INSTALLATION MANUAL
for Smart IR box eLAN-IR-003

iNELS®
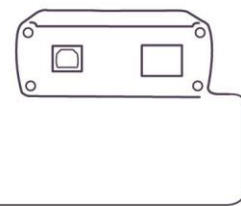
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1. Introduction

Congratulations on purchasing the eLAN-IR-003 control unit, an element of the iNELS intelligent system.

Before you begin
The instruction manual provides information on installing and operating the device. The instruction manual is always a part of the supply. Only perform installation after becoming thoroughly familiar with this User Guide and device functions. Problem-free function of the device also depends on the way it was shipped, stored and handled. If you notice any signs of damage, deformation, malfunction or a missing part, do not install this product and return it to the point of sale. At the end of its service life, the product and its parts must be treated as electronic waste. Before starting the installation, make sure that all wires and connected parts are not under voltage. When assembling and performing maintenance, you must uphold safety regulations, standards, directives and special provisions for working with electrical equipment.

2. Characteristics eLAN-IR-003

- The smart box can be nicely used in two different basic ways, such as:
  - A part of the iNELS intelligent electrical installation system within the range of playing multimedia from the iHC app or when an iMM shows an IR signal, it can control the TV, an amplifier and smart phone (or a tablet and gyroscopic mouse) and it serves as the sole driver of the entire system.
  - An independent facility or (an IR terror drivers), which unites all drivers under one and replacing it with a smart phone „without having to use iNELS complex system".

- eLAN-IR-003 converter Ethernet commands from the infrared (IR) code.

- The Smart box can control the devices , which are controlled by the IR controller, for example: TV, VCR, satellite receiver, DVD player, amplifier, hi-fi , air conditioning, fans and others.

- In case of integrating a smart box to the iNELS system for controlling, we should use:
  - The complex iHC application for intended iNELS system and its iMM multimedia superstructure. The application is available for smart phones and tablets with an Android OS and also for an iPhone and an iPAD.
  - The iMM application for TV screening „Video zone".

- In case of the usage as an independent device, we can use iHC-MAIR app (for Android smart phones) and iHC-MIIR (for an iPhone) , also the app allows us to control more smart boxes (for example one in every place).

- We can control the device remotely , for example you can switch you AC on from work, without even seeing it.

- There is a possibility to control up to 100 IR codes.

- It supports IR codes with the frequency between 20 - 455 KHz.

3. Technical parameters:

SENSOR IR – LEARNING MODE

IR sensor:	Infrared sensor for learning IR codes
The carrier IR frequency:	20 - 455 kHz
Learning distance:	till 1m

OUTPUTS

Output:	3 x IR transmitter
Connection:	3 x 3.5 Jack connector, cable length 1.5 m
Output indication:	3x LED green status IR1-IR3
Range:	Up to 1m from the device

ETHERNET COMMUNICATION

Indication of ETH operating status:	Green LED
Indications of ETH communication:	Yellow LED
Communication Interface:	10/100 Mbps (RJ45)

POWER SUPPLY

Voltage supply / rated current:	10-27 V DC / 200 mA (safe low voltage)
Connection:	Jack connector O 2.1 mm
Voltage supply indication:	Green LED

OTHER DATA

Other possibilities of wiring:	USB-B connector
Indication:	Yellow USB LED status
Reset button:	settings to their default values
Power supply:	230 V AC / 12 V DC supplied with the data logger

OPERATING CONDITIONS

Operating temperature:	-20 .. +55 °C
Storage temperature:	-25 .. +70 °C
Protection degree:	IP 30
Pollution degree:	2
Operation position:	arbitrary
Installation:	free
Design:	design box
Dimensions:	90 x 52 x 65 mm
Weight:	136 g

Factory settings:

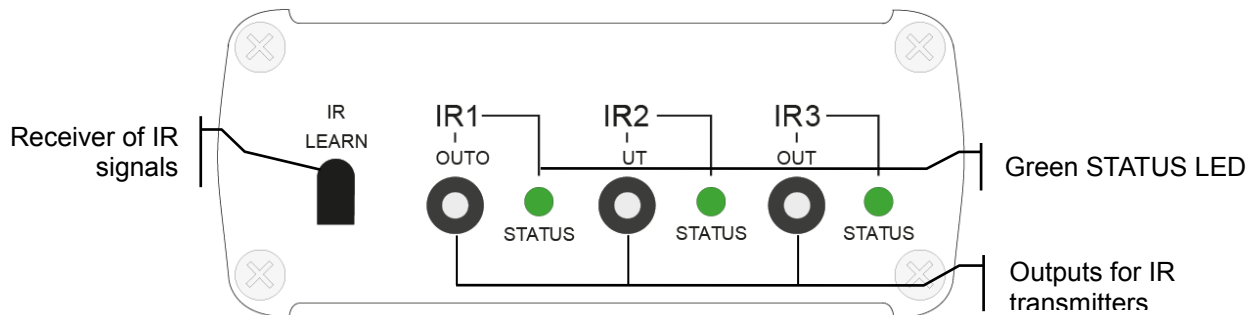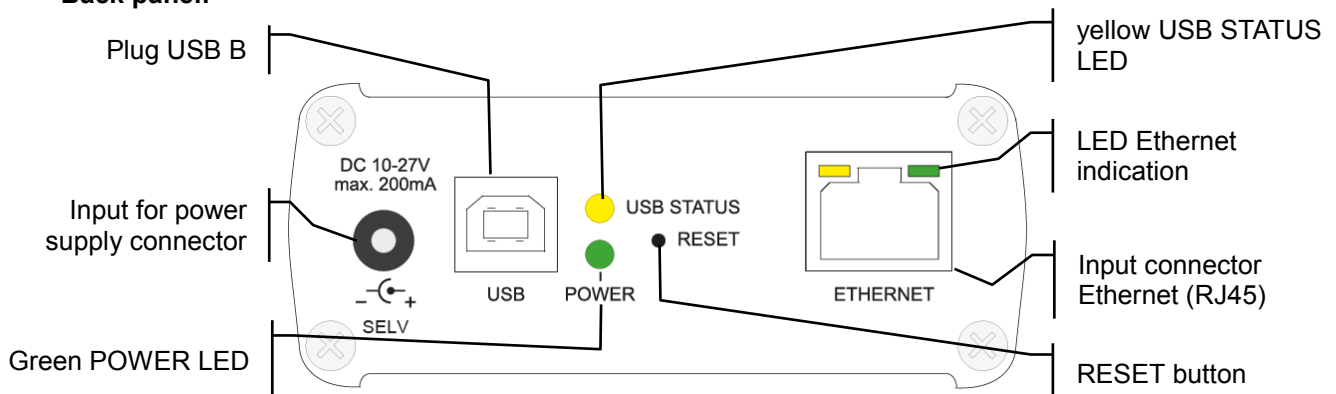|	
Login:	admin, user
Password:	elkoep
IP address:	assigned by means of DHCP

4. Hardware installation

4.1 Description of eLAN-IR-003

Front panel:

- IR LEARN   - IR receiver for loading IR codes.
- Outputs IR1 – IR3 - for connecting up to three IR transmitters. The IR transmitter is connected via a 3.5mm jack.
- Green STATUS LED - signals transmission of a specific output.

Back panel:

- Plug USB B – for servicing.
- Input for power supply connector DC 10-27 V / max. 200 mA – to connect the supplied power adapter.
- Green POWER LED - power supply indicator.
- Yellow LED, USB STATUS – displays activity at the USB port.
- LED indicator of Ethernet:
  - yellow – operation status indicator
  - green – communication indicator
- Input for connector Ethernet (RJ45) –for connection to local network (LAN) or PC.
- RESET button
  - RESTART – press *1s* – performs device restart, current settings do not change.
  - RESET - press *> 10s* – returns device to factory settings, i.e.: **reading IP address from DHCP, user name and password set to: admin (user) / elkoep, deletion of all learned and assigned IR codes as well as the created control panel of the web server.**

4.2 Requirements for installation

- eLAN-IR-003, IR transmitter (included in package)
- smart phone with application MAIR / MIIR
- PC with Ethernet adapter.
- Connecting Ethernet cable with RJ45 connectors.
- Web browser, supporting platform Java (e.g.: Mozilla Firefox, Opera, Internet Explorer - from version 10,..).

Note: you can also figure eLAN-IR-003 only by smart phone with installed application MAIR or MIIR.

Requirements for installation environment

- Place the eLAN-IR-003 in a spot where it can be connected to the Ethernet network and a power source. eLAN-IR-003 may not be placed in a spot where it would be exposed to moisture or excessive temperatures.
- The connected IR transmitter must be in directionally and visibly aligned with the receiver, and at an adequate distance from the controlled device. For flawless IR communication, the transmitter cannot become contaminated.
  The emission characteristics of the transmitter are displayed by a symbol in the image. The IR beam emitted is cone shaped and emits from the front part of the transmitter. The emission angle is 30°, so make sure to point the transmitter directly at the receiver of the controlled device. The distance from the controlled device should not exceed 1m.
  You can connect up to 3 IR transmitters to the eLAN-IR-003.

Emission characteristics of IR transmitter

30°

1 m
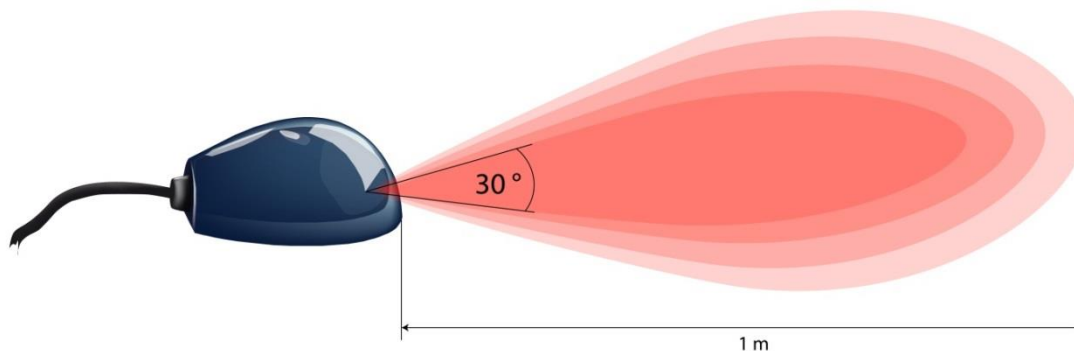
4.3 Connecting the eLAN-IR-003

- Connect the eLAN-IR-003 to the power supply.
- Using the Ethernet cable, connect the eLAN to your local network. Your local network (router) assigns the eLAN-IR-003 an IP address.
- Connect to output IR1 (IR2, IR3) IR transmitter (included in package). Place the IR transmitter at the required distance from the controlled device. Turn the IR transmitter to the position based on the emission characteristics (see point 4.2).
- Test the function of the IR connection. Affix the IR transmitter at the required spot using tape on the IR transmitter.

Example of typical connection

5. Configuring the eLAN-IR-003

- Install the application into your smart phone:
  - ➤ for mobile telephones with **OS Android**:
    Download the current version at **Google Play** under the name **iHC-MAIR**:
    https://play.google.com/store/apps/details?id=cz.elkoep.ihc_mair&hl=cs
  - ➤ for mobile telephones with **IOS**:
    download the current version at the **appstore** under the name **iHC-MIIR**:
    https://itunes.apple.com/cz/app/inels-home-control-ir-for/id987915596?mt=8

- Ascertaining the IP address eLAN-IR-003:
  In the installed application in the option **Settings** choose **eLAN Settings**. Press the icon
  Searching - 🔍. All discovered eLAN-IR-003 units appear that are located in your home network to which you are currently connected by phone as well as their IP addresses.

- Run the web browser.

- In the Internet browser in the *Address* panel fill in the IP address of your eLAN-IR-003.
  After confirming the entered IP address, the web server's login page will come up.

- A sign-in window will appear on the start screen.
  Factory settings for signing in as administrator are as follows:
  Login: admin
  Password: elkoep
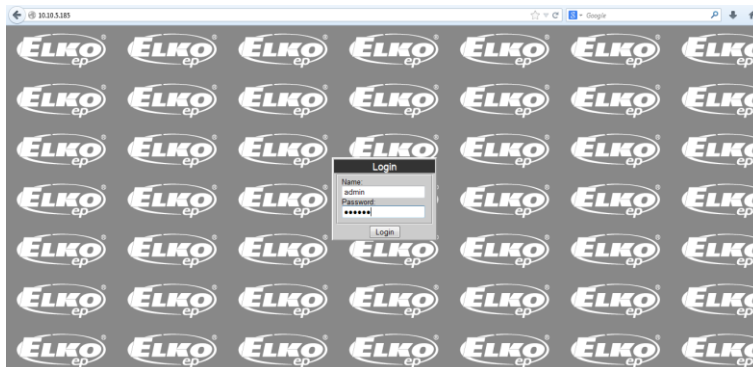
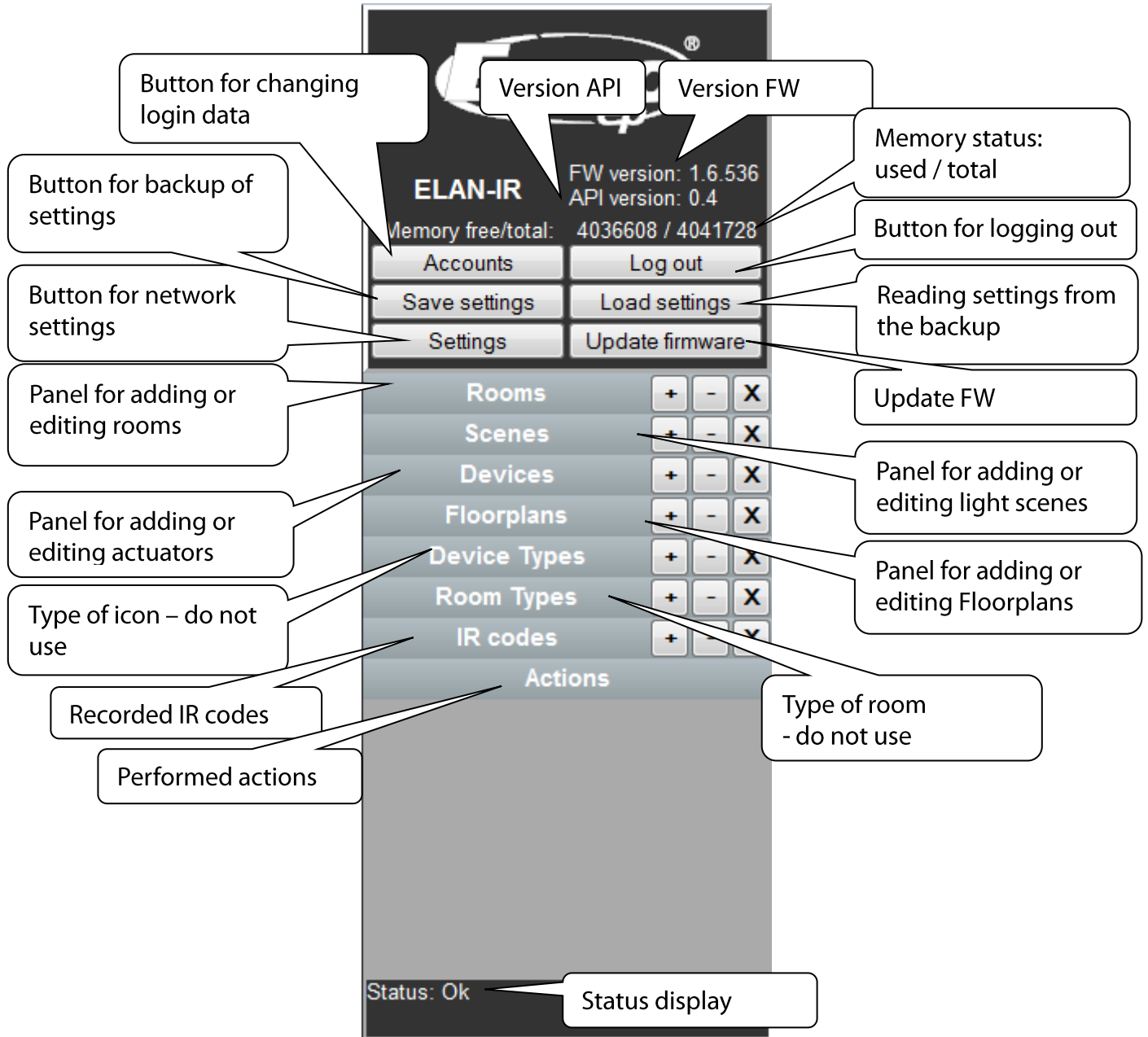You can sign in to the web interface of the eLAN-IR-003 as:
- ➤ administrator - has all rights for control and settings
- ➤ user - may only control the device

Both users log into the same dialog field (Login, password), whereas each uses his/her own name and password.

- Confirmation login by pressing **Login**.

- Upon the next user or administrator login, use the newly set login and password.

5.1 Configuration panel

Button for changing login data

Version API

Version FW

Memory status: used / total

Button for backup of settings

Button for logging out

Button for network settings

Reading settings from the backup

Panel for adding or editing rooms

Update FW

Panel for adding or editing actuators

Panel for adding or editing light scenes

Type of icon – do not use

Panel for adding or editing Floorplans

Recorded IR codes

Type of room - do not use

Performed actions

Status display

5.2 Description of functions

- By pressing the button **Accounts**, you will display a window for changing login data.

Window for writing in name

Window for writing in password

Window for confirming password

Window for writing in name

Window for writing in password

Window for confirming password

Button for saving

- By pressing **Log out**, you will log out of the web interface eLAN-IR-003.

- By pressing the button **Save settings**, you can save the current settings of your eLAN-IR-003 including network settings.

- By pressing the button **Load settings**, you can restore your stored settings, which you have already stored in your PC (the file has the extension .bin).

- The button **Settings** is to configure network settings that you can change any time based on your network.

Selection for reading the IP address from the DHCP server

Fixed IP address

Your subnetwork mask

Button for saving network settings

IP address of the eLAN-IR-003

Default gate of your

In case you wish to set static IP address, please mark relevant line and fill in the details:
- **IP Address** – enter the new IP address of the eLAN-IR-003 (in dotted decimal format). In case you set the static IP address, you have to find it by using the application (see detailed manual for applications).
- **Subnet Mask** – a code determining the size of the network, normally used for subnet mask is the value 255.255.255.0.
- **Default gateway** – enter the default gateway according to the settings of your network (this is usually the IP address of your router).

Note: If you change the IP address, to log into the eLAN-IR-003 you must use the new IP address. If the new IP address that you entered is not in the same subnetwork, the connection will not work if settings are not changed in the connected device (PC, iMM Client) to the same subnetwork

- The button **Update firmware** is used to update the firmware in your eLAN-IR-003.
  You can download the latest FW version from the Website:
  http://www.elkoep.cz/ke-stazeni/software/
  If you are experiencing no difficulties with the eLAN-IR, it is not necessary to download the latest firmware version.

- Panel **Rooms** - create a room.
  Button (**+**) - add a new room:

1. **ID** *of the room "optional data", if you do not enter it - a number is automatically generated. Here you can only use the characters [0-9A-Za-z_-].
2. **Label** gives an arbitrary name to the room (you can use diacritical marks, gaps and others...)
3. **Type** – here you select the type of room or type of icon that you will then display after entering the floorplan on the desktop.
4. **Floorplan** – here select the floorplan (image) that you added before in the tab **Floorplans**.

