |