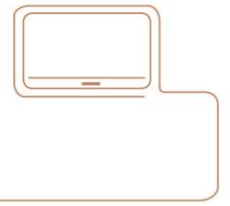



INSTALLATION MANUAL

for the Application iHC-TI



 App Store
www.elkoep.com/apps

INEL

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1. Introduction

The iHC-TI application is a supplement to the iNELS intelligent electroinstallation system which allows controlling of the entire system from a tablet with iOS operation system, i.e. from iPad. The main advantage of the application is the possibility of controlling all integrated technologies from a sole application, whilst you are either connected home in a local network (LAN), or anywhere out of your house with internet access (mobile data, wifi connection, etc.).

Ellegant as it is, iNELS perfectly mingles with any modern household, and thanks to the iHC-TI application, allows permanent supervision over electroinstallation, as well as comfortable central control over the entire house from one place. iHC-TI lets you control the lighting, blinds, shutters, outlets, heating, appliances, watering, cameras, multimedia (audio, video), Miele house appliances, home call boxes, air conditioning units, recuperation, information from meteostation, status of consumed energies, and the like.

The menu is divided in celar section where individual functions are illustrated by icons. You can also find shortcut access to your favourite functions whilst still being aware of what is happening in the other zones of your house.

The application now lets you secure individual rooms. By entering the password on the web interface of the iMM server, you activate the security for the given rooms and thus prevent an unauthorized person from controlling iNELS via iHC-TI.

The iHC application function is enabled:

- indirectly with the central unit using virtual server when you can control bus iNELS elements, i.e. for instance lighting (opening, dimming), blinds, shutters, outlets, security system, scenes, central function, watering or heating system.
- With Connection Server which allows you to control also cameras, air conditioning, recuperation, home call boxes, meteostation, or watch the levels of consumed energies
- with iMM server which additionally allows controlling of multimedia, i.e. Video zones (starting music, video, television, or browsing photographs from the central storage), and Audio zones (starting music from the central storage).

iHC is an abbreviation of iNELS Home Control, and the letters behind the dash define the equipment (T – tablet, M – mobile), and operation system (A – Android, I – iOS/Apple). The iHC-TI applicaion is therefore designed for iPads. The language of the application corresponds with the language set in iOS.

Download


Download the current version here:

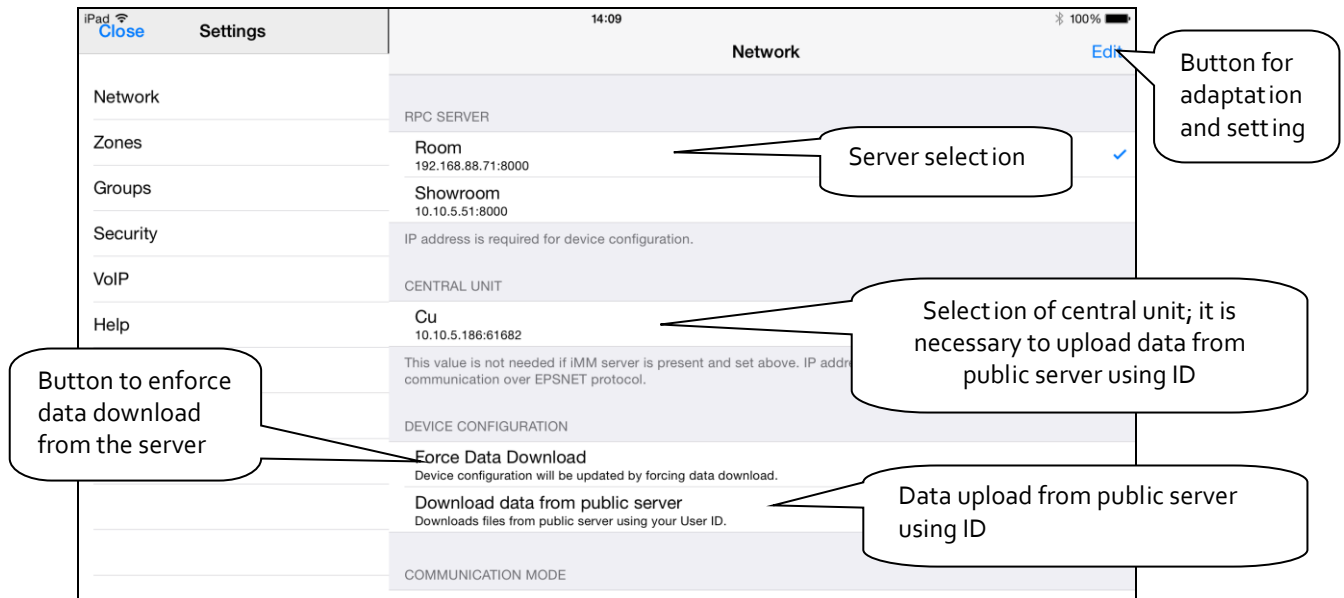


<https://itunes.apple.com/cz/app/inels-home-control-for-ipad/id727047801?mt=8>

Once the installation is completed, the device will offer a window offering opening the newly installed application.

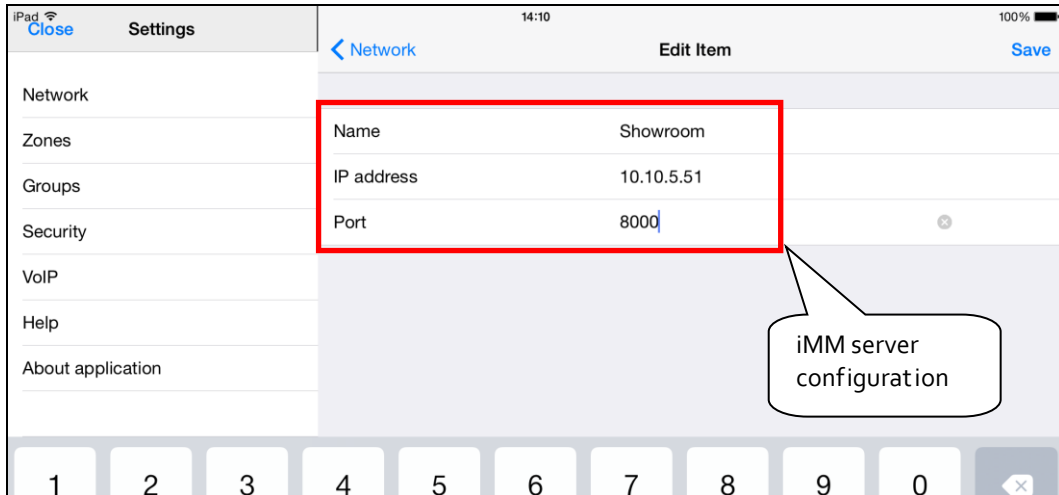
2. Basic application settings

Press the  - **Setting** key in the upper right corner to call up the menu of the basic application setting.
Press the **Adapt** key to add or adapt the network settings of the device.

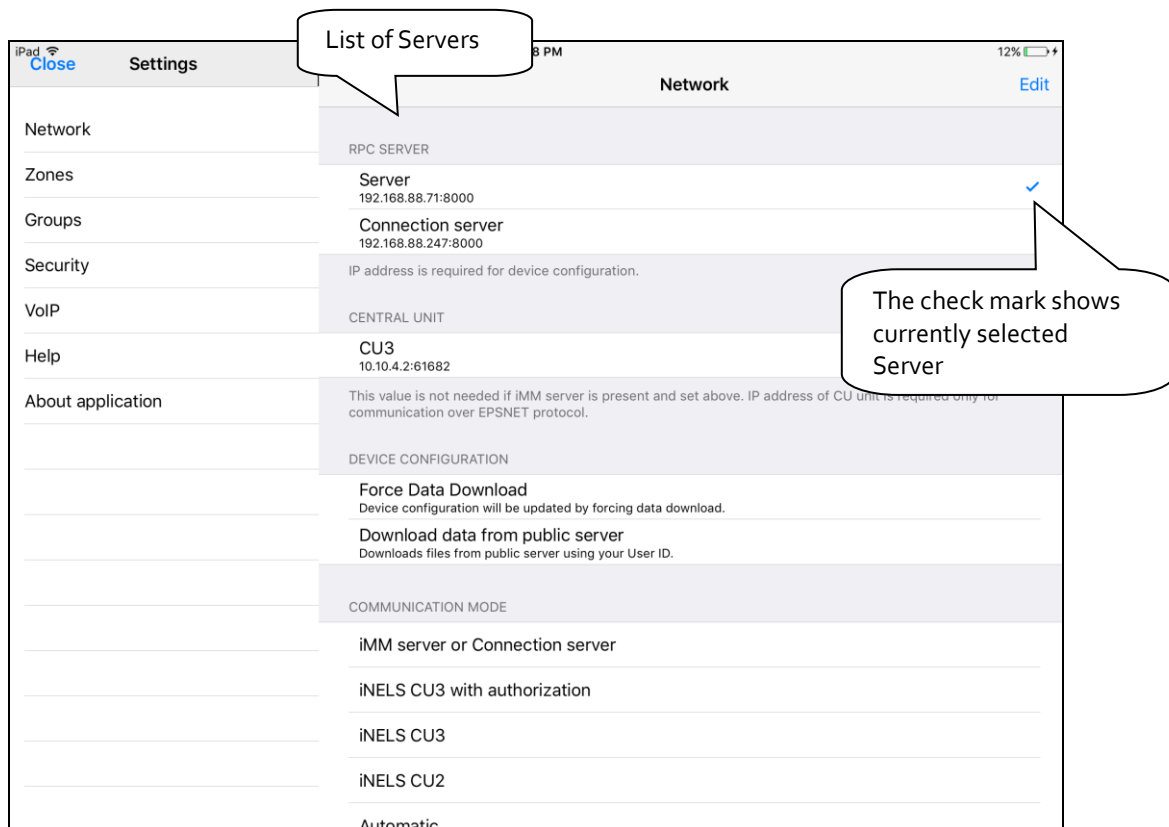


- Select the button **IP address of server** and a dialogue window for setting IP addresses will display. First add a new server by clicking the button "+" for adding servers. Then add an optional name and the IMM server IP address. Then enter the port – standard is **8000**. Click on **Add** and tick this server. When working with a virtual server the procedure is similar, but it uses the buttons **IP address of CU unit** and the default port is **61682** (for iNELS₂) or **9999** (for iNELS₃). See page 38.

Window for setting the IP address.

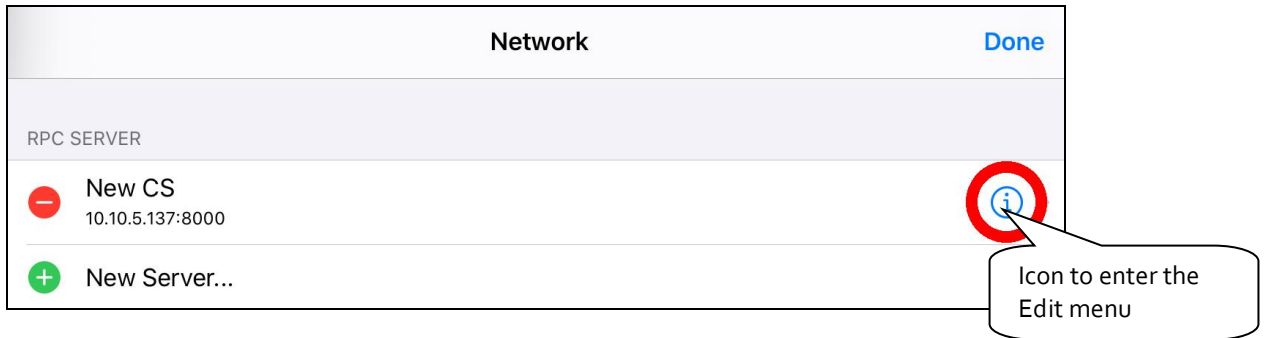


On the next screen, you can see a window in which you must check the currently used server.



Edit: touch the Edit button to display the „i” icon for already added servers, which will take you to the Edit menu. After saving the changes, it is necessary to force a data download (see p. 7)

There is also a Restart Connection server button in the Edit menu.



List of usable ports:

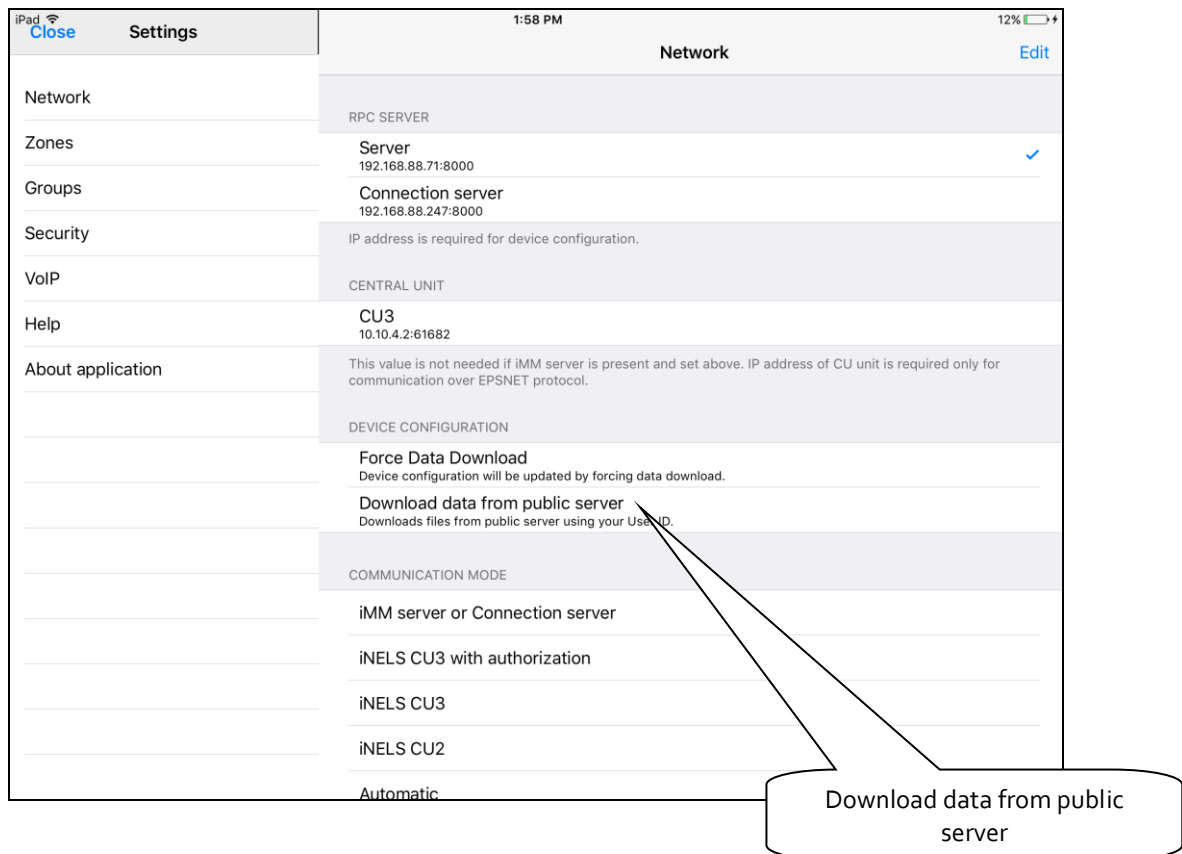
Port	Protocol	Description
8080	TCP	Connection Server - access to web-interface
8081	TCP	Connection Server - access to update server web-interface
9000	TCP	Connection Server - access to web-interface of LMS Audio zone and Audio player GUI
9001	TCP	Connection Server - access to daemon supervisor web-interface overview (daemon maintenace and logging)
8090	TCP	iMM Client - access to web-interface client part
61695	TCP	LARA - access to web-interface / remote control for third-party devices and applications
62000	TCP	LARA - access to port related to DLNA server. It is based on UPnP to stream audio content.
80	TCP	eLANRS485-232 - access to web-interface
8000	TCP	iHC applications - access to encrypted communication between applications and Connection Server / iMM server
9999	UDP	iHC applications - access to communication between applications and central unit CU3
61682	UDP	iHC applications - access to communication between applications and central unit CU2
9999	UDP	iHC applications - access to communication between applications and RFPM-2M
80	TCP	eLAN RF - access to web-interface
8001	TCP	iHC applications - access to unencrypted communication between applications and Connection Server / iMM server

More detailed description of the port use:

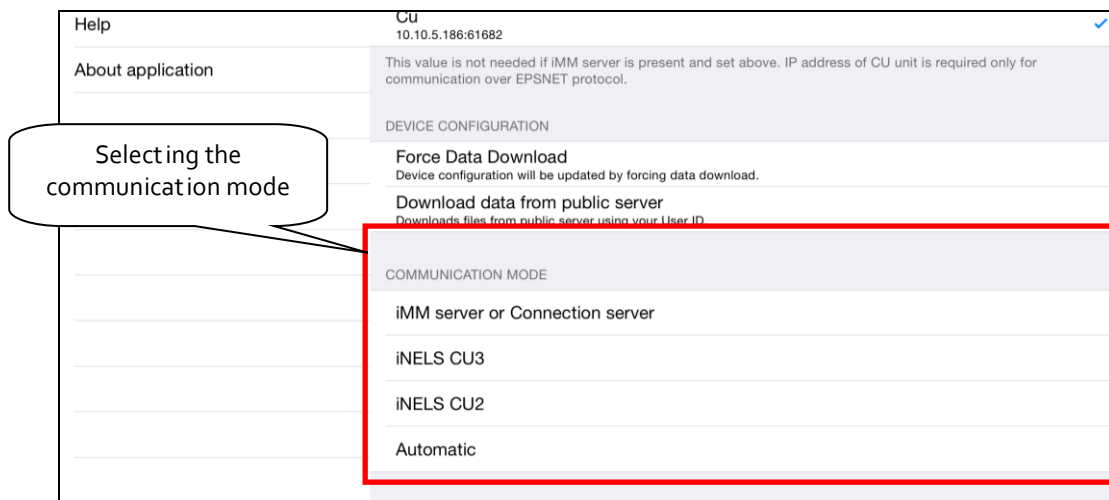
https://en.wikipedia.org/wiki/List_of_TCP_and_UDP_port_numbers

- b) The next step is **Force data download**. A notification appears in the window that the new data will replace the currently downloaded data, even if the forced data download is occurring for the first time. Confirm by tapping **OK** then tap on **Save**.

In case of a virtual server, the button **Force download data** is not used, but rather the button **Download data from a public server**.



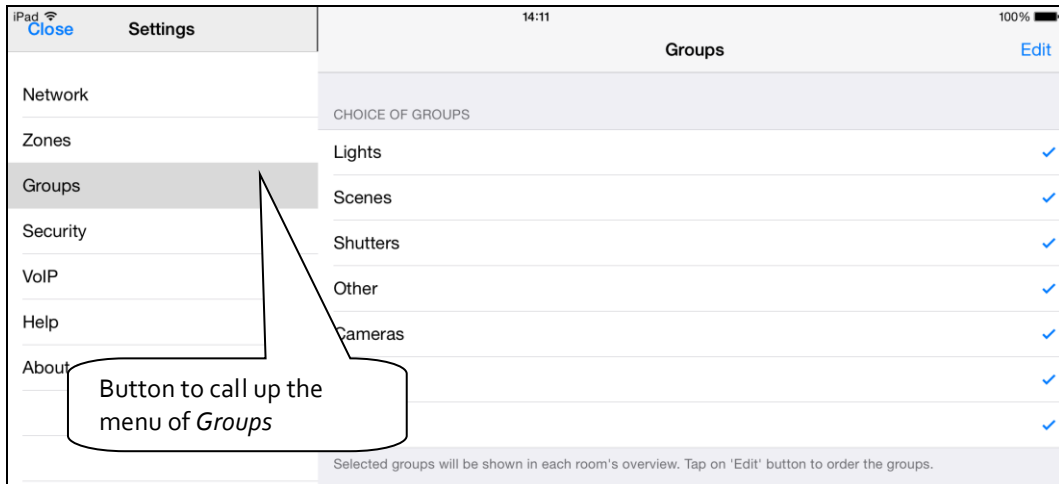
- c) When optimizing communication between the iHC application and the central unit iNELS2, the central unit iNELS3, IMM or Connection Server, you must select the device with which the application is to work. You perform this option through **Communication mode**.
1. If you are using IMM or the Connection Server, select the first option.
 2. If you are only using a virtual server and the application is thus directly connected in the central unit, select the second or third option according to your type of central unit.
 3. Select the fourth option if you are not sure with which device the application is communicating.



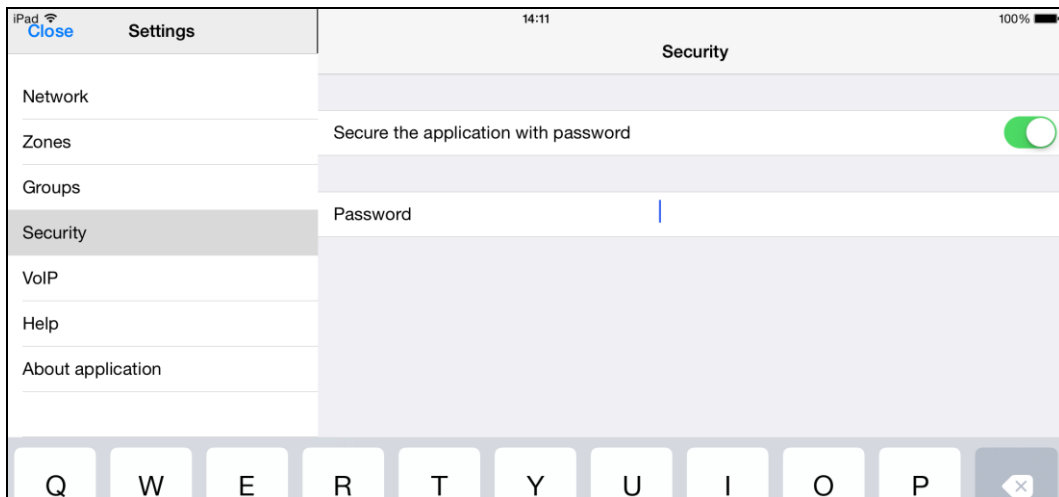
- d) If you want to monitor the connected Audio zones and Video zones in the application, you need to select these zones in the menu **Zones**.



- e) In the selection of **Groups** you can set which groups you would like to display in Fast menu, and adapt their order by means of Drag'n'Drop to the group icon.



- f) Menu **Security** you can set your password to protect App. You will be prompted to enter a key password, every time you run App.



- g) **Setting the VoIP function** - this function allows data communication between the house call boxes 2N, iHC applications and iMM applications (i.e. Video zones). iHC application can receive calls from another iHC application, iMM application and house call box 2N. The communication is acoustic; if the call box is equipped with a camera, it also transfers the image. The application can also dial any of the above listed devices.

To access the intercom settings, you must click the button **Intercom settings** and then check the option **Allow intercom**. This provides access to the setting options for the log-in name, password and server address. The log-in name and password must be entered exactly as the accounts were created on the iMM or Connection Server. It distinguishes lower/upper case letters (case-sensitive). You can enter contacts manually in the field **Contacts**, or you can **Download contacts from server**.

Note: The option of using the intercom function requires an iMM or Connection Server.

VoIP setting – setting the connection to server of specific device.

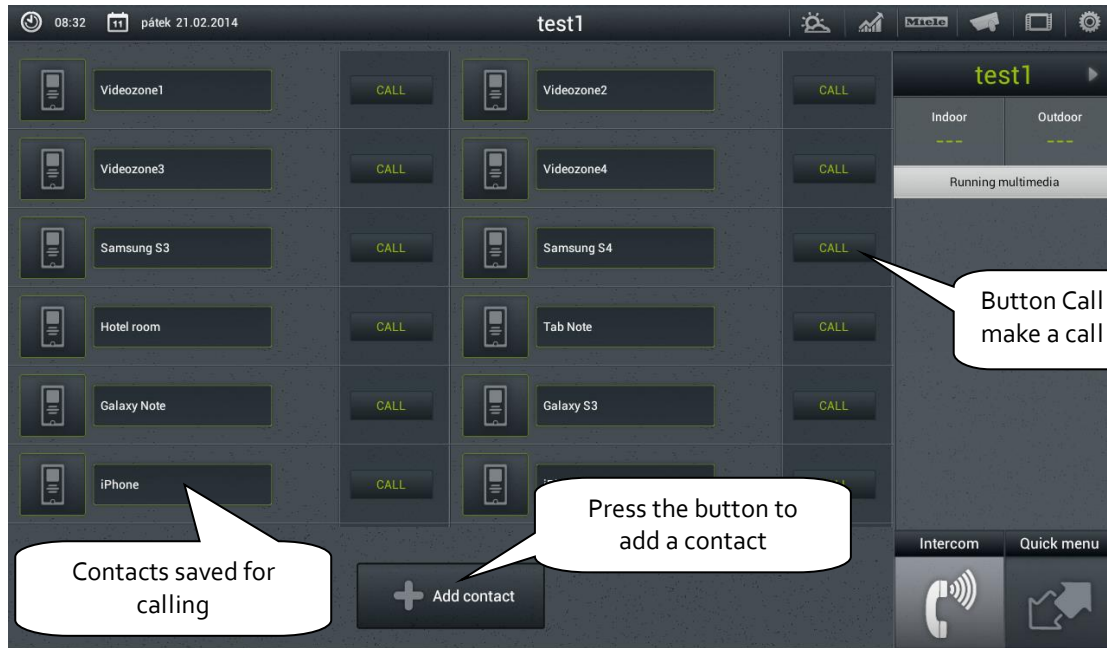
The screenshot shows the 'VoIP' settings screen. Callouts include:

- 'Setting IP address of server where you have already set contacts for VoIP dialling' pointing to the 'VoIP Server' field (192.168.88.71).
- 'Activation button' pointing to the 'Refresh' button.
- 'Password allocated on server to specific contact' pointing to the 'Password' field (masked with dots).
- 'Button for adding contacts of calling devices' pointing to the 'Contacts' field.
- 'Download contacts from server' pointing to the 'Download contacts from server' button.

After adding the door call box or iHC contact, as the case may be, click on the **Contacts** key and enter the data, same as you did on the server.

The screenshot shows the 'Edit Contact' screen. Callouts include:

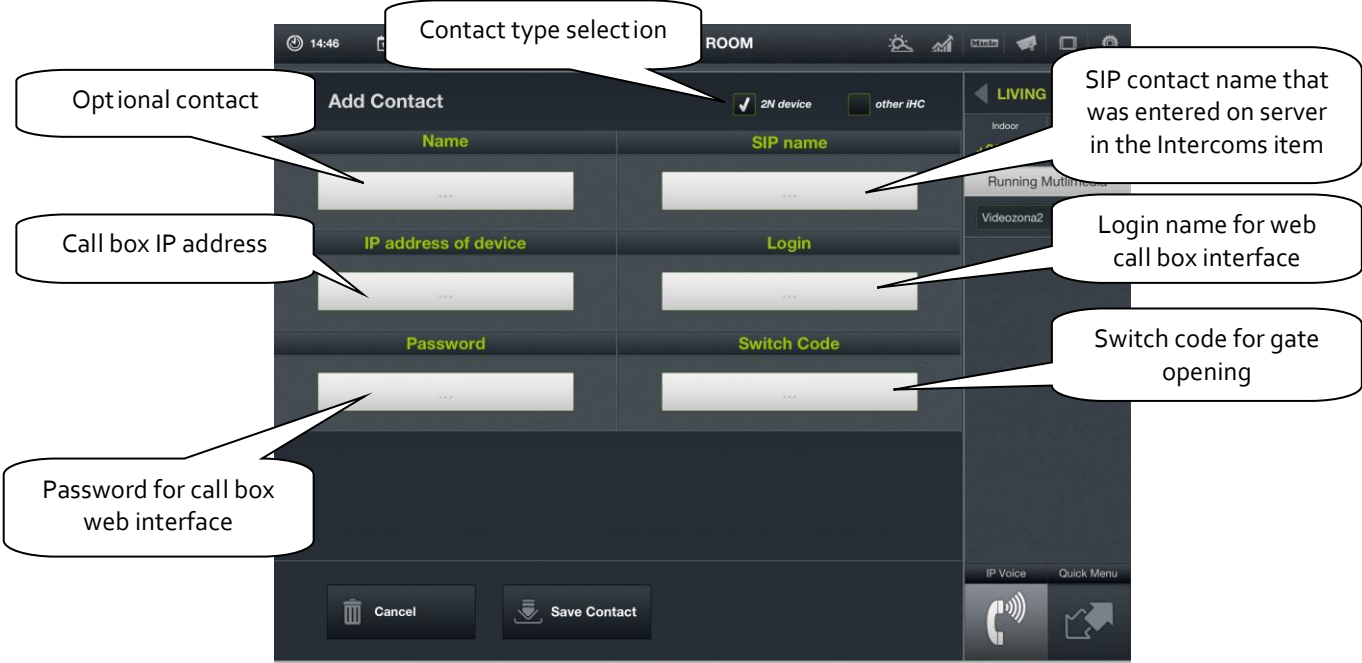
- 'SIP name - same as the one you entered on the server' pointing to the 'SIP name' field (Intercom).
- 'Login name set on server bookmark Intercoms' pointing to the 'Name' field (Intercom).
- 'Button for switching the type of device being added' pointing to the 'Type' field (iHC 2N).
- 'Login for access to call box web interface' pointing to the 'Login' field (admin).
- 'Password for web interface of call box' pointing to the 'Password' field (masked with dots).
- 'Call box IP address' pointing to the 'IP address of device' field (192.168.88.83).
- 'Call box electronic lock code entered on call box web interface' pointing to the 'Switch Code' field (1).



Contacts saved for calling

Press the button to add a contact

Button Call will make a call



Optional contact

Call box IP address

Password for call box web interface

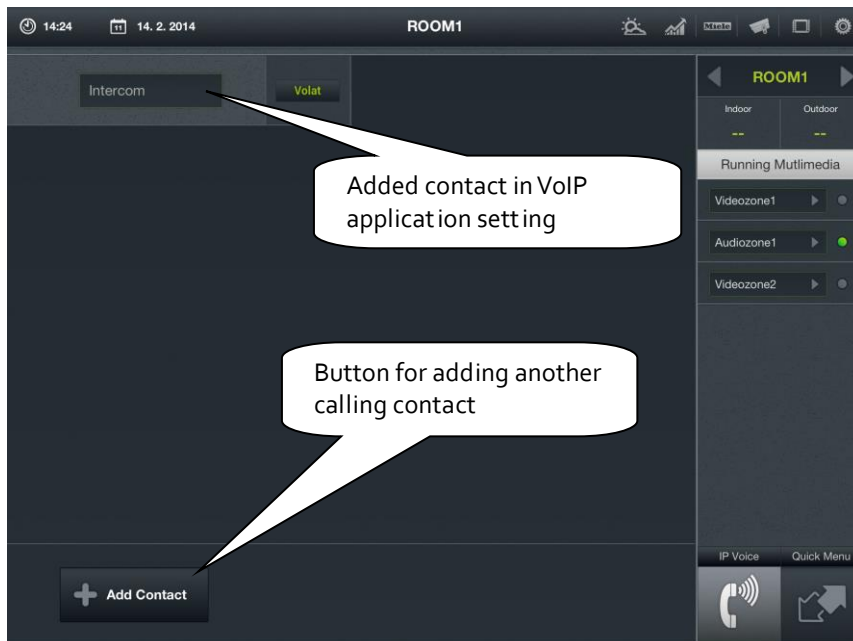
Contact type selection

SIP contact name that was entered on server in the Intercoms item

Login name for web call box interface

Switch code for gate opening

You can also add dialled contacts directly in the application.

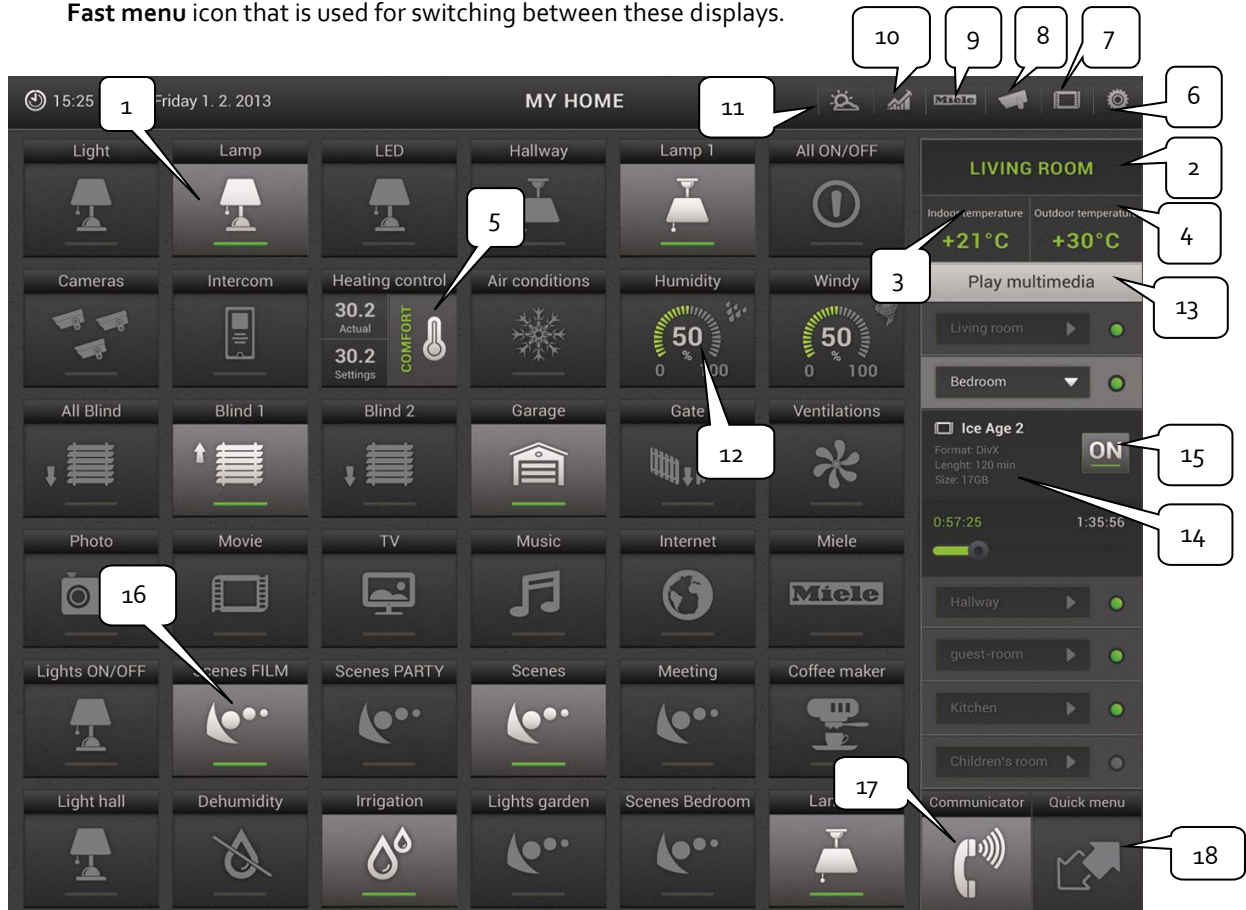


3. Application control

a) Tiles

The main display of iHC-TI application is the so-called **Tiles** which is a backlit overview of items where we can see at first sight by backlit or non-backlit icons which items of the iNELS intelligent electroinstallation are active and inactive, as well as current events in the individual zones, or indoor and outdoor temperatures.

