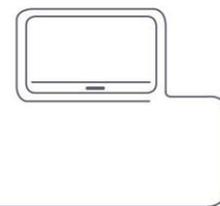


INSTALLATION MANUAL

for the Application iHC-TA



▶ Google play
www.elkoep.com/apps



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1. Introduction

The iHC-TA application is a supplement to the iNELS intelligent electroinstallation system which allows controlling of the entire system from a tablet with Android operation system. 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, Wi-Fi connection, etc.).

Ellegant as it is, iNELS perfectly mingles with any modern household, and thanks to the iHC-TA application, allows permanent supervision over electroinstallation, as well as comfortable central control over the entire house from one place. iHC-TA 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 meteorostation, status of consumed energies, and the like.

The menu is divided in a clear 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.

Now you can also secure individual rooms in the application. By entering a password in iMM Control Centre you will activate security of respective rooms, and prevent any unauthorised person from controlling iNELS via iHC.

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, meteorostation, or watch the levels of consumed energies

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-TA application is therefore designed for tablets with the Android 2.2 operation system and higher. It is optimised for devices with screen with 1280x800 resolution. The language of the application corresponds with the language set in OS Android.

Application availability

The application is available on Google Play (formerly Android Market) under the name iNELS Home Control Tablet. The application is regularly updated.

The iHC-TA application is available for download here:

<https://play.google.com/store/apps/details?id=cz.elkoep.ihcta&hl=cs>

If you don't own an iNELS unit and you want to try you hand at controlling, we recommend our Promo application, by which you can control our showroom in Holešov. You can find the application at Google Play under the name iNELS Home Control – Promo (green icon).

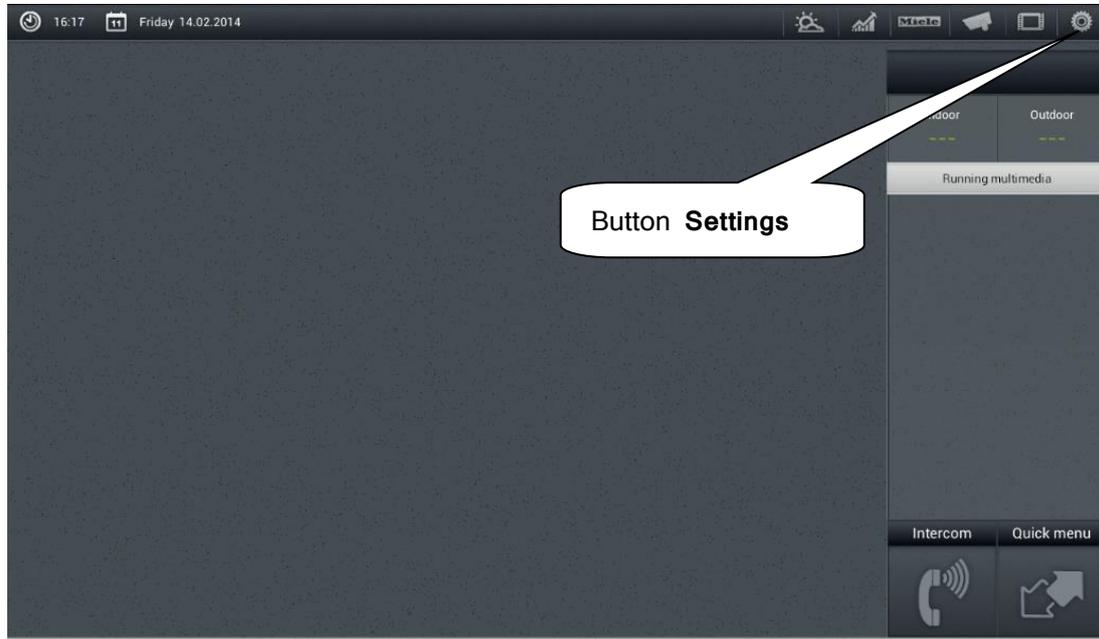
The promo application is available for download here (The Promo application is only for smart phones and not for tablets):

<https://play.google.com/store/apps/details?id=cz.quiche.ihcmapresentation>

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

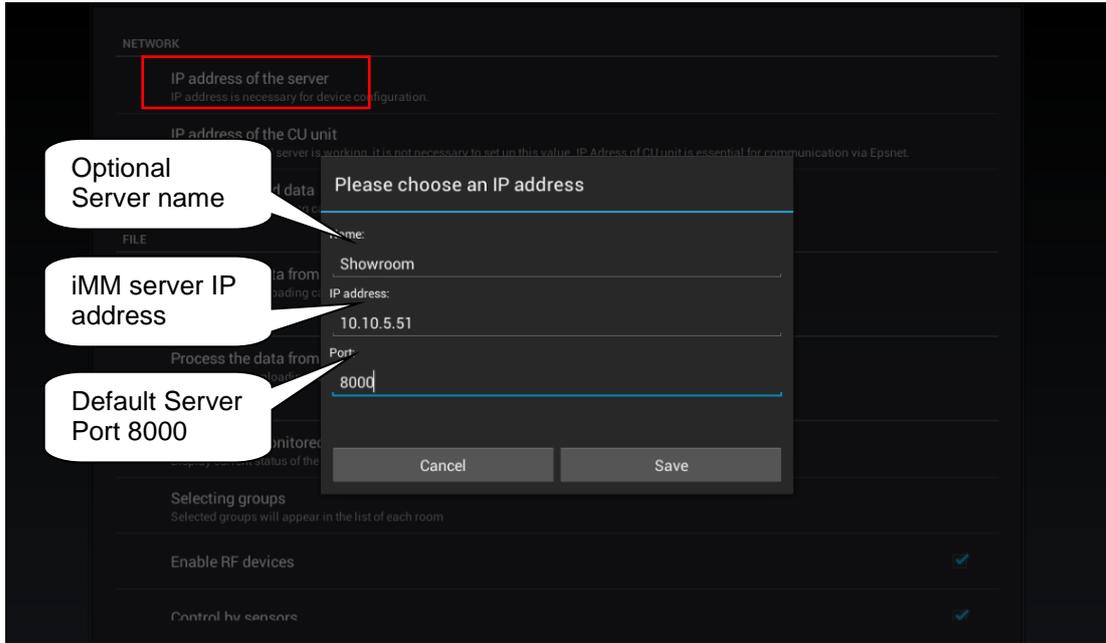
2. Basic application settings

Use the **Setting** key to call up the menu of the basic application setting.

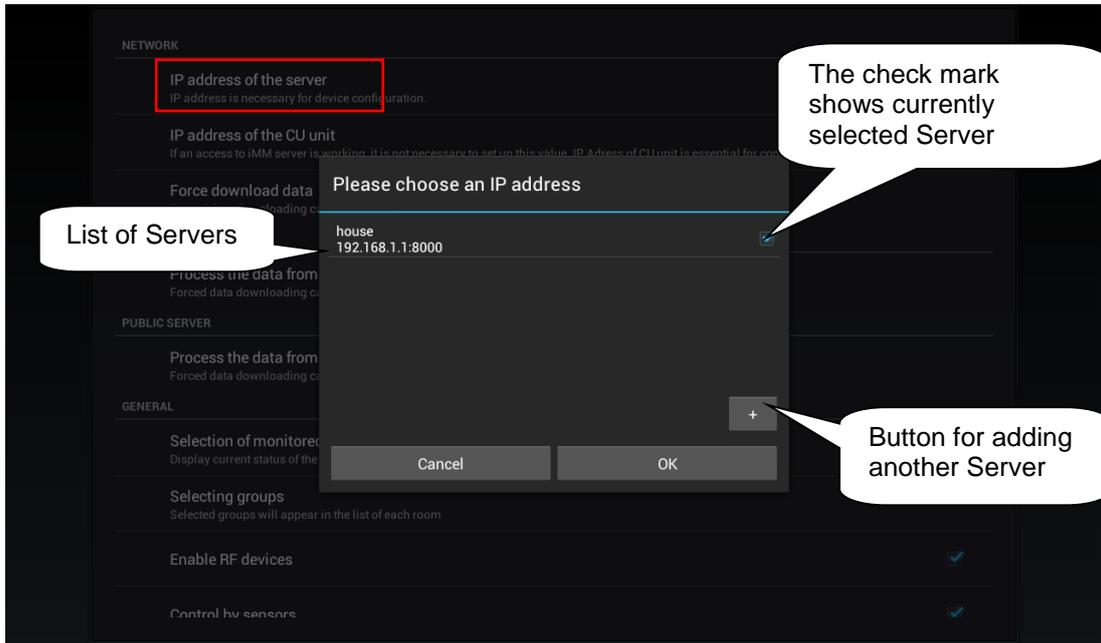


- a) The next step depends on whether you connect to Connection Server, or to a virtual server. The following figures anticipate connection to Connection Server. Select the button **server IP address** and a dialogue window displays for setting IP addresses. First add a new server by clicking the button “+” for adding servers. Then add an optional name and IP address of the server. Then enter the port – default 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 46.

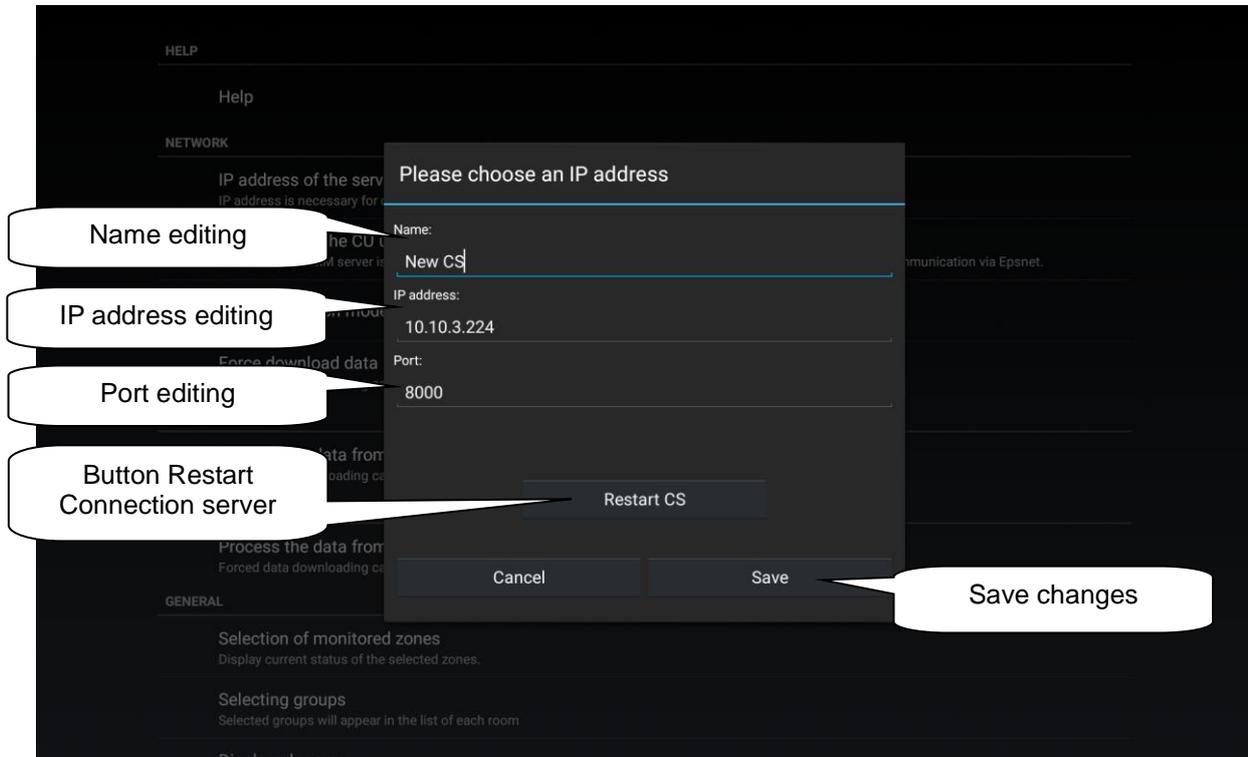
Window for setting the IP address.



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



Editing: long press on the required Connection server to enter the editing menu, after saving the changes it is necessary to force a data download (see page 7).
There is also a Restart CS button in the edit menu.



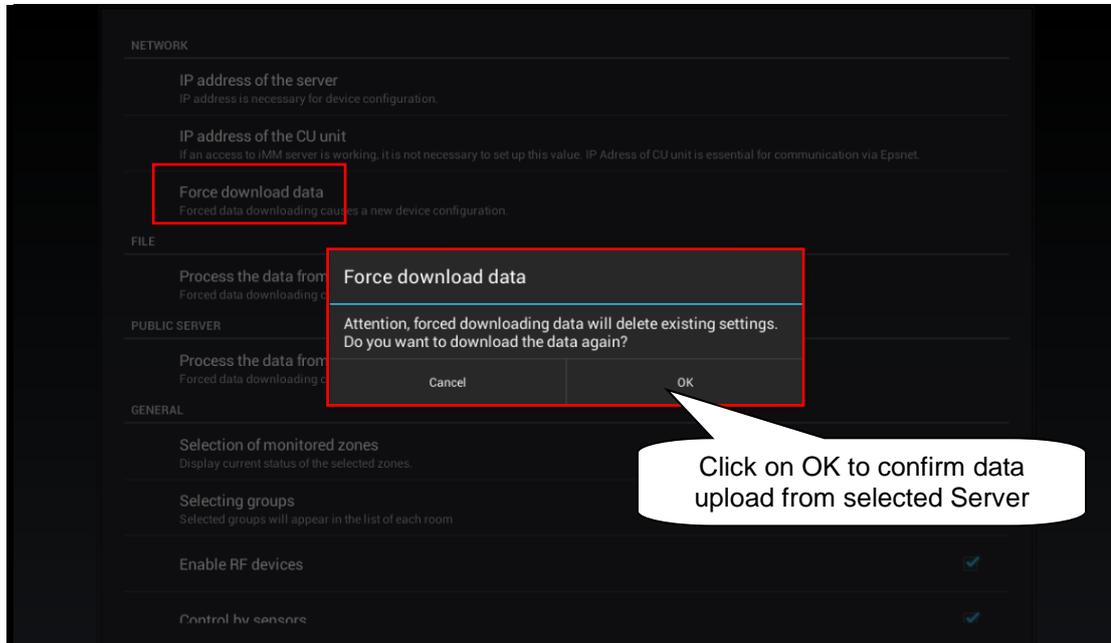
List of usable ports:

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

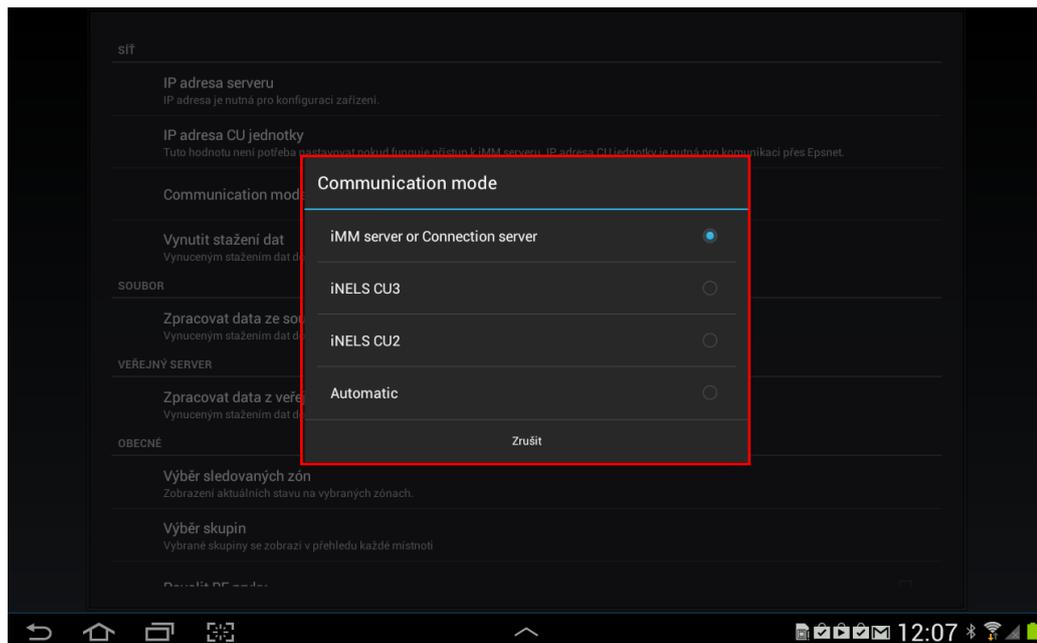
More detailed description of the port use:

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

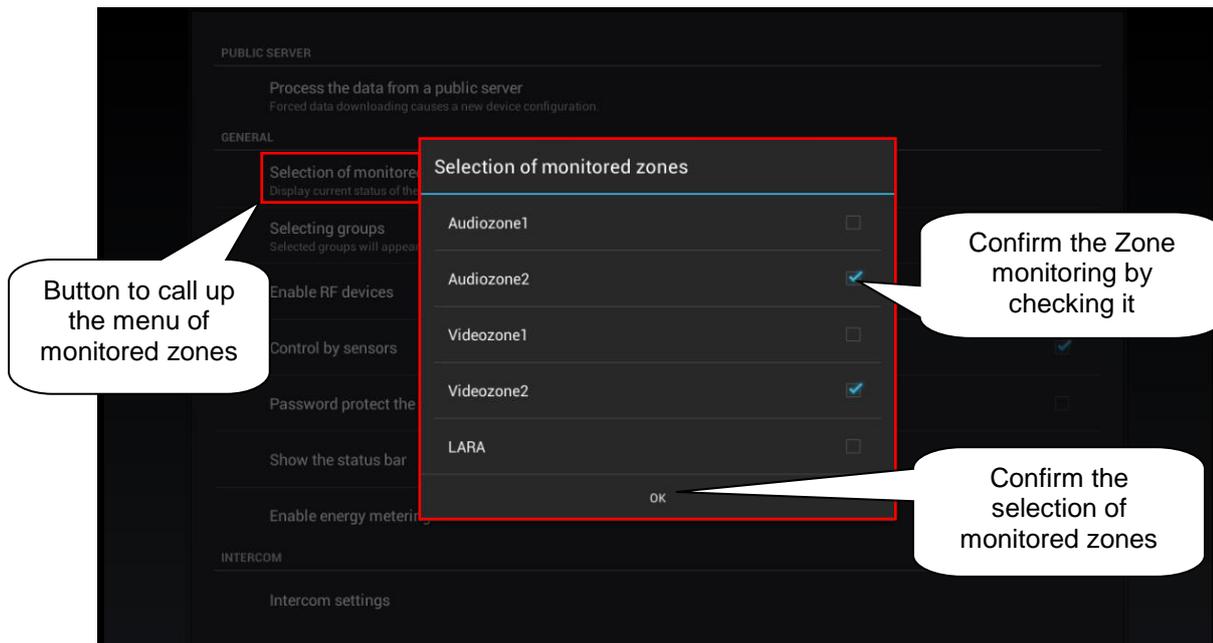
- b) The next step is **Force download data**. You will receive a notice saying that the new data will overwrite currently downloaded data even if enforcing the data download runs for the first time. Confirm by **OK**.
In case of a virtual server, the button **Force download data** is not used, but rather the button **Process data from file**.



- c) When optimizing communication between the iHC application and the central unit iNELS2, the central unit iNELS3, 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 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 connected Audio zones and Video zones in the application, you need to select these zones in the menu **Selection of monitored zones**.

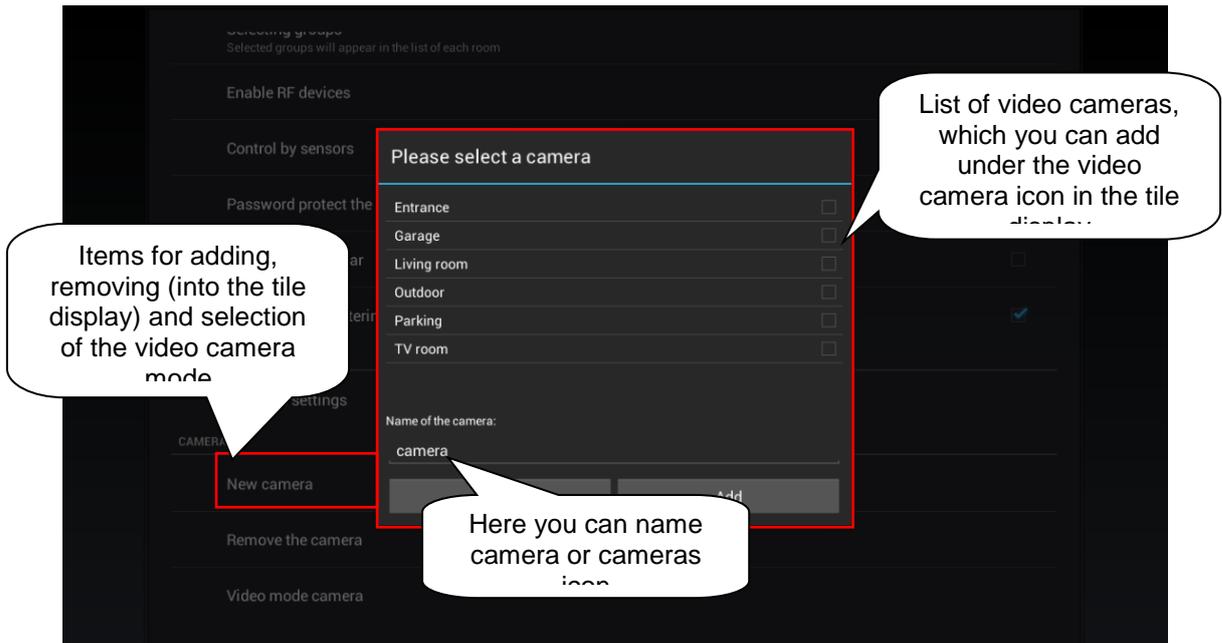


- e) **Video camera settings** – the manual later describes that there are two options for displaying the application – Tiles or List. At the List of video cameras, all connected video cameras are available. However, if you wish to have video cameras closer "at hand", you can add video cameras to the 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:

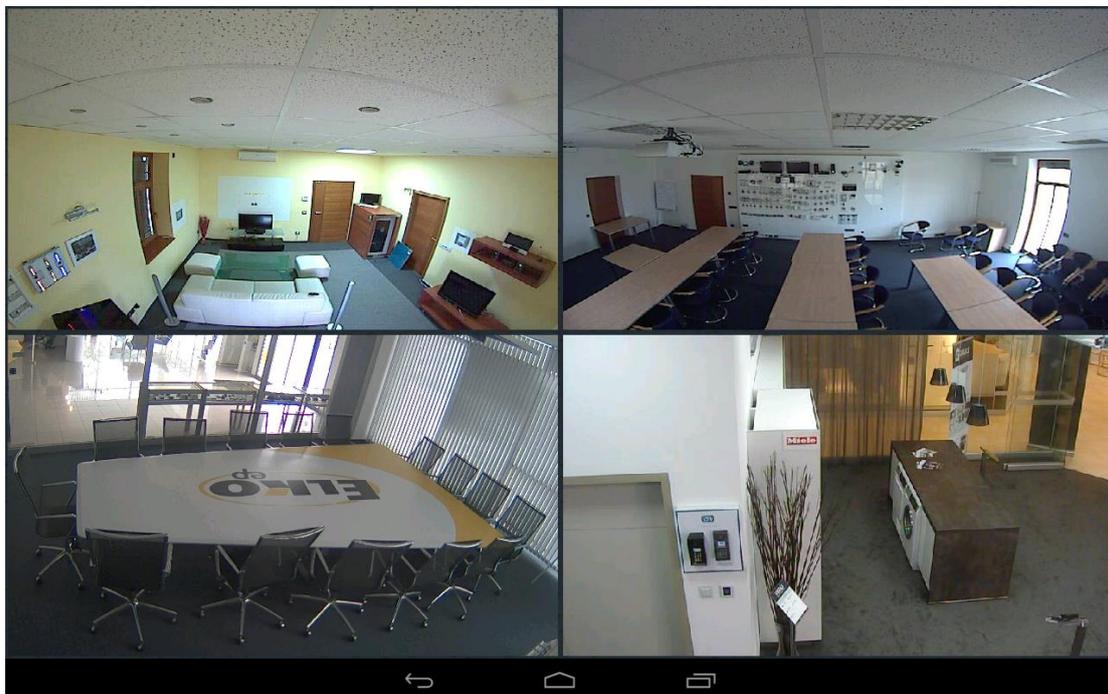
- iNELS cam
- AXIS protocol VAPIX2 from camera firmware version 4.0.X.X and VAPIX3 from firmware version 5.0.X.X
- Cameras with ONVIF protocol profile S. with ONVIF link certification
- Cameras supporting RTSP stream

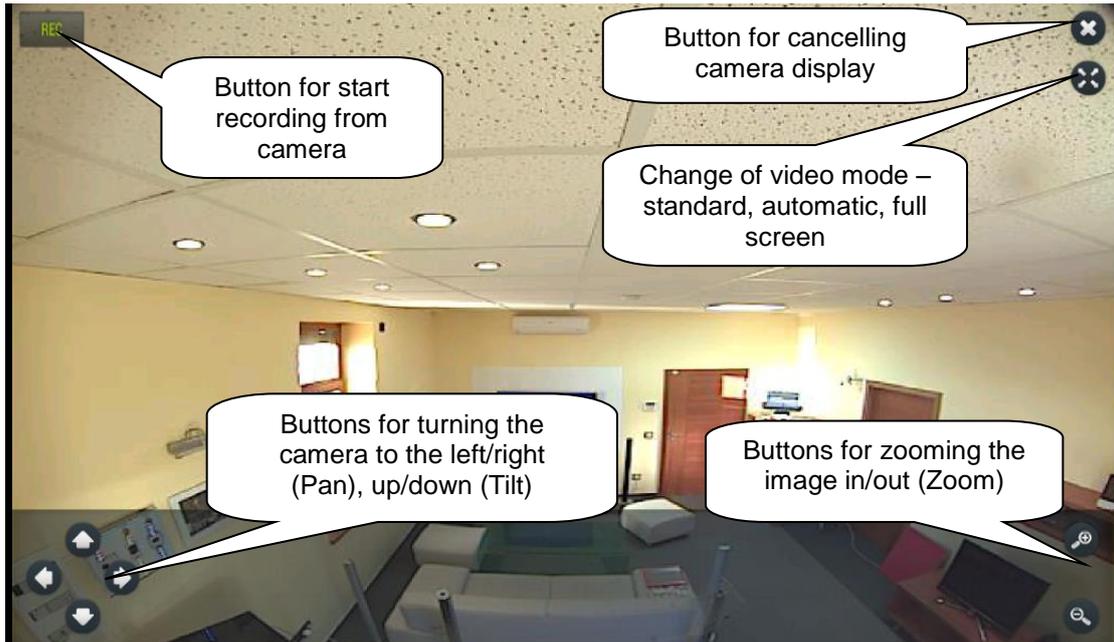
Note: The option of using video cameras requires an Connection Server. The application is also capable of displaying video cameras with the protocol onvif, which you hvae connected to the Connection Server. Details on connecting onvif video cameras can be found in the manual to the Connection Server.



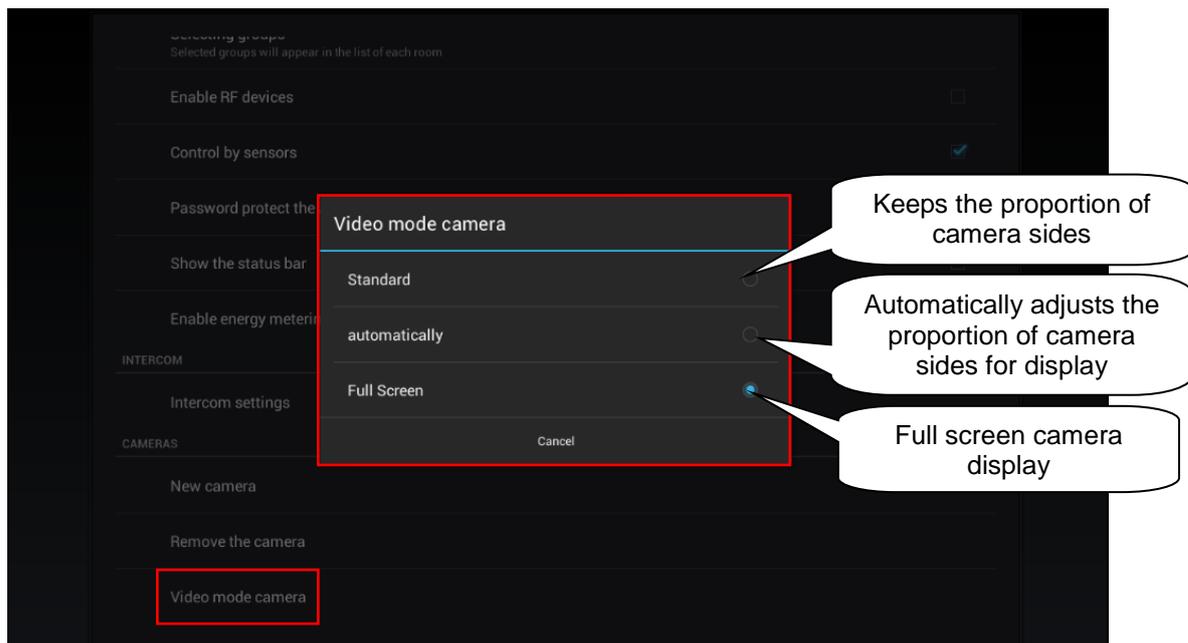
You can add upto 4 cameras under one Icon.

If you are in the camera display mode, long pressing of one of them will take you to the full screen mode. Using gestures you can control PTZ (pan/tilt/zoom) of the camera as long as the given camera supports it, or display the control panel, and control the camera through the control panel.

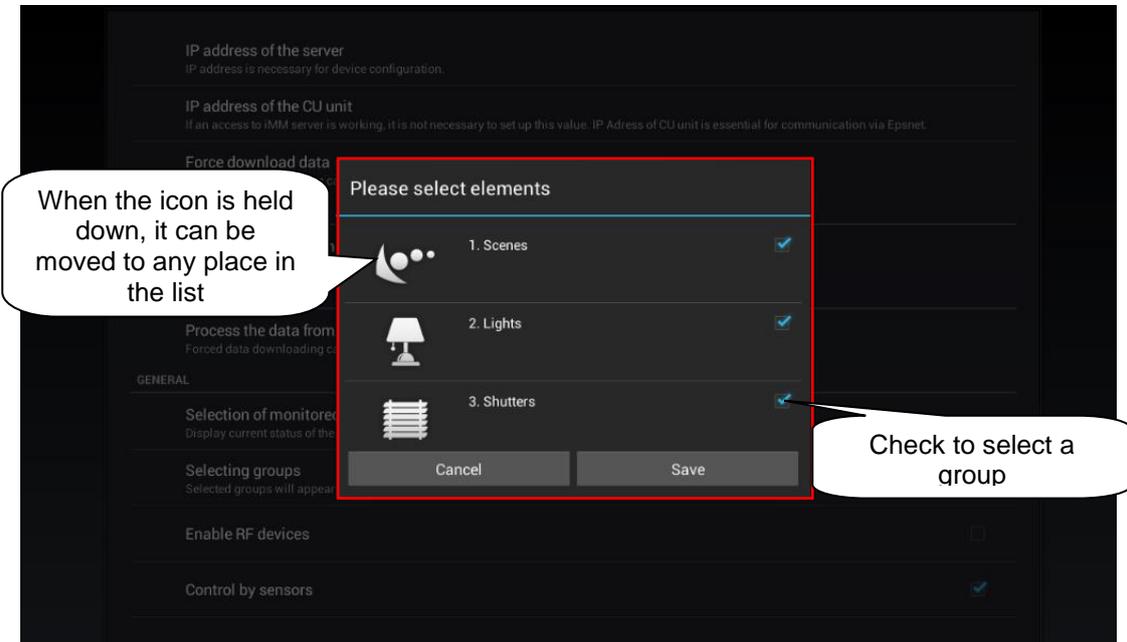




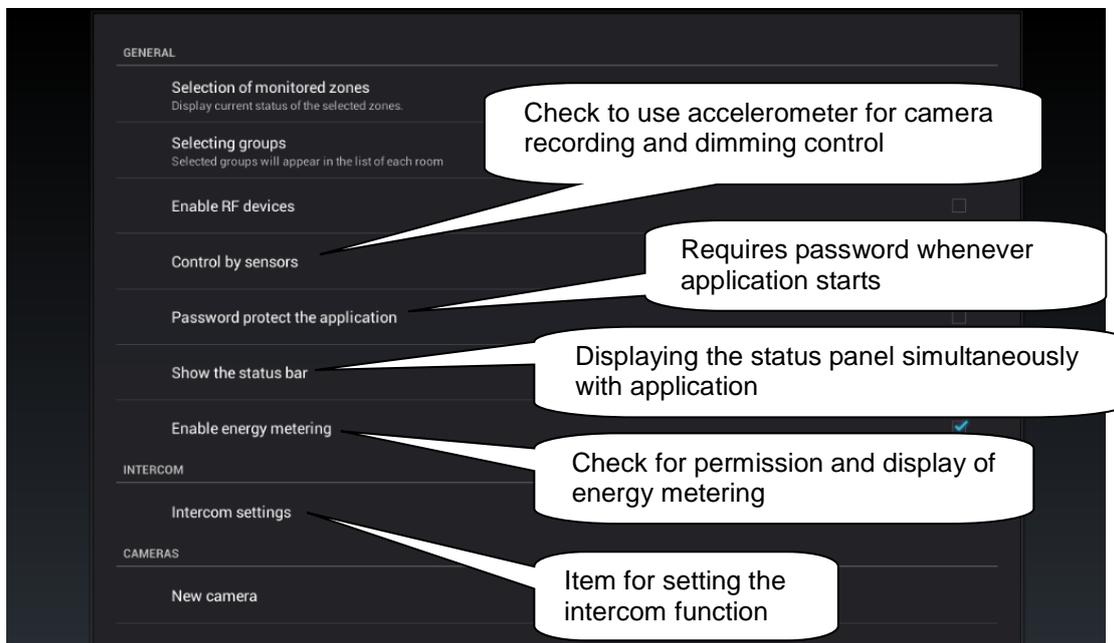
To set the camera video display mode, select the option **Video mode camera** and choose the desired mode.



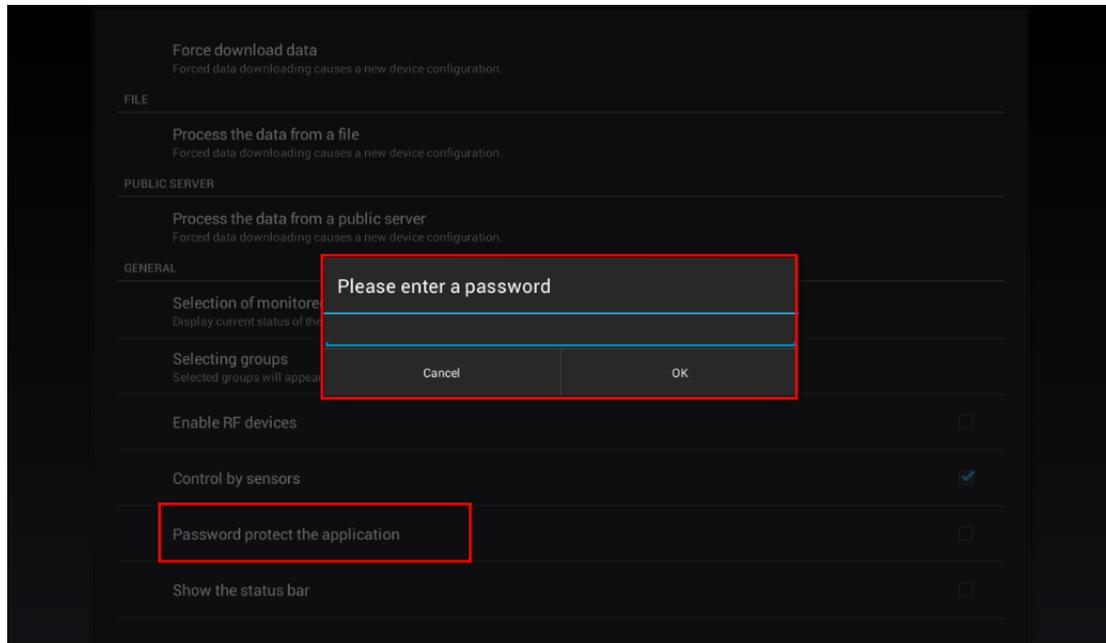
- f) **Selection of groups.** The order of groups can be changed using the drag and drop method - just drag the item icon by your finger, and place on the order you wish.



- g) **Other application settings**



- h) **Password protect the application** – here you can enter your password entering of which the application will request at every opening.

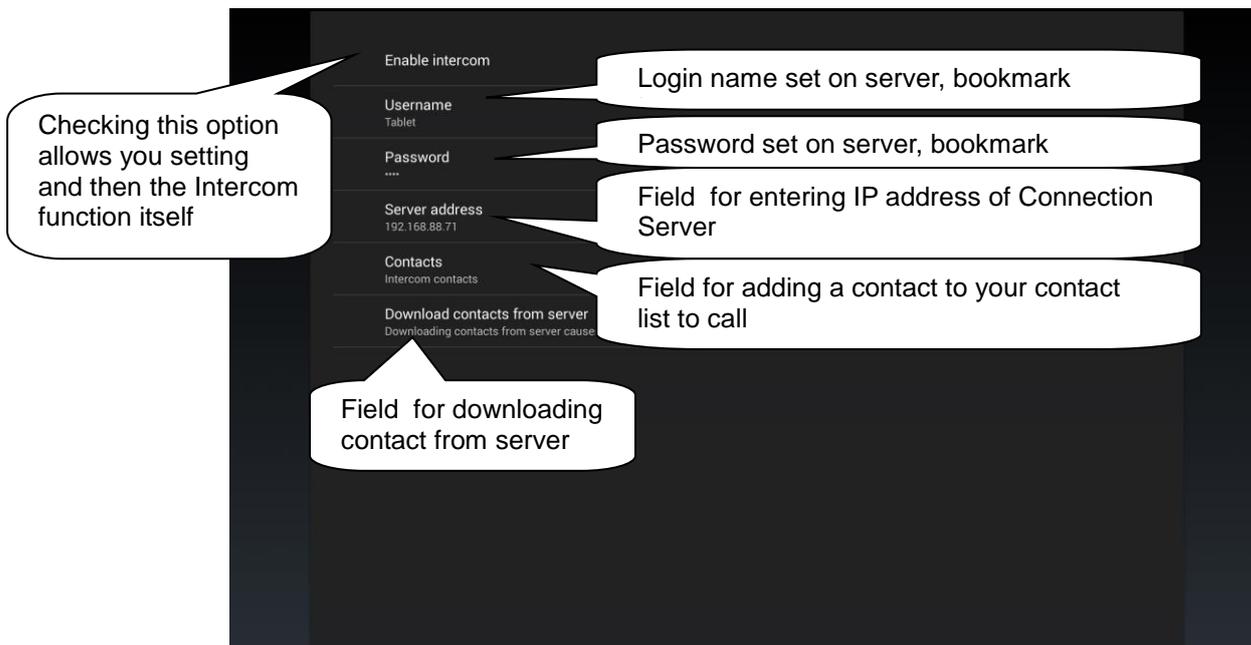


- i) **Setting the intercom function** – this function allows data communication between the house call boxes 2N, iHC applications. iHC application can receive calls from another iHC application and house call box 2N. Te communication is acoustic; if the call box is equipped with a camera, it also transfers 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 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 Connection Server.



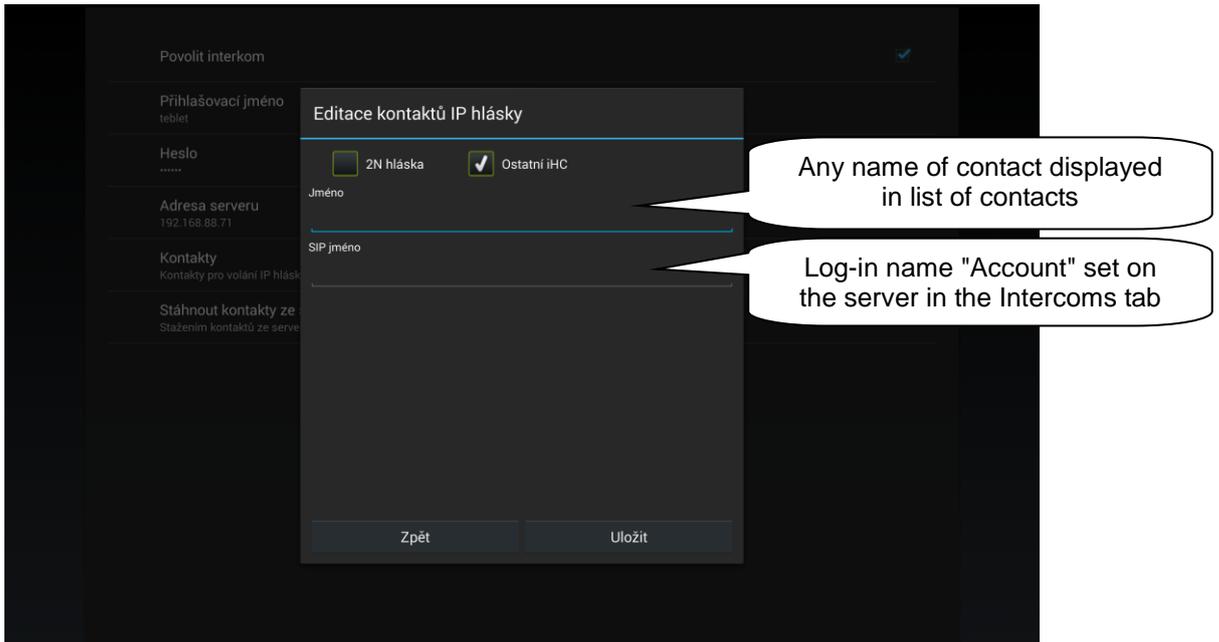
Adding a contact of the type 2N intercom takes place as follows:

The screenshot shows a mobile application interface for editing intercom contacts. The main window is titled "Edit intercom contacts" and features several input fields and checkboxes. Callout boxes provide the following information:

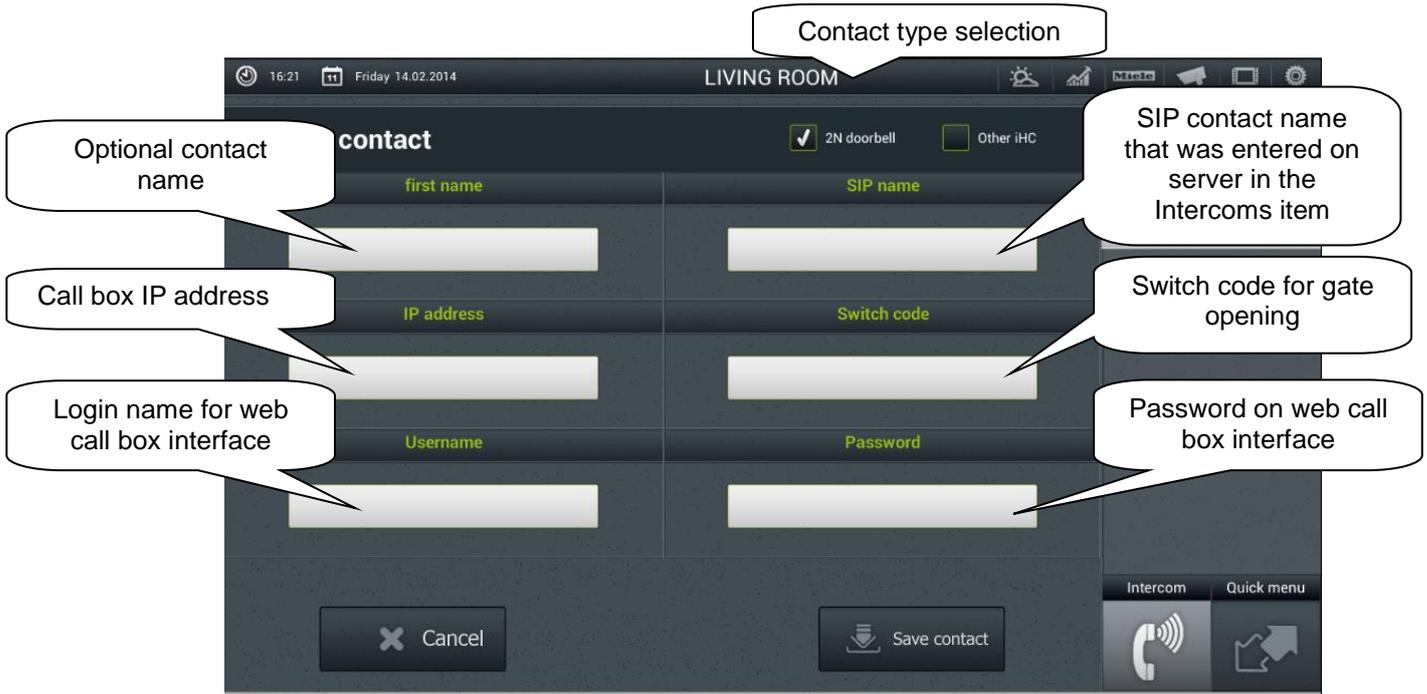
- Any name of contact displayed in list of contacts:** Points to the "first name" input field.
- Log-in name "Account" set on the server in the "Intercoms" tab:** Points to the "SIP name" input field.
- Log-in name on the web server of the IP intercom, for 2N "admin" by default:** Points to the "Username" input field.
- IP address of the given:** Points to the "IP address" input field.
- Password for access to web server of the IP intercom, for 2N:** Points to the "Password" input field.

Other visible fields include "Server address", "Switch code", and "Password". At the top, there are checkboxes for "2N doorbell" (checked) and "Other iHC" (unchecked). The bottom of the screen has "Back" and "Save" buttons.

For adding a contact of the type Other iHC, it is necessary to enter the following data:

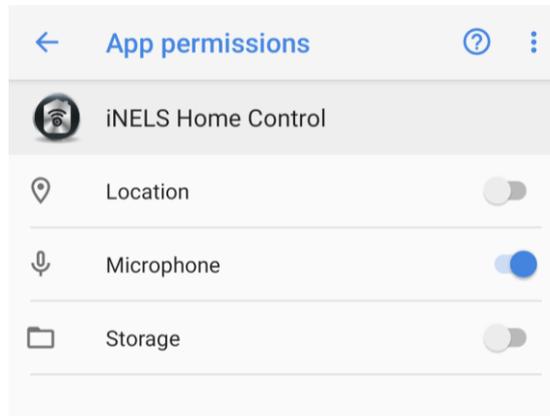


IP call box List of contacts

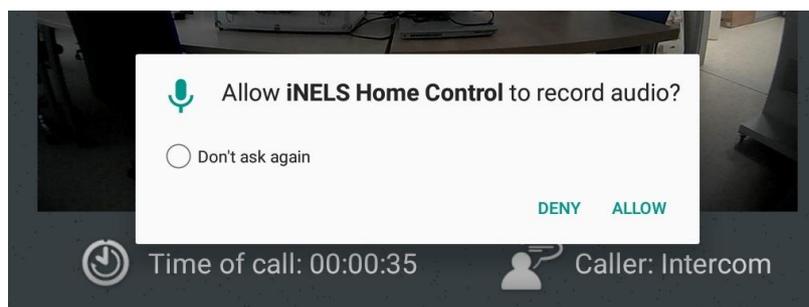
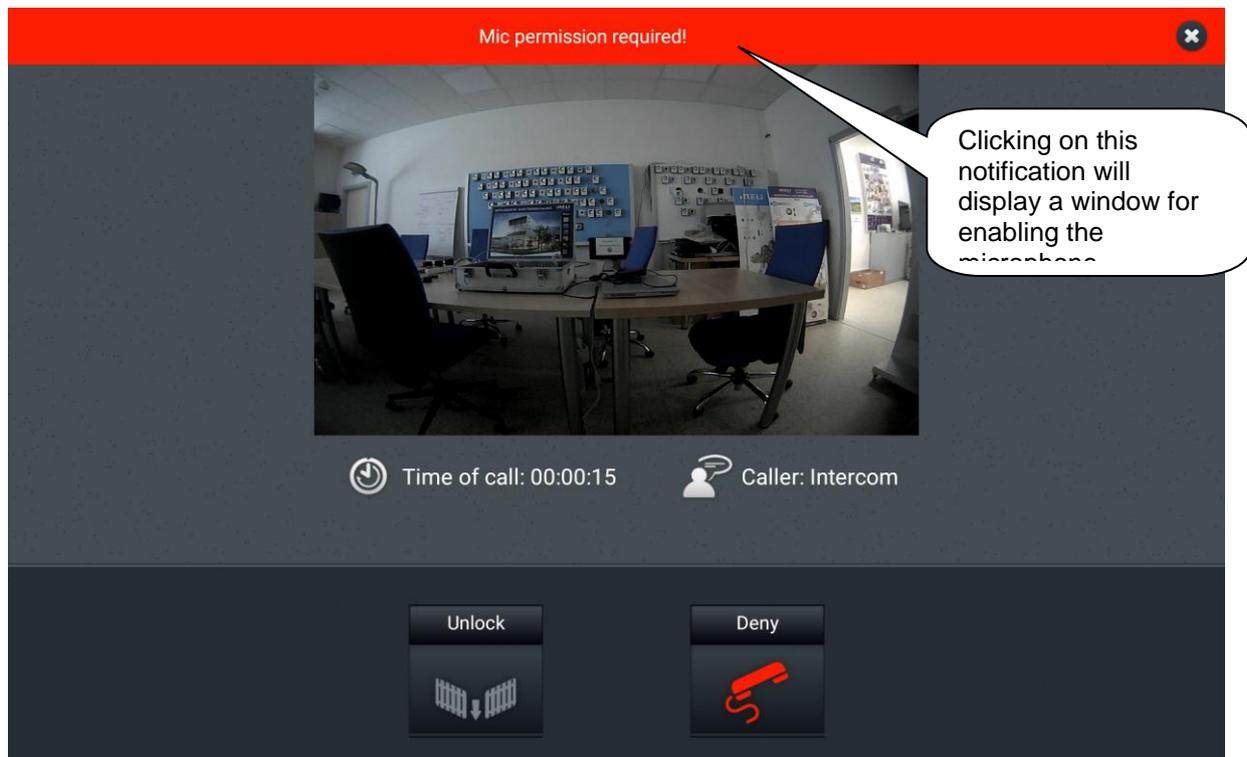


IP call box Adding a contact

Note: You must enable the microphone function on your phone for the particular application to function properly. The authorization is done in the settings of your phone, in the iHC application, in the Application Permissions – Microphone.



If you do not have the Microphone enabled function, it is possible that the application itself will prompt you to do so.



3. Application control

a) Tiles

Fundamental way of displaying the iHC-TA application is the so-called **Tiles**. It is a backlit overview of elements where we can see at first sight by backlit or non-backlit icons which elements 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 (Quick menu), just click on the name of the **Quick menu** icon (18) that is used for switching between these displays.



1. Icon for Control of **lighting**, in case of a dimmed circuit, by holding your finger on the icon, a slider appears for setting the required intensity.
2. **Selection of room** – using arrows, you can move between individual rooms or by pressing on the name of the room (a list of all rooms appears).
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. Icon for Enter **settings** of the application.
7. **Multimedia control** – Video zones and Audio zones.
8. **Camera** 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. GIOM3000 **Meteostation** icon for visualisation of meteorological quantities.
12. **Analogue exciters** for displaying data from Meteostation, e.g. type of Clima sensor.
13. Menu **Running multimedia** - you can roll 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 **Quick menu**.

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

List (Quick menu)

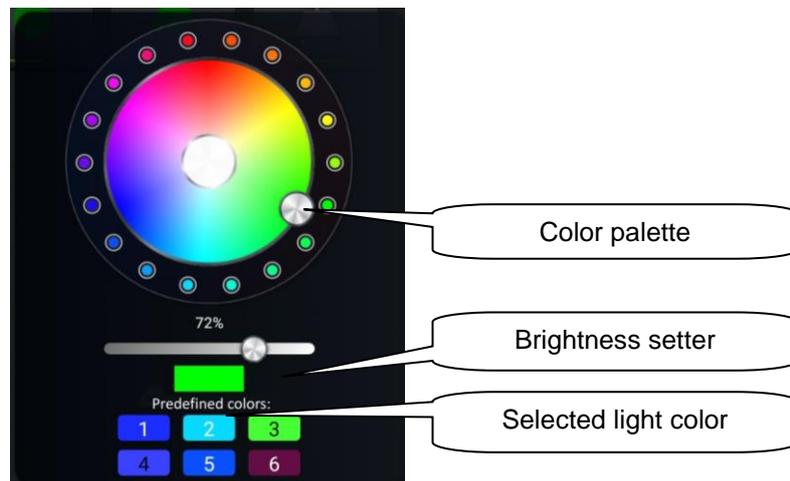
- b) List **Scenes** is used to activate user pre-defined scenes, such as “All_off”, “All_on”, “All_shutters_up”, “All_shutters_down”, etc. For names of individual icons, we recommend not using gaps or diacritical marks.

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.

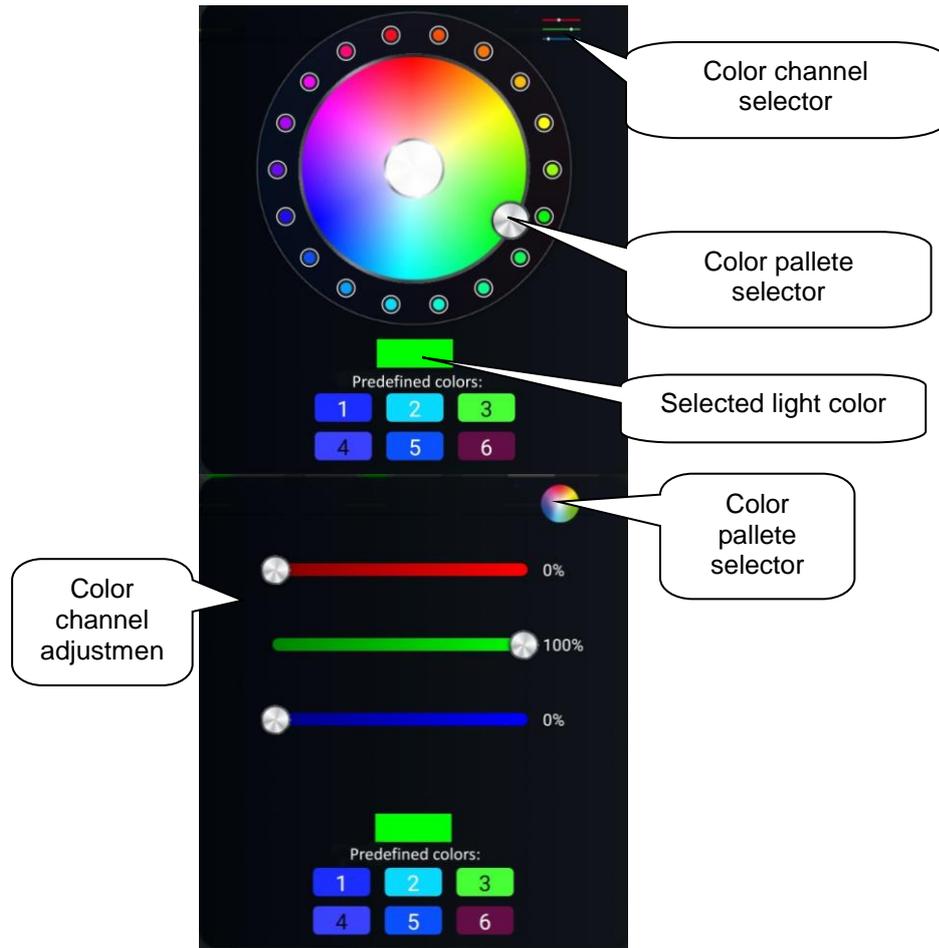
Note: You can control scenes and central functions from the iHC-MA application even without using an Connection Server.

- c) The **Lights** list serves for controlling individual lights or entire lighting installations. There are two display options.
 - Classical, where you have the simple on / off displayed by an off indicator lamp.
 - Dimming, where the level of illumination is indicated by an analogue exciter. Dimming is controlled by a slider that can be slid by finger, or using an accelerometer. 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

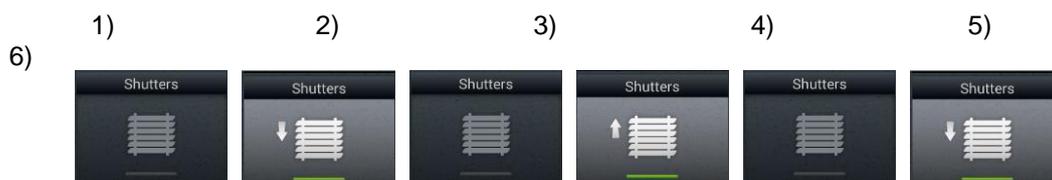
- d) In the **Blinds** List, you can easily control the blinds, roll shutters, garage door, entrance gate and all devices with bidirectionally rotating drives.

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:



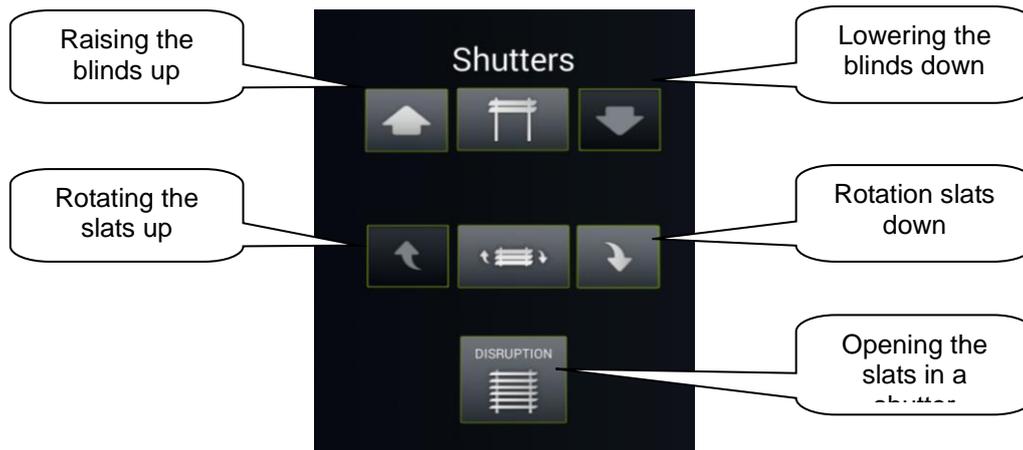
- 1) Blinds not moving

- 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...

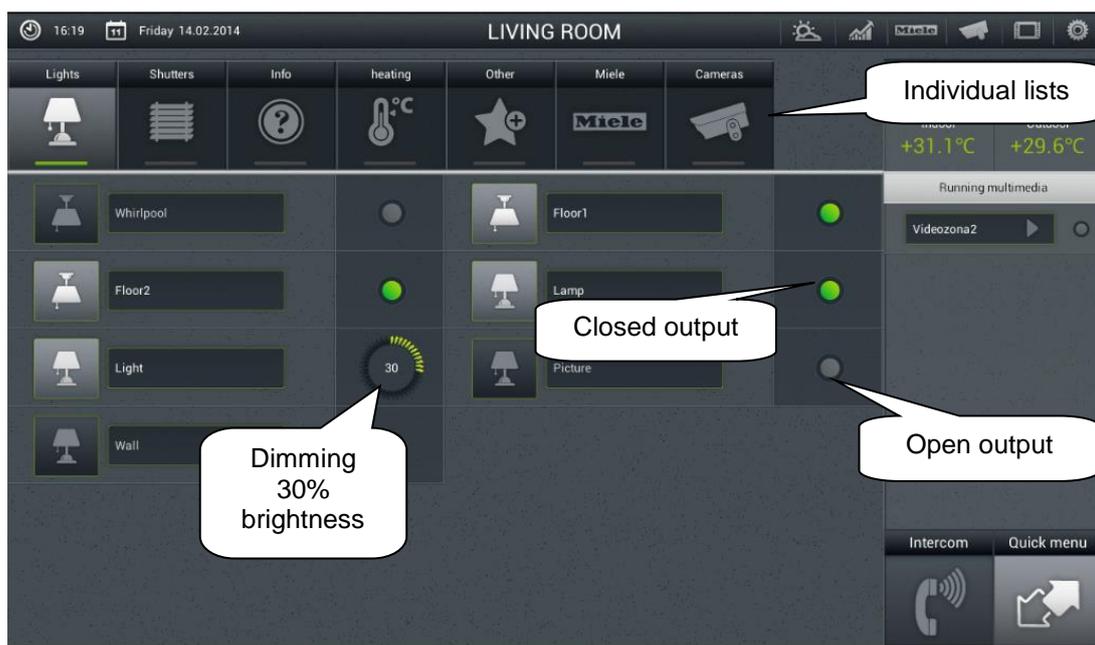


Special icon:

- 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.



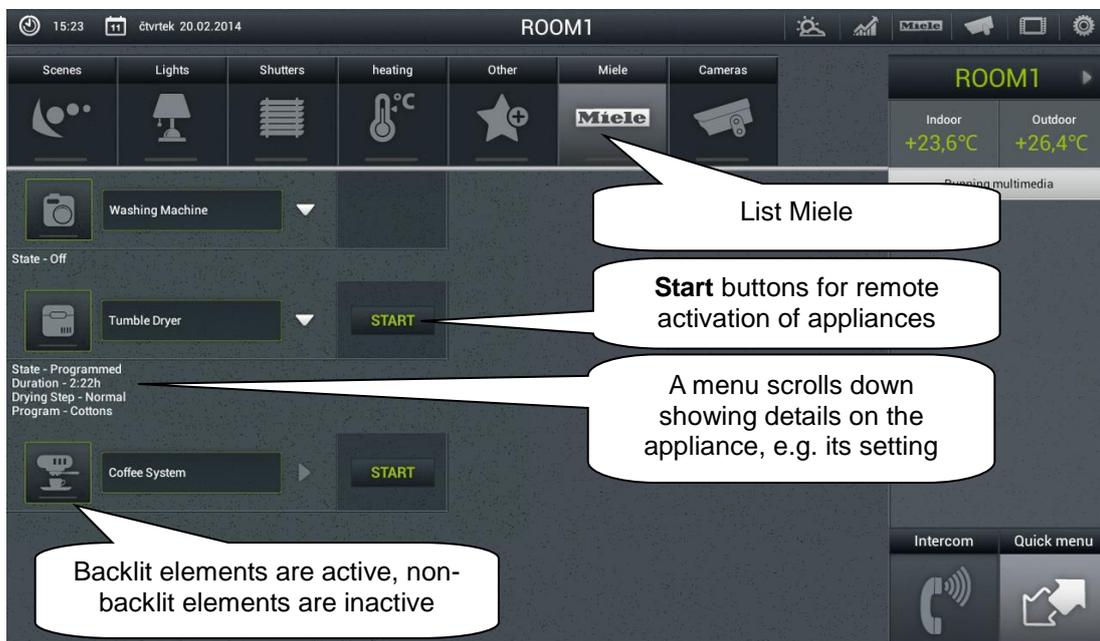
g) Miele

This part of the application allows remote administration of the Miele house appliances which are connected to the Miele@home.com network by means of communication modules. The communication between the appliances and the Miele Gateway communication interface runs on 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 translate this protocol you need to use Connection Server.

Miele appliances can be monitored in terms of statuses of the appliances and also some of their functions whilst safety is taken into consideration, and therefore you cannot for instance turn on the induction board.

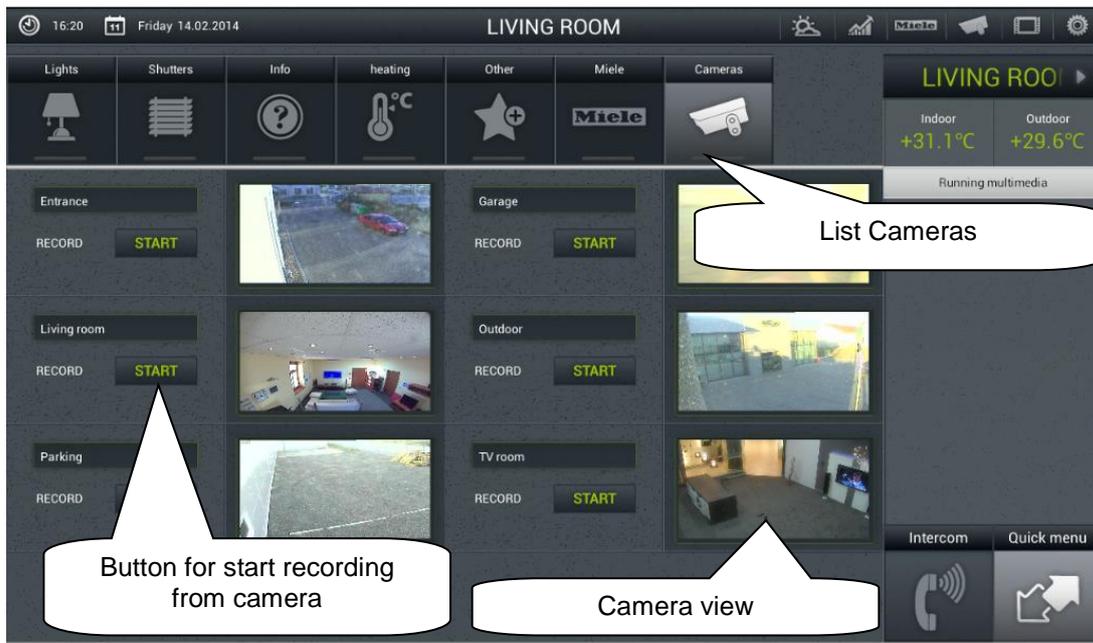
An interesting option is activation of remote starts.



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 called up 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.



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



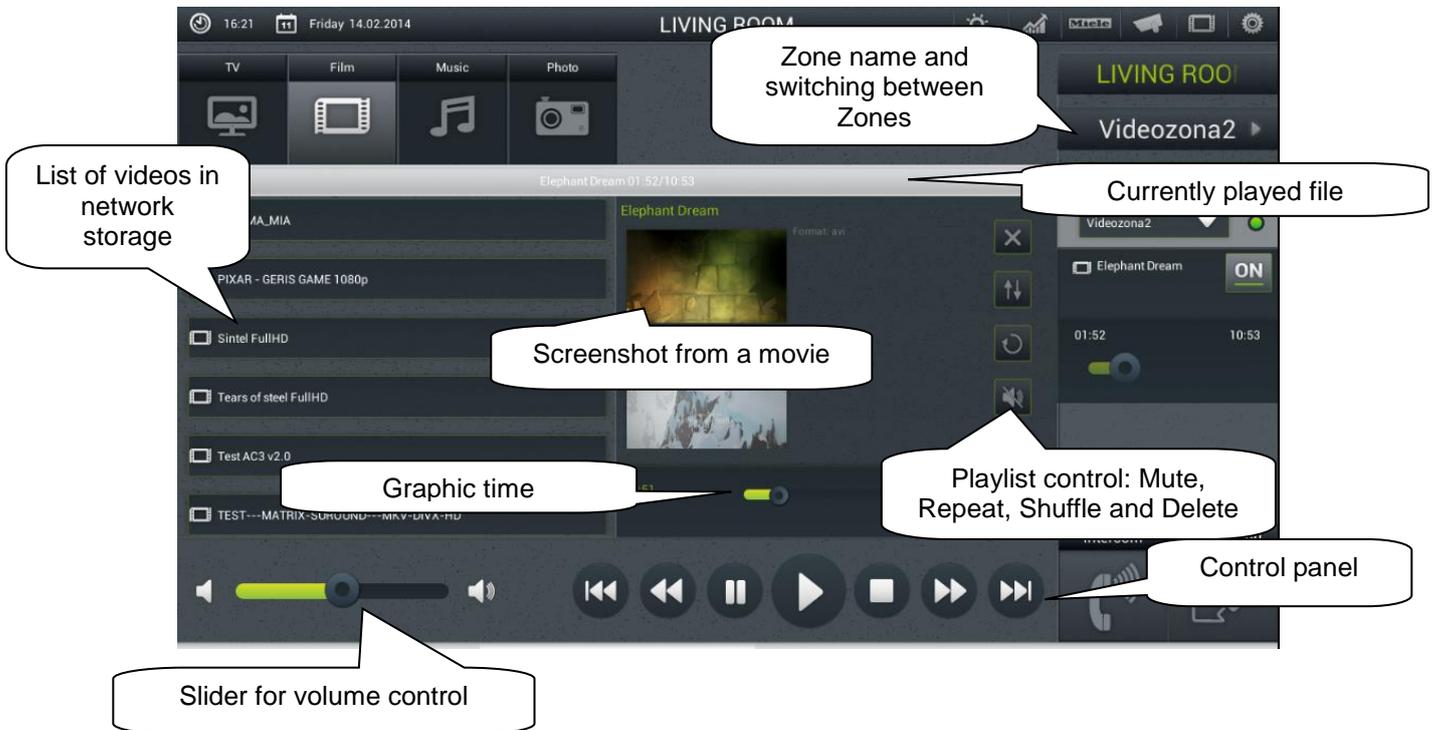


Screen Air conditioning and recuperation (Atrea recuperation)

j) Multimedia

Multimedia can only be controlled when Client/Server is incorporated in the system. Client/Server may serve as Video zone (for playing music, movies, viewing photographs or playing television), and further allows the use of Audio zones, e.g. Audio Zone (AZ-R) or LARA Radio and LARA Intercom, 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) GIOM3000 Meteostation

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

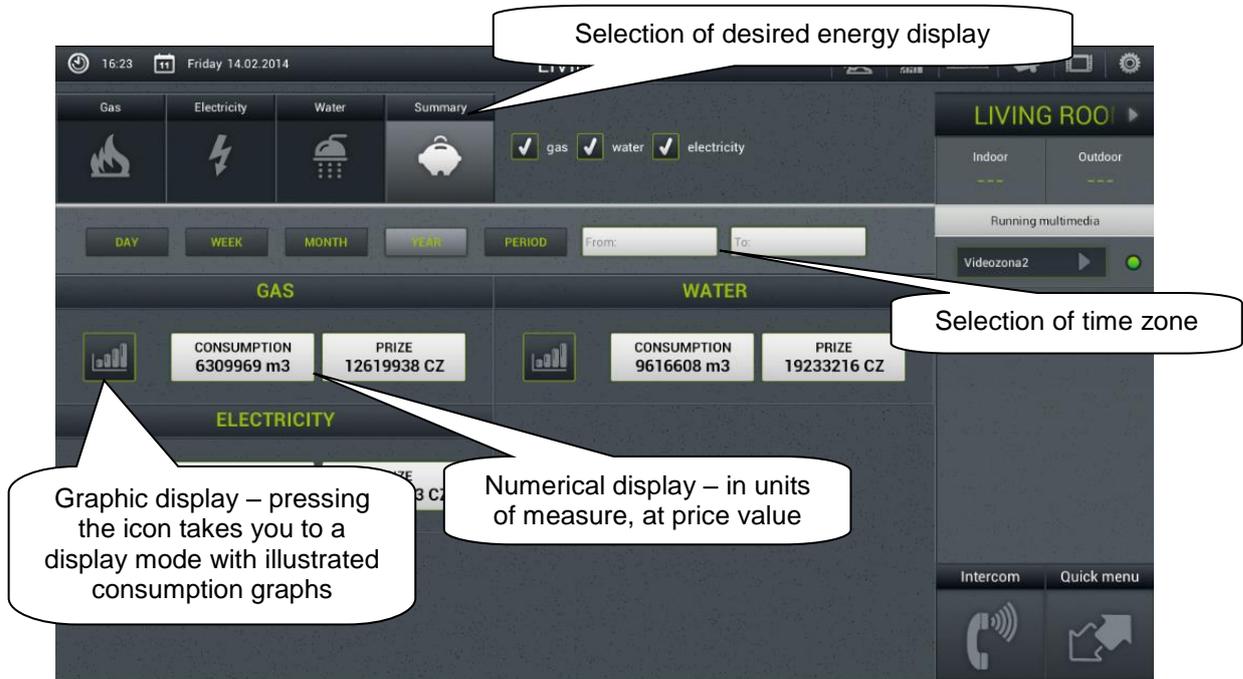
- 1) Wind speed
- 2) Pressure
- 3) Wind direction
- 4) Temperature
- 5) Windchill
- 6) Dew point
- 7) Barometric altitude
- 8) Relative humidity
- 9) Absolute humidity



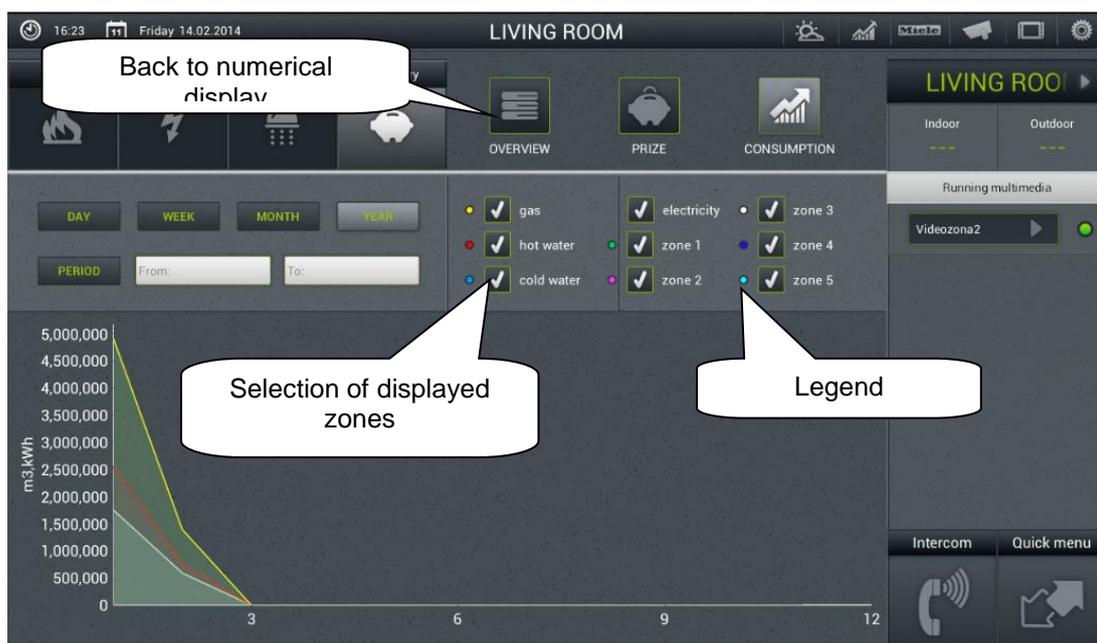
l) Energy metering

The iNELS system enables measurement of consumption of gas, electricity (5 zones) or water (hot, cold), 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 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.



Energy Meter numerical display screen



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. 8
 - export data from iDM3 see chapter no. 7
- Zones – created on the basis of iMM Server configuration

iMM Control Center / Configuration of rooms
ver. connection-server-3.222

Server Configuration System HA Bus RF Configuration Zones House SecurityScan EventScript A/C **Rooms** Cameras Miele
Intercoms Energy Giom Manual Default Settings Audit Logout

New room

Name
Room 2

Protect by password

Password
.....

Confirm
.....

Add

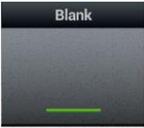
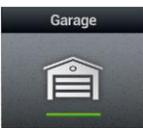
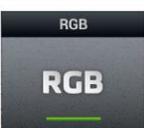
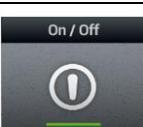
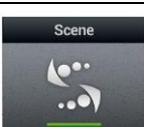
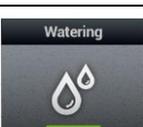
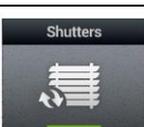
.....global_ Edit

Room 1	Edit	Up	Down	Set password	Rename	Remove
--------	------	----	------	--------------	--------	--------

Annotations:

- Name of new
- Select this check box if you want to password protect control of the given Room
- Password and confirmation. Note: only asterisks appears when entering
- Edit the given Room
- 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 table for an icon. 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.
- Selection of air conditioning control:** Points to the 'menu' dropdown in the 'Attributes' column.
- Confirmation of adding an Item:** Points to the 'Add' button.
- Line selection:** Points to the '2' dropdown in the 'Row' column.
- Column selection:** Points to the empty 'Column' cell.
- Read-only status:** A callout explains that selecting 'yes' for 'read_only' makes the icon read-only, meaning it displays status but cannot be controlled.

Type	Name	Row	Column	Attributes
air conditioning	LG_Down	2		type menu read_only no

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.

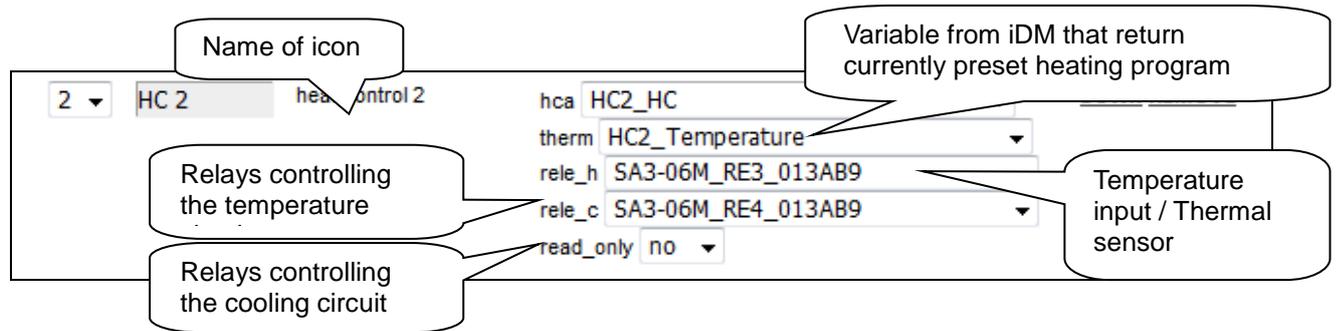
The screenshot shows the configuration for a 'heat control' icon. Callouts provide the following information:

- Name of icon:** Points to the 'heat control' text.
- 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' dropdown in the 'rele' field.

heat control	3	stateth	Showroom_StateTH	therm	SOPHY2_TERM	rele	sa04_rs_2_Heating	read_only	no
--------------	---	---------	------------------	-------	-------------	------	-------------------	-----------	----

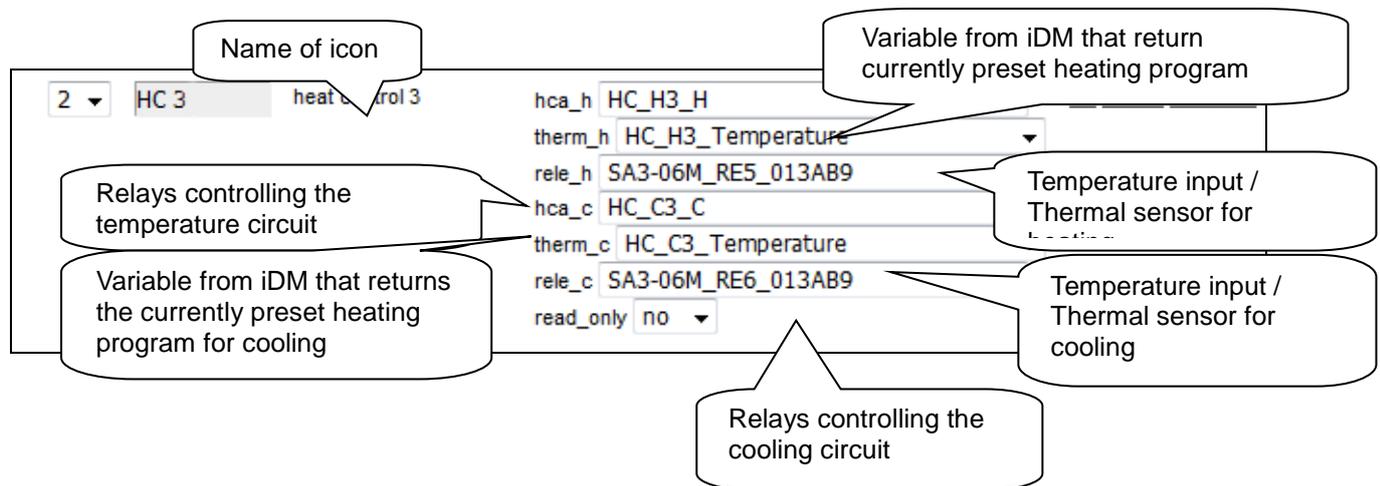
Heat control „2“ (Heating / cooling control)

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.



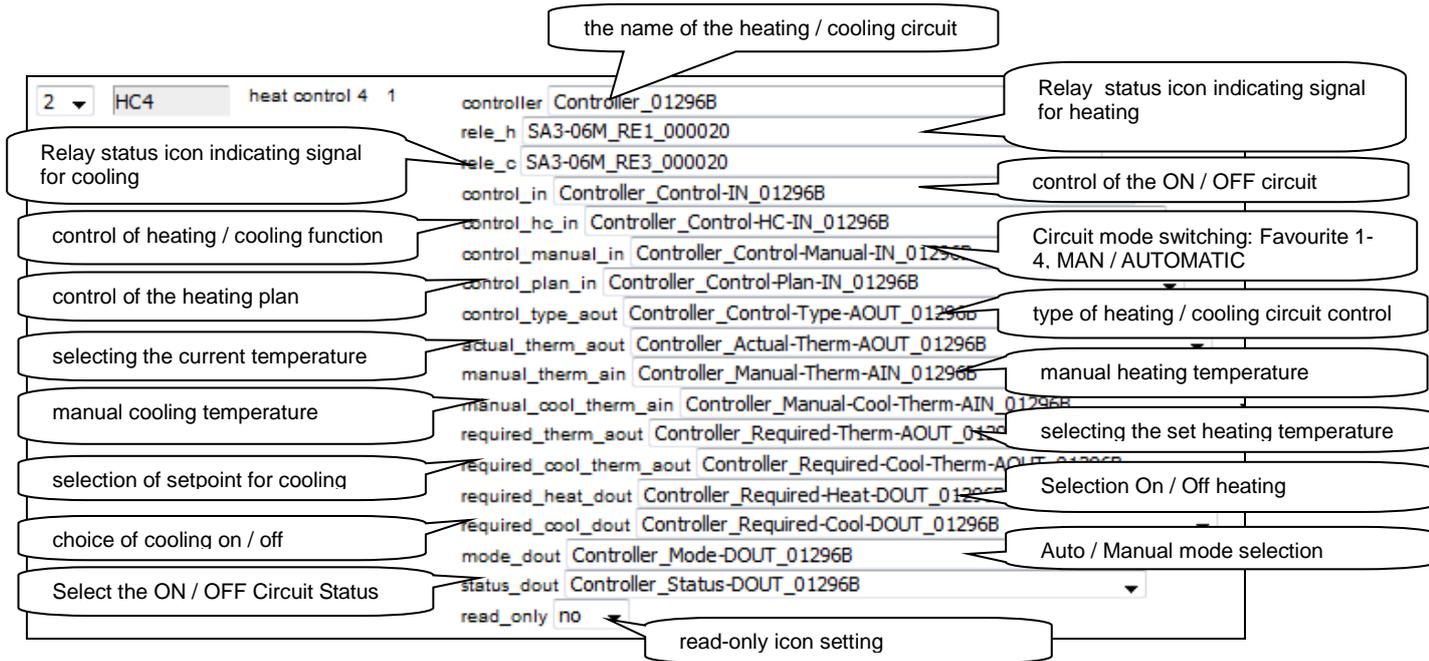
Heat control „4“ (Heating / cooling control)

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.

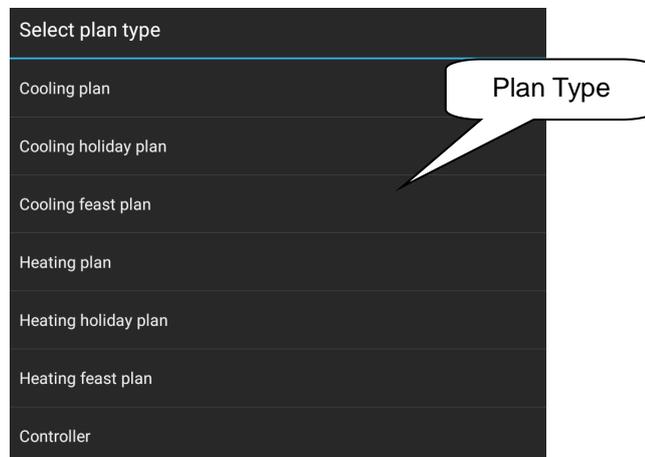
Set schedules for HC4

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.

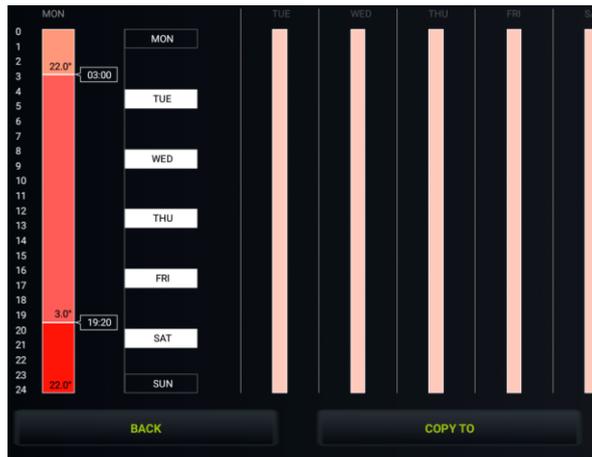


Click the PLANS button to open the Types of Plans that you can create and edit.



- 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.

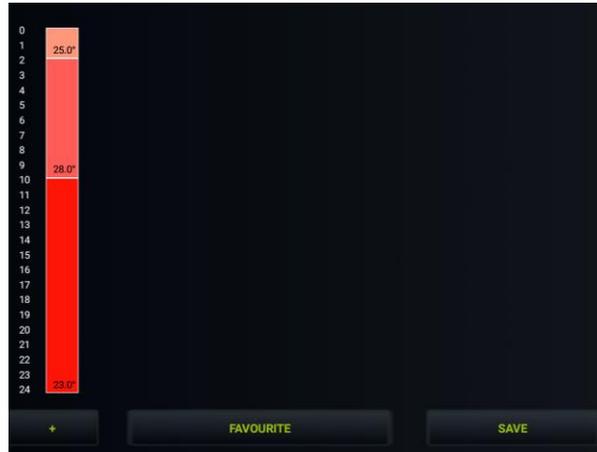


- Cooling / Temperature Holiday Plan

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

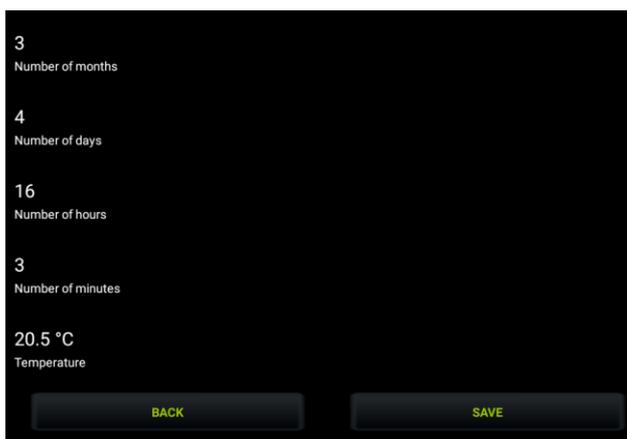
- Cooling / Temperature Holiday Plan

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.



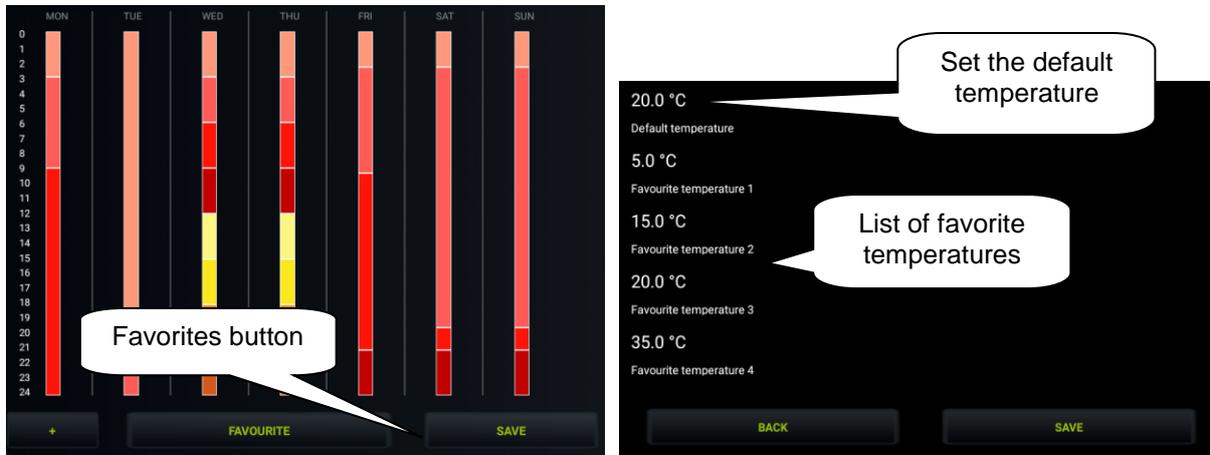
- Controller

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

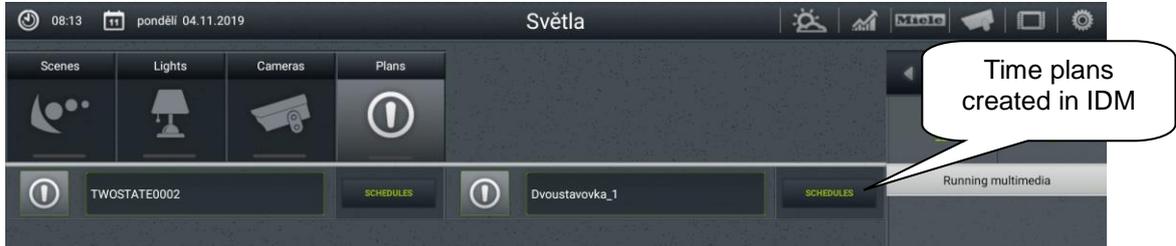
Note: Running the manual mode of the HC4 icon directly in the room will change the mode until next user intervention (i.e. unlimited by time).

Example of set heating / cooling circuits in IDM:

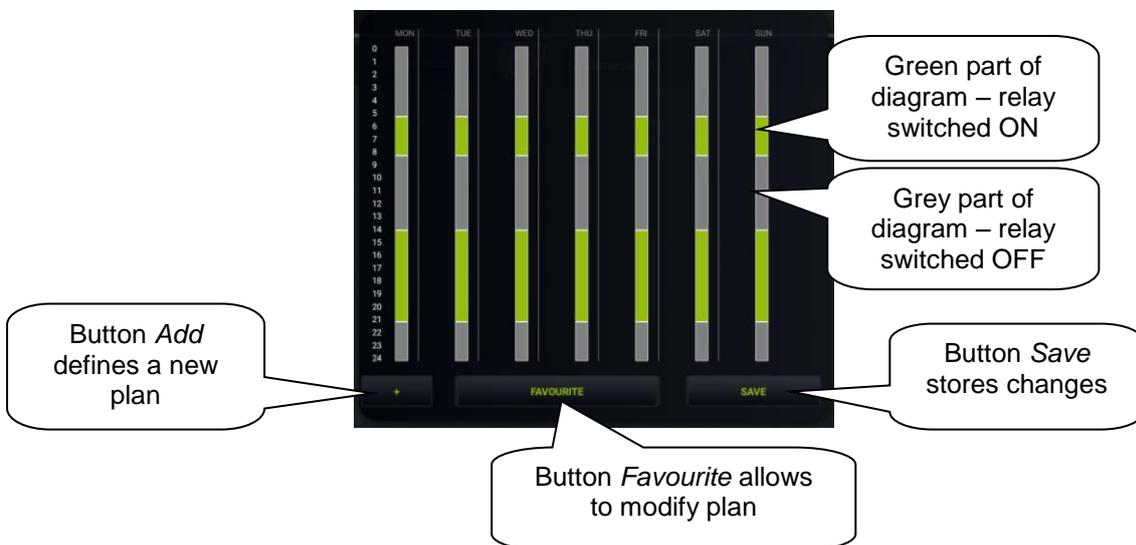
Monitor										
Online simulation of wired events ✓										
Online monitor Unit ✓										
Online monitor Sysbits-Sysints-Timers-Counters-System_Programs-Heat_Cool ✓										
Devices EZS GSM System bits System integers Counters Timers System programs Heat/Cool areas										
Name	HC									
Current 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]
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]
Name	HC2 (Ch.)									
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]
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]
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]

Two-state time plans

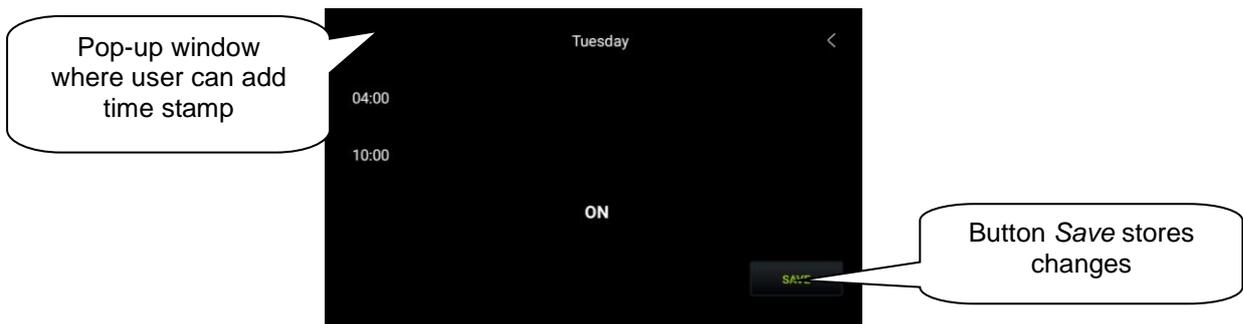
It allows user to edit time plans related to device state switching online when connected to CU3. Plan editing feature can be found in quick menu, more precisely under icon *Plans*. There are all plans defined previously in IDM.



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.

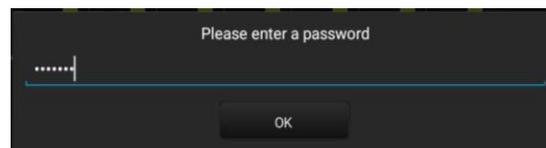
In case that other days have to follow the same time schedule as selected (highlighted), select other days by clicking on them and click on button *Copy to*.

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:

- Coefficients, 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)

Buttons: 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:

max_disp=40

max_disp = coef_mult*10*1000 + coef_add

min_disp=0

min_disp = coef_mult*0*1000 + 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 = coef_mult*10*1000 + 0

40 = coef_mult*10000

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', 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 table. A callout bubble points to the 'Attributes' column with the text: 'For scenes, select iNELS items with suffixes _ON, _OFF and _TRIG'. Another callout bubble points to the 'Add' button with the text: 'Button for adding another item in the scene'.

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 set to 'shutters', 'Name' is 'Shutters', and 'Row Column' is '1'. The 'Attributes' column contains three dropdown menus with the following values: 'up sa04_rs_1_Shutters_up', 'down sa04_rs_1_Shutters_down', and 'read_only no'. An 'Add' button is located at the bottom left of the table. A callout bubble points to the 'up sa04_rs_1_Shutters_up' dropdown with the text: 'Switching element for direction up'. Another callout bubble points to the 'down sa04_rs_1_Shutters_down' dropdown with the text: 'Switching element for direction down'.

Thermometer

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

The screenshot shows a configuration table for a thermometer. The table has columns: Type, Name, Row Column, and Attributes. The 'Type' is set to 'thermometer', 'Name' is 'TERM1', and 'Row Column' is '1'. The 'Attributes' column contains two dropdown menus with the following values: 'placement indoor' and 'inels IDRT2 indoor'. An 'Add' button is located at the bottom left of the table. A callout bubble points to the 'placement indoor' dropdown with the text: 'Selection of placing the sensor Indoors/Outdoors'. Another callout bubble points to the 'inels IDRT2 indoor' dropdown with the text: 'Heating input/Thermal sensor selection'.

6. Setting the iHC application without your own 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 'No file selected.' status, and an 'Upload' button. A red box highlights these three sections. Callouts provide the following instructions:

- 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.

The screenshot shows the 'Configuration' tab in the iNELS interface. It contains two edit dialogs. The first dialog, titled 'Edit export.pub', shows a list of iNELS elements in a text area. A callout bubble points to the text area with the text: 'The virtual server then works with the file format "export.pub", to which it also automatically converts the format "export.imm"'. Below the text area is an 'Update' button, with a callout bubble stating: 'Manually performed changes (NOT RECOMMENDED!) must be confirmed by'. The second dialog, titled 'Convert iNELS3 export to export.pub', shows a similar list of elements. A callout bubble points to the text area with the text: 'This field is completed only in case of uploading an "export.imm" file'. Below the text area is a 'Convert' button, with a callout bubble stating: 'Manually performed changes (NOT RECOMMENDED!) must be confirmed by pressing "Convert"'. The top navigation bar includes 'Configuration', 'Rooms', 'Log in', 'Uploads', 'Downloads', 'Manual', and 'Audit'.

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

Name of created room (without gaps and diacritics)

Protect by password
Password
.....

It is possible to protect each room by a numerical password

Confirm
.....

Add button for confirming creation of a room

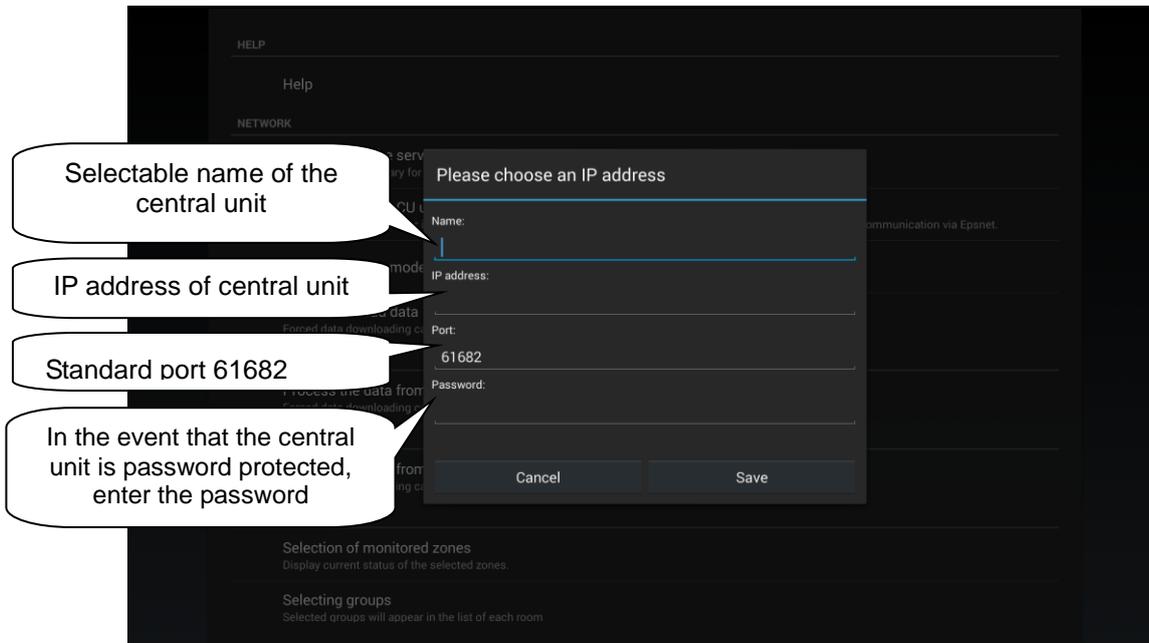
Room 1 [Edit](#) [Up](#) [Down](#) [Change password](#) [Rename](#) [Remove](#)

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

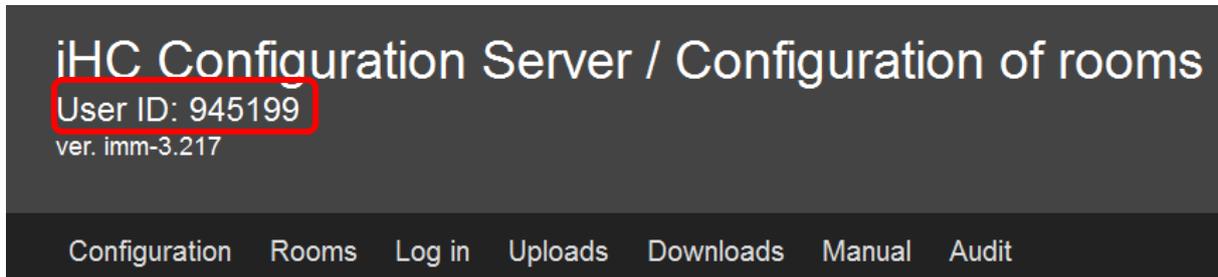
- a) by using "User ID" – **RECOMMENDED**
 - a. simpler, faster method
 - b. requires an Internet connection
- b) by downloading settings via files copied into the smart phone or tablet

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

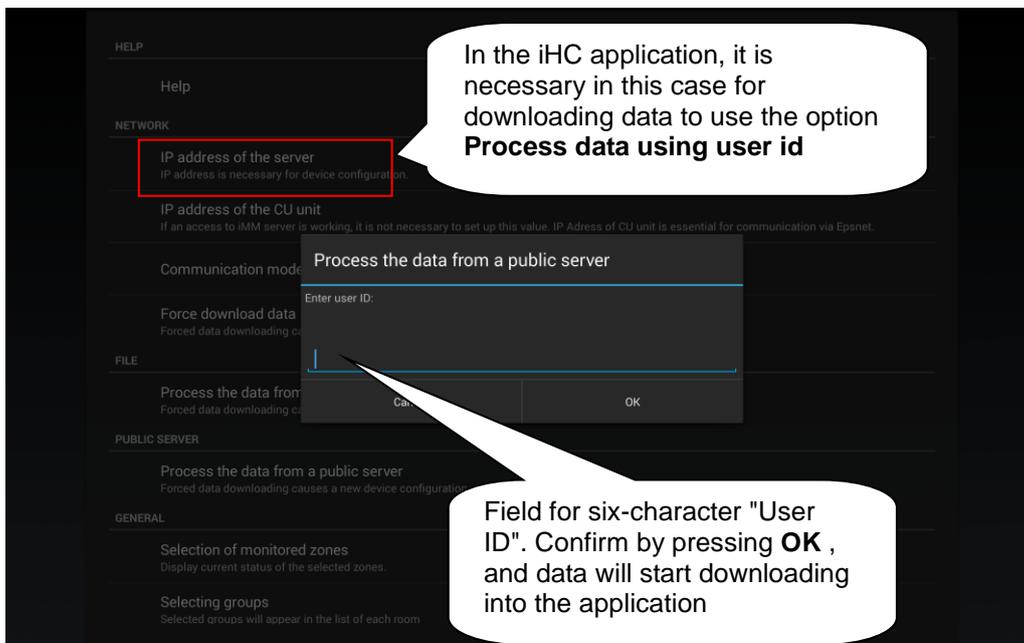
In the iHC application settings, select the option **IP address of the CU unit**, where by pressing "+", you will add the new central unit. Enter into the central unit any name, its IP address and port (61682 standard for second-generation central units, 9999 standard for third-generation central units). 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**.



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

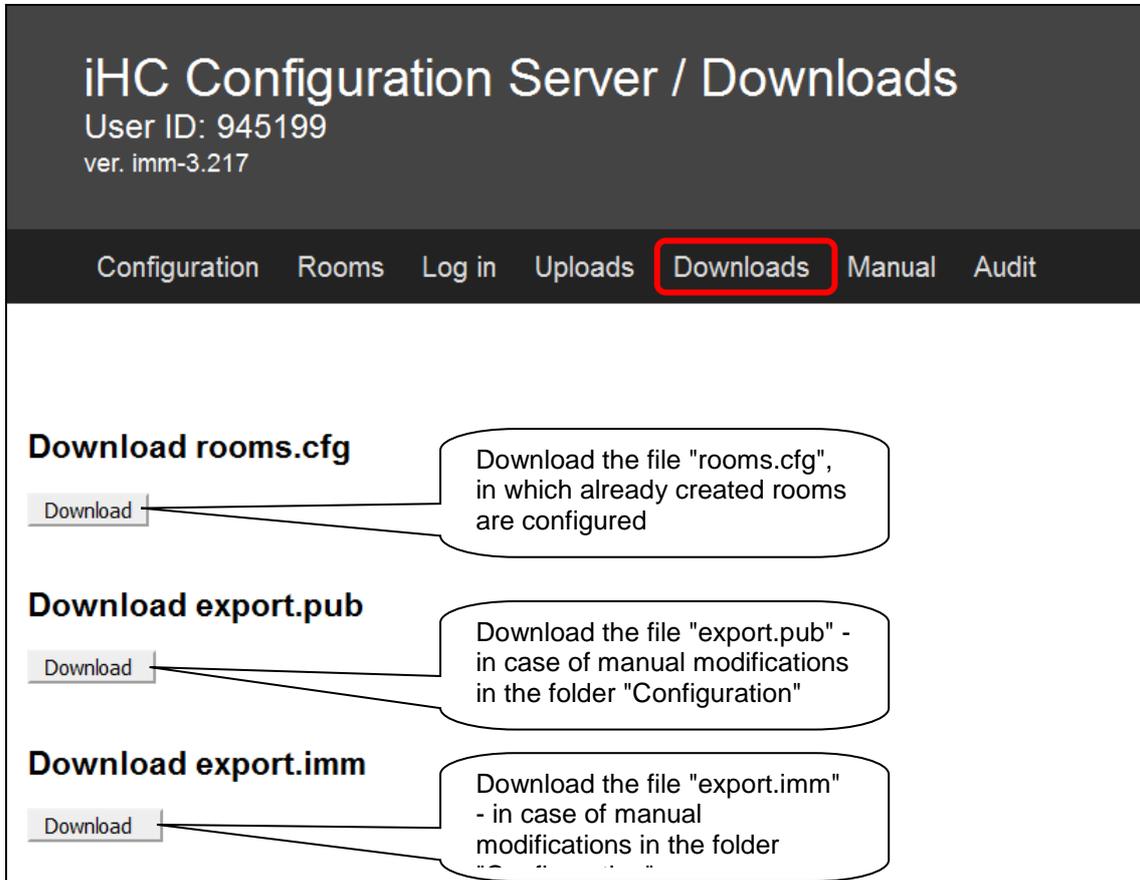


You will find the six-digit "User ID" in the upper part of the screen of the public virtual server. The "User ID" is very important, so make sure you make a note of it somewhere, because by using it you can return to your project anytime, and it serves for downloading your created settings into the iHC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

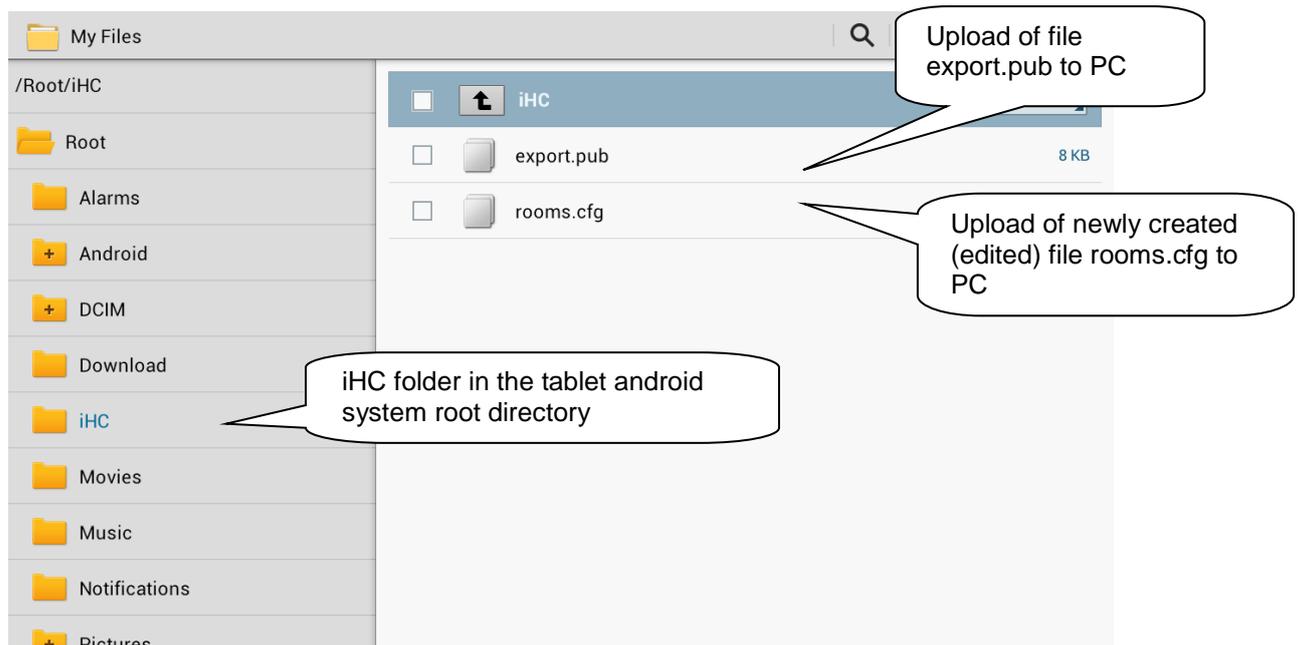


b) Downloading settings using files copied into the telephone and tablet

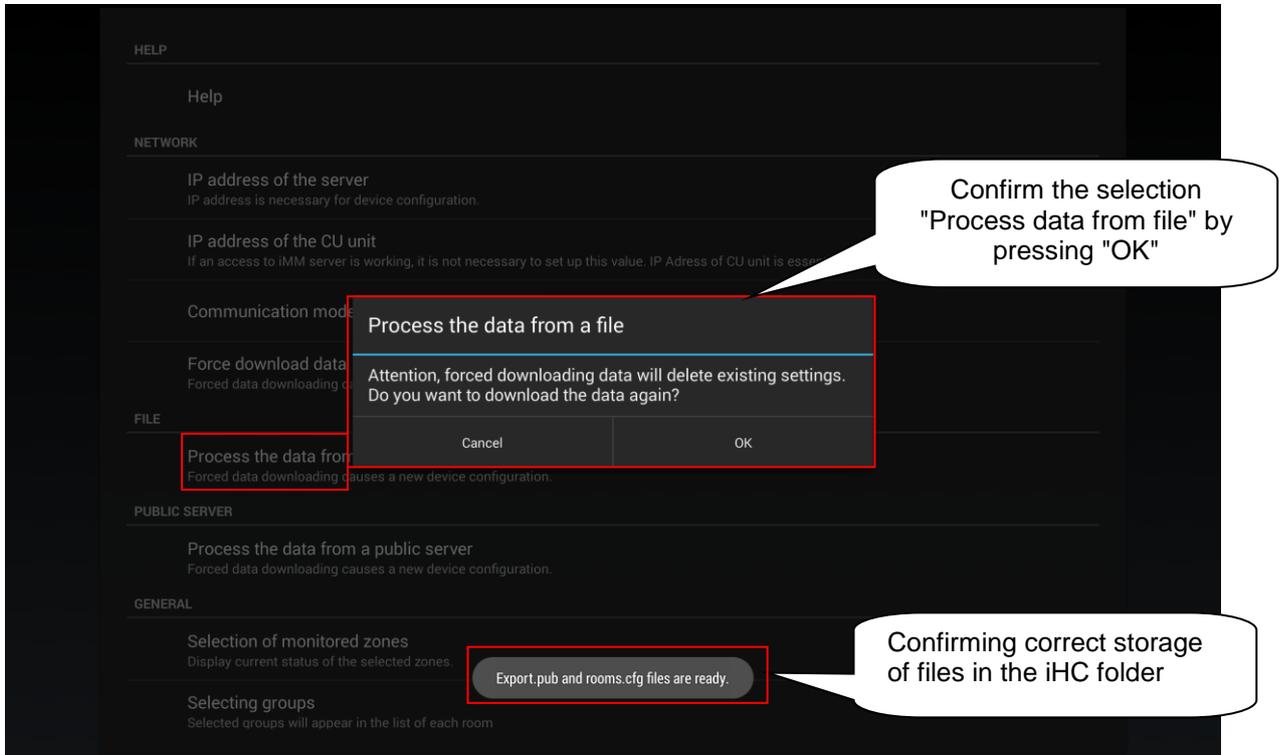
The tab **Downloads** enables downloading of created or modified files "rooms.cfg" (already created rooms), "export.pub" and "export.imm" to the computer.



Transfer these files from PC to tablet where in the root directory create an **iHC** folder, and copy these files in it.



If files are prepared, it is possible in the iHC application settings to select the option **Process data from file** (provided that you have already added the central unit to which you will be connected - see above in this chapter). The iHC application downloads all necessary data, and if everything is correctly set, the message appears **Data was successfully downloaded**



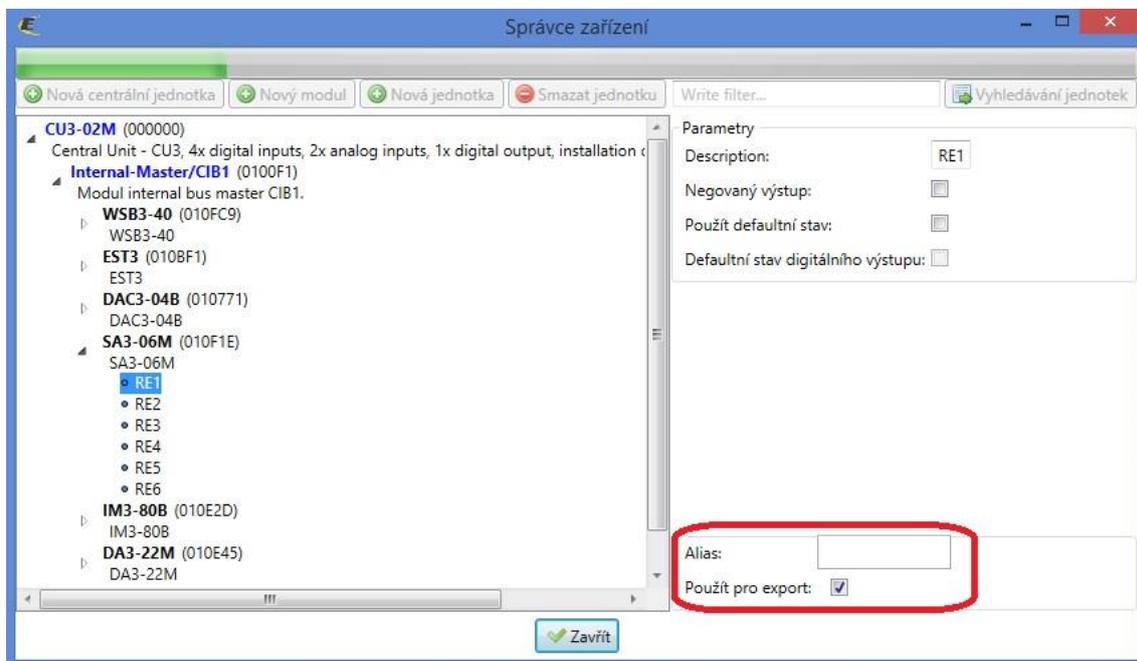
In the version without Connection Server, it is only possible from the iHC application to control bus units. For the option of controlling other devices such as video cameras, air-conditioning, recuperation, door phones, weather station, measuring energy consumption, the presence of a Connection Server is required.

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

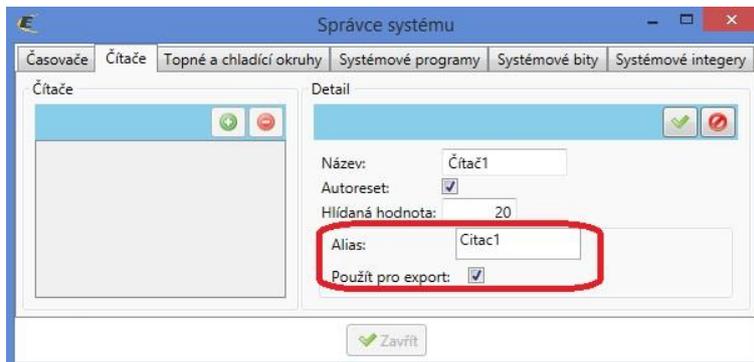
In the upper part of the iDM software, in the tab "Project", select the option **Device manager**, where you will find a tree structure of the entire system. For each input and output, after giving it a name, you can select the option **Use for export** in the lower right part of the dialog window. In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

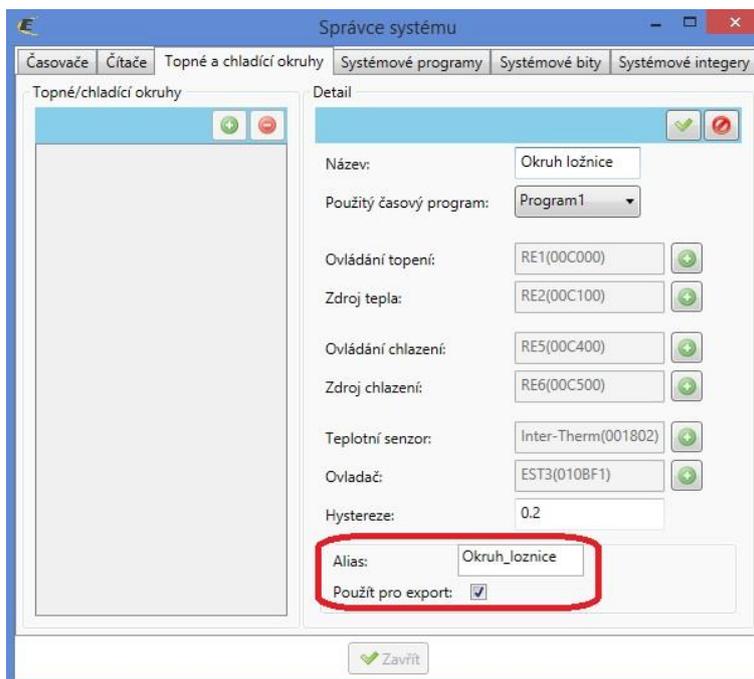
Exporting readers is performed from the tab **Administration**, option **System administrator**. In this dialog window, move to the tab **Readers**. Here, you can export the given reader by checking the option **Use for export**. If you chose your own **Alias**, this may contain neither diacritical marks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



