

Installation manual to iHC-TI application



Contents

1. Introduction.....	3
2. Application installation in your device	4
3. Basic application settings	5
4. Application control.....	10
5. Configuration of Rooms	21
6. Item description	22
7. iHC application setting without own IMM Server.....	27
8. Data export from IDM (iNELS Designer& Manager)	29

1. Introduction

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

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

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

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, meteostation, or watch the levels of consumed energies
- with iMM server which additionally allows controlling of multimedia, i.e. Video zones (starting music, video, television, or browsing photographs from the central storage), and Audio zones (starting music from the central storage).

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

Download

Download the current version here:



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

2. Application installation in your device

- a) Once the installation is completed, the device will offer a window offering opening the newly installed application. When the application opens, you need to enter the registration email and following licence that you will receive directly to the registration email you have entered. By pressing "Continue", after the elapse of 5 seconds, you can fully run the application without the necessity of entering the licence number.
- b) For sending the registration email and verifying the application licence you need to be connected to the internet.

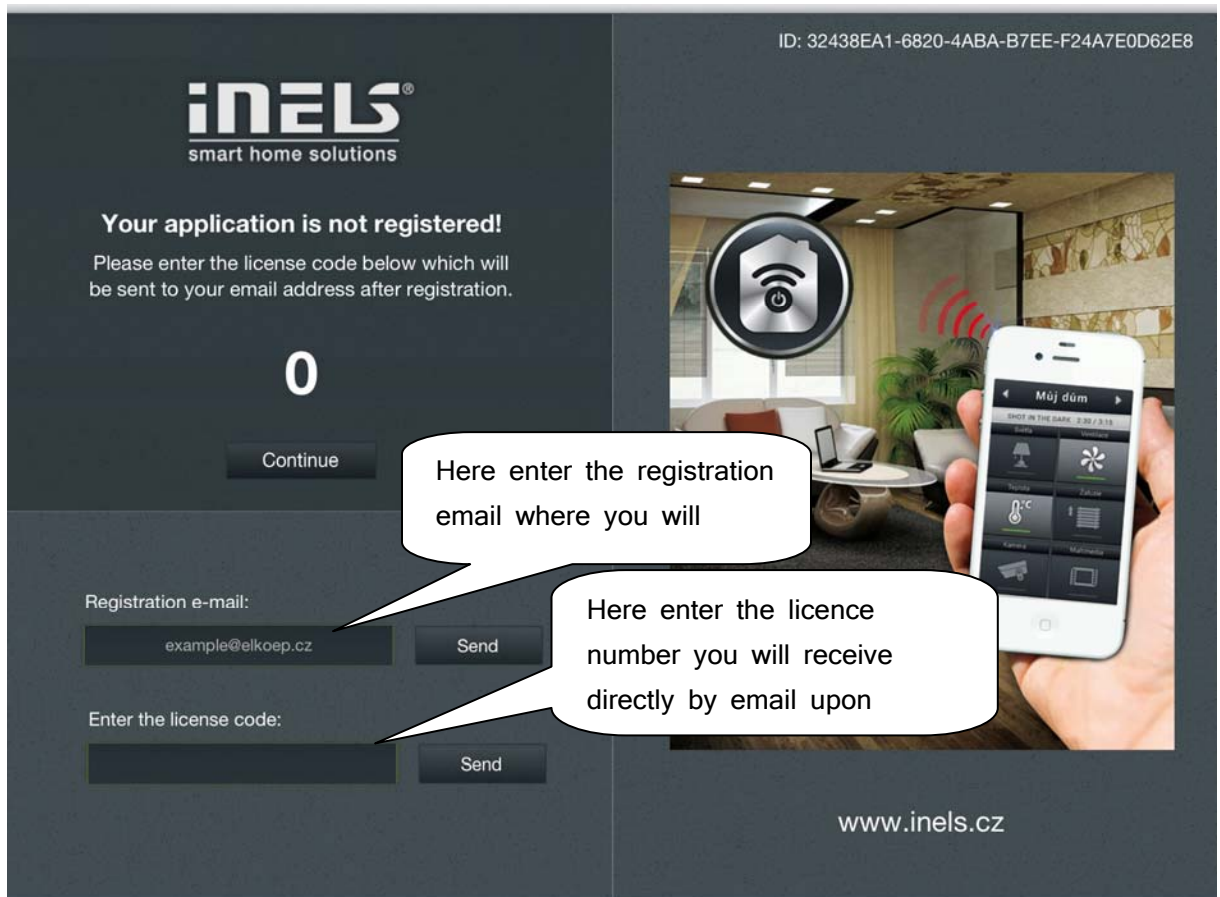



Figure 1 Registration

3. Basic application settings

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

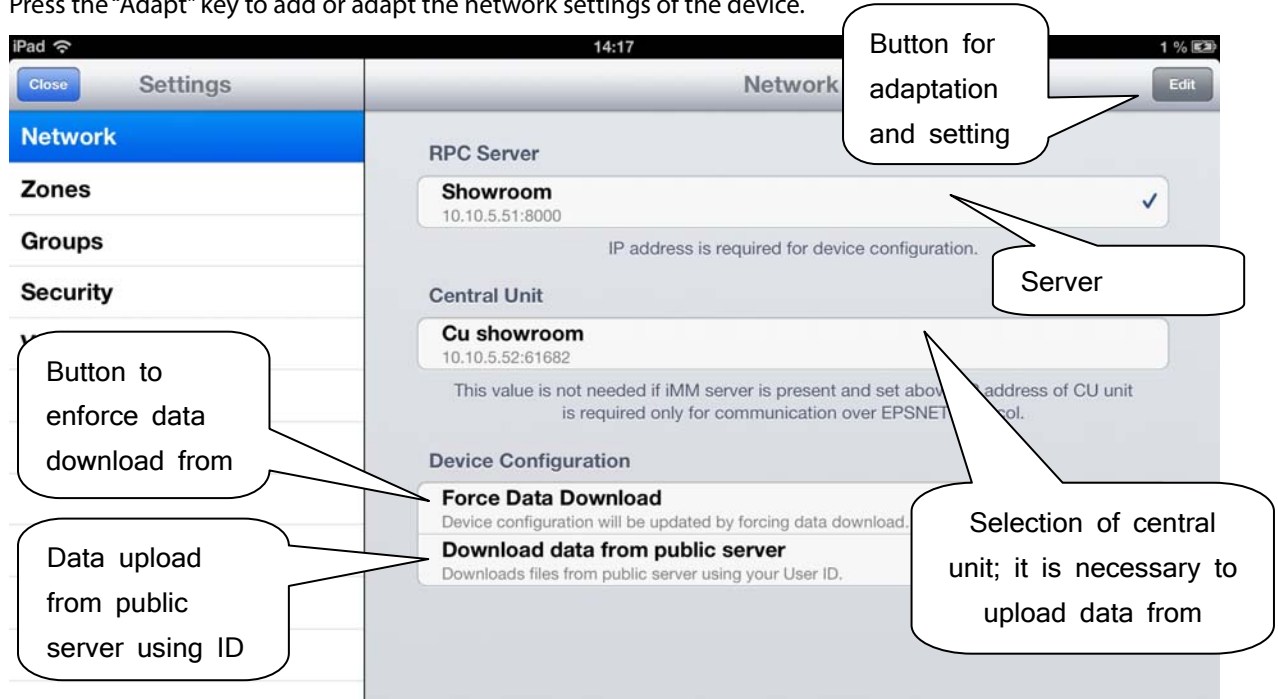


Figure 1 Setting

- a) Select the button “server IP address” and a dialogue window displays for setting the 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 Save and select this server.



Figure 2 IP address of server

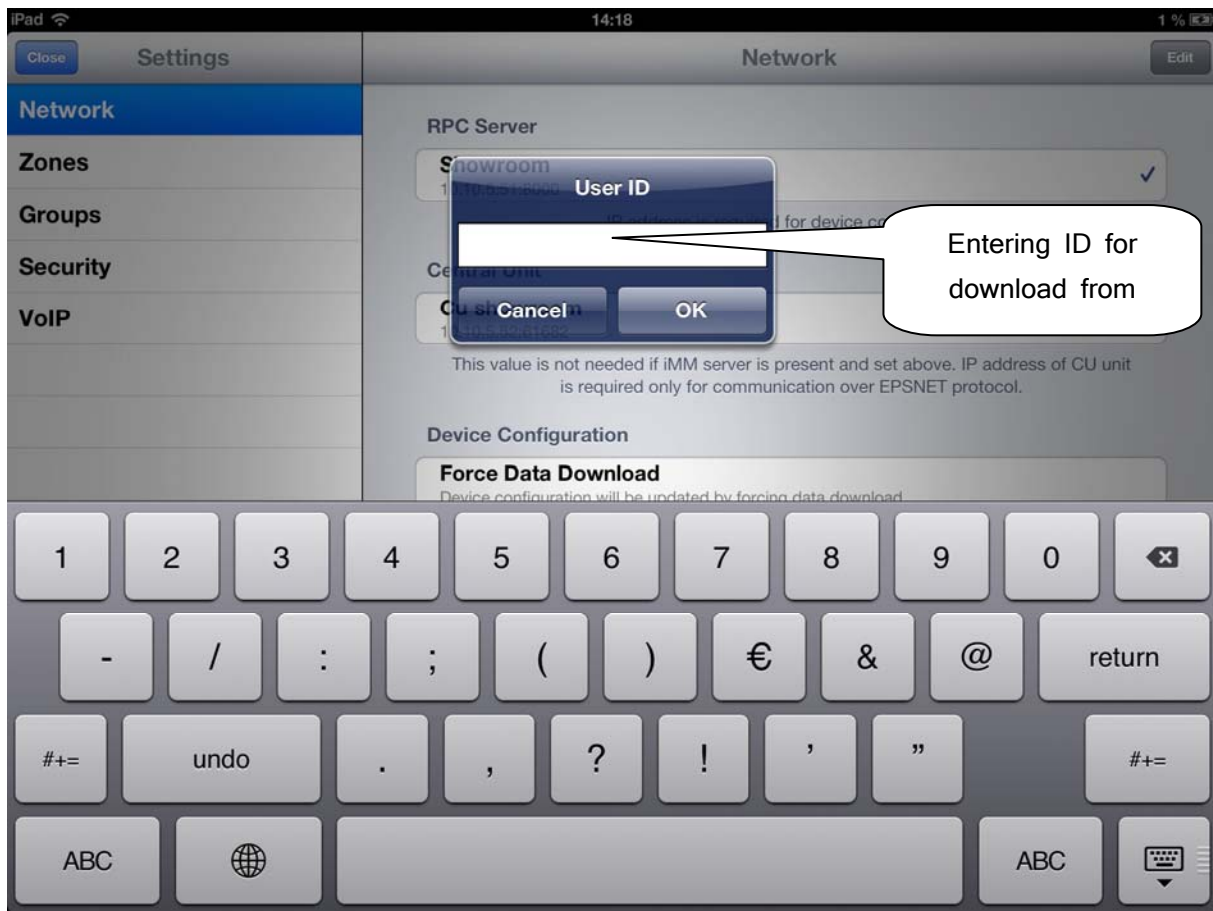


Figure 3 Entering User ID

- b) The next step is **Enforce data download** (Figure 2). Confirm by OK. **iHC application can be run to control iNELS elements even without own IMM Server by means of ID from public server to which you can get connected via the internet. (Figure 4) Read more in the manual.**
- c) If you want to monitor the connected Audio zones and Video zones in the application, you need to select these zones in the menu "Monitored zones" (Figure 5).



Figure 6 Monitored zones

Confirmation of the selection of monitored zones

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



Figure 5 Selection of groups

d) Other application settings

Protect application by password – here you can enter your password; the application will ask for it at every opening.

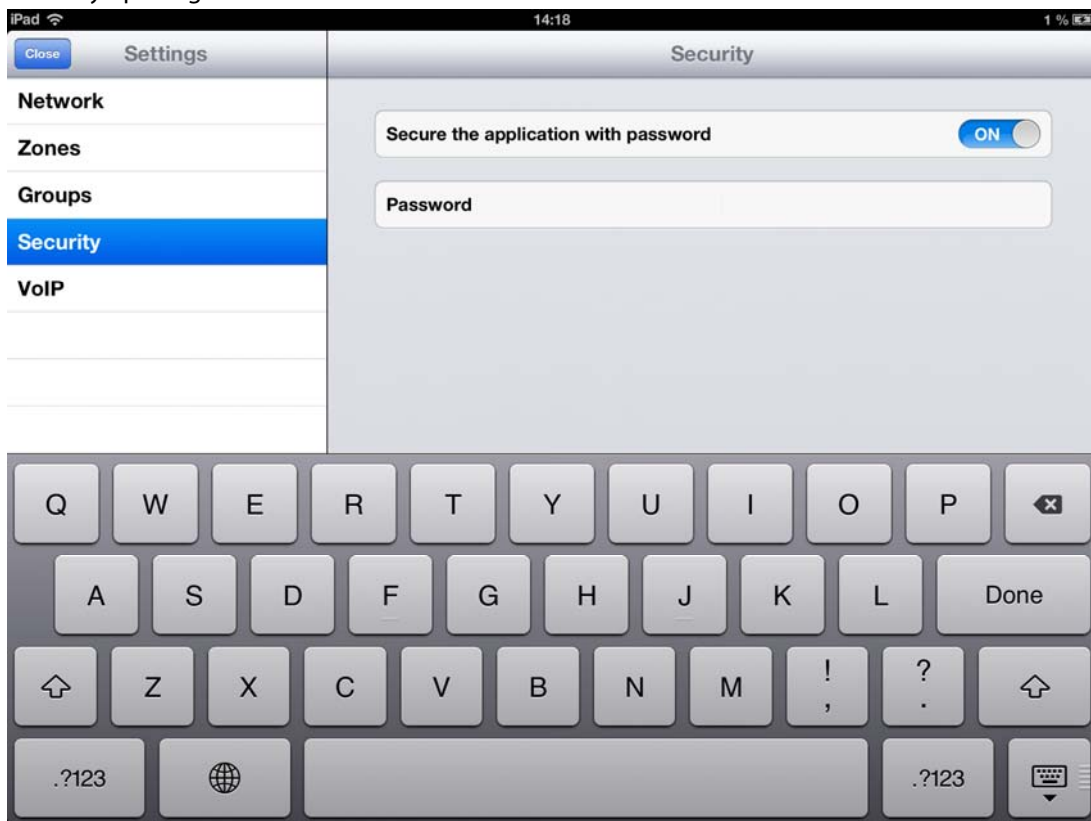


Figure 6 Entering application password

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

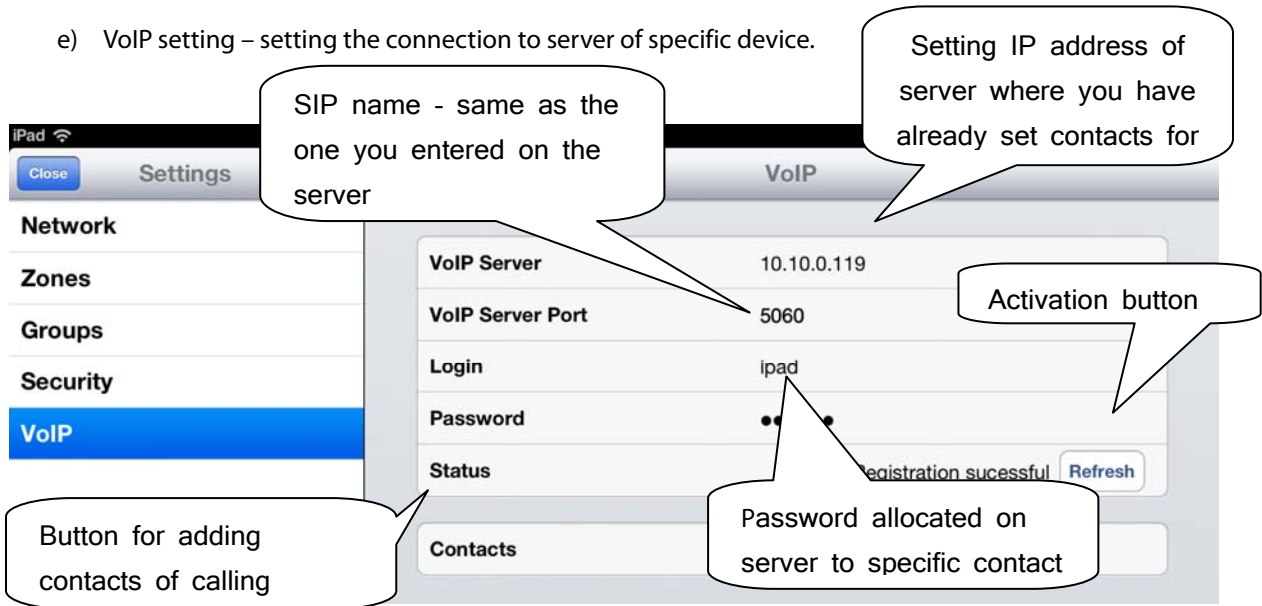


Figure 7 VoIP Setting

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

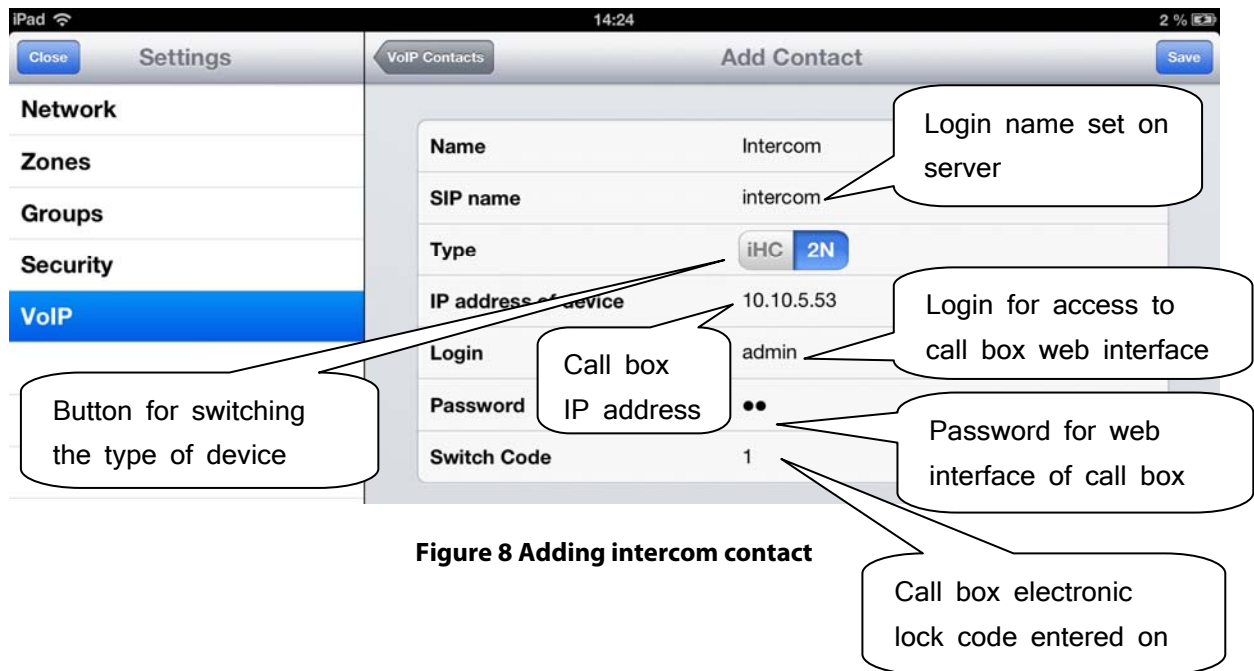


Figure 8 Adding intercom contact

You can also add dialled contacts directly in the application.



Figure 9 Adding a contact

4. Application control

a) Tiles

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

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



Figure 10 Main screen

1. Dimming icon, holding you finger on the icon will call up a slider for dimming control.
2. Selection of room
3. Displaying the indoor temperature from a selected thermal sensor
4. Displaying the outdoor temperature from a selected thermal sensor
5. The Heat Control icon enables controlling and switching between preset heating programs.
6. Settings icon
7. Multimedia control – Video zones and Audio zones
8. Cameras icon for monitoring video of connected up to nine IP cameras
9. Control of Miele household appliances
10. Energy Metering icon for energy consumption visualisation
11. GIOM3000 Meteostation icon for visualisation of meteorological quantities
12. Analogue exciters for displaying data from Meteostation, e.g. type of Clima sensor
13. The menu scrolls up or down if there are multiple zones

14. Information on currently played Multimedia in the Zone
15. Switching off and on of the Zone, including devices connected to it
16. Tiles for controlling the set Scene
17. Icon for controlling IP call box - dialling and setting of contacts
18. Change to Fast menu

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

b) List (Fast menu)

- List "Scenes" is used to activate user pre-defined scenes, such as "All off", "All on", "All shutters up", "All shutters down", etc.
- 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, or 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.
- In the bookmark "Shutters" you can easily see and control the shutters, garage doors, gates, etc.
- 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.
- 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.



Figure 11 Fast menu screen (List)

c) Miele

This part of the application allows remote administration of the Miele house appliances which are connected to the Miele@Home network by means of communication modules. The communication between the appliances and the Miele Gateway communication interface runs on powerline. Miele Gateway then transfers this powerline communication to the ethernet network. To translate this protocol you need to use IMM or 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.



Figure 12 Screen List of Miele appliances

d) 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 casued by pressing relevant camera view. Calling up the panel for PZ control (pan, tilt, zoom) is then achieved by pressing the camera image.

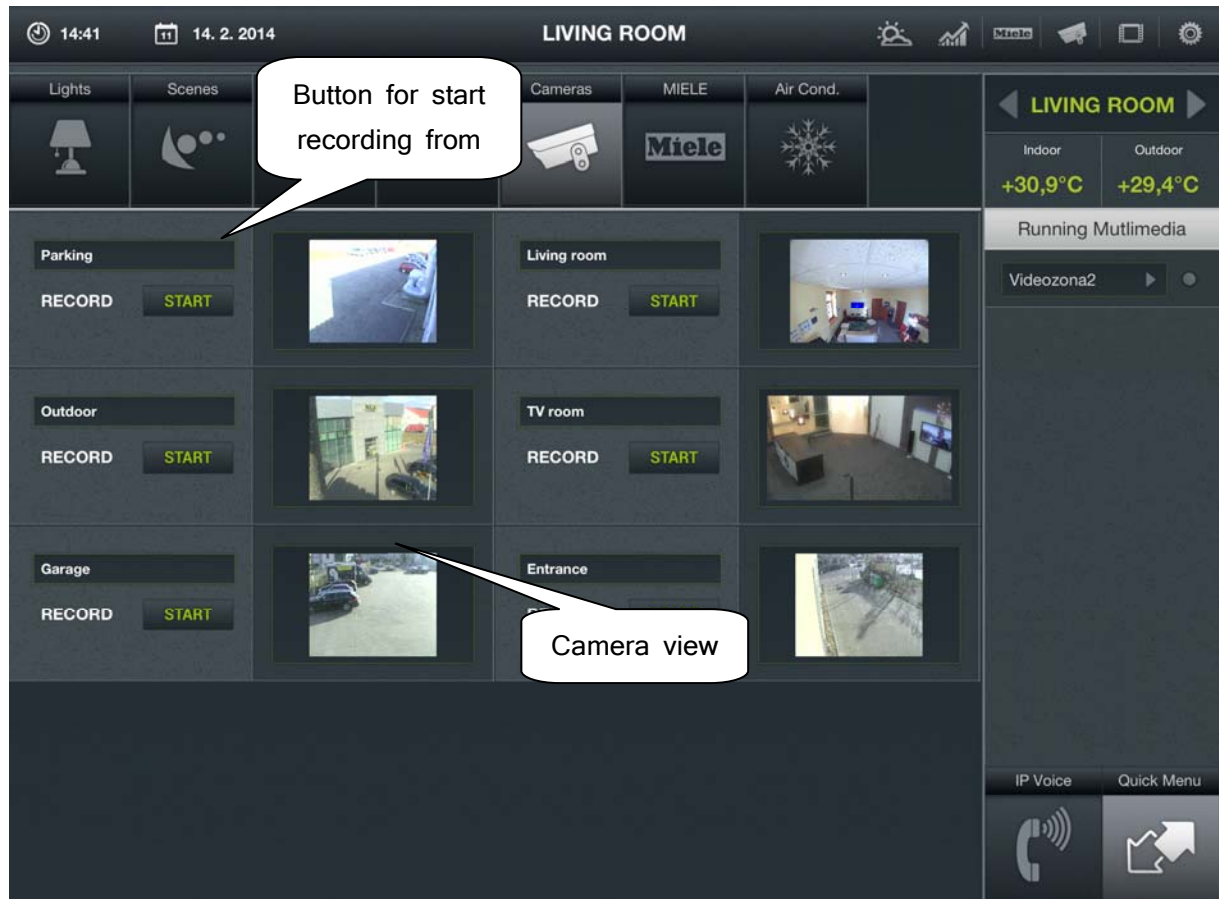


Figure 13 Screen List of cameras

e) Air conditioning and recuperation

Controlling the air conditioning units is bi-directional, so you can fully utilise the features of your air conditioning, such as control of blowing speed, movement of lamellas or control of modes, such as plasma. Whilst controlling recuperations you can select the way of air exchange, rotation speed of ventilators, temperature, ...

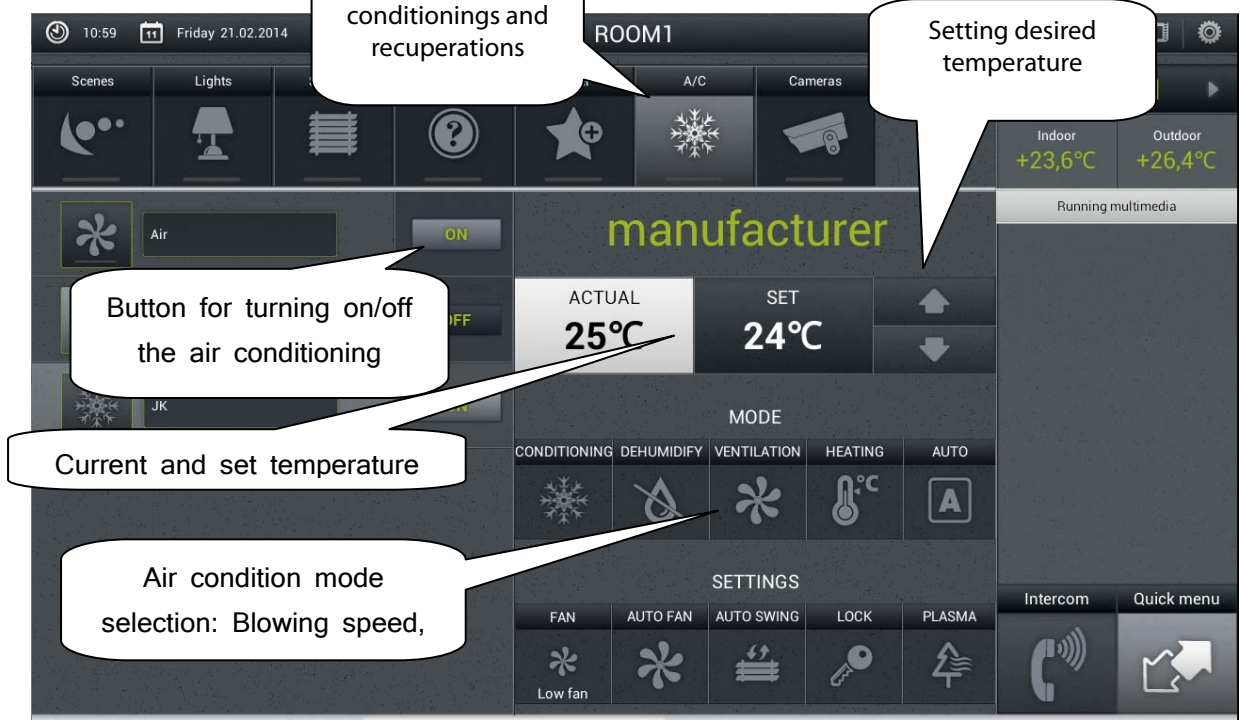


Figure 14 Screen Air conditioning and recuperation (LG Air conditioning)

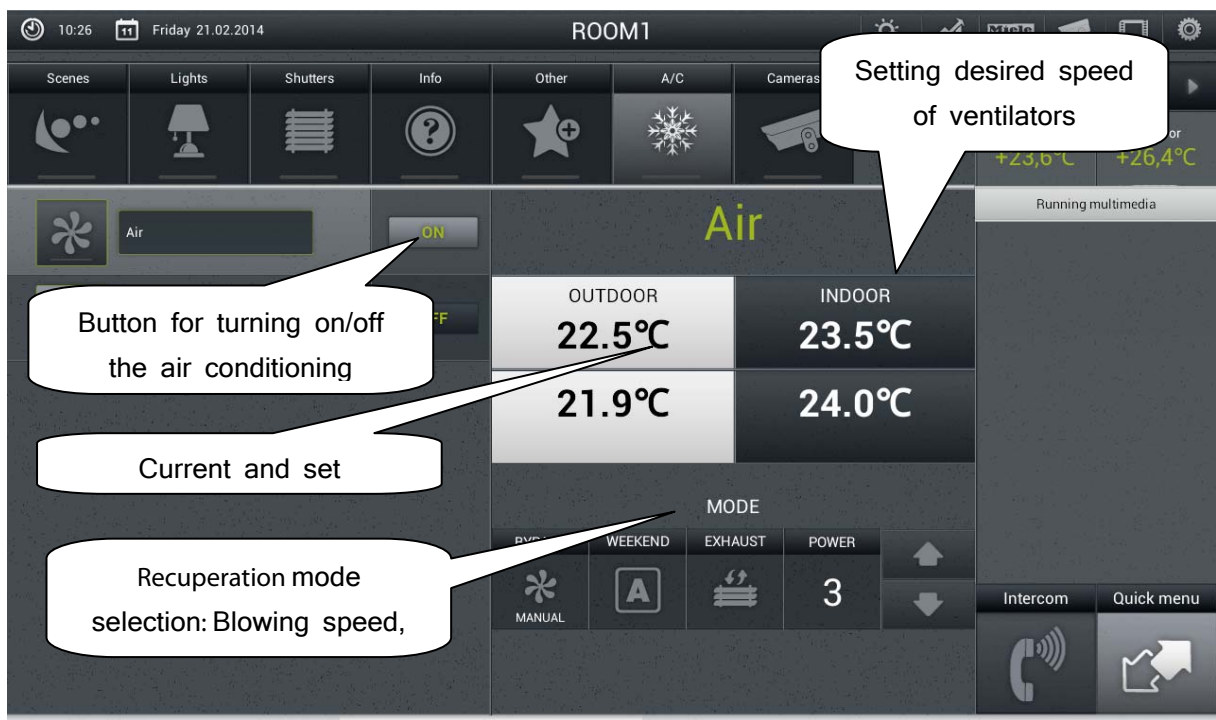


Figure 15 Screen Air conditioning and recuperation (AirPohoda recuperation)

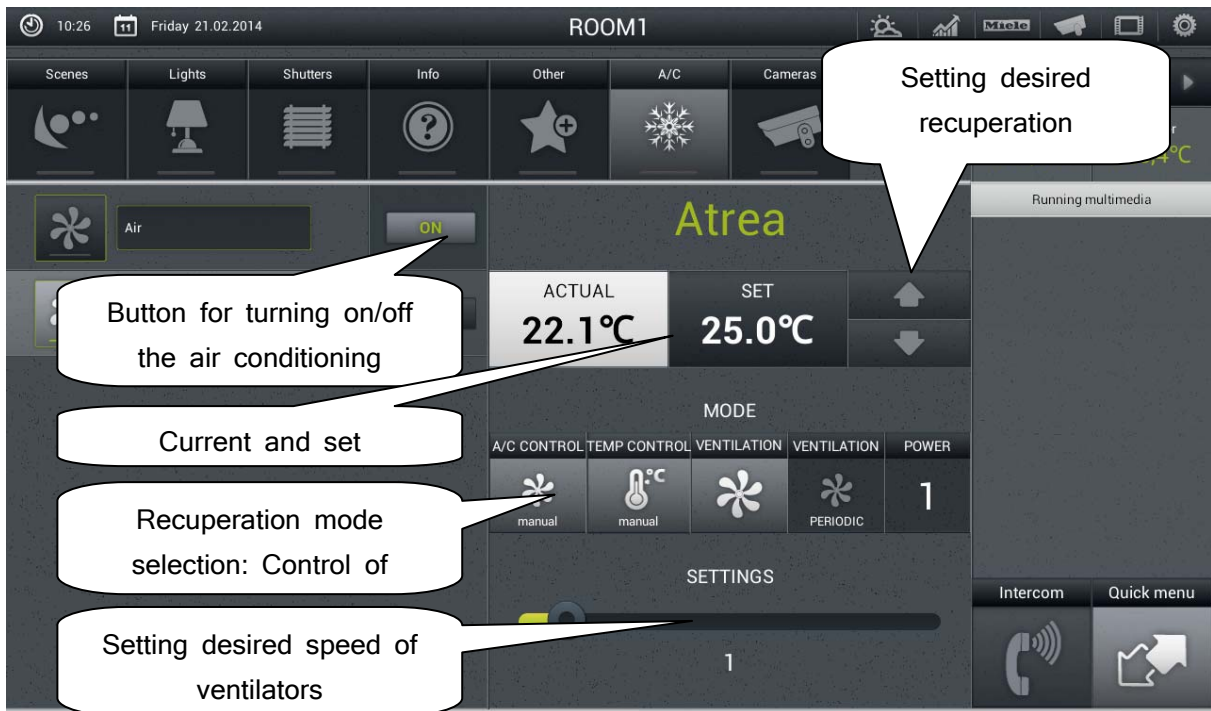


Figure 16 Screen Air conditioning and recuperation (Atrea recuperation)

f) Multimedia

Multimedia can only be controlled when IMM Client/Server is incorporated in the system. IMM 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. IMM Audio Zone (AZ-R) or LARA iNELS Multimedia, the audio of which can be controlled.

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

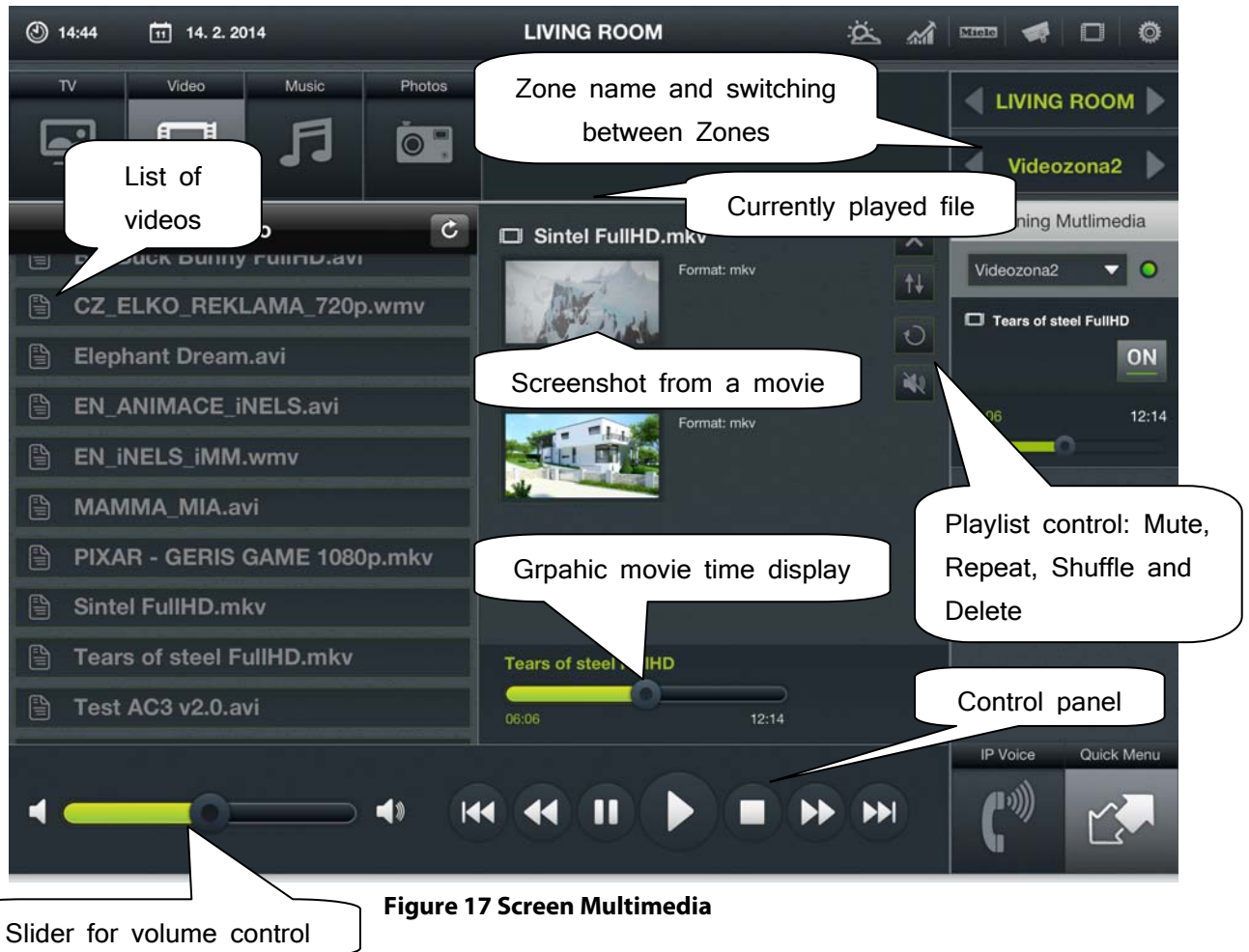


Figure 17 Screen Multimedia

g) IP call box

In the IP call box screen you can create contacts for calling by means of SIP protocol. It allows us to connect to other iHC devices, iMM Video zones and also to IP intercom from the company 2N. If a call is received from IP intercom with a camera (and RTSP system support), also the image from the camera displays.

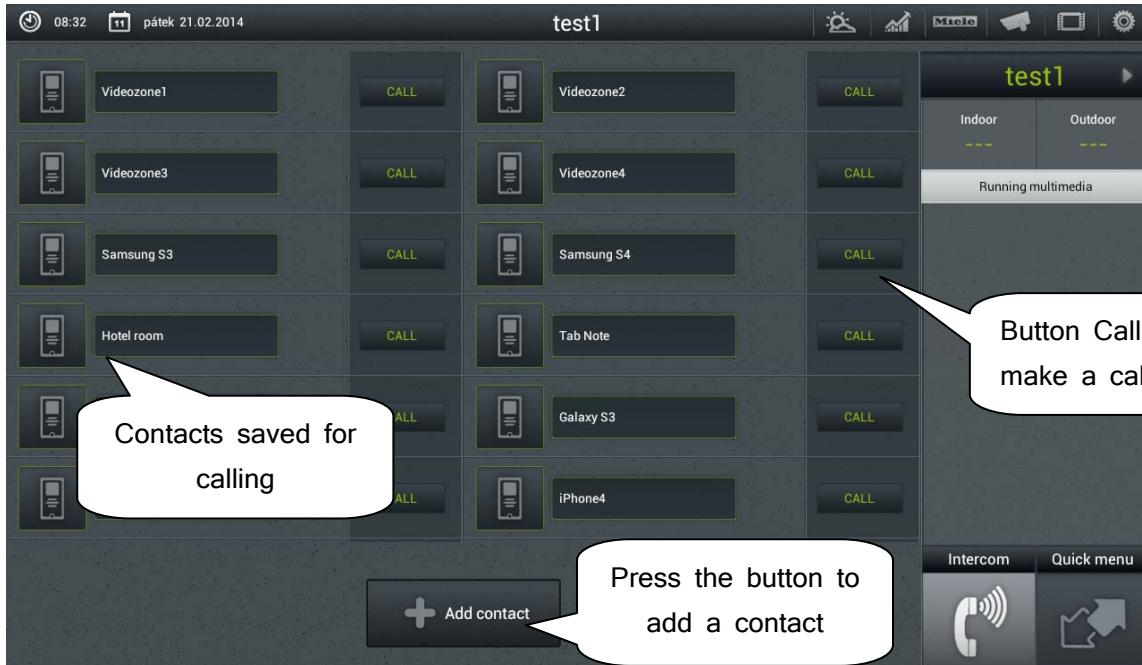


Figure 18 IP call box List of contacts

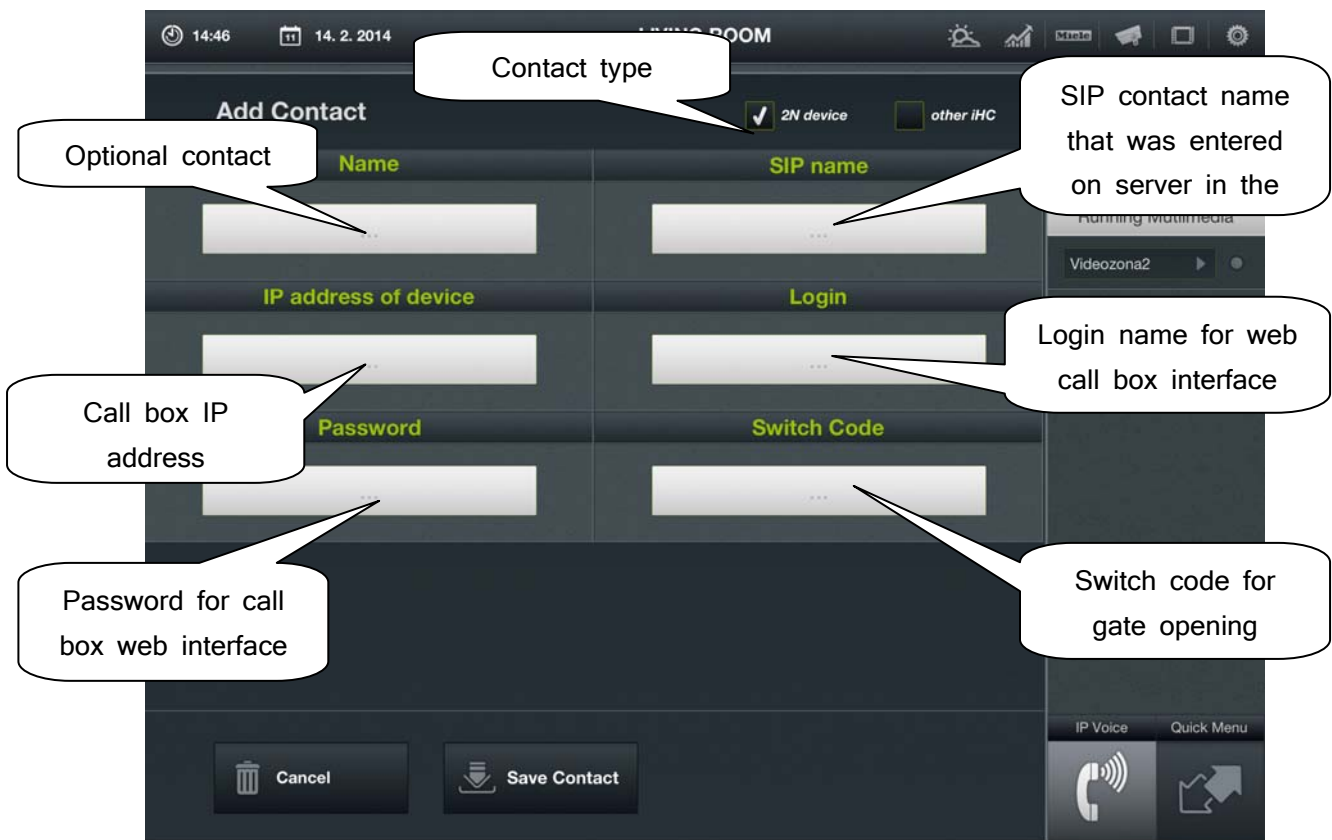


Figure 19 IP call box Adding a contact

a) GIM3000 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



Figure 20 Screen Giom meteostation

b) Energy metering

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

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



Figure 21 Energy Meter numerical display screen



Figure 22 Energy Meter graphic display screen

5. 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 iDM software (see separate manual)
- Zones – created on the basis of iMM Server configuration

The screenshot shows the 'Configuration of rooms' page in the IMM Control Center. The browser address bar shows '10.10.5.51:8080/rooms'. The page title is 'iMM Control center / Configuration of rooms'. The navigation menu includes 'Server', 'Configuration', 'Zones', 'Clims', 'Rooms', 'Cameras', 'Energy', 'IR', and 'Audit'. The 'Rooms' menu item is highlighted with a red box.

The 'New room' form is highlighted with a red border and includes the following fields and callouts:

- Name:** 'Room3' (Callout: 'Name of new')
- Protect by password:** (Callout: 'Tick if you wish to protect the control given by Room')
- Password:** [Redacted] (Callout: 'Password and confirmation')
- Confirm:** [Redacted] (Callout: 'Note: Only one asterisk displays')
- Add:** [Button]

Below the form is a table of existing rooms:

global	Edit		
ROOM1	Edit	Set password	Remove
ROOM2	Edit	Set password	Remove







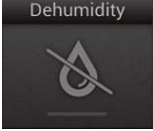


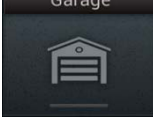





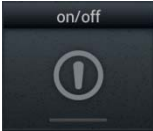
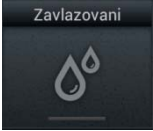
Callouts for the table:

- [Edit](#) (under ROOM1): 'Editing of respective Room'
- [Remove](#) (under ROOM2): 'Removal of respective Room'

6. Item description

There are 3 types of items:

1. Simple Items for switching in the ON/OFF manner.
2. Items for iNELS item dimming (can be also used as ON/OFF by simple pressing, holding down displays a slider for dimming mode).
3. Other Items serve e.g. to display data from meteorostation or control air conditioning.

	Simple 2-status icon		Dimmable icon		Special icon
Airing		Blank		Weather station	
Air-conditioning		Lamp		Scene	
Dehumidify		Light		Shutters	
Garage				Indoor thermometer	
Gate				Outdoor thermometer	
Heating				Heat Control	
On/Off					
Sprinkling					

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 the configuration interface for the 'air conditioning' icon. It features a table with columns: Type, Name, Row, Column, and Attributes. The 'Type' dropdown is set to 'air conditioning'. The 'Name' dropdown shows a list with 'LG Dolni' selected. The 'Row' dropdown is set to '2'. The 'Attributes' section includes 'type' set to 'menu' and 'read_only' set to 'no'. A callout explains that selecting 'yes' for 'read_only' makes the icon read-only. An 'Add' button is shown with a callout for confirmation. Other callouts identify the selected icon type, the selection of air conditioning defined in the bookmark 'Clims', the selection of air, and the line and column selections.

Type	Name	Row	Column	Attributes
air conditioning	LG Dolni	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 interface for the 'heat control' icon. It includes fields for 'stateth', 'therm', 'rele', and 'read_only'. The 'stateth' dropdown is set to 'Showroom_StateTH', 'therm' to 'SOPHY2_TERM', and 'rele' to 'sa04_rs_2_Vytapeni'. The 'read_only' dropdown is set to 'no'. Callouts explain that 'stateth' is a variable from iDM returning the current preset, 'therm' is the temperature input/thermal sensor, and 'rele' is the relay controlling the heating circuit. The icon name 'heat control' and the number '3' are also visible.

Meteostation

Displaying values from AD converter

Type	Name	Row	Column	Attributes
meteostation	Vitr	2		inels ADC2_40M_AI1
Coefficients, calculation				koef_mult 0.004
Maximum displayed value				koef_add 0
Minimum displayed value				max_disp 40
Minimum displayed value				min_disp 0
Number of decimal				decimal_digits 1
Displayed units				units m/s

Add

Calculation of coefficients is based on the equation $d=a*v+b$, where
 d – is the displayed value
 a – is the sought for multiplier “koef_mult”
 v – value sent by the central unit (0-10 V) multiplied by thousand
 b – value “koef_add” by which the final value is displaced.

General procedure:

It has to be defined what range the quantity will reach, in our case 40 will be the upper limit (max_disp), and 0 the lower limit (min_disp). Place these values into 2 equations with 2 unknowns. Result of this equation is coefficient multiplier (koef_mult) and also coefficient addition (koef_add). Put the values in the table.

Example: If you wish to display value 0 to 10 sent from the central unit in internal 0 to 40 m/s, the procedure is as follows:

For:

The below equation applies:

max_disp=40

max_disp = koef_mult*10*1000 + koef_add

min_disp=0

min_disp = koef_mult*0*1000 + koef_add

Since there is no request for displacement of displayed values (this request might occur in case of outdoor temperature measuring where also negative temperature value occur), the coefficient will be koef_add=0.

It means that:

$40 = koef_mult*10*1000 + 0$

$40 = koef_mult*10000$

$koef_mult = 0,004$

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 in 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.

Type	Name	Row	Column	Attributes
scene	Lamp	6		da22_rs_stmivana_zasuvka_lampa_OFF
				da22_rs_stmivane_osvetleni_halogeny_ON
				sa02_rs_zamek_vstupni_dvere_OFF

Add

U For scenes, select iNELS items with suffixes _ON, _OFF

Button for adding another item in the

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...

Type	Name	Row	Column	Attributes
shutters	Shutters	1		up sa04_rs_1_zaluzie_nahoru
				down sa04_rs_1_zaluzie_dolu
				read_only no

Add

Switching element for

Switching element for direction down

Thermometer

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

Type	Name	Row	Column	Attributes
thermometer	TERM1	1		placement indoor
				inels IDRT2 indoor
				outdoor

Add

Selection of placing the sensor Indoor/Outdoor

Heating input/Thermal sensor selection

Zone

This icon can only be added if IMM superstructure (iNELS Multimedia) is used. All zones you wish to control from a given room on your phone have to be defined underneath this icon.

The screenshot shows a configuration interface with the following elements:

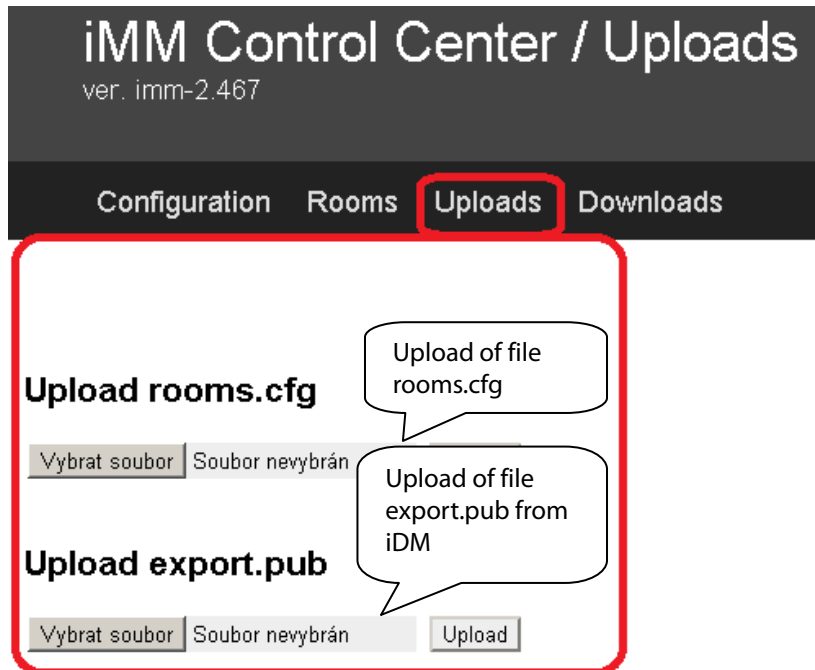
- Type:** A dropdown menu set to "zone".
- Name:** A dropdown menu with a list of options: "Audiozone1", "Audiozone1", "Audiozone2", "Meteo", "Videozona 3", and "Videozone 5". The first "Audiozone1" is highlighted.
- Row:** A dropdown menu set to "1".
- Column:** An empty dropdown menu.
- Attribute:** Two dropdown menus, "audio" and "video", both set to "yes".
- Add:** A button located below the "Type" dropdown.

Callouts provide additional information:

- A callout pointing to the "Add" button says: "Selection of Zones defined in bookmark".
- A callout pointing to the "audio" dropdown says: "Will the zone play music?".
- A callout pointing to the "video" dropdown says: "Will the zone play video?".

7. iHC application setting without own iMM Server

On public iMM Server <http://217.197.144.56:8080/> you can generate **rooms.cfg** based on imported **export.pub** from your **iDM**.



First option **Upload rooms.cfg** serves in later setting stages to record an already created file rooms.cfg and its subsequent editing.

Second option **Upload export.pub** always has to be filled in with current file export.pub

Subsequent editing can use also the „ID“ option that is created on the first access to public server, and that uploads the last known setting after being added to the respective column in the bookmark „Log in“. **After the first logging in, write down your ID for another service from another PC, or just in case the cookies get deleted from your browser!**

Note: for working on public server you need to have enabled cookies in your browser.

In the bookmark **Configuration** you can edit iNELS elements from the file export.pub; changes must be uploaded using the "Update" button located under the dialogue window.



The bookmark **Rooms** is identical with the bookmark Rooms from the classical iMM CC (see Chapter 5). The only difference is in entering the password that is only numerical, and multiple asterisks display.

iMM Control Center / Configuration of rooms
ver. imm-2.467

Configuration **Rooms** Uploads Downloads

New room

Name
Room2

Protect by password
Password
.....

Confirm
.....

Add

Room1 [Edit](#) [Set password](#) [Remove](#)

Once Rooms are created, only enter ID you usually enter to upload data from the public server, as indicated in Figure 4.

Note: The ID that is created by you accessing the web interface of the server can be used later.

In version without iMM or Connection Server you can only control bus units from iHC application. To be able to control other devices, such as cameras, air conditioning, recuperation, home call boxes, meteostations, or energy consumption measurement, you need the presence of Connection Server To be able to use Video zones and Audio zones, you need the presence of iMM Server.

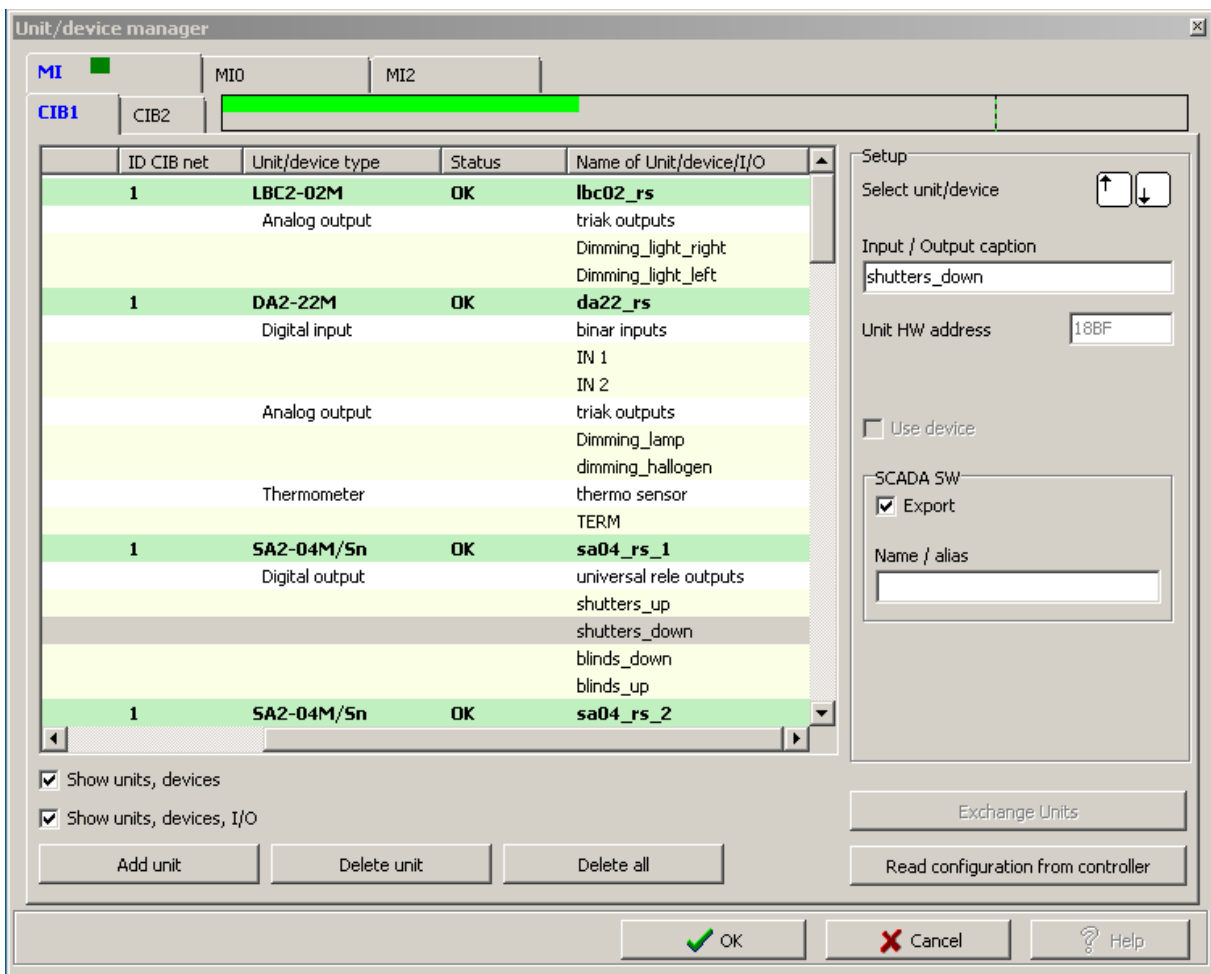
8. Data export from iDM (iNELS Designer& Manager)

IDM Software enables export of variables (input/outputs, time programmes, counters and timers) by means of which iHC applications can be created later to control the entire installation. The below text describes how this export should be performed.

Export of inputs/outputs

Export of inputs/outputs is performed from the window "Unit/device manager" where you need to tick the option "Export for visualisation" at desired inputs/outputs. If you wish to name the given input/output, use the column "Naming/alias".

Those inputs/outputs that are used in some event need not be ticked. Export of these used inputs/outputs then proceeds automatically.



Export of time programs

Export of time programs is performed from the window "Time/week schedule manager" where you need to click on the menu "Set export for visualisation".

Time/week schedule manager

Name	State
Kitchen	
Living room	v:KOMF
Bedroom	v:NO...

Name: Temperature (HVAC) schedule:

Mode setup

	Comfort	Normal	Depression	Minimum
Minimum	17.0 °C			
Depression	30.0 °C			
Normal	28.0 °C			
Comfort	25.0 °C			
Comfort	27.0 °C			
Normal	24.0 °C			
Depression	17.0 °C			
Minimum	15.0 °C			

Time stamp setup

Monday | Tuesday | Wednesday | Thursday | Friday | Saturday | Sunday

02:00 | 05:00 | 08:00 | 11:00 | 14:00 | 17:00 | 20:00 | 23:00

Comfort
Normal
Depression
Minimum

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24

Copy this schedule to ...

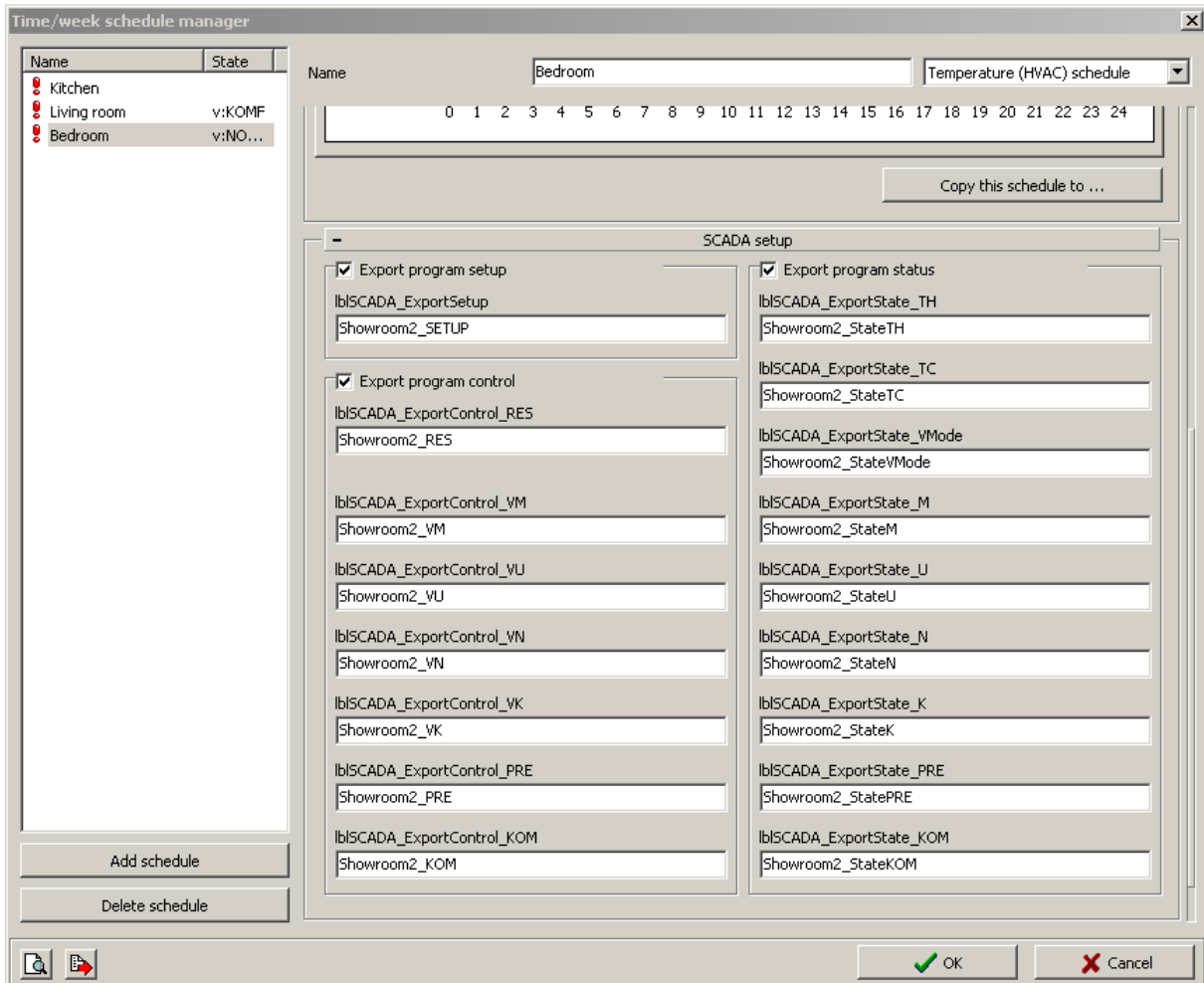
SCADA setup

Add schedule
Delete schedule

OK Cancel

In this menu you need to check all three options whilst the weekly time program for heating/cooling and two-status time program can be exported.

- "Export program setup", i.e. time symbols and mode settings.
- "Export program control", i.e. individual modes (minimum, attenuation, normal, comfort) can be enforced time symbols and mode settings.
- "Export program status", i.e. view of program statuses (4 modes, desired temperature, current temperature)



Export of time events

Export of time events is performed from the window "Time event management" where you need to tick the option "Export for visualisation". Again, given time event has to be named for the needs of export.

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

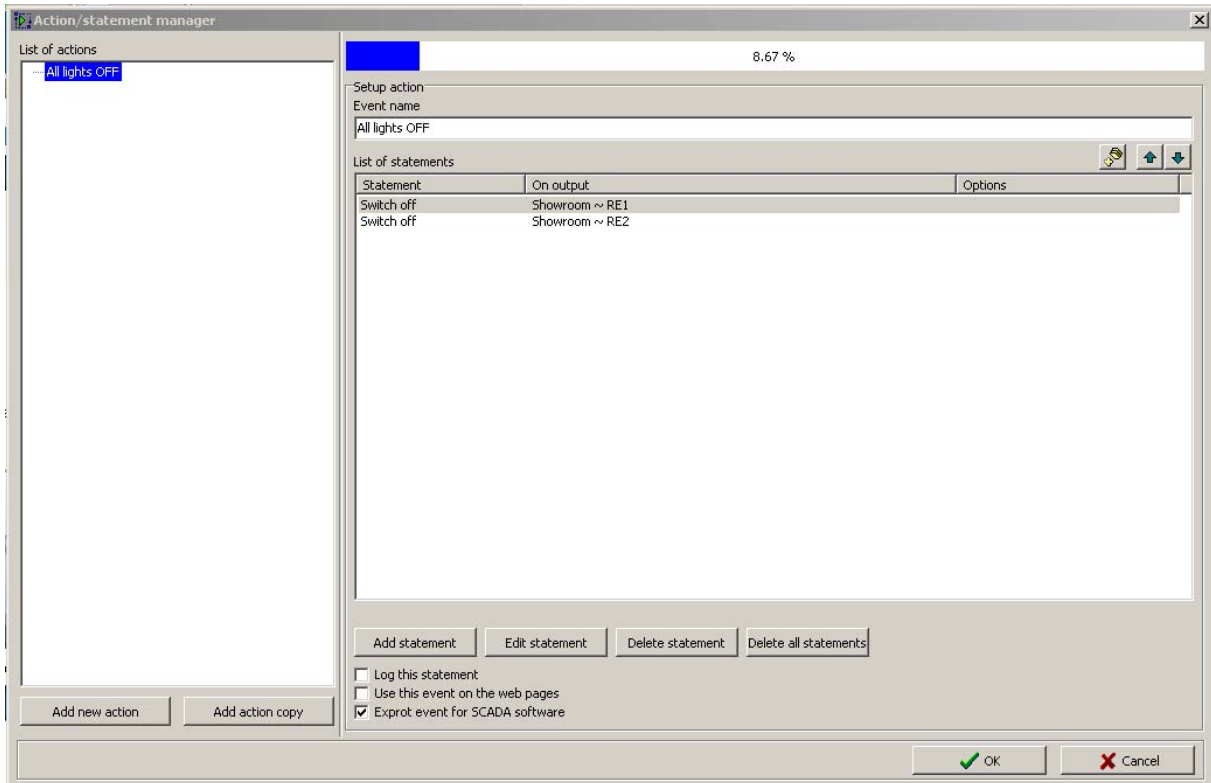
- List of events:** A table with one entry:

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** (dropdown menu)
- 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

Buttons: Add new, Delete, OK, Cancel

Export of events

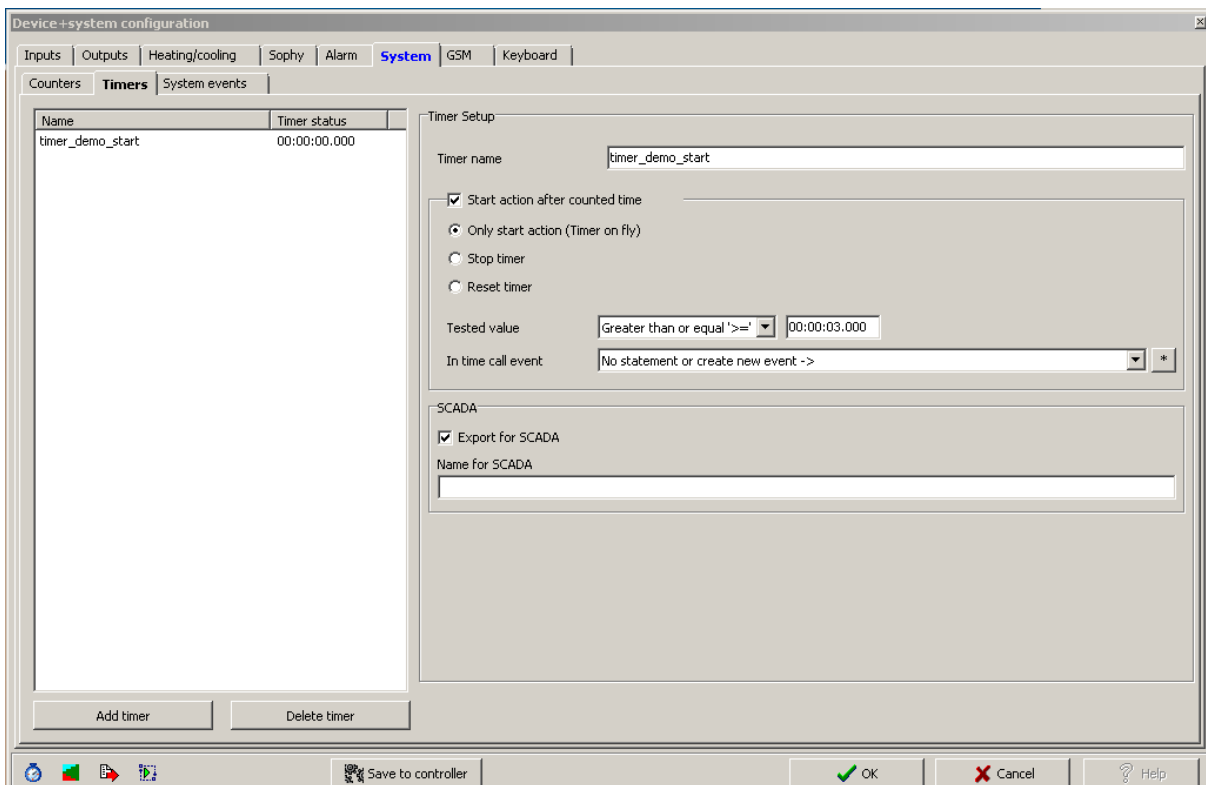
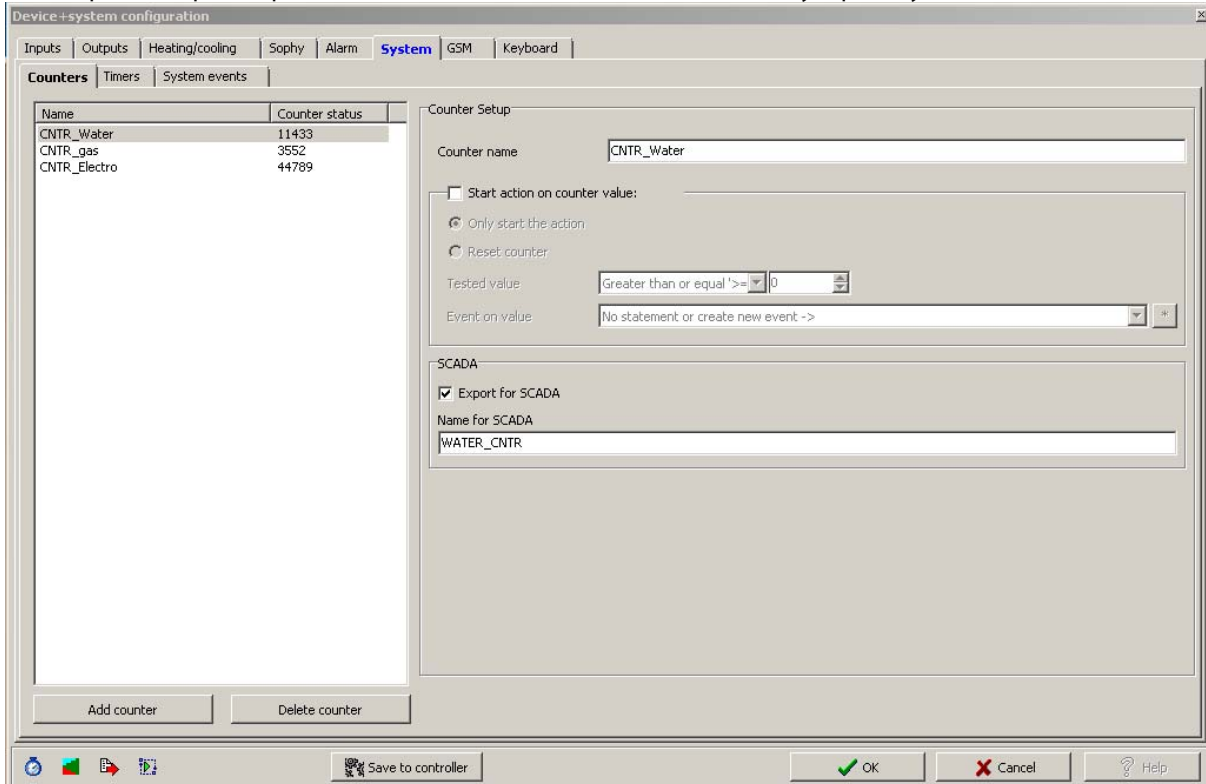
It is a special option of export for visualisation. It is direct export of event from the window "Action/statement manager". These exported actions can then be called directly from the iHC application. In the bottom part of the window in the desired event you need to tick the option "Export event for visualisation".



Export of counters and timers

Export of counters and timers is performed from the window "Device+system configuration", bookmark "System", sub-bookmark "Counters" or, more precisely, "Timers". You can for "Export for visualisation" at either option.

Export of counters is important whenever we want to measure and visualise energy consumption using meters with impulse output. Impulses from these instruments are read on binary inputs by means of counters.



Upon placing a request for exporting of all variables, suitable setting of the export manner has to be selected, as well as the path where the *.pub file will be saved. This is performed in the "Settings".

In the "Export setting" section and then "...Visualisation" select "Create export of configuration for visualisation". Then set the path where the *.pub file will be saved.

If you tick "Export only marked IO", only those i/o will be exported that we have selected in the window "Administrator of units/devices" on the previous page. "Extended export of binary inputs" represents export of binary inputs with counter. "Report change in export files " is an option that provides and reports any potential displacement of variable addresses in memory registries that might originate when a configuration is saved. "Export mapping of user actions" is an option for export of user actions, e.g. commands for relay groups, for lighting installation groups, and the like.

