

CRS328-4C-20S-4S+

Powering

The device accepts powering from one of two IEC connectors. AC input range 100-240 V.

Booting process

The device supports booting RouterOS (for routing and switching configuration) or SwOS (for only using as a switch). By default the device will boot RouterOS, but you can reboot into the other operating system in the following ways:

- From SwOS: In the System menu, click “Boot RouterOS” button on the bottom of the page.
- From RouterOS: in the System RouterBOARD menu, click “Settings” and there select “Boot OS”.

It is also possible to select the OS and configure other boot settings via the serial console menu.

Configuration

Full RouterOS and SwOS documentation is located here: <http://mt.lv/help>

This device is not preconfigured other than an IP address on the bridge interface. You can connect from any port, as all ports are switched together by default. Other configuration has to be applied according to the documentation manual linked above.

Initial connection has to be done via the ethernet cable, using the MikroTik WinBox utility. WinBox should be used to connect to the default IP address of 192.168.88.1 from any port, with the username admin and no password.

For recovery purposes, it is possible boot the device from network, see Buttons and jumpers.

In case IP connection is not available, the WinBox utility can also be used to connect to the MAC address of the device. Applies only when device has booted RouterOS.

The device is equipped with an RJ45 serial port, set by default to 115200 bit/s, 8 data bits, 1 stop bit, no parity. Standard RJ45 to COM cable can be used, pinout can be found here: <http://mt.lv/console>

Extension slots and ports

- 20 SFP ports.
- 4 SFP+ ports, which accept both 1.25 Gb SFP and 10 Gb SFP+ modules.
- 4 combo ports, consisting of four twisted pair (T) sockets and four SFP sockets (F).
- RJ45 serial port.

Combo ports

The four combo interfaces each have two physical connectors of which only one can be used at the same time. The ports will be automatically represented as combo1-4 in RouterOS. It is possible to select which physical port will be used in RouterOS software ethernet menu. If left to default “auto”, and both F/T have cables plugged in, SFP will take priority. For example, if you have plugged an Ethernet cable into the 1T port and a SFP module in the 1F port, you will have to choose in RouterOS which one to use. Double click the respective combo interface in RouterOS GUI to see which socket is used.

Buttons and jumpers

Reset button

- Hold this button during boot time until LED light starts flashing, release the button to reset RouterOS configuration (total 5 seconds).
- Keep holding the button for 5 more seconds until until LED turns off, then release it to make the RouterBOARD look for Netinstall servers (total 15 seconds).

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. Useful for RouterBOOT debugging and recovery.

Mode button

The action of the mode button can be configured from RouterOS software to execute any user supplied RouterOS script. For configuration, use the menu `/system routerboard mode-button`

Operating system support

The device supports RouterOS software with the version number at or above what is indicated in the RouterOS menu `/system resource`. The device can also boot SwOS. Other operating systems have not been tested.

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 limits 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 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. This device and its antenna must not be co-located or operation in conjunction with any other antenna or transmitter.



CE declaration of conformity



Full Declaration of Conformity (DoC) may be obtained by visiting our product page on <https://mikrotik.com>