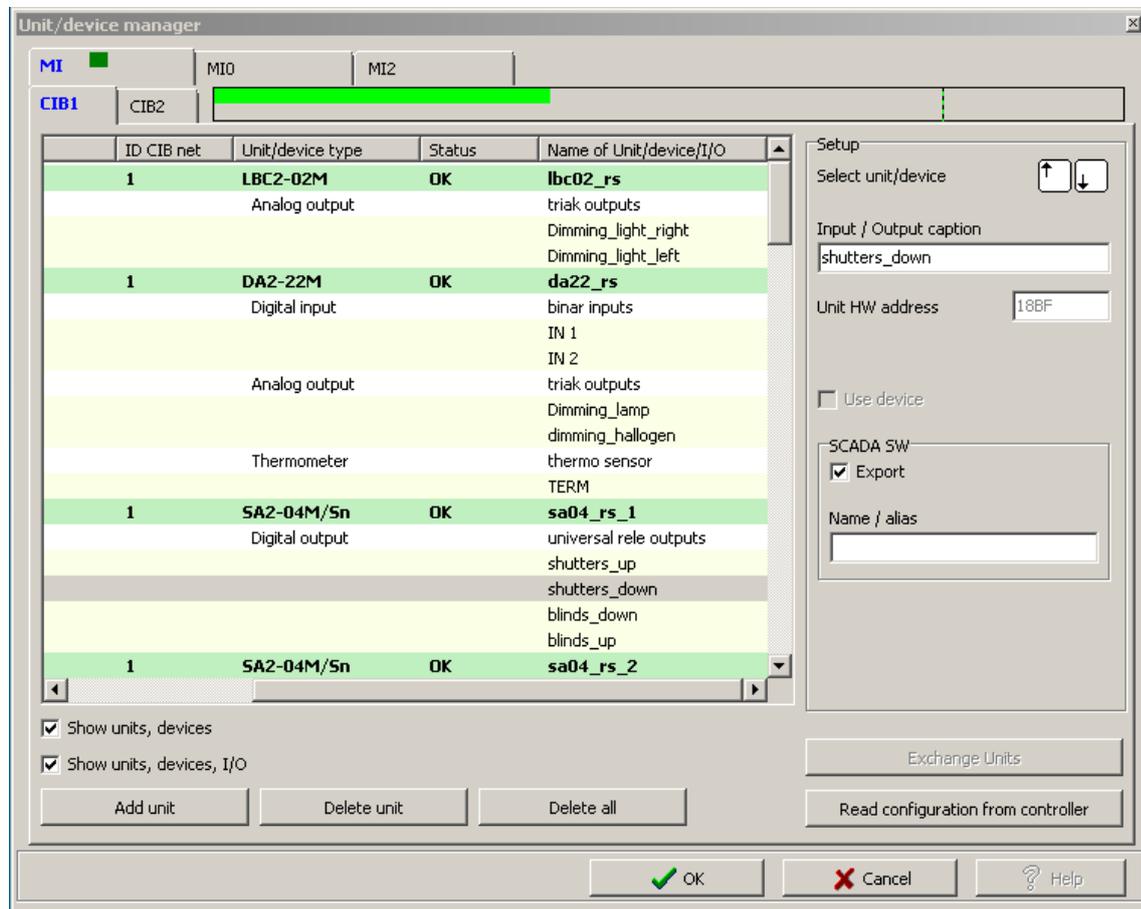
8. Exporting data from iDM2 (iNELS2 Designer & Manager) second generation

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

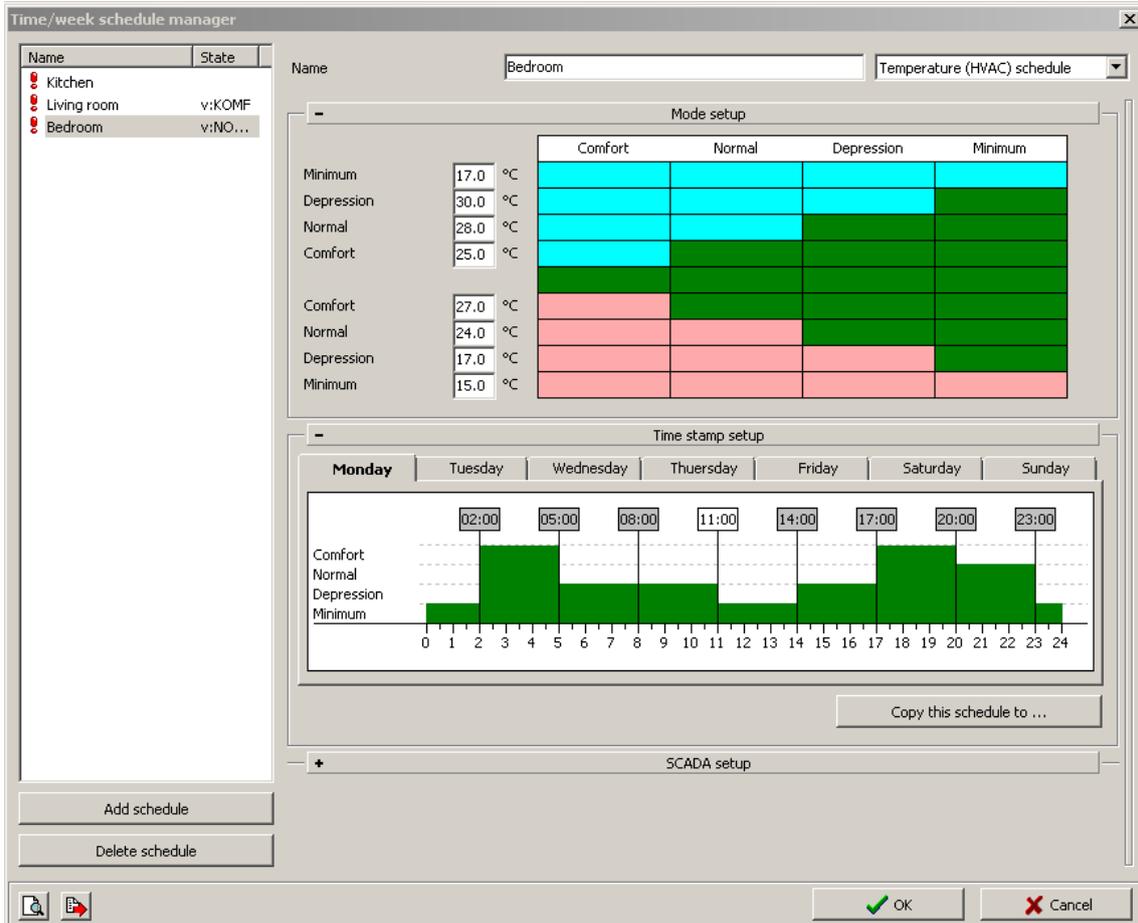
Exporting inputs/outputs is performed from the window **Unit/device manager**, where for the required inputs/outputs, you must check the option **Export for visualization**. In case you want to name the given input/output, use the column **Naming/alias**.

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.



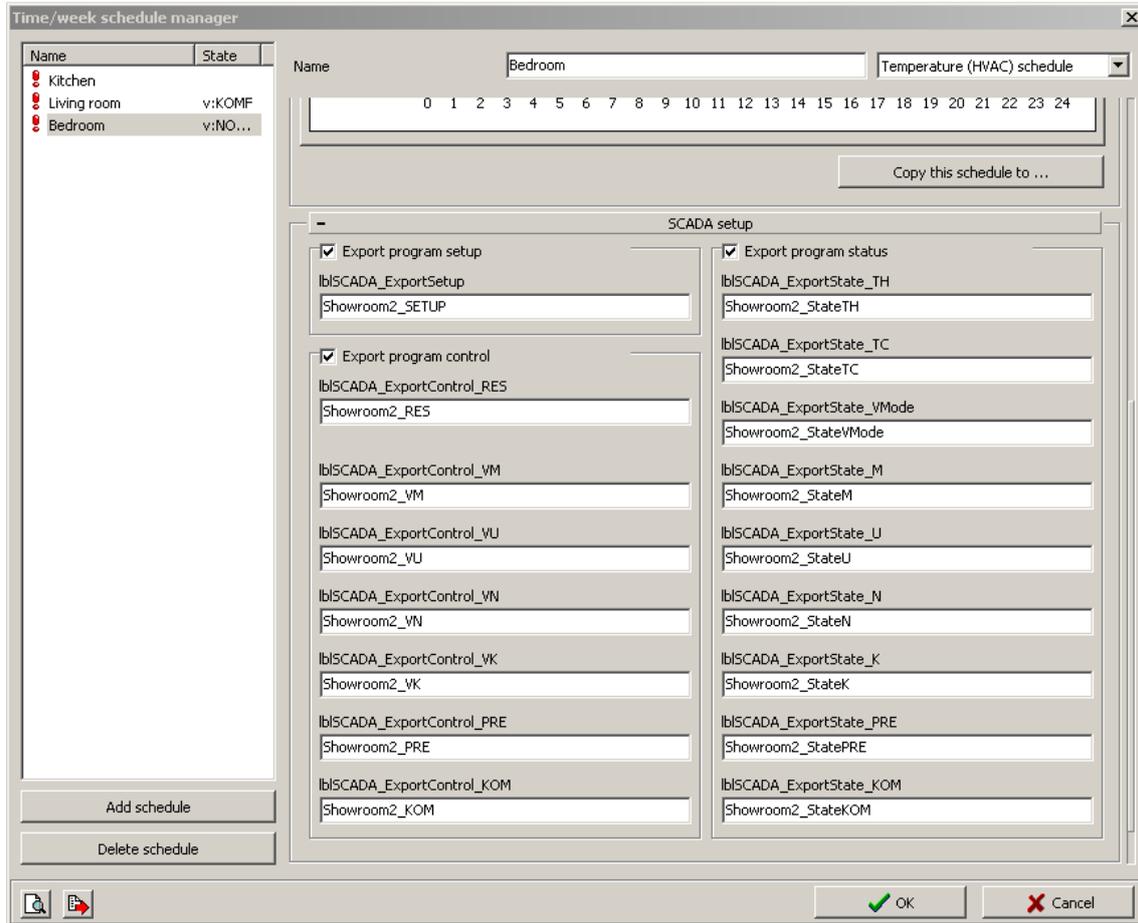
Export of time programs

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.

Time events management

Name of event
14.02.2014 08:15:59

Name of event: watering

Time of activation/spread: 00:00:06.000 00:00:00.000

Event is active

system_start

Type of event

Each day in week
 Day in month
 Each day in month

Year setting

- leden
- únor
- březen
- duben
- květen
- červen
- červenec
- srpen
- září
- říjen
- listopad
- prosinec

SCADA

Export for SCADA

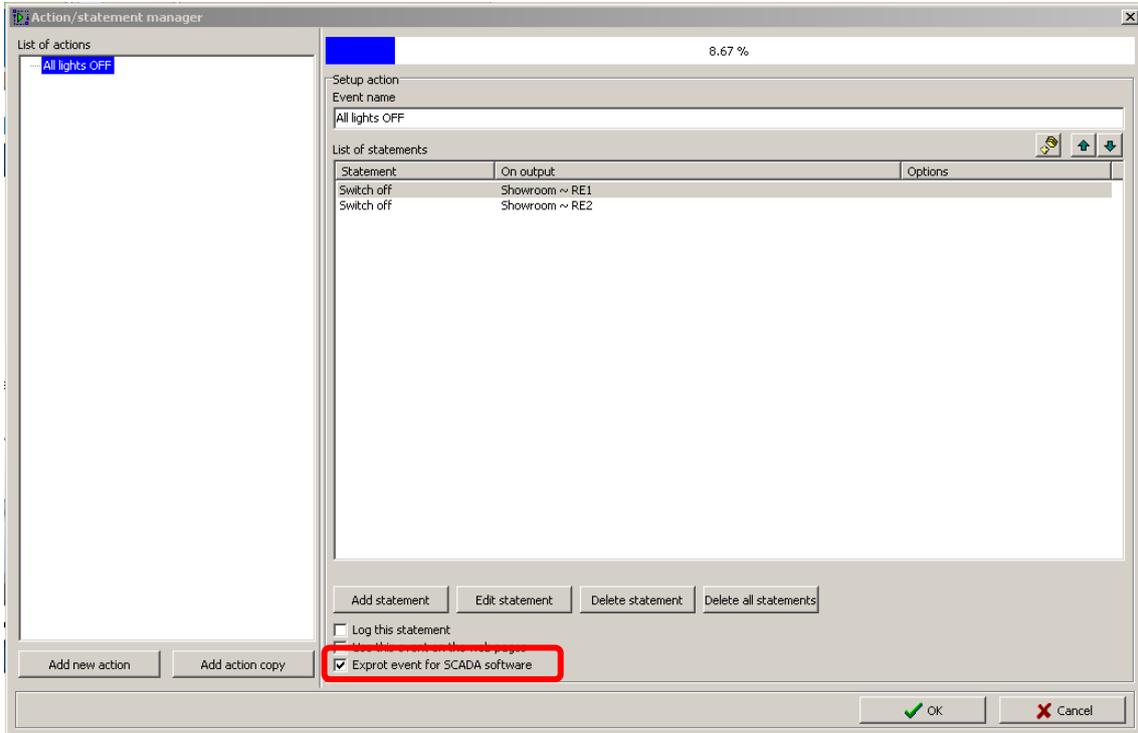
Name for SCADA: watering

Add new Delete

OK Cancel

Exporting events

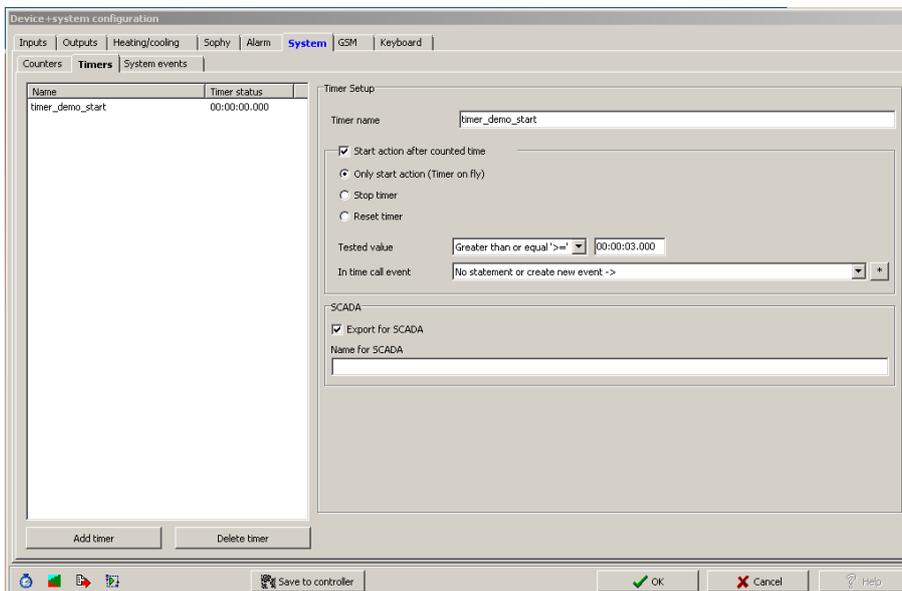
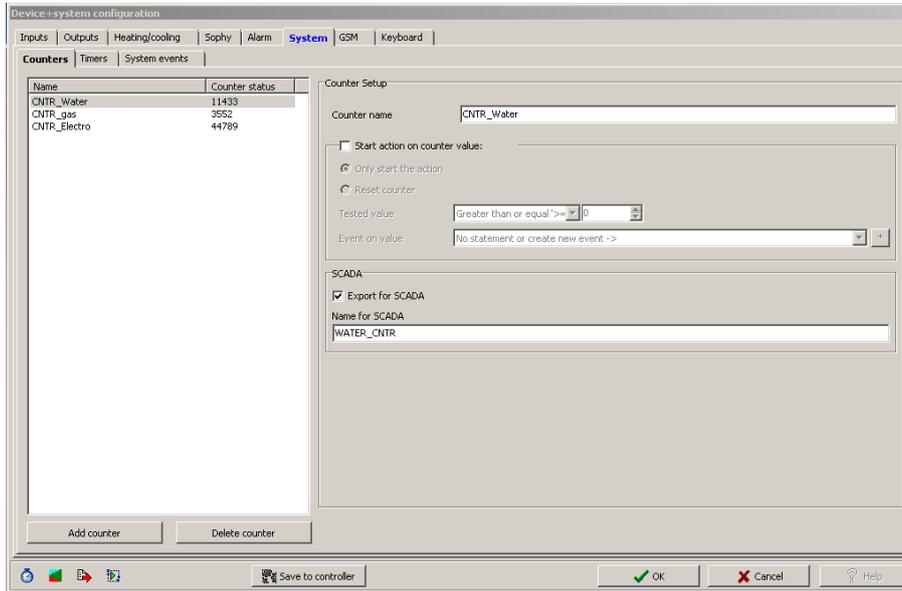
There is a special selection of export for visualization. This concerns direct export of events from the window **Actions/statement manager**. These exported actions can then be called directly from the iHC application. For the required action, you must check **Export event for visualization** in the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

