# iNELS Bridge Third Party Integration Gateway Installation Guide



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Contents

1 Introduction
2 Initial configuration
3 Web interface – iNELS Bridge
4 Hardware
5 Home Assistant (HA)
6 Troubleshooting
7 Documents / Resources
7.1 References
8 Related Posts

## Introduction

Thank you for purchasing iNELS Bridge, a Linux-based unit featuring an integrated Home Assistant. With the integrated Home Assistant platform, you have even more options at your disposal.

Home Assistant is a powerful software that allows you not only to control iNELS elements, but also to connect them with third-party elements. That means that you can integrate your iNELS device with other devices with Home Assistant support. By doing so, you get a fully interconnected and automated environment tailored to your needs.

This guide gives you instructions on how to properly set up iNELS Bridge and connect it to your iNELS elements using the MQTT protocol. It will also show you how to use the power of Home Assistant to connect your iNELS devices with elements made by various manufacturers. This gives you full control of your home and allows you to create a smart, comfortable, and energy efficient environment.

## Initial configuration

1. First, connect iNELS Bridge to the power supply. You can use either an electrical connector or PoE (24V injector). If you decided to use electrical connector, you also need to connect the device to the Internet network using a network cable.
2. iNELS Bridge is configured as a DHCP client by default. To access its web interface, go to **http://bridge.local:8080**.
3. To open the Home Assistant platform, go to **http://bridge.local:8123**.
4. The access credentials for both hyperlinks are:
    - **Username:** admin
    - **Password:** elkoep

If the aforementioned hyperlinks do not work, enter the IP address assigned to by the router through the DHCP (IP_address:8080 or Ip_address:8123) instead of the bridge.local. You can find the address in your router settings (search for the MAC address indicated on iNELS Bridge box) or by using a third party tool to find devices in the network. For more information, see the *Troubleshooting* section in this guide.

## Web interface – iNELS Bridge

If you wish to change iNELS Bridge settings, use the web interface located at **http://bridge.local:8080**. The web interface features two tabs:

- Linux

- Home Assistant

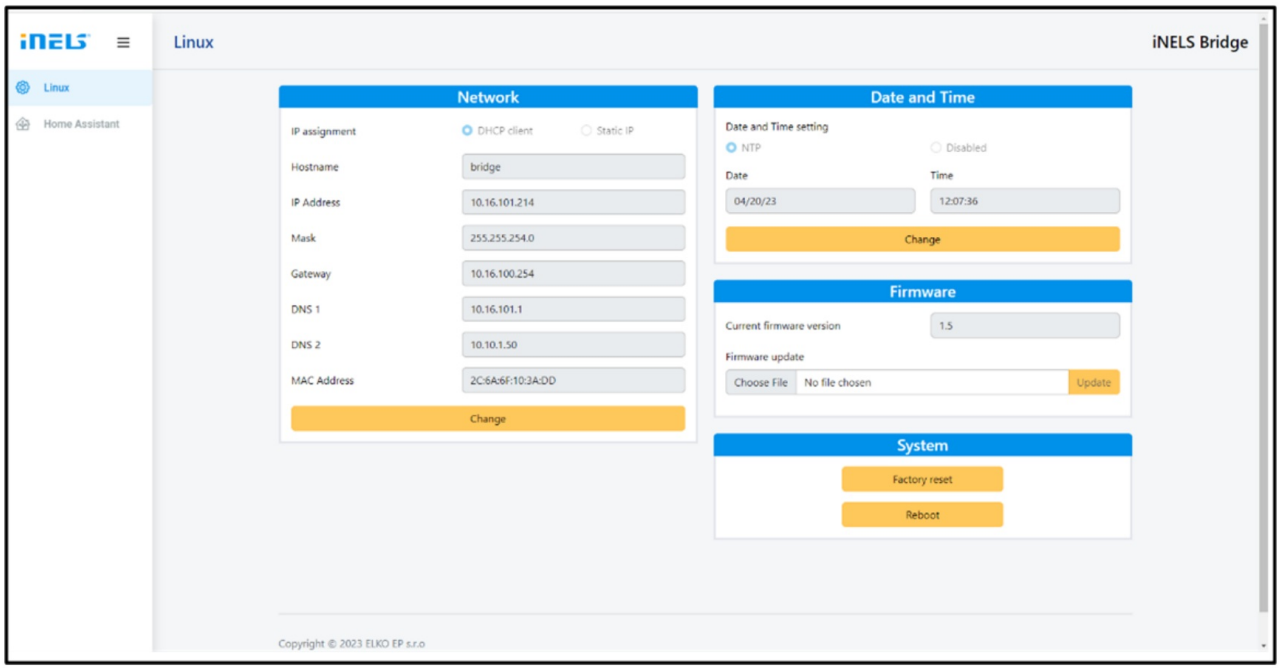
The Linux tab is used to configure basic system settings:

- Network – change network settings
- Date and Time – change date and time
- Firmware – firmware update
- System – here you can reboot the IB or do a factory reset

The Home Assistant tab is used to update and back up the Home Assistant platform.