EN	Hereby, Mikrotik SIA declares that this routerboard is in compliance with the essential requirements and other relevant provisions of directive 2014/53/ec.
BG	С настоящето, Mikrotik SIA декларира, че routerboard е в съответствие със съществените изисквания и другите приложими разпоредби на директива 2014/53/ec.
CZ	Mikrotik SIA tímto prohlašuje, že routerboard splňuje základní požadavky a všechna příslušná ustanovení směrnice 2014/53/es.
DK	Undertegnede Mikrotik SIA erklærer herved, at følgende udstyr routerboard overholder de væsentlige krav og øvrige relevante krav i direktiv 2014/53/ef.
DE	Hiermit erkläre Mikrotik SIA dass sich das gerät routerboard in übereinstimmung mit den grundlegenden anforderungen und den übrigen einschlägigen bestimmungen der richtlinie 2014/53/eg befindet.
EE	Käesolevaga kinnitab Mikrotik SIA seadme routerboard vastavust direktiivi 2014/53/eü põhinõuetele ja nimetatud direktiivist tulenevatele teistele asjakohastele sätetele.
GR	Με την παρούσα ο κατασκευαστής Mikrotik SIA δηλώνει ότι routerboard συμμορφώνεται προς τις ουσιαστικές απαιτήσεις και τις λοιπές σχετικές διατάξεις της οδηγίας 2014/53/εκ
ES	Por la presente, Mikrotik SIA declara que este routerboard cumple con los requisitos esenciales y otras exigencias relevantes de la directiva 2014/53/ec.
IT	Con la presente Mikrotik SIA dichiara che questo routerboard è conforme ai requisiti essenziali ed alle altre disposizioni pertinenti stabilite dalla direttiva 2014/53/ce.
LV	Ar šo Mikrotik SIA deklarē, ka routerboard atbilst direktīvas 2014/53/ek būtiskajām prasībām un citiem ar to saistītajiem noteikumiem.
LT	Šiuo Mikrotik SIA deklaruoja, kad šis routerboard atitinka esminius reikalavimus ir kitas 2014/53/eb direktyvos nuostatas
HU	A Mikrotik SIA ezzennel kijelenti, hogy a routerboard típusú beren-dezés teljesíti az alapvető követelményeket és más 2014/53/ek irányelvben meghatározott vonatkozó rendelkezéseket.
NL	Hierbij verklaart Mikrotik SIA dat het toestel I routerboard in overeenstemming is met de essentiële eisen en de andere relevante bepalingen van richtlijn 2014/53/eg.
PL	Niniejszym Mikrotik SIA deklaruje że routerboard jest zgodny z zasadniczymi wymaganiami i innymi właściwymi postanowieniami dyrektywy 2014/53/ec.
PT	Eu, Mikrotik SIA declaro que o routerboard cumpre os requisitos essenciais e outras providões relevantes da directiva 2014/53/ec.
RO	Prin prezenta, Mikrotik SIA declară că aparatul routerboard este în conformitate cu cerințele esențiale și cu alte prevederi pertinente ale directivei 2014/53/ce.
SL	Mikrotik SIA tímto vyhlasuje, že routerboard splňa základné požiadavky a všetky príslušné ustanovenia smernice 2014/53/es.
SI	Mikrotik SIA izjavlja, da je ta routerboard v skladu z bistvenimi zahtevami in drugimi relevantnimi določili direktive 2014/53/es.
FI	Mikrotik SIA vakuuttaa täten että routerboard tyyppinen laite on direktiivin 2014/53/ey oleellisten vaatimusten ja sitä koskevien direktiivin muiden ehtojen mukainen.
SE	Härmed intygar Mikrotik SIA att denna routerboard är i överensstämmelse med de väsentliga egenskapskrav och övriga relevanta bestämmelser som framgår av direktiv 2014/53/eg.
NO	Mikrotik SIA erklærer herved at routerboard er i samsvar med de grunnleggende krav og øvrige relevante krav i direktiv 2014/53/ef.