If you wish to go from the **Tiles** display to the **List** display (Fast menu), just click on the name of the **Fast menu** icon that is used for switching between these displays.



1. Dimming icon, holding you finger on the icon will call up a slider for dimming control.
2. Selection of room
3. Displaying the indoor temperature from a selected thermal sensor
4. Displaying the outdoor temperature from a selected thermal sensor
5. The Heat Control icon enables controlling and switching between preset heating programs.
6. Settings icon
7. Multimedia control – Video zones and Audio zones
8. Cameras icon for monitoring video of connected up to nine IP cameras
9. Control of Miele household appliances
10. Energy Metering icon for energy consumption visualisation
11. G10M3000 Meteorostation icon for visualisation of meteorological quantities
12. Analogue exciter for displaying data from Meteorostation, e.g. type of Clima sensor
13. The menu scrolls up or down if there are multiple zones
14. Information on currently played Multimedia in the Zone
15. Switching off and on of the Zone, including devices connected to it

16. Tiles for controlling the set Scene
17. Icon for controlling IP call box - dialling and setting of contacts
18. Change to Fast menu

You can also move by dragging your finger in the line in the direction you want to follow.

List (Fast menu)

- b) List **Scenes** is used to activate user pre-defined scenes, such as "All_On", "All_Off", "Shutters", etc. For names of individual icons, we recommend not using gaps or diacritical marks.

It is possible to create scenes on the web interface of the iMM server or already in iDM. Especially for more complex and comprehensive scenes, it is a good idea at the web interface of the iMM server to take an already created scene exported via *export.pub* (iNELS2) or *export.imm* (iNELS3) file.

Note: You can control scenes and central functions from the iHC-TI application even without using an iMM or Connection Server.

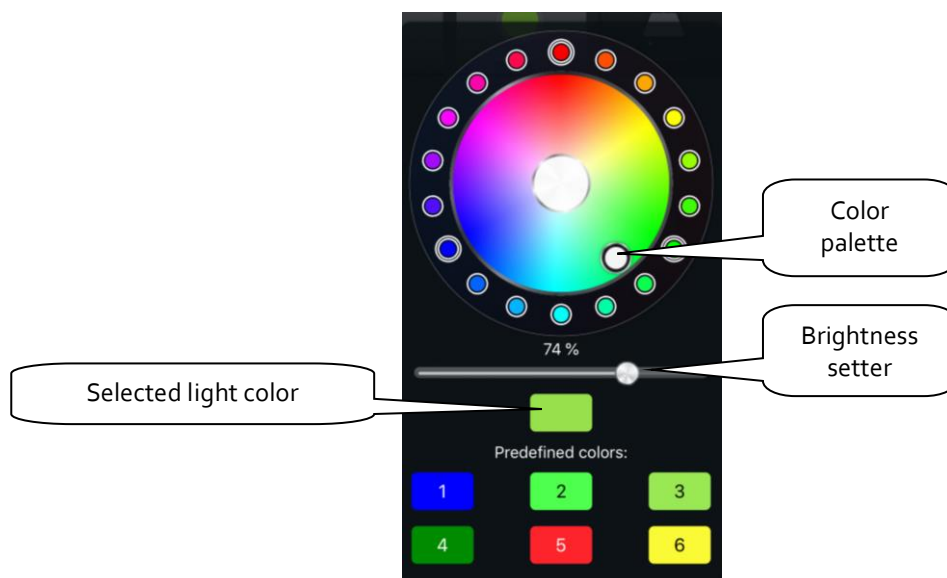
- c) The **Lights** List is used for controlling individual lights or entire light circuits. When displaying the List, two basic types of displays are distinguished.

- For switched light circuits, controlled by on/off, the output status is indicated by a lit/unlit lamp.
- For dimmed light circuits, where you can set various brightness intensity levels, this brightness intensity is indicated by an analog clock.

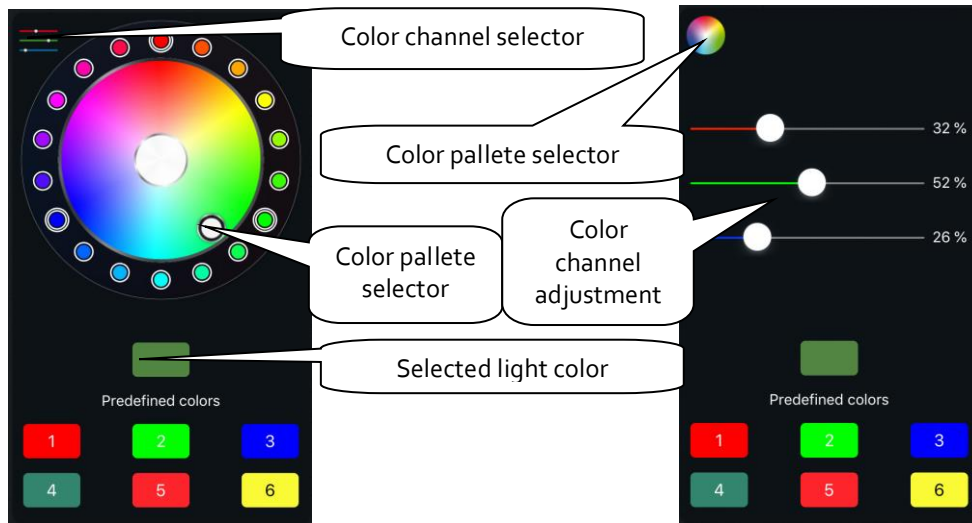
Dimming is controlled by the slider, by which it is possible to slide using your finger or by tilting the telephone (accelerometer function). This dimming slider is displayed by pressing and holding your finger on the desired dimmable light circuit icon

- User can select one of two icons related to RGB lighting adjustment.
 RGB - regular adjustment (e.g. of RGB LED strip) which includes color palette and brightness adjustment.
 RGB v2 - adjustment that allows user to set particular value for each channel using color palette. Brightness adjustment is not included.

RGB:



RGB V2:



Color presets stored on particular device.

Long press - save the selected color, short press - setting the selected color

- d) In the **Blinds** List, you can easily control the blinds, roll shutters, garage door, entrance gate and all devices with bidirectionally rotating drives.

Operation according to the type of icon:



More status icons:

The control logic for the **Tile** for controlling the blinds/roll shutters/awnings is as follows:

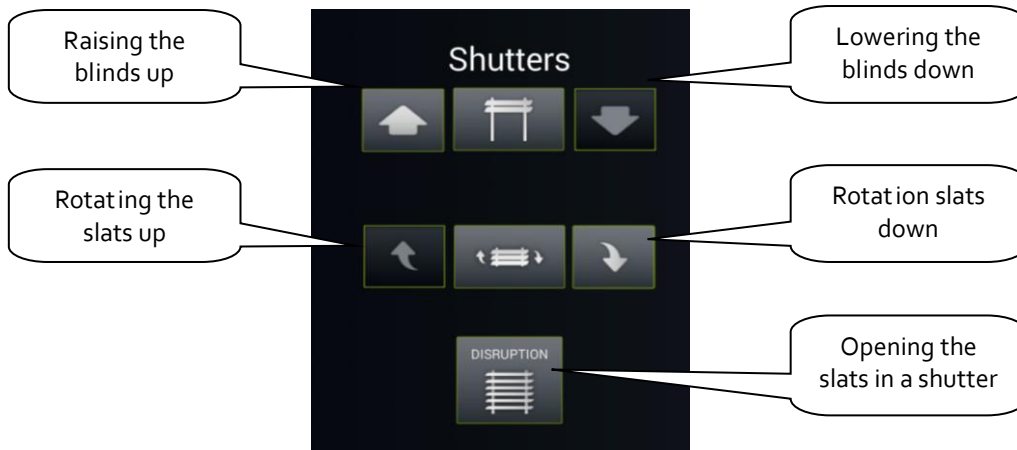


- 1) Blinds not moving
- 2) With the first press of the icon, the blinds roll up
- 3) With the second press, the blinds stop in their current position
- 4) With the third press, the blinds roll down
- 5) With the fourth press, the blinds stop in their current position
- 6) The entire sequence continues with further presses...

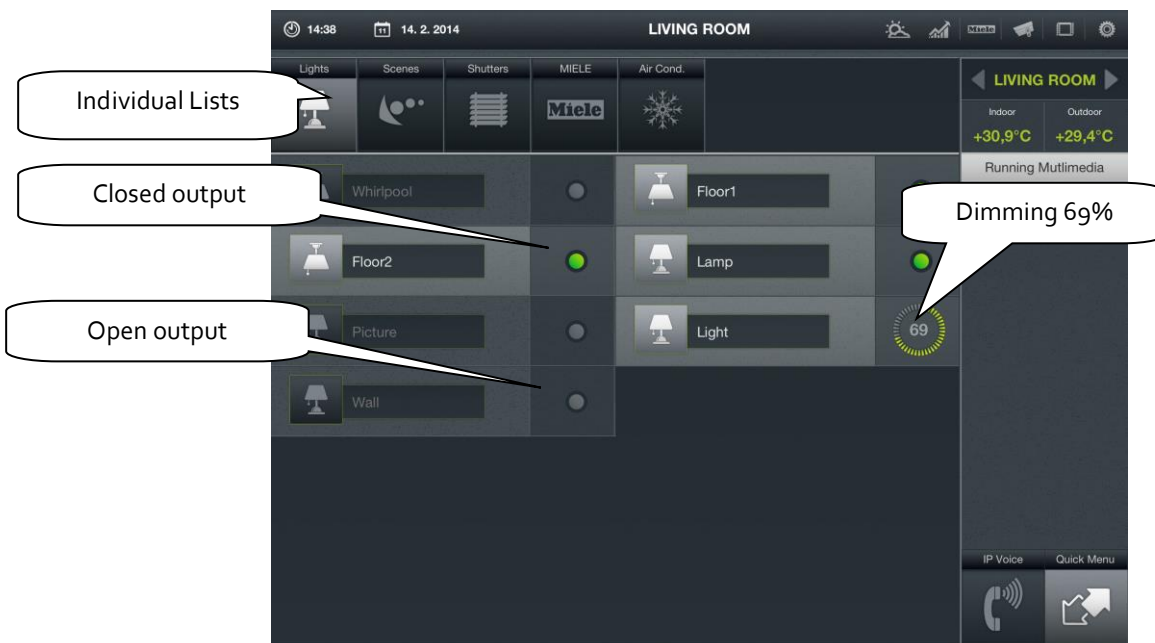


Special icon:

- Brief touch: control is the same for multi-state icons
- Long touch the icon to expand the menu:



- e) In the **Info** list you can monitor both the indoor and outdoor temperatures, as well as other information from the system, such as the HDO signal.
- f) In the **Other** bookmark you can easily see and control individual electronic systems that form a part of the iNELS electroinstallation, e.g. control of the watering system, control of different appliances, and the like.



g) Miele

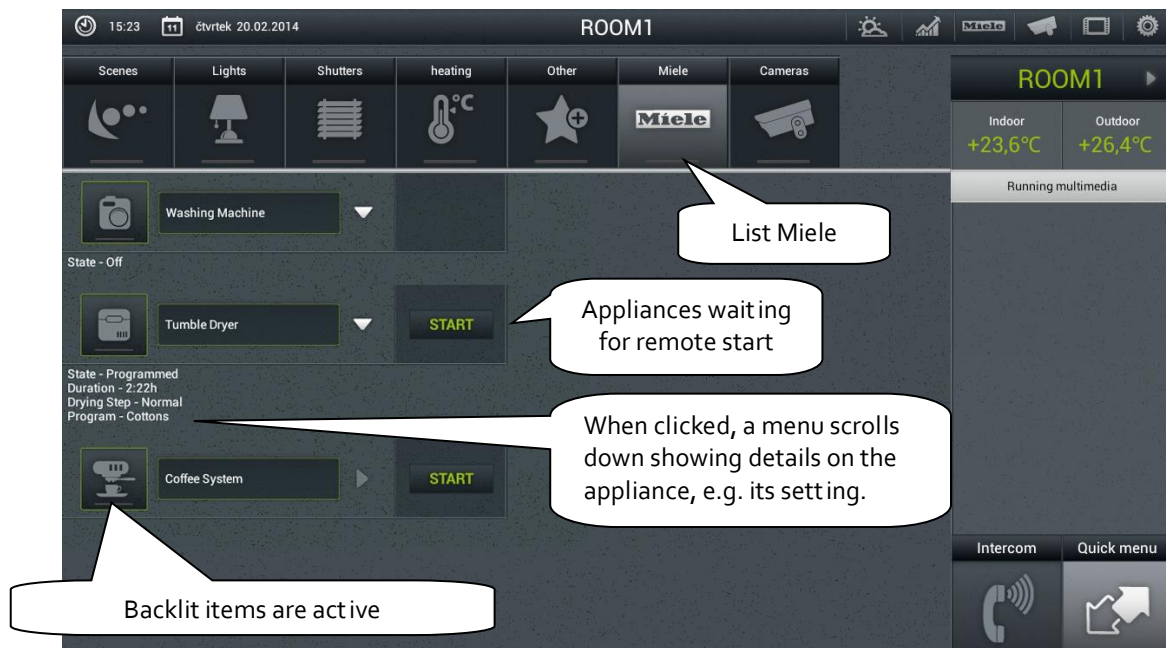
You can open the **Miele** list either by the icon in the **Tiles** or by the arrows for switching between **Lists**.

This part of the application enables you remote management of Miele home appliances, which are connected through communications modules to the network Miele@Home. Communication between appliances and the communication interface Miele Gateway occurs via powerline.

For the version Miele&home 2.0, data transfer between appliances and the Gateway module takes place wirelessly via the technology ZigBee.

Miele Gateway then transfers this powerline communication to the Ethernet network. To transfer this protocol, it is necessary to use the IMM or Connection Server.

For Miele appliances, it is possible to monitor statuses of equipment or devices and to control some of their functions, whereas safety is ensured, and it is not possible e.g. to turn on an induction hob. One interesting option is activation of remote starts.



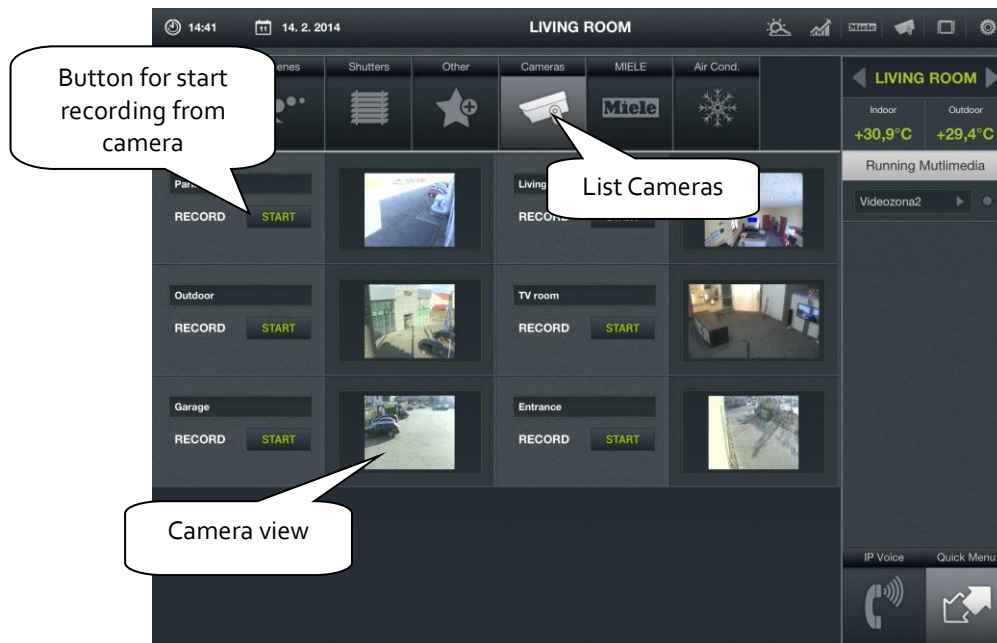
h) Cameras

Using the **Cameras** List you can watch the image from IP cameras, control PTZ cameras and record the image from any camera you want. The iNELS system supports connection of up to 9 IP cameras.

Full screen displaying an image from any camera is caused by pressing relevant camera view. Calling up the panel for PZ control (pan, tilt, zoom) is then achieved by pressing the camera image.

The iNELS system supports video cameras with the protocol ONVIF, which you will find in around 3,500 video camera types from nearly 300 manufacturers, e.g. Axis, Vivotek, D-link, Samsung, HIKVision, Bosch, LG, Panasonic, Acti, Air Live, etc.

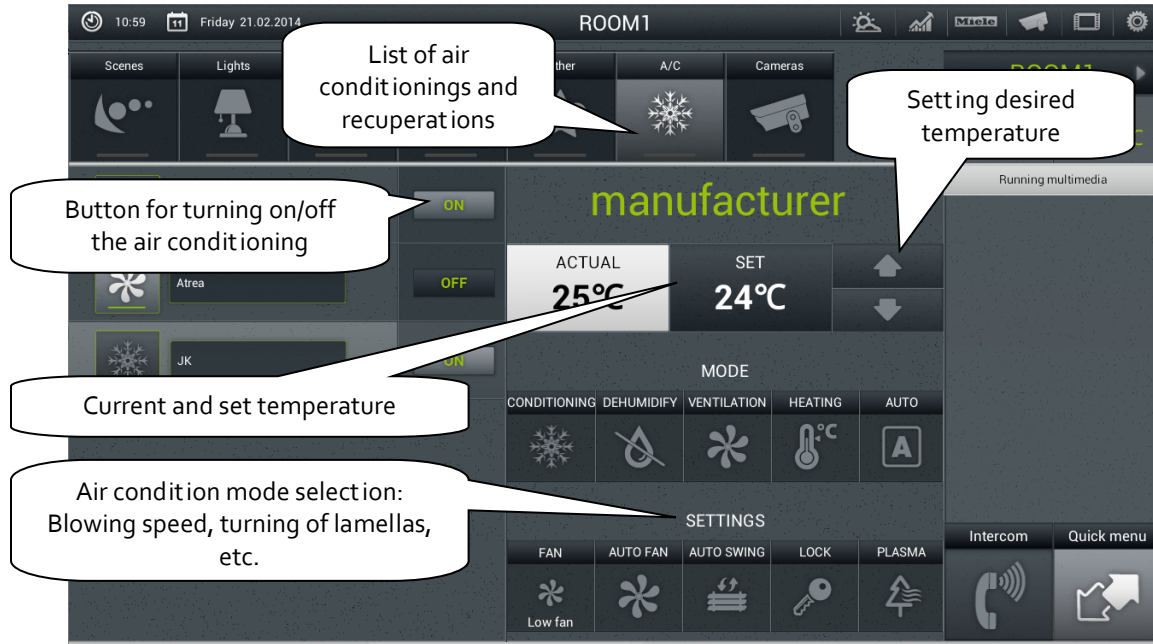
Note: The option of using video cameras requires an IMM or Connection Server. The application is also capable of displaying video cameras with the protocol onvif, which you hvae connected to the IMM or Connection Server. Details on connecting onvif video cameras can be found in the manual to the IMM or the Connection Server.



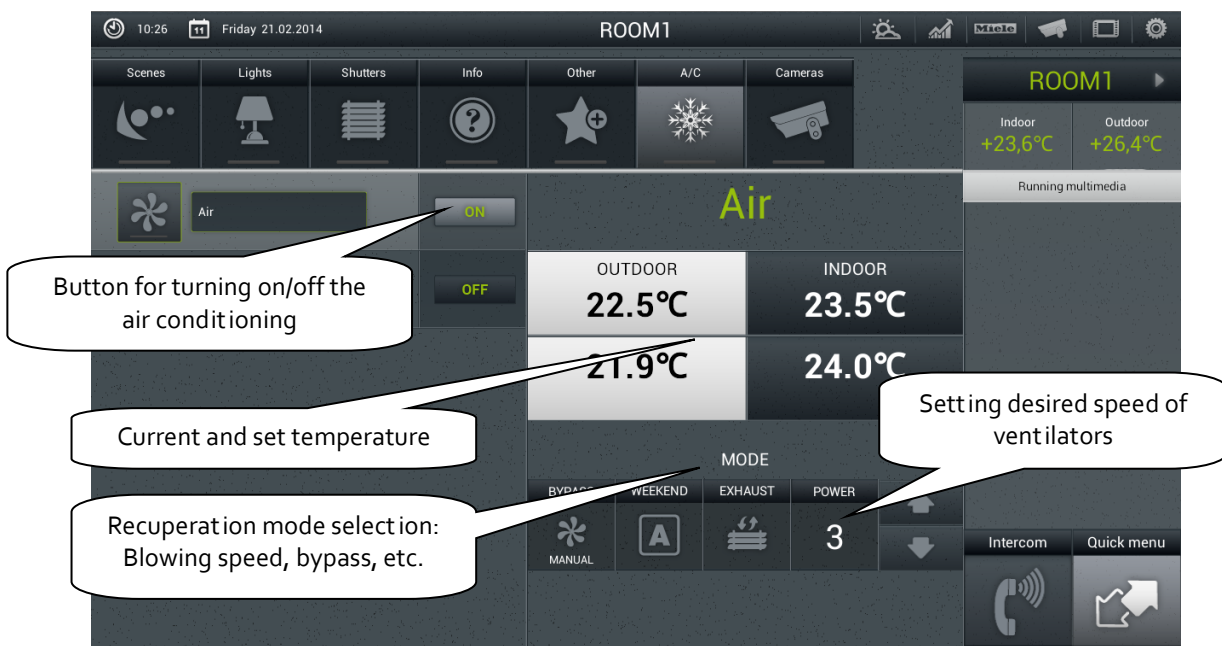
i) Air conditioning and recuperation

- Control of air-conditioning is bi-directional, so you can fully use the option of your air-conditioning, such as fan speed control, lamella movement or controlling modes, e.g. plasma. From amongst AC units, **LG** is directly supported (the outdoor unit must be fitted with the sub-module PL485) and, by means of **CoolMaster**, another eight brands indirectly (Daikin, Sanyo, Toshiba, Mitsubishi Electric, LG, Fujitsu, Mitsubishi Heavy and Hitachi).
- When controlling recuperation, you can determine the method of air exchange, fan speed, temperature or set periodic air exchange. Supported recuperation units include those of the brands **Atrea** and **AirPohoda**.

Are you considering buying a different A/C or recuperation brand? Just ask us, we might just directly integrate it.



Air conditioning units connected via CoolMaster unit are controlled in very similar fashion to LG. The next images show screens for controlling recuperation.



AirPohoda recuperation

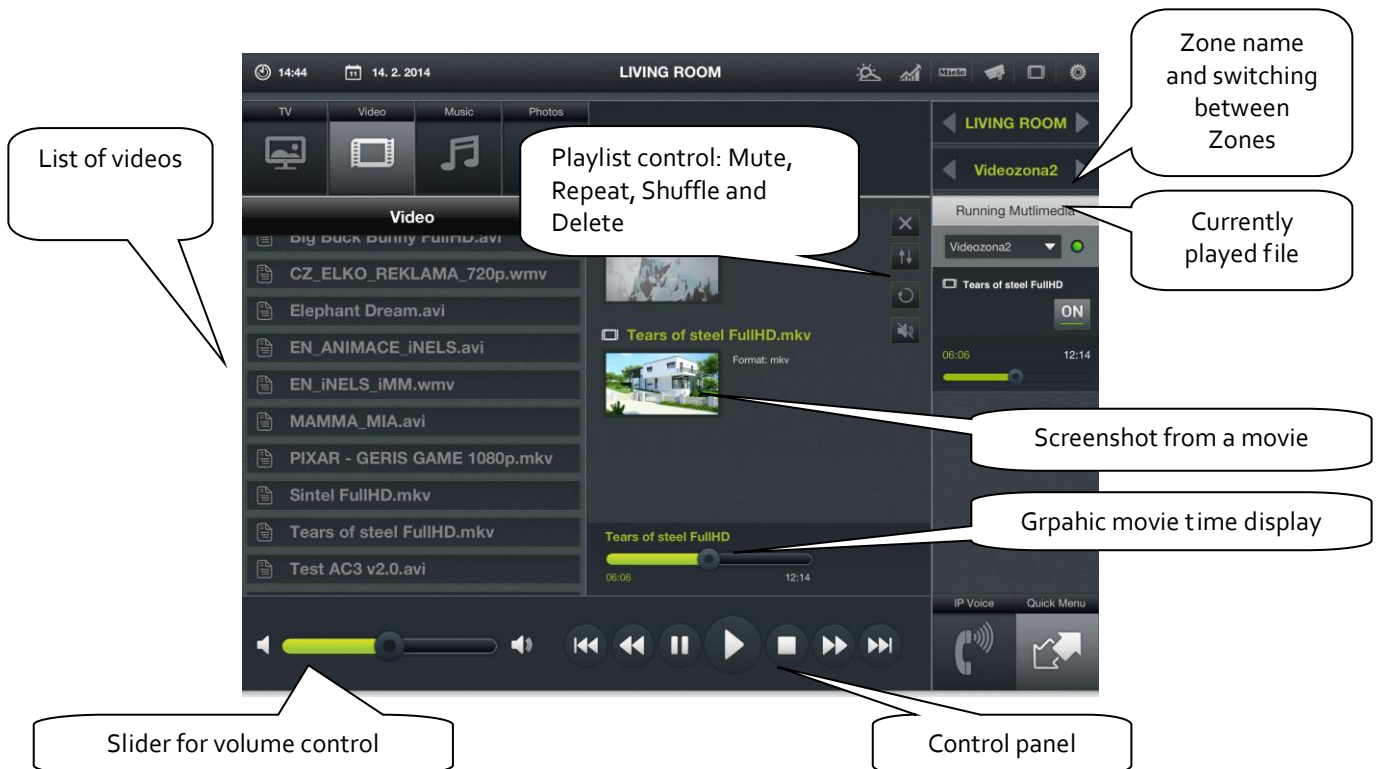


Atrea recuperation

j) Multimedia

Multimedia can only be controlled when IMM Client/Server is incorporated in the system. IMM Client/Server may play as Video zone (for playing music, movies, viewing photographs or playing television), and further allows the use of Audio zones, e.g. IMM Audio Zone (AZ-R) or LARA iNELS Multimedia, the audio of which can be controlled.

The entire Zone and any device connected to it can be switched off/on by clicking on the Zone name. Active Zone is marked in white letters; deactivated Zone is red.



k) GIM3000 Meteostation

Giom3000 is visualising meteostation with an ethernet output and, within the iHC-TI application, it provides us with information on the following nine meteorological quantities:

- 1) Wind speed
- 2) Pressure
- 3) Wind direction
- 4) Temperature
- 5) Windchill
- 6) Dew point
- 7) Barometric altitude
- 8) Relative humidity
- 9) Absolute humidity



l) Energy metering

The INELS system enables measurement of consumption of gas, electricity or water, whilst you need a meter with impulse output to every energy. These impulses are scanned on binary output units and, by means of counters, the amount of consumed energy is evaluated.

Energy consumption can be displayed in unit, e.g. kWh, or at price value, e.g. CZK. The application facilitates to display a consumption graph for every period that is optionally set by you.

This screenshot shows the 'LIVING ROOM' energy metering interface. It features three main sections for Gas, Electricity, and Water. Each section displays consumption and price values. Callouts provide the following information:

- Select ion of displaying required energy:** Points to the 'Electricity' tab at the top.
- Selection of time zone:** Points to the 'PERIOD' dropdown menu.
- Numerical display – in units of measure, at price value:** Points to the consumption and price values for Gas, Electricity, and Water.
- Graphic display – pressing the icon takes you to a display mode with consumption graphs:** Points to the bar chart icon next to the consumption values.

Energy Meter numerical display screen

This screenshot shows the 'LIVING ROOM' energy metering interface in graphic display mode. It features a line graph showing consumption over 12 periods. Callouts provide the following information:

- Back to numerical display:** Points to the 'CONSUMPTION' tab at the top.
- Selection of displayed zones:** Points to the 'Zone 1' through 'Zone 5' checkboxes in the legend.

Energy Meter graphic display screen

4. Configuration of Rooms

Items are configured in iMM Control Center (the "iMM CC" hereinafter) in the bookmark Rooms.

In Rooms you can create any number of virtual groups (Rooms) where you add optional Items and Zones.

- Items – created on the basis exported file "export.pub" from iDM2 software or "export.imm" from the software iDM3
 - export data from iDM2 see chapter no. **Chyba! Nenalezen zdroj odkazů.**
 - export data from iDM3 see chapter no. **Chyba! Nenalezen zdroj odkazů.**
- Zones – created on the basis of iMM Server configuration

The screenshot shows the 'iMM Control Center / Configuration of rooms' interface. The navigation menu includes: Server, Configuration, System, HA Bus, RF Configuration, Zones, House, SecurityScan, EventScript, A/C, **Rooms** (highlighted with a red box), Cameras, Miele, Intercoms, Energy, Giom, Manual, Default Settings, Audit, Logout.

The main content area is titled 'New room' and contains the following form fields and controls:

- Name:** Room 2 (Annotation: Name of new Rooms)
- Protect by password:** (Annotation: Select this check box if you want to password protect control of the given Room)
- Password:** [masked with asterisks]
- Confirm:** [masked with asterisks] (Annotation: Password and confirmation. Note: only asterisks appears when entering)
- Add:** [button]

Below the form, there is a table of existing rooms:

global	Edit
Room 1	Edit Up Down Set password Rename Remove

Annotations for the table controls:

- [Edit](#) (under Room 1): Edit the given Room
- [Remove](#) (under Room 1): Remove the given Room

5. Description of Elements

More status icons		Dimmable icon		Special icon	
Conditioning ON/OFF		Blank		Air conditioning	
Dehumidify		Lamp		Airing	
Garage		Light group		EZS	
Gate		Light		Heat Control	
Heating		RGB		Indoor thermometer	
iNELS scene		RGB V2		Meteostation	
Shutters		Tunable white		Outdoor thermometer	
On/Off				Scene	
Watering				Shutters	
				Zone	

Air Conditioning

Icon for controlling the air conditioning units. When this icon is selected, only LG. air conditioning icons are filtered out that are defined in the bookmark **Clims**.

The screenshot shows a configuration form for an 'air conditioning' icon. The form has columns for 'Type', 'Name', 'Row', 'Column', and 'Attributes'. Callouts provide the following information:

- Selected icon type:** Points to the 'air conditioning' dropdown in the Type column.
- Selection of air conditioning defined in bookmark Clims:** Points to the 'LG_Down' dropdown in the Name column, with a callout for 'Line selection' pointing to the dropdown list.
- Selection of air conditioning control:** Points to the 'type' dropdown in the Attributes column, which is set to 'menu'.
- Confirmation of adding an Item:** Points to the 'Add' button.
- Column selection:** Points to the '2' dropdown in the Row column.
- Read-only status:** Points to the 'read_only' dropdown in the Attributes column, which is set to 'no'. A text box explains: "If you select **yes**, the icon will be read-only, i.e. it will display its status but cannot be controlled in any manner whatsoever."

Heat control

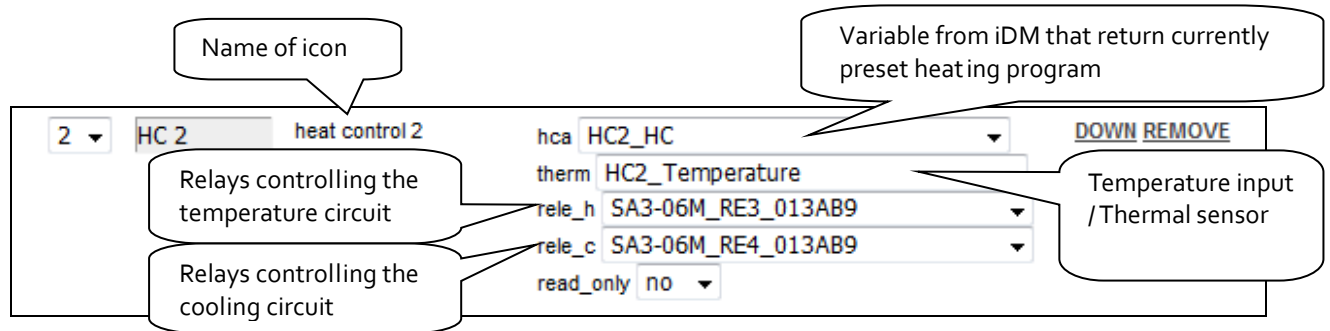
The Heat Control icon enables controlling and switching between preset temperature programs from iDM. Long press allows you to switch between MAN and AUTO modes. If the heating circuit is closed, the icon is backlit.

The screenshot shows a configuration form for a 'heat control' icon. The form includes fields for 'stateth', 'therm', 'rele', and 'read_only'. Callouts provide the following information:

- Name of icon:** Points to the 'heat control' text in the top left.
- Variable from iDM that return currently preset heating program:** Points to the 'Showroom_StateTH' dropdown in the 'stateth' field.
- Temperature input / Thermal sensor:** Points to the 'SOPHY2_TERM' text in the 'therm' field.
- Relay controlling given heating circuit:** Points to the 'sa04_rs_2_Heating' text in the 'rele' field.
- Read-only status:** Points to the 'no' dropdown in the 'read_only' field.