Button (**–**) - remove the selected room.
Button (**X**) - remove all created rooms.

Control of the device via Rooms
Rooms can be used to send IR codes (commands) directly from the web interface eLAN-IR-003.
By clicking on the required icon, open in the Configuration Panel the option IR codes assigned to control functions of the given device.
By double-clicking on the required IR code, you will run the assigned function (a functioning IR transmitter must be connected).
Flashing of STATUS LED of the given output confirms sending of the IR code.

Panel **Floorplans** here you can add floorplans (images, layouts….).

> Button (**+**) - add a new floorplan:
> 1. Select the required image for the floorplan (stored in your PC).
> 2. ID – enter the name of the floorplan. Confirm by pressing **OK**.

The number of floorplans is limited by the memory size of the eLAN-RF-003.
Find out the memory status in the top of the configuration panel.

- The panel **Device Types** - do not adjust or delete anything - only for the needs of R&D.

- The panel **Room Types** - do not adjust or delete anything - only for the needs of R&D.

- Panel **Action** - displays options for controlling the device indicated on the floor plan.

- Panel Scenes - create a scene.

  ATTENTION: You can only create scenes after adding a device (see Devices) and loading IR codes for individual device functions (see IR codes).

Button (**+**) - add a new scene:
> 1. **ID*** - name of room (not required).
> 2. **Label** - enter any name of the light scene (you can use diacritical marks and spaces in between…).
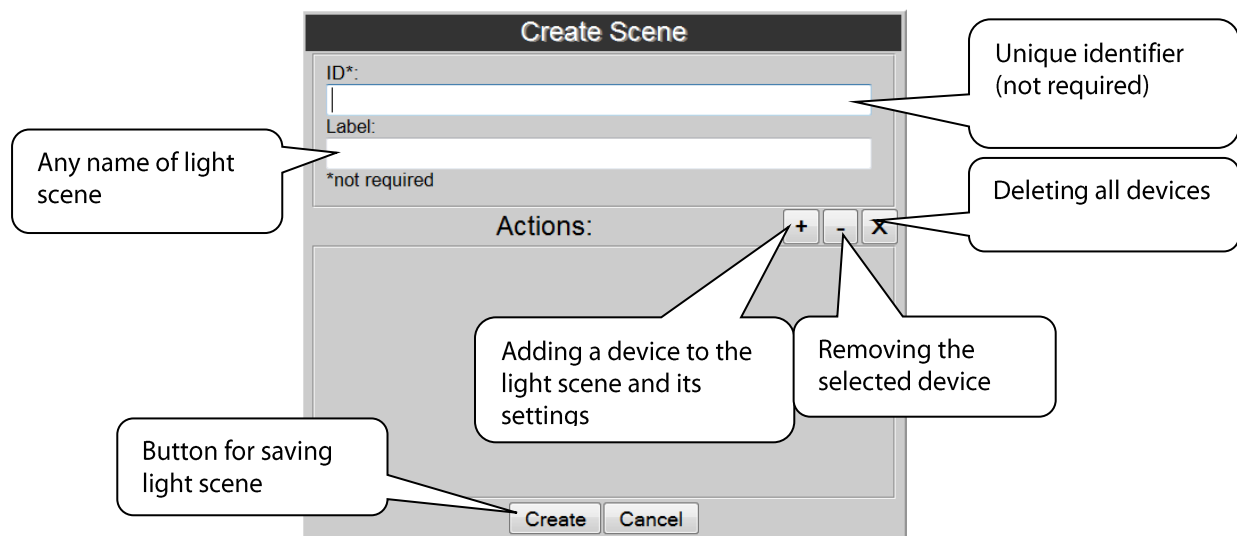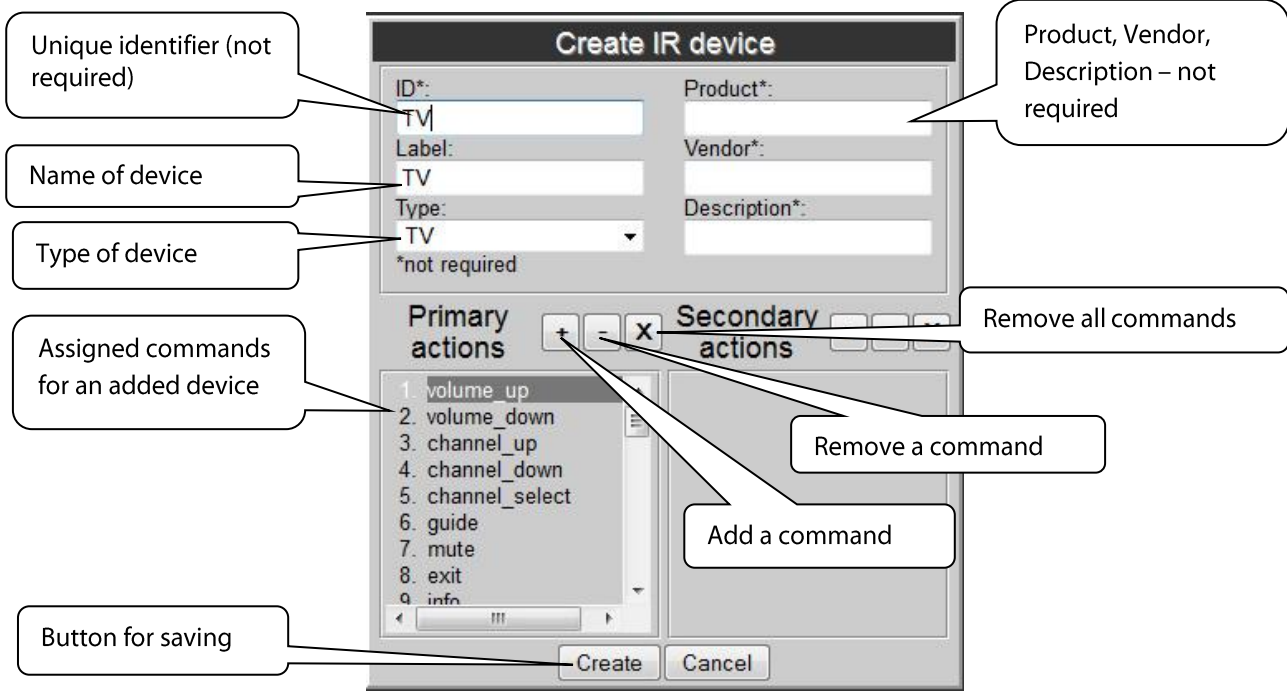

> 3. **Actions** - (**+**) – add an RF element, (**–**) delete the selected element, (**x**) – delete all devices.

When adding an actuator, its function-action is set (switching on/off, etc…)

- The *Devices* panel is used to add devices into the eLAN-IR-003 and assign IR codes for their control.

  ATTENTION: You can only add individual devices after loading IR codes from your controller into the eLAN-IR-003 (see IR codes).