EN. Instruction manual: Connect the power adapter to turn on the device. Open 192.168.88.1 in your web browser, to configure it. More information on <http://mt.lv/help> **BG. Инструкции:** Свържете адаптера на захранване, за да включите устройството. Отворете 192.168.88.1 в уеб браузър, за да настроите продукта. Повече информация в <http://mt.lv/help> **CZ. Návod k použití:** Připojte napájecí adaptér k zapnutí přístroje. Otevřete 192.168.88.1 ve webovém prohlížeči pro konfiguraci produktu. Více informací najdete v <http://mt.lv/help> **DK. Instruktionsbog:** Tilslut strømadapteren for at tænde for enheden. Åbn 192.168.88.1 i en webbrowser til at konfigurere produktet. Mere information i <http://mt.lv/help> **FR. Mode d'emploi:** Connectez l'adaptateur d'alimentation pour allumer l'appareil. Ouvrez 192.168.88.1 dans un navigateur Web pour configurer le produit. Plus d'informations dans <http://mt.lv/help> **DE. Bedienungsanleitung:** Verbinden Sie das Netzteil, um das Gerät einzuschalten. Öffnen Sie 192.168.88.1 in einem Web-Browser, um das Produkt zu konfigurieren. Weitere Informationen im <http://mt.lv/help> **EE. Kasutusjuhend:** Ühendage toiteadapter seadme sisselülitamiseks. Avatud 192.168.88.1 in veebilehitseja seadistada toodet. Rohkem teavet <http://mt.lv/help> **ES. Manual de instrucciones:** Conecte el adaptador de alimentación para encender la unidad. Abra 192.168.88.1 en un navegador web para configurar el producto. Más información en <http://mt.lv/help> **IT. Manuale di istruzioni:** Collegare l'adattatore di alimentazione per accendere l'unità. Aprire 192.168.88.1 in un browser Web per configurare il prodotto. Maggiori informazioni in <http://mt.lv/help> **LV. Lietošanas instrukcija:** Pievienojiet Strāvas adapteri, lai ieslēgtu ierīci. Atvērt 192.168.88.1 ar interneta pārlūku, lai konfigurētu produktu. Plašāka informācija <http://mt.lv/help> **LT. Naudojimosi instrukcija:** Prijunkite maitinimo adapterį įjunkite įrenginį. Į interneto naršyklę 192.168.88.1 Atidarykite galite konfigūruoti gaminį. Daugiau informacijos rasite <http://mt.lv/help> **HU. Használati utasítás:** Csatlakoztassa a hálózati adaptert a készülék bekapcsolásához. Megnyitás 192.168.88.1 egy webböngészőben beállítani a terméket. Több információ <http://mt.lv/help> **NL. Handleiding:** Sluit voedingsadapter aan op het apparaat in te schakelen. Open 192.168.88.1 in een webbrowser om het product te configureren. Meer informatie in <http://mt.lv/help> **PL. Instrukcja obsługi:** Podłącz adapter zasilania, aby włączyć urządzenie. Otwórz 192.168.88.1 w przeglądarce internetowej, aby skonfigurować urządzenie. Więcej informacji w <http://mt.lv/help> **PT. Manual de instruções:** Conecte o adaptador de alimentação para ligar o aparelho. Abra 192.168.88.1 em um navegador da web para configurar o produto. Mais informações em <http://mt.lv/help> **RO. Instrucțiuni de utilizare:** Conectați adaptorul de alimentare pentru a porni aparatul. Deschide 192.168.88.1 într-un browser web pentru a configura produsul. Mai multe informații în <http://mt.lv/help> **SK. Návod na použitie:** Pripojte napájací adaptér k zapnutiu prístroja. Otvorte 192.168.88.1 vo webovom prehliadači pre konfiguráciu produktu. Viac informácií nájdete v <http://mt.lv/help> **SI. Navodila:** Priključite napajalnik za vklop naprave. Odprite 192.168.88.1 v spletnem brskalniku nastavitvi izdelek. Več informacij v <http://mt.lv/help> **FI. Käyttöohje:** Kytke virtalähde päälle laitteen. Avaa 192.168.88.1 in selaimen määrittää tuotteen. Lisää tietoa <http://mt.lv/help> **SE. Instruktionsmanual:** Anslut nätadaptern för att slå på enheten. Öppna 192.168.88.1 i en webbläsare för att konfigurera produkten. Mer information på <http://mt.lv/help> **NO. Bruksanvisningen:** Koble strømadapteren for å slå på enheten. Åpne 192.168.88.1 i en nettleser for å konfigurere produktet. Mer informasjon på <http://mt.lv/help> **GR. εγχειρίδιο οδηγιών:** Συνδέστε τον προσαρμογέα τροφοδοσίας για να ενεργοποιήσετε τη μονάδα. Ανοίξτε 192.168.88.1 σε ένα πρόγραμμα περιήγησης στο Web για να διαμορφώσετε το προϊόν. Περισσότερες πληροφορίες στο <http://mt.lv/help>.

Safety notice

Electric shock hazard. This equipment is to be serviced by trained personnel only.