- Update – home assistant core update
- Backup and restore – Backup and restore Home Assistant settings

**Linux tab**




**Network:**

- IP assignment
  - By default, IB is in DHCP mode. This mode can be changed to static IP address mode.
- Hostname
  - The default host name is “bridge”. Here, you can change the device name under which it will be presented in the network. After the hostname change, IB and HA will be available under a new link:
- New_hostname: 8080
- New_hostname: 8123

**Date and Time:**

- Displays the current date and time.
- The time is set using an NTP server, which you may disable. In the settings, you can also select the time zone

in which the IB is currently located.

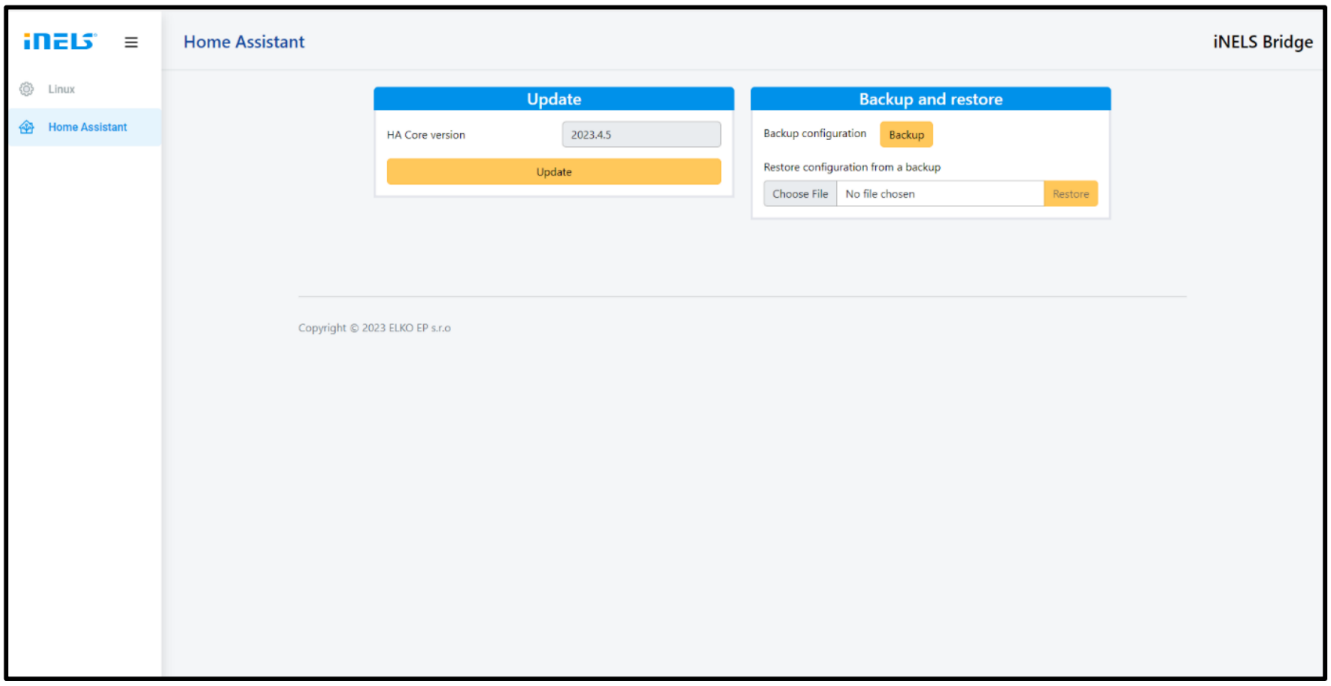
**Firmware:**

- This tab is used to update the firmware. Simply select the new firmware version from your computer's hard drive and press the "Update" button to upload the new version. Following the update, iNELS Bridge must be rebooted using the "Reboot" button. The latest firmware versions are available for download at **elkoep.cz**.

**System:**

- Factory reset – resets all changes (including running programs) made by the user since the last FW update. iNELS Bridge is reset to the state corresponding the one immediately after the last update (out of the box). The network, domain, and NTP settings will remain set.
- Reboot – button used to reboot IB.

