



Administrator manual

Version 1.3

REV12-20151221

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## GENERAL INFORMATION

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The manual has been conceived and written for users who are experienced in the use of PCs and automation technology.

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## CONVENTIONS

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<b>[KEYS]</b>	Keys that are to be pressed by the user are given in square brackets, e.g. [CTRL] or [DEL]
<b>COURIER</b>	On-screen messages are given in the Courier font, e.g. C:\>
<b>COURIER BOLD</b>	Keyboard input to be made by the user are given in Courier bold, e.g. C:\>DIR).
<b>“...”</b>	Names of buttons to be pressed, menus or other onscreen elements and product names are given within double quotes. (e.g. “Configuration”).
<b>PICTOGRAMS</b>	In this manual the following symbolic are used to indicate particular text blocs.
	Caution! A dangerous situation may arise that may cause damage to material.
	Hint Hints and additional notes
	New New features

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# 1 Access

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## 1.1 INTRODUCTION

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OPTIMA is a web based software for monitoring and visualizing home & building Automation systems, which have been realized using the worldwide KNX standard. The configuration and use of OPTIMA takes place directly through its web interface, which can be accessed through a conventional browser (from any device / operating system).

OPTIMA is used for different products of the KNXCONTROL series (KNXSERVER, KNXSUPERIO). Through the consistent software the use of the different products is easy and flexible. Detailed information about the different products is contained in the corresponding documentation.

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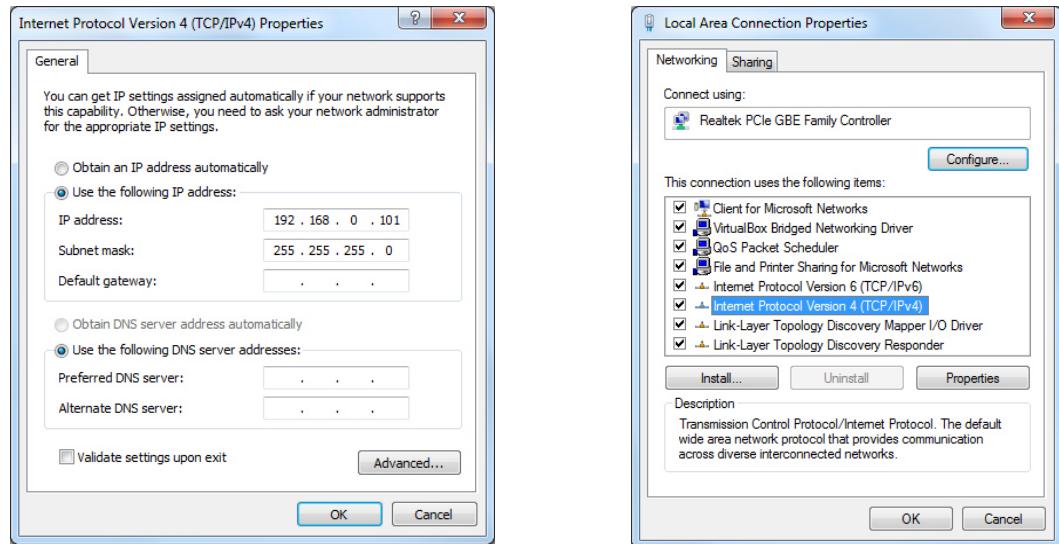
## 1.2 NETWORK CONNECTION

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For the usage/configuration of OPTIMA a working network connection to the used KNXCONTROL device is required. For the first access to OPTIMA or if no working network is available, follow these steps:

- Connect the KNXCONTROL device directly with your PC through a network cable
- Go to the network settings of your PC
- Change the settings of the TCP/IP protocol (Version 4) of the network interface on which you connected the network cable and enter the following values:
  - IP address: 192.168.0.100
  - Subnet mask: 255.255.255.0
  - Save the new settings; depending on the installed OS a restart may be necessary.

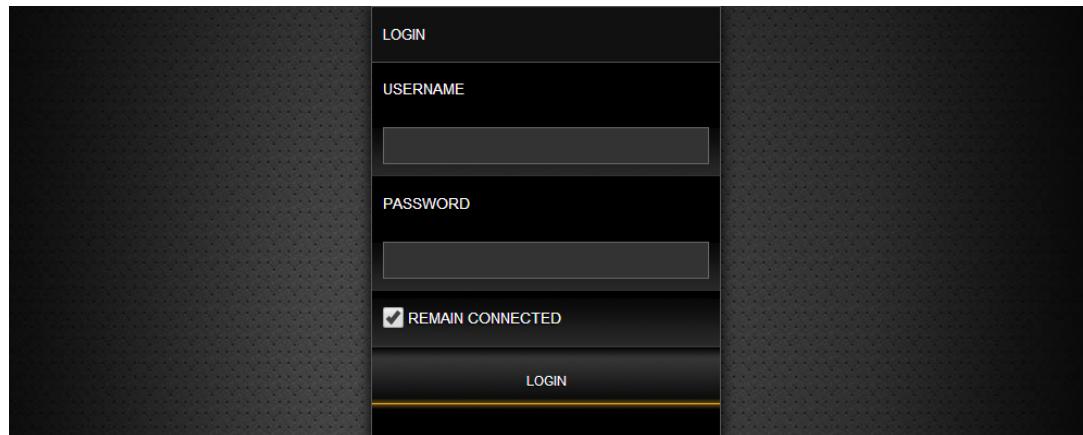
The following screenshots show how to change the network settings on Windows 7:



Once the network settings are set, open a browser on your PC (Google Chrome preferred) and enter the following URL into the address bar of the browser:

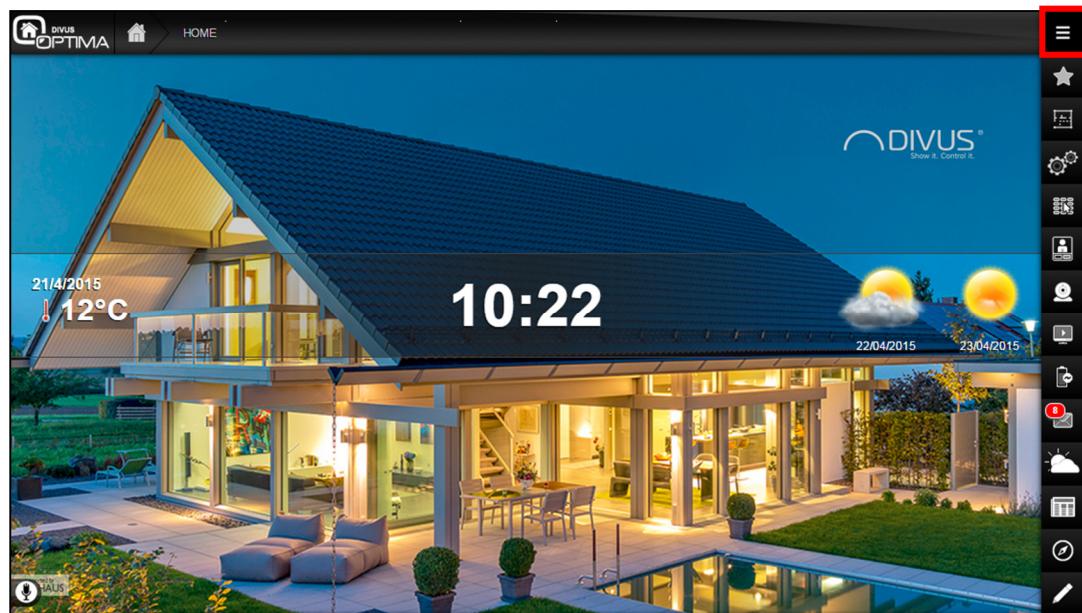
<http://192.168.0.110>

This link will directly open the login page of OPTIMA; if the network connection is working properly, you will see the following screen:

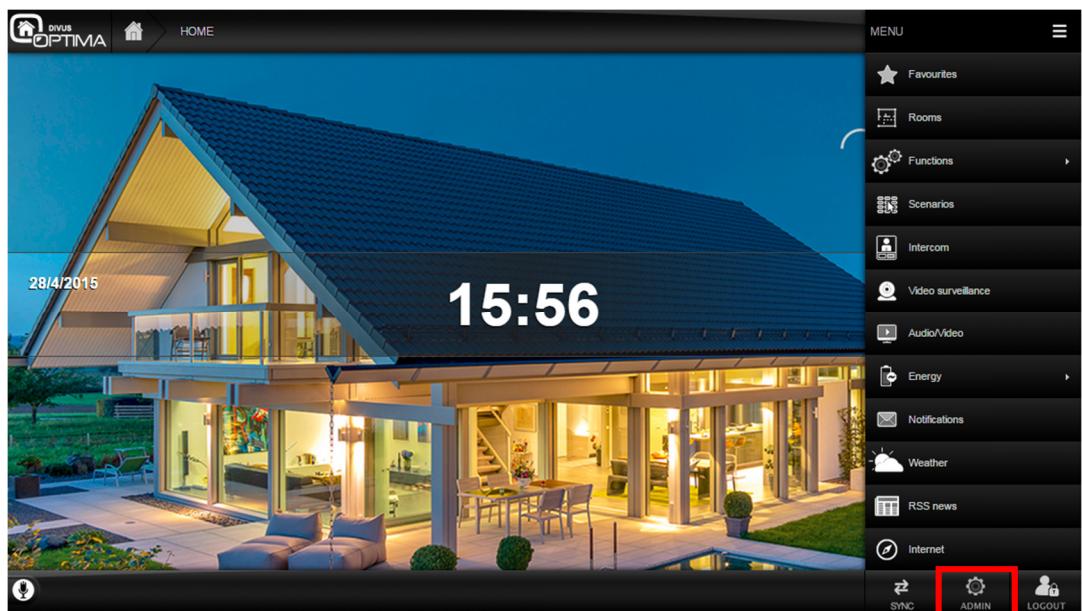


After a successful login (see next chapter) you may access the administration area through the ADMIN-button in the toolbar at the bottom right.

1.) Open the sidemenu by clicking on the menu symbol in the upper right.



2.) After a successfull login (see next chapter) you may access the administration area through the ADMIN-Button in the toolbar at the bottom right.



The best possible user experience with OPTIMA may be achieved using the following browsers:

- Google Chrome
- Apple Safari

It is not recommended to use the following browsers, because they currently can't represent all the functions of OPTIMA correctly:

- Mozilla Firefox
- Microsoft Internet Explorer
- Opera

The browser compatibility is continuously under development. It is therefore recommended to check out the list of compatible browsers in the documentation of newly released product/software versions.

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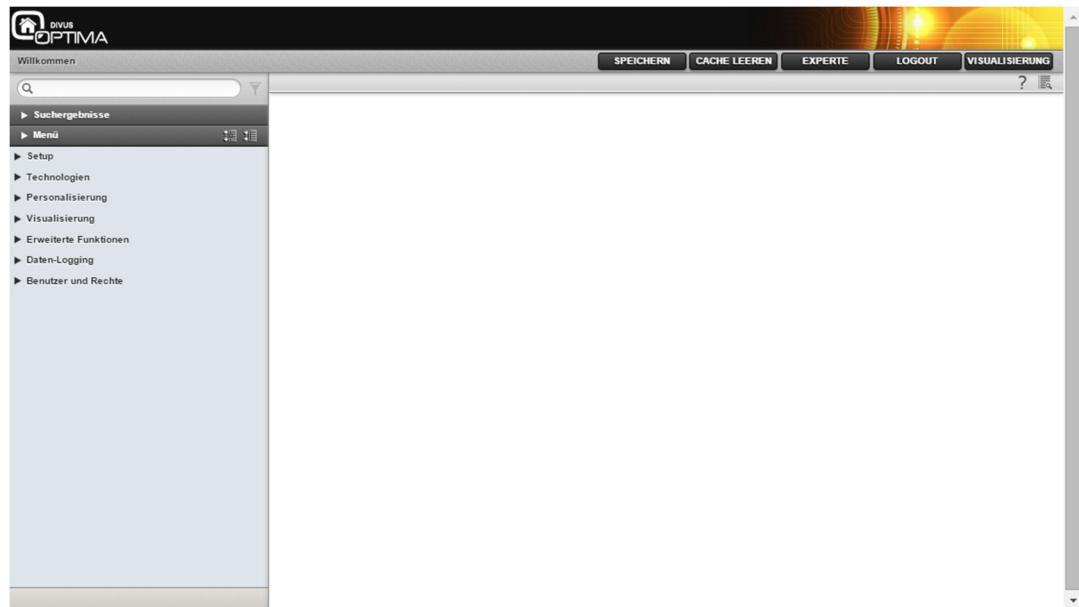
### 1.3 ACCESS

---

OPTIMA comes with the following preconfigured default users (and roles):

USERNAME	PASSWORD	DESCRIPTION
admin	admin	System Administrator. Can edit the visualisation, create users and change their access rights / permissions
manager	manager	User for the installation / configuration of the system. May change all settings regarding the visualisation, but has no access to system settings.
user	user	Basic user for client-access. May navigate through the whole visualisation, but has no or very limited access to the administration area.

For the first configuration of OPTIMA you must log in with the "admin" user account. Do this by entering the appropriate data into the login screen; once logged in, you will see the following screen:



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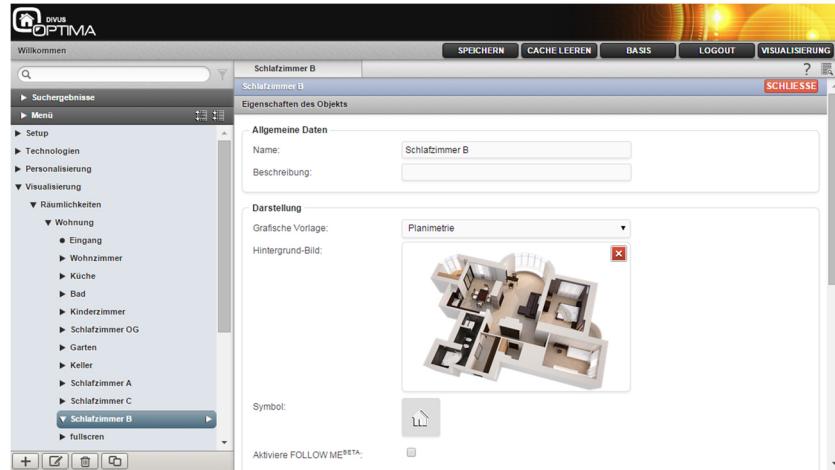
#### 1.4 ADMINISTRATION AND VISUALISATION AREA

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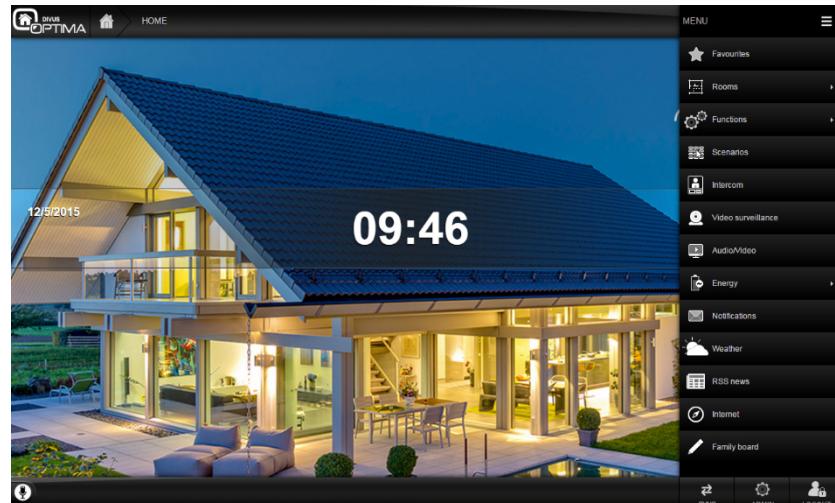
The interface of OPTIMA is split into two areas:

- "ADMINISTRATION" or "BACKEND": Configuration area, in which (depending on the users permissions) each aspect of the system configuration and visualisation can be modified
- "VISUALISATION" or "FRONTEND": Visualisation area, designed for being used by the final user. It allows to navigate inside the single rooms/pages of the visualisation, which were configured in the ADMINISTRATION before, and controlling KNX objects in real-time

Both areas are based on web technologies and can therefore be controlled from within a browser window. The main difference between the two levels is the graphical design. The ADMINISTRATION is kept in a simple graphic style and is optimized to show the maximum amount of information and option windows in a clear form.



The VISUALISATION was designed to deliver an intuitive and user friendly navigation even to inexperienced users. The result is a fancy design which moreover allows to be customized in almost every aspect.



To switch between the two areas, use the appropriate button:

- From within the ADMINISTRATION, use the VISUALISATION button on the button bar (upper right)
- From within the VISUALISATION, use the ADMIN button on the lower right. If you can't see it, you might need to open the navigation menu using the menu button in the upper right corner; of course the user must have the permissions to access the ADMINISTRATION area (further information can be found in the „User-Manual“).



**Hint:** To save time during configuration, both areas should be displayed simultaneously in different tabs of the browser. That allows to switch between the areas faster when checking changes.



**Hint:** Sometimes (or for some kinds of changes) you may need to push the "SYNC" button to see the changes done in the ADMINISTRATION. It's near the ADMIN button on the lower right toolbar.

# 2 General overview

---

## 2.1 INTRODUCTION

---

This chapter gives an overview of the administration area of optima

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## 2.2 ADMINISTRATION AREA - INTERFACE

---

The ADMINISTRATION is divided into the following sections:

**SEARCH-FUNCTION** The search function can be found in the upper left. It allows to find objects quickly by entering keywords (or even a few letters) related to the searched objects.

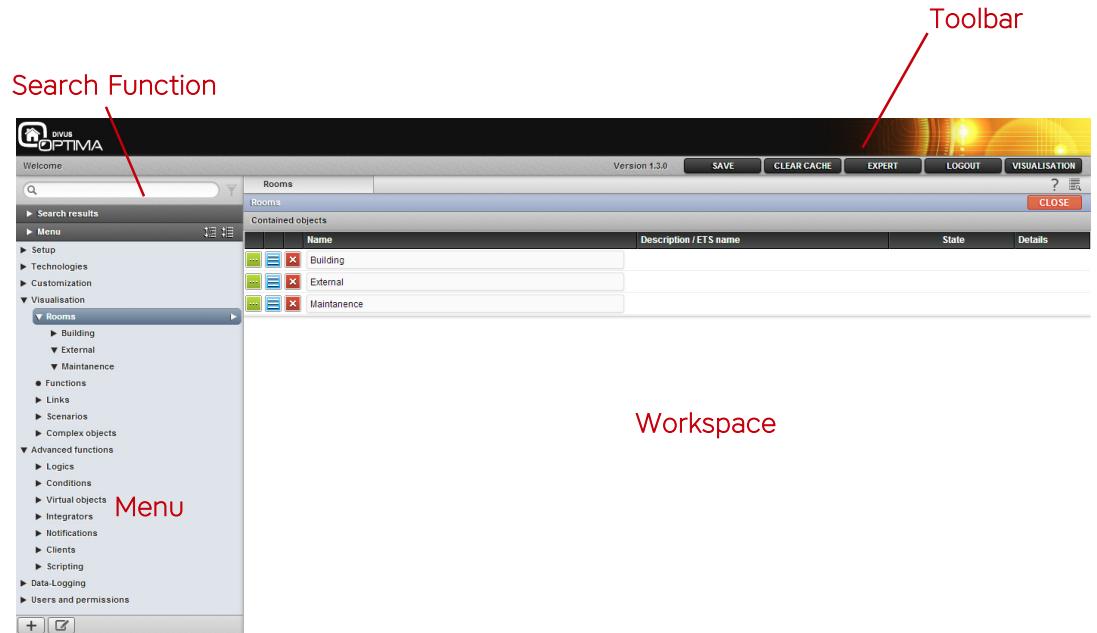
**MENU** Main menu of the administration area, shown as a tree-view. Through this menu all sections of the software are accessible and objects can be created / modified / deleted.

**TOOLBAR** The toolbar in the upper side of the ADMINISTRATION is always shown and allows a quick access to the most used functions through its buttons.

**WORKSPACE** Main area for showing the chosen configuration options; the single menus and configuration windows of the objects are shown in here. It is possible to open more menus / windows in the main area at the same time; the different menus / windows will be accessible through different tabs in this case.

---

The following screenshot shows the single sections of the ADMINISTRATION area:



### 2.3 TOOLBAR



You may have noticed the current OPTIMA version is shown at the beginning of the toolbar. The following functions are always present in the toolbar:

#### SAVE

Allows saving all changes into the flash memory of the KNXCONTROL device to preserve the data even if the device is powered off. The button turns red whenever there are unsaved changes. OPTIMA has an automated saving function which runs once every 5 minutes. Therefore clicking this button is only necessary if the system is to be shut down/restarted immediately after making the changes.



#### CLEAR CACHE

Allows to delete the HTML SERVER CACHE. This is especially necessary if changes made in the ADMINISTRATION are not displayed correctly in the VISUALISATION, despite the HTML CLIENT CACHE was already deleted.

---

<b>BASE / EXPERT</b>	Verändert die Sichtbarkeit diverser Optionen/Parameter innerhalb der Konfigurationsseiten. Der BASIS-Modus zeigt nur notwendige Einstellungen sowie sichtbare Objekte, der EXPERTE-Modus hingegen zeigt auch fortgeschrittene Optionen sowie unsichtbare Objekte.
<b>LOGOUT</b>	Beendet die aktuelle Arbeitssitzung und ermöglicht eine Anmeldung über einen anderen Benutzer.
<b>VISUALISATION</b>	Ermöglicht den Wechsel zur Visualisierungsebene und erlaubt somit die Begutachtung der durchgeführten Konfigurationen.

---



**Hint:** changes in the ADMINISTRATION are immediately effective and visible in the VISUALISATION. If not, you may need to refresh/reload the browser window or – in rare cases – clear the browser's cache. Most of the times using the SAVE function will therefore be superfluous. Allowing OPTIMA to take care of the data saving every 5 minutes will also help to avoid multiple storage writings.

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## 2.4 NAVIGATION MENU

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### 2.4.1 USAGE

The navigation menu is a typical tree-view-menu. After accessing the ADMINISTRATION area all the main entries are shown; the sub-menus are accessed by extending the corresponding main menu. The navigation in this menu is done entirely with a mouse.

Clicking on an entry in the navigation menu turns the clicked entry to blue; if the entry has additional submenus, the entry will be extended and the sub-menus are displayed. Another click on the selected entry will close the section and hide the submenus again.

There are the following symbols before each entry in the menu:

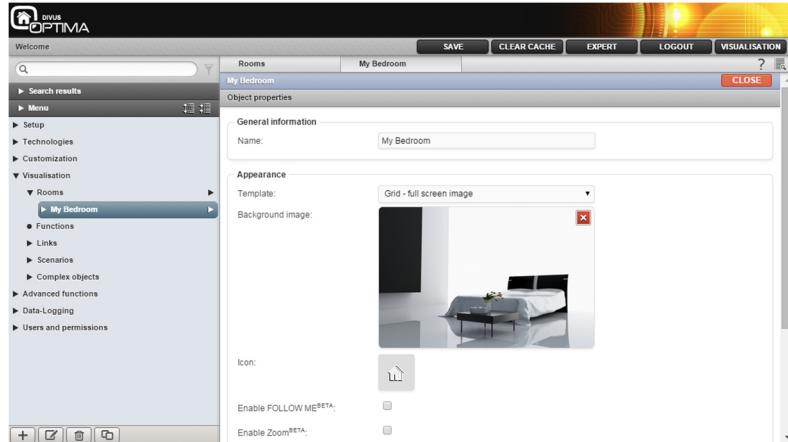
- ▶ Menu entry with a currently hidden submenu

---

  - ▼ Menu entry with a currently expanded submenu

---

  - Menu entry without submenu
-



If actions can be performed for the selected entry, they will be displayed in the TOOLBAR at the bottom left corner of the navigation menu. The following buttons may be displayed:

**NEW/ADD**

Allows the creation of a new object within the selected entry. Depending on the selected item different types of objects are created; if a menu allows the creation of multiple types of objects, then a context menu will be displayed in order to select the object type to create.

**EDIT**

Allows editing the selected entry through the appropriate configuration window, which will be opened automatically by clicking this button.

**DELETE**

Deletes the selected object from the project

**CLONE**

Creates an identical copy of the object, usually called Copy of...(previous object's name)

When an object is cloned, not only the object itself is duplicated, but also all of its connections/relations with other objects. This means that the cloned object will be contained in the same rooms, logics, scenarios etc. as the original object is. Therefore, after the creation of a cloned object, all relations and connections should be checked and if necessary corrected.



**Hint:** if the original object was present in a room with BACKGROUND view, the cloned object will be positioned AT THE SAME PLACE in the room and will cover the original object. In this case, please edit the BACKGROUND view and place the cloned object in a different position.

If the selected entry supports the EDIT-action, 3 points will be displayed on the right side of the entry.



Clicking on these points has the same effect as clicking on the EDIT-button  in the lower TOOLBAR.

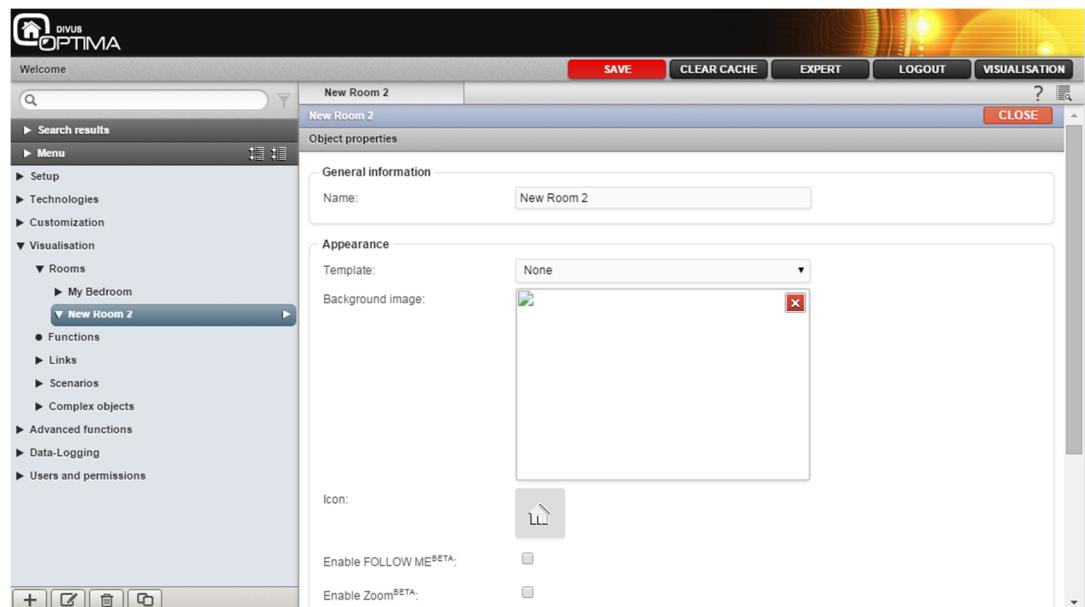
If the configuration window of an entry is opened through the EDIT-button, the entry will show an arrow instead of the 3 points on the right side.



This arrow will be displayed as long as the configuration window of the entry stays opened and shall facilitate the navigation if multiple tabs are opened in the workspace.

As mentioned before, some of the entries of the navigation menu permit to create submenus or to insert new objects. This is done using the NEW/ADD-button in the TOOLBAR: by pressing this button a new object (the object type depends on the selected entry) will be created and selected automatically. If the EDIT-button (or the 3 points in the entry itself) is clicked, the configuration window of the newly created object will be opened.

Example: To create a new room, just select the entry “VISUALISATION → ROOMS” and click on the NEW-button. The new room will be created and shown as last entry of the sub-menu:



Rooms may contain other rooms in OPTIMA. This feature may be used to reproduce complex building structures or to build custom groupings. The resulting tree-structure will then be used in the visualisation.

The DELETE-button removes the selected entries from the project. This action is blocked for the system menus and indispensable objects, to prevent the user from removing them by accident.

#### 2.4.2 MENU STRUCTURE

The navigation menu allows to access all of OPTIMA’s settings and has the following structure:

##### SETUP

Contains generic settings and parameters of the used KNXCONTROL-device

##### TECHNOLOGIES

Contains the configuration pages of all supported technologies (KNX, Video surveillance, Intercom etc.)

---

<b>CUSTOMIZATION</b>	Contains the configuration pages for customizing the graphical design of the visualisation and the different plugins of OPTIMA
<b>VISUALISATION</b>	Allows the configuration of the visualisation itself (rooms, functions, scenarios etc.)
<b>ADVANCED FUNCTIONS</b>	Allows the configuration of additional functions (e.g. logics, notifications etc.)
<b>DATA-LOGGING</b>	Allows the configuration of graphical diagrams for logging different data types
<b>USER AND PERMISSIONS</b>	Allows the configuration of new users and their access permissions

---

 **Note:** depending on the used KNXCONTROL device this section could need additional licenses

#### 2.4.3 SETUP

The menu SETUP contains the following entries:

---

<b>LANGUAGE</b>	Permits to change the language of the GUI
<b>NETWORK</b>	Permits to configure the network parameters of the KNXCONTROL device
<b>UPDATE</b>	Permits to update the OPTIMA version through product specific update-packages
<b>BACKUP / RESTORE</b>	Permits to create a backup of the current database, to import an already created backup or to reset the database to factory settings
<b>DATE / TIME</b>	Permits to configure date/time of the KNXCONTROL device and all date/time related settings
<b>LICENSE AND MODULES</b>	Permits to edit the single license codes and modules for enabling additional functions
<b>MAINTENANCE</b>	Gives the possibility to restart the communication service or to reboot the KNXCONTROL device

---

Further information can be found in the appropriate section of this manual.

#### 2.4.4 TECHNOLOGIES

Here you will find a set of technologies used inside OPTIMA – for its core functionality (KNX, energy) as well as for extended functionality available through plug-ins (intercom, video surveillance, voice assistant, NFC)

#### 2.4.4.1 KNX

This section contains all settings for establishing a communication with the KNX bus:

<b>ETS-IMPORT-RULES</b>	Permits to configure import-rules, through which the imported group addresses will automatically be configured and connected to the desired icon/function, in dependence of the defined keywords
<b>ETS IMPORT</b>	Allows the import of a ETS-project into OPTIMA
<b>ETS GATEWAY</b>	Permits to use the KNXCONTROL device as ETS programming interface, even via internet
<b>CONFIGURE COMMUNICATION</b>	Permits to change the parameters of the used KNX communication interface
<b>KNX-DEVICES</b>	Allows the control / management of the physical KNX devices of the system
<b>ETS PROJECT</b>	Permits to navigate through the single group addresses and to edit them; the navigation structure will be the same as the one in ETS.

#### 2.4.4.2 VIDEO SURVEILLANCE

In this section IP cameras can be integrated into the visualisation.

#### 2.4.4.3 VOICE ASSISTANT

This new section allows to manage voice commands. See the OPTIMA Voice assistant manual for further details. It may need a module license to show up in the menu.

#### 2.4.4.4 INTERCOM

This section allows using OPTIMA as VoIP server (for the integration of door communication systems):

<b>VOIP-PARTICIPANTS</b>	IP phones or softphones (with SIP protocol support)
<b>INTERNAL UNITS</b>	Client-PCs, IP phones or softphones (SIP protocol support is required)
<b>EXTERNAL UNITS</b>	Compatible video or audio door stations (SIP-Protocol support is necessary, supported video format: MJPG)
<b>CALL GROUPS</b>	External and internal units can be grouped into a call group; by calling a call group, all the internal and external units belonging to the call group will start ringing.

---

<b>TELEPHONY LINES</b>	IP telephony lines to which calls can be forwarded; this object type can be used to integrate analogue devices (PSTN, ISDN or GSM).
<b>CLIENTS</b>	Here are all client objects listed, which can be used for Intercom communication
<b>USER</b>	Here are all user objects listed, which can be used for Intercom communication
<b>SETTINGS</b>	Generic parameters of the SIP server configuration

---



**Note:** depending on the used KNXCONTROL device this functionality might need additional licenses. See the OPTIMA intercom manual for a detailed explanation of this topic.

#### 2.4.4.5 NFC

This new feature is meant to support the use of the near field communication technology of mobile devices. See the OPTIMA NFC manual for further details.

#### 2.4.4.6 ENERGY

This section contains these entries:

---

<b>CONSUMPTION</b>	Allows to set up energy counters for the consumption/production of energy
<b>LOADS</b>	Here you may manage energy loads
<b>IMPORT/EXPORT</b>	Allows to import or export the collected energy data through CSV-files

---

Further information about energy management may be found in [chapter 13](#) of this manual.

#### 2.4.4.7 CUSTOMIZATION

This section contains the following entries:

---

<b>THEMES</b>	Permits to change the graphical design (theme) of the VISUALISATION
<b>NAVIGATION MENU</b>	Permits to personalize the navigation menu of the VISUALISATION
<b>FAVOURITES</b>	Permits to change the favourites page of the VISUALISATION
<b>OPTIONS</b>	Allows the configuration of several aspects / plugins of the VISUALISATION

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<b>CUSTOM SYMBOLS / FUNCTIONS</b>	Allows the customization of the existing functions / symbols as well as the creation of completely new renderings.
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<b>DISPLAY</b>	Allows to access energy saving and maintenance options related to the display
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Further information about customization can be found in [chapter 4](#) of this manual.

## 2.4.5 VISUALISATION

### 2.4.5.1 Rooms

This section allows the configuration of the rooms inside the visualisation. This section is initially empty and allows the creation of new rooms, which can contain other rooms or other objects supported by OPTIMA.

For each room a Template can be selected. Depending on the selected THEME different Templates are available. Currently the following Templates are available:

---

<b>BACKGROUND</b>	Background image (photo, graphic rendering, plan), on which the single control objects are positioned. Clicking on such a control object, it either sends the related command on the KNX bus or opens a box containing further control options.
<b>GRID:</b>	Shows the contained objects in table-form. Depending on the type of object, it can be controlled directly by clicking on the related buttons of the object or a pop-up window is opened with additional controls, when the object is clicked.
<b>FULL SCREEN IMAGE</b>	
<b>NO IMAGE</b>	
<b>IMAGE ON TOP</b>	
<b>IMAGE ON THE RIGHT</b>	
<b>IMAGE ON THE LEFT</b>	A grid may also include an image file that is positioned depending on the selected template.
<b>TEMPLATE:</b>	
<b>1 BUTTON</b>	
<b>2 BUTTONS</b>	
<b>4 BUTTONS</b>	
<b>6 BUTTONS</b>	
<b>8 BUTTONS</b>	The template view can be used to create a room without any background, where the contained Buttons fill the room completely. This view supports only simple ON/OFF functions (1 bit) e.g. "Light ON/OFF" or "Shutters UP/DOWN". Detailed information about the template view can be found in chapter 6.6 of this manual.

---



**Note:** If the entry ROOMS is selected directly and its configuration window is opened by clicking on the EDIT button, the order of the contained rooms can be changed. Since this group belongs to the system, no other modifications are allowed.

#### 2.4.5.2 Functions

This section allows the organization of the FUNCTIONS, which group the KNX objects automatically based on their typology. If an object is linked with the FUNCTION e.g. "Illumination", it is automatically copied into the group "Illumination" of the FUNCTIONS. This group can be called directly in the VISUALISATION, providing quick access to the objects of the same typology.

After activating the EXPERT-mode (see chapter 2.3) through the appropriate button in the toolbar, each entry in the FUNCTIONS list may be made visible or hidden and enabled / disabled using the checkboxes at the right:

Name	Description / ETS name	Type	Visible	Enable
System	System	Link	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Illumination	Illumination	Link	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Climate	Climate	Link	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Shading	Shading	Link	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Multimedia	Multimedia	Link	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Security	Security	Link	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Energy-management	Energy-management	Link	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Weather	Weather	Link	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Access control	Access control	Link	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Date/Time	Date/Time	Link	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Furthermore, the order of the single entries can be changed. Click on the ORDER-button of an entry, drag it up or down to the desired position and drop it there to fix the entry in the new position. The new sequence is shown in the VISUALISATION after the FUNCTIONS menu is refreshed.

Further information can be found in chapter 6 of this manual.

#### 2.4.5.3 Links

This section allows the configuration of links. Using these objects you can create page jumps to other rooms of the visualisation or to external web contents (like the contents of a web server or a homepage).

Further information can be found in chapter 10 of this manual.

#### 2.4.5.4 Scenarios

This section allows the configuration of scenarios. With scenarios, multiple actions can be launched sequentially - if necessary also time-delayed – with only one click. Scenarios can also be started as a passive event by other objects or via scheduling.

The order of the single scenarios can be changed by opening the configuration menu of the SCENARIOS entry and by moving the single scenarios to the desired position through drag and drop. In EXPERT-mode it is also possible to define each scenario's visibility in the visualisation.

Further information can be found in chapter 9 of this manual.

#### 2.4.5.5 Complex Objects

This section allows the configuration of so-called complex objects, in which KNX objects of the same device can be grouped and therefore will be accessible and operable in one of the available templates (for example: thermostats, blinds, dimming, RGB control, etc.).

For more information, refer to chapter 8 of this manual.

#### 2.4.5.6 ADVANCED FUNCTIONS

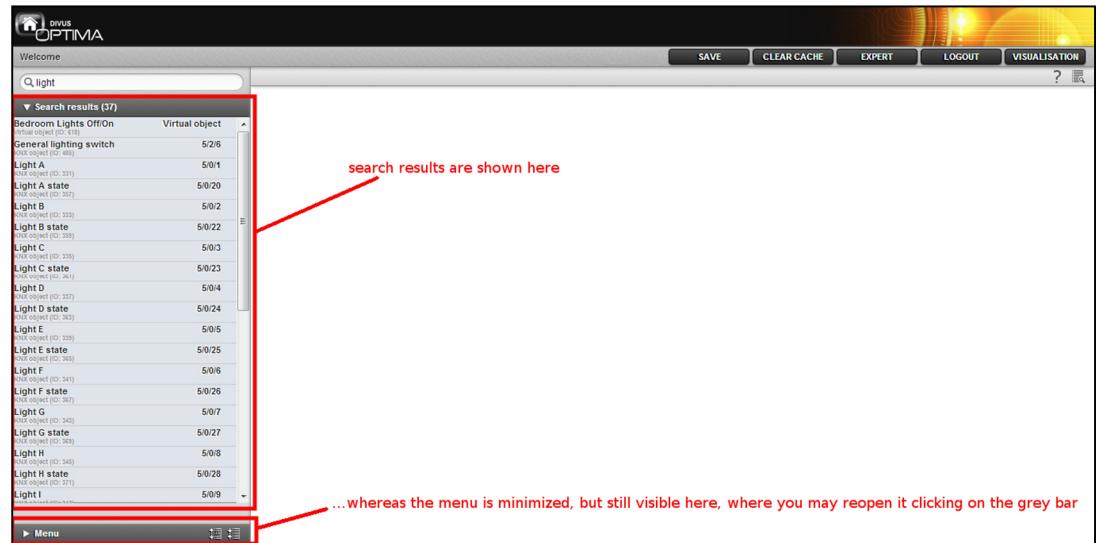
This section permits to extend the system with functionalities that are not programmed on KNX level. The following advanced functions are available:

<b>LOGICS</b>	Allows AND/OR operations on 1-bit objects
<b>CONDITIONS</b>	Permits to compare a value of one or more objects with a fixed value and to define events, which are launched in dependency of the comparison result
<b>VIRTUAL OBJECTS</b>	Permits to create virtual objects for example for saving values, for connecting passive and active events etc.
<b>INTEGRATORS</b>	Permits to observe / evaluate values over a given time period; specially convenient for evaluating energy-values
<b>NOTIFICATIONS</b>	Permits to send notifications (either "on screen" or via mail) in dependency of events within the installation
<b>CLIENTS</b>	Permits to create relations between the devices connected to the KNXCONTROL device and different actions of the software, like e.g. scenarios, VoIP actions, ...
<b>SCRIPTING</b>	Permits to create own, PHP-based scripts in order to extend the functionalities of OPTIMA

## 2.5 SEARCH FUNCTION

By entering one or more keywords into the search box in the upper left corner, the software searches for all objects, which include the specified keyword in their names or other primary properties. The character "%" can be used as placeholder for any number of characters inside the keyword.

The results are displayed in the left area instead of the navigation menu, which is minimized for this purpose.



The results are shown together with the following information:

<b>Light living room</b> KNX object (ID: 588)	<b>0/0/9 ...</b>
<b>Lights central</b> KNX object (ID: 606)	<b>0/0/13</b>

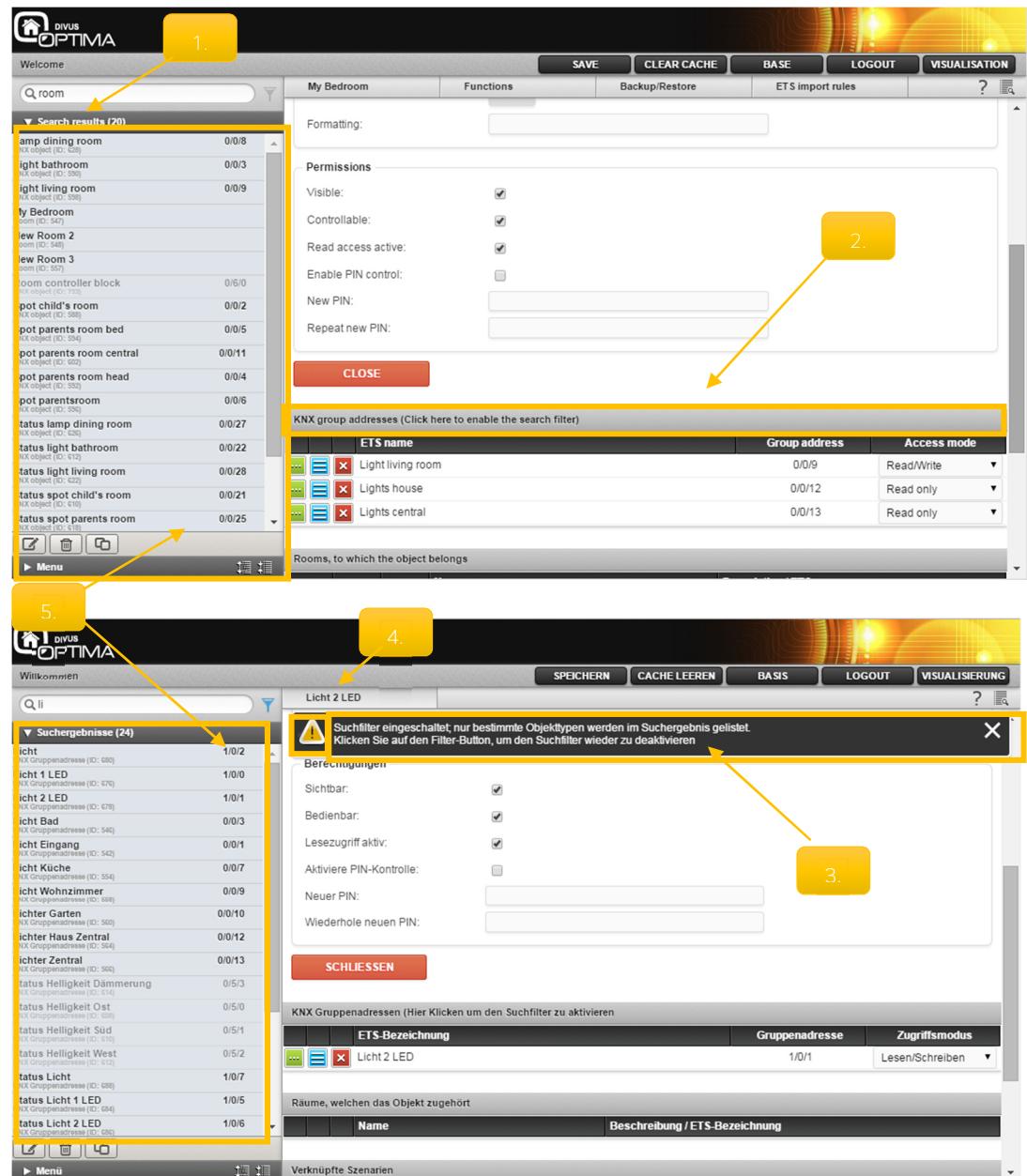
<b>NAME</b>	Name of the object inside OPTIMA's database
<b>TYPE AND ID</b>	Object type, and ID in brackets; shown directly under the name of the object
<b>PRIMARY PROPERTY</b>	If available, on the right side the primary property of an object is shown (for example: the group address KNX object)

By setting a search filter, only relevant object types are displayed in the search result. Search filters can be activated by clicking on the title bar of the corresponding table of an object's settings page. If, for example, a search filter for KNX group addresses is active, only objects of type "KNX group address" are displayed in the search results that match the specified search word. By clicking on the FILTER icon (to the right of the search box), such a search filter is removed.

Let's make a step-by-step example of this important procedure:

1. You search something using the **search function**

2. You then want to remove some of the results, because you actually search for (e.g.) KNX group addresses to relate to the currently opened **KNX object** – so only that type of result is relevant to you. You therefore activate the search filter by clicking on the title bar (titled “**KNX Group Addresses**”)
3. A **message** alerts about the filtering function
4. The search filter is now active, as shown by the colored FILTER-icon  A click will turn it off and bring you back to the unfiltered results of the search at point 1.
5. Look at the difference in the search results with and without the filter!



The image consists of two screenshots of the DIVUS OPTIMA software interface, showing the search results and the search filter configuration.

**Screenshot 1: Search Results without Filter**

This screenshot shows the search results for "room". The results list various rooms and their KNX group addresses. A yellow arrow labeled "1." points to the search bar. Another yellow arrow labeled "5." points to the "Menu" button at the bottom left.

Room	Address
lamp dining room	0/0/8
light bathroom	0/0/3
light living room	0/0/9
My Bedroom	
New Room 2	
New Room 3	
New Room 4	
Dom controller block	0/6/0
pot child's room	0/0/2
pot parents room bed	0/0/5
pot parents room central	0/0/11
pot parents room head	0/0/4
pot parentsroom	0/0/6
status lamp dining room	0/0/27
status light bathroom	0/0/22
status light living room	0/0/28
status spot child's room	0/0/21
status spot parents room	0/0/25

**Screenshot 2: Search Filter Configuration**

This screenshot shows the "KNX group addresses" configuration dialog. A yellow arrow labeled "2." points to the "CLOSE" button. A yellow arrow labeled "4." points to the message box. A yellow arrow labeled "3." points to the "SCHLIESSEN" button.

ETS name	Group address	Access mode
Light living room	0/0/9	ReadWrite
Lights house	0/0/12	Read only
Lights central	0/0/13	Read only

**Screenshot 3: Search Results with Filter**

This screenshot shows the search results for "li". The results list various lights and their addresses. A yellow arrow labeled "5." points to the search bar. A yellow arrow labeled "4." points to the message box.

Light	Address
licht	1/0/2
licht 1 LED	1/0/0
licht 2 LED	1/0/1
icht Bad	0/0/3
icht Eingang	0/0/1
icht Küche	0/0/7
icht Wohnzimmer	0/0/9
ichter Garten	0/0/10
ichter Haus Zentral	0/0/12
ichter Zentral	0/0/13
status Helligkeit Dämmerung	0/5/3
status Helligkeit Ost	0/5/0
status Helligkeit Süd	0/5/1
status Helligkeit West	0/5/2
status Licht	1/0/7
status Licht 1 LED	1/0/5
status Licht 2 LED	1/0/6

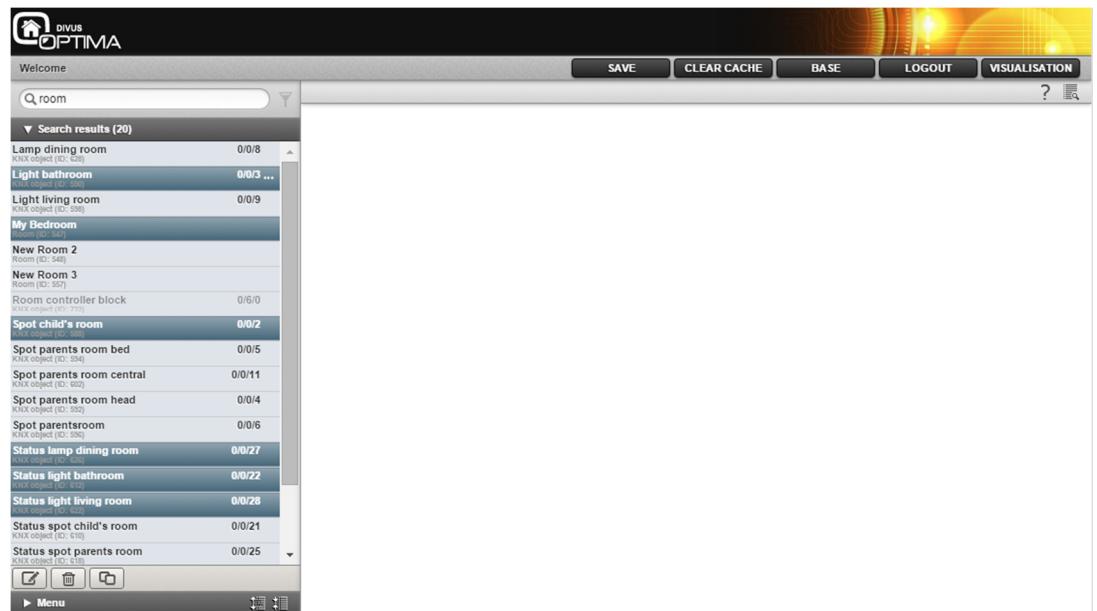
**Message Box Content:**

Suchfilter eingeschaltet, nur bestimmte Objekttypen werden im Suchergebnis gelistet.  
Klicken Sie auf den Filter-Button, um den Suchfilter wieder zu deaktivieren.

A result entry will be coloured blue if it is clicked; as within the navigation menu, there shall appear some action buttons in the bottom toolbar, if the selected object allows editing. In that case, the 3 points on the right side of the selected entry will be visible, enabling a quicker access to the property window.

It is also possible to change the objects name directly in the search engine with a simple double click on the whished item in the list of search results.

The search function also supports the multiple selection of objects by holding the Control ([CTRL]) key of your keyboard while selecting the desired objects with the mouse. The selected objects will all be colored blue:



The TOOLBAR can show the following action buttons:

	<b>EDIT</b>	Opens the configuration window of the selected objects
	<b>DELETE</b>	Removes the selected objects from the project
	<b>CLONE</b>	Clones the selected objects

The CLONE-action creates a 1:1 copy of the selected objects. After the execution of this command, the search results are refreshed and also the cloned objects is shown (can be recognized from the prefix "Copy ...").

When cloning an object, not only the object itself is duplicated, but also all of its connections / relations with other objects. This means that the cloned object will be contained in the same rooms, logics, scenarios etc. as also the original object. Therefore, after the creation of a cloned object, all relations and connections should be checked and – if necessary – corrected.



**Note:** if the original object was present in a room with BACKGROUND view, the cloned object will be positioned IN THE SAME PLACE in the room and will cover the original object. In that case edit the BACKGROUND view and place the cloned object in a different position in order to be able to access both of them.

### 2.5.1 DRAG & DROP

There's another action which is very important for the use of the administration area of OPTIMA, connected with searching and search results: it's the drag&drop linking of objects of different types, used to create relations of various kind.

Almost all of OPTIMA's administration sections show objects which may have relations with other objects, or are part of other objects, or need objects as input or for output (e.g. object A is in room B, scenario A starts script B and turns on light C, complex object A is made of objects B, C, D etc.)

Example:

Im Beispiel der Zuordnung von „Objekt A befindet sich in Raum B“ ist die Vorgangsweise also:

In the example of “object A is inside room B” the process would be:

1. Open room B. For this you may either:
  - a. Search room B with the search function and open it.
  - b. Open room B using the navigation menu
2. Search object A with the search function and drag it to the desired area. That means (in detail):
  - a. Click on the search result “object A” and hold the left mouse button pressed
  - b. Drag the object to the right area onto the dark grey bar beneath the “contained objects” title bar
3. Drop the object there by releasing the mouse button. If everything worked as expected, you shall see a new row added to the area of room B, showing details about object A.

When the list of objects where you want to drop an object is currently empty, the area (drop zone) where your mouse cursor must be before you release the mouse button is narrow, so you have to be precise or the procedure will not work.

Contained objects							
	Name	Description / ETS name	State	Details	Type	Visible	Enable

Once you added one or more objects, the drop area grows as shown here, thus making the drop action much easier.

Contained objects							
	Name	Description / ETS name	State	Details	Type	Visible	Enable
	Garden_B				Room	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
	Virtual_Button		On	Virtual object	Virtual object	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

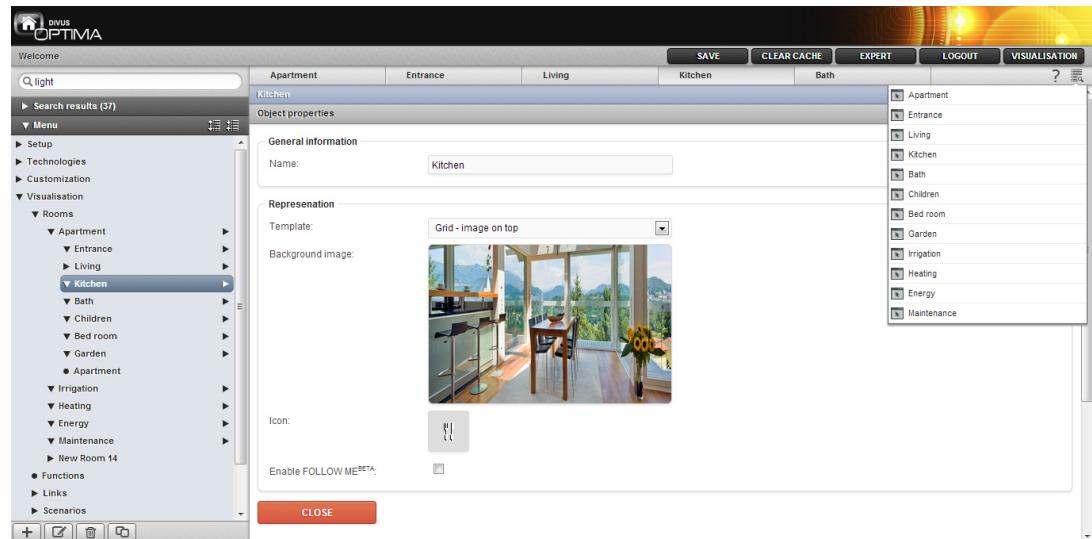
## 2.6 WORKSPACE

### 2.6.1 OVERVIEW

The WORKSPACE is the working surface of the ADMINISTRATION area. It offers the possibility to open several configuration windows at the same time in different tabs. The configuration window of a selected entry will be opened when the EDIT action (either the 3 points of the selected entry or the EDIT button in the TOOLBAR) is executed.

### 2.6.2 USAGE OF THE TABS

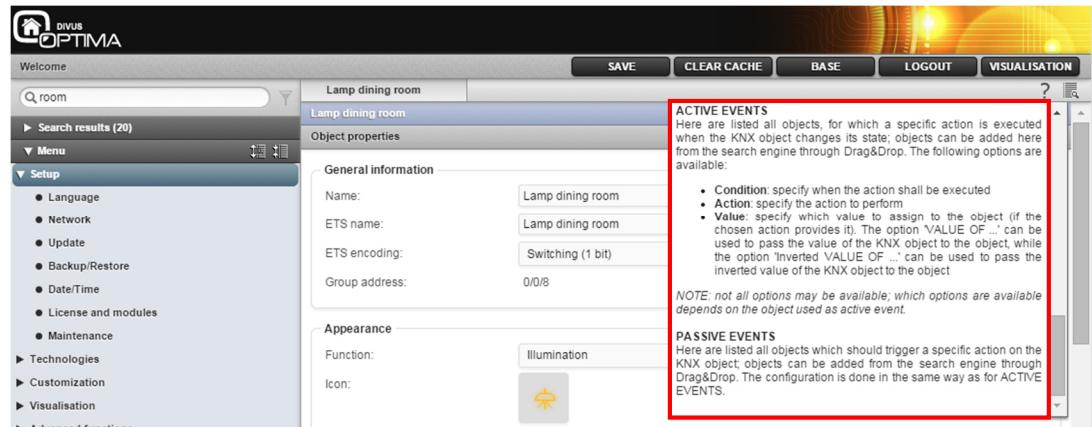
All opened tabs are displayed in the tab bar in the upper area of the WORKSPACE:



If a large number of tabs is opened, they cannot all be shown in the tab bar. The hidden tabs can be accessed through the small button at the end of the tab bar, which on click shows a complete list of all opened tabs. To close an opened tab, move the mouse pointer on the tab title and close the tab through the appearing "X" or use the red CLOSE button inside the opened tab.

### 2.6.3 HELP

A click on the help button (?) opens a pop-up with information about the current WORKSPACE content:



When you switch into another tab, the help pop-up will be closed. For showing the help of the new tab, click the help button again.

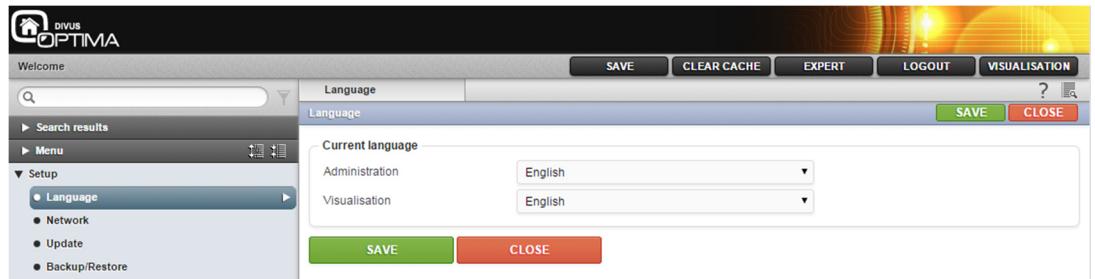
# 3 Setup

## 3.1 INTRODUCTION

This chapter explains the configuration pages for installation, commissioning and maintenance of OPTIMA. All sections and menus described in this chapter can be found in the SETUP section of the navigation menu. To have access to all of these settings, you must be logged in as administrator.

## 3.2 LANGUAGE

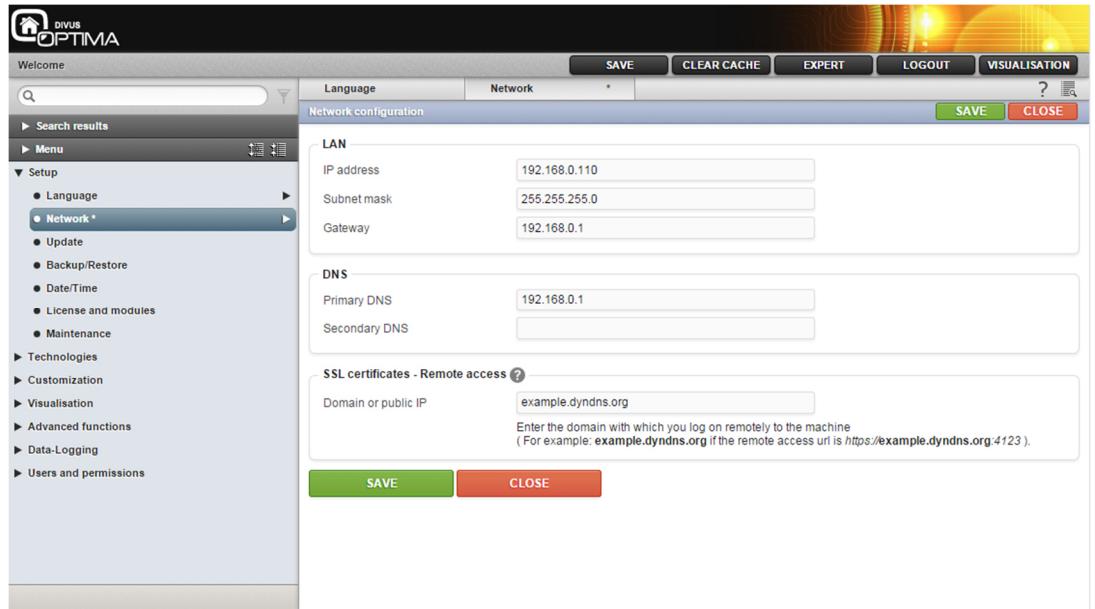
This page allows the configuration of the language that should be used for the different areas of OPTIMA. Currently the language can be set separately for the ADMINISTRATION and the VISUALISATION area. Select the desired language for the appropriate area and click on "SAVE". Once the storage procedure is completed, the page will be refreshed and displayed in the selected language.



Hint: If the language of the visualisation is changed, the browser cache of the used client device must be cleared and OPTIMA must be reloaded to show the visualisation in the new language; on KNXSUPERIO this can be achieved by rebooting the device.

### 3.3 NETWORK

This page allows the configuration of the network parameters of the used KNXCONTROL device:



The available parameters are:

<b>IP ADDRESS</b>	IP (V4) address of your KNXCONTROL device; the address has to be set manually – it's a so called static address. If you're unsure on how to set it up, please contact your network administrator. Factory setting: 192.168.0.110.
<b>SUBNET-MASK</b>	If no special network configuration is used, don't change the standard value 255.255.255.0
<b>GATEWAY</b>	Enter the IP address of your router (if present) or the referenced server of the network (if unsure, please contact your network administrator).
<b>PRIMARY DNS</b> <b>SECONDARY DNS</b>	DNS servers used by OPTIMA to access web resources (e.g. web pages or weather forecasts). At least one (the primary) DNS server IP address must be present to use such services. You may, as an alternative, try to insert your gateway IP address here also. If that should not work, please contact your network administrator.
<b>DOMAIN OR PUBLIC IP</b>	If you're planning to access your KNXCONTROL device also over the internet, you'll need a public IP address or, as an alternative, one of the many dynamic DNS service domain names (e.g. DynDns). In any case, the address to enter here should be the IP address only, or the domain name alone, as shown in the following table. The address is then used to create the SSL-Certificates needed for the HTTPS protocol.

WRONG	RIGHT
http://optima.duckdns.org:2345	optima.duckdns.org
http://234.123.12.34	234.123.12.34
234.123.12.34:5678	234.123.12.34



**Hint:** in order to guarantee remote access to OPTIMA, you must enter the IP address of the internet router, through which you want to access OPTIMA. For more details, see the appropriate section of this manual.

After modifying the single parameters, please click on "SAVE". If the IP address was changed, the new IP address must be entered in the address bar of the browser for reconnecting with the device.

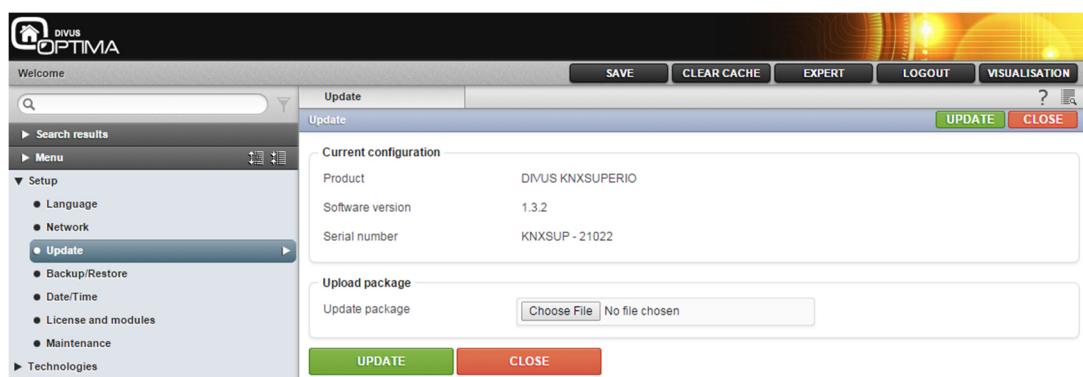


**Hint:** Ensure that all entered data is correct before you save! If incorrect settings are saved, your KNXCONTROL device might become inaccessible.

### 3.4 UPDATE

This page permits to update the software of OPTIMA to the latest version; please use only official update packages matching your KNXCONTROL device published by DIVUS, in order to avoid malfunctions. To update OPTIMA, please proceed as follows:

- Save the update package (downloaded from our homepage or received via email) on your PC without unpacking<sup>1</sup> it.
- Choose the update package through the "Choose file" button (or similar, depends on the browser)
- Check if the update package includes a newer version of the software (current version is shown on top)
- Click on the "UPDATE" button



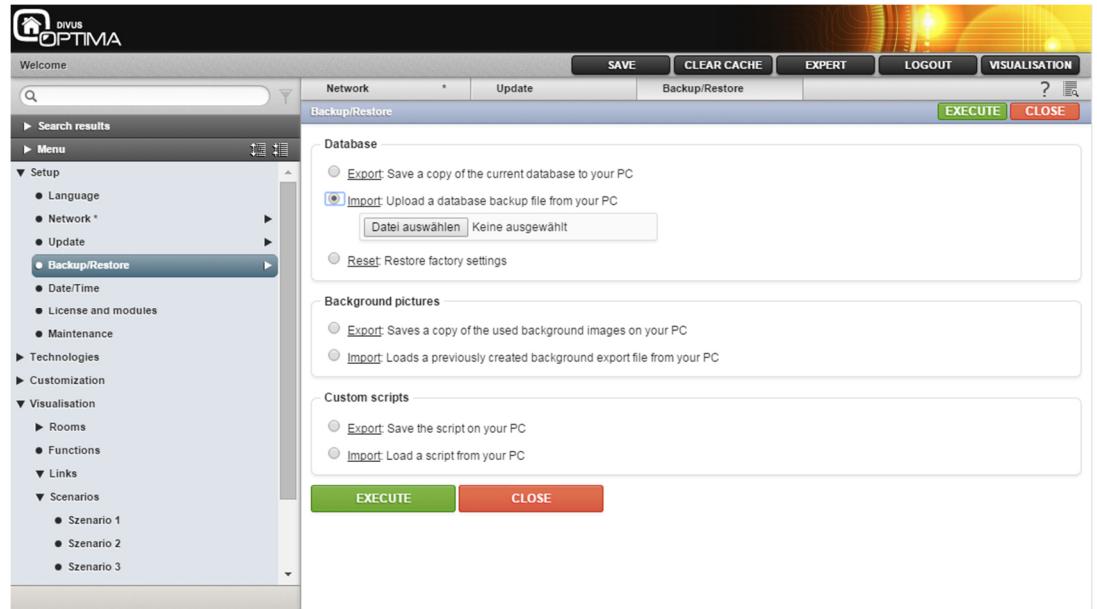
**Hint:** The update process runs completely automatically; please wait for feedback from the page without performing any other tasks or exiting the browser (risk of data loss / malfunction). Depending on the configuration and software version, the update may take several minutes.

Once the update process is completed, a brief summary as well as the new software version is displayed. To complete the update, please click on the "Restart now"-button, which will restart the operating system of your KNXCONTROL device.

### 3.5 BACKUP / RESTORE

This page allows the creation of a backup of your project, or also to import a previously created backup (even from another KNXCONTROL device or the KNXCONTROL PDK).

In addition, OPTIMA can be restored to factory settings (the IP address will NOT be affected by the reset).



As you can see, there are different options for backing up or restoring data in OPTIMA.

The most important part of a running OPTIMA system is its database. All the settings, all the KNX objects and all the advanced features of your project are stored in the database.

Background images are stored separately because of their relatively big size and because they're not changed often once chosen.

Script files are also stored separately. Scripts are one of OPTIMA's great features, allowing to expand its base functionality with php scripts that you may program and then store on your KNXCONTROL device. If you do not plan to use any of them, you don't have to care about their backups either, of course.

After the desired action has been selected (and - in case of the import action – the desired backup has been chosen), click on "EXECUTE" and wait for the desired action to be processed. Neither cancel the started action nor close the browser window during this process.



**Hint:** To complete the backup and restore topic, the data gathered through energy counters (and loads) should be mentioned and added to this list of files which may be saved to a PC or restored back to OPTIMA. See chapter 13.5 for details.

According to the importance of the data and the system you are planning (to you / to your clients), you should consider a backup strategy to apply on a regular basis. This will make it easier and painless if your system should one day have to be set up from scratch or restored.

## 3.6 DATE / TIME

This page allows setting several parameters related to date and time.

### 3.6.1 DATE / TIME CONFIGURATION

Permits to manually adjust the system time of the KNXCONTROL device. If there is at least an object of type date or time in your ETS project, OPTIMA can be configured to send these values automatically onto the KNC bus to synchronize other devices with its date and time.



**Hint:** If in the imported ETS project there are no group addresses for sending time/date on the bus, the related setting won't be visible.

### 3.6.2 TIME ZONE SETTINGS

Allows configuring the time zone in which the KNXCONTROL device is located.

### 3.6.3 ONLINE UPDATE

Allows defining a time server and a time interval to update automatically the system time; if no special settings are required, it is recommended to use the default settings.

### 3.6.4 SCHEDULED SERVICES REBOOT

Provides an automatic restart of the services running on the KNXCONTROL device in the background; week day and time for the automatic restart of the services can be configured here. Normally, the automatic restart of the services is not required, therefore it is recommended to not change the factory settings.

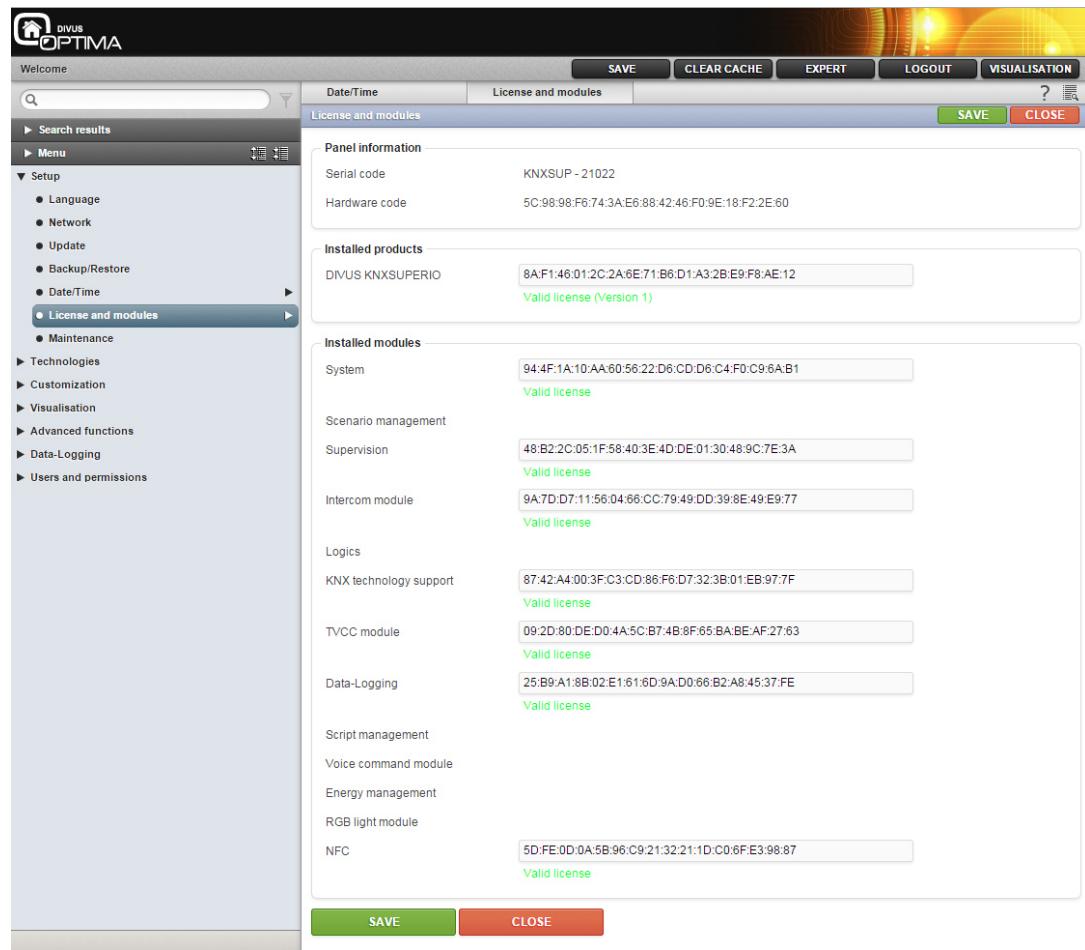
---

## 3.7 LICENSES AND MODULES

---

In this page the various licenses can be activated, which are necessary for the proper function of OPTIMA. Upon delivery, all necessary and acquired licenses are already activated. If an additional license is acquired at a later date after buying a KNXCONTROL device, the license can be activated by copying in here the acquired license in form of a number-code.

Just copy the received license code in the appropriate box and click "Save"; once the save process is completed, below the entered license you will see the status "Valid license" or "Invalid License". Should the license result as not valid, please check the copied license-code again.



The screenshot shows the DIVUS OPTIMA software interface with the following details:

- Header:** DIVUS OPTIMA, Welcome, Date/Time, License and modules, SAVE, CLEAR CACHE, EXPERT, LOGOUT, VISUALISATION, ?
- Left Sidebar (Setup):**
  - Language
  - Network
  - Update
  - Backup/Restore
  - Date/Time
  - License and modules** (selected)
  - Maintenance
- Panel information:**
  - Serial code: KNXSUP - 21022
  - Hardware code: 5C:98:98:F6:74:3A:E6:88:42:46:F0:9E:18:F2:E6
- Installed products:**
  - DIVUS KNXSUPERIO: 8A:F1:46:01:2C:2A:6E:71:B6:D1:A3:2B:E9:F8:AE:12  
Valid license (Version 1)
- Installed modules:**

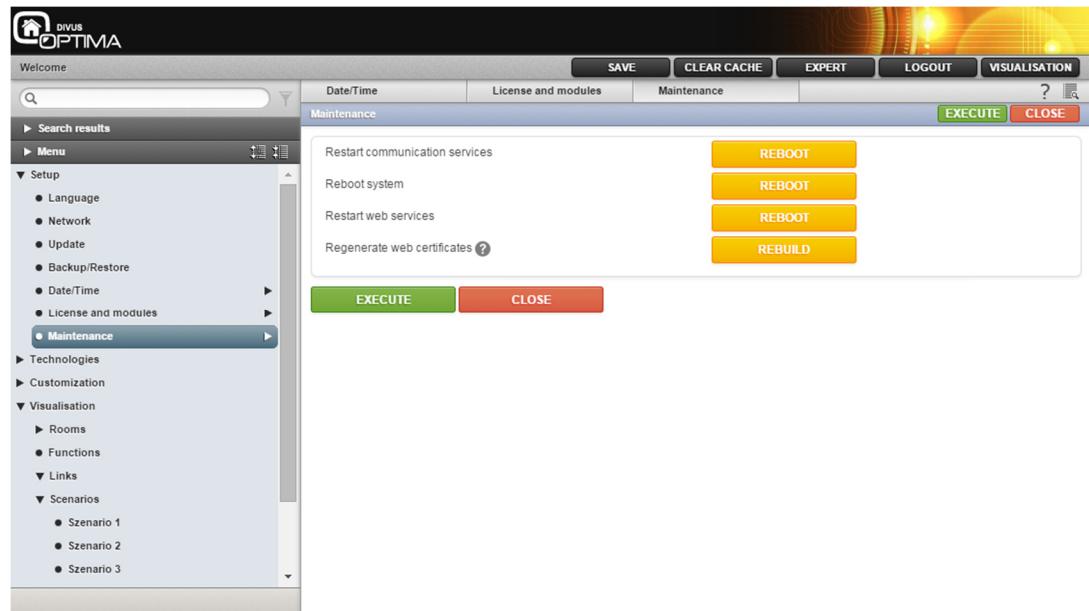
Module	Code	Status
System	94:4F:1A:10:AA:60:56:22:D6:CD:D6:C4:F0:C9:6A:B1	Valid license
Scenario management	48:B2:2C:05:1F:58:40:3E:4D:DE:01:30:48:9C:7E:3A	Valid license
Supervision	9A:7D:D7:11:56:04:66:CC:79:49:DD:39:8E:49:E9:77	Valid license
Intercom module	87:42:A4:00:3F:C3:CD:86:F6:D7:32:3B:01:EB:97:7F	Valid license
Logics	09:2D:80:DE:D0:4A:5C:B7:4B:8F:65:BA:BE:AF:27:63	Valid license
KNX technology support	25:B9:A1:8B:02:E1:61:6D:9A:D0:66:B2:A8:45:37:FE	Valid license
TVCC module	5D:FE:0D:0A:5B:96:C9:21:32:21:1D:C0:6F:E3:98:87	Valid license
Data-Logging		
Script management		
Voice command module		
Energy management		
RGB light module		
NFC		
- Buttons:** SAVE, CLOSE



**Hint:** The single licenses are hardware-dependent; so it's not possible to port license keys from one KNXCONTROL device to another.

### 3.8 MAINTENANCE

On this page you'll find some important maintenance related commands.



#### RESTART COMMUNICATION SERVICES

All of OPTIMA's base services are restarted

---

#### REBOOT SYSTEM

The whole device is rebooted

---

#### RESTART WEB SERVICES

OPTIMA's web services are restarted

---

#### REGENERATE WEB CERTIFICATES

The SSL certificate is rebuilt overwriting the old one



**Hint:** All these commands are useful when there's some trouble, but you should not use them as long as everything is running fine.

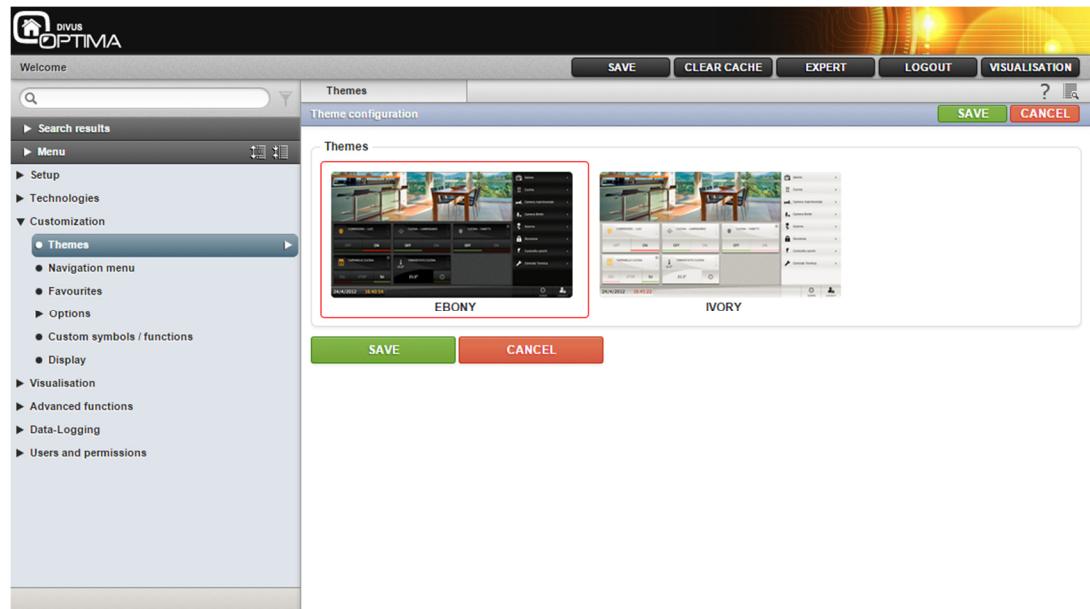


**Hint:** If you're having trouble managing OPTIMA's SSL certificates or if you're continuously getting security warnings from your browser when accessing OPTIMA, please visit the FAQ on our homepage to find the up-to-date instructions to solve your issues.

# 4 Customization

## 4.1 THEMES

OPTIMA offers different themes for changing the design of the VISUALISATION; in this page one can choose which theme should be used for the VISUALISATION of OPTIMA:



On delivery, the theme "EBONY" is preconfigured; all screenshots in this manual refer to this theme.



**Hint:** If the theme is changed, the browser cache of the used client device must be cleared and OPTIMA must be reloaded to show the visualisation in the new theme; on KNXSUPERIO this can be done by rebooting the device.

## 4.2 NAVIGATION MENU

This page permits to personalize the navigation menu. The individual links can be defined, as well as their order within the navigation menu itself. If the EXPERT-mode is active, all personalization options of the navigation menu are accessible:

Name	Description / ETS name	Type	Visible	Enable
Favourites	Most used objects of this user	Link	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Rooms	Room structure of the visualisation	Room	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Functions	KNX objects structured by functionality	Room	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Scenarios	Scenarios and automatic actions	Room	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Intercom	Communication with intercom systems	Link	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Video surveillance	Visualisation of IP cameras	Room	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Security	Control of alarm systems	Link	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Audio/Video	Management of multimedia contents	Room	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Energy	Energy management	Room	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Notifications	List of notifications / messages generated by the system	Link	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Weather	Shows the information of a weather station as well as online forecasts	Link	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
RSS news	Shows different RSS feeds in realtime	Link	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Internet	Simplified access to web contents	Link	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Family board	Family board for creating on-screen messages	Link	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Through the "VISIBLE" checkbox the individual menu items for the navigation menu can be activated or hidden; all hidden menu items are displayed semi-transparent (grayed out) and are not visible in the visualisation's navigation menu. Menu items of the system itself can't be deleted, but only hidden.

To change the position of a menu item, it can be moved through "drag and drop" using the ORDER-button .

It's also possible to add rooms to the navigation menu so that they are directly accessible from the navigation menu and the HOME page. This can be done by searching the desired room with the search function and pulling it onto the list (drag and drop).

Once the visualisation is refreshed, the changes made in the navigation menu will be visible.

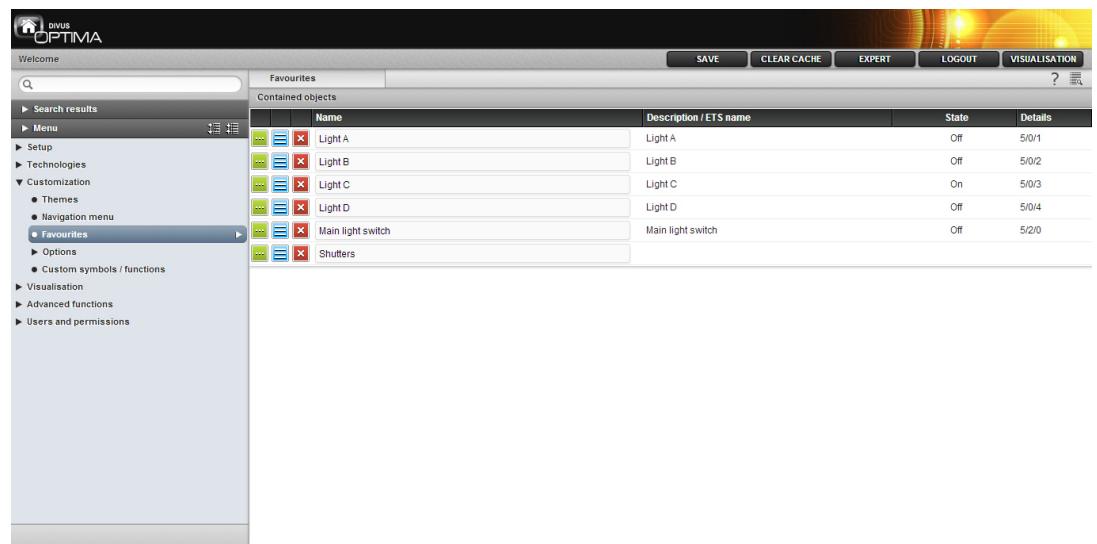
## 4.3 FAVOURITES

All objects that in the visualisation have been marked as "FAVOURITES" can be managed here. On delivery this list is empty. The end user can define various objects in the VISUALISATION as FAVOURITES on his own. These objects will be automatically added to the list shown below.

The FAVOURITES are reachable either through the navigation menu or through the HOME page (in the visualisation).

In this configuration window, the list with the features can be modified:

- Objects can be deleted from the list with the DELETE-button
- The order of the single objects can be changed by dragging them (using the ORDER-button) to the desired position in the list and dropping them there.
- New objects can be added by dragging them in, directly from the search function.



## 4.4     OPTIONS

In this configuration menu the main aspects of OPTIMA's visualisation area can be customized to match your needs.

### 4.4.1    HOME

This menu allows the customization of the graphical interface of the HOME page. The HOME page may contain different information from the system, the local weather forecast and different information from the created visualisation; the background image is also customizable:

#### REDIRECT TO FAVOURITES

This option redirects any access to the HOME page directly to the FAVOURITES page, which contains the objects that are mostly used from the customer

#### SHOW CURRENT WEATHER INFO

This option embeds the weather forecast into the HOME page; the forecast information for the defined location are set in the menu "WEATHER"

<b>SHOW WEATHER FORECAST</b>	Enables/Disables the weather forecast for the next 2 days
<b>USE WEATHER INFO AS BACKGROUND IMAGE</b>	Enables/Disables the adaption of the HOME page's background in dependency of the current weather information.
<b>BACKGROUND IMAGE (IF NOT WEATHER)</b>	Alternatively to the already mentioned options, a static image can be loaded and/or defined as background image of the HOME page.
<b>SHOW DATE</b> <b>SHOW TIME</b>	Enables/Disables the display of date and time inside the HOME page.
<b>SHOW MENU CONTENTS IN PAGE</b>	This option permits to show all sub-menus of the navigation menu also directly in the HOME page for a faster and more comfortable navigation.
<b>CLOSE NAVGATION MENU AUTOMATICALLY</b>	If you activate this option, the navigation menu will be closed automatically, if the HOME page is opened. If you disable this option, the navigation menu will remain in its last state (open or closed) when the HOME page is opened.



**Hint:** Date and time are synchronized through the used KNXCONTROL device and not through the local browser.

#### 4.4.2 MAIL

This section allows configuring all parameters required for sending mails through OPTIMA:

<b>SMTP SERVER</b>	SMTP-Server for sending mails
<b>PORT</b>	Port for the communication with the SMTP server
<b>USE SSL-PROTOCOL</b>	Defines whether the SSL protocol shall be used for the communication with the SMTP server or not.
<b>ACTIVATE AUTHORIZATION</b>	Defines whether for the communication with the SMTP server a user authentication is required or not
<b>USERNAME</b>	Username for accessing the SMTP server
<b>PASSWORT</b>	Password for accessing the SMTP server
<b>FORWARDER (MAIL ADRESS)</b>	Mail address of the sender; will be shown in the sent mail as address from which the mail comes from

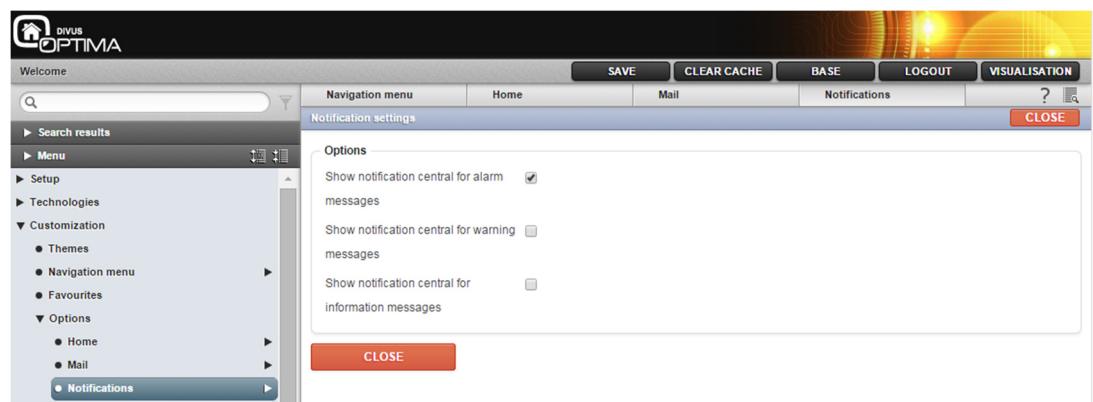
#### 4.4.3 NOTIFICATIONS

This page permits to configure the behaviour of OPTIMA for incoming notifications, depending on their type / priority level. For each type you can define whether the notification central should automatically pop up or just an advice (a small red badge on the notifications icon) should be shown in the HOME screen / navigation menu.

#### 4.4.4 BACKGROUND VIEW

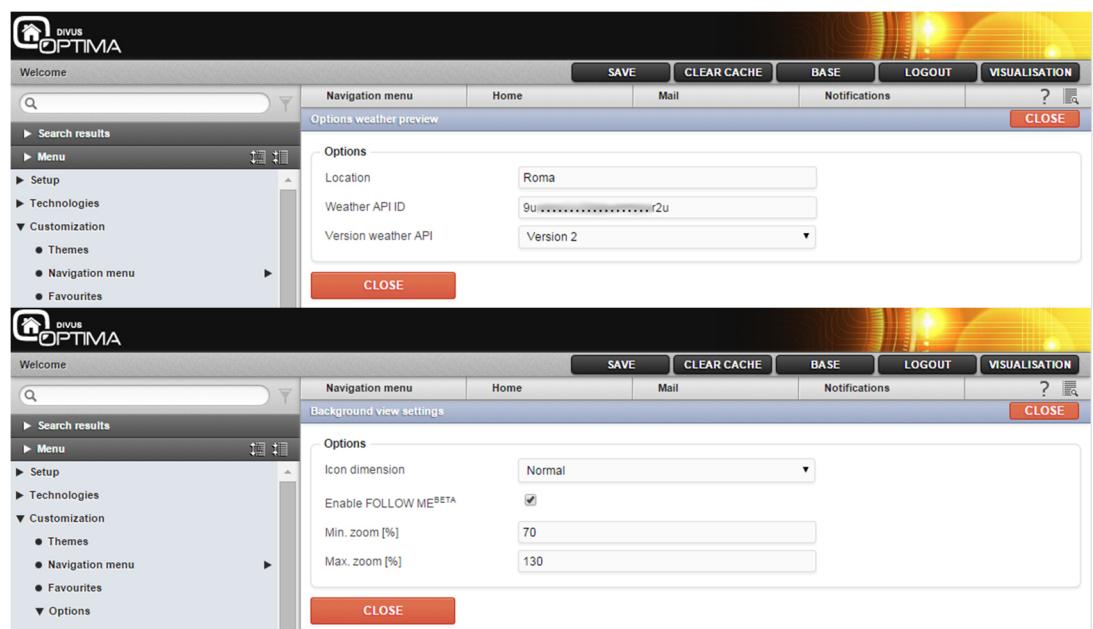
This page permits to customize the BACKGROUND view mode of rooms. For example, you can define whether the symbols should be shown in their default dimensions or if they should be visualized in reduced dimensions, to allow to insert more objects into one room. Furthermore the "FOLLOW ME" function can be enabled or disabled globally.

The min. and max. zoom settings allow to automatically adapt the background image size to the screen size by zooming in or out – to the extent defined here (in percent).



#### 4.4.5 WEATHER

In this menu the location for which weather data should be displayed can be defined. Simply specify the name of the location, province, region or zip code, as required by the used weather service (WORLD WEATHER ONLINE, [www.worldweatheronline.com](http://www.worldweatheronline.com) ).





**Hint:** Please do not use commas to separate the data, since the weather service doesn't support that. Please use spaces to divide the single words / numbers.

The usage of the weather services requires a valid "Weather API ID", which can be obtained for free on the following web page:

<https://developer.worldweatheronline.com/auth/register>



If you just created a new account, you will need to choose version 2 for the weather API, which is the new version. If you've been having an account since 2014 or earlier, you most probably received a version 1 API key.

**Hint:** Without valid Weather API ID the weather services of OPTIMA can't be used. In this case, please disable all kind of weather information / display within the HOME page, as described within the last chapters.

Over the following page it is possible to check if the used location for the weather forecast is interpreted as the correct location.

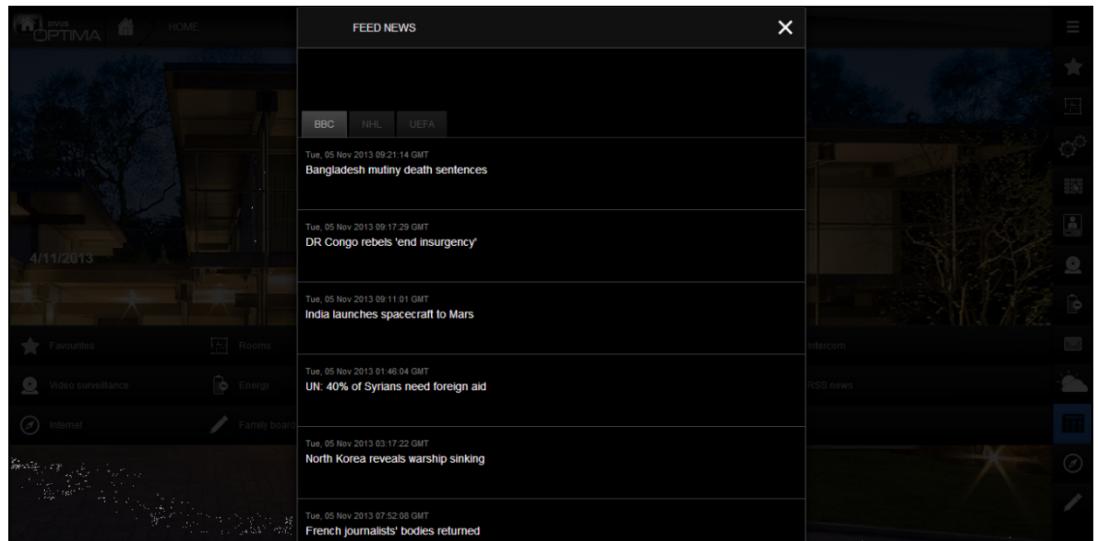
<http://www.worldweatheronline.com/search-weather.aspx>

#### 4.4.6 RSS-FEEDS

Up to 5 RSS feeds can be integrated into the visualisation; through the appropriate link in the navigation menu, the page displaying the specified RSS feeds can be reached. For each feed a title and the appropriate URL can be specified:

PARAMETER	VALUE
<b>FEED 1 - TITLE</b>	BBC
<b>FEED 1 - URL</b>	<a href="http://feeds.bbci.co.uk/news/rss.xml">http://feeds.bbci.co.uk/news/rss.xml</a>
<b>FEED 2 - TITLE</b>	Sports
<b>FEED 2 - URL</b>	<a href="http://feeds.bbci.co.uk/sport/0/rss.xml?edition=uk">http://feeds.bbci.co.uk/sport/0/rss.xml?edition=uk</a>

The configuration shown in the above table will result in the following display of the RSS feeds popup:



**Hint:** To get the appropriate feed URL check out the homepage of the provider of the feed. If the corresponding URL is not already listed, but only a link to the RSS feed is available, you can get the URL through the context menu (right-clicking on the link) by selecting the option "Copy address"; the link address will be copied to the clipboard and from there it can be easily pasted into the configuration of OPTIMA.

Not all RSS feeds are necessarily compatible with the XML encoding used by OPTIMA and therefore may not be shown correctly.

The RSS feeds function is not a complete RSS feed application, but should provide a short overview of the wished news.

RSS feeds are not shown in the in the OPTIMA app on mobile devices; for such devices dedicated apps are available which are much more practical and offer a wider range of functions.

#### 4.4.7 WEB BROWSER

In this page the start page of the integrated web browser can be defined; this web page will be the first page shown, when the web browser function inside the VISUALISATION is accessed through the navigation menu.

**Hint:** The web browser integrated inside the visualisation area is not compatible with all web pages. All pages that use an automatic forwarding to other sites can't be handled properly.

For such web pages it is recommended that you configure them as "favourites" of the main browser itself and use the corresponding functions of the browser to navigate directly to these pages, independently from visualisation pages.

The integrated browser window is not intended to offer the whole functionality of a conventional browser, but rather to give rapid access to a given web page (e.g. news or blog site).

The Browser is hidden in the OPTIMA app on mobile devices; for such devices the usage of the platform dependent native browser is more comfortable.

#### 4.4.8 DISPLAY-INTERACTION

This page contains different options regarding the usage / interaction of the software on client devices. The following options are currently available:

<b>ON-SCREEN-KEYBOARD (LOCAL &amp; REMOTE)</b>	Permits to enable – both locally or remote via network – an on-screen-keyboard, through which it is possible to make text inputs within the software even on touch devices that don't have an own soft- or hardware keyboard.
<b>CLEANING MODE (LOCAL &amp; REMOTE)</b>	Permits to enable – both locally or remote via network – a special button within the TOOLBAR of the VISUALISATION; by clicking on this button, a cleaning page will be shown that blocks any interaction with the software for 30 seconds and therefore permits to clean the touch display avoiding the risk of unwanted clicks within the visualisation.

#### 4.4.9 ADVANCED

This page contains the options for the Cache technologies, which are used on KNXCONTROL devices. These caching technologies accelerate the navigation inside the VISUALISATION, because the needed data is loaded on the first access on the local storage of the used client. On every next access the data is already available in the local cache and the VISUALISATION can be used without any mentionable delays. Additional also the refresh rate for the status of the objects present inside the VISUALISATION can be set.

<b>CACHE HTML-CLIENT</b>	Enables the first synchronization of HTML content in the browser (on the first access with a new browser window). This accelerates every next access even when the browser gets closed.
<b>CACHE HTML-SERVER</b>	Enables saving of often used pages on the KNXCONTROL device to accelerate future access from other devices (PC/mobile devices).
<b>CACHE DB-CLIENT</b>	Enables saving of different data in the browser cache during the navigation in the VISUALISATION to accelerate future navigation.
<b>AUTO-REFRESH INTERVAL (SEK.)</b>	Here you can set the time interval for requesting status changes from KNXCONTROL device



**Hint:** It is recommended to activate the cache technologies. If the cache technologies are enabled, the VISUALISATION reacts nearly in real-time. Only trained personnel should change these setting.

#### 4.5 CUSTOMIZATION OF FUNCTIONS / SYMBOLS

It is possible to extend the predefined symbol library and to customize the different functions used to represent the various object types of OPTIMA within the visualisation.



**Hint:** The different customization possibilities have been designed for advanced users. In order to prevent malfunctions of the software, the standard functions can't be modified directly; it is necessary to clone them. Afterwards the copy can be edited.

Since this topic is quite extensive, it will be handled in an own chapter (14.1) later in this manual.

# 5 KNX

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## 5.1 INTRODUCTION

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The following chapters will show in detail how OPTIMA has to be configured in order to work in a KNX system. Prerequisite for creating the VISUALISATION in OPTIMA is a KNX project that has been programmed either with ETS. The focus of the subsequent chapters is initially on how the individual data points are imported and what options for these data points are available. The creation of the graphical interface of the VISUALISATION will be explained in chapter 6, "Rooms".

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## 5.2 REQUIREMENTS AND EXPORT OF THE ETS PROJECT

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OPTIMA allows the import of KNX projects that have been realized with ETS3, ETS4 or ETS5. OPTIMA automatically takes over the structure and functionality of the single group addresses contained in the ETS project; the entire import process only takes a few minutes. To import an ETS project into OPTIMA requires the project to be in a compatible format.



**Hint:** If dummy devices are used in the ETS project, they must have a valid physical address, otherwise all related group addresses will be ignored during the ETS-Import process of OPTIMA!

### 5.2.1 OPC-EXPORT

With the OPC export of ETS it is possible to create a compatible project file directly out of ETS. This file can be used to import the needed information of the ETS project into OPTIMA.

- Open the ETS software
- Open the desired project, which should be imported into OPTIMA
- Execute the OPC export to create a file with the ending \*.esf
  - ETS3: "Data exchange" -> "Export to OPC-SERVER"
  - ETS4 and 5: "Extras" -> "OPC export")

### 5.2.2 CSV-IMPORT

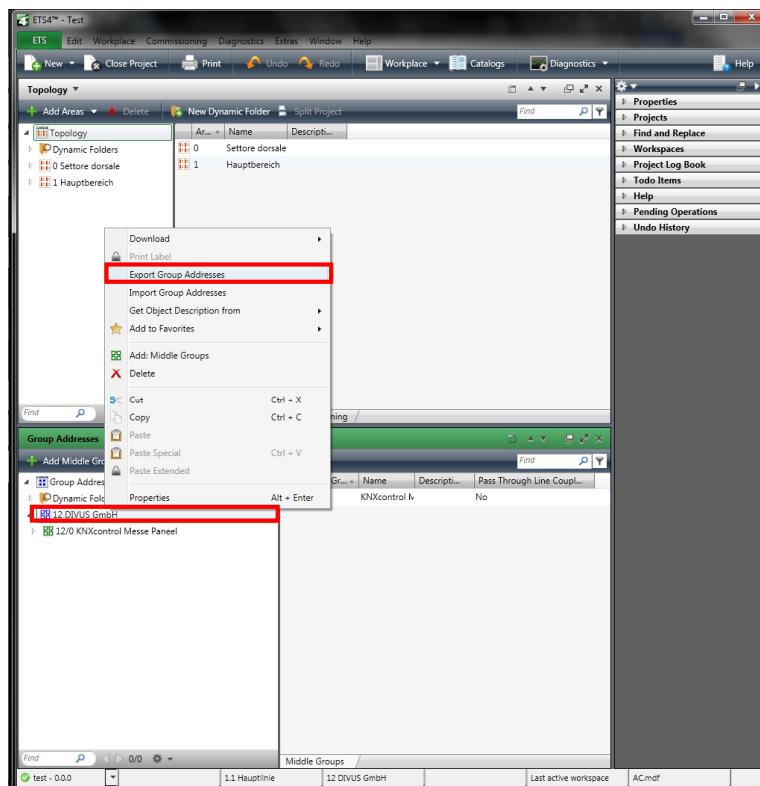
OPTIMA also supports the import of KNX group addresses through a CSV file; the file must show the following properties:

- Columns divided through tabulator
- Name of the group address in the first column

- Group address in the second column
- Bit length (optional) in the third column (e.g. 1 bit -> value 1, 1 Byte (=8 bits) -> value 8, etc.)

This file can be created manually (for example using Microsoft Excel) or exported directly from ETS. In the second case, please proceed as listed below:

- Please select the group addresses that you want to export (by right-clicking on their middle or main group)
- Select the entry "Export Group Addresses" from the context menu:



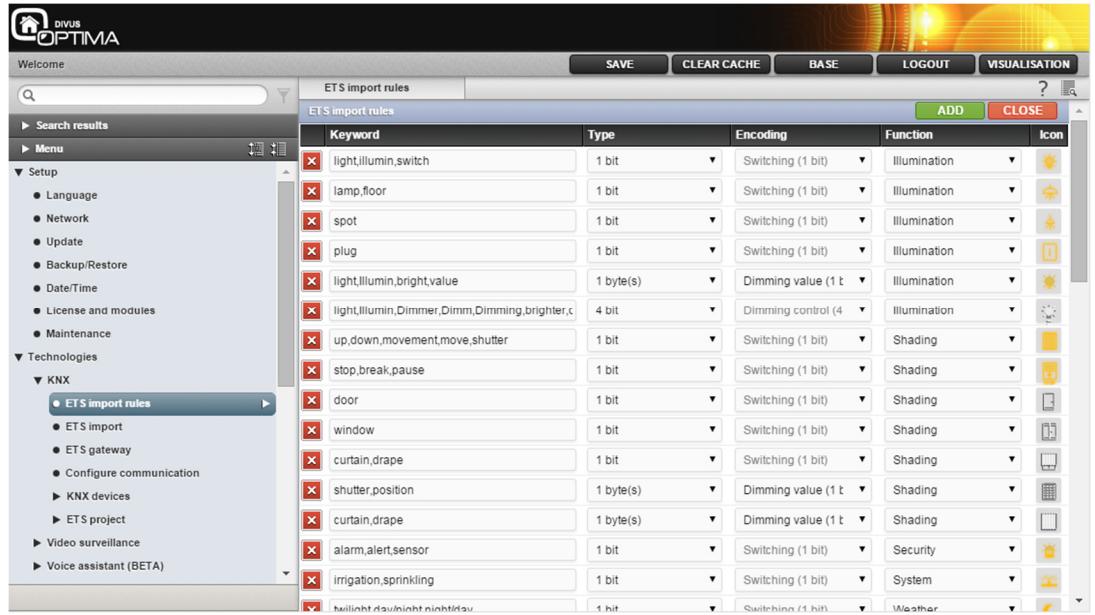
- In the pop-up window please select "CSV" and set the following parameters (as shown in the screenshot on the next page):
  - As CSV format select 2 columns (1/1 – Name /Address)
  - As CSV separator select "Tabulator"



**Hint:** The CSV import can be useful above all when you want to create / import group addresses manually into OPTIMA, without using ETS. In this case you will just have to create a CSV file with the corresponding group addresses and to import it into OPTIMA.

### 5.3 ETS IMPORT RULES

Before the KNX project is imported into OPTIMA, you should take the time to prepare and/or evaluate the ETS import rules. The administration of the ETS import rules can be found in the ADMINISTRATION of OPTIMA under “TECHNOLOGIES → KNX” :



The ETS-import rules automate the import process by assigning function and graphical appearance to the single data points depending on the configured criteria. The available criteria are data type (length), encoding and user-definable keywords which have to be included in the name of the group addresses for whom the corresponding ETS import rule should be applied. In OPTIMA some ETS import rules, which apply to generically used data points, are already predefined; adjusting the ETS import rules is worthwhile, since it will make the personalization of many data points after the import no more necessary.

Following parameters can be defined:

**KEYWORD** One or more keywords, of which at least one must be present in the name of a group address of the imported KNX-project, so that the ETS import rule will be applied correctly. When multiple keywords are specified, they must be separated by a comma; blank spaces are recognized as part of the keyword!

**TYPE** Length (in bit/byte) of the target group addresses in the KNX project

**ENCODING** Encoding to be used by OPTIMA in order to interpret the KNX bus data correctly; the available encodings depend on the data length defined in "TYPE"

**FUNCTION** During the import process OPTIMA, for each group address present in the KNX-project, creates a KNX object in its internal database. Each KNX object, created from a group address for which an ETS import rule was applied, will be automatically assigned to the here defined FUNCTION category during the import process

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<b>SYMBOL</b>	Icon for showing the object graphically inside the VISUALISATION, assigned automatically by the defined ETS import rule
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The ETS import rules are used by OPTIMA as follows: during the import process, all group addresses within the import file are scanned and for each address a KNX object is created. If at least one of the keywords defined in an ETS import rule is found in the name of a KNX object, OPTIMA checks whether the data length of this object matches the one defined in the ETS import rule ("TYPE"). If this second parameter matches, the ETS import rule is applied for this KNX object. For the matching KNX object the encoding defined in the ETS import rule will be applied automatically, furthermore it will be assigned to the FUNCTION category defined in the ETS import rule and also it will get the symbol specified in the rule. Any further editing of KNX objects, which have already been customized by an ETS import rule, is normally not needed, what can save a lot of time.

All KNX objects, which do not match at least one ETS import rule, must be edited manually during or after the import process, in order to assigning data length, encoding and the icon. Especially for large ETS projects with numerous group addresses it is recommended to make use of the ETS import rules, since the manual configuration of the single KNX objects can take a lot of time depending on the number of KNX objects.



**Hint:** The ETS import rules can be modified also during the import process, in the moment when those KNX objects are listed, which do not match with any ETS import rule.

## 5.4 ETS IMPORT

To be able to import an ETS project, you must first create a compatible project file, like described in 5.2. After selecting the file that you want to import, make sure to configure the following options correctly!



**Hint:** Once a valid "\*.esf"-file is selected as project file for the ETS Import a second file selection field appears. With this field the "\*.phd"-file, which is created in parallel with the "\*.esf"-file during the OPC-Export, can be selected for creating automatically the KNX devices present in the ETS project also in OPTIMA (see chapter 5.8 of this manual).

### 5.4.1 PREVIOUS CONTENT OF DATABASE

The BASE-mode merely offers the possibility to delete or to update existing KNX objects from a previously imported project. If you decide to update the current project (option unchecked), the single data points will be updated in order to keep the currently working configuration.

#### Previous content of database

Delete existing KNX objects:

The EXPERT-mode offers these options additionally:

#### Previous content of database

Delete existing KNX objects:

Remove nonexisting KNX objects:

Refresh names:

Refresh ETS flags:

**DELETE EXISTING KNX OBJECTS**

When checked, all existing KNX objects will be deleted from OPTIMA's database

**REMOVE NON-EXISTING KNX OBJECTS**

Removes all those KNX objects from OPTIMA's database, that are not present in the new project file

**REFRESH NAMES**

If an existing database is updated, this options are used to update existing object's names and flags (or not).

**REFRESH ETS FLAGS**

These options should not be checked if you already started changing something on the KNX objects in the database – independently from the ETS project.

**5.4.2 FILTERS / RULES**

The two main options in this area are about status feedback and selective import:

**Filters / Rules**

- Research status feedback:
- Selective Import:

**RESEARCH STATUS FEEDBACK**

When checked, OPTIMA will try to identify those objects that are responsible for giving status feedback on the KNX layer during the import process. OPTIMA will then use that information to grant a correct graphical representation of the system. The checkbox makes other dependent options visible when checked (see below).

**SELECTIVE IMPORT**

This option allows to choose between importing the whole project as a block or to add an additional step where you may check and select individual objects or addresses to be imported – or left behind. See below for more details.

Status feedback options:

Research status feedback:

Search criteria:  Search automatically communication objects associated with multiple group addresses in the ETS project

Using rules based on the name and/or group address BETA

**CONFIGURE**

Hide automatically status feedback

objects:

Remove existing status relations:

Selective Import:

OPTIMA searches for status feedback objects by analysing the connections between group addresses by default. The light blue "CONFIGURE" button leads to the STATUS FEEDBACK RULES page:

You may generally choose whether all rules must be satisfied (AND), or one of a set is enough (OR).

### Rules based on name

Using the green "ADD" button at the right end of the title bar, new rules can be added. The single options of a rule are:

OPTION	DESCRIPTION
	Deletes the selected rule
<b>ENABLE</b>	Single rules may be enabled/disabled. By default a new rule is enabled.
<b>COMMAND KEYWORDS</b>	The search terms, words or strings used to identify commanding objects during import. You may insert more than one search term, separating them by a comma without empty spaces. Indeed empty spaces will be considered part of the search term.
<b>REQUIRED</b>	Makes the rule mandatory (i.e. must be true). This option allows for finer tuning of the general "OR"-filter while it has no effect if you chose the "AND" option at the top of the page.
<b>POSITION</b>	Where in the existing words the search term should be looked for: at the beginning, at the end, or anywhere. This regards the search for command objects.
<b>STATUS KEYWORDS</b>	The search terms, words or strings used to identify status feedback objects during import. You may insert more than one search term, separating them by a comma without empty spaces. Indeed empty spaces will be considered part of the search term.
<b>POSITION</b>	Same as above, only this time for status feedback objects.

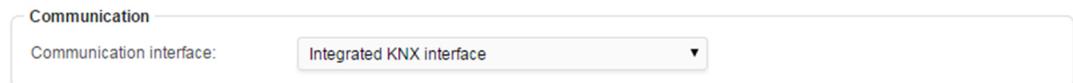
### Rules based on group address

Also here, using the green “ADD”-button on the right end of the title bar, new rules can be added. These rules are helpful if your project uses consistent naming conventions for objects and functions. The single options of a rule of this type are:

OPTION	DESCRIPTION
	Deletes the selected rule
<b>ENABLE</b>	Single rules may be enabled/disabled. By default a new rule is enabled.
<b>LEVEL</b>	In 3 level group addresses, which part should be searched (main, middle, subgroup)
<b>ADDRESS COMMAND</b>	Address given to command items. Available values depend on previous option.
<b>STATUS ADDRESS</b>	Address of status objects. May be expressed as fixed value, or as relation to the command object, or not at all choosing “any”.
<b>OFFSET</b>	Depending on the previous option, may be used to express the numerical relation of the status object to the commanding object inside a group address

### 5.4.3 COMMUNIKATION

Here you may choose the interface used by OPTIMA to communicate with KNX group addresses. Unless you have a custom hardware setup, you'll have the integrated KNX interface as only choice here.



### 5.4.4 SELECTIVE IMPORT

As mentioned before, this option may be used to control and define exactly which objects should be imported from the ETS project into OPTIMA and which ones not.

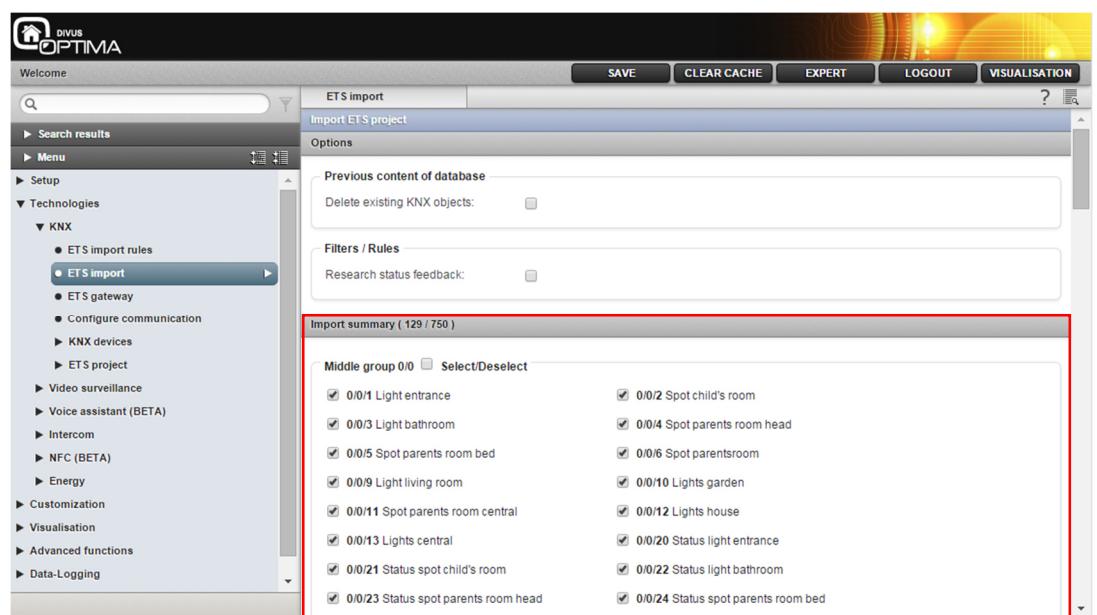
This option is automatically checked (activated) if the count of group addresses to be imported is higher than the maximum number of group addresses available with the current product license. At the same time, the NEXT-button is deactivated. You then have the possibility to choose what parts of the project to import and what parts to uncheck in order to keep the amount of group addresses under the given limit.

The NEXT-button then starts the import process. If you chose a selective import, a new section called “IMPORT SUMMARY” similar to the following will be shown and you will be given the choice: checked items are imported, unchecked items are not imported.

Note that the items are not imported yet. You may also interrupt the process at this point. After the "Import summary" title, you can see the count of the currently implemented group addresses versus the maximum amount, which depends on your product license. In the screenshot above, 129 of the 750 available group addresses are currently in use.

Also note that group addresses are grouped according to their middle group and have a group checkbox. This allows to select or deselect the whole group in one step if needed.

When you are done with the selection, the import can finally be started with the NEXT-button. This may last a few minutes depending of the size of the ETS project to import. OPTIMA will automatically create the appropriate KNX objects, which can be used to create the graphical visualisation. Once the import process is finished, a summary of all actions is shown:



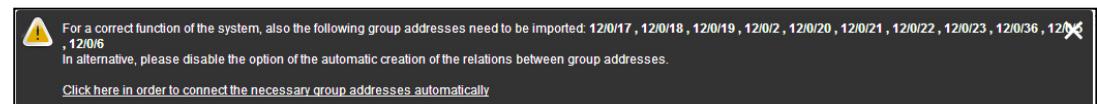
As soon as the project is imported, OPTIMA checks if the single KNX objects are matching any ETS import rule. If for a KNX object at least one ETS import rule is matching, it will be applied; no additional configuration of these objects will be necessary.

If all created KNX objects match at least one ETS import rule, after some seconds the section "ETS IMPORT RULES" will disappear and by clicking "NEXT" the import procedure can be completed (the communication service is restarted automatically, so that OPTIMA can manage all the new created objects).



**Hint:** When making a selective import, you should pay attention to dependencies between group addresses!

When a selective import detects that there are dependencies not matched with the current selection, it will alert the user through a message and interrupt the import process.



Now you can select between the following actions:

- Automatic integration of the missing group addresses by clicking the link in the message box

- Manual selection of the related group addresses or deselection of group addresses that are causing the warning
- Activation of the EXPERT mode and removal of the option "CREATE AUTOMATIC RELATIONS"



**Hint:** If the missing group addresses are added, it's still possible that the message will appear again during the import, since also the newly added group addresses could have relations to other group addresses. In this case, just repeat the procedure until all relations are created correctly.

#### 5.4.5 CONCLUDING THE IMPORT

The screenshot shows the DIVUS OPTIMA software interface. At the top, there is a navigation bar with tabs like 'ETS import', 'SAVE', 'EXPERT', 'LOGOUT', and 'VISUALISATION'. Below the navigation bar, there is a search bar and a sidebar with various menu items such as 'Setup', 'Technologies', 'Customization', 'Visualisation', 'Advanced functions', 'Users and permissions', and 'Energy management'. The main area shows 'Search results (4)' and a summary of 'Executed operations': 'KNX objects deleted before import: 217' and 'Existing KNX group addresses updated: 77'. There is a green 'NEXT' button at the bottom.

If some of the created KNX objects do not match any ETS import rule, they are all listed during the import process and can be personalized manually:

The screenshot shows the 'ETS import rules' step of the import process. The interface includes a navigation bar with 'SAVE', 'CLEAR CACHE', 'BASE', 'LOGOUT', and 'VISUALISATION' buttons. On the left, there is a sidebar with 'Search results (23)' and a list of menu items. The main area is a table titled 'My Bedroom' with columns for 'Functions', 'Backup/Restore', and 'ETS import rules'. The table lists various KNX objects with their properties and import rules. At the bottom, there are buttons for 'NEXT', 'RELOAD RULES', and 'CUSTOMIZE RULES'.

Function	Backup/Restore	ETS import rules
Power counter C request	0/4/39	Switching (1 bit)
Status brightness east	0/5/0	Value (2 byte)
Status brightness south	0/5/1	Value (2 byte)
Status brightness west	0/5/2	Value (2 byte)
Status brightness twilight	0/5/3	Value (2 byte)
Status wind	0/5/5	Value (2 byte)
Status max. brightness 1-3	0/5/6	Value (2 byte)
Status max. brightness 1-3 + twilight	0/5/7	Value (2 byte)
Room controller block	0/6/0	Switching (1 bit)
Moving detection block	0/6/1	Switching (1 bit)
RGB chromatic circle	1/3/20	Switching (1 bit)
Date	15/0/0	Time (3 byte)
Time	15/1/0	Time (3 byte)
LED green force state	2/0/2	Priority control

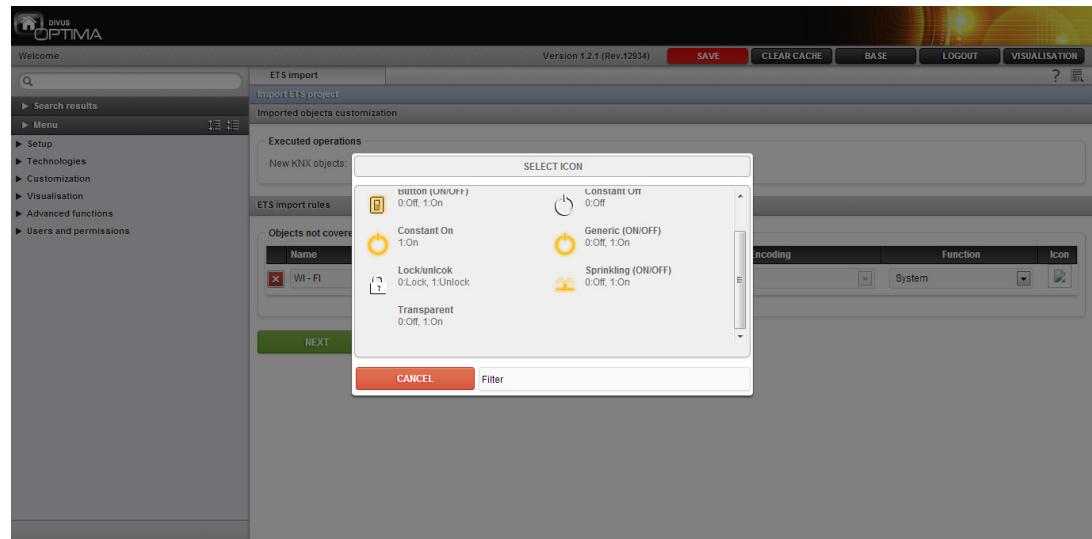
The available options are the same as the ones you find in the ETS import rules: encoding related to the settings inside the ETS project, function and icon (the shown icons depend on the selected encoding and function for the related object):



**Hint:** The selection of the icon during this phase may be seen as the definition of the "graphical function" (a combination of icons, buttons, properties, etc.) which is used in order to show the object correctly within the VISUALISATION. Further information regarding the graphical function can be found in chapter 14.1 of this manual.

At this stage it is also possible to modify the ETS import rules again. This is very useful if the list shows a lot of KNX objects that have similar keywords in their names and could use the same configuration settings. In this case the appropriate ETS import rule could be added in the following way:

- By clicking "CUSTOMIZE RULES" the ETS import rules configuration menu is opened in a new tab
- Add new ETS import rules or modify already existing rules
- Afterwards change back to the tab containing the ETS import and click on "RELOAD RULES"
- Repeat this process again, if needed



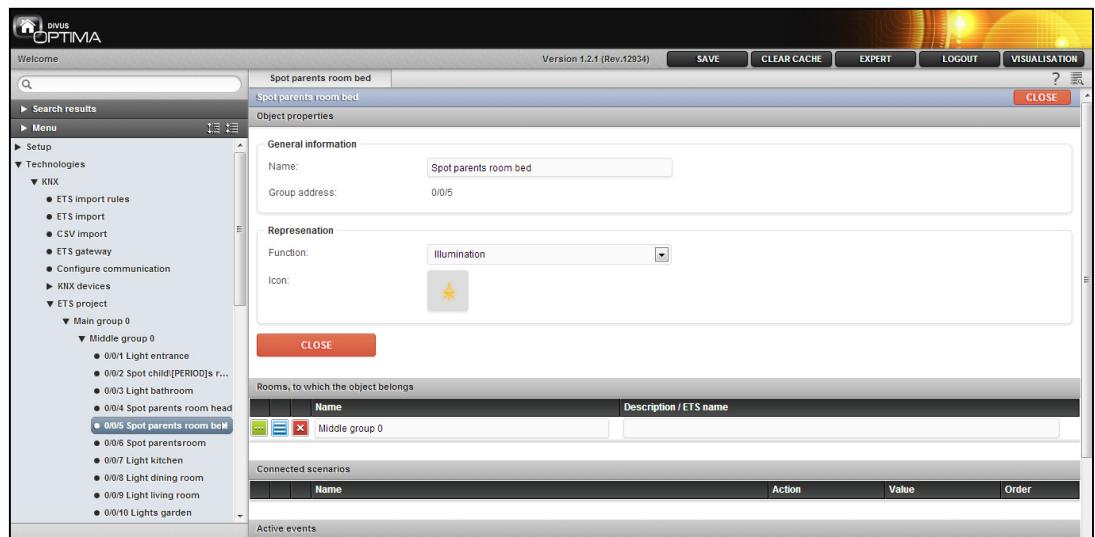
Once all objects are customized as desired, please click on "NEXT" to complete the ETS import.



**Hint:** The software allows the termination of the ETS import process even without assigning a graphical symbol to the single KNX objects: nevertheless, this is not recommended, since such objects cannot be visualised correctly. However, it is also possible to edit the individual objects after the ETS import and therefore to assign them a graphical symbol in a second step.

Once the ETS import is completed, the single KNX objects are available under “TECHNOLOGIES → KNX → ETS-PROJECT”.

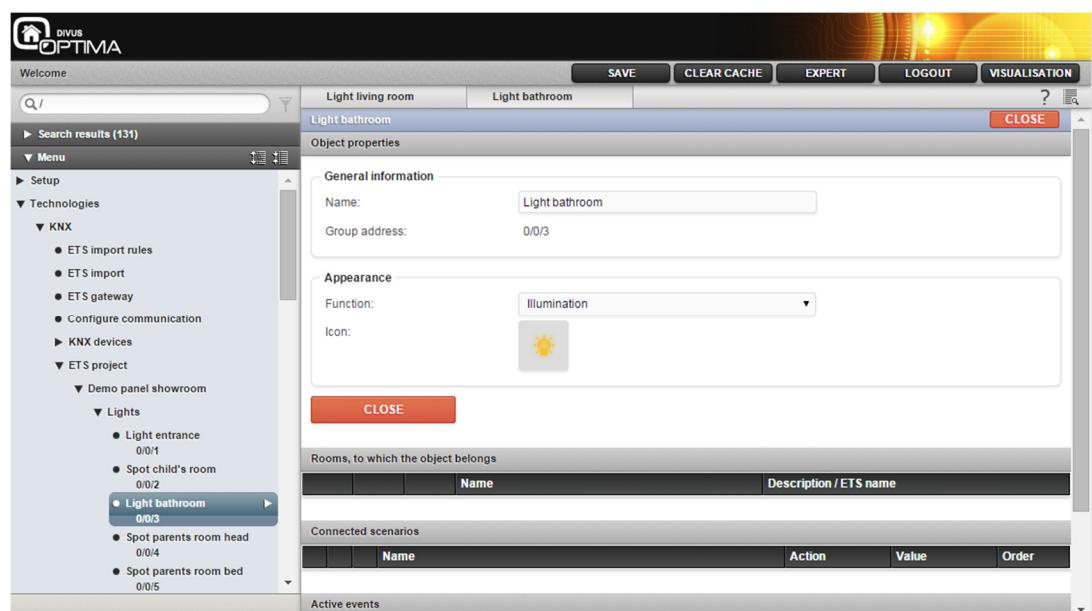
The tree structure of ETS is directly imported and can be very helpful to find and to edit single KNX objects.



## 5.5 KNX OBJECT PROPERTIES

### 5.5.1 KNX OBJECT DETAILS

If a KNX object is selected in the navigation menu or through the search function and the EDIT-button is clicked, the following screen will appear:



This page allows modifying all settings of the selected object and its relations to other objects present in the visualisation.

The first part of this configuration page contains all specific settings regarding the object itself. In BASE mode the following settings are accessible (as also shown in the screenshot):

<b>NAME</b>	Name of the object, which identifies it within the software. During the import process, the name of the corresponding group address from the ETS project is taken over; this setting can be changed here, if needed.
<b>GROUP ADDRESS</b>	Main group address used by the object for the communication with the KNX-bus; this setting can't be changed, but its value can be used as keyword for the search engine.
<b>FUNCTION</b>	Category to which the object belongs to; the selection here determines which icons are available in the next option. It is also possible to assign the object to no function, if the object should not be listed inside any FUNCTIONS page in the VISUALISATION.
<b>ICON</b>	In a popup window the icon can be selected, through which the object will be shown in the VISUALISATION. The available icons depend on the type of the KNX object and the function assigned to it. If "None" is defined as function, all icons matching the type of the KNX object will be available.

Enabling the EXPERT-mode, the following additional options are available:

<b>ETS NAME</b>	Name of the related group address from the imported ETS project; this name can be used as keyword in the search engine to find the object.
<b>ETS ENCODING</b>	This setting determines which encoding OPTIMA must use to communicate with the related group address via the KNX bus.  Hint: Changes to this setting should be considered carefully, since an encoding that does not match the settings of the related device can lead to incorrect behaviour of the VISUALISATION.

---

This option allows you to personalize the display format of an objects value. The syntax is "%{X.Y}{Type} {Unit}":

- %: Indicator for the beginning of a formatting syntax
- X.Y: Digits before the decimal point (X) and after the decimal point (Y)
- TYPE: Defines the output format to use for the value to be displayed:
  - b: Binary format
  - c: Character (numerical value required)
  - d: Decimal number
  - e/E: Scientific floating point format
  - f: Floating point format
  - s: String
  - x/X: Hexadecimal format
- Unit: Separated by a space from the rest of the formatting here can be specified which measure unit should be appended to the formatted value. In this way it is possible to customize the default measure unit of an object.

#### FORMATTING

E.g.:

	Value	Formatting	Visualisation
	143.58674	%0.2f kW	143.59 kW
	143.58674	%d kW	143 kW

**Hint:** This formatting affects only objects whose value is represented in textual form (numbers, strings), not objects which are only represented through icons inside the visualisation.

---

#### VISIBLE

Defines if the object shall be visible inside the VISUALISATION or not.

---

#### WRITE ACCESS ACTIVE

Enables the operation of the object in the VISUALISATION through the defined graphical icon; this setting is normally configured automatically during the ETS import. If an object should be used only as a status display in the VISUALISATION, even if in the ETS project it was basically configured with write permissions, it is sufficient to disable the write access here.

Hint: To enable write access for objects, which were initially imported as read-only, the corresponding group address with write access must be configured, too (detailed information can be found ahead in this manual); improper settings can compromise the proper function of the system

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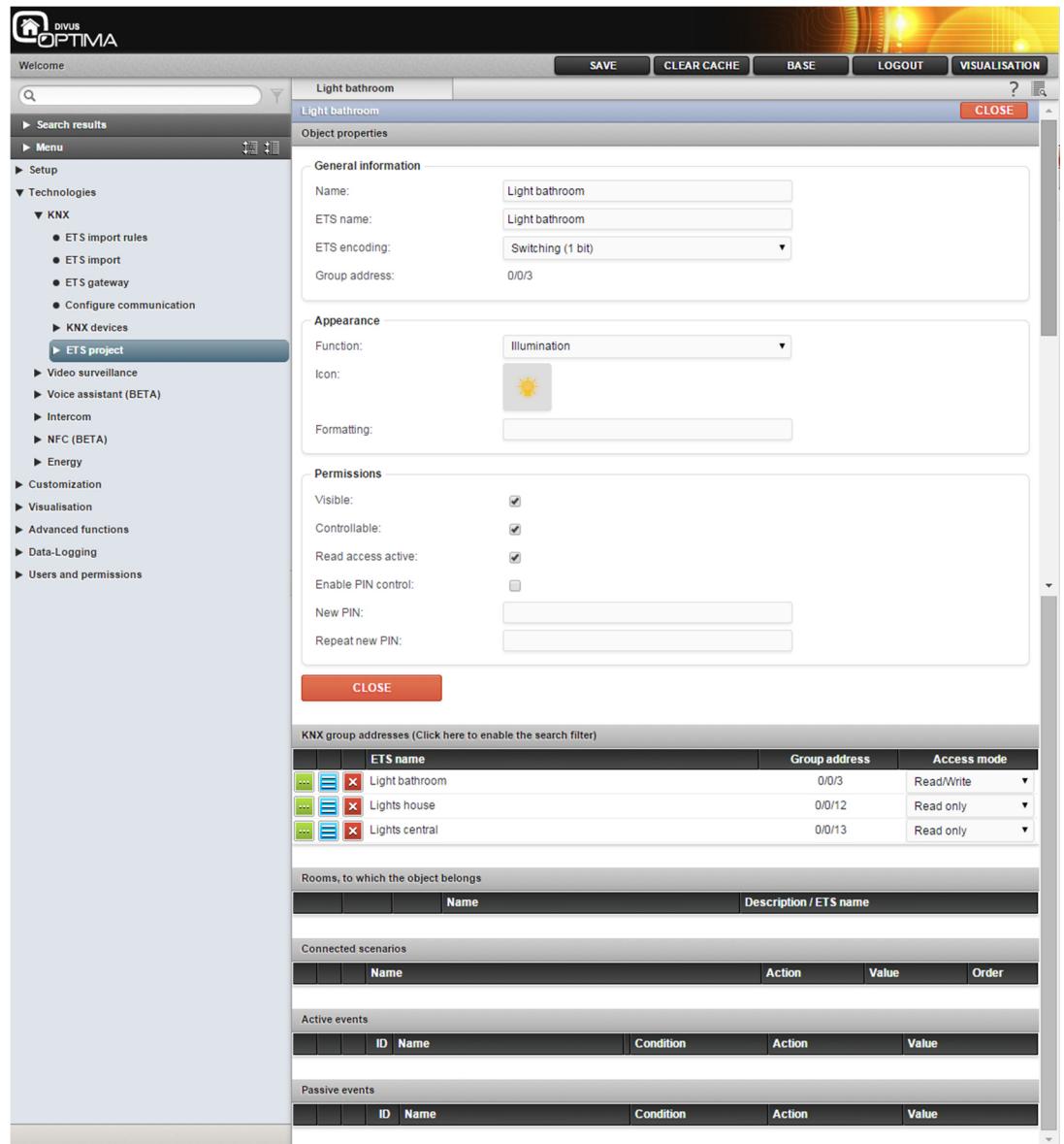
#### READ ACCESS ACTIVE

Permits to read the current status of the object over the KNX bus; this flag is always active.

---

#### AKTIVIERE PIN-KONTROLLE

Ermöglicht, den Zugriff bzw. das Bearbeiten des gesetzten Werts, durch einen PIN-Code zu sperren. Bei Aktivierung dieser Funktion schalten sich die Felder frei, wo Sie den PIN-Code eingeben und bestätigen und in einem zweiten Moment auch ändern können.



## 5.6 KNX GROUP ADDRESSES

This section is only visible in the EXPERT-mode and allows the handling of the group addresses that are associated to an object. Depending on how the imported ETS project is structured, not only the main group address, from which the object was created during the ETS import, but also additional group addresses can be found here, whose can update the state of the object in the VISUALISATION (state feedback, central functions, etc.) .

KNX group addresses (Click here to enable the search filter)				
		ETS name	Group address	Access mode
[...]	[E] [X]	Light bathroom	0/0/3	ReadWrite
[...]	[E] [X]	Lights house	0/0/12	Read only

For each linked group address various communication options can be set: "Read only", "Write only" and "Read / Write"; before this communication options are changed, please make sure that in the ETS project the needed permissions for a correct functionality are configured.

**Hint:** OPTIMA can send active commands to only one of the listed group addresses. It is very important to ensure that only one of the linked group addresses has write permissions.

KNX group addresses, which shall refresh the status of a KNX object, can also be added after the ETS import (if not already done automatically by the import procedure:

- Activate the search filter for KNX group addresses (Click on the title of the corresponding table "KNX group addresses")
- Search the desired KNX group addresses with the search function
- Select the desired KNX group addresses from the search results list.
- Then drag the selected group address into the list of linked group addresses of the object and drop it there.
- Define permissions (normally "Read only" when the added group address is mentioned for refreshing the status of the object)
- The activated search filter can be deactivated by a click on the filter symbol near the search box

**Hint:** The order of the linked KNX group address is extremely important. Only the first group address is used to create the graphical information related to the object. It must therefore be ensured that the main group address, from which the object has been created during the ETS import, is at the first place in the list. If this is not the case, the order of the linked group addresses can be changed by dragging the single group addresses with the MOVE-button to the desired position. To ensure that actions (Active Events, logics, conditions, scripts) which are associated with a KNX object will not be triggered multiple times, the main group address must be defined as "Write Only" and any additional associated group address must be defined as "Read Only"!

### 5.6.1 ROOMS AND CONNECTED SCENARIOS

The section "ROOMS, TO WHICH THE OBJECT BELONGS" includes all rooms of the software, in which the object is visible and accessible through the VISUALISATION. An object can exist in several rooms, but also in none; after the first ETS import an object belongs to no room, since the single rooms have to be created before an object can be assigned to them.

Rooms, to which the object belongs			Description / ETS name
		Name	

If any rooms are already configured, the object can be assigned to a room by searching the desired room through the search function and pulling it into the "ROOMS, TO WHICH THE OBJECT BELONGS" area of the object using drag and drop. The other way around, it is also possible to use the configuration page of a room to add the individual KNX objects; more information about configuring the VISUALISATION by adding objects to the single rooms can be found in the appropriate chapter of this manual.

The list "LINKED SCENARIOS" shows all the created scenarios that contain the current object; more information about the scenarios can be found in the corresponding chapter of this manual.

### 5.6.2 ACTIVE AND PASSIVE EVENTS

The last two sections of the KNX objects configuration page allow the creation of events, which can offer the following actions:

- Change status of the current object in dependency of another object status (PASSIVE)
- Change status of another object in dependency of the current object status (ACTIVE)

Active events					
	ID	Name	Condition	Action	Value
Passive events					
	ID	Name	Condition	Action	Value

To create a passive or active event the following steps are necessary:

- Search for the objects that should interact with the current object
- Drag the desired objects into the corresponding area ("ACTIVE EVENTS" or "PASSIVE EVENTS") and drop them there

For each created event, the following settings are available:

**CONDITION** Determines the state of the object for which the event should be triggered; depending on the type of the object different statuses are available. The selection "Every status change" means that the event will be triggered at any status change of the reference object.

**ACTION** Depending on the type of the object, different actions can be selected. If a KNX object is selected normally you can only choose between "Write" (write a command on the KNX bus) or "Read" (send a status request to the KNX bus); for more information about the possible actions with other objects consult the appropriate chapters of this manual.

**VALUE** If the target object supports it, you can set the value the target object should be set whenever the event is triggered; the available values depend on the type of the target object. It is also possible to set the target object to the same value as the triggering object ("Value of ...") or its inverted value ("Inverted value of ...").

Werden aktive Ereignisse erstellt, dann ist das Objekt, welches man momentan bearbeitet, jenes Objekt, das das Ereignis auslöst. Werden passive Ereignisse erstellt, dann ist das Objekt, das man in die Liste gezogen hat, jenes Objekt, welches das Ereignis auslöst.

---

### 5.7 KNX SCENARIOS

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Objects of type 1 byte during the ETS import can be defined as KNX scenarios. With these objects no status feedbacks or single commands are transferred, but a number, usually between 1 and 64, which tells the installed devices the KNX scene they should load from their memory; all states saved for the loaded scene will be set from the device. Some KNX devices can save various states for such a KNX scenario. Depending from the value they

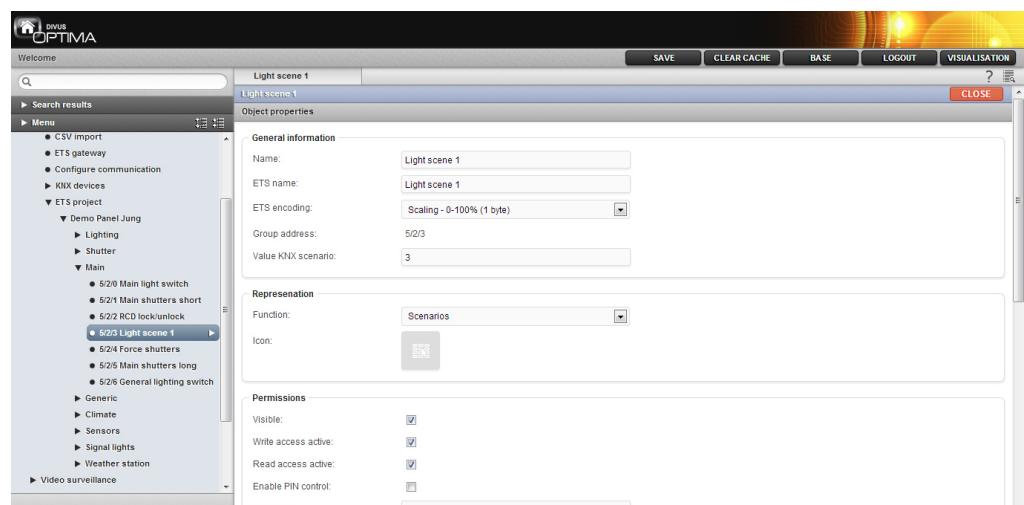
receive on the group address of the scenario, they can launch different actions and set different states of functions.

A KNX object can be defined as KNX scenario as follows:

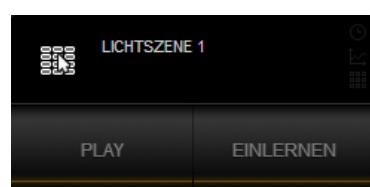
- Open the ADMINISTRATION menu and open the desired object (1byte) in a new tab
- Activate the EXPERT-mode
- Ensure, that the "ETS ENCODING" is set to "Numeric Value 0-255 (1byte)"
- Configure the parameter "FUNCTION" to "SCENARIOS". If this entry should not be available, change the "ETS ENCODING" to another value and then back to "Numeric Value 0-255 (1byte)".
- Select an appropriate icon
- Set the value for the scenario to send on the bus when it is activated in the input field "VALUE KNX SCENARIO"



**Hint:** OPTIMA uses a different way of counting scenes than ETS. While ETS starts numbering scenes from 1, OPTIMA starts from 0. Keep this in mind when setting the "Value KNX scenario" to call a predefined KNX scene. If e.g. you want to call the KNX scenario 5, write 4 in the "Value KNX scenario" field! So always subtract 1 from the values defined in ETS in order to make those KNX scenes work correctly also in OPTIMA.



Sobald die Konfiguration eines solchen Szenarios abgeschlossen ist, wird das entsprechende Objekt wie folgt in der Visualisierung dargestellt:



By clicking the PLAY-button, the value configured for the parameter "VALUE KNX SCENARIO" will be sent to the KNX bus and the KNX devices configured for the usage of the KNX scenario will start the actions memorized for the received value. By clicking on "UPDATE", all status of the involved KNX objects are stored to the KNX devices. This way you got the same possibilities inside the VISUALISATION as present in the KNX-Installation for a KNX scenario (also called "light scene"): start a scenario or update a scenario.

## 5.8 KNX DEVICES

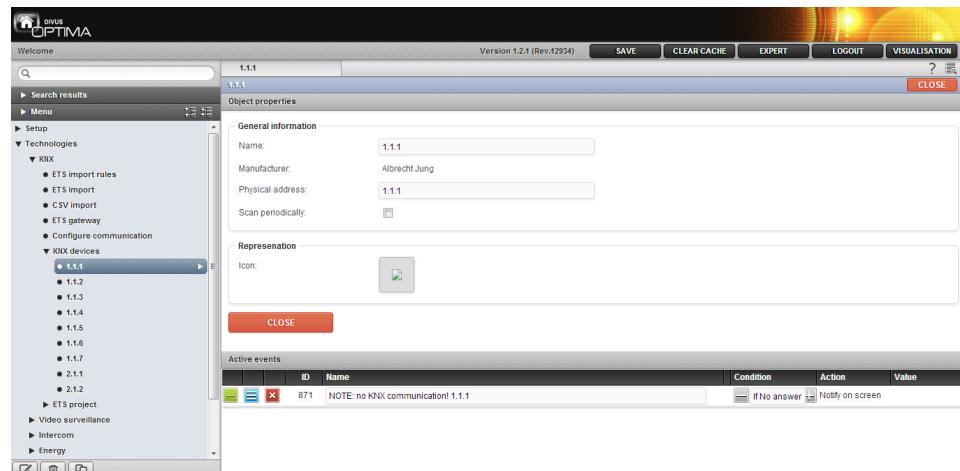
OPTIMA makes it possible to control the installed physical KNX devices of the system and to send out a warning when devices aren't communicating anymore. The installed KNX devices are created automatically during the import of the ETS project, if the corresponding “\*.phd”-file was selected before starting the ETS import. Nevertheless it is also possible to create KNX devices manually in the ADMINISTRATION under „TECHNOLOGIES“ → KNX → KNX DEVICES by clicking the ADD-button in the bottom toolbar:



If you want to access the settings window of a single KNX device, you can either do that by clicking the EDIT-button on the entry of the navigation menu, by clicking on the EDIT button (green) present in the listing of the devices or by clicking the EDIT-button in the bottom toolbar. The column “STATE” in this listing shows information about the related KNX device:

<b>N.A.</b>	The device has never been reached / never answered a request. It is possible that it is not installed in the system yet
<b>OK</b>	The device answers the requests of OPTIMA correctly and is communicating normally
<b>TEST RUNNING</b>	The device has been reached and the server is currently waiting for its reply
<b>NO ANSWER</b>	The device has answered past requests correctly, but is currently not reachable anymore and therefore not communicating

Once activated, the requests are sent to a KNX device automatically; the single devices are requested one after another, which keeps the traffic on the bus on a low level. Directly after the ETS import the periodical request for all imported KNX devices is disabled. For devices that should be surveyed the related checkbox must be set. The following screenshot shows the settings window of a KNX device:



The section "ACTIVE EVENTS", as already mentioned before, can be used to determine actions that should be triggered whenever a status change of a KNX device is registered. If for a device "scan periodically" is activated, OPTIMA automatically sends out a notification when the KNX device stops communication. This notification can be changed at wish (for example it can be added a mail notification, as further chapters of this manual will describe).

## 5.9 PHYSICAL ADDRESS

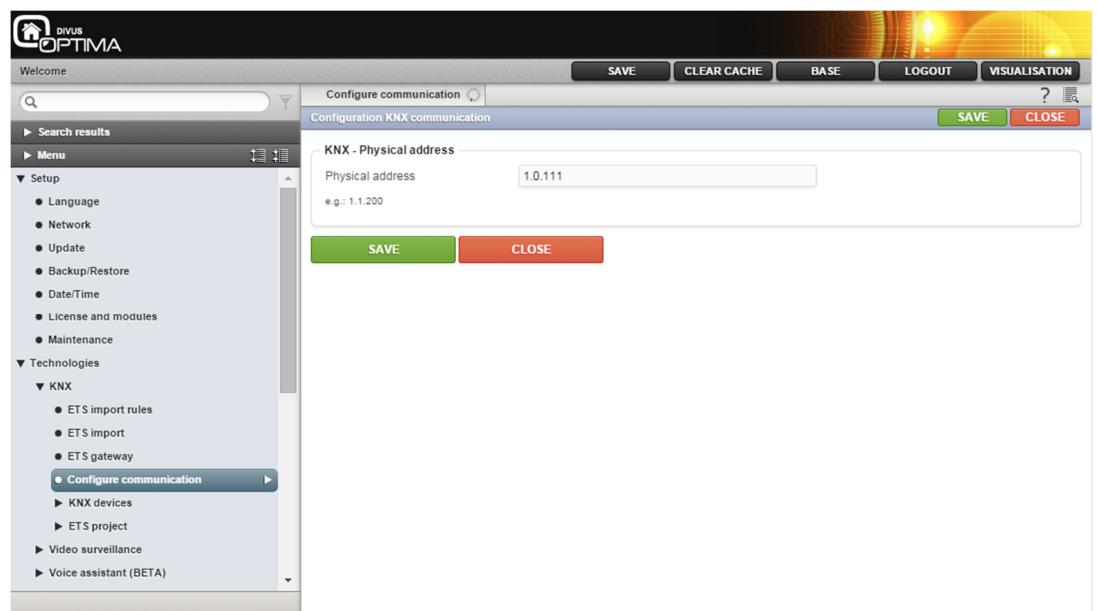
Through the point „CONFIGURE COMMUNICATION“ under „TECHNOLOGIES → KNX“ you can change the physical address of the KNXCONTROL device, used for the communication with the KNX bus.

The address must be entered in the format X.Y.Z as detailed in the KNX specification:

- First number between 0 and 15
- Second number between 0 and 15
- Third number between 0 and 255



**Hint:** As opposed to most KNX devices, which necessarily have to use a physical address which corresponds to the line they are installed, OPTIMA is able to communicate with all devices of the system, independently from the physical address of hosting the KNXCONTROL device. Therefore, modifying the physical address of the KNXCONTROL device has merely the purpose to avoid conflicts with other devices and to keep a certain alignment with the KNX system.



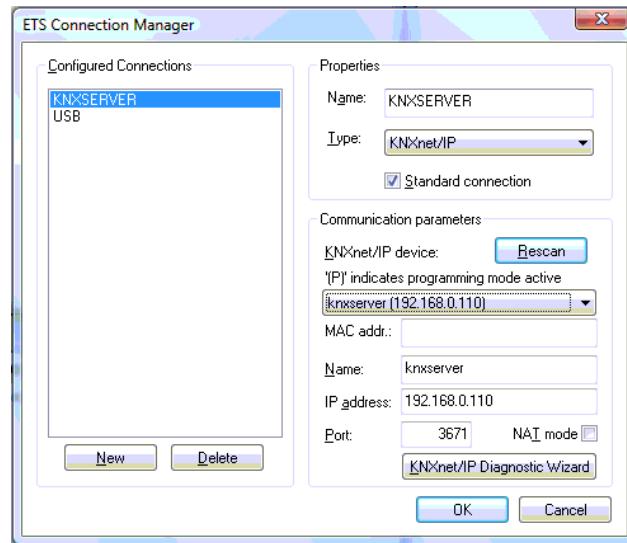
## 5.10 ETS GATEWAY

OPTIMA offers the possibility to use the integrated KNX interface as a gateway, in order to use it as programming interface in ETS, as well in the local network as also remotely via internet. In this way, the used KNXCONTROL device can be used to program KNX devices or to start diagnostic actions on the bus, without needing an additional interface (e.g. USB/KNX) connected to the own PC.

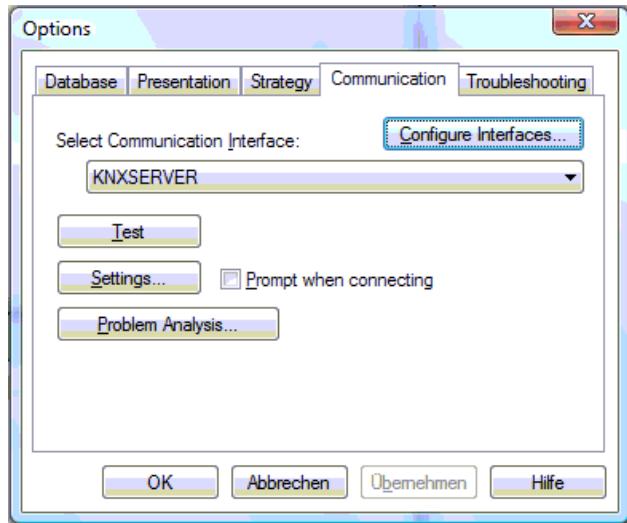
### 5.10.1 LOCAL USE

In the local network, the PC with the ETS installation can be connected directly to the KNXCONTROL device (also wirelessly, if an active Wi-Fi connection is present).

If you're using **ETS3**, please follow the steps below:



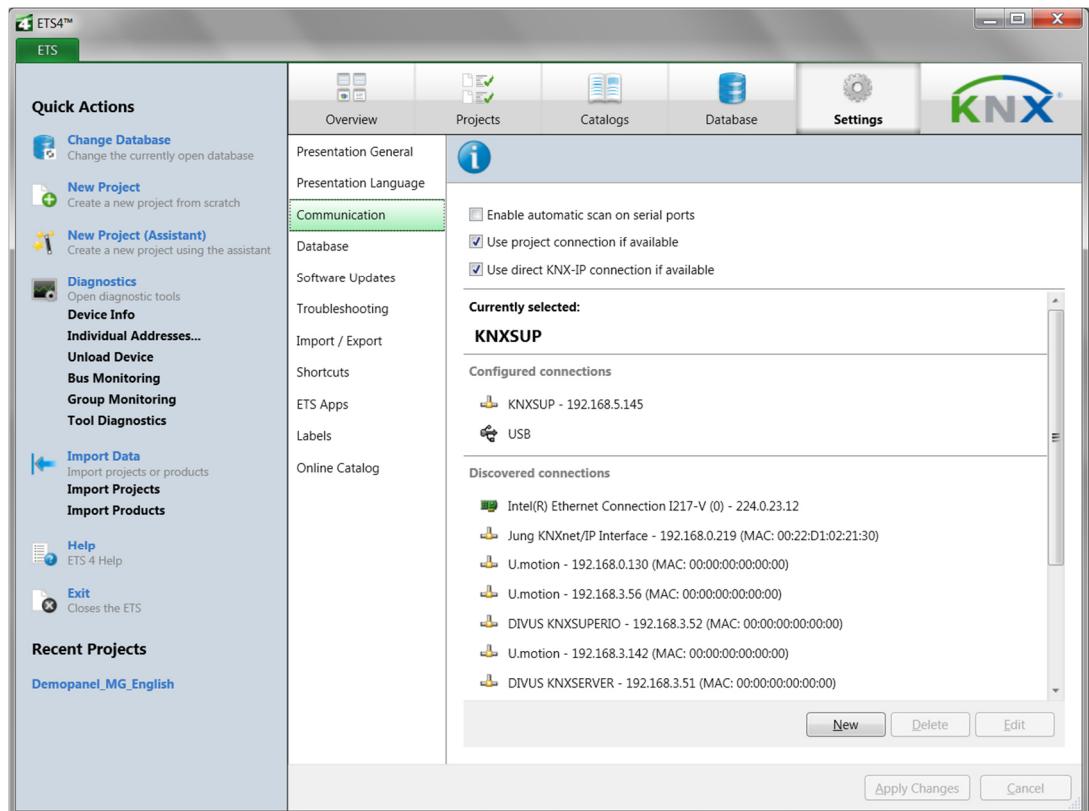
- In the menu "Extras" please click on "Options" and select the section "Communication"
- Click on "Configure interfaces"
- Click on "New", type in "KNXCONTROL" as name and "KNXNet/IP" as type
- Add manually the denomination and IP address of the KNXCONTROL device and set "3671" as port (do NOT enable NAT mode)
- Confirm the changes by clicking on "OK"



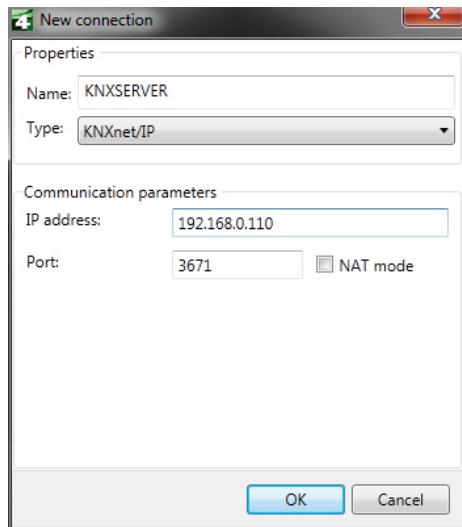
- Now select "KNXCONTROL" as active communication interface and check the connectivity by clicking on "Test". If after a few seconds the message „OK“ is shown, the KNXCONTROL device can be used as interface.

If you're using **ETS4**, please follow the steps below:

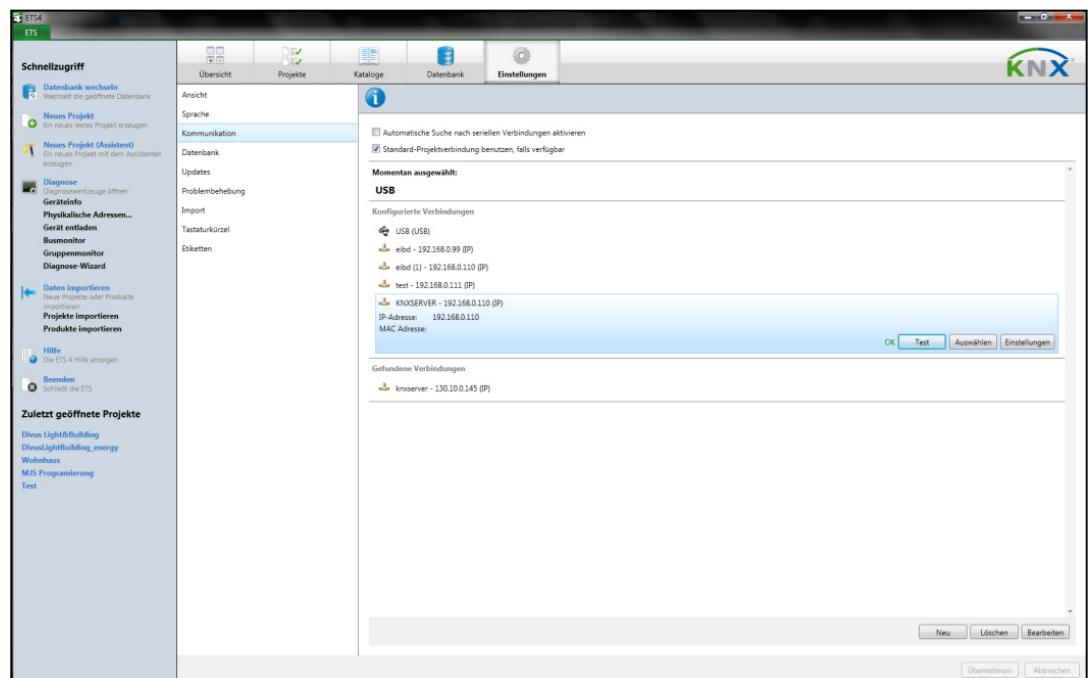
- In the main menu, please click on "Settings"



- In the lateral menu, click on "Communication"
- Click on "New" in order to open the popup "New connection"; enter a name for the connection, "KNXNet/IP" as type and manually insert the IP address of the server; lastly use „3671" as port (do NOT enable NAT mode)



- After confirming through "OK", the connection will be shown in the area "Configured connections". Please select the created connection and click on "TEST" in order to check the connectivity; at positive result, click on „Select" in order to use the KNXCONTROL device as active interface.



**Hint:** The gateway function of OPTIMA can only be used with the diagnostic function "GROUP MONITOR"; the diagnostic function "BUS MONITOR" requires a direct connection to the bus. This is valid for ETS3 as well as for ETS4.



**Hint:** At the time of this writing, the new ETS5 is not yet supported. So for now please use ETS4 or ETS3 for this purpose, or use a dedicated KNX device. The ETS5 support is a work in progress and we will update this guide when it will be completed. Thank you for understanding.

### 5.10.2 USE THROUGH INTERNET

If the gateway function should be reachable also via internet, the "KNXNet/IP" traffic must be forwarded through the integrated VPN service of OPTIMA. As first step, this forwarding must be set up:

- Select the entry "TECHNOLOGIES → KNX → ETS GATEWAY" in the ADMINISTRATION area of OPTIMA
- Fill out the described fields:

<b>USERNAME / PASSWORT</b>	Login data for the connection with the VPN service
<b>HOST IP</b>	IP address of the VPN server (normally the IP address of the KNXCONTROL device, if not set up differently by the network administrator)
<b>IP RANGE</b>	<p>Please specify an address area that will be used to assign an address to the PCs that are trying to connect remotely via VPN. Please use the format XXX.XXX.XXX.XXX-YYY – Example:</p> <p>192.168.0.120-130 (range with 11 IP addresses)</p> <p>The defined IP range must be free and must not be used by other devices present in the network.</p>

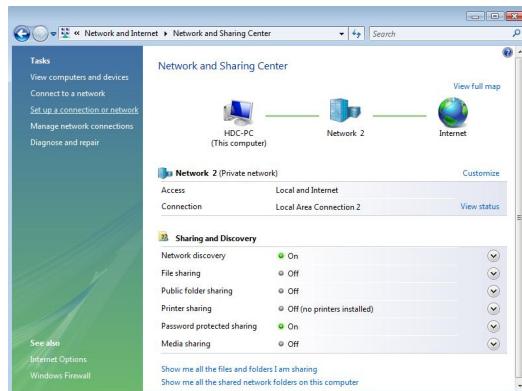
After filling out all the fields, please click on „SAVE“. After a few seconds the correct saving will be confirmed by a message; from this moment on the VPN service is active.

Now you have to create a Port Forwarding rule in your internet router, in order that incoming VPN connections are correctly forwarded to OPTIMA. In dependency of the settings of your router, please configure a rule according to the parameters listed below:

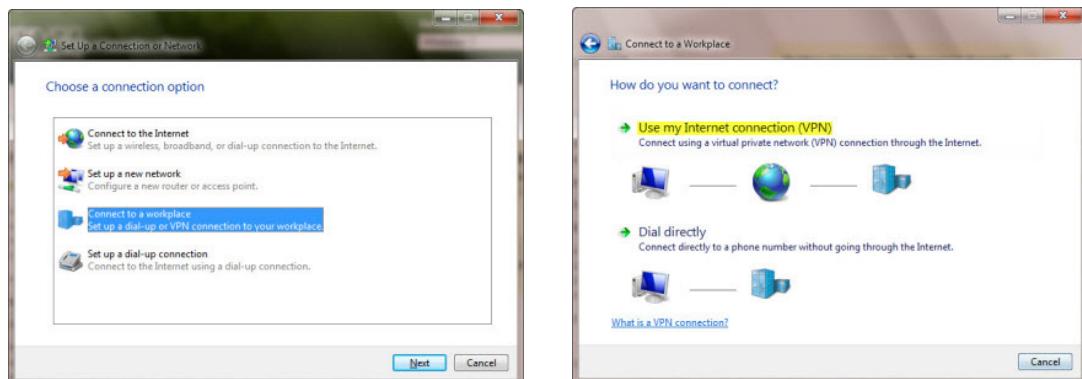
- External Port: 1723
- Internal Port: 1723
- Internal IP address: IP address of the KNXCONTROL device
- Transport: TCP + UDP

After creating this rule, everything is ready for remote connections. The connection must be configured on the remote PC as a VPN connection to the network, in which OPTIMA is installed. Therefore, the external (public) IP address / domain name of the network must be known.

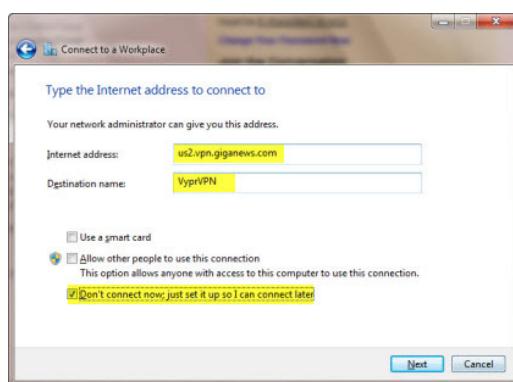
When using Windows VISTA or newer, please follow the steps below:



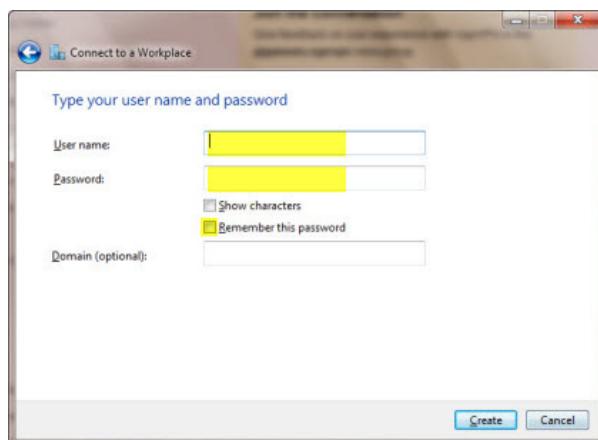
- Open the control panel and select "Network and Sharing Center"
- Select the entry "Set up a connection or network"
- Select "Connect to a workplace" and then select "Use my internet connection (VPN)"



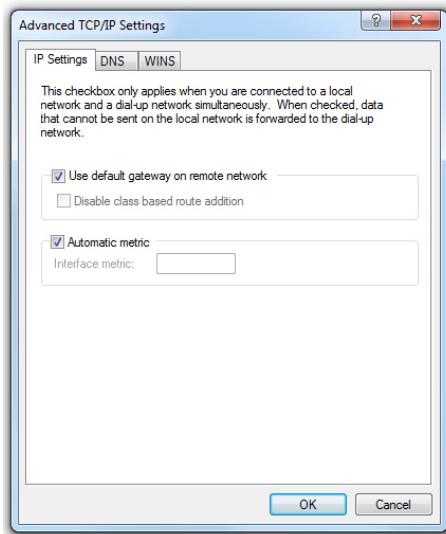
- Enter the IP address that should accept the VPN connection (public address / domain of the router / network) and specify a name for the connection (e.g. "KNXCONTROL")



- In the next window, specify the login data, just as defined them within OPTIMA and leave the field „Domain” empty.
- Terminate the creation of the connection skipping the connectivity test. The new connection should now show up in the network center. (select “Change adapter settings” from the lateral menu)



- Access the settings of the new connection (right-click the connection and select „Properties”); in the section “Network” please double-click on “Internet Protocol Version4”
- Click on “Advanced” in the popup window and enable the entry “Use default gateway for the remote network” in the menu „IP settings”; now save the settings by confirming and closing all of the options windows



Now it is possible to use the new connection; when double clicking the connection, a login window will appear, in which the login data specified in the configuration of OPTIMA must be entered. If the connection was established correctly, the remote PC will automatically get an IP address of the IP range specified in OPTIMA. Now the KNXCONTROL device can be used as programming interface of ETS, just as described for the usage in local network.

# 6 Rooms

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## 6.1 INTRODUCTION

---

This chapter deals with the creation and customization of rooms, in which the various objects are grouped in the VISUALISATION. Normally it is recommended to keep the structure of the rooms similar to the structure of the building itself. It will be easier for the user to control the building through the VISUALISATION, when the navigation in the VISUALISATION is the same as the user would have to do in the building for reaching a KNX device (light switch etc.). Such a VISUALISATION can only be created when the rooms are structured inside the VISUALISATION at the same way they are structured in the real building and when in each room all the object are located, which are also truly installed as KNX devices in the real rooms of the building. This is only a recommendation; in OPTIMA the rooms can also be created freely and filled with any kind of object / function desired.

---

## 6.2 CREATE NEW ROOMS

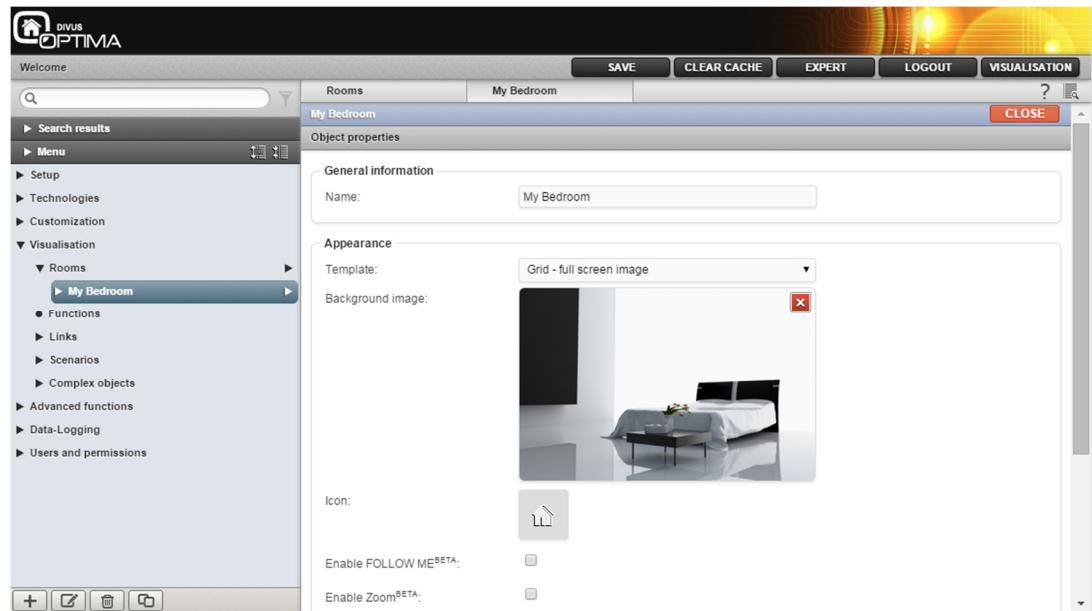
---

In order to create a new room in OPTIMA:

- Access the ADMINISTRATION area
- Select „VISUALISATION → ROOM“
- Click on the ADD Button  in the toolbar at the bottom

The new room will be added to the sub-menu "ROOMS". If an already existing room is selected when the ADD-button is pressed, the new room will be added within the selected room; in this way also a tree-structure for navigation in the VISUALISATION can be created (e.g. a room "1.floor" could contain other rooms like "kitchen" or "living room"; in the VISUALISATION by accessing the room "1.floor" will be like accessing a sub-menu containing two other rooms "kitchen" and "living room").

The configuration page of the new created room looks like the one shown below:



The settings for a new room are:

#### **NAME**

Name of the room that will also be shown in the VISUALISATION and the navigation menu of the VISUALISATION.

---

Defines the graphical layout through which the room will be shown inside the VISUALISATION; following templates are available:

**GRID:** the contained objects are shown in a table grid. It is possible to embed a picture at the top, at the right, at the left or as full screen background of the contained objects.

#### **TEMPLATE**

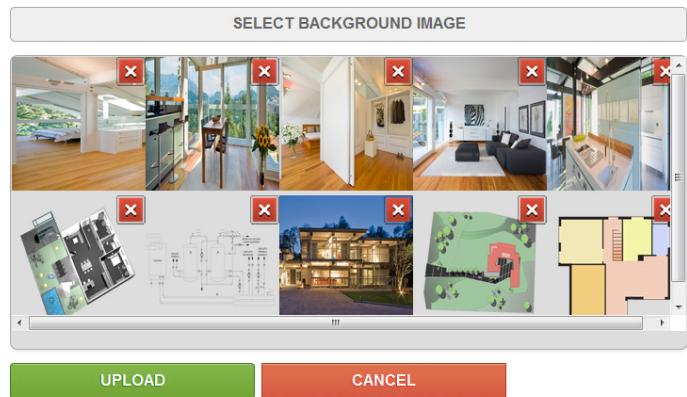
**BACKGROUND:** The contained objects are positioned directly upon a background image.

**Button 1-8 (Template):** The contained objects are shown as extra-large buttons without any Background; detailed information can be found in chapter 6.6.

The option "None" means that the room acts as sub-menu for the navigation inside the VISUALISATION and so no objects will be shown in this room; only the contained sub-rooms will be shown in the navigation menu of the VISUALISATION.

---

If the chosen template provides embedding a background image, here the desired image can be defined; with a simple click on the empty square a pop-up window will appear, showing all uploaded pictures and allowing their selection:

**BACKGROUND IMAGE**

Through the UPLOAD button further images can be uploaded to OPTIMA; after a successful upload, the new images can be selected from inside the pop-up window.

---

For each room an appropriate icon can be selected:

**ICON**

Simply click on the desired icon inside the appearing pop-up window to select it for the current room.

---

With this option the „FOLLOW ME“ function for mobile devices can be enabled. This function can only be used on mobile devices with the required sensors. There are 2 ways to interact with the environment.

**ENABLE FOLLOW ME**

**COMPASS:** The Background pictures can be calibrated to point to a certain direction, where the background picture and the contained objects will rotate automatically to point always in this direction, when the used mobile device is rotated.

**PANORAMA:** The second function is the automatic scrolling in a room with a big background picture, depending on the direction the mobile device is moved. The mobile device is there hold vertically. In which direction the mobile device is moved defines in which direction the background picture with the contained objects are scrolled.

---

To use the "FOLLOW ME" function, the room must be configured with template "Background" and the display of the target mobile device must have a resolution big enough to be able to display rooms in background mode.

Depending on the position of the device (vertically or horizontally) the functions are switched.

Detailed information about the "FOLLOW ME" functionality can be found in the OPTIMA USER MANUAL.

---

**ENABLE ZOOM** If this option is enabled, OPTIMA tries to adapt the background picture in rooms with template "background" and the contents to the given screen resolution to provide optimum graphical representation.

---

Enabling the EXPERT-mode, the following additional options are available:

<b>DESCRIPTION</b>	Additional information that can simplify the search.
<b>VISIBLE</b>	Defines if the room is visible in the VISUALISATION.
<b>OPEN IN NAVIGATION MENU</b>	With this option it can be defined if navigation object present in the room should be opened inside the navigation menu or not.
<b>NEW PIN</b>	Note: This option is automatically activated if the room contains navigation objects (e.g. links).
<b>ENABLE PIN CONTROL</b>	Whit this option the room can be PIN-protected. To enable the PIN-protection the PIN has to be inserted into the field "NEW PIN" and in "REPEAT NEW PIN".
<b>REPEAT NEUEN PIN</b>	

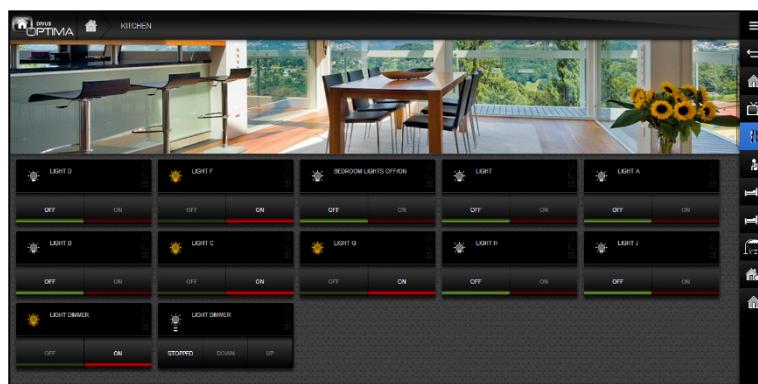
---

The following screenshots shows some rooms with different templates in the OPTIMA VISUALISATION.

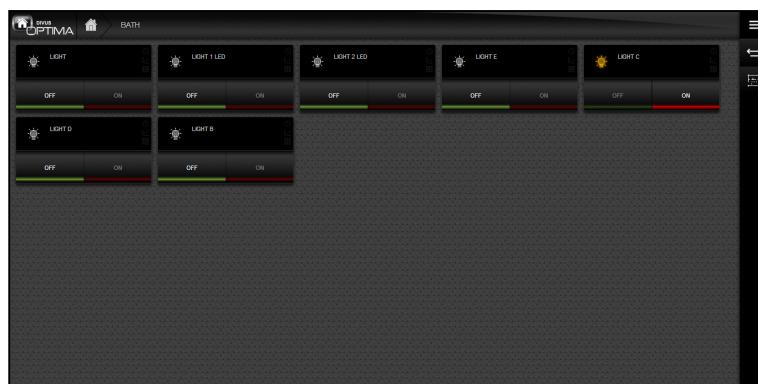
## BACKGROUND



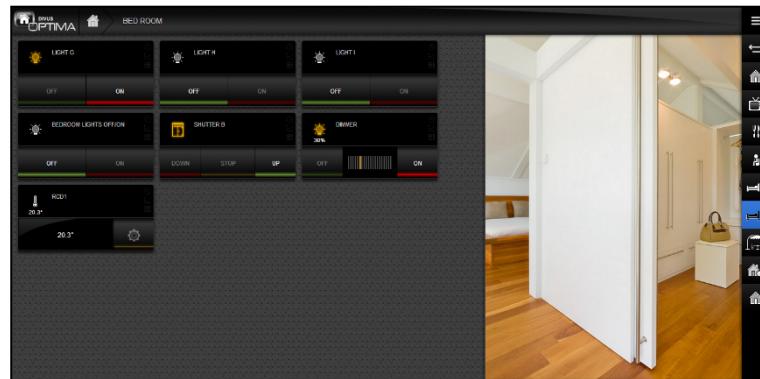
## GRID WITH IMAGE AT THE TOP



## GRID WITHOUT IMAGE



### GRID WITH IMAGE AT THE RIGHT



**Hint:** If the visualisation is accessed through mobile devices, the layout, in which a room is displayed, can differ from the defined template. OPTIMA does an automatic resize of the layout in dependency of the display resolution of the used device. Displays of smartphones and small tablets have too small display resolutions for showing a room in the "BACKGROUND" template, so OPTIMA automatically changes the layout to "GRID" without any image. More information about this behaviour can be found in the user manual.

The image used as background image must have a format that can be shown in a browser. It is recommended to use only images in JPEG or PNG format (also supports transparency). The size of the images (h x w) must be adjusted before the image is uploaded to OPTIMA; please consider the following points:

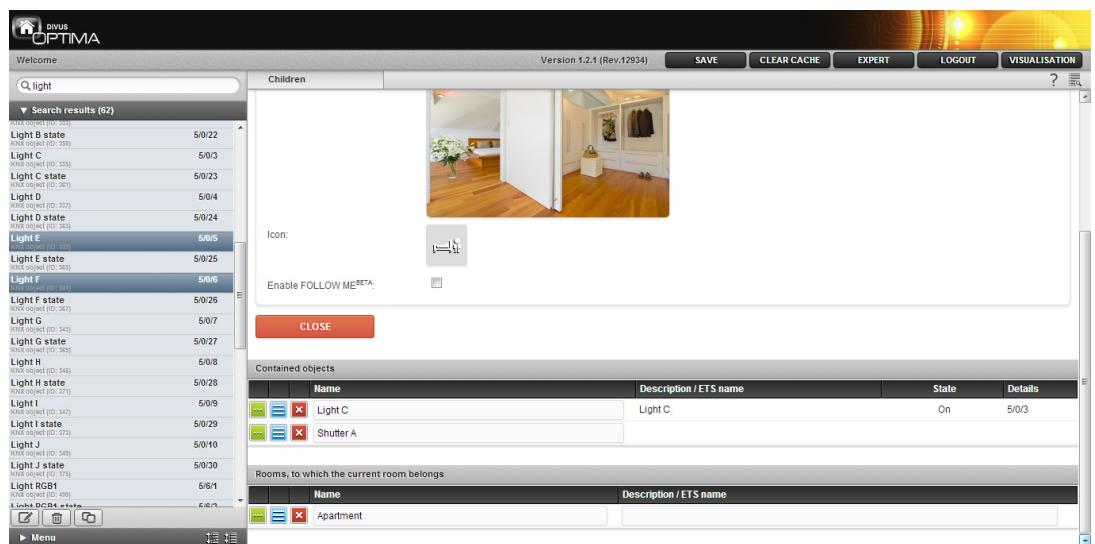
- If you use the template "BACKGROUND" to visualise a room, then the background image will be displayed in real size (pixels) without any automatic scaling; the image is placed in the left upper corner.
- If you use one of the "GRID" templates for the visualisation of a room, then the image is scaled, in order to have the optimal size at the defined position.

The usage of high resolution images (e.g. HD photos) has a double disadvantage: on one side, the upload of such large size images to OPTIMA takes longer and moreover, the loading times increase when a room is opened inside the VISUALISATION, because of the high data volumes caused by the image. Furthermore, when the template "BACKGROUND" is used to visualize a room on devices with average resolution, only a part of the background image will be visible.

### 6.3 INSERT OBJECTS INTO ROOMS

As soon as a room is created, it is possible to add objects to it:

- Open the target room in a new tab
- In the "CONTAINED OBJECTS" area all the objects contained in the room are listed (initially empty)
- Search the desired objects with the search function and drag them inside the area
- The order of the single objects can be changed by dragging the single objects using the MOVE-button to the desired position (for the „GRID“ templates only)



Of course it is also possible to remove objects from a room. Simply press the Remove-button of an object in the list and the object is removed from the room; however, this DOES NOT delete the object from the project!

**Hint:** All sub-rooms contained in a parent room are listed in the same area as all the other objects. Such sub-rooms are not visible in the VISUALISATION of rooms displayed with a template of type "GRID" and are only shown in the navigation menu of the VISUALISATION;

### 6.4 DELETING ROOMS

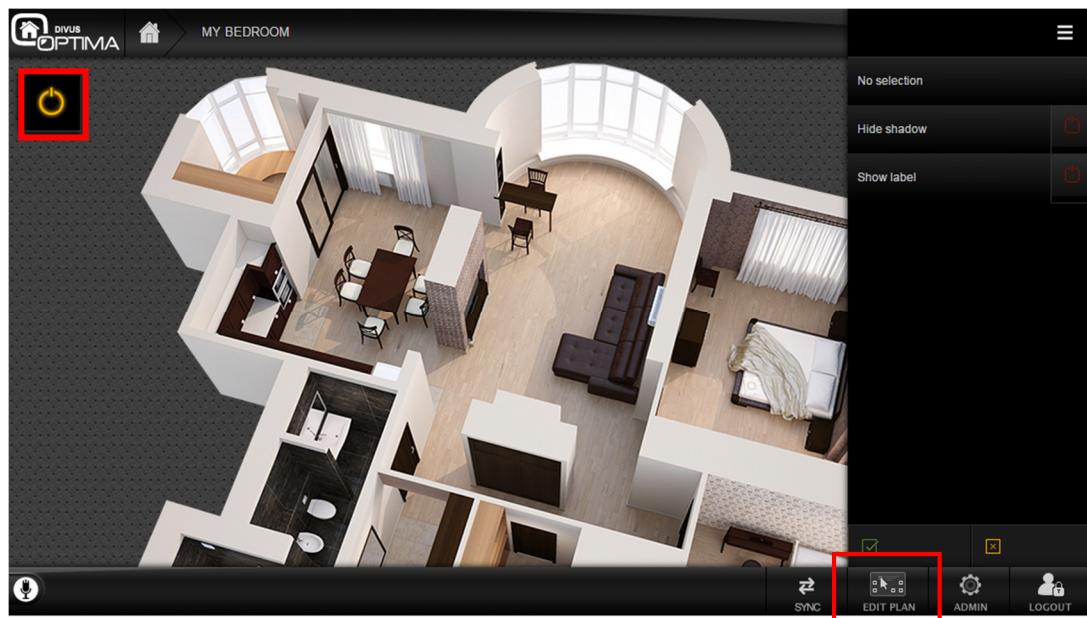
To delete a room, the desired room must be selected through the search engine or the ADMINISTRATION menu and then the DELETE-button must be pressed, just as for deleting any other object in OPTIMA.

**Hint:** Deleting a room does not delete the objects contained in that room; they still remain available in the database and for example in the pages of the FUNCTIONS menu.

## 6.5 CUSTOMIZING THE BACKGROUND VIEW

The personalization of a room with the template "BACKGROUND" is done directly within the VISUALISATION. If the user has the necessary permissions, there will be an icon called "EDIT PLAN" in the toolbar (see screenshot), through which the user can switch into the editing mode. The editing mode permits the following actions:

1. Die einzelnen Objekte können an die gewünschte Position verschoben werden (anfangs befinden sich alle Objekte übereinander geschichtet in der linken, oberen Ecke (siehe rot eingeklammertes Symbol im Bild))
2. Für jedes Objekt kann festgelegt werden, ob es einen grafischen Rahmen (Schatten) haben soll oder nicht.
3. Für jedes Objekt kann festgelegt werden, ob dessen Name in der Visualisierung permanent angezeigt werden soll oder nicht.



It is also possible to place transparent areas on the background image, which are linked to the corresponding sub-rooms; when using the template "BACKGROUND", sub-rooms will be represented through a touch sensitive, transparent rectangle which can be placed on the background image and used for navigation.



**Hint:** Remember to save any changes through the SAVE-button  before leaving the edited view!

For detailed information, please refer to the user manual.

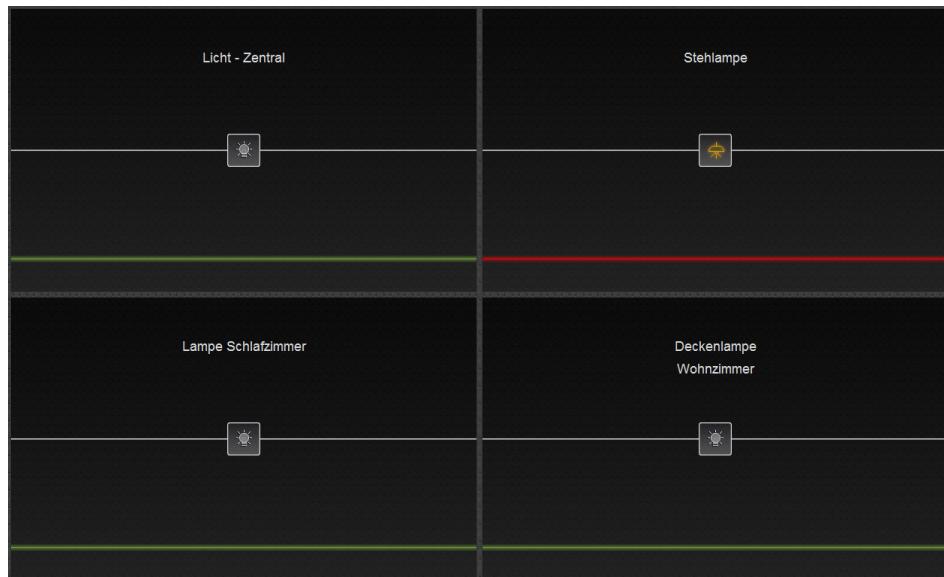
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## 6.6 TEMPLATE VIEW (BUTTONS)

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OPTIMA offers a TEMPLATE view for rooms, supporting layouts for 1, 2, 4, 6 or 8 buttons (or objects) per page.

This TEMPLATE has been designed to create pages with only a few objects and to show them in a very simple and easily controllable form. This kind of representation does not support any kind of additional functions (like scheduling, favourites etc.). When using this functionality in combination with the expressions to hide the navigation area (see chapter 17.1.4), very simple user interfaces can be created that permit to control the KNX functions just like through a keypad:



**Hint:** The template mode supports only simple KNX objects of type "ON/OFF"(1 bit), e.g. "Light ON/OFF" or "Shutters UP/DOWN".

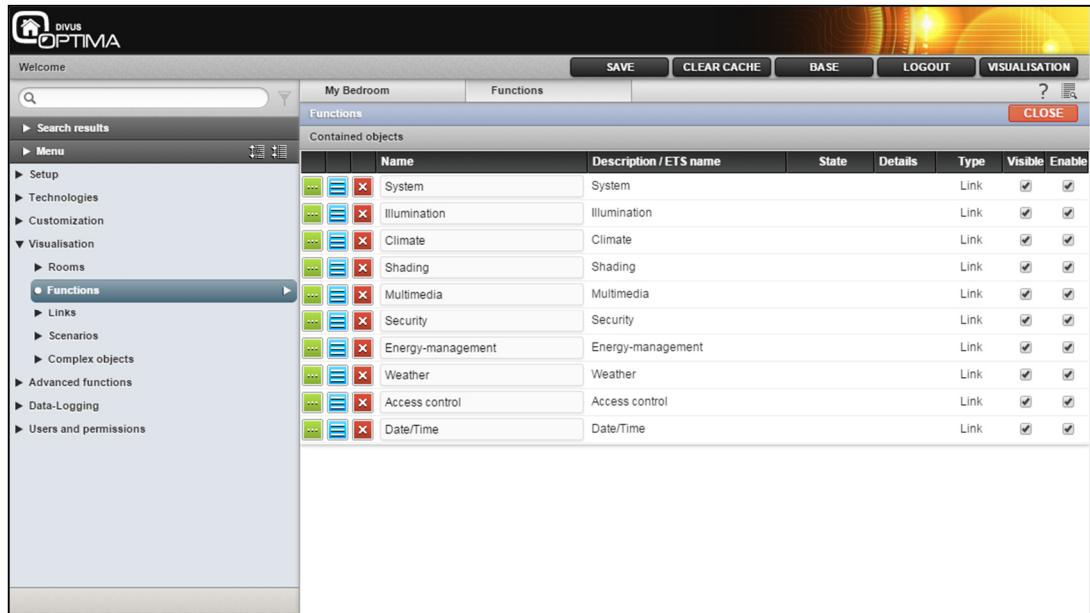
# 7 Functions

## 7.1 INTRODUCTION

This chapter describes how to navigate in the VISUALISATION with the help of the FUNCTIONS menu and provides information on how to optimally configure objects for the navigation with the FUNCTIONS.

## 7.2 ADMINISTRATION OF THE FUNCTIONS

The FUNCTIONS can be configured in the ADMINISTRATION area under “VISUALISATION → FUNCTIONS” :



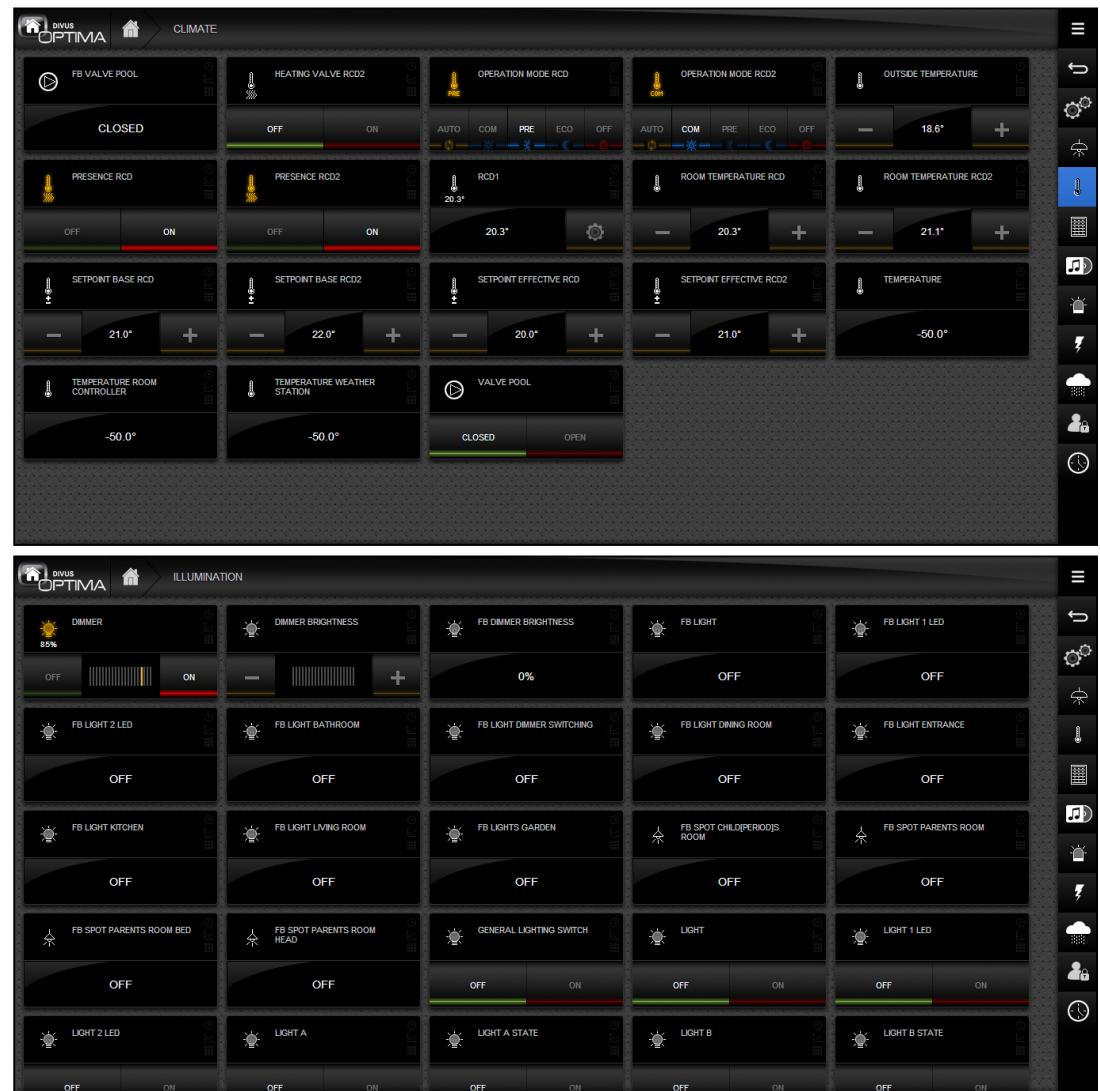
**Hint:** It is recommended to switch to EXPERT-mode to be able to see also hidden functions.

In the displayed list you may:

1. Change the names of the single functions
2. Change the order of the functions via drag and drop, pulling the single functions to the desired position (the ordering will also be used in the VISUALISATION).
3. Hide not used functions, so that they are not visible in the navigation menu of the VISUALISATION.

### 7.3 FUNCTIONS IN THE VISUALISATION

If you click on "FUNCTIONS" in the navigation menu of the VISUALISATION, all visible FUNCTIONS are listed inside the navigation menu and all the objects assigned to the currently open FUNCTION page are shown in GRID layout without background image. Depending on the selected FUNCTION, the related objects are displayed. So it is possible to reach objects with certain functionalities directly, instead of navigating to the individual objects through the rooms, in which they are located. Especially when different objects of the same functionality shall be controlled together, this type of navigation can be very convenient (for example changing the set points for air conditioning, controlling more blinds, alarm functions, etc.).





**Hint:** Functions that contain a lot of objects may result in complex pages in the VISUALISATION and especially on mobile devices their operation could become impractical. So you should plan what objects to assign to a function carefully, in order to keep the number of objects per function at a comfortable level.

An alternative may be COMPLEX OBJECTS, which allow grouping multiple objects in one (e.g. all objects of a thermostat); for more detailed information please see the next chapter.

# 8 Complex Objects

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## 8.1 INTRODUCTION

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This chapter deals with COMPLEX OBJECTS, which allow grouping different KNX objects in a single object. Different KNX objects, which are necessary for the operation of the same KNX device, can be combined into a single object with a special layout (e.g. thermostats); complex objects are handled inside the VISUALISATION just like any other object of the VISUALISATION.

---

## 8.2 CREATE COMPLEX OBJECTS

---

To create a new COMPLEX OBJECT, the procedure is identical to the creation of any other object in the software:

- Open the ADMINISTRATION area and select “VISUALISATION → COMPLEX OBJECTS”
- Press the NEW / ADD-button 
- Open the configuration page of the newly created COMPLEX OBJECT by selecting it and pressing the EDIT-button 

The following settings will be available:

<b>NAME</b>	Name of the COMPLEX OBJECT
<b>TEMPLATE</b>	Graphical icon, used to display the COMPLEX OBJECT inside the VISUALISATION
<b>FUNCTION</b>	Function assigned to the COMPLEX OBJECT (optional)

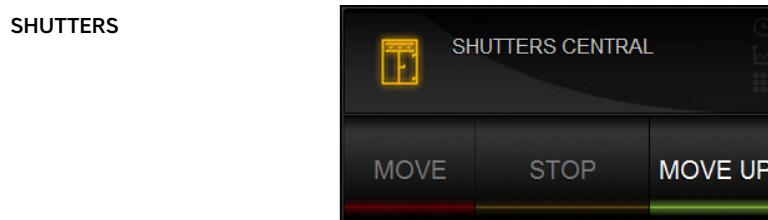
The chosen TEMPLATE defines not only which icon the object should use for representation inside the VISUALISATION, but also which kind of sub-objects it can contain; the following TEMPLATES are available:

With this TEMPLATE the command "ON/OFF" and the percent value of a KNX dimming actuator can be controlled.



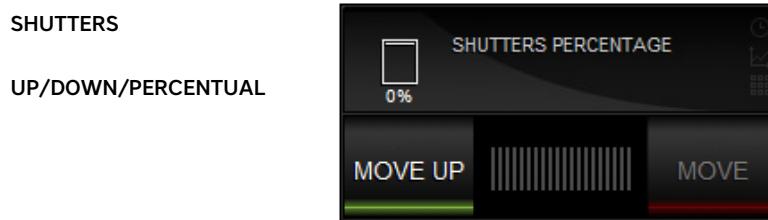
#### DIMMER

With this TEMPLATE the commands "UP", "DOWN" and "STOP" of a shutters actuators channel can be controlled in the same object.



#### SHUTTERS

Similar to the previous object, instead of the STOP function it provides a percentage control of the shutter position



#### SHUTTERS

#### UP/DOWN/PERCENTUAL

Permits to control the shutter position as well as the opening / closing of its lamellae.

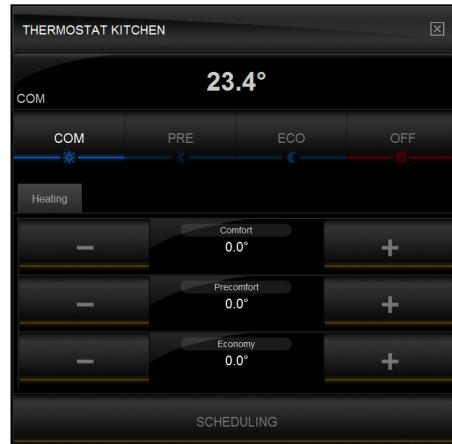
#### SHUTTERS WITH LAMELLAE



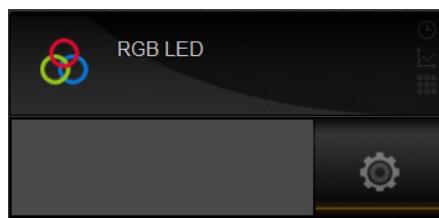
Allows grouping of different commands and status feedbacks from KNX thermostats into one object; in the VISUALISATION itself only a small icon with the key information is shown; by clicking on the corresponding icon of such an object, a popup window containing all objects defined as visible in the COMPLEX OBJECT will appear. For different types of thermostats different templates / options are available.

#### THERMOSTAT





Allows grouping all necessary objects for the control of RGB lights in one object (control of the individual colour channels, "ON / OFF" commands, colour intensity, etc.)

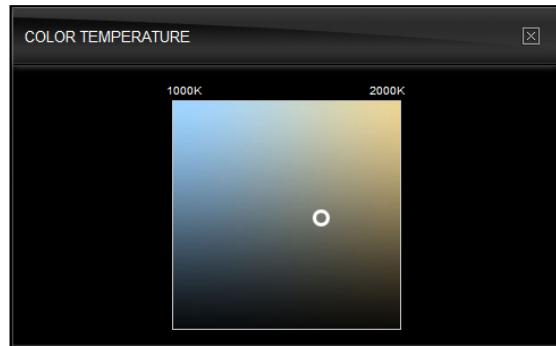


RGB



Ermöglicht Permits to select the colour temperature by regulating 2 dimmer objects, one for warm colour and one for cold colour:

**COLOUR TEMPERATURE**



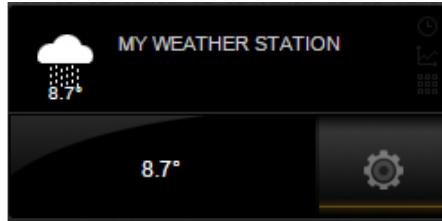
Beneath the 2 ob-

jects for the dimmer control it is also possible to connect other 2 objects (typically virtual objects, check out the corresponding chapter in this manual) in order to label the maximum and minimum temperature; in this case you can just insert the values in the "LABEL" column of the administration page of the complex object:

Objects contained in the complex object					
	Name	Details	Label	Visible	Functionality
	Warm color	Virtuelles Objekt		<input checked="" type="checkbox"/>	Warm color
	Cold color	Virtuelles Objekt		<input checked="" type="checkbox"/>	Cold color
	Min. temperature	Virtuelles Objekt	1000K	<input checked="" type="checkbox"/>	Minimum value
	Max. temperature	Virtuelles Objekt	2000K	<input checked="" type="checkbox"/>	Maximum value

Allows to group all objecs related to a weather station into one projects.

**WEATHER STATION**

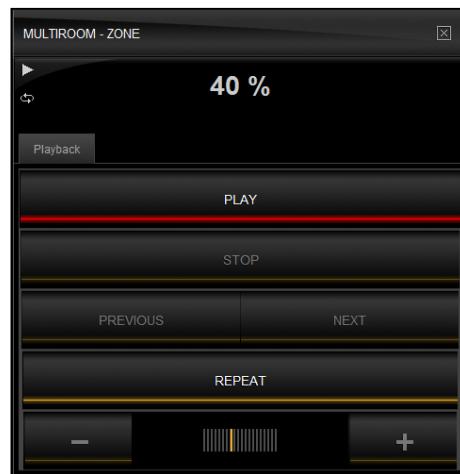




Permits to configure a KNX emergency lamp and to connect the necessary functions.

Hint: the sub-objects – in order to be operated correctly – must use the special symbols defined for emergency lamps, which make part of the function "SECURITY".

#### EMERGENCY LAMP



#### ZONA AUDIO MULTIROOM

Permits to combine into a single pop-up all control objects of a Multiroom audio zone, connected either via KNX or via custom scripting (e.g.: SONOS, DUNE)

#### GENERIC

Allows grouping several objects into a pop-up window, where the structure and the objects to be shown can be freely chosen (refer to the next chapter of this manual)

Depending on the selected TEMPLATE, only compatible objects can be added, since the COMPLEX OBJECT needs to understand where each object must be positioned and which functionality they will have to assume; for the available functions of a COMPLEX OBJECT, only compatible objects can be used.

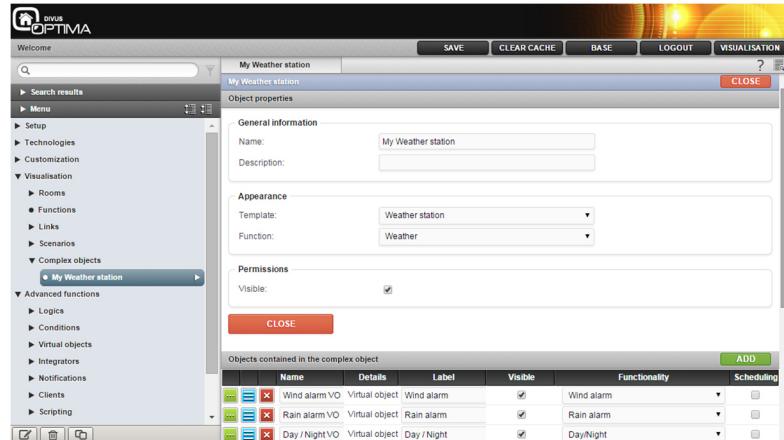
### 8.3 OBJECT ASSIGNMENT

Once a COMPLEX OBJECT is defined, the desired objects can be inserted into the area "OBJECTS CONTAINED IN THE COMPLEX OBJECT" for being assigned to one of the functions the COMPLEX OBJECT offers. Search for the desired objects with the search function and pull them inside the area ("drag and drop"). Each object must be assigned to the corresponding function of the COMPLEX OBJECT. Through the "FUNCTIONALITY" parameter the corresponding function for an object can be selected; the available functions will depend on the objects type; e.g. if a 2-byte temperature value was added, you could select only between the functionality "Measured temperature" or one of the "set point" functionalities (but not the operating mode, since it is either a 1byte or different 1bit objects).

**Hint:** The entry in the column "FUNCTIONALITY" also defines the graphical aspect of the related sub-object. In past versions the graphical aspect was depending directly on the configured function of the sub-object and therefore needed to be adapted manually by the user.

Naturally it is still possible to change the function of the sub-object also in a second moment; in this case also the visualisation within the complex object will change. By re-changing the entry of the column "FUNCTIONALITY" of the selected sub-object, also the graphical aspect of the sub-object will change again.

**Hint:** It is possible to add sub-objects to a complex object directly through an ADD-button in the section of the contained objects. This will create a VIRTUAL OBJECT (check out chapter 11.4 for details) and connect it with the complex object. The graphical aspect of the new sub-object can be defined directly through the entry within the column "FUNCTIONALITY".



Through the "VISIBLE" option it is possible to hide objects, which have been inserted in the COMPLEX OBJECT, in the rest of the VISUALISATION. Since the individual objects are now grouped in a COMPLEX OBJECT, it could be desired that they are not visible in other pages of the VISUALISATION (this mainly concerns the FUNCTIONS page).

Finally, through the last column, it is possible to configure one of the objects of a COMPLEX OBJECT for being scheduled. When the user configures a scheduling for the COMPLEX OBJECT, in fact the object enabled for scheduling will be scheduled; only one object can be enabled for scheduling inside a COMPLEX OBJECT. For example a COMPLEX OBJECT with the TEMPLATE "Thermostat" could be configured to enable scheduling for the operation mode of the thermostat (time based switching between comfort- and standby-mode). If one of the objects of a COMPLEX OBJECT is enabled for scheduling, the icon of the COMPLEX OBJECT will show the related symbol on it in the VISUALISATION; if the related symbol is not shown on the icon of a COMPLEX SYMBOL, no time scheduling is possible.

## 8.4 GENERIC COMPLEX OBJECT

The "GENERIC" TEMPLATE for complex objects permits to group different objects into a definable structure, which in the VISUALISATION will be shown inside a pop-up window; structure and objects can be chosen freely.

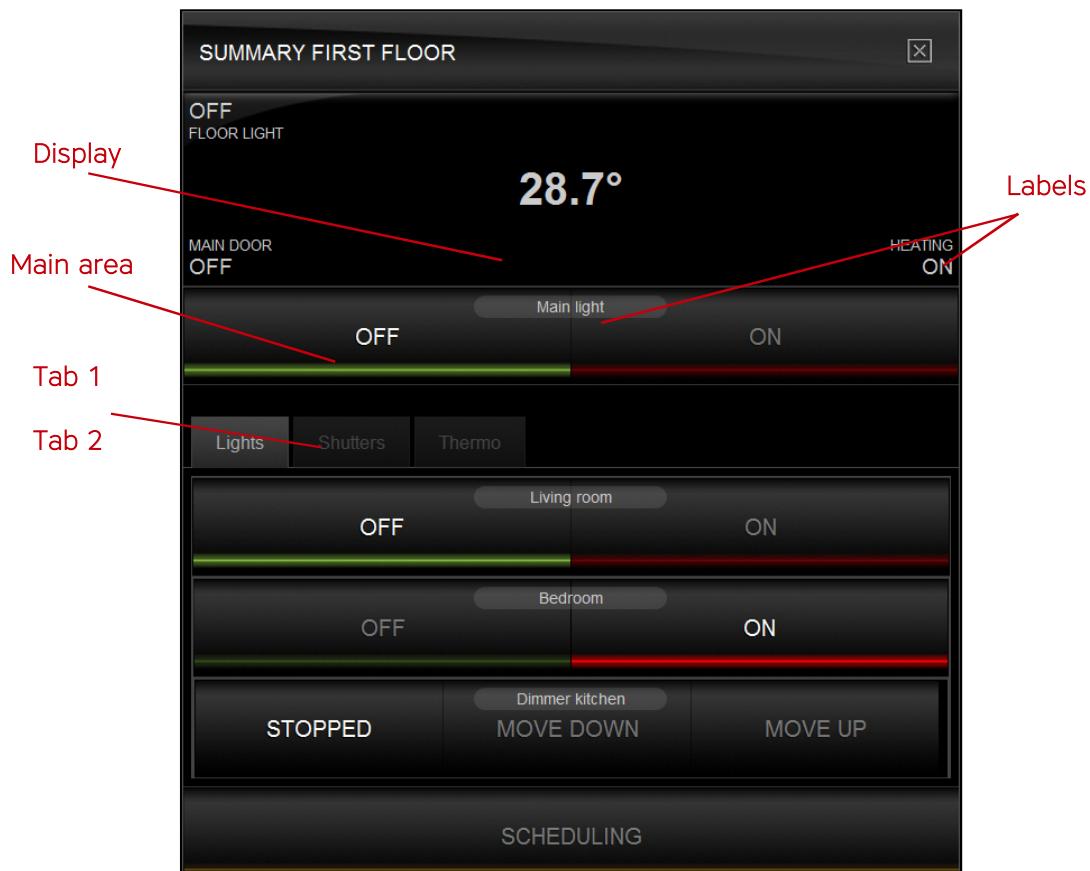
The general settings for the GENERIC TEMPLATE are the following:

**LABEL TAB 1** Label of the related tab in the COMPLEX OBJECT.

**LABEL TAB 2**

**LABEL TAB 3**

The "GENERIC" TEMPLATE allows displaying different objects on different positions in a pop-up window with the following characteristics:



The "DISPLAY" is an area for showing status and feedback information of KNX objects. It is divided in the following sections:

<b>DISPLAY-VALUE CENTER</b>	Value shown in the centre of the display area
-----------------------------	---

<b>DISPLAY-VALUE UP/LEFT</b>	Value displayed in the configured corner of the display area.
<b>DISPLAY-VALUE UP/RIGHT</b>	Each value can be displayed in combination with a selectable label.
<b>DISPLAY-VALUE DOWN/LEFT</b>	
<b>DISPLAY-VALUE DOWN/RIGHT</b>	
<b>DISPLAY-WERT UNTEN RECHTS,</b>	

The MAIN AREA can contain up to 10 objects, which will be positioned one under the other. If a label is defined for one of these objects, it will be displayed above the corresponding object in the MAIN AREA.

The lower section allows adding up to 30 additional objects, structured in 3 tabs, where each tab can contain up to 10 objects. If a label for an object is defined, this label will be shown above the corresponding object. Switching between the various tabs is done by clicking on the label of the corresponding tab; tabs not containing any objects won't be displayed.

Even for complex objects with the TEMPLATE "GENERIC" always the same approach for adding objects is used: search the desired objects with the search function and pull them into the corresponding area. Afterwards select functionality, define the label (optional), if desired enable an object for scheduling and select the functionality; the selection of functionality determines where the object is displayed in the COMPLEX OBJECT: e.g. an object with the functionality "Display - Value center" will be displayed in the centre of the DISPLAY area of the COMPLEX OBJECT.

For each added object a label can be defined, which will be displayed above the corresponding object in the COMPLEX OBJECT.



**Attention:** If the same functionality has been selected for more than one object, it is possible that the objects are not being displayed correctly in the VISUALISATION!

Vice versa, it is possible to add the same object several times into the COMPLEX OBJECT and assign different functionalities (e.g.: display an object on one side in the DISPLAY AREA as status and on the other side add it to the MAIN AREA to permit also operation of the object)!

The object, which is configured with the functionality "DISPLAY – VALUE CENTER", will also determine the symbol / icon of the COMPLEX OBJECT shown inside the VISUALISATION ("BACKGROUND", "GRID"); furthermore, also the state of this object will be shown in the reduced complex object, on the left side of the button intended to open the popup window of the COMPLEX OBJECT.

## 8.5 RGB LED CONTROL

The complex object for the control of RGB lights permits to create one or more FAVOURITES (or "PRESETS"), which can be saved and used also in a second moment:



In order to create a new favourite colour, just click on the "+"-button to create a new favourites box; then select the desired colour using the colour wheel in the upper area. By clicking on the SAVE-button the selected colour will be stored. In order to set the saved colour in a second moment, just open the complex object again and click on the desired favourite box. The DELETE button on the right can be used to remove unused favourites.

The favourite colours are handled by OPTIMA just like other objects; therefore, you will also see them in the administration when accessing the properties page of the complex object (as objects of type "PRESET"):

 A screenshot of the OPTIMA administration interface. On the left is a navigation tree with 'Complex objects' expanded, showing 'RGB-Intensity', 'RGB-Red', 'RGB-Green', 'RGB-Blue', 'RGB-Object', 'Preset 1', and 'Preset 2'. The 'RGB-Object' item is highlighted with a red box. The main panel shows the properties for 'RGB-Object'. The 'General information' section has 'Name: RGB-Object' and 'Functionality: Intensity dimmer'. The 'Representation' section has 'Template: RGB' and 'Function: None'. Below these are 'Objects contained in the complex object' tables. The first table lists 'RGB-Intensity', 'RGB-Red', 'RGB-Green', and 'RGB-Blue' as 'Virtual object' with 'Visible' checked and 'Functionality' set to 'Intensity dimmer', 'Color value red', 'Color value green', and 'Color value blue' respectively. The second table lists 'RGB-Object', 'Preset 1', and 'Preset 2' as 'Virtual object' with 'Visible' checked and 'Functionality' set to 'Intensity dimmer', 'Preset', and 'Preset' respectively. The 'RGB-Object' row in the second table is also highlighted with a red box.
 

Name	Details	Label	Visible	Functionality
RGB-Intensity	Virtual object		<input checked="" type="checkbox"/>	Intensity dimmer
RGB-Red	Virtual object		<input checked="" type="checkbox"/>	Color value red
RGB-Green	Virtual object		<input checked="" type="checkbox"/>	Color value green
RGB-Blue	Virtual object		<input checked="" type="checkbox"/>	Color value blue

Name	Details	Label	Visible	Functionality
RGB-Object	Virtual object		<input checked="" type="checkbox"/>	Intensity dimmer
Preset 1			<input type="checkbox"/>	Preset
Preset 2			<input type="checkbox"/>	Preset

These objects can be used also for other purposes e.g. inserted into scenarios, events or logics, just like all other objects in OPTIMA.

# 9 Scenarios

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## 9.1 INTRODUCTION

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This chapter describes the extensive possibilities offered by the SCENARIOS in OPTIMA. With SCENARIOS, different sequences can be created, which can be launched manually, through a scheduling or depending on events.



**Hint:** The SCENARIOS must not be confused with the "KNX SCENARIOS". The "KNX SCENARIOS" (also called "light scenes") are basically KNX objects that write a numeric value onto the KNX bus and are created in the ETS-project. The SCENARIOS of OPTIMA are part of the software and are not integrated in the ETS project; they are stored in OPTIMA and also operate from the used KNXCONTROL device. Those SCENARIOS are much more flexible than the "KNX SCENARIOS" because the software offers more possibilities for the SCENARIOS than only writing a numeric value on the KNX bus (e.g. start any kind of command on the KNX bus but also command network devices through scripting).

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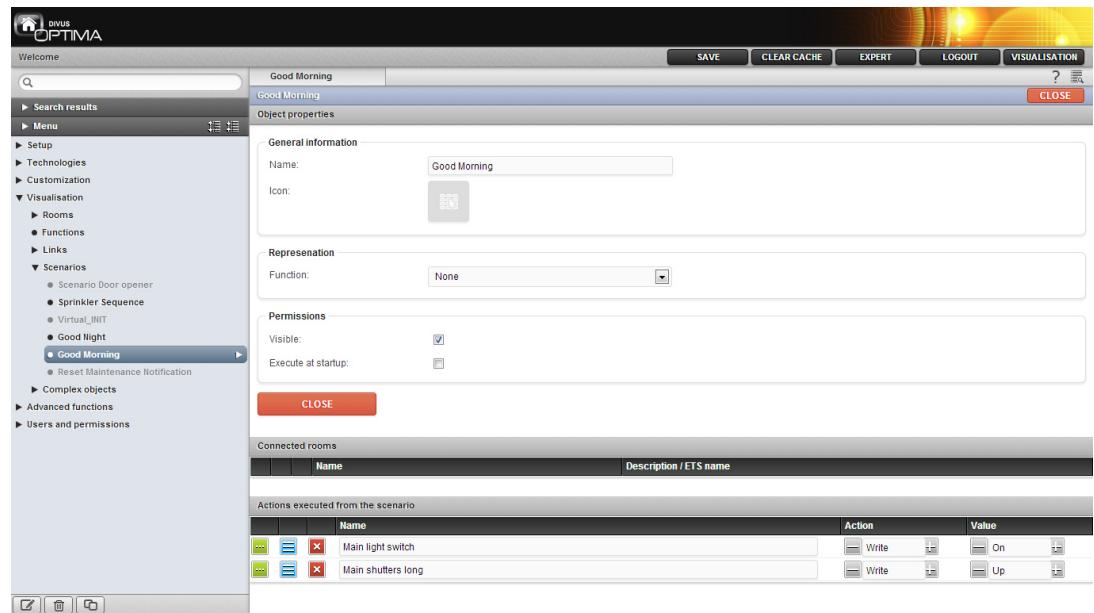
## 9.2 CREATE SCENARIOS

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To create a new scenario:

- Open the ADMINISTRATION area of OPTIMA
- In the navigation menu choose “VISUALISATION→ SCENARIOS”
- Press the NEW / ADD-button

The new created SCENARIO will appear in the navigation menu and can be opened in a new tab for configuration:



In the BASE-mode the following settings are available:

<b>NAME</b>	Name of the SCENARIO inside the VISUALISATION
<b>ICON</b>	Graphical icon through which the SCENARIO is displayed inside the VISUALISATION
<b>VISIBLE</b>	Defines whether the scenario should be visible or not within the visualisation
<b>EXECUTE AT STARTUP</b>	If enabled, the scenario will be started after the startup of the software.



**Hint:** the execution takes place after OPTIMA has terminated its internal function routines and controls, so after each reboot and also after a restart of the communication services.

By switching to EXPERT-mode, the following additional options will be shown:

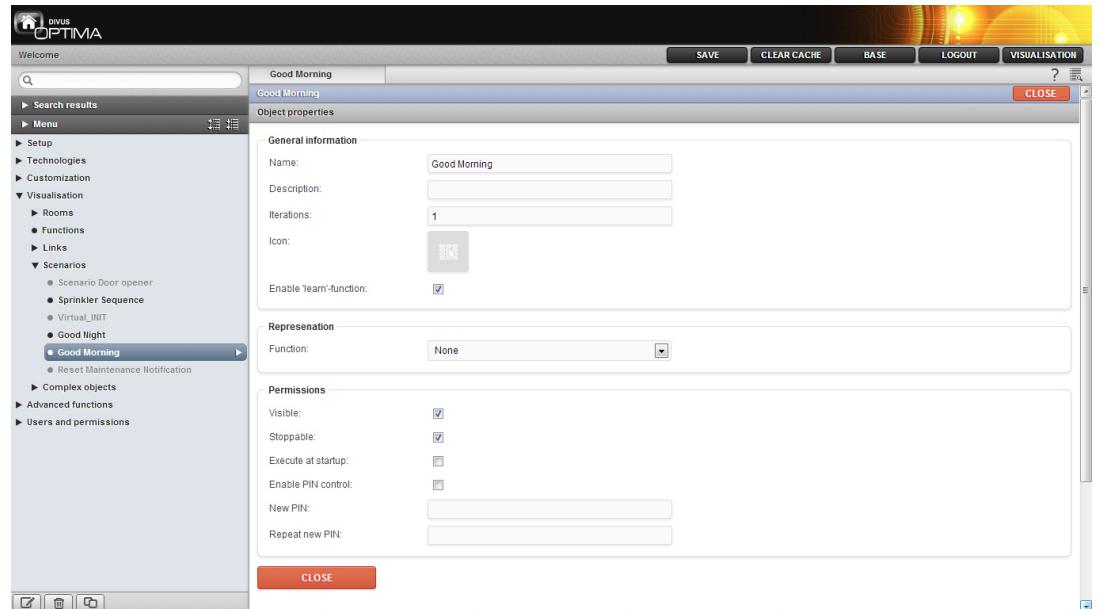
<b>DESCRIPTION</b>	Additional information which can simplify the search.
<b>ITERATIONS</b>	Number of repetitions. This number will indicate how often the SCENARIO will be repeated. Normally, this parameter is set to "1"; if the scenario shall be repeated several times, the desired repeat value can be configured here.
<b>ENABLE LEARN-FUNCTION</b>	With this function it is possible to save the state of the contained KNX objects. With this function the end user can customize the scenarios for his needs, by setting the system in the desired state and clicking on "UPDATE".
<b>DELAY BETWEEN ACTIONS (SECONDS)</b>	Defines the delay between one and another action executed by the scenario, including wait-commands. Factory setting is 0.2 seconds.

**STOPPABLE**

If you activate this option, the SCENARIO can be stopped again after it has been started; this only applies to scenarios with wait commands.

**ENABLE PIN CONTROL****NEW PIN****REPEAT NEW PIN**

With this option the room can be PIN-protected. To enable the PIN-protection the PIN has to be inserted into the field "NEW PIN" and in "REPEAT NEW PIN".



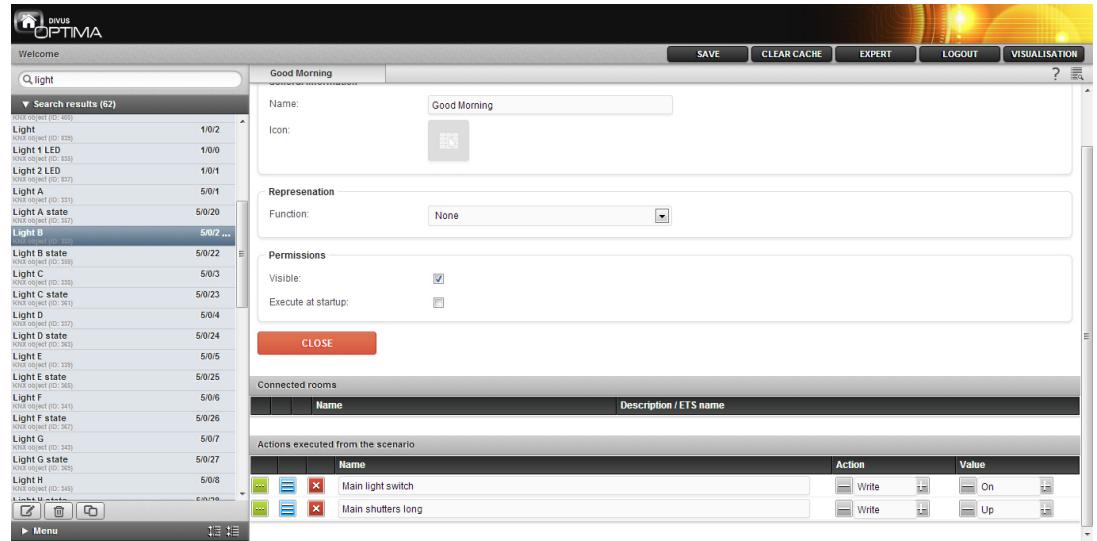
**Hint:** SCENARIOS will be automatically included in the corresponding page of the VISUALISATION, which is accessible from the navigation menu; of course the single SCENARIOS can also be inserted into different rooms.

### 9.3 ADD ACTIONS TO A SCENARIO

In order to add actions to a created SCENARIO, proceed as follows:

- Open the area "ACTIONS EXECUTED FROM THE SCENARIO"
- Search the desired objects with the search function and pull them inside the list by drag & drop
- For each object dragged in the list the appropriate "Action" and, if necessary, the corresponding "Value" can be defined. For KNX objects you may choose between "Read" and "Write" for "Action"; "Read" will send a status request for the corresponding group address on the KNX bus, "Write" sends the configured "Value" as command on the corresponding group address on the KNX bus.

An example of a SCENARIO with defined actions can be seen in the following screenshot:



#### 9.4 SCENARIO WITH WAIT COMMANDS

It is possible to create a delay between the individual actions of a SCENARIO using WAIT COMMANDS, which cause the SCENARIO to pause for a certain period of time. Thus makes it is possible to shift the various actions of a SCENARIO in time. The WAIT COMMANDS are objects, which are added to the area "ACTIONS EXECUTED FROM THE SCENARIO" just like KNX objects. For adding a WAIT COMMAND, search for the keyword "wait" with the search function and pull the desired WAIT COMMAND into the desired position of the area ("drag and drop"). In OPTIMA the following waiting times are available:

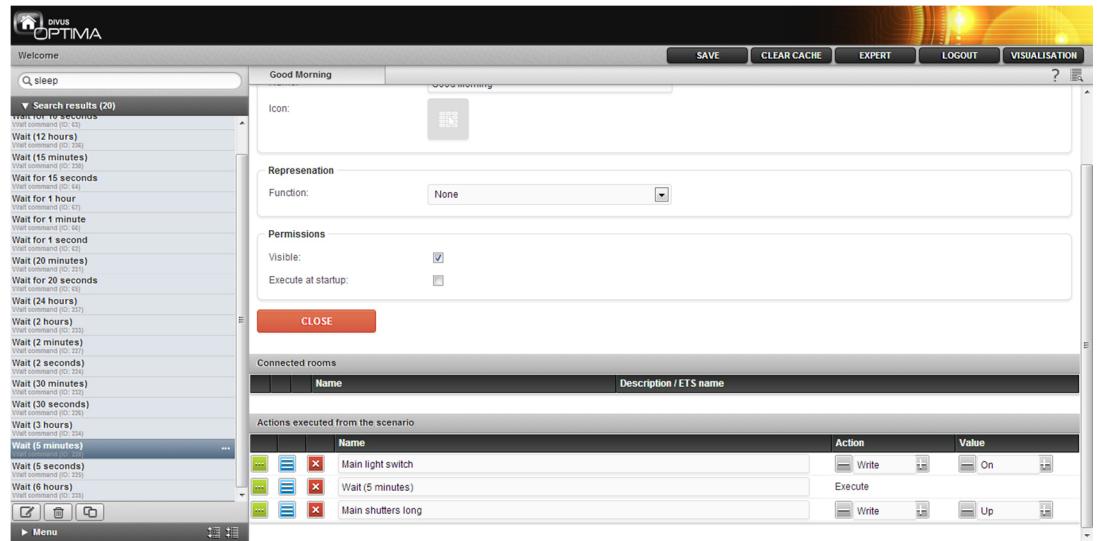
1 second, 2 second , 5 second, 10 second, 15 second, 20 second, 30 second, 1 minute, 2 minutes, 5 minutes, 10 minutes, 15 minutes, 20 minutes, 30 minutes, 1 hour, 2 hours, 3 hours, 6 hours, 12 hours, 24 hours

The WAIT COMMANDS can be found through the search function, by searching for the keyword "sleep".



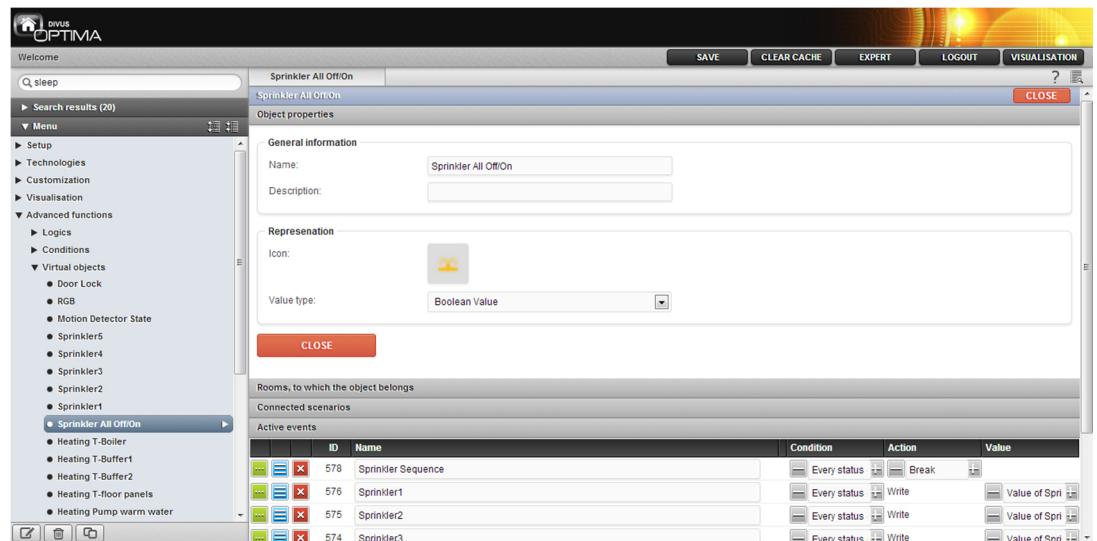
**Warning:** The WAIT COMMANDS can only be seen by searching "sleep" with the search function, because they are directly integrated inside OPTIMA. If you'd like to have WAIT COMMANDS filtered by time unit in the search results list, the time unit "sec", "min" or "hour" must be added to the keyword "sleep" (e.g. sleep sec).

Using English as language for the Administration area of OPTIMA, you may also search for "wait" obtaining the same results. From other languages, please use "sleep" for searching wait commands!



Scenarios with built-in WAIT COMMANDS can be stopped after they once have been started; for this purpose the graphic icon of the SCENARIOS includes a STOP-button. If this STOP-button is pressed, the SCENARIO is interrupted. The states of the object contained in the SCENARIO, which were already changed when starting the SCENARIO, will not be restored, just the further execution of the SCENARIO will be stopped.

Stopping a SCENARIO can also be triggered by an event, in dependence of the status change of another object (e.g. a KNX object):

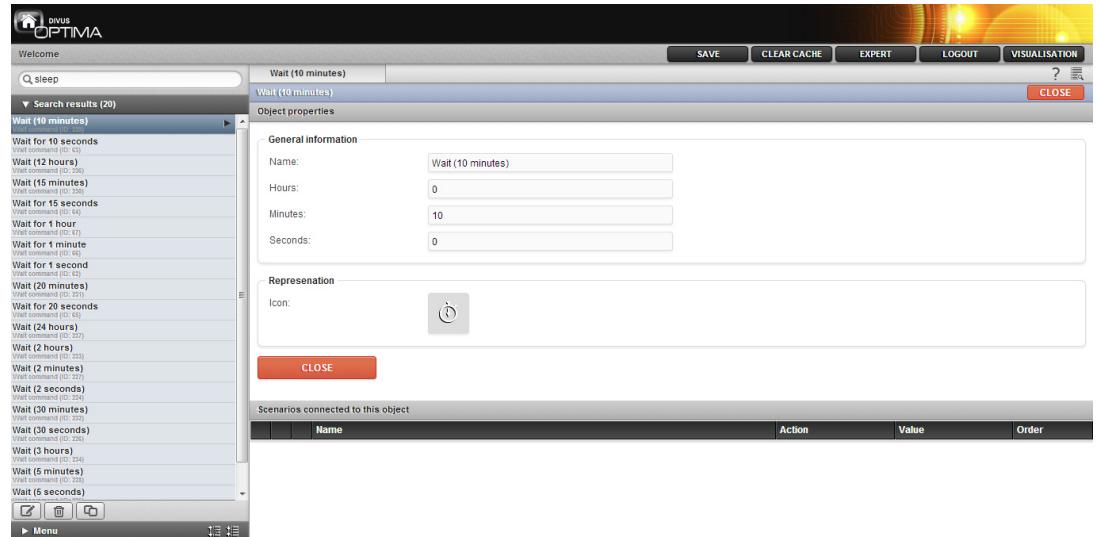


## 9.5 CUSTOMIZATION OF THE WAIT COMMANDS

Objects of the type "WAIT COMMAND", which allow to insert delays into SCENARIOS, can be customized in the following way:

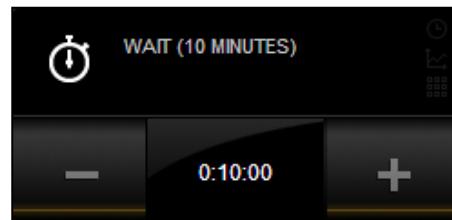
- Locate the desired WAIT COMMAND using the search function
- Before modifying the WAIT COMMAND, create a clone using the CLONE-button in the TOOLBAR (by modifying the original WAIT COMMAND there is the risk that other functionalities using this WAIT COMMAND could stop working as desired)
- Access the configuration window of the cloned WAIT COMMAND

The configuration window of a WAIT COMMAND permits to configure HOURS, MINUTES and SECONDS, through which the desired delay can be created. Please fill in only integer values; furthermore the overall time must be between 1 second (minimum delay) and 23 hours, 59 minutes, 59 seconds (maximum delay).



The configuration window also gives you an overview in which scenarios the current WAIT COMMAND is included. Please do not use this area to add the command to further scenarios. Instead, always drag the WAIT COMMAND into the configuration page of the scenario.

The WAIT COMMANDS can also be integrated into the visualisation (into rooms as well as into complex objects). This has the advantage that also the final user will be able to change the value of the WAIT COMMAND, without needing the permission to access the ADMINISTRATION. The following screenshot shows the representation of a WAIT COMMAND in a room with GRID view:





**Attention:** When WAIT COMMANDS are added to the VISUALISATION, it is even more important that you only work with CLONED objects. Otherwise there is the risk that the final user unintentionally changes also the way other functions / scenarios work.

# 10 Links

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## 10.1 INTRODUCTION

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Objects of type LINK permit to create page jumps within the visualisation of OPTIMA. It is possible to call pages of the visualisation (rooms) as well as links to other web servers or web pages, which are then directly accessible (without having to use the navigation menu).



**Hint:** Links to websites open only the integrated browser window containing the defined web page; the integrated browser window is not intended to offer the whole functionality of a conventional browser, but just to open certain websites to provide a quick access to the whished information.

Links to websites are not functional in the OPTIMA app on mobile devices; for such devices the usage of the platform dependent native browser is more comfortable.

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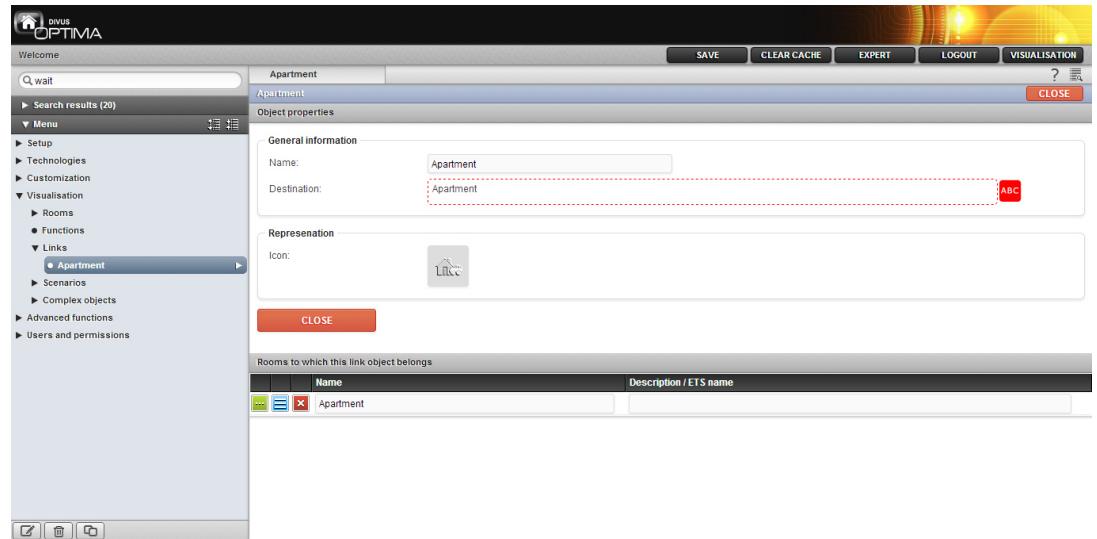
## 10.2 CREATION OF LINKS

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In order to create a new link:

- Open the ADMINISTRATION area
- In the navigation menu choose “VISUALISATION → LINKS”
- Press the NEW / ADD-button A small square button with a white plus sign inside.

The new created LINK will appear in the navigation menu and can be opened for configuration:



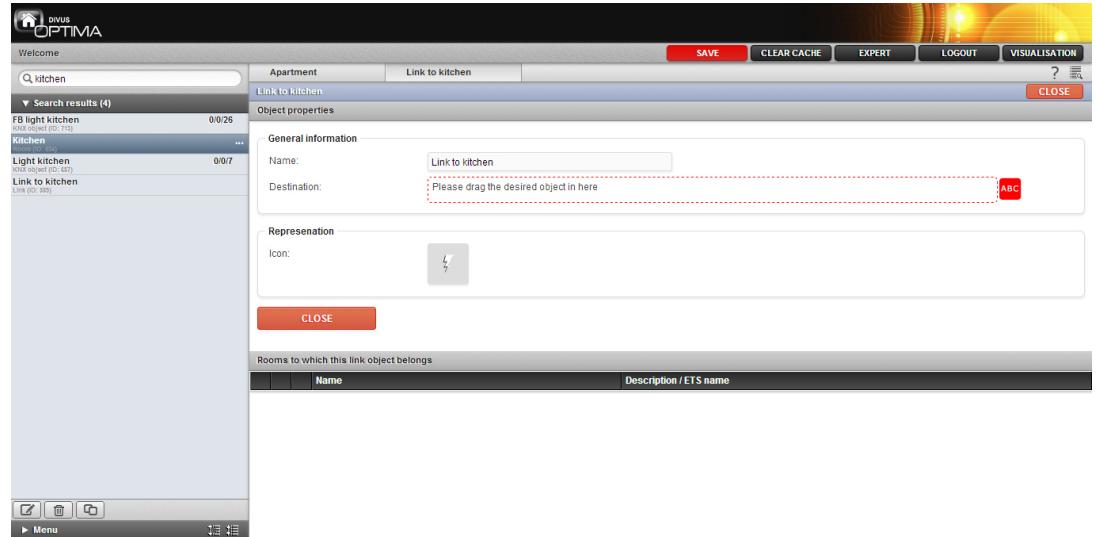
Now the following properties can be changed:

<b>NAME</b>	Name of the LINK inside the VISUALISATION
<b>DESTINATION</b>	Page that is shown as soon as the LINK is clicked; can either be a URL or a page of the visualisation, as explained below
<b>ICON</b>	Graphical icon, through which the LINK is displayed inside the VISUALISATION

The DESTINATION can be configured in 2 ways:

- Either a path (URL) to an IP address or a web page: in this case, just insert the address in the field
- Or a room of the visualisation: in this case just use the search function to drag the desired room into this field

In order to switch between the 2 methods, you can just click on the red button next to the destination field; it can either be an input field or a drop area (for connecting an object):



### 10.3 INTEGRATION INTO THE VISUALISATION

Once the link object has been created, it can be connected via Drag & Drop (using the search function) in the following ways:

#### Connect to a Room:

- open the properties window of the room
- locate the link object through the search function
- drag the link object to the section "Contained objects"

#### ... or alternatively:

- open the properties window of the link
- locate the room through the search function
- drag the room into the section "Rooms containing the link"

#### Connection to the NAVIGATION MENU:

- open the entry "NAVIGATION MENU" in the menu "CUSTOMIZATION"

- locate the link object through the search function
- drag the link object to the desired position within the list of elements of the navigation menu

#### Connection to the FAVOURITES:

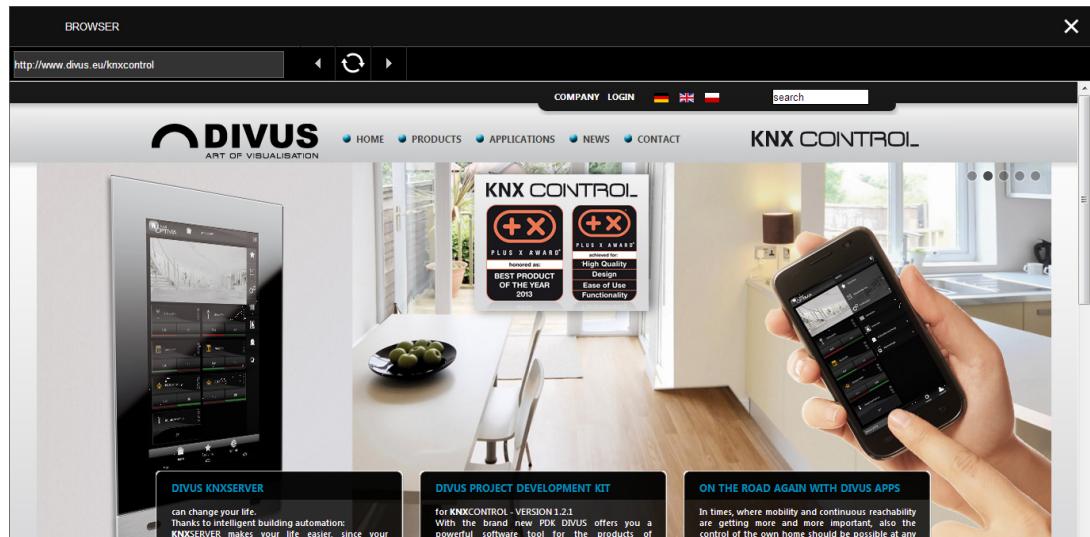
- open the entry "FAVOURITES" in the menu "CUSTOMIZATION"
- locate the link object through the search function
- drag the link object to the desired position within the list of elements of the favourites

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#### 10.4 NAVIGATION INSIDE THE VISUALISATION

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After connecting the link object to one or more places of the visualisation, you can access it through the corresponding page (e.g. directly from the navigation menu or the HOME page). If the destination of the link object is a room, it will be opened as soon the link is clicked; URLs instead are opened using the browser plugin, as shown in the following screenshot:



# 11 Advanced funtions

## 11.1 INTRODUCTION

In this chapter, the ADVANCED FUNCTIONS of OPTIMA are explained in detail; they can be used to expand the functionality of the bus system. These functions are mostly invisible for the end user in the VISUALISATION and therefore accessible only through the ADMINISTRATION menu.

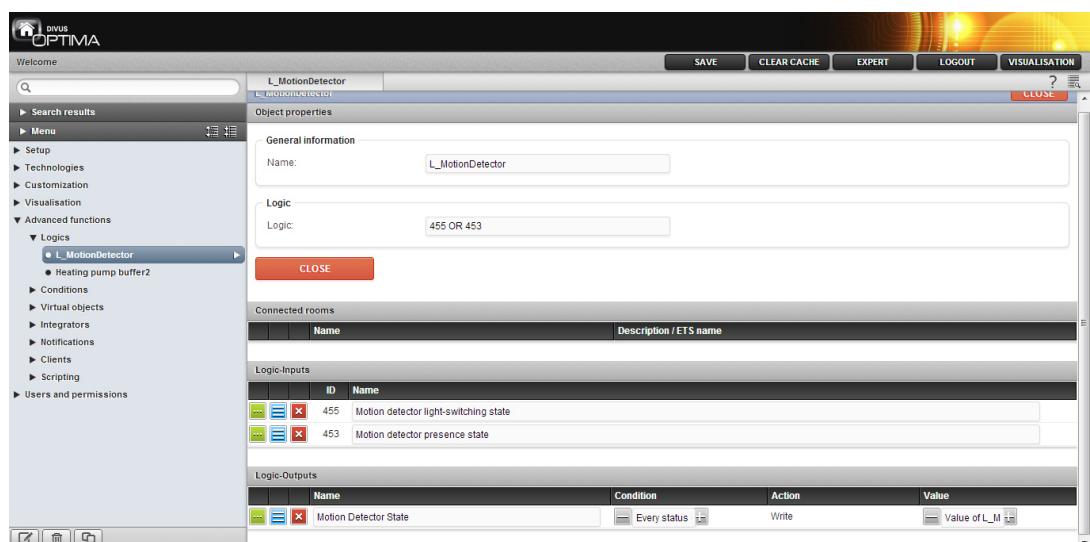
## 11.2 LOGICS

OPTIMA offers the possibility to create LOGICS. These objects include logical expressions of type "AND" and "OR" between two or more objects of the software, where the result of such a LOGIC can in consequence command various other objects of the software.

For creating new LOGICS:

- Open the ADMINISTRATION area
- Select “ADVANCED FUNCTIONS → LOGICS”
- Press the NEW / ADD-button 
- Access the configuration window of the LOGIC

Add all the objects that should be evaluated in the logical expression to the “Logic-Inputs” area. Search for the desired objects with the search function and simply pull them into the area (“drag and drop”). For every item of



this list a specific ID number will be shown. This number must be used to create the logical expression of the LOGIC:

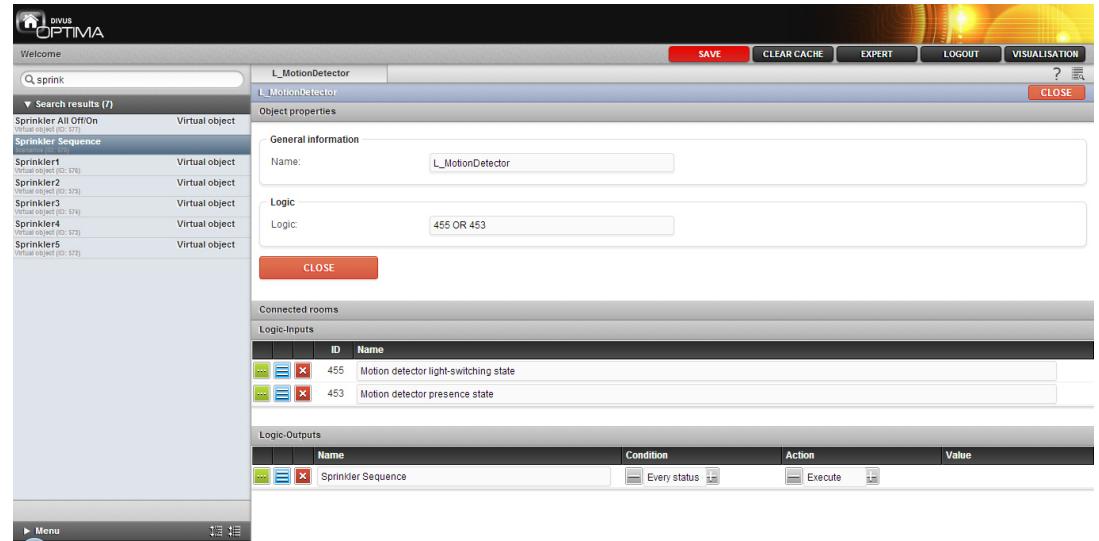
When creating the logical expression the following points must be considered:

- The evaluation of a logical expression is always done pairwise from left to right. At start, the first two objects with the specified operator "AND" / "OR" will be evaluated. Then the results of this evaluation will be evaluated with the defined operator "AND" / "OR" with the third object and so on!
- The logical expression must be created by entering the objects "ID" concatenated among each other with a logical operator "AND" / "OR", all separated by a blank space; the logical operators must be written in capital letters. (e.g. 123 AND 456 OR 789 means both 123 and 456 must be true, or else, 789 must be true. If you write 789 OR 123 AND 456 this would be interpreted as: 789 or 123 must be true and 456 must be true)
- In order to invert an input object, the operator "NOT" must be written directly before the "ID" of the corresponding object, separated from the objects "ID" through a blank space; this operator must be written in capital letters, too (e.g. 123 AND NOT 456). Once a logical expression is configured in the LOGIC, at least one output object must be defined in the list "Logic-Outputs"; otherwise the LOGIC will have no effect. At every status change of one of the defined input objects, the corresponding logical expression is evaluated and the defined output objects are set to the corresponding state.

To add new objects into the area " Logic-Outputs ", simply locate the desired objects with the search function and pull them into the area ("drag and drop"). Once all required objects are in the list, the actions to be performed for each object - depending on the result of the evaluated logic expression - can be defined:

<b>CONDITION</b>	Evaluation of the result of the logical expression ("If LOGIC = TRUE" or "If LOGIC = FALSE"). If the action should be triggered at every evaluation of the logic, please select "Every status change".
<b>ACTION</b>	Action to execute on the object – differs depending on the type of the object
<b>VALUE</b>	Value, to which the object will be set, when the condition is fulfilled; (if for the parameter "ACTION" the corresponding option is selected and the object supports this functionality). If for the condition the option "Every status change" is selected, the output object can be set to the same value as the result of the evaluation of the LOGIC ("Value of ...") or also to its inverted value ("Inverted value of ...").

Below an example showing how a scenario is launched through a LOGIC:



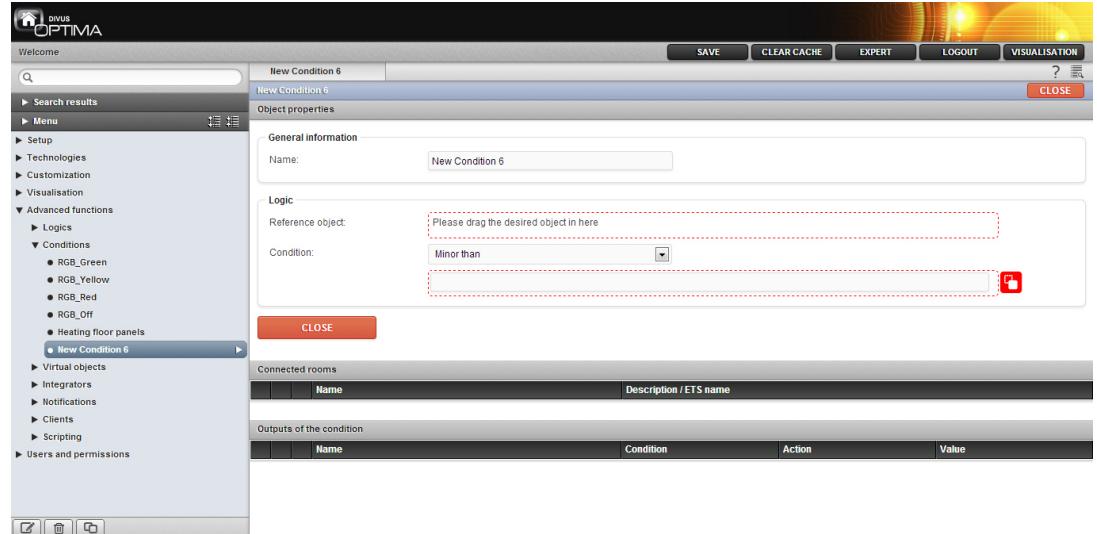
### 11.3 CONDITIONS

CONDITIONS are objects that permit to create value comparisons between one or more objects and can start events depending on the result of the comparison.

In order to create a new CONDITION, please follow the steps below:

- Open the ADMINISTRATION area of OPTIMA
- Select “ADVANCED FUNCTIONS → CONDITIONS”
- Press the NEW / ADD-button
- Access the configuration window of the CONDITION

Enter a name for the new CONDITION



Now a REFERENCE OBJECT for the condition must be defined. Typically an object of the software is used for this purpose, which can be inserted into the corresponding field through drag&drop from the search engine.

When an object was dragged into the red dashed drop zone, its name is shown inside.

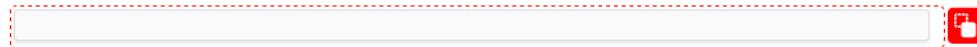


Now the operator for the comparison of the condition must be defined. You can select between the following operators:

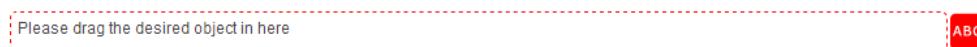
CONDITION OPERATOR	COMPARISON VALUES
Minor	
Minor or equal	
Major	1
Major or equal	
Equal	
CONDITION OPERATOR	COMPARISON VALUES
All values in the range, bounds included	
All values in the range, bounds excluded	
All values not in the range, bounds included	
All values not in the range, bounds excluded	

Depending on the selected condition operator, either one or two comparison fields will be shown in which the values for the comparison must be entered. For each field it is possible:

Textual input mode to assign a numeric value (please use the dot as separator for decimal values)

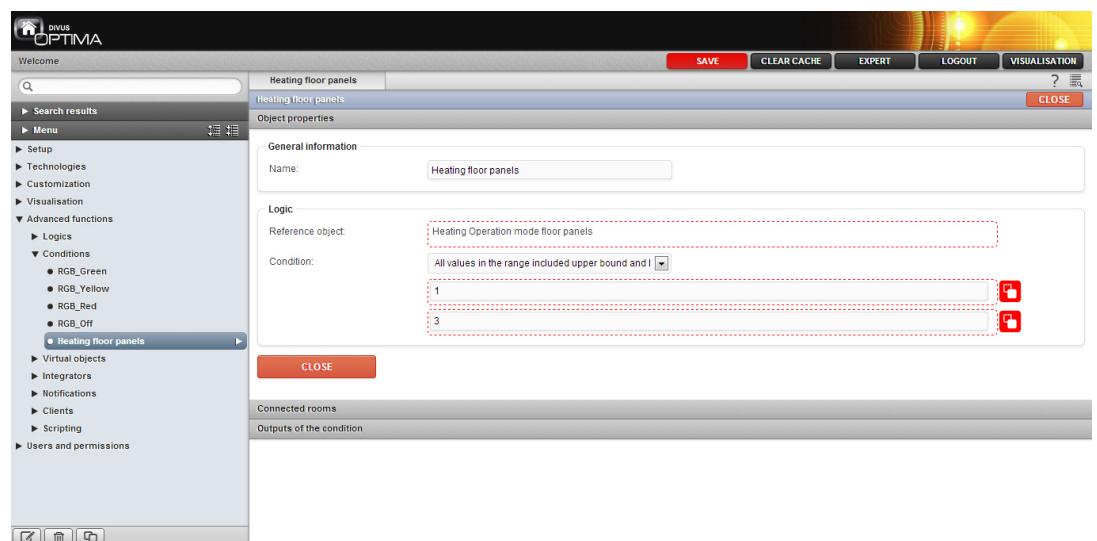


Or drop zone to drag another object into the field from the search engine



In this case the red button permits to switch between text input mode and drop zone.

In the second case the field will show the name of the object that has been dragged into the drop zone.



At every change of the reference object (or comparison object, if present) the condition will be evaluated and the connected actions will take place. The action, in case of CONDITIONS, always have to be ACTIVE EVENTS and are configured in the same way as already mentioned a few time within this manual („drag and drop“ of the objects to be controlled, directly from the search results).

## 11.4 VIRTUAL OBJECTS

The VIRTUAL OBJECTS are objects that exist only in OPTIMA. These objects can be handled the same way as KNX objects, with the difference that VIRTUAL OBJECTS have no direct connection to the KNX bus (no KNX group addresses is connected to these objects). These objects can be used for various tasks: storing values, entering values for comparisons, displaying special status etc.

Since VIRTUAL OBJECTS are not included in the count of group addresses on OPTIMA, they can also be used to keep the group addresses count on OPTIMA low. This is very useful, if a lot of so-called "dummy" group addresses

are present in the KNX project. Furthermore, VIRTUAL OBJECTS can be integrated in the VISUALISATION, connected to scenarios or events (passive as well as active) etc. Another example for the use of VIRTUAL OBJECTS is the creation of central functions, where a VIRTUAL OBJECT controls numerous KNX objects simultaneously.

To create a new VIRTUAL OBJECT, open the ADMINISTRATION menu, select “ADVANCED FUNCTIONS → VIRTUAL OBJECTS” and press the NEW / ADD-button  ; a new VIRTUAL OBJECT will be created, which offers the following settings:

<b>NAME</b>	Identifies the object inside the VISUALISATION
<b>ICON</b>	Graphical symbol through which the object is represented in the VISUALISATION. All symbols available for KNX objects are available also for this object; the choice of the corresponding icon is upon the user.
The value type of the object can be defined here:	
<b>VALUE TYPE</b>	„Boolean”: can assume only the value „1“ or „0“ „Numeric – Integer”: numeric value without comma „Numeric – Float”: numeric value with comma „String”: text

In the EXPERT-Mode, the addition settings are available

<b>DESCRIPTION</b>	Additional information that can simplify the search.
<b>VISIBLE</b>	Sets the object visible in the VISUALISATION or not.
<b>WRITE ACCESS ACTIVE</b>	Enables the commanding of the object in the VISUALISATION; if it is disabled it shows only the status of the object.
<b>ENABLE PIN CONTROL</b>	With this option the room can be PIN-protected. To enable the PIN-protection the PIN has to be inserted into the field “NEW PIN” and in “REPEAT NEW PIN”.
<b>NEW PIN</b>	
<b>REPEAT NEW PIN</b>	

## 11.5 INTEGRATORS

The INTEGRATORS enable the calculation of the time integral of objects present in the OPTIMA database. For example it is possible to calculate for how long a certain light was in the status "ON"; the result of such an INTEGRATOR would be the time period (in seconds) for which the light was powered on.

To create a new INTEGRATOR, simply open the ADMINISTRATION menu, select "ADVANCED FUNCTIONS → INTEGRATORS" and click on the NEW / ADD-button . The newly created INTEGRATOR provides the following options:

<b>MEASURING UNIT</b>	The measuring unit for the calculation (displayed also in the VISUALISATION) can be entered here
<b>ICON</b>	The icon, which will represent the object inside the VISUALISATION, can be selected here.
<b>SCALE FACTOR</b>	<p>The value obtained from the object is multiplied by this factor. "1" should be entered here if no scaling of the obtained value in the calculation of the integral is desired or if you just want to obtain the time period (in seconds) as result of the integral.</p> <p>Hint: When a decimal number is used for the scale factor, please use a dot (.) as separator.</p>
<b>TYPE OF DATA</b>	Defines if the result of the integral will be shown as numeric value with ("Real") or without ("Integer") comma.

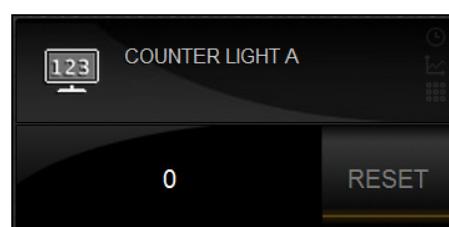
Once all settings have been made, the object, whose value should be used to calculate the time integral, must be specified. Simply open the search function, locate the desired object and pull it into the area "INPUT OBJECT OF THE INTEGRATOR" ("drag and drop").



**Hint:** Only one object can be inserted into the list "INPUT OBJECT OF THE INTEGRATOR", since each INTEGRATOR can integrate only one value and not several values; if nevertheless is tried to add more objects into the area, a corresponding error message will appear.

Not all objects can be used for the calculation of an integral; if not compatible objects are pulled into the area "INPUT OBJECT OF THE INTEGRATOR", an error message will appear. For KNX objects it must be ensured that they are enabled for operation (write permission).

As soon as an INTEGRATOR is completely configured, it can be used inside the VISUALISATION, where it will appear as shown below:



If the RESET button is pressed, the calculated value shown in the INTEGRATOR will be set to zero and the time integral will restart calculating from beginning.



**Hint:** The calculation does not take place in real time, but periodically and whenever a value change of the object assigned to the INTEGRATOR is taking place. So if you want to check the function of an INTEGRATOR object, change the value of the reference object that was assigned to the INTEGRATOR.

Integrator objects can also be used to trigger events in dependence of the calculated value. The objects that should be controlled by such events can easily be inserted into the area "ACTIVE EVENTS".

## 11.6 NOTIFICATIONS

NOTIFICATIONS are messages that OPTIMA sends to one or more recipients, if the connected events take place. There are three types of notifications:

### ON-SCREEN NOTIFICATION

These notifications are shown inside the VISUALISATION in a special pop-up window.

### MAIL NOTIFICATION

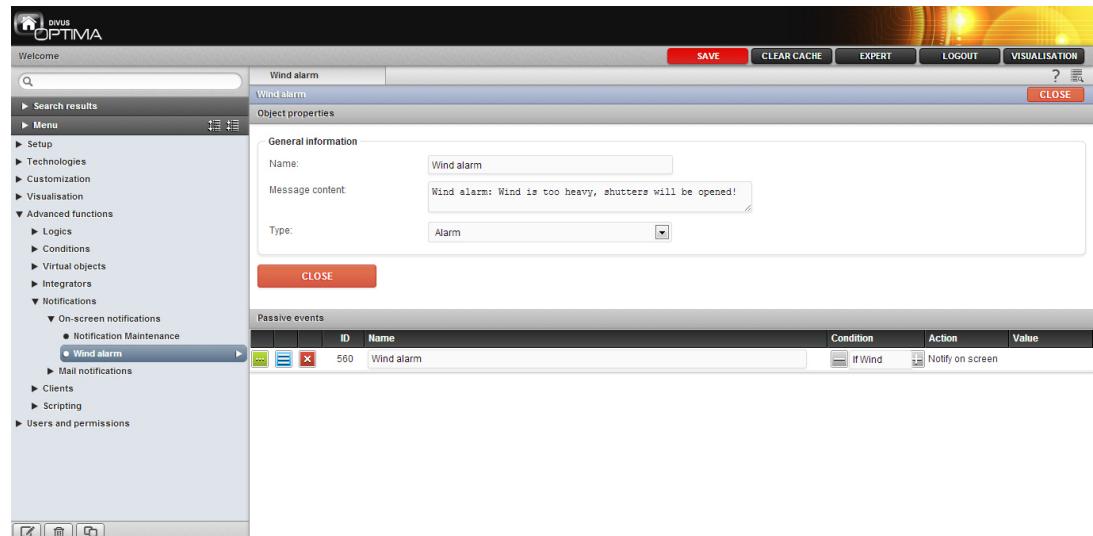
These notifications are sent to the configured recipients through the configured SMTP server.

### MESSAGE BOARD NOTIFICATION

This type of notification is written directly on a touchscreen and therefore only visible on the client on which it was written

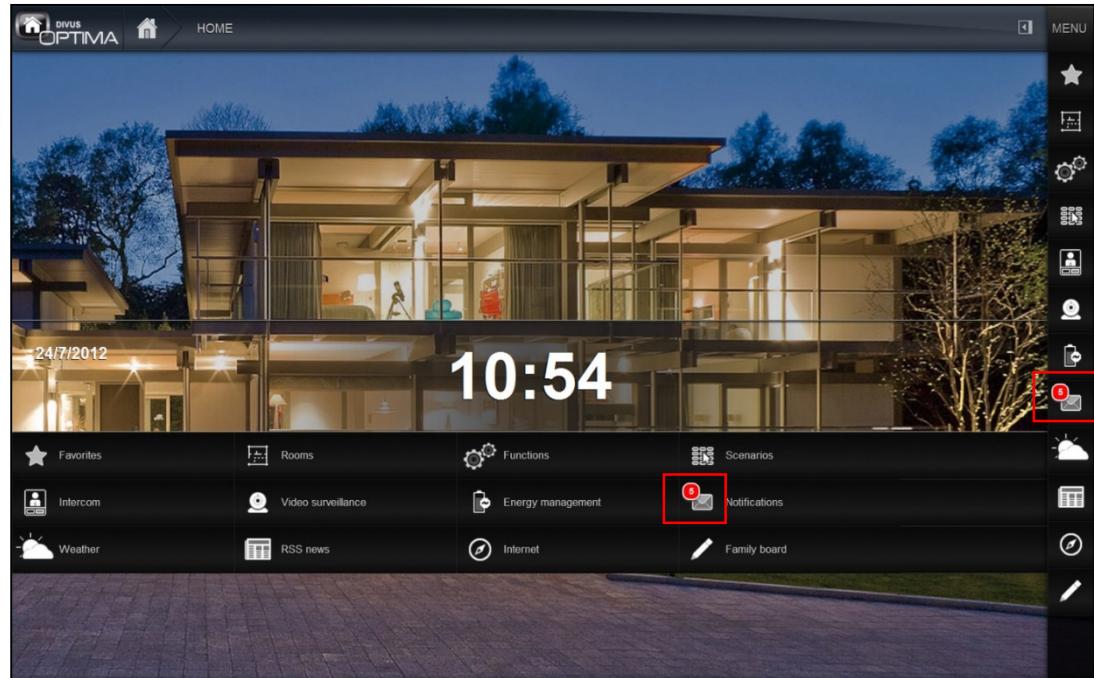
Depending on the notification type, you will see different settings. In the field "MESSAGE" the text must be entered, which the corresponding NOTIFICATION should contain.

If you create a new NOTIFICATION, at least one object must be configured that triggers the sending of the NOTIFICATION (active event in the configuration page of the corresponding object or passive event in the configuration page of the NOTIFICATION); if a NOTIFICATION is not linked to any event, it will never be displayed or sent. An example for an ON-SCREEN NOTIFICATION can be seen below:

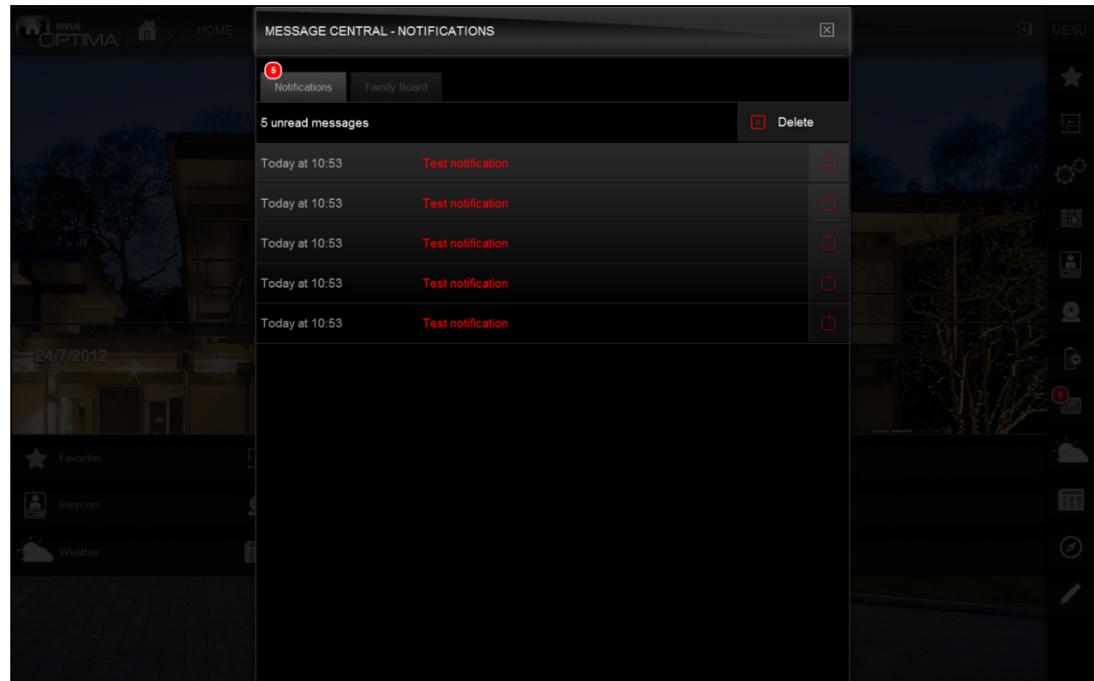


MAIL NOTIFICATIONS will be sent each time the associated event is triggered by the corresponding object; OPTIMA must be connected to the internet in order to guarantee the MAIL NOTIFICATION functionality.

Since the ON-SCREEN NOTIFICATIONS are visible only inside the VISUALISATION, in the navigation menu of the VISUALISATION a corresponding icon will appear whenever new ON-SCREEN NOTIFICATIONS are available:



Individual NOTIFICATIONS can be consulted in a special popup window; the NOTIFICATION popup window will be opened when the NOTIFICATION-icon in the navigation menu of the VISUALISATION is clicked:



If the CONFIRM button of a single NOTIFICATION is pressed, the corresponding NOTIFICATION will vanish from the

list of unread messages, but it will not be deleted from the OPTIMA database. By pressing the DELETE-button, all existing NOTIFICATION will be confirmed and therefore disappear from the popup window.

Each ON-SCREEN NOTIFICATION can be combined with a specific priority ("alarm", "warning", "information"). Whether the NOTIFICATION popup window shall be opened automatically or not whenever a new NOTIFICATION with the appropriate priority is triggered, it can be configured in the ADMINISTRATION menu of OPTIMA under "CUSTOMIZATION" → "OPTIONS" → "NOTIFICATIONS".

If there is an unread „MESSAGE-BOARD NOTIFICATION“, a blue symbol will appear in the NAVIGATION MENU of the visualisation.

For more detailed information about the NOTIFICATION pop-up window, refer to the user's manual.

Für genauere Informationen zum Thema „BENACHRICHTIGUNGEN“ wird auf das Benutzerhandbuch verwiesen.

#### 11.6.1 LOG NOTIFICATIONS

Any triggered on-screen message is recorded and stored in the so-called system log. In the administration area the system log is available under the entry "LOG NOTIFICATIONS". Messages that have been read are not automatically deleted from the memory, and so still available in the system log.

Datum	Zeit	Level	Nachricht	Anzeigen	Gelesen	Datum Gelesen
11/07/2014	10:17	0	Alarm: Bewegungsmelder meldet eine Bewegung	<input type="checkbox"/>		
11/07/2014	10:17	4	LED 2 Änderung	<input checked="" type="checkbox"/>	11/07/2014	10:21
11/07/2014	10:17	4	LED 2 Änderung	<input checked="" type="checkbox"/>	11/07/2014	10:21
11/07/2014	10:17	4	LED 2 Änderung	<input checked="" type="checkbox"/>	11/07/2014	10:21
11/07/2014	10:17	4	LED 2 Änderung	<input checked="" type="checkbox"/>	11/07/2014	10:21
11/07/2014	10:17	4	LED 2 Änderung	<input checked="" type="checkbox"/>	11/07/2014	10:21
11/07/2014	10:17	4	LED 1 Änderung	<input checked="" type="checkbox"/>	11/07/2014	10:21
11/07/2014	10:17	4	LED 1 Änderung	<input checked="" type="checkbox"/>	11/07/2014	10:21
11/07/2014	10:17	4	LED 1 Änderung	<input checked="" type="checkbox"/>	11/07/2014	10:21
11/07/2014	10:17	4	LED 1 Änderung	<input checked="" type="checkbox"/>	11/07/2014	10:21

Für jede For each message, the trigger time is displayed, and the time at which the message has been read. In addition it is possible to change the status of a message from "READ" to "UNREAD" or from "UNREAD" to "READ" through the corresponding checkbox.

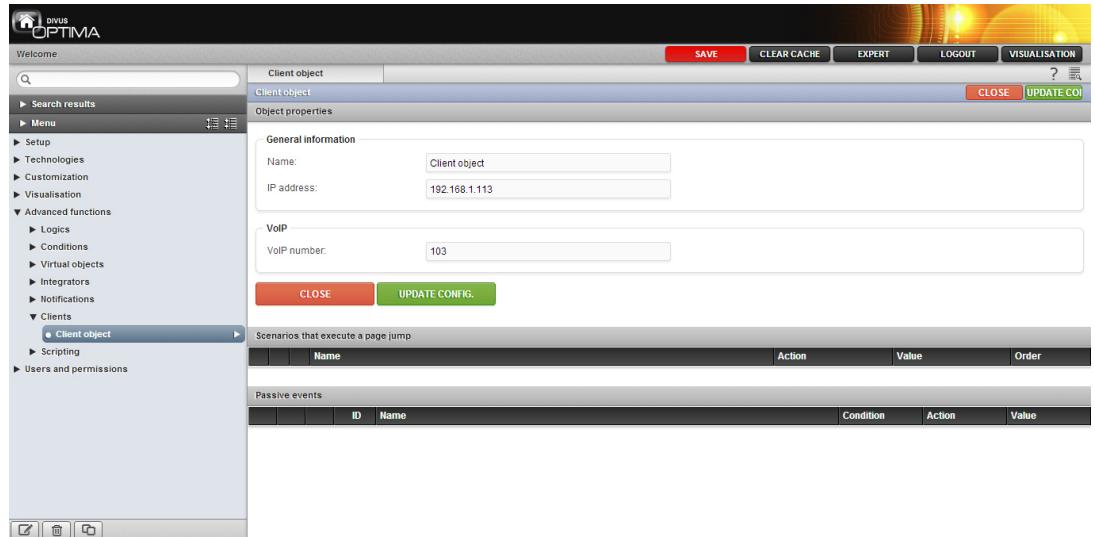
A date-based filter function allows filtering certain messages. Simply enter the start and end dates for the period of interest and update the result using the "REFRESH"-button.

The resulting messages in the lists can then be exported to a CSV file. Filter the messages of the desired time period and then export them into CSV-file by using the button "EXPORT AS CSV".

## 11.7 CLIENTS AND PAGE JUMPS

For each device connecting to OPTIMA via browser access, an object of the type CLIENT is created within the software and automatically gets the IP address of the corresponding client device as name. These objects are used from OPTIMA on one hand to make the same user's simultaneous access possible also from several client devices, and on the other hand offer also some additional functionality.

The section "CLIENTS" in the menu "ADVANCED FUNCTIONS" of the administration menu collects these objects, which are handled autonomously by the system and have their visibility set to "false" in normal case (therefore they are listed in gray). Of course they can still be selected and it is also possible to access their properties window just like with other objects:



The properties window of the CLIENT object offers the following parameters:

**NAME** Label that identifies the CLIENT device. Normally this will be the IP address, but this value can be modified for an easier recognition of the target device (e.g.: "touch bedroom")

**IP ADDRESS** IP address, can't be modified

**VOIP NUMBER** If the INTERCOM module is active, a number can be assigned to the CLIENT device, over which it can be called from another place (like other client devices or even IP phