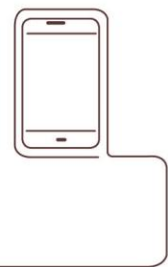


INSTALLATION MANUAL

for the Application iHC-MI



 App Store

INELS[®]

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1. Introduction

The iHC-MI application is a supplement to the iNELS intelligent electroinstallation system which allows controlling of the entire system from a smart phone with iOS operation system, i.e. from iPhone. 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-MI application, allows permanent supervision over electroinstallation, as well as comfortable central control over the entire house from one place. iHC-MI lets you control the lighting, blinds, shutters, outlets, heating, appliances, watering, cameras, multimedia (audio, video), house appliance Miele, 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-MI.

The iHC-MI application function is enabled:

- indirectly with the central unit using virtual server when you can control bus iNELS items, i.e. for instance lighting (opening, dimming), blinds, shutters, outlets, security system, scenes, central function, watering or heating system;
- with Connection Server when you can also control cameras, air conditioning, recuperation, home call box, 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-MI 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-MI application is therefore designed for iPhone. The language of the application corresponds with the language set in iOS.

Download

Download the current version here:

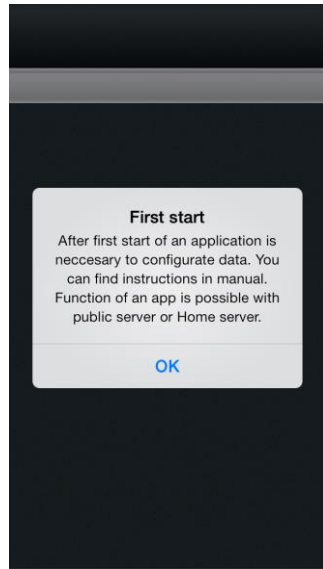


<https://itunes.apple.com/cz/app/inels-home-control-for-iphone/id777582390?mt=8>

Once the installation is completed, the device will offer an option to open the newly installed application

2. Configuration from own server

By tapping "**Settings**", you open the basic settings menu of the application.

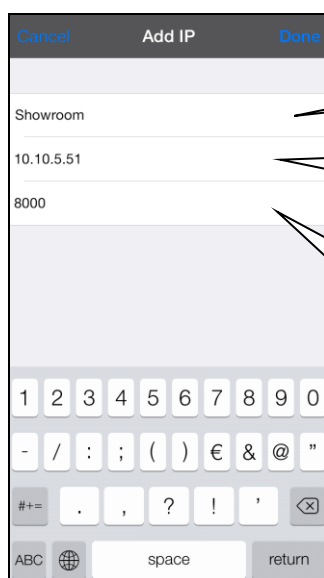


You can call up this dialogue window by clicking the **Setting** option

Button **Save** which saves all settings and you will move to the application itself.

- a) 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. **OK** displays; click on it and confirm the changes.

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 40.



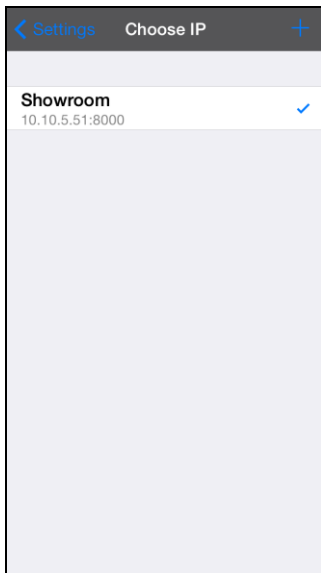
Optional name

IP address of server

Communication port (Default: 8000)

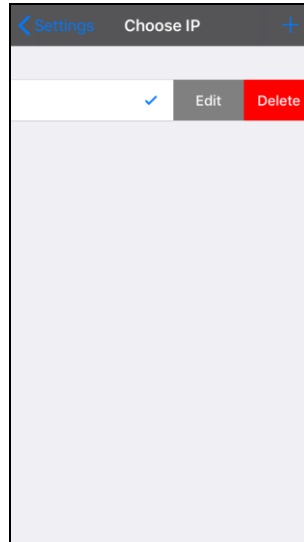
Select server by ticking

Symbol + to add another IP address



Editing / Deleting: by dragging your finger to the left on the desired Connection server, the options will be displayed:

- Edit:
 - you can edit after saving the changes it is necessary to force a data download (see p. 7).
 - there is also a Restart Connection server button
- Delete: here you can delete the given Connection server



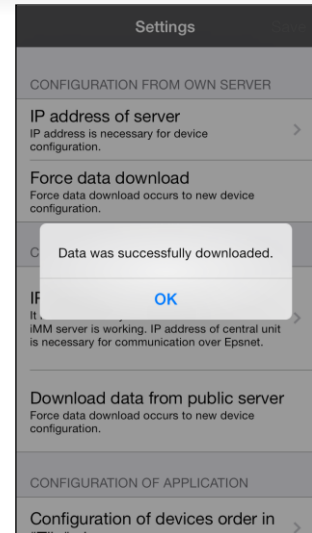
List of usable ports:

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:

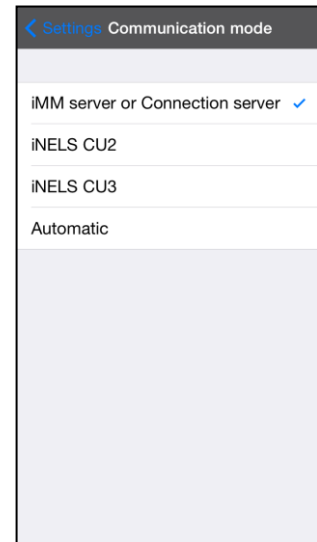
https://en.wikipedia.org/wiki/List_of_TCP_and_UDP_port_numbers

- 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**.

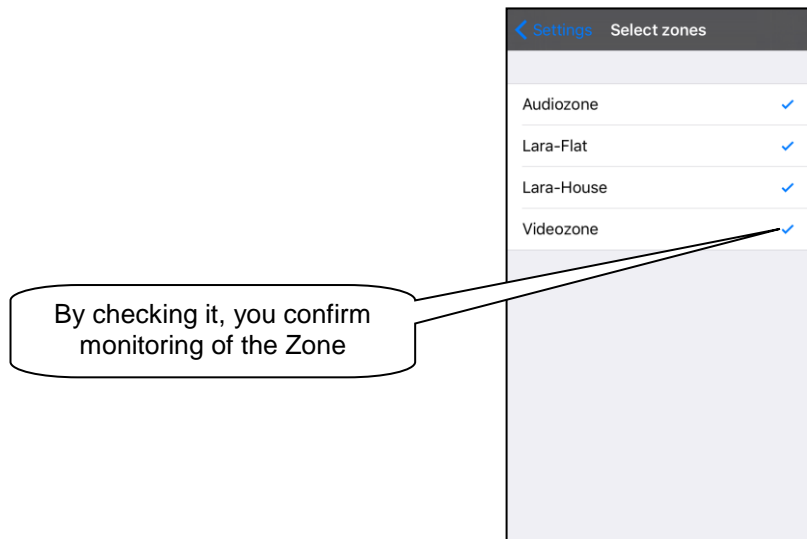


- c) When optimizing communication between the iHC application and the central unit iNELS2, the central unit iNELS3, IMM or Connection Server, you must select the device with which the application is to work. You perform this option through **Communication mode**.

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) In case you want to monitor in the application the connected Audiozones and Videozones, you must select these zones in the menu **Selection of monitored zones**.

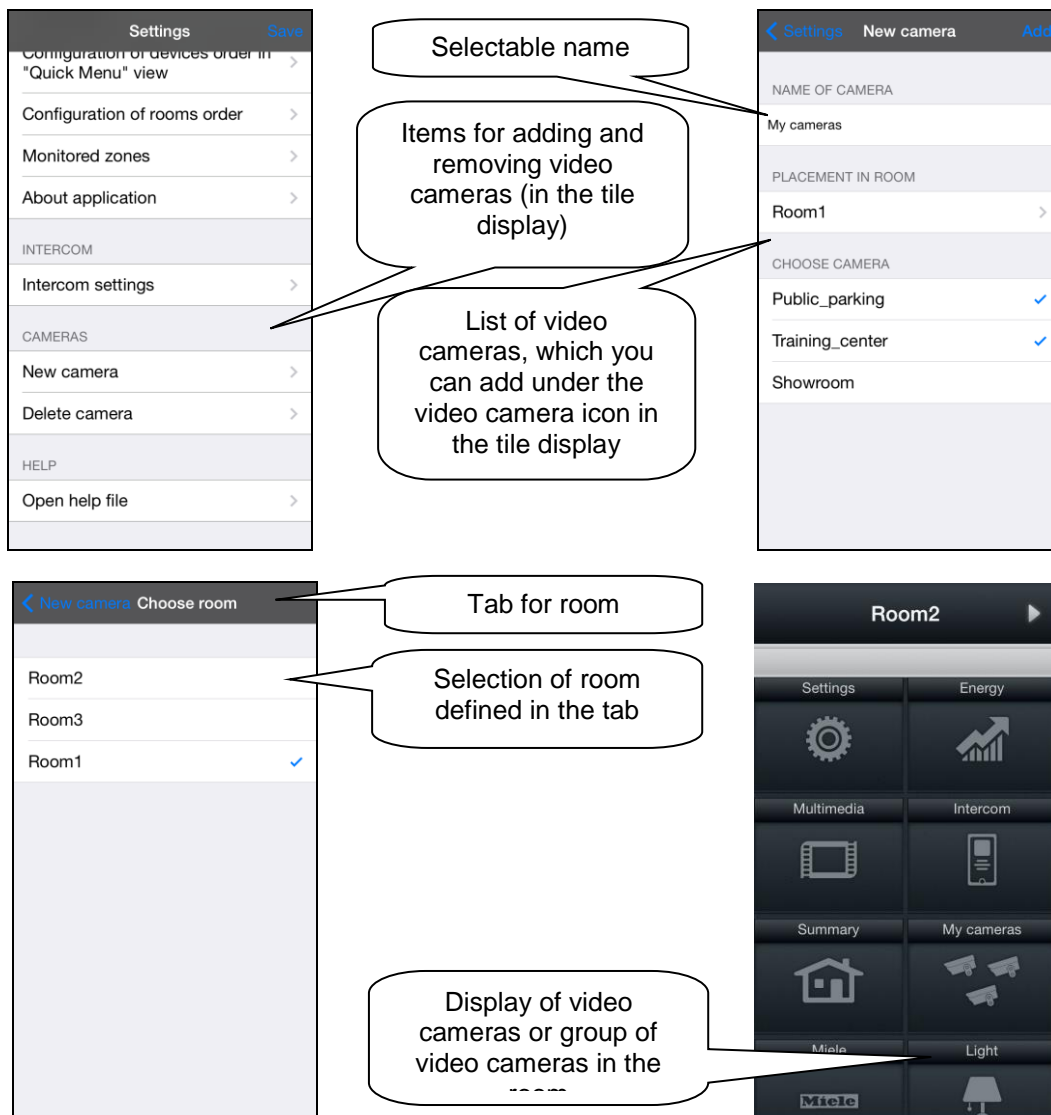


- e) **Video camera settings** – the manual later describes that there are two options for displaying the application – Tiles or List. At the List of video cameras, all connected video cameras are available. However, if you wish to have video cameras closer "at hand", you can add video cameras to the quick display - Tiles. For adding a video camera or group of video cameras under a single Tile, press the button **New video camera**, then select the check box of the required video camera. You can also give the Tile any name you like. Alternatively, you can remove the added Tile by tapping **Remove video camera**.

Supported cameras:

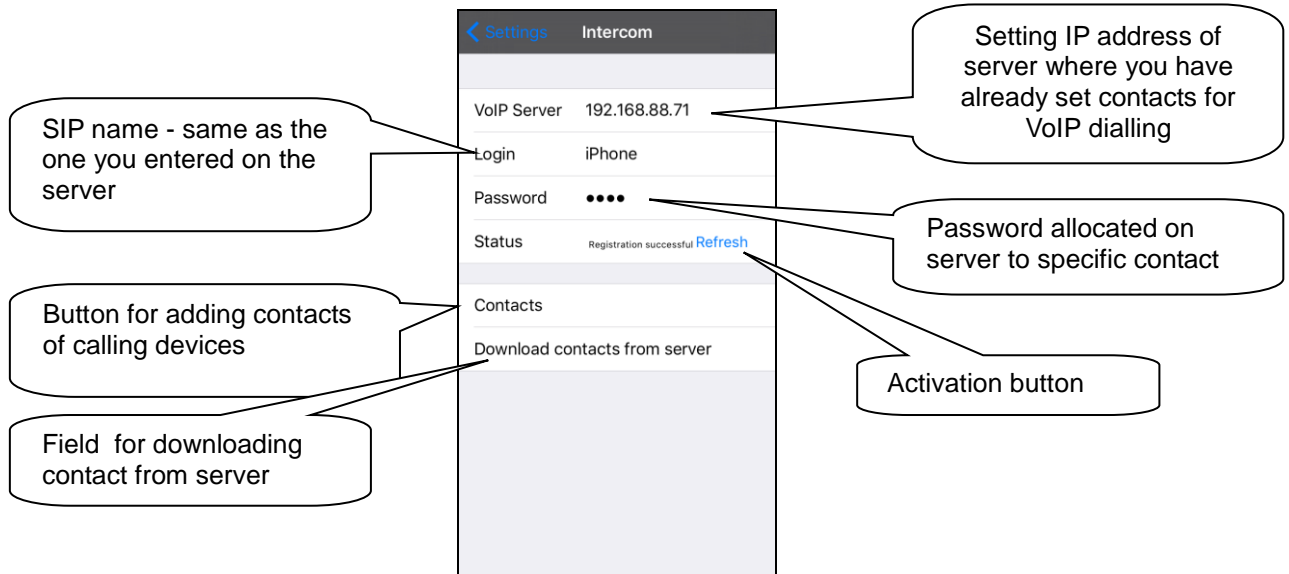
- iNELS cam
- AXIS protocol VAPIX2 from camera firmware version 4.0.X.X and VAPIX3 from firmware version 5.0.X.X
- Cameras with ONVIF protocol profile S. with ONVIF link certification
- Cameras supporting RTSP stream

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 have 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.

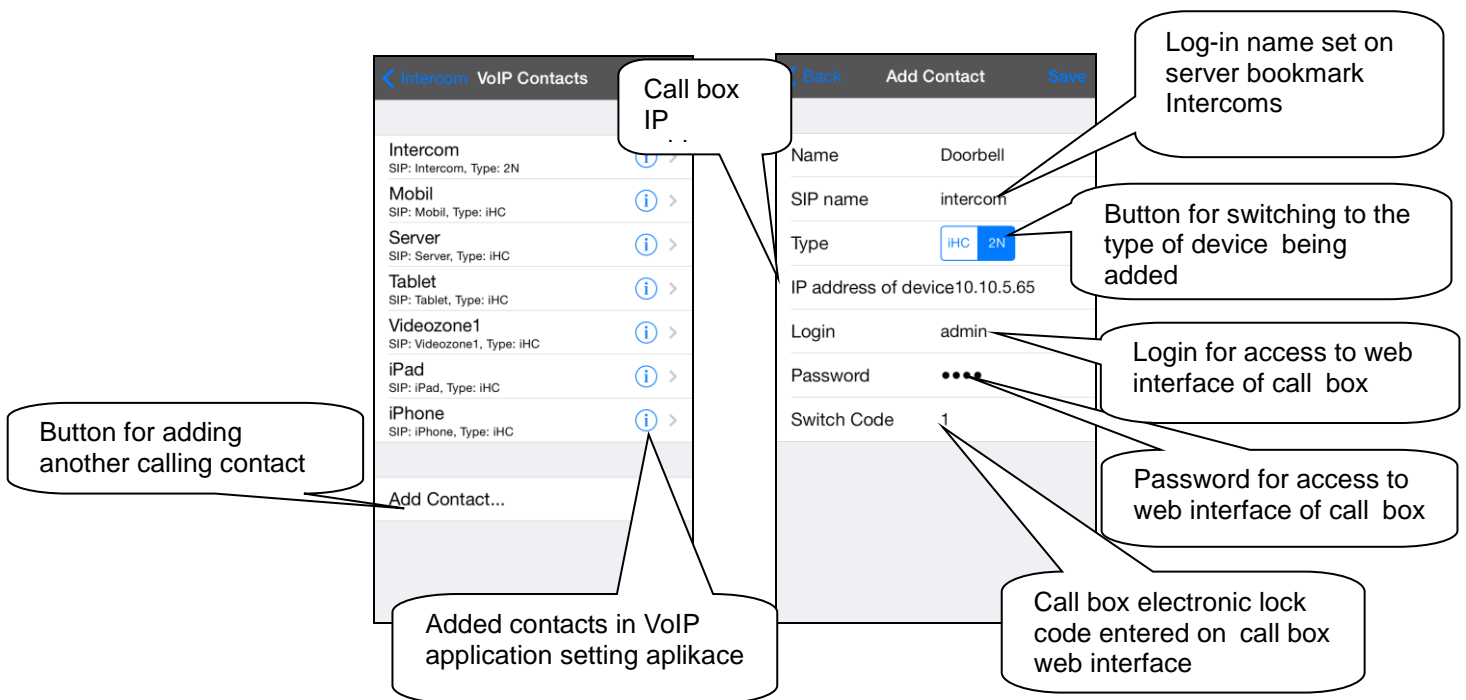


f) **VoIP setting** – setting connection to server of specific device.

You can download contacts from the server using the button **Download contacts from server**.



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



3. Application configuration

It is personalisation of the entire iHC-MI application based on your needs.

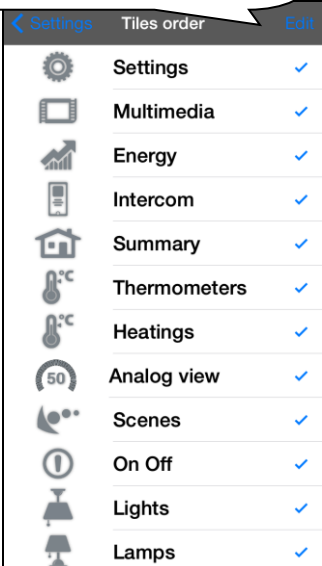
The entire configuration is in the **Settings** bookmark.

Setting in the Tiles mode or Fast view mode is very similar.

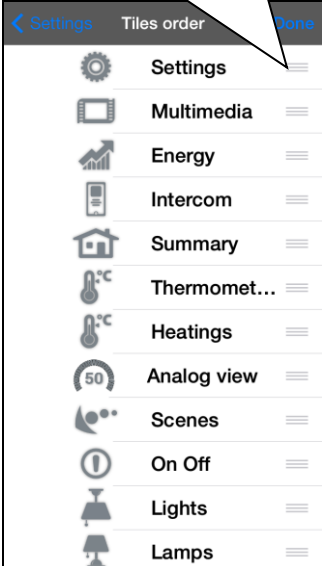
Setting the sequence of items is in the **Tiles** display.

You can affect the sequence of the iHC-MI application items not only by configuration of rooms but also in the application itself. You can choose which items you want to display, and where.

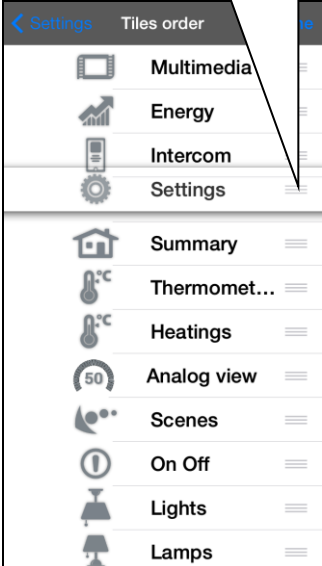
Button Adjust can be used to modify the order in which groups are to be displayed



Here drag the group by finger in order to change the sequence



The displacement system is Drag'n'Drop

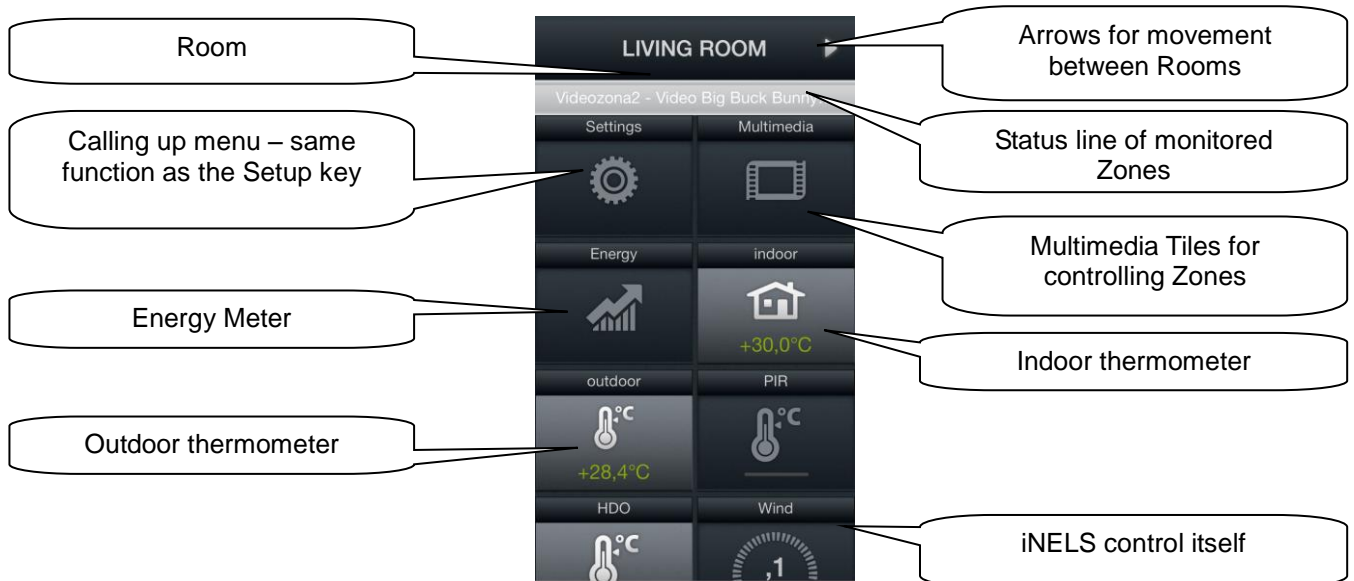


4. Control

a) Tiles

Fundamental way of displaying the iHC-MI application is the so-called **Tiles**. It is a backlit overview of items where we can see at first sight by backlit or non-backlit icons which items of the iNELS bus electroinstallation are active and inactive, as well as other Tiles for controlling integrated devices, e.g. Multimedia, Miele, Intercom, Energy, etc.

If you wish to go from the **Tiles** display to the List display, just click on the name of the **Room**.

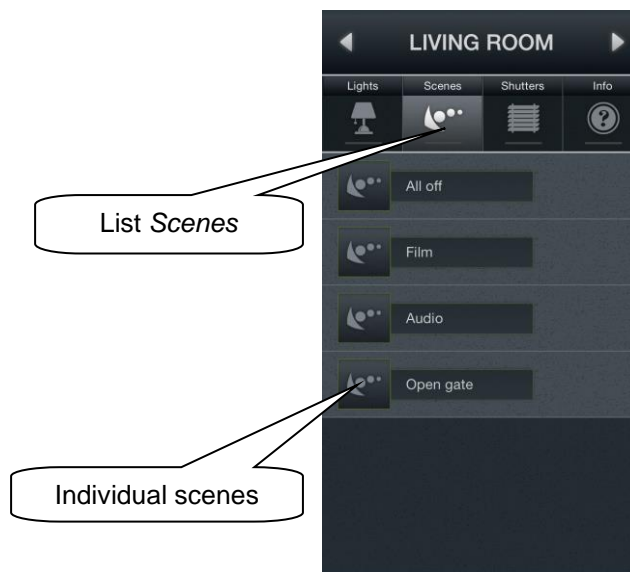


b) Scenes

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-MI application even without using an IMM or Connection Server.

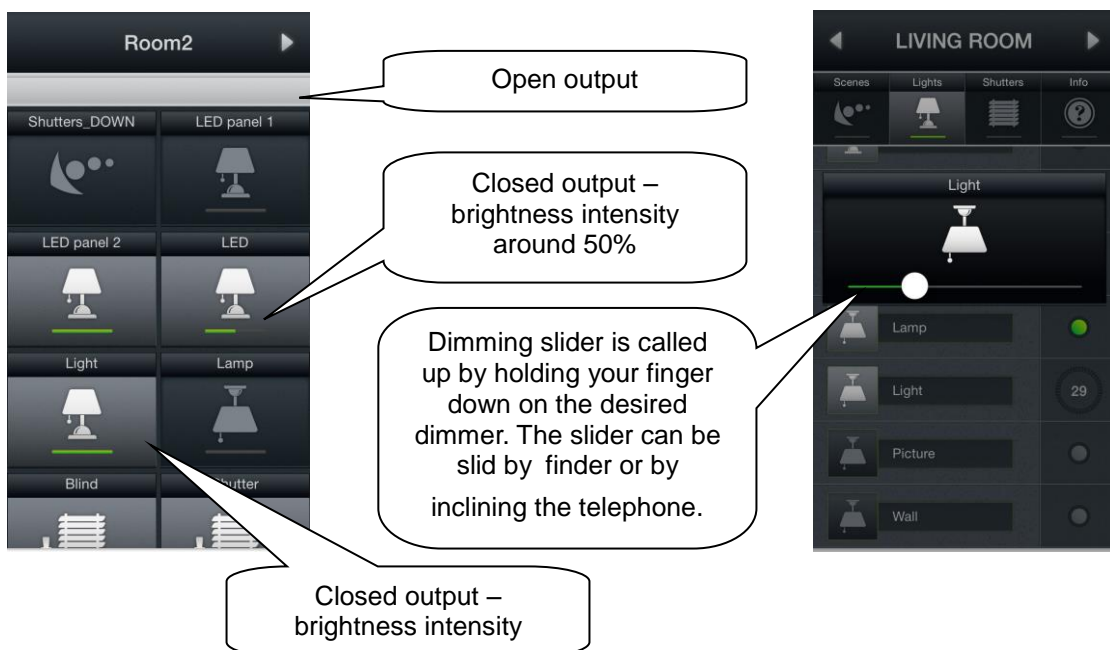
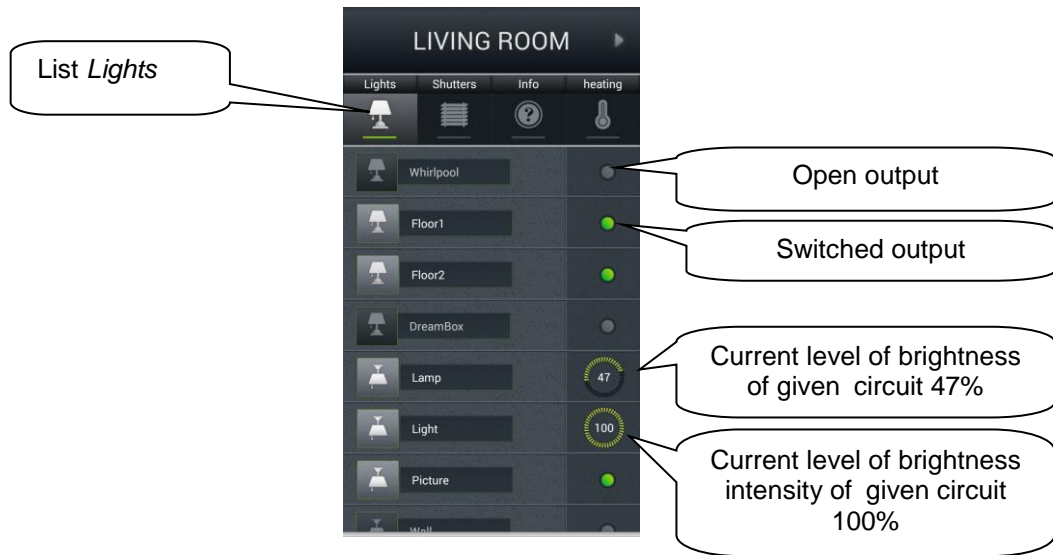


c) Lights

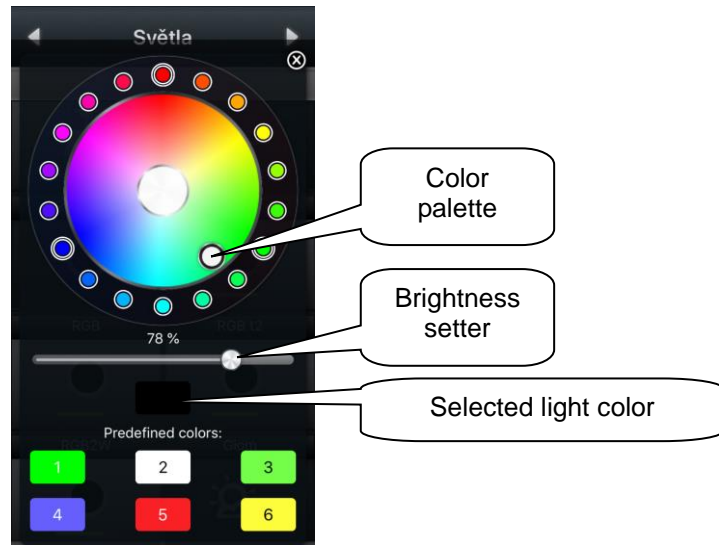
The **Lights List** is used for controlling individual lights or entire light circuits. When displaying the **List**, two basic types of displays are distinguished.

- 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.
- 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.

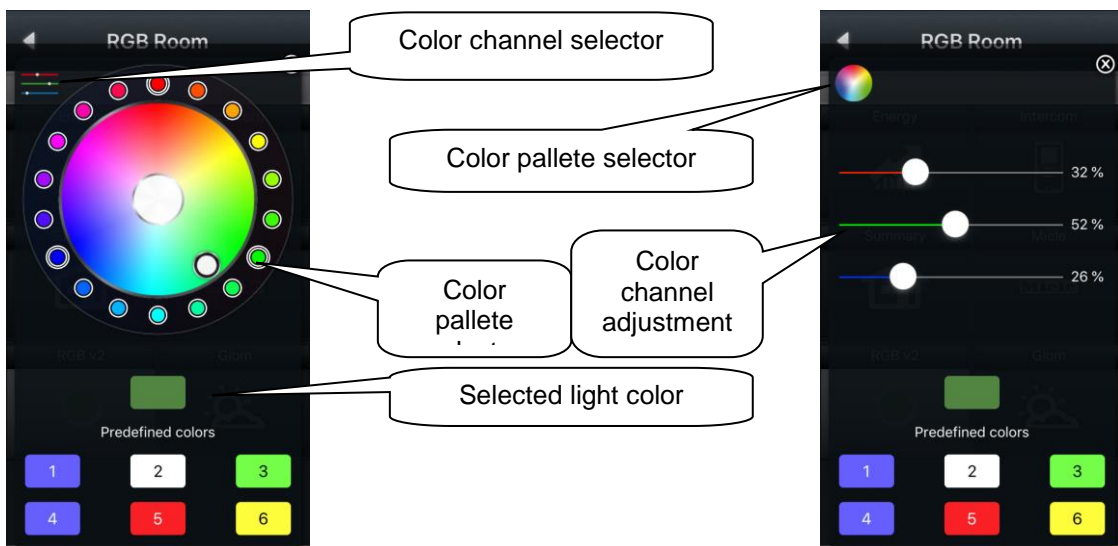
Dimming is controlled by the slider, by which it is possible to slide using your finger or by tilting the telephone (accelerometer function). This dimming slider is displayed by pressing and holding your finger on the desired dimmable light circuit icon.



RGB:



RGB V2:



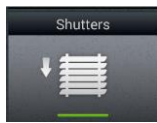
Color presets stored on particular device.
Long press - save the selected color, short press - setting the selected color

d) Blinds / Shutters / Sunshades

In the **Shutters** list you can easily control blinder, shutters, garage doors, gates and any devices controlled by drives that can turn in two directions.

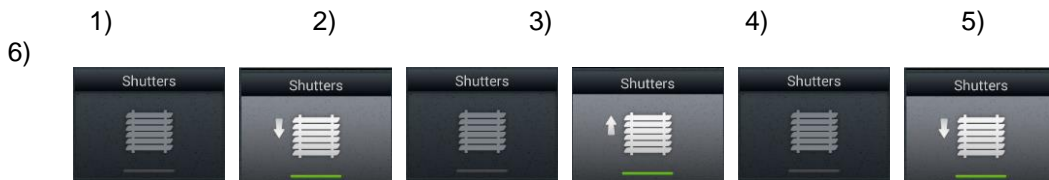


Operation according to the type of icon:



More status icons:

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

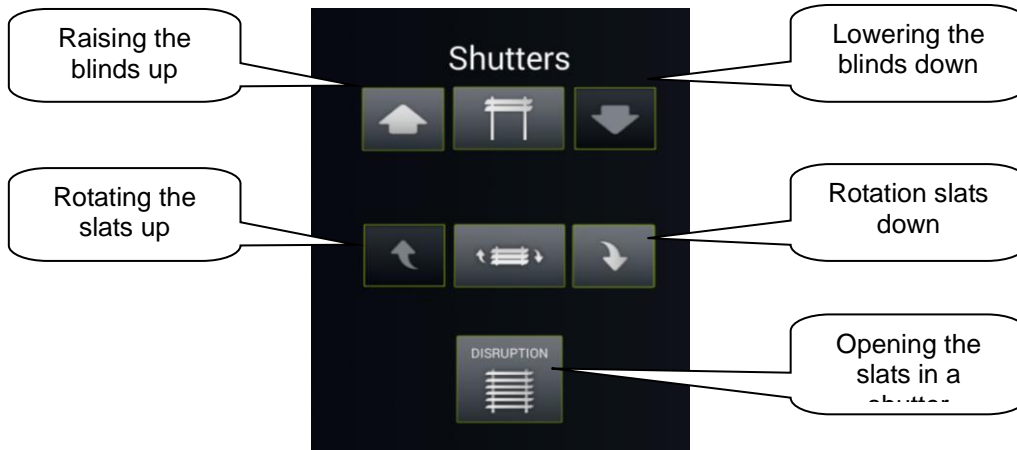


- 1) Blinds not moving
- 2) With the first press of the icon, the blinds roll up
- 3) With the second press, the blinds stop in their current position
- 4) With the third press, the blinds roll down
- 5) With the fourth press, the blinds stop in their current position
- 6) The entire sequence continues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



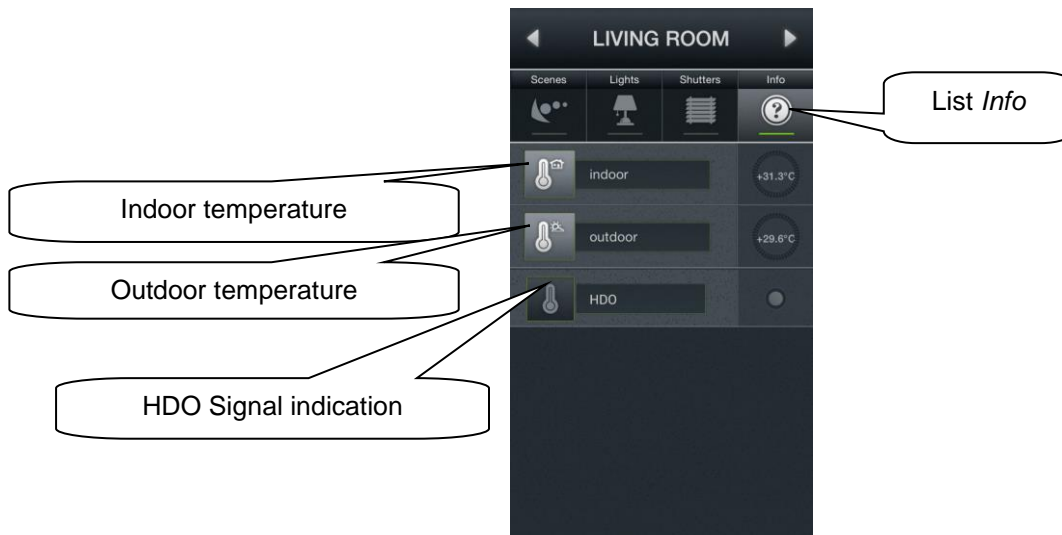
Special icon:

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



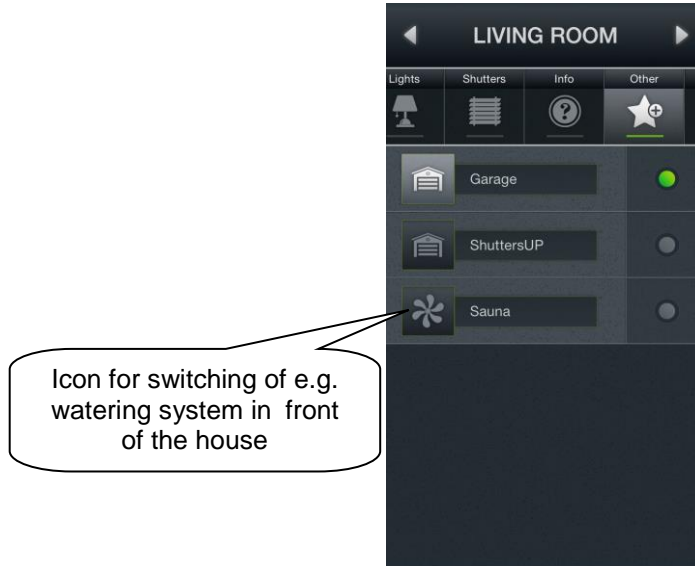
e) Info

In the **Info** list you can monitor the indoor and outdoor temperatures, as well as other information from the system. You can for instance monitor the status of HDO signal, as well as the status of other sensors.



f) **Other**

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.



List Miele

Backlit items are active

Appliances waiting for remote

Start buttons for remote start.

When the appliance icon is clicked, a menu scrolls down showing details on the appliance, e.g. its setting

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.

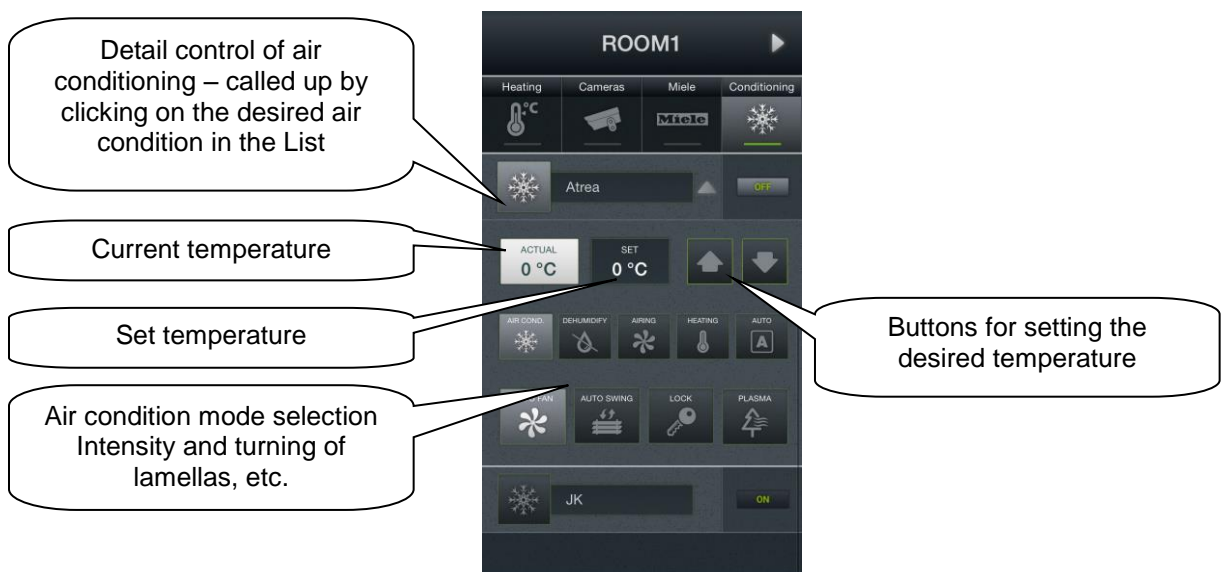
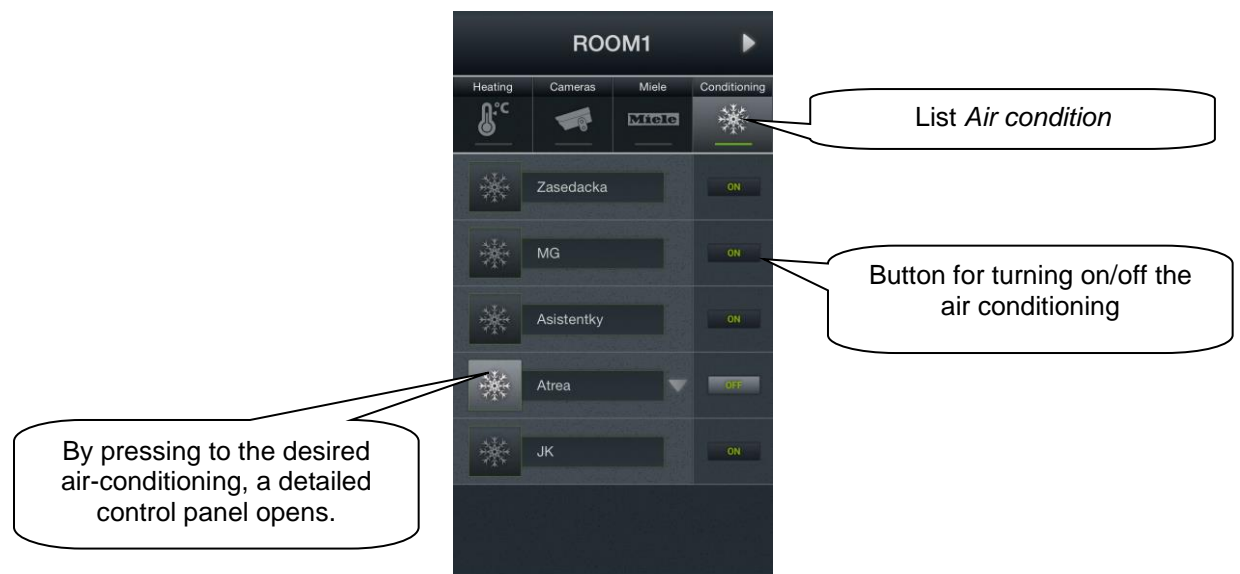
Full screen displaying an image from any camera is caused by pressing relevant camera view. Calling up the panel for PZ control (pan, tilt, zoom) is then achieved by pressing the camera image.



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 PI485) 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.

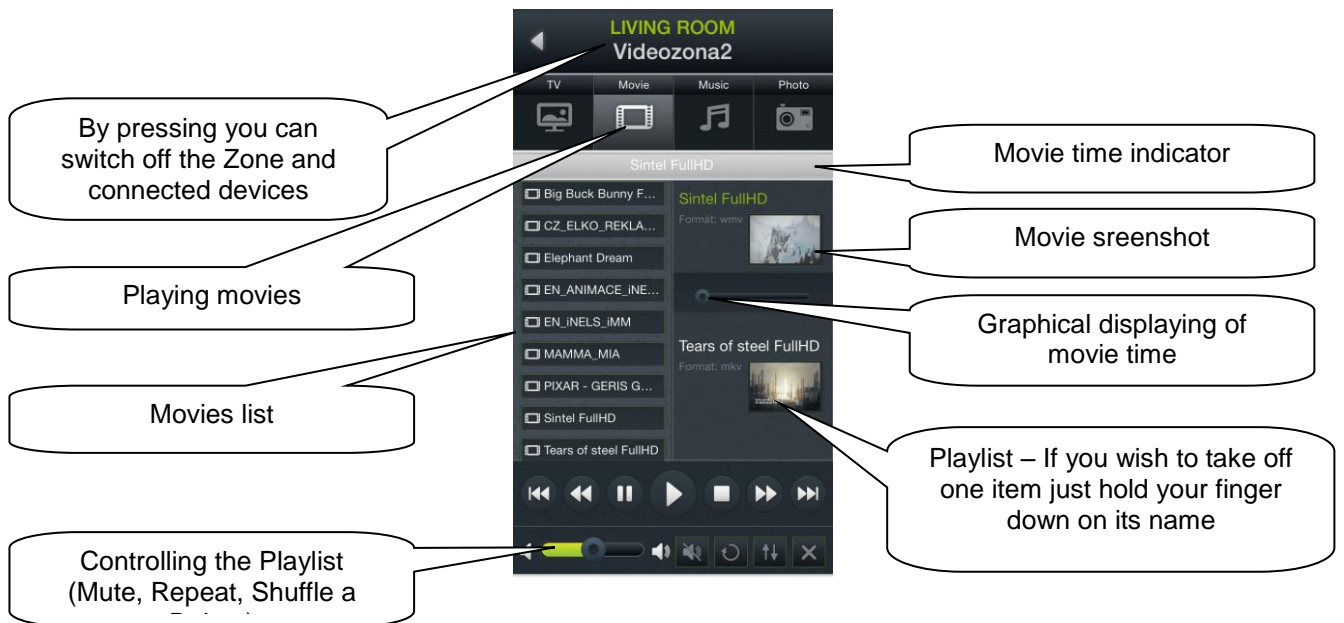
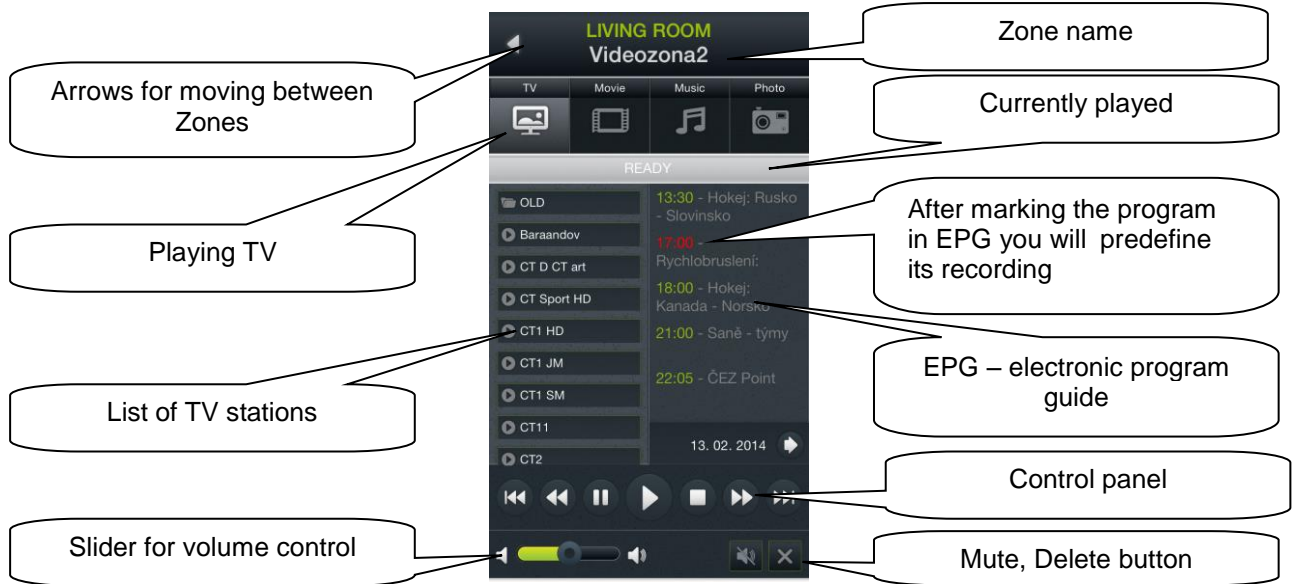


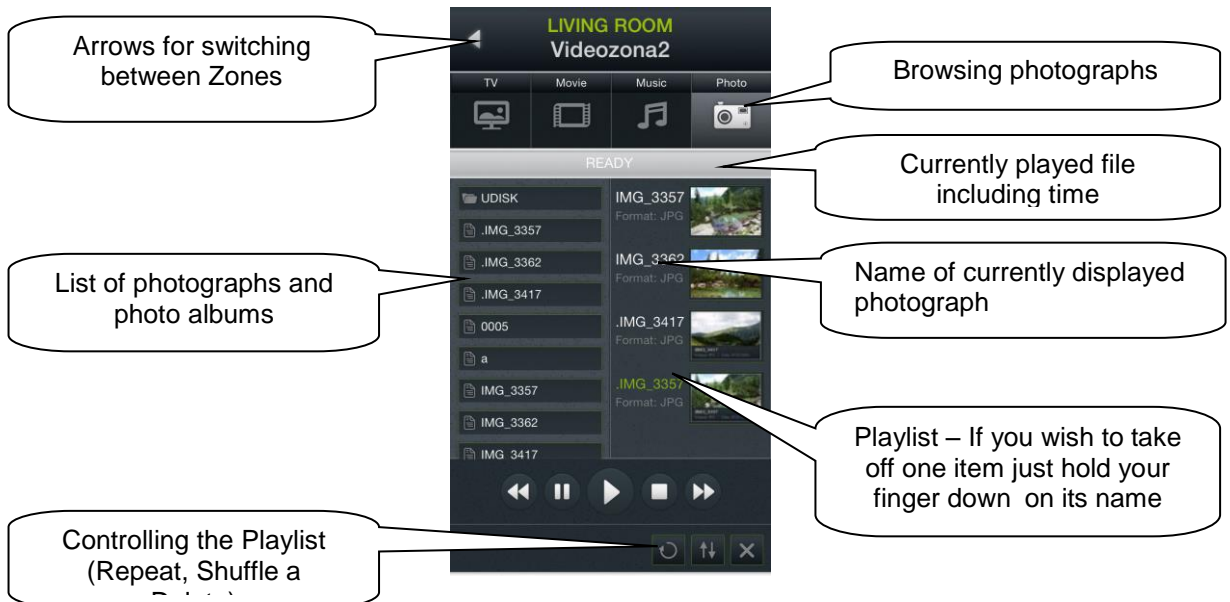
j) Multimedia

Control of Multimedia is possible only if included in the system iMM Client/Server. iMM Client/Server can be used as a Videozone (for starting up music, movies, browsing photos or watching television) and further enables using Audiozones, e.g. iMM Audio Zone (AZ-R) or LARA Radio and LARA Intercom, where you can control audio.

Enter the list via the tile Multimedia.

You can switch on/off the entire Zone and the devices attached to it tapping on the name Zones. An active Zone is indicated in white letters, an inactive (switched off) Zone is indicated in red letters.





k) Meteostanice GIOM3000

GIOM3000 je vizualizační meteostanice s výstupem ethernet a v rámci aplikace iHC-TA nám poskytuje informace o následujících devíti meteorologických veličinách:

- 1) **Wind speed** – rychlost větru
- 2) **Pressure** – tlak
- 3) **Wind direction** – směr foukání větru
- 4) **Temperature** – teplota
- 5) **Windchill** – pocitová teplota
- 6) **Dew point** – teplota rosného bodu
- 7) **Barometric altitude** – nadmořská výška
- 8) **Relative humidity** – relativní vlhkost vzduchu
- 9) **Absolute humidity** – absolutní vlhkost vzduchu



l) Energy metering

You can open the energy metering screen by tapping the Tile **Energy**. The iNELS system enables you to measure consumption of gas, electricity (5 zones) or water (hot, cold). For each medium, it is necessary to have a meter with impulse output. These impulses are scanned on units of binary inputs, and with the help of readers, the amount of consumed energy is assessed.

Energy consumption can be displayed in units (e.g. kWh) or in a price value (e.g. in CZK). For each period set up however you wish, the application enables drawing of a consumption graph (data stored in SQL database).

The screenshot shows the 'Energy metering' app interface. At the top, there are four tabs: Gas, Electricity, Water, and Summary. Below the tabs are filters for 'DAY', 'WEEK', 'MONTH', and 'YEAR'. There are also 'PERIOD' and 'FROM: TO:' fields. Checkmarks are visible for 'water', 'gas', and 'electricity'. The main display shows three sections: WATER (Consumption: 271145 hl, Price: 271145 CZK), GAS (Consumption: 265545 m3, Price: 265545 CZK), and ELECTRICITY (Consumption: 632177 kWh, Price: 632177 CZK). Each section has a small bar chart icon. A legend at the bottom identifies the colors for WATER (red), ELECTRICITY (green), and GAS (yellow). A data update button is located in the top right corner of the graph area, and a button for going back to the Energy metering screen is in the bottom right corner.

Callouts and their descriptions:

- Energy metering – called up by clicking on the *Energy* tile
- Display option of desired energy or list of all energies
- Selection of time zone
- Numerical display – in units of measure, at price value
- Graphic display – pressing the icon takes you to a display mode with consumption graphs
- Data update button
- Legend
- Button for going back to Energy metering

5. Configuration of Rooms

Configuration of elements is performed in the iMM Control Center ("iMM CC") at the tab "Rooms".

In "Rooms", you can create any number of virtual groups (Rooms), into which you enter any Elements and Zones.

- Elements – created based on the exported file "export.pub" from the software iDM2 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 based on the iMM Server configuration.

The screenshot shows the 'iMM Control Center / Configuration of rooms' interface. The 'Rooms' tab is highlighted in the top navigation bar. The main content area is divided into two sections:

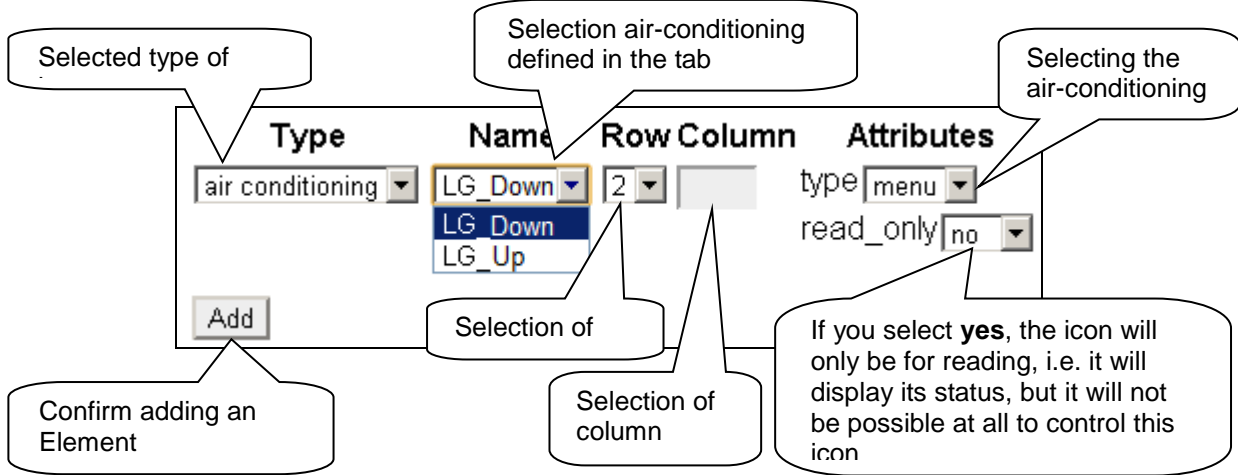
- New room form:**
 - Name of new:** A text input field for the room name.
 - Protect by password:** A checked checkbox with a callout: "Select this check box if you want to password protect control of the given Room".
 - Password and confirmation:** Two password input fields with callouts: "Password and confirmation. Note: only asterisks appears when entering".
 - Add:** A button to save the new room.
- Room list table:**
 - Header: "_global_ Edit".
 - Row 1: "Room 1" with actions: "Edit", "Up", "Down", "Set password", "Rename", "Remove".
 - Callouts: "Edit the given Room" points to the 'Edit' button, and "Remove the given Room" points to the 'Remove' button.

6. 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	

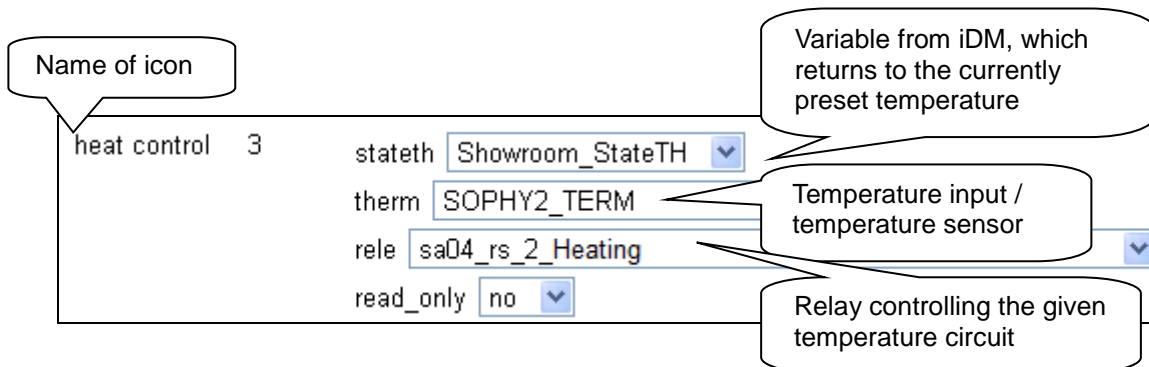
Air-conditioning

Icon for controlling air-conditioning units. After selecting this icon, only LG air-conditioning units are filtered, defined in the tab **Clims**.



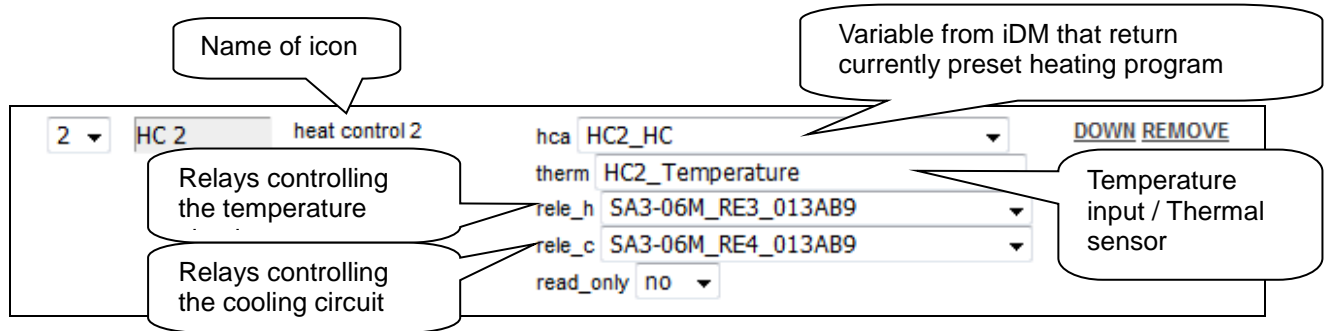
Heat control

The Heat Control icon enables control and switching of a preset temperature program from iDM. By pressing and holding, you can switch between MAN and AUTO modes. If the temperature circuit is closed, the icon is backlit.



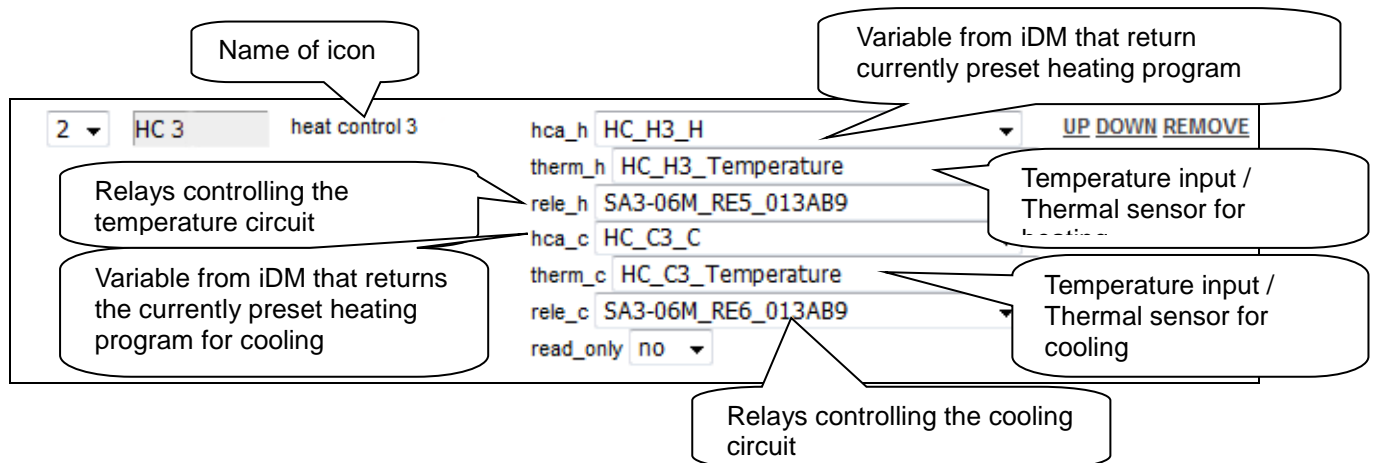
Heat control „2“ (Heating / cooling control)

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.



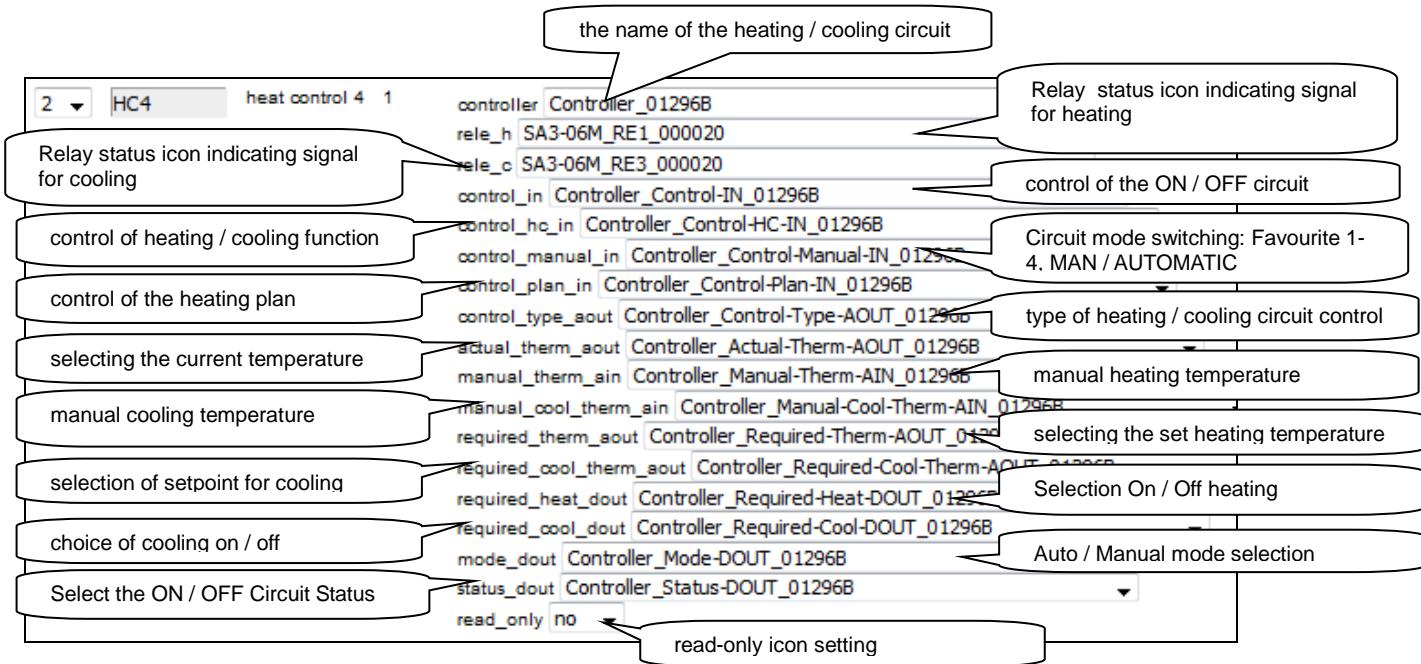
Heat control „4“ (Heating / cooling control)

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.

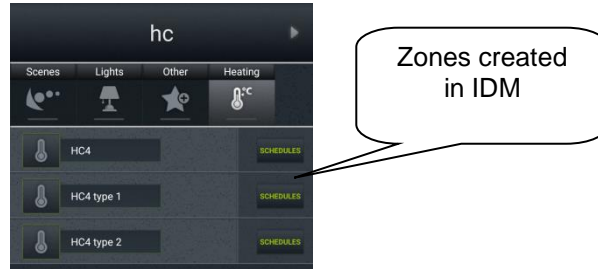


After entering the name of the circuit (first row of the **controller**), the other fields will be filled in automatically.

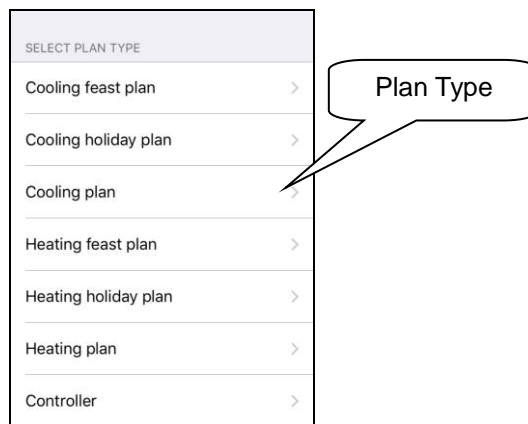
Set schedules for HC4

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.

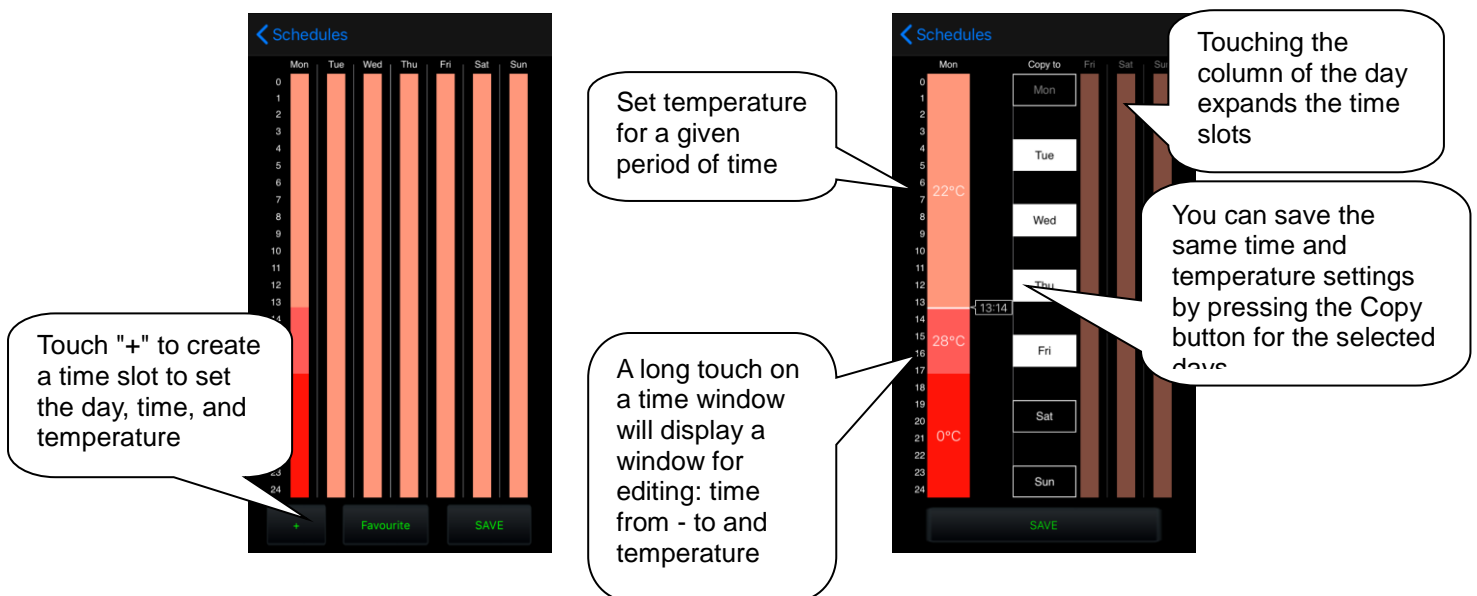


Click the PLANS button to open the Types of Plans that you can create and edit.



- 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.

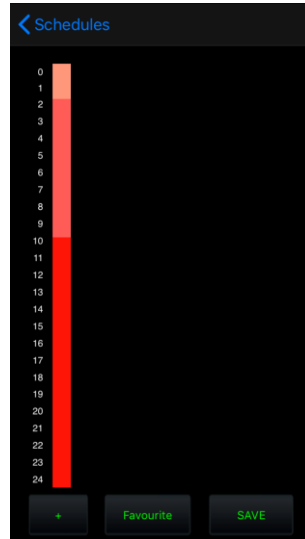


- Cooling / Temperature Holiday Plan

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

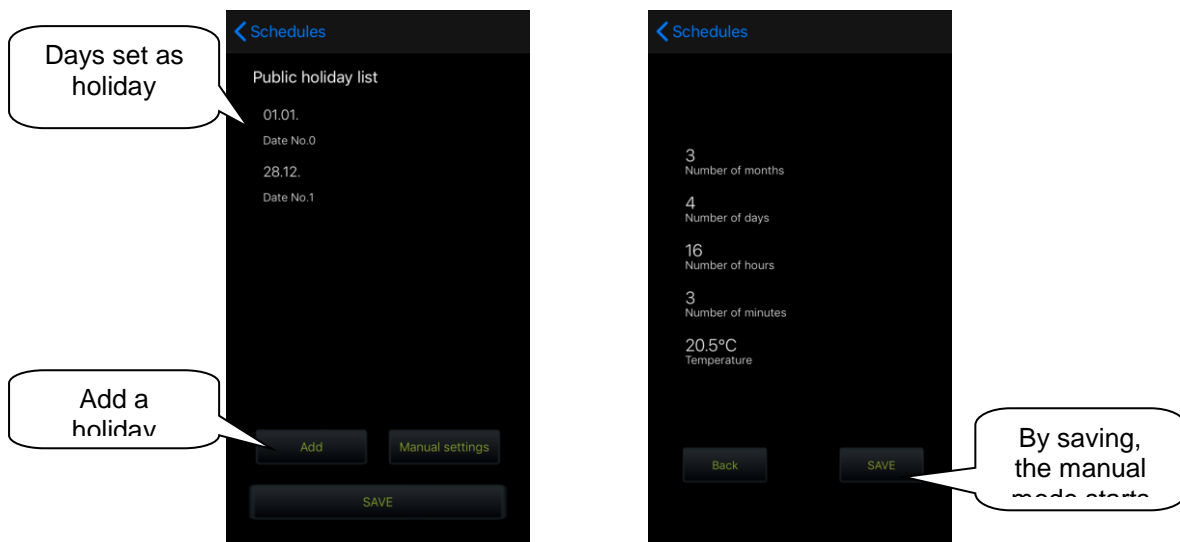
- Cooling / Temperature Holiday Plan

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.



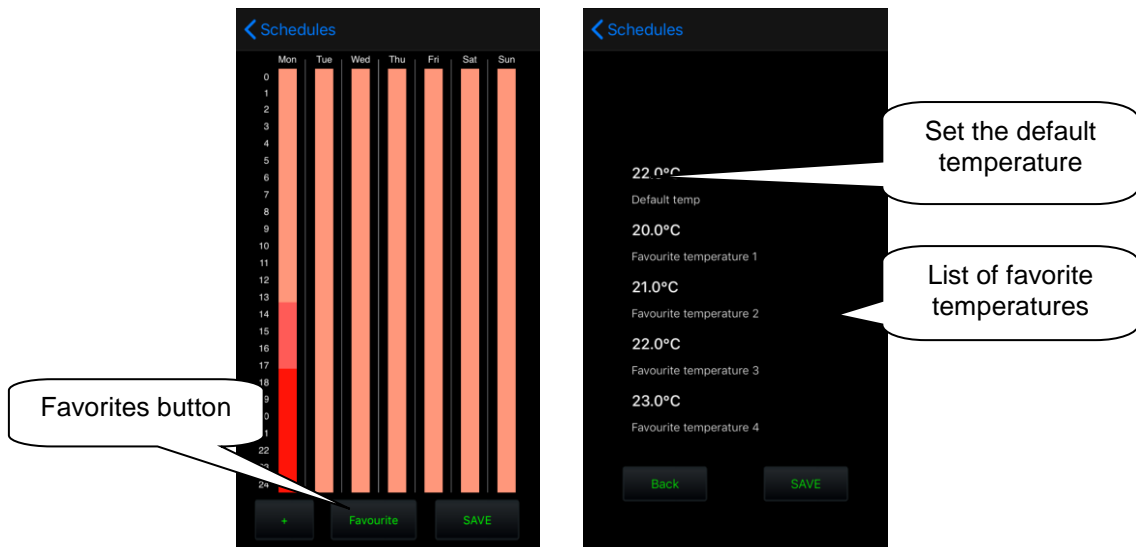
- Controller

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:

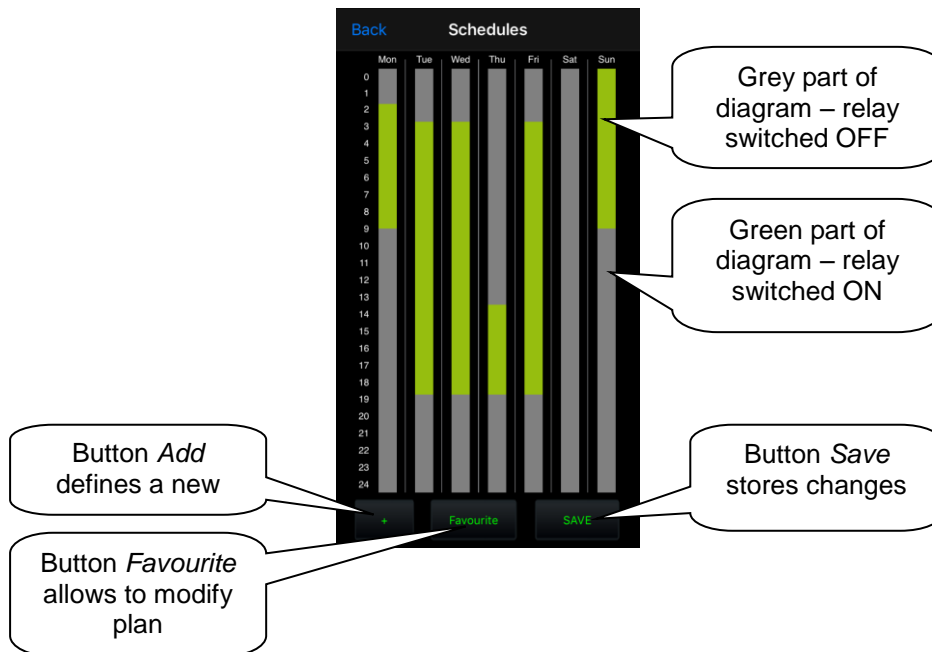
Monitor										
Online simulace akcí na drátech ✓										
Online monitor Zařízení ✓										
Online monitor Sysbitů-Sysintů-Časovačů-Čítačů-Systémových_Programů-Topení_Chlazení ✓										
Zařízení	EZS	GSM	Systémové bity	Systémové integrity	Čítače	Časovače	Systémové programy	Okruh Topení/Chlazení		
Název	HC									
Aktuální teplota	29.56 °C	Součet teplot	18.00 °C	Aktuální program	HU	HSU	CU	CSU	Chod OFF/ON	Režim Manuál/Automat
Žádaná teplota	18.00 °C	Teplotní korekce	[-6.00]	[Útlum]	[OFF]	---	[OFF]	---	[ON]	[OFF]
Název	HC2 (Top.)									
Aktuální teplota	29.56 °C	Součet teplot	15.00 °C	Aktuální program	HU	HSU	CU	CSU	Chod OFF/ON	Režim Manuál/Automat
Žádaná teplota	15.00 °C	Teplotní korekce	[-6.00]	[Minimum]	[OFF]	---	---	---	[ON]	[OFF]
Název	HC2 (Chl.)									
Aktuální teplota	21.75 °C	Součet teplot	32.00 °C	Aktuální program	HU	HSU	CU	CSU	Chod OFF/ON	Režim Manuál/Automat
Žádaná teplota	32.00 °C	Teplotní korekce	[-6.00]	[Minimum]	---	---	[OFF]	---	[OFF]	[OFF]
Název	HC_H3									
Aktuální teplota	21.25 °C	Součet teplot	24.00 °C	Aktuální program	HU	HSU	CU	CSU	Chod OFF/ON	Režim Manuál/Automat
Žádaná teplota	24.00 °C	Teplotní korekce	[-6.00]	[Komfort]	[OFF]	---	---	---	[OFF]	[ON]
Název	HC_C3									
Aktuální teplota	29.56 °C	Součet teplot	32.00 °C	Aktuální program	HU	HSU	CU	CSU	Chod OFF/ON	Režim Manuál/Automat
Žádaná teplota	32.00 °C	Teplotní korekce	[-6.00]	[Minimum]	---	---	[OFF]	---	[ON]	[ON]

Two-state time plans

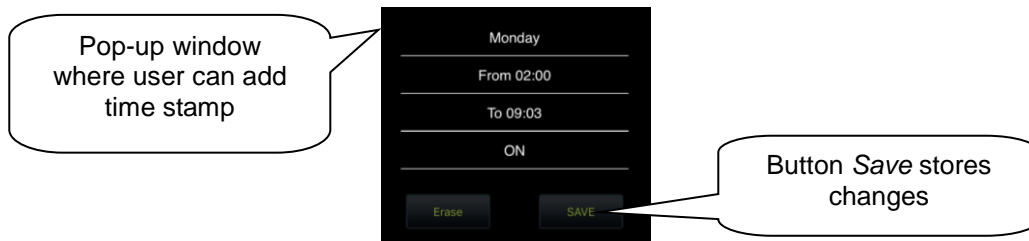
It allows user to edit time plans related to device state switching online when connected to CU3. Plan editing feature can be found in quick menu, more precisely under icon *Plans*. There are all plans defined previously in IDM.



Clicking on particular time plan will open editable diagram overview.



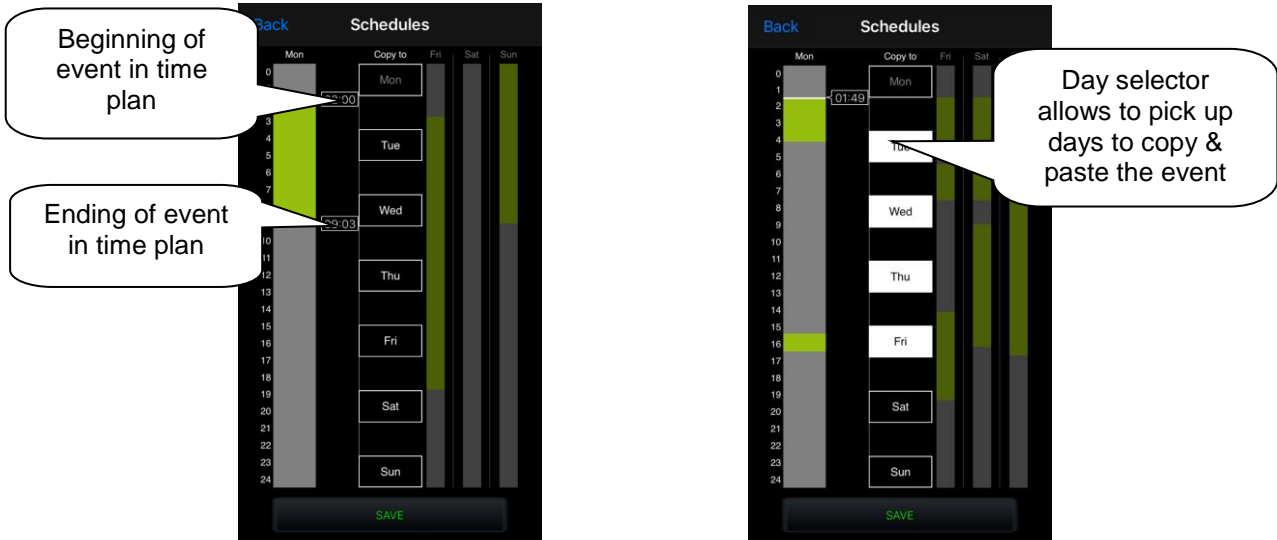
“+” – button *Add* will add time stamp to time plan
Clicking on button “+” opens a pop-up window storing event definition - day, time interval and relay state. Button *Save* stores all applied changes.



“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.

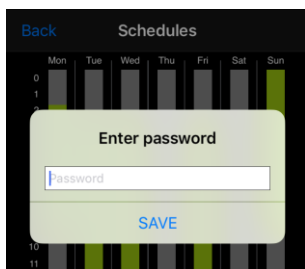
In case that other days have to follow the same time schedule as selected (highlighted), select other days by clicking on them and click on button *Copy to*.

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.



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:

- Coeficients, calculation below (points to coef_mult and coef_add)
- Maximum displayed value (points to max_disp)
- Minimum displayed value (points to min_disp)
- Number of decimal places (points to decimal_digits)
- Displayed units (points to units)

Add

Calculating coefficients is performed using the equation $d=a*v+b$, 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:

$$\text{max_disp}=40$$

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

$$\text{min_disp}=0$$

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

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 coef_add=0.

arising from this:

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

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

$$\text{coef_mult} = 0.004$$

Scene

Using the icon **Scene**, it is possible to control multiple iNELS elements at once. Scenes can be created by adding individual outputs to the list by tapping **Add**. It is appropriate to choose for scenes the output channels marked as ON/OFF/TRIG.

It is more advantageous to create more complex scenes directly in the iDM environment, then only call up the given event here.

The screenshot shows a configuration form for a 'scene'. The form has columns for 'Type', 'Name', 'Row Column', and 'Attributes'. The 'Type' is set to 'scene', 'Name' is 'Lamp', and 'Row Column' is '6'. The 'Attributes' column contains three dropdown menus with the following values: 'da22_rs_dimming_socket_lamp_OFF', 'da22_rs_dimming_light_halogen_On', and 'sa02_rs_doorlock_entrance_OFF'. An 'Add' button is located at the bottom left of the form. A callout bubble points to the 'Attributes' column with the text: 'For scenes, chose iNELS elements with extensions _ON, _OFF and _TRIG'. Another callout bubble points to the 'Add' button with the text: 'Button for adding another element to'.

Shutters

Icon adjusted for controlling motors, mostly roll shutters or blinds, where there is an option to select separate relays for each direction. The icon then automatically switches direction (relay) when tapping the icon in the format: up-stop-down-stop-up...

The screenshot shows a configuration form for 'shutters'. The 'Type' is 'shutters', 'Name' is 'Shutters', and 'Row Column' is '1'. The 'Attributes' column has three dropdown menus: 'up sa04_rs_1_Shutters_up', 'down sa04_rs_1_Shutters_down', and 'read_only no'. An 'Add' button is at the bottom left. A callout bubble points to the 'up' dropdown with the text: 'Switching element for going up'. Another callout bubble points to the 'down' dropdown with the text: 'Switching element for going'.

Thermometer

Icon for displaying temperature. The icon adjusts its appearance based on the selected parameter indoor/outdoor.

The screenshot shows a configuration form for a 'thermometer'. The 'Type' is 'thermometer', 'Name' is 'TERM1', and 'Row Column' is '1'. The 'Attributes' column has two dropdown menus: 'placement indoor' and 'inels IDRT2 indoor'. An 'Add' button is at the bottom left. A callout bubble points to the 'placement' dropdown with the text: 'Selection of sensor placement. Indoor/outdoor'. Another callout bubble points to the 'inels IDRT2' dropdown with the text: 'Selection of temperature input/temperature sensor'.

7. Setting the iHC application without your own iMM Server or Connection Server

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 'Uploads' tab is selected and highlighted with a red box. Below the navigation bar, three upload sections are visible, each with a 'Browse...' button, a status indicator 'No file selected.', and an 'Upload' button. Callouts provide instructions for each:

- 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** slouží pro nahrání aktuální verze exportovaného souboru vytvořeného v centrální jednotce iNELS druhé generace.
- Třetí možnost **Upload export.imm** slouží pro nahrání aktuální verze exportovaného souboru vytvořeného v centrální jednotce iNELS třetí generace.

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.

The screenshot shows the 'Configuration' tab in the iNELS interface. It features two main sections for editing export files, each with a text area and a confirmation button.

Section 1: Edit export.pub

- Text Area:** Contains a list of iNELS elements in a specific format, such as:


```
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_DetskyPokojs R B 16908291 .0 BOOL PUB_INOUT
RE1_DetskyPokojs_ON R B 16908291 .0 BOOL PUB_INOUT
RE1_DetskyPokojs_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 R B 16908295 .0 BOOL PUB_INOUT
```
- Callout:** "The virtual server then works with the file format "export.pub", to which it also automatically converts the ..."
- Button:** "Update"
- Callout:** "Manually performed changes (NOT RECOMMENDED!) must be confirmed by ..."

Section 2: Convert iNELS3 export to export.pub

- Text Area:** Contains a list of iNELS elements in a different format, such as:


```
WSB3-20_Green_0112b2 0x01020001
WSB3-20_Red_0112b2 0x01020002
WSB3-20_Inter-Therm_0112b2 0x01050001
RE1_DetskyPokojs 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
```
- Callout:** "This field is completed only in case of uploading an "export.imm" file"
- Button:** "Convert"
- Callout:** "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 5). 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

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

Callouts:
- 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

For downloading settings created on a public virtual server into the application in a smart phone or tablet, there are two possible ways:

- a) by using "User ID" – **RECOMMENDED**
 - a. simpler, faster method
 - b. requires an Internet connection
- b) by downloading settings via files copied into the smart phone or tablet

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**.

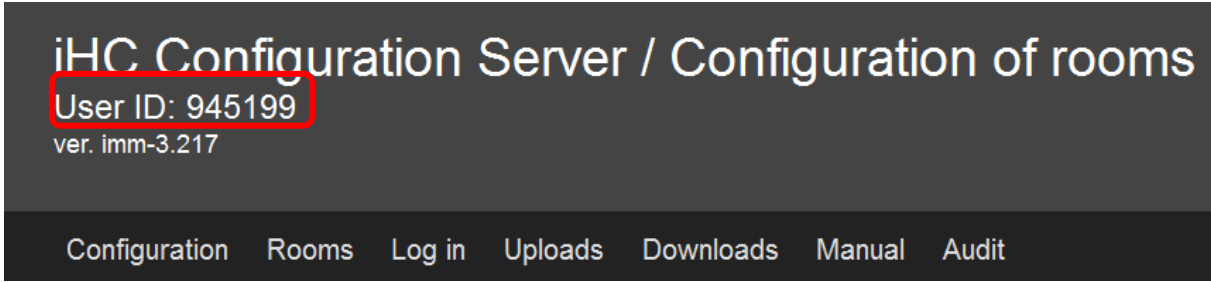
Cancel Add IP Done

CU3	192.168.1.2	61682
-----	-------------	-------

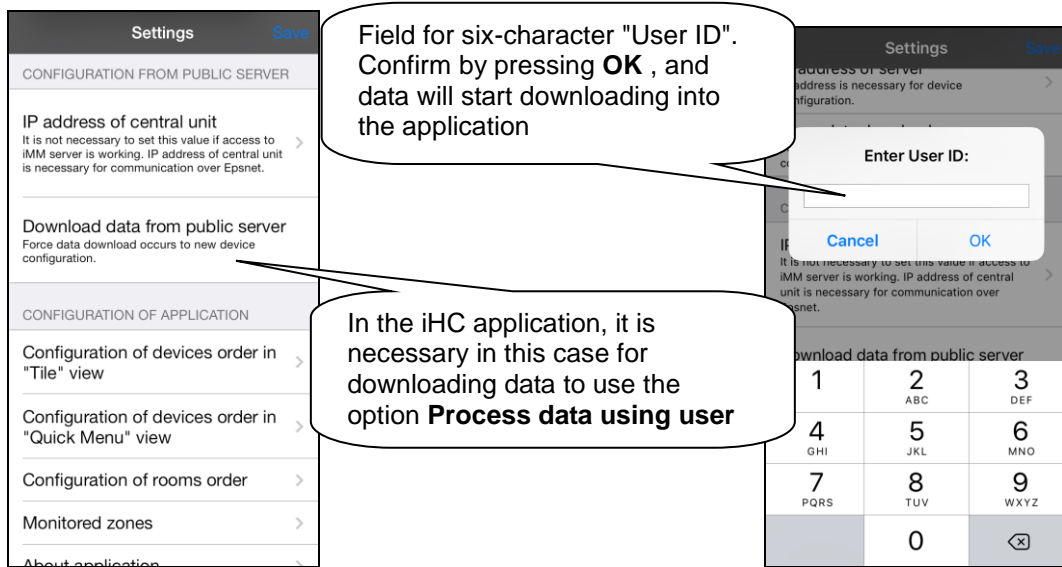
Callouts:
- IP address of central unit
- Communication port of central unit
- Selectable name of the central unit

Note: In the event that the central unit is password protected, enter the

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.

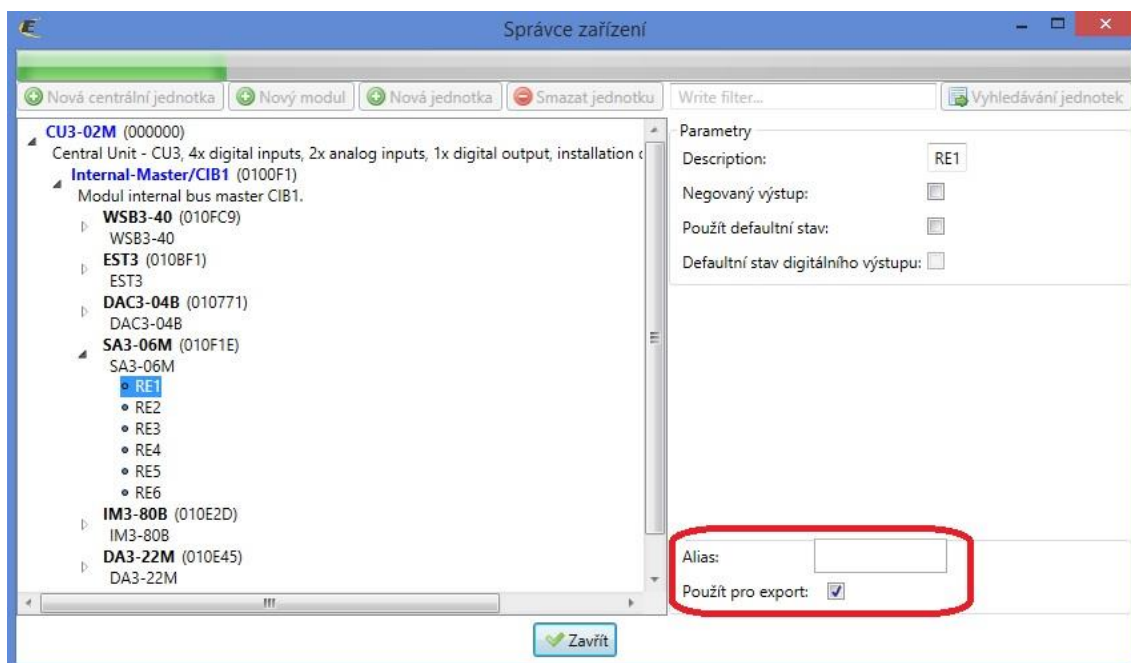


8. Export data from iDM3 (iNELS3 Designer & Manager) of the third generation

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

Export of inputs/outputs

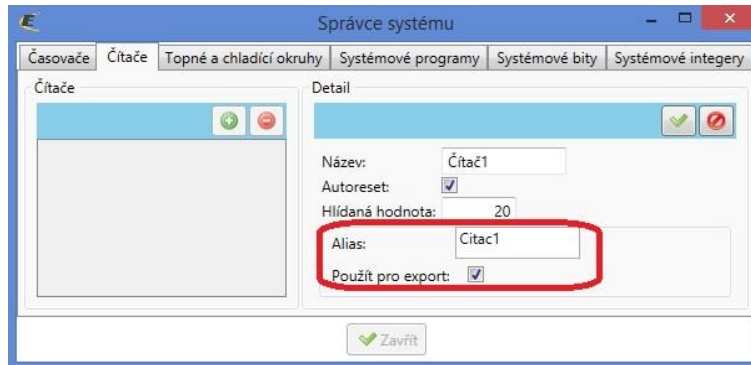
In the upper part of the iDM software, in the tab "Project", select the option **Device manager**, where you will find a tree structure of the entire system. For each input and output, after giving it a name, you can select the option **Use for export** in the lower right part of the dialog window. In 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

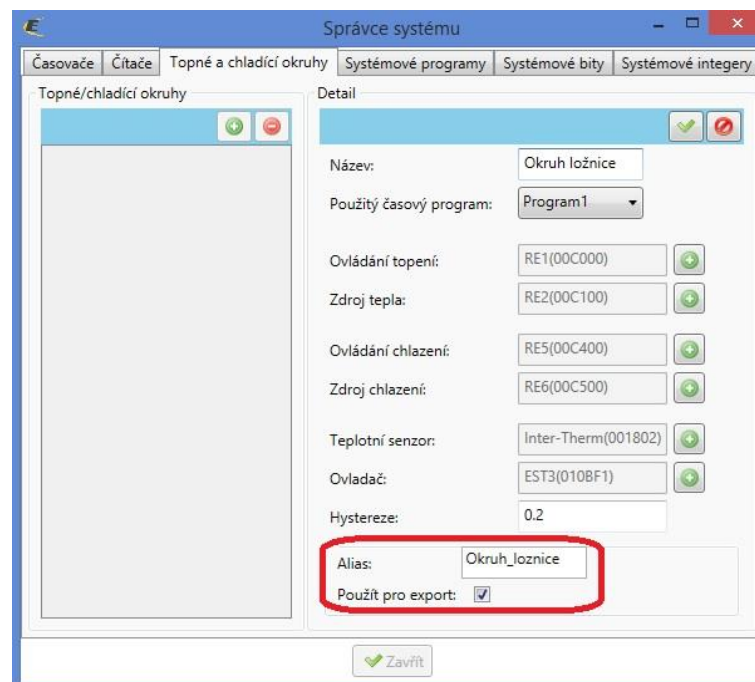
Exporting readers is performed from the tab **Administration**, option **System administrator**. In this dialog window, move to the tab **Readers**. Here, you can export the given reader by checking the option **Use for export**. If you chose your own **Alias**, this may contain neither diacritical marks 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**.



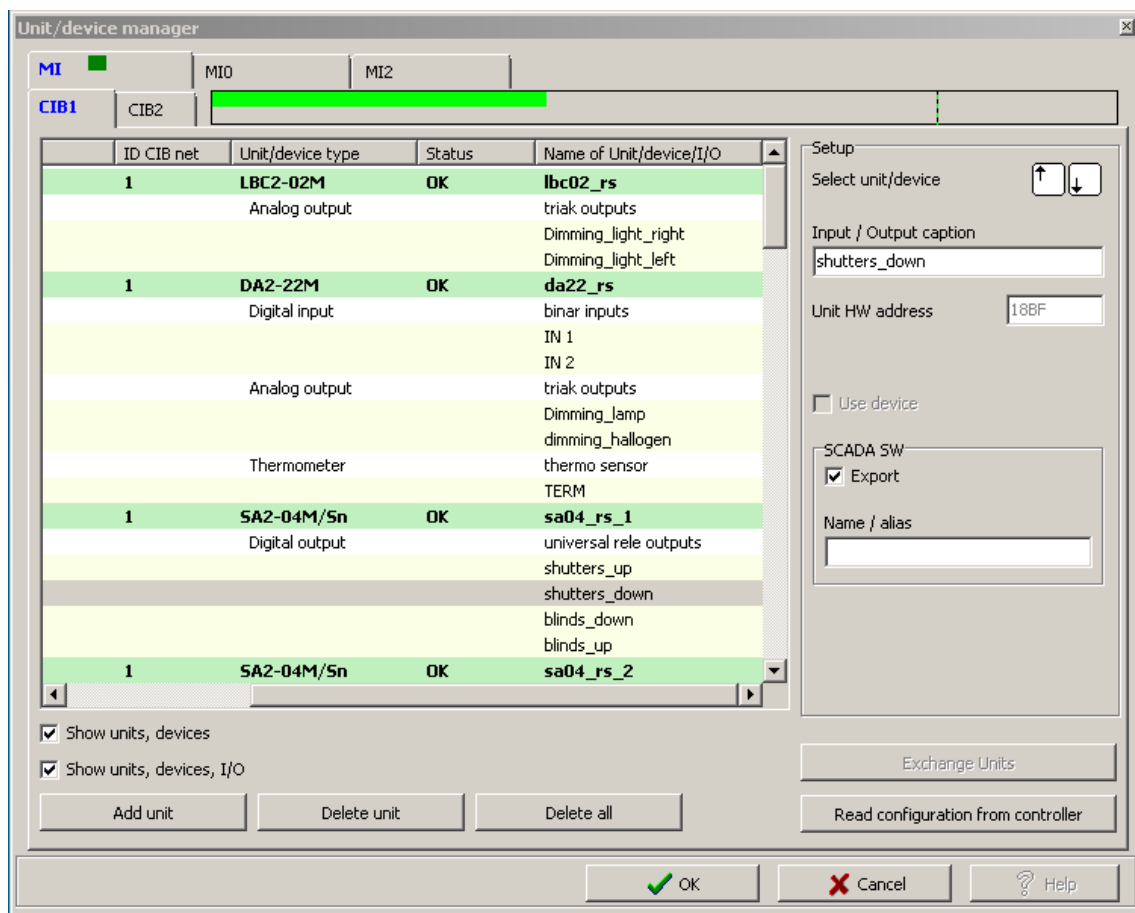
9. Exporting data from iDM2 (iNELS2 Designer & Manager) second generation

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

Export of inputs/outputs

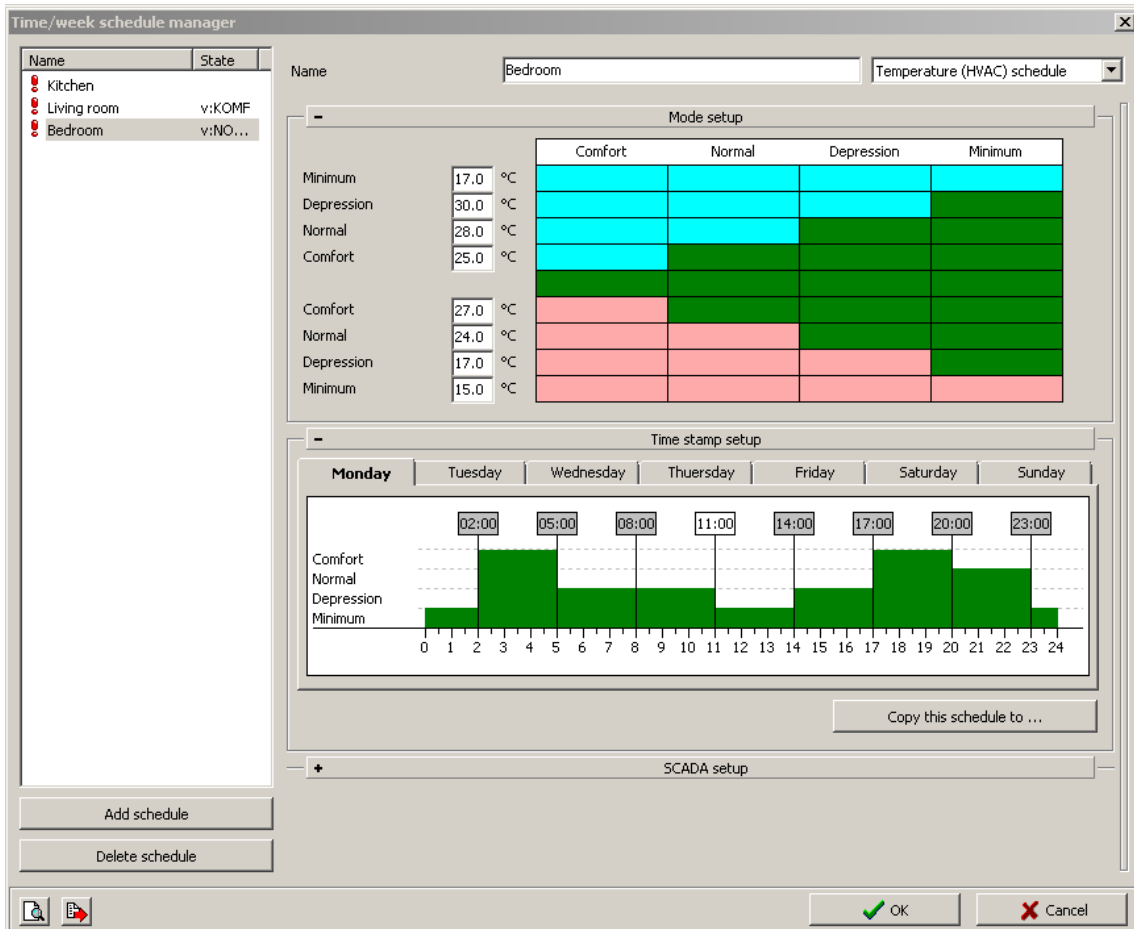
Exporting inputs/outputs is performed from the window **Unit/device manager**, where for the required inputs/outputs, you must check the option **Export for visualization**. In case you want to name the given input/output, use the column **Naming/alias**.

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.



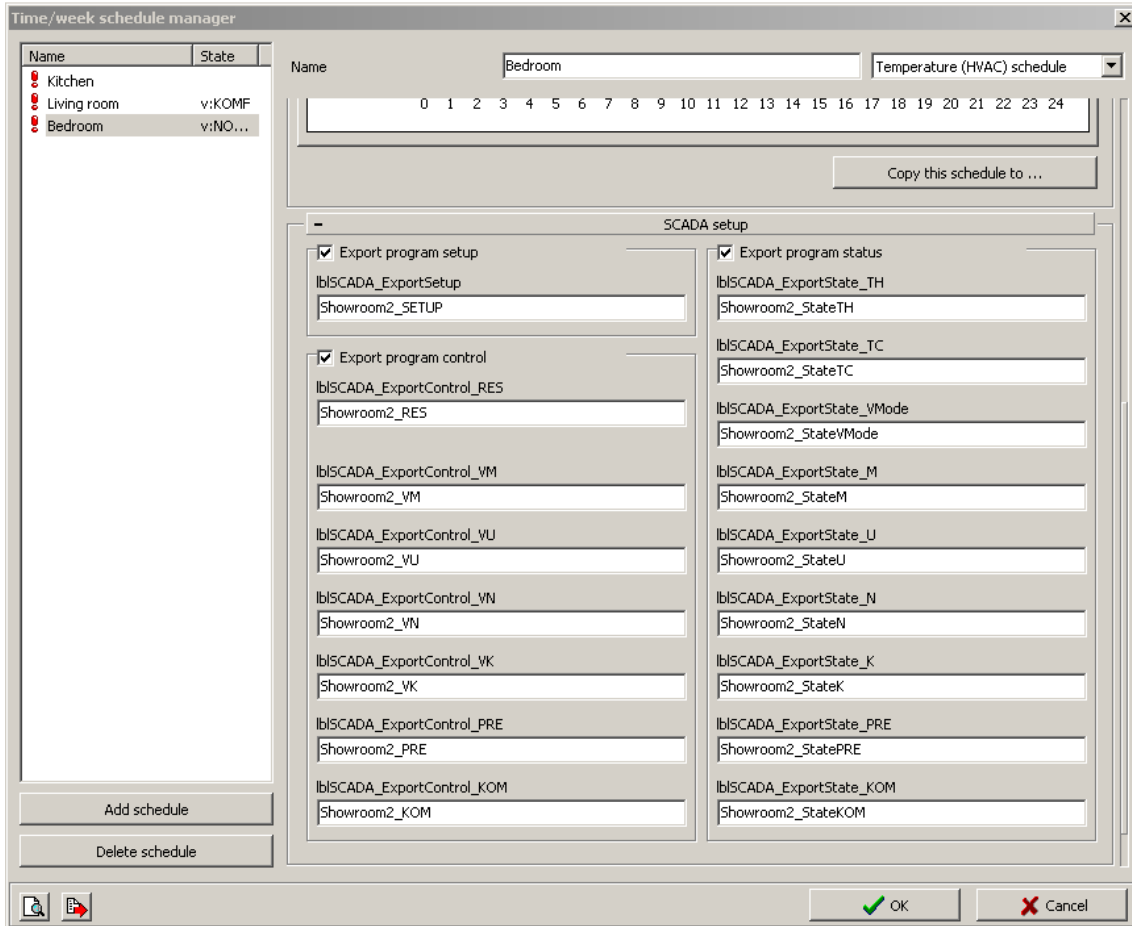
Export of time programs

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.

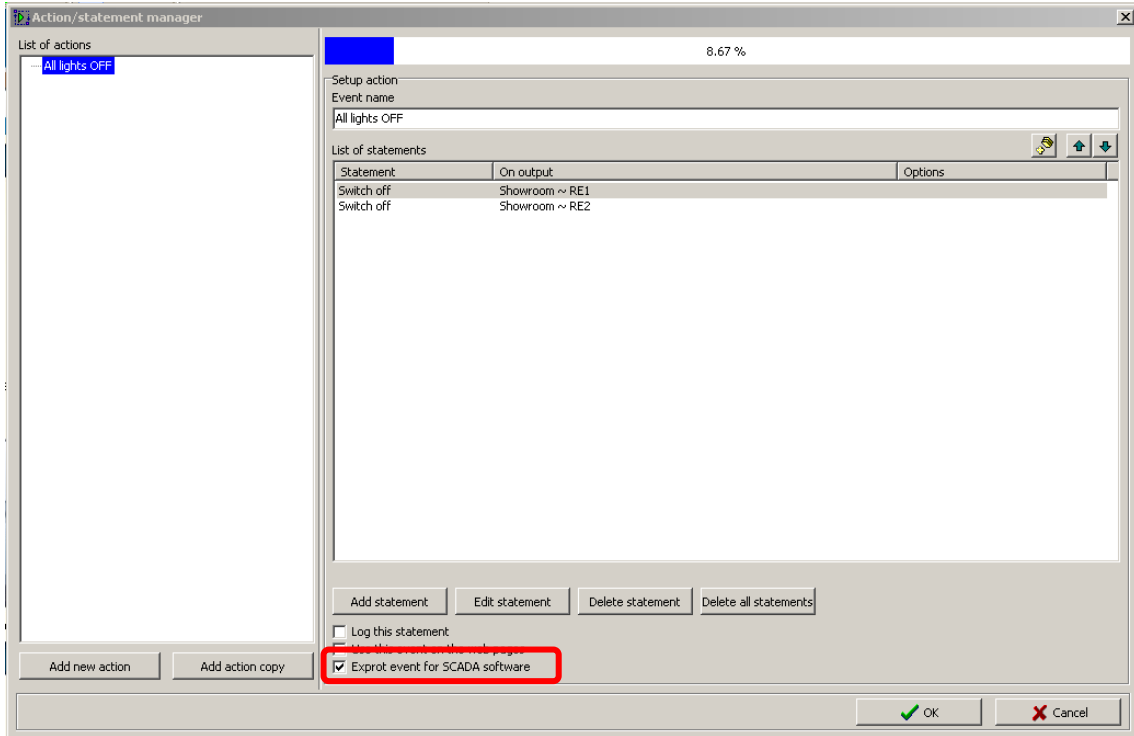
The screenshot shows the 'Time events management' window with the following details:

- List of events:** A table with one entry:

Name of event
14.02.2014 08:15:59
- Name of event:** Text input field containing 'watering'.
- Time of activation/spread:** Two time input fields, both containing '00:00:06.000'.
- Event is active:** A checked checkbox.
- system_start:** A dropdown menu showing 'system_start'.
- Type of event:** Radio button options:
 - Each day in week
 - Day in month
 - Each day in month
- Year setting:** A list of months with checkboxes:
 - leden
 - únor
 - březen
 - duben
 - květen
 - červen
 - červenec
 - srpen
 - září
 - říjen
 - listopad
 - prosinec
- SCADA:**
 - Export for SCADA
 - Name for SCADA:** Text input field containing 'watering'.
- Buttons:** 'Add new', 'Delete', 'OK', and 'Cancel'.

Exporting events

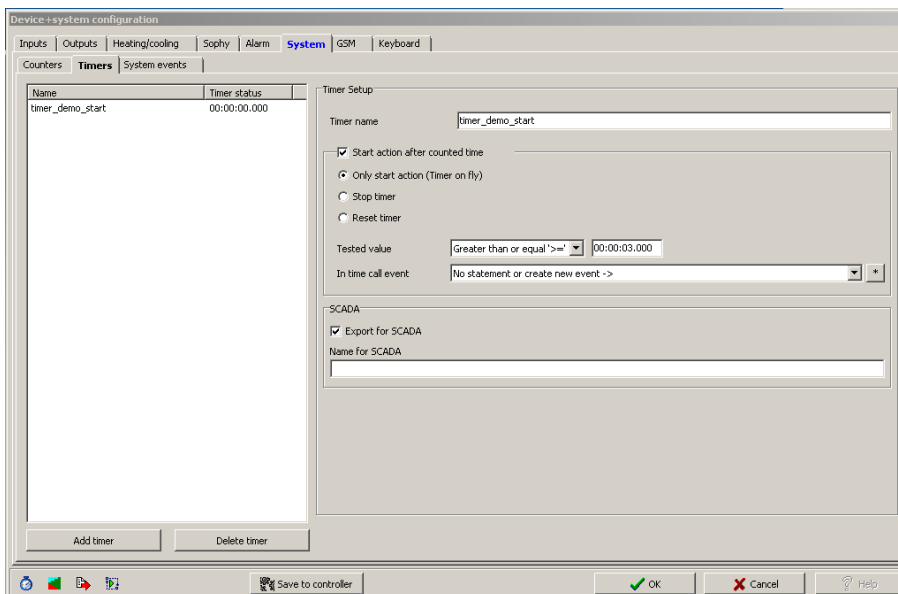
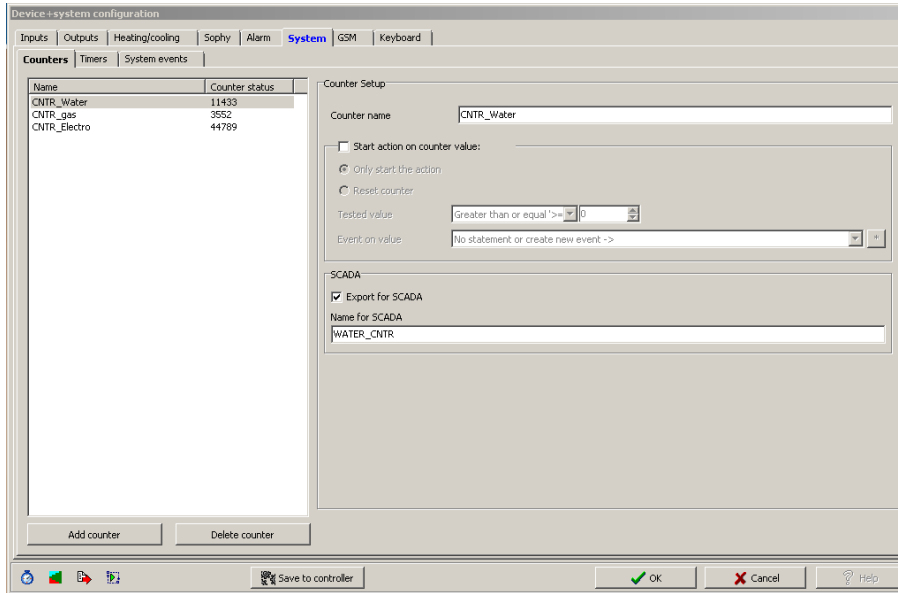
There is a special selection of export for visualization. This concerns direct export of events from the window **Actions/statement manager**. These exported actions can then be called directly from the iHC-MI application. For the required action, you must check **Export event for visualization** in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