**Home Assistant tab**




**Update:**

- This button is used to update the Home Assistant core. IB will automatically download and install the most recent available version of Home Assistant.
- During the update, a window with a list of the logs will appear. Home Assistant reboots after a successful update. **Note:** The reboot may take several minutes. Home Assistant completes the installation during the reboot.

**Backup and restore**

- **Backup –** the button is used to create a Home Assistant backup. The backup is automatically stored to your hard drive when finished. The backup also includes the Home Assistant core version including all configurations, automations, and integrations. Therefore, if you have an older backup that you want to upload, it will downgrade Home Assistant to the version corresponding with the backup.

- **Restore** – the button is used to restore Home Assistant from a backup. To restore, select the relevant backup stored on your hard drive in the past.

## Hardware

The iNELS Bridge box features 3 LEDs and a Reset button.

### LEDs

- **PWR LED** – steady when IB is powered
- ETH LED – steady when IB is connected to the Internet network – flashes during network communication
  **READY LED** – flashes after successful assignment of IP address (DHCP / static) and start-up of the Home Assistant platform

**RESET button**
Has two functions on iNELS Bridge:

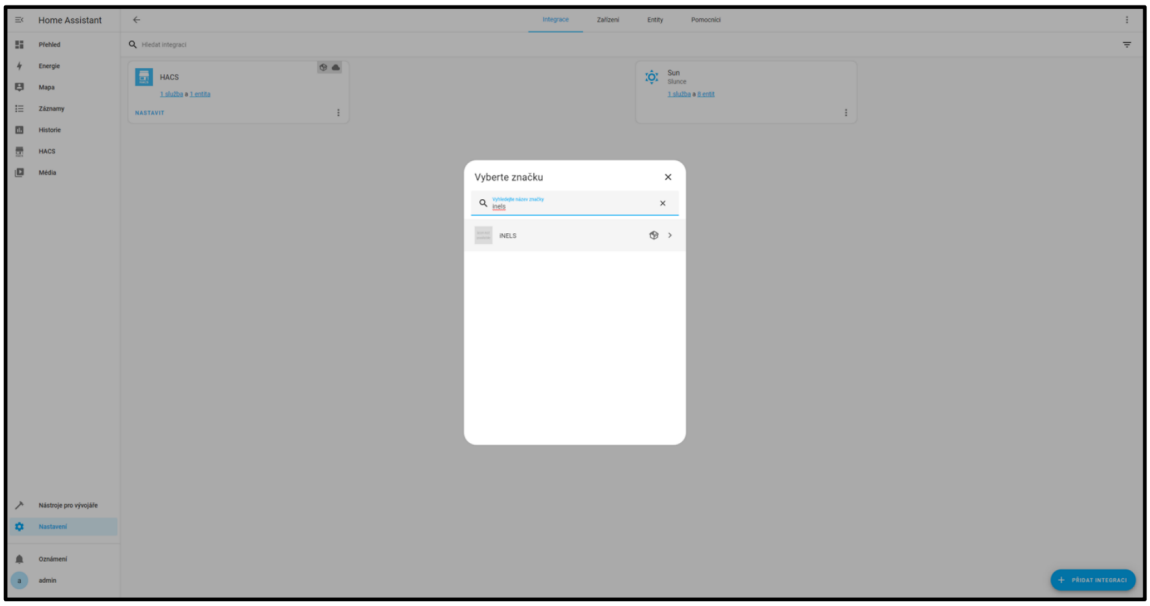
- Pressing the button >2 sec: Reboots iNELS Bridge
- Pressing the button >10 sec: Reboots iNELS Bridge and resets the network to default (DHCP and bridge.local domain name)

## Home Assistant (HA)

The HA platform is available at **http://bridge.local:8123**.

The default credentials are:

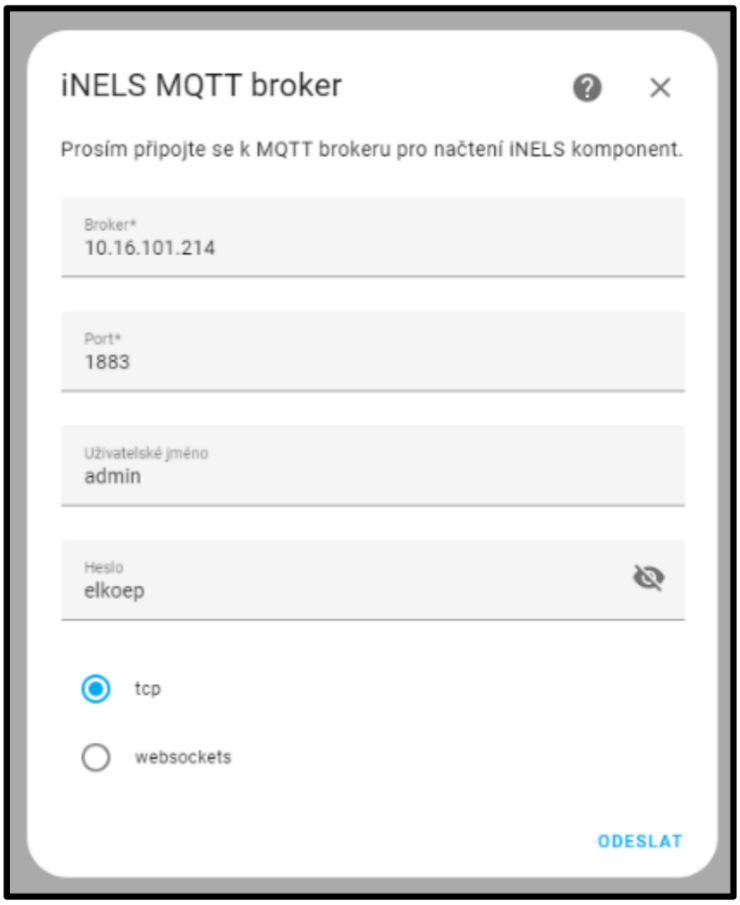
- **Username:** admin
- **Password:** elkoep




**Integration of iNELS in HA**
The HA includes iNELS integration, which can be used to interconnect iNELS RF and BUS. This also allows you to work with competitors' products (if they support HA).

**Procedure:**

1. First, open Settings -> Devices & Services. Here, select “Add integration”. A list appears, where you can find the iNELS integration and click on it; additional settings will appear.




2. In the additional setting, the user should enter the IP address of MQTT broker that connects the gateways (eLAN and CU) to the IB. MQTT broker is a part of IB and has the same IP address. The IP address can be found on the bridge.local:8080 web interface under Linux tab -> Network.
3. The communication port for this is unchanged by default – 8123.
4. Enter your login credentials:
    - **Username:** admin
    - **Password:** elkoep
5. iNELS integration should now be added to HA.

## Troubleshooting

**iNELS Bridge cannot be found in a computer network in DHCP mode**
**Conditions:**
IB is connected to a computer network. It is set to DHCP mode (default factory setting). PWR LED is steady, ETH LED is flashing, READY LED is off. IB cannot be found in the computer network.

Connecting IB to the computer network in DHCP mode is done as follows:

Upon switching on IB, it submits a request to the DHCP server for an IP address assignment. If the DHCP server does not respond, IB waits about 90 seconds and resubmits the request. If the IB does not receive an assigned IP address again, it sets the service IP address 169.254.1.1 on its network interface, and runs its web interface at this address. Then every 60 seconds, IB resubmits the request for an IP address assignment by the DHCP server until the IP address is assigned. IB then uses the assigned IP address and LED READY starts flashing.

**Solution:**

1. Set a static IP address on the PC network card:
    - **IP:** 169.254.1.2
    - **Address mask:** 255.255.255:0
    - **Gateway:** 169.254.1.1
    - **DNS:** 169.254.1.1
2. In a web browser, open the service interface at **http://bridge.local:8080**.
3. Set a static IP address for IB.
4. Press the “Reboot” button (after reboot, IB is available at the set static address).

**iNELS Bridge cannot be found in a computer network in static IP mode**
**Conditions:**
IB is connected to a computer network. It has a static IP address set. PWR LED is steady, ETH LED is flashing, READY LED is flashing. IB cannot be found in the computer network.
**Solution:**

1. Using a suitable tool, press the RESET button on the front of the box. When the READY LED turns off, count to fifteen, then release the button.
2. The IB will reboot and DHCP mode and the bridge.local domain will be set on the network interface. This will not affect any other settings.

**www.elkoep.com**

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## Documents / Resources

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|  | iNELS Bridge Third Party Integration Gateway [pdf] Installation Guide<br>Bridge Third Party Integration Gateway, Bridge, Third Party Integration Gateway, Integration Gateway, Gateway |

## References

- ELKO EP - Výrobce elektronických přístrojů • ELKO EP s.r.o

- Gateway pro integraci třetích stran - iNELS Bridge • ELKO EP s.r.o