By clicking on (+) on the **Devices** panel, the window **Create IR device** will appear, where you will enter the device name - **Label** and type of device- **Type**.
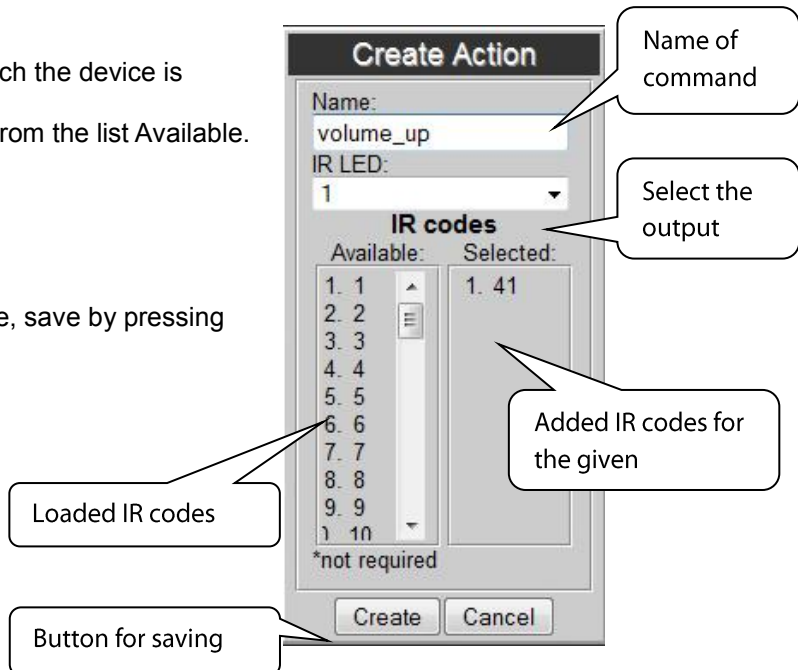
Unique identifier (not required)

Name of device

Type of device

Assigned commands for an added device

Button for saving

Product, Vendor, Description – not required

Remove all commands

Remove a command

Add a command

Create IR device

ID*: TV
Label: TV
Type: TV
*not required

Product*:
Vendor*:
Description*:

Primary actions   Secondary actions
1. volume_up
2. volume_down
3. channel_up
4. channel_down
5. channel_select
6. guide
7. mute
8. exit
9. info

Create   Cancel

By clicking on the button (+), the window **Create Action** will appear, where you select commands.

1. Name – name of function
2. IR LED – selection of IR transmitter, which the device is supposed to control
3. IR codes – selection of loaded IR code from the list Available. Confirm by pressing Create.

Button (**–**) - delete selected command.
Button (**X**) - delete all commands.

After assigning all commands to the given device, save by pressing Create.

Name of command

Select the output

Added IR codes for the given

Loaded IR codes

Button for saving

Create Action

Name:
volume_up
IR LED:
1
IR codes
Available: Selected:
1. 1   1. 41
2. 2
3. 3
4. 4
5. 5
6. 6
7. 7
8. 8
9. 9
1. 10
*not required

Create   Cancel

- The panel *IR codes* is used to load IR codes from your controller to the eLAN-IR-003.

By clicking on (+) on the panel **IR codes,** options appear with buttons:
- **Record** – pressing this activates the IR signal receiver on the eLAN-IR-003. Then you can load codes from the controller.
- **Import** – if you have IR codes stored in your PC, you can load them directly.

You can verify receipt of the IR codes directly in the Configuration panel, where you will see displayed in the **Status** row:
"Status Recording IR code...".

Button (**–**) - deletes the selected code.
Button (**X**) - deletes all codes.

6. Troubleshooting

- The product is not communicating (cannot connect to the web server)
  - ◦ Check to see that the eLAN-IR-300 is connected to the power supply, and the POWER LED on the front panel is illuminated.
  - ◦ Check for connection to the Ethernet network - the yellow Ethernet LED is lit and the green Ethernet LED is lit or flashes.
  - ◦ If there is no problem with power or connection, and all settings are correct, restart the eLAN-IR (by either pressing the RESET button for 1 s or by disconnecting and reconnecting the power supply).

- The device does not react to sent IR commands:
  - ◦ Recheck:
    - connection to the power source and to the Ethernet network.
    - connection of the IR transmitter to the applicable IR transmitter output.
    - flashing LED STATUS of the applicable IR transmitter output when sending the IR signal.
  - ◦ If the LED STATUS is not flashing, the cause may be an incorrectly chosen output, the cable is not inserted all the way, or the IR transmitter is defective.
  - ◦ If the LED STATUS is flashing, but the device is not reacting:
    - recheck the accuracy of the loaded IR code, possibly reload it.
    - recheck the correct positioning of the IR transmitter in relation to the device.