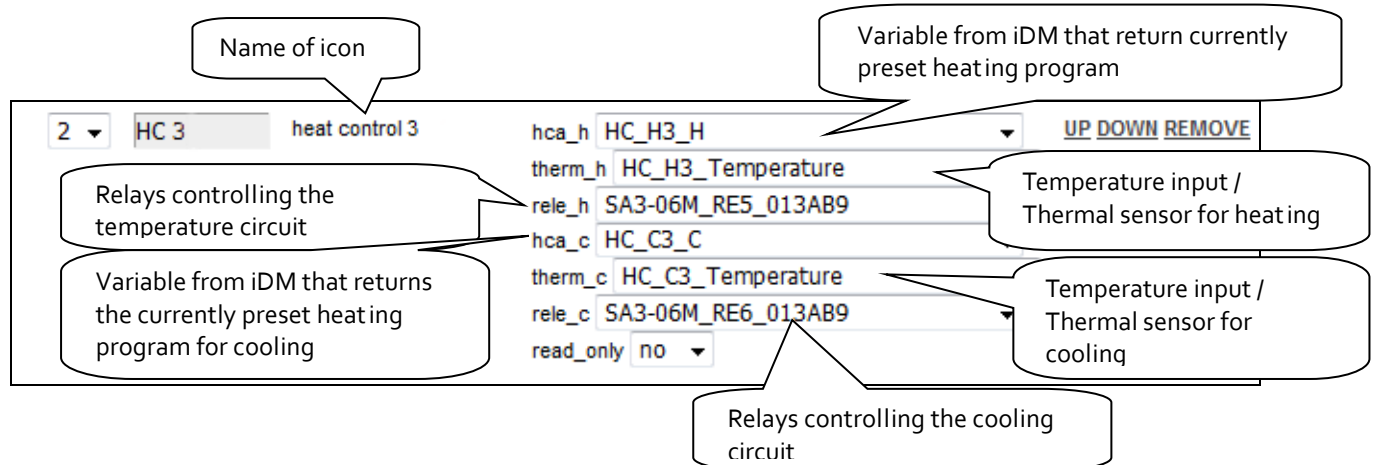
Heat control „2“ (Heating / cooling control)

The Heat Control 2 icon lets you briefly control and switch preset temperature programs from iDM.
On the right side of the icon, press and hold to switch between **heating / cooling** / circuit off.
With the long press on the left side of the icon, switch to **auto / manual** mode.
Manual temperature mode changes are active until the next time stamp set is reached.
The icon can switch between heating / cooling, but both circuits are controlled by one set temperature.
If the heating circuit is closed, the icon is backlit.



Heat control „3“ (Heating / cooling control)

The Heat Control 3 icon lets you briefly control and switch preset temperature programs from iDM.
On the right side of the icon, press and hold to switch between **heating / cooling** / circuit off.
With the long press on the left side of the icon, switch to **auto / manual** mode.
Manual temperature mode changes are active until the next time stamp set is reached.
The HC3 icon also has the option to set up heating / cooling with its own thermometer and relay separately - these features are hidden under one icon.
If the heating circuit is closed, the icon is backlit.

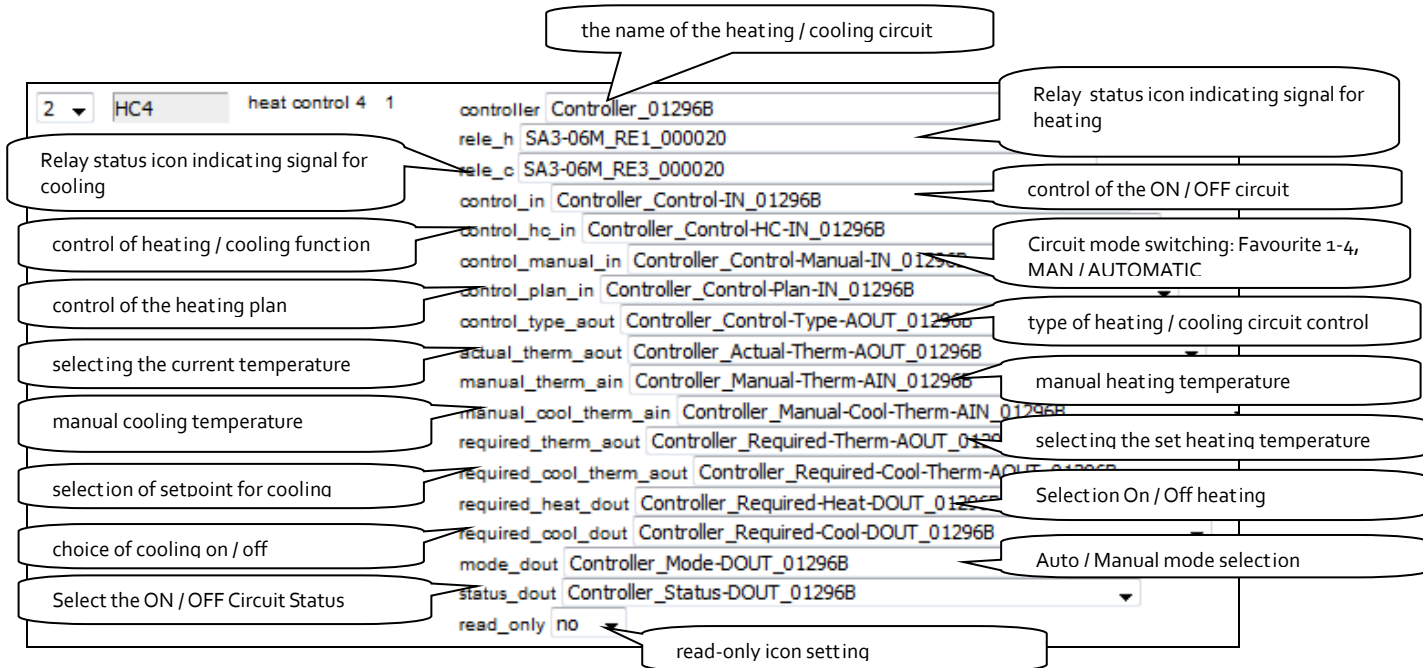


Heat control „4“ (Heating / cooling control)

The Heat Control 4 icon lets you briefly control and switch pre-set temperature programs from iDM. Favourite 1, Favourite 2, Favourite 3, Favourite 4, Manual, Automatic

On the right side of the icon, press and hold to switch between **heating / cooling / circuit off**. With the long press on the left side of the icon, switch to Plan Type: Normal, Holiday, and Special Holiday. The manually changed temperature mode is active until the next user action.

The HC4 icon also has the option to set up heating / cooling with its own thermometer and relay separately - these features are hidden under one icon. If the heating circuit is closed, the icon is backlit.



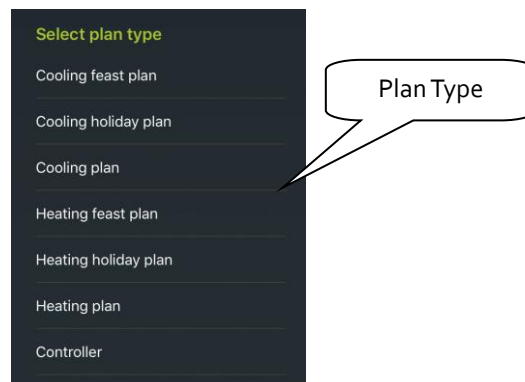
After entering the name of the circuit (first row of the **controller**), the other fields will be filled in automatically.

Set schedules for HC4

Using the application, you can create online time and temperature plans for heating and cooling zones. In the application's quick menu, select the "heating" icon. Here you will find all of the HC4 heating and cooling zones you have created in IDM.

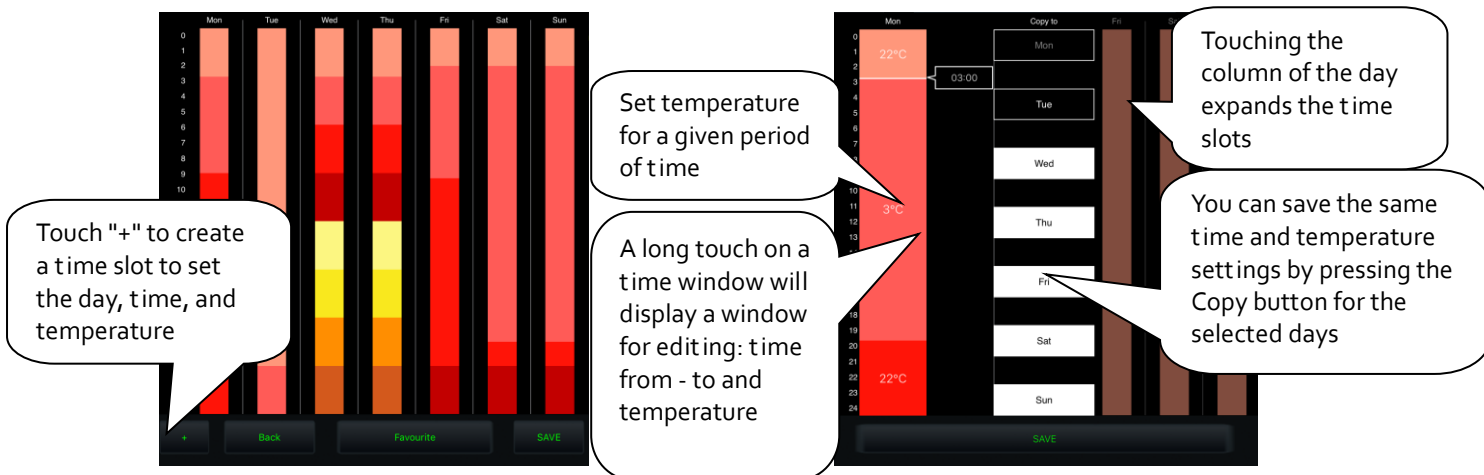


Click the PLANS button to open the Types of Plans that you can create and edit.



- Temperature / Cooling Plan

For each day, you can set up time slots (max. 16 / day) at the desired temperature. If you want to have the same settings on other days, highlight them and press the copy button.



- Cooling / Temperature Holiday Plan

The setting is the same as for temperature / cooling plans - for 7 days a week.

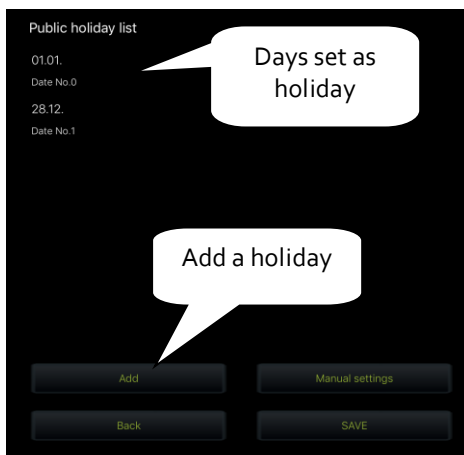
- Cooling / Temperature Holiday Plan

The setting is the same as for temperature / cooling plans, but only for 1 day (from 0:00 to 24:00). You can set your favourite temperatures for a holiday.



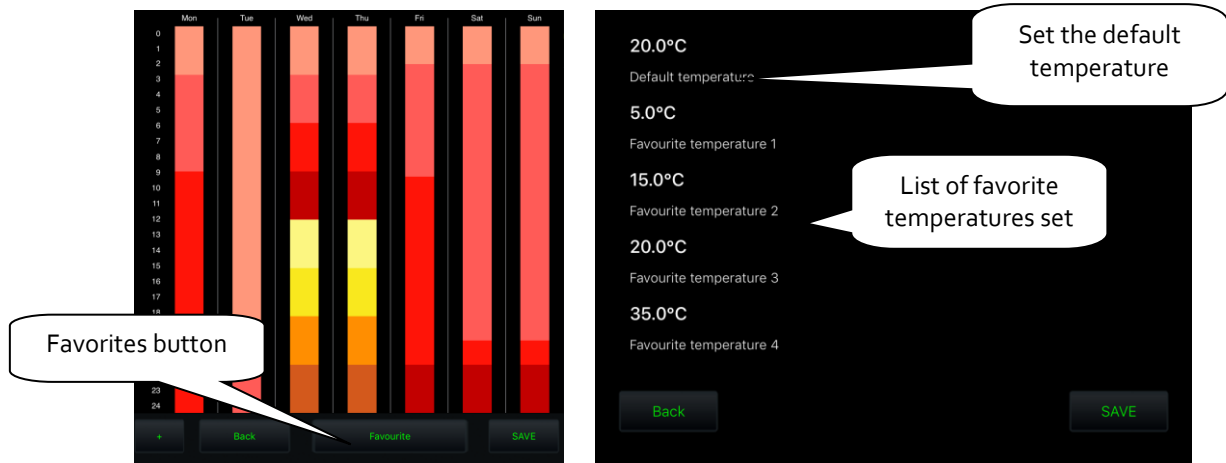
- Controller

1. Holiday: Set the days when the HC₄ will be switched to holiday and temperature / cooled according to the temperature / cooling schedule set for this mode.
2. Manual setting: adjustable manual mode and temperature. After saving the settings, the HC₄ will be switched to manual mode for the set time and temperature.



- Select your favourite temperature

Touching the Favourites button will display a menu where you can set your favourite temperatures..



Control HC4

Under the HC 4 icon also are a few other types that are related to the setting of these circuits in the IDM (for details see the IDM manual).

The Heat Control 3 icon lets you briefly control and switch pre-set temperature programs from IDM. Favourite 1, Favourite 2, Favourite 3, Favourite 4, Manual, Automatic

On the right side of the icon, press and hold to switch between **heating / cooling / circuit off**.

With the long press on the left side of the icon, switch to Plan Type: Normal, Holiday, and Special Holiday.

1. Basic control HC4



2. Autonomous dual temperature control



- Circuit shows ON / OFF status
- displays the set heating and cooling temperatures
- The circuit can only be switched on or off by long pressing the thermometer icon

3. Autonomous single-temperature



- Displays the TOP / COOL / OFF status
- The display of the set temperature is the same as for the basic control
- The circuit can only be switched on or off by long pressing the thermometer icon

Note: Running the manual mode of the HC4 icon directly in the room will change the mode until next user intervention (i.e. unlimited by time).

Example of set heating / cooling circuits in IDM:

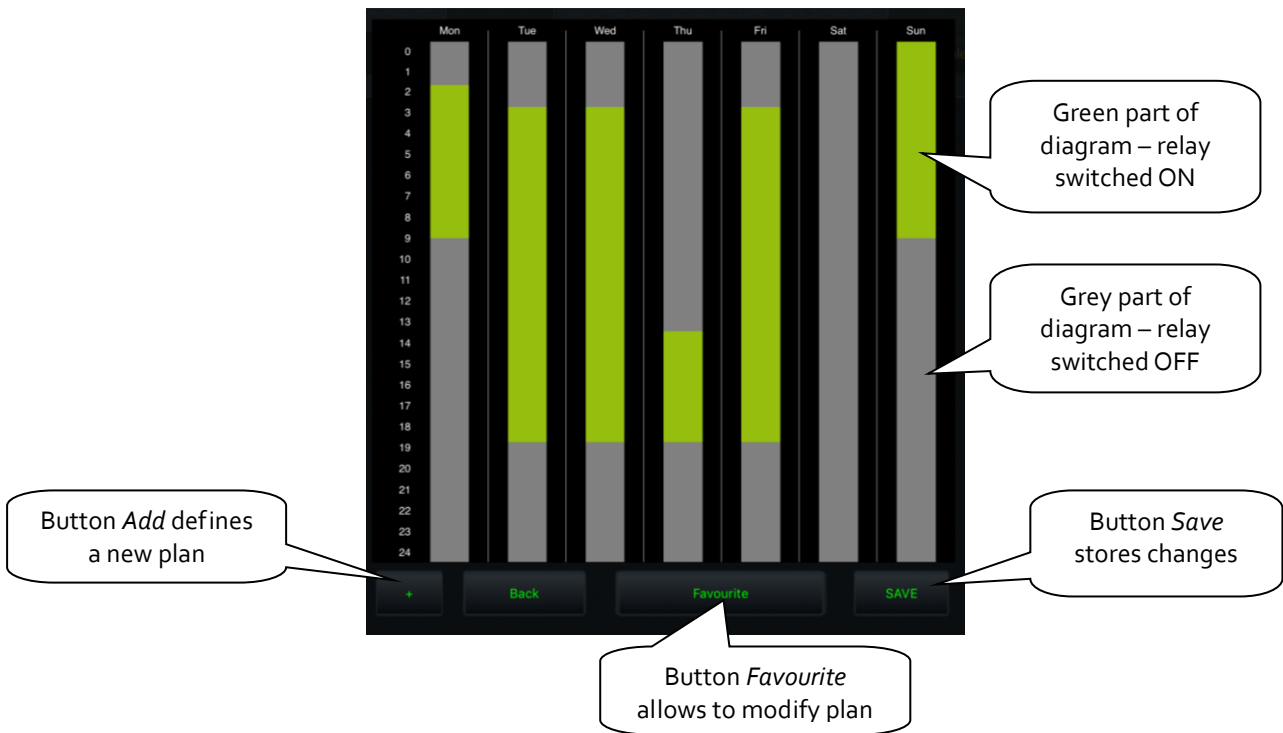
Monitor		Online simulation of wired events ✓												
		Online monitor Unit ✓												
		Online monitor Sysbits-Sysints-Timers-Counters-System_Programs-Heat_Cool ✓												
		Devices	EZS	GSM	System bits	System integers	Counters	Timers	System programs	Heat/Cool areas				
Name HC		Current temp	0.00 °C	Temp sum	15.00 °C	Current prog	HU	HSU	CU	CSU	Is running	Off/On	Mode Manual/Automat	
Required temp		15.00 °C	Temp correction	[0.00]	[Minimum]	[OFF]	---	[OFF]	---	[OFF]	[ON]	[OFF]		
Name HC2 (Top.)		Current temp	28.50 °C	Temp sum	15.00 °C	Current prog	HU	HSU	CU	CSU	Is running	Off/On	Mode Manual/Automat	
Required temp		15.00 °C	Temp correction	[-6.00]	[Minimum]	[OFF]	---	---	---	[ON]	[OFF]	[OFF]		
Name HC2 (Chl.)		Current temp	0.00 °C	Temp sum	32.00 °C	Current prog	HU	HSU	CU	CSU	Is running	Off/On	Mode Manual/Automat	
Required temp		32.00 °C	Temp correction	[-6.00]	[Minimum]	---	---	[OFF]	---	[OFF]	[OFF]	[OFF]		
Name HC_H3		Current temp	28.50 °C	Temp sum	15.00 °C	Current prog	HU	HSU	CU	CSU	Is running	Off/On	Mode Manual/Automat	
Required temp		15.00 °C	Temp correction	[-6.00]	[Minimum]	[OFF]	---	---	---	[ON]	[ON]	[ON]		
Name HC_C3		Current temp	0.00 °C	Temp sum	32.00 °C	Current prog	HU	HSU	CU	CSU	Is running	Off/On	Mode Manual/Automat	
Required temp		32.00 °C	Temp correction	[-6.00]	[Minimum]	---	---	[OFF]	---	[OFF]	[ON]	[ON]		

Two-state time plans

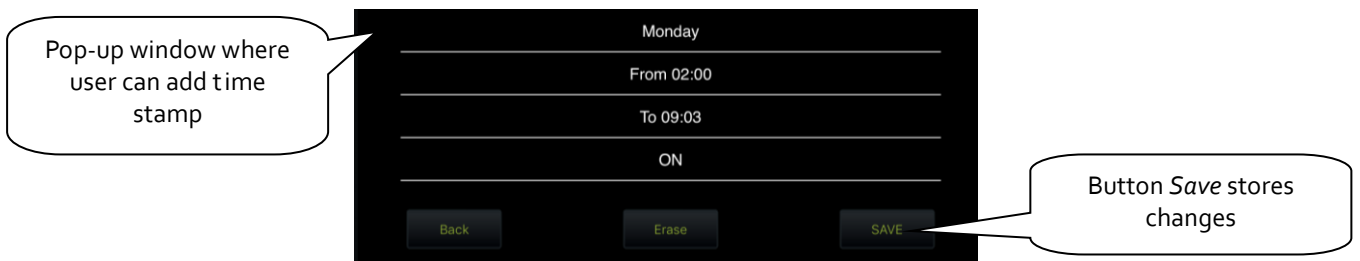
It allows user to edit time plans related to device state switching online when connected to CU₃. Plan editing feature can be found in quick menu, more precisely under icon *Plans*. There are all plans defined previously in iDM.



Clicking on particular time plan will open editable diagram overview.



"+" – button *Add* will add time stamp to time plan
Clicking on button "+" opens a pop-up window storing event definition - day, time interval and relay state. Button *Save* stores all applied changes.



"Favourite" – clicking on this button allows user to change original state of relay related to time plan defined in iDM.

Selecting of particular day allows to change time interval of time stamp by drag-and-drop actions (move lower or upper limit to desired position).

More detailed table of selected day will show up after long pressing of area where time stamp is placed.



Each day may include up to 16 time stamps including events when relay state is set to OFF.

In case that other days have to follow the same time schedule as selected (highlighted), select other days by clicking on them and click on button *Copy to*.

Switching relay, matched to two-state plan in iDMS, will start to work after applying all changes within time plan editing in application.

"Save" – store all changes applied to time plan.

Clicking on button *Save* asks user to type password (defined previously in Connection Server, bookmark *System*).

NOTE: application will ask for password even if none was defined – leave password field blank and click on button *OK* anyway.

Enter the password

123

SAVE

Change password for application

New password: ●●●●●●

Retype new password: ●●●●●●

Save

Meteostation

Displaying values from AD converter.

Type	Name	Row	Column	Attributes
meteostation	Wind	2		inels ADC2_40M_AI1
				coef_mult 0.004
				coef_add 0
				max_disp 40
				min_disp 0
				decimal_digits 1
				units m/s

Annotations in the image:

- Coef_mult: Coefficients, calculation below
- coef_add: Coefficients, calculation below
- max_disp: Maximum displayed value
- min_disp: Minimum displayed value
- decimal_digits: Number of decimal places
- units: Displayed units

Calculating coefficients is performed using the equation $d = a \cdot v + b$, where

d – is the displayed value.

a – searched multiplier **coef_mult**.

v – value sent by the central unit (0-10 V) multiplied by one thousand.

b – value **coef_add**, by which the resulting value is moved.

General procedure:

You must determine what the quantity range will be.

You determine the values for the upper limit (max_disp) and for the lower limit (min_disp). Place these values into two equations with two unknowns. The result of this equation is a multiplier of the coefficient (coef_mult) and adding the coefficient (coef_add). The values are then entered into the table.

Example: If you want to display the value 0 to 10 V sent from the central unit in an interval of 0 to 40 m/s, the procedure is as follows:

In our case, the upper limit will be 40 (max_disp) and the lower limit is 0 (min_disp). Place these values into two equations with two unknowns.

For:

The equation applies:

$$\text{max_disp} = 40$$

$$\text{max_disp} = \text{coef_mult} \cdot 10 \cdot 1000 + \text{coef_add}$$

$$\text{min_disp} = 0$$

$$\text{min_disp} = \text{coef_mult} \cdot 0 \cdot 1000 + \text{coef_add}$$

Since there is no requirement to move the displayed values (this requirement may be in case of measuring the outdoor temperature, where negative temperature values also appear), it will be $\text{coef_add} = 0$.

arising from this:

$$40 = \text{coef_mult} \cdot 10 \cdot 1000 + 0$$

$$40 = \text{coef_mult} \cdot 10000$$

$$\text{coef_mult} = 0.004$$

Scene

By the **Scene** icon you can control multiple iNELS items at once by just a single press.

Scenes can be created by addition of individual outputs to the list using the **Add** button. Scenes should contain output channels with ON/OFF/TRIG symptom.

More complex scenes should be created directly in iDM environment, and only given event should be called up there.

The screenshot shows a configuration table for a scene. The table has columns: Type, Name, Row, Column, and Attributes. The 'Type' is set to 'scene', 'Name' is 'Lamp', 'Row' is '6', and 'Column' is empty. The 'Attributes' column contains three items: 'da22_rs_dimming_socket_lamp_OFF', 'da22_rs_dimming_light_halogen_On', and 'sa02_rs_doorlock_entrance_OFF'. The last item is highlighted in yellow. There are two 'Add' buttons: one at the bottom left and one to the right of the highlighted attribute. Callouts include: 'For scenes, select iNELS items with suffixes _ON, _OFF and _TRIG' pointing to the attribute list; and 'Button for adding another item in the scene' pointing to the 'Add' button on the right.

Shutters

Icon adapted to control motors, majority of blinds or shutters where relay can be chosen separately for every direction. The icon then automatically switches the direction (relay) if you click on the icon in the below format: up-stop-down-stop-up...

The screenshot shows a configuration table for shutters. The table has columns: Type, Name, Row, Column, and Attributes. The 'Type' is 'shutters', 'Name' is 'Shutters', 'Row' is '1', and 'Column' is empty. The 'Attributes' column contains three items: 'up sa04_rs_1_Shutters_up', 'down sa04_rs_1_Shutters_down', and 'read_only no'. Callouts include: 'Switching element for direction up' pointing to the 'up' attribute; and 'Switching element for direction down' pointing to the 'down' attribute.

Thermometer

For displaying indoor/outdoor temperatures in the side panel of the iHC-TI application.

The screenshot shows a configuration table for a thermometer. The table has columns: Type, Name, Row, Column, and Attributes. The 'Type' is 'thermometer', 'Name' is 'TERM1', 'Row' is '1', and 'Column' is empty. The 'Attributes' column contains two items: 'placement indoor' and 'inels IDRT2'. The 'placement' dropdown is set to 'indoor' and the 'inels' dropdown is set to 'IDRT2'. Callouts include: 'Selection of placing the sensor Indoors/Outdoors' pointing to the 'placement' dropdown; and 'Heating input/Thermal sensor selection' pointing to the 'inels' dropdown.

6. Setting the iHC application without your own IMM Server or Connection Server

iHC-TI App for controlling iNELS units can run without any IMM Server, and using ID from public server connected through Internet.

On the public virtual server <http://ics.elkoep.cz:8080/>, it is first necessary to read the exported addresses of inputs and outputs from the parameterization software of iDM.

The screenshot shows the 'iHC Configuration Server / Configuration of rooms' interface. The user ID is 945199 and the version is imm-3.217. The 'Uploads' tab is selected in the navigation menu. Three upload sections are visible, each with a 'Browse...' button, a 'No file selected.' status, and an 'Upload' button. Callout boxes explain the purpose of each file:

- Upload rooms.cfg**: Upload the file "rooms.cfg", used for backing up already set up Rooms
- Upload export.pub**: Upload the file "export.pub" from the software of iDM2
- Upload export.imm**: Upload the file "export.imm" from the software of iDM3

- The first option **Upload rooms.cfg** is used in later phases of settings to upload the already created file rooms.cfg and perform its subsequent editing. Thanks to the file "rooms.cfg", you can return to previous projects.
- The second option **Upload export.pub** is used for loading the current version of the exported file created in the iNELS second-generation central unit.
- The third option **Upload export.imm** is used for loading the current version of the exported file created in the iNELS third-generation central unit.

For subsequent editing, it is also possible to use the ID created upon the first input on a public server, and which reads the last known settings after inserting in the applicable column in the tab **Log in**.

After signing in for the first time, record your ID for further service from a different PC or in case of erasing cookies from your browser!

Note: for work on a public server, receiving cookies must be allowed in your.

In the tab **Configuration**, you can edit iNELS elements from the file "export.pub", resp. "export.imm", changes must be uploaded to the file by pressing **Update** located under the dialog box.

Configuration Rooms Log in Uploads Downloads Manual Audit

Edit export.pub

The virtual server then works with the file format "export.pub", to which it also automatically converts the format "export.imm"

```
WSB3-20_Green_0112b2 R B 16908289 .0
WSB3-20_Green_0112b2_ON R B 16908289 .0
WSB3-20_Green_0112b2_OFF R B 16908289 .0 BOOL PUB_INOUT
WSB3-20_Red_0112b2 R B 16908290 .0 BOOL PUB_INOUT
WSB3-20_Red_0112b2_ON R B 16908290 .0 BOOL PUB_INOUT
WSB3-20_Red_0112b2_OFF R B 16908290 .0 BOOL PUB_INOUT
WSB3-20_Inter-Therm_0112b2 Y B 17104897 REAL PUB_INOUT
RE1_DetskyPokoj R B 16908291 .0 BOOL PUB_INOUT
RE1_DetskyPokoj_ON R B 16908291 .0 BOOL PUB_INOUT
RE1_DetskyPokoj_OFF R B 16908291 .0 BOOL PUB_INOUT
RE2_Terasa R B 16908292 .0 BOOL PUB_INOUT
RE2_Terasa_ON R B 16908292 .0 BOOL PUB_INOUT
RE2_Terasa_OFF R B 16908292 .0 BOOL PUB_INOUT
RE3_Zavlazovani R B 16908293 .0 BOOL PUB_INOUT
RE3_Zavlazovani_ON R B 16908293 .0 BOOL PUB_INOUT
RE3_Zavlazovani_OFF R B 16908293 .0 BOOL PUB_INOUT
RE4_Vytapeni R B 16908294 .0 BOOL PUB_INOUT
RE4_Vytapeni_ON R B 16908294 .0 BOOL PUB_INOUT
RE4_Vytapeni_OFF R B 16908294 .0 BOOL PUB_INOUT
RE5_ZaluzieNahoru
```

Update

Manually performed changes (NOT RECOMMENDED!) must be confirmed by pressing

Convert iNELS3 export to export.pub

This field is completed only in case of uploading an "export.imm" file

```
WSB3-20_Green_0112b2 0x01020001
WSB3-20_Red_0112b2 0x01020002
WSB3-20_Inter-Therm_0112b2 0x01050001
RE1_DetskyPokoj 0x01020003
RE2_Terasa 0x01020004
RE3_Zavlazovani 0x01020005
RE4_Vytapeni 0x01020006
RE5_ZaluzieNahoru 0x01020007
RE6_ZaluzieDolu 0x01020008
OUT1_Hotel_Red 0x01040001
OUT2_Hotel_Green 0x01040002
OUT3_Hotel_Blue 0x01040003
OUT4_Hotel_Master 0x01040004
RE1_Zamek 0x01020009
RE2_Pasek 0x0102000A
RE3_GarazovaVrata 0x0102000B
RE4_Zamek_Virtual 0x0102000C
OUT1_Bezdrat_Red 0x01040005
OUT2_Bezdrat_Green 0x01040006
OUT3_Bezdrat_Blue 0x01040007
```

Convert

Manually performed changes (NOT RECOMMENDED!) must be confirmed by pressing "Convert"

The tab **Rooms** is identical with the tab Rooms from the classic IMM CC (see chapter 4). The difference is only in entering the password, which is only numeric and multiple asterisks are displayed.

iHC Configuration Server / Configuration of rooms
User ID: 945199
ver. imm-3.217

Configuration **Rooms** Log in Uploads Downloads Manual Audit

New room

Name
Room 2

Protect by password

Password
●●●●

Confirm
●●●●

Add

Name of created room (without gaps and diacritics)

It is possible to protect each room by a numerical password

Add button for confirming creation of a room

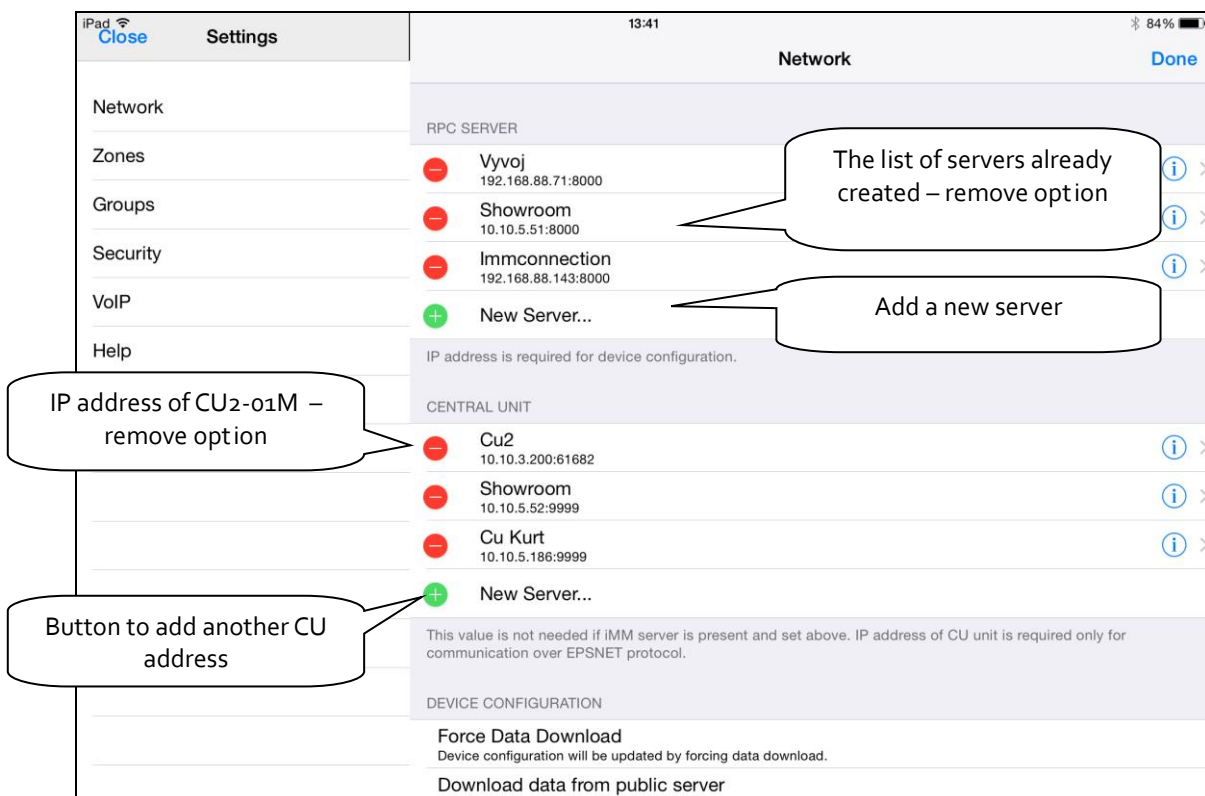
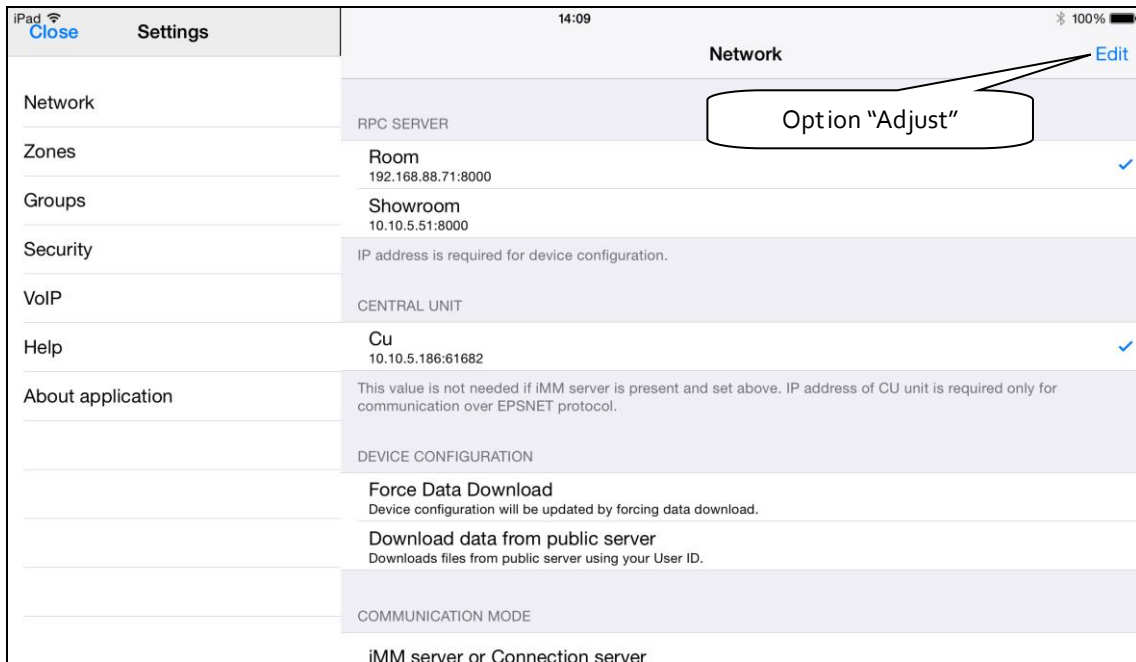
Room 1 [Edit](#) [Up](#) [Down](#) [Change password](#) [Rename](#) [Remove](#)

For downloading settings created on a public virtual server into the application in a smart phone or tablet you can use User ID.

- a. A simpler, faster way
- b. Internet access required.

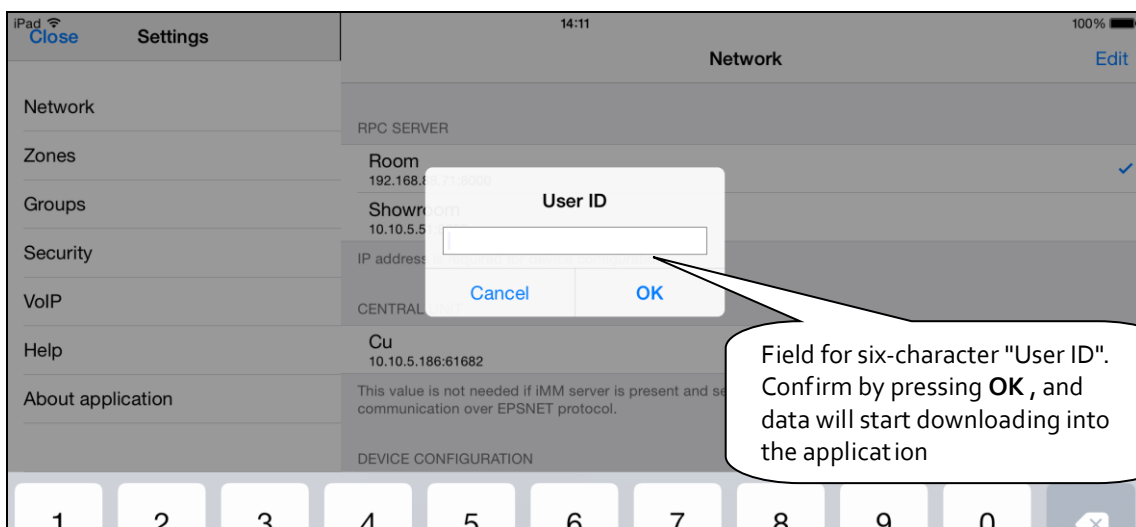
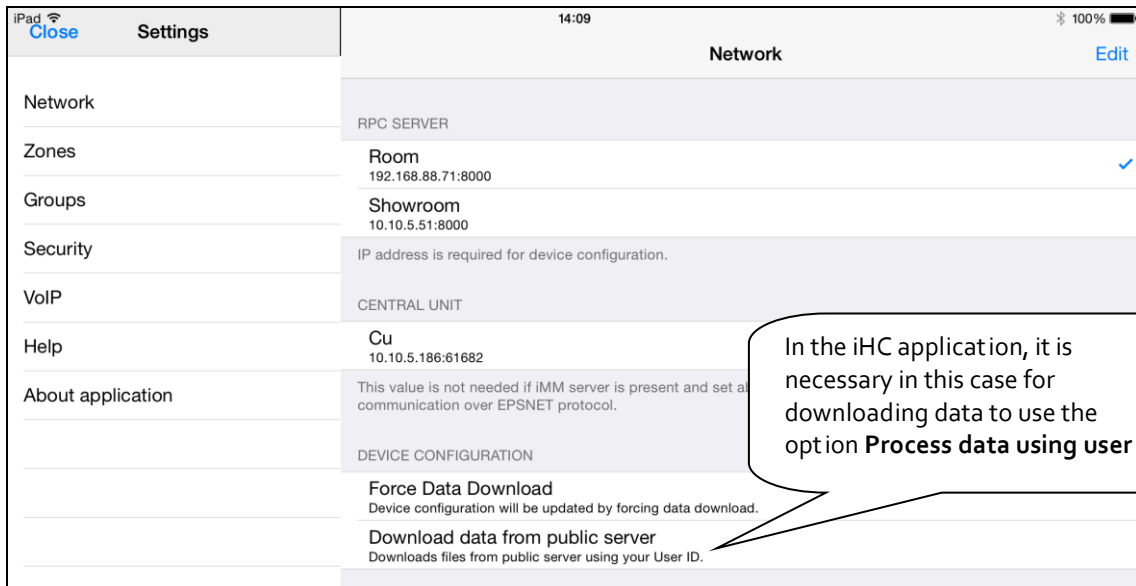
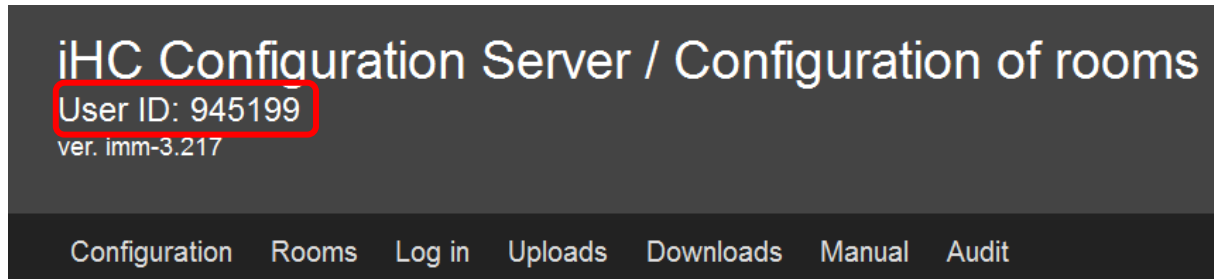
For both options, the same method is applied for adding an IP address of the central unit to the iHC application.

In the iHC application settings, select the option **IP address of the CU unit**, where by pressing "+", you will add the new central unit. Enter into the central unit any name, its IP address and port (61682 standard for second-generation central units, 9999 standard for third-generation central units). After adding a new central unit to the list, you must select the check box of the given central unit and confirm by tapping **OK**.



Using the "User ID" for downloading settings into the telephone and tablet

You will find the six-digit "User ID" in the upper part of the screen of the public virtual server. The "User ID" is very important, so make sure you make a note of it somewhere, because by using it you can return to your project anytime, and it serves for downloading your created settings into the iHC application in your smart phone or tablet.

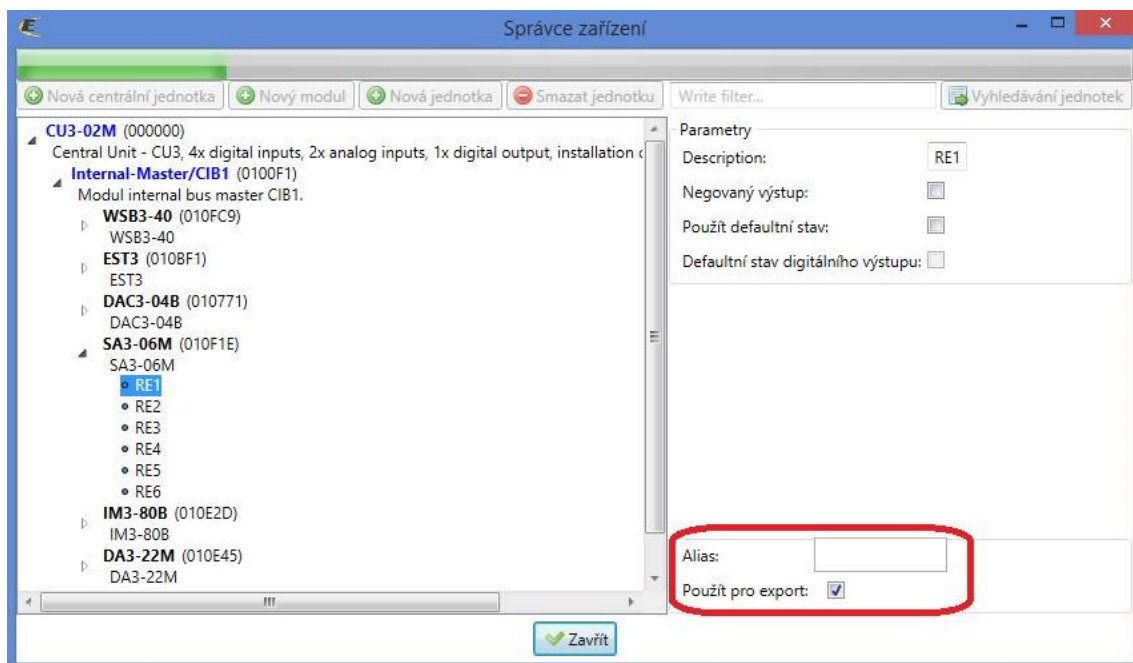


7. Export data from iDM3 (iNELS3 Designer & Manager) of the third generation

The iDM3 software enables export of variables (inputs/outputs, time programs, readers and timers), with the help of which you can then create iHC applications for controlling the entire installation. The following text describes how to perform this export.

Export of inputs/outputs

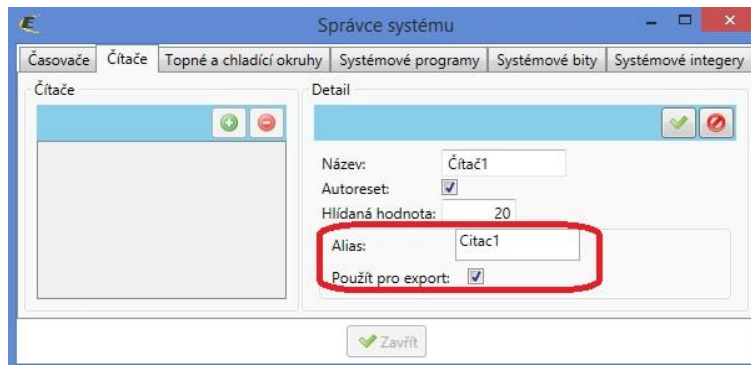
In the upper part of the iDM software, in the tab "Project", select the option **Device manager**, where you will find a tree structure of the entire system. For each input and output, after giving it a name, you can select the option **Use for export** in the lower right part of the dialog window. In case of checking but leaving clear the field **Alias**, this input/output will be exported under the default name comprised of the unit type, its hardware address and input/output numbers. Here can write in the name under which the given input/output is to be exported – **must not contain diacritical marks or gaps!**



Export readers

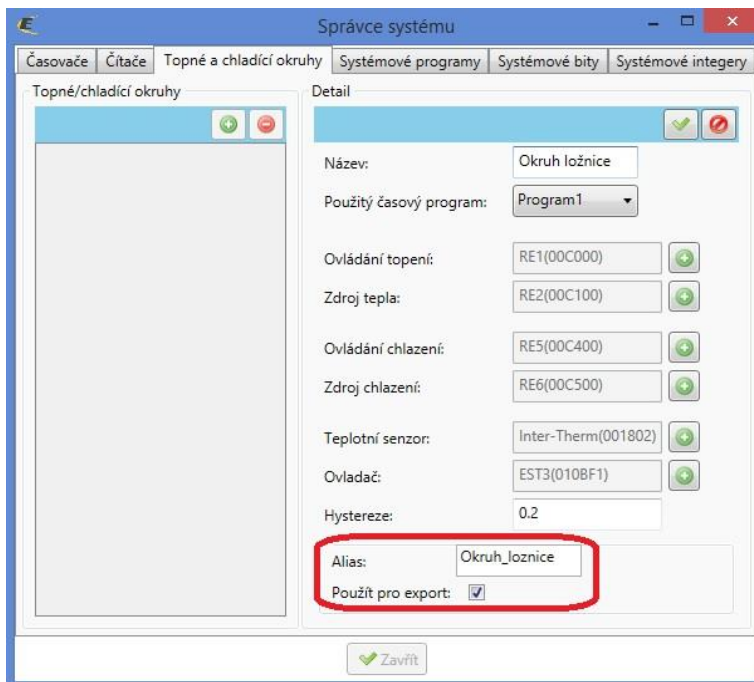
Exporting readers is performed from the tab **Administration**, option **System administrator**. In this dialog window, move to the tab **Readers**. Here, you can export the given reader by checking the option **Use for export**. If you chose your own **Alias**, this may contain neither diacritical marks nor gaps.

Exporting readers is important in case you want to use measuring devices with impulse output to measure and visualize energy consumption. Impulses from these devices are read on binary inputs using these readers.



Export heating circuits

Exporting heating circuits is performed from the tab **Administration**, option **System Administrator**, tab **Heating and cooling circuits**.



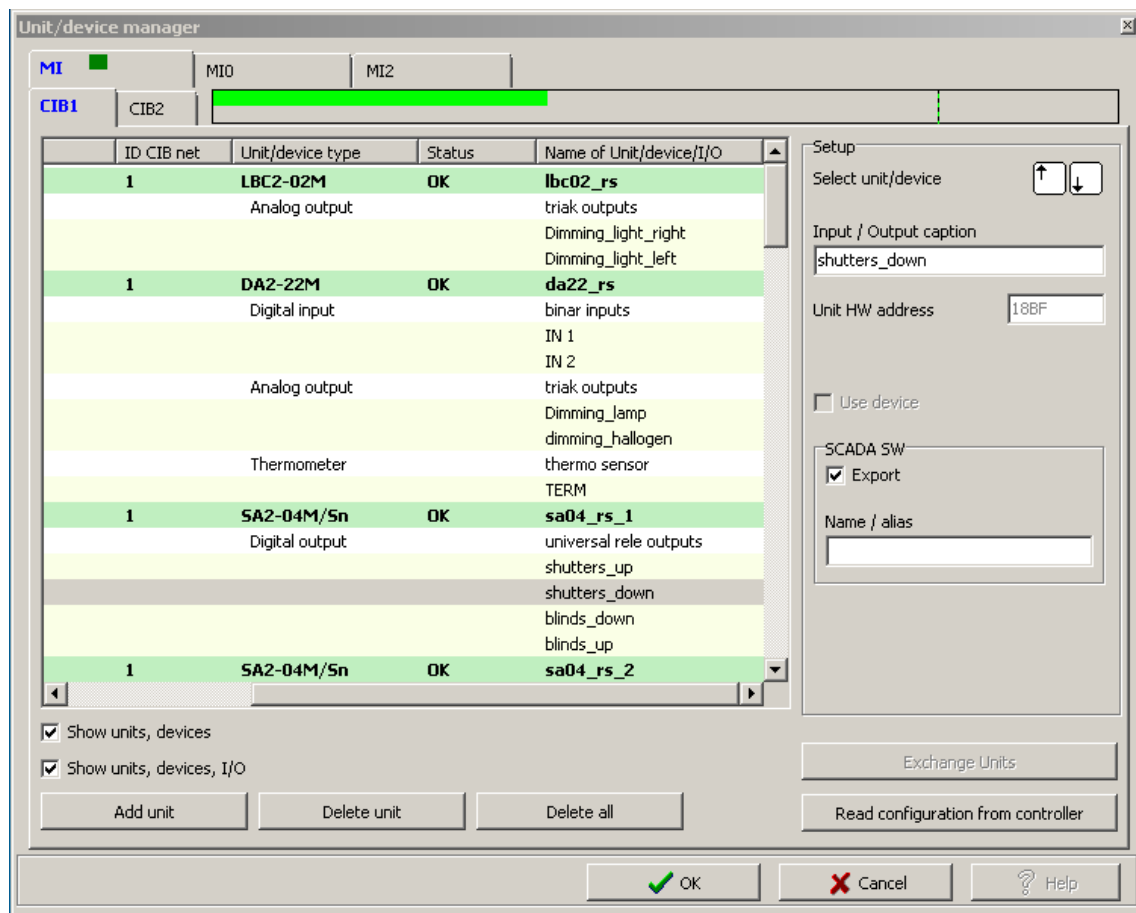
8. Exporting data from iDM2 (iNELS2 Designer & Manager) second generation

The iDM2 software enables export of variables (inputs/outputs, time programs, readers and timers), with the help of which you can then create iHC applications for controlling the entire installation. The following text describes how to perform this export.

Export of inputs/outputs

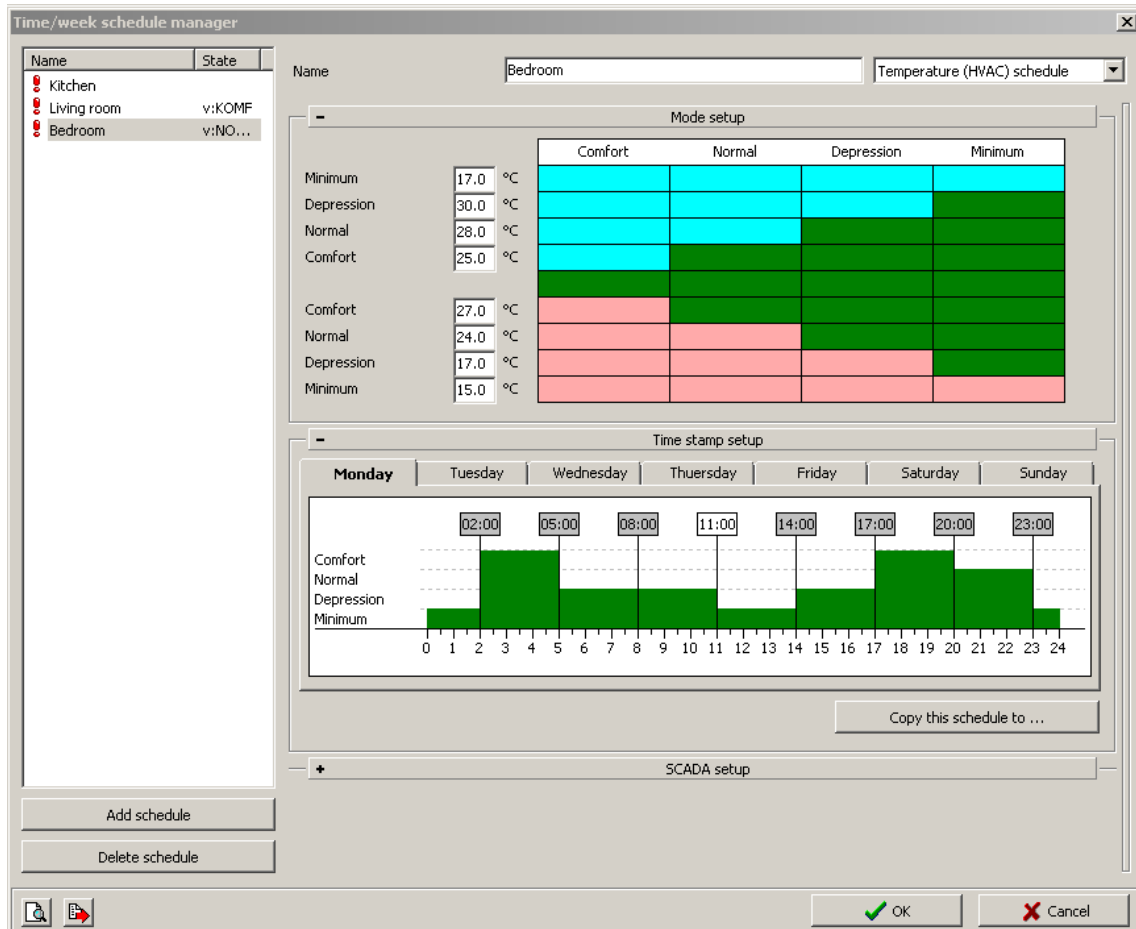
Exporting inputs/outputs is performed from the window **Unit/device manager**, where for the required inputs/outputs, you must check the option **Export for visualization**. In case you want to name the given input/output, use the column **Naming/alias**.

It is not necessary to select the check boxes of these inputs/outputs, which are used in some action. Export of these used inputs/outputs is then performed automatically.



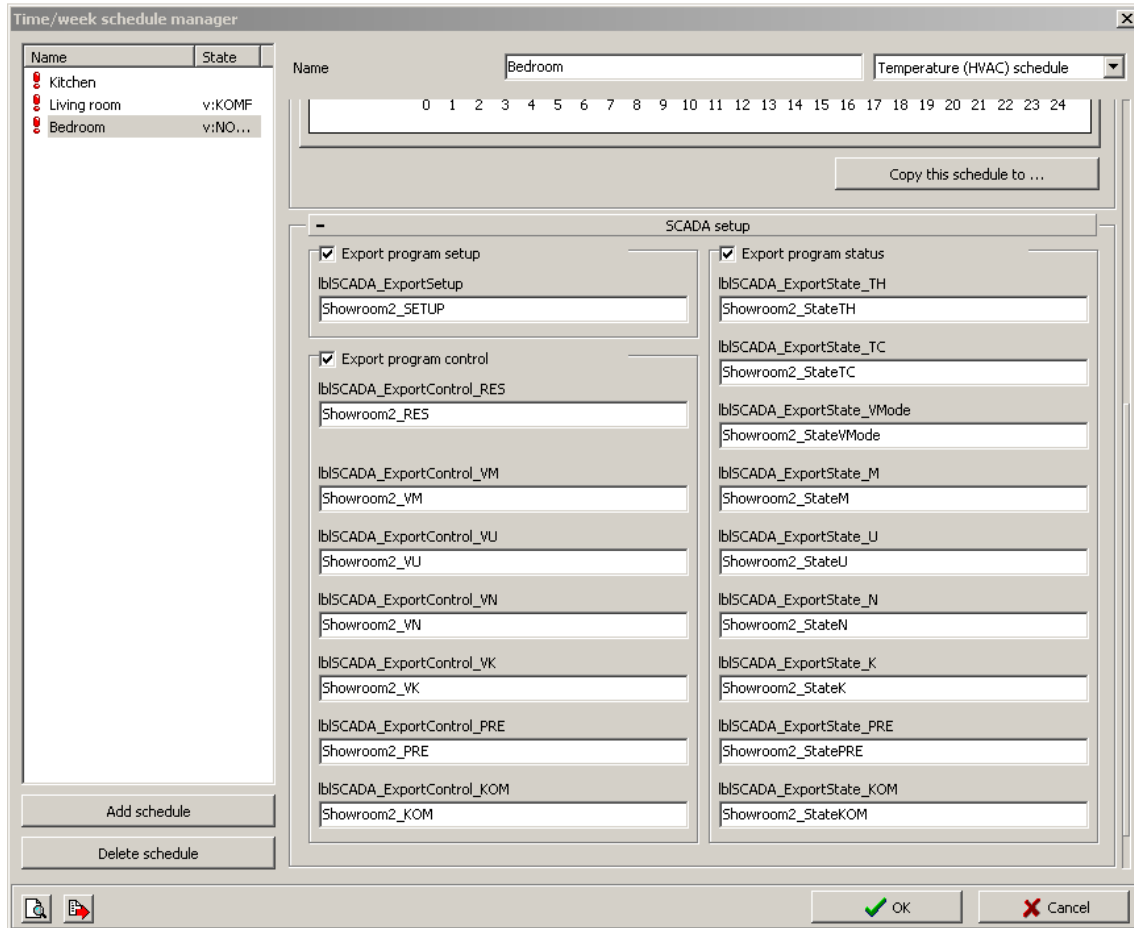
Export of time programs

Exporting time programs is performed from the window **Time/weekly schedule manager**, where you must tap and open the menu **Settings of export for visualization**.



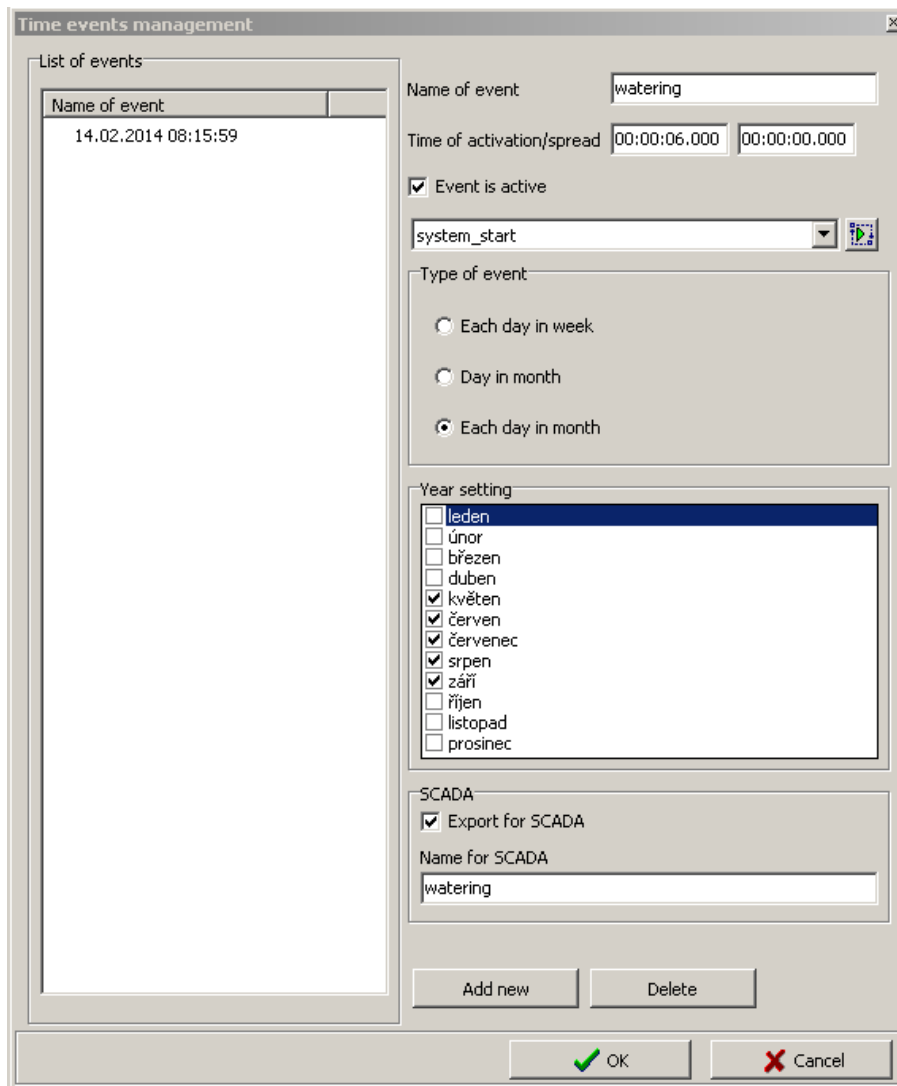
In this menu, you must select the check boxes of all three options, whereas you can export the weekly time program for heating/cooling and a two-status time program.

- **Export program setup**, i.e. timestamps and mode settings.
- **Export program control**, i.e. you can force individual modes (minimum, attenuation, normal, comfort).
- **Export program status**, i.e. preview of program statuses (four modes, required temperature, current temperature).



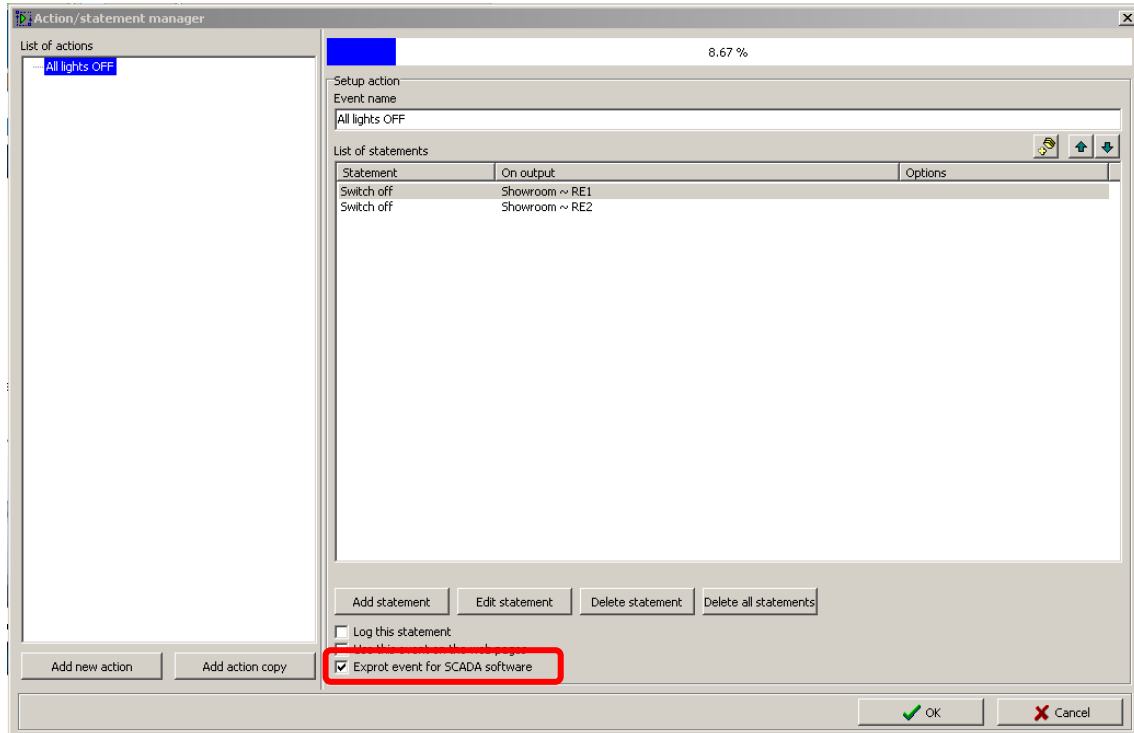
Export of time events

Exporting time events is performed from the window **Time events management**, where you must check the option **Export for visualization**. It is once again possible to rename the given time event in order to export.



Exporting events

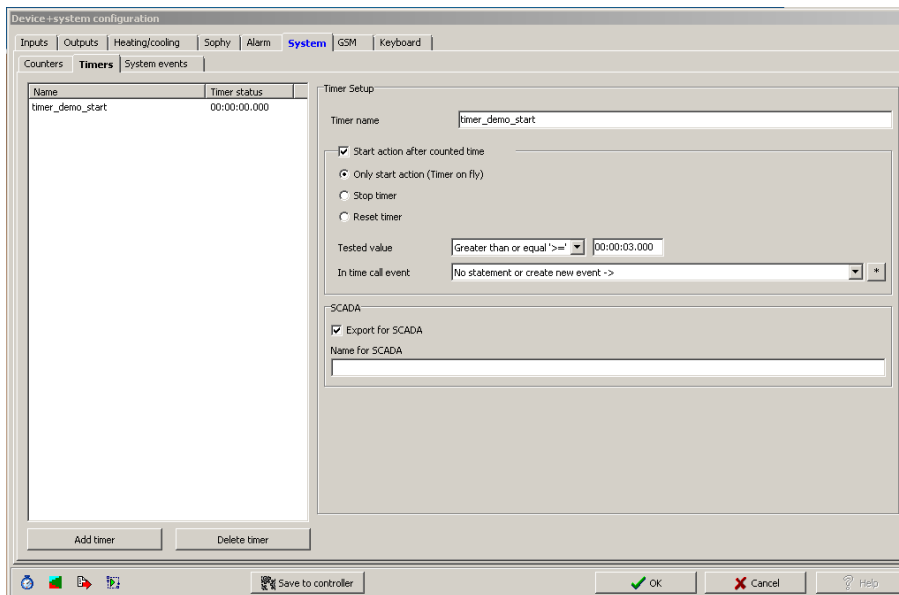
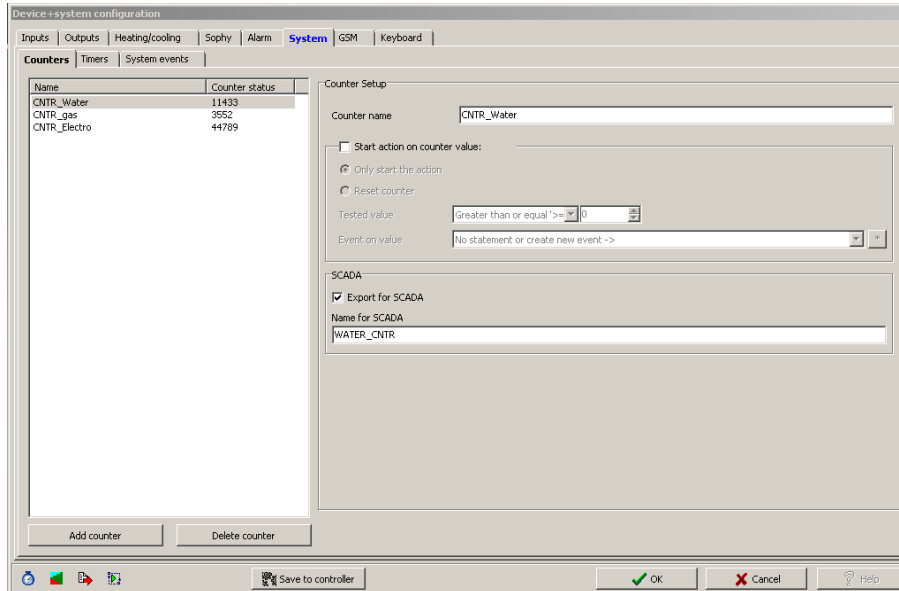
There is a special selection of export for visualization. This concerns direct export of events from the window **Actions/statement manager**. These exported actions can then be called directly from the iHC application. For the required action, you must check **Export event for visualization** in the lower part of the window.



Export of readers and timers

Export of readers and timers is performed from the window **Device system configuration**, tab **System**, subfolder **Counters**, or **Timers**. Both options here offer the selection **Export for visualization**.

Exporting readers is important in case you want to use measuring devices with impulse output to measure and visualize energy consumption. Impulses from these devices are read on binary inputs using these readers.



After setting the requirement for exporting all variables, it is necessary to select appropriate settings of the export method and select the path for where to store the *.pub file. This is performed in **Settings**.

In the part **Settings export** and then **...of SCADA**, check the option **Create export of configuration for visualization**. Then set the path where the *.pub file will be saved.

If you check **Export only designated IO**, only the i/o will be exported, which you have selected in the window **Unit/device manager** on the previous page.

Expanded export of binary inputs represents the export of binary inputs with the reader.

Report a change in export files is a selection, which ensures and reports a possible shift of address of variables in memory registries, which can occur upon saving the configuration.

Export mapping of user actions is a selection for exporting user actions, e.g. commands for relay groups, for lighting groups, etc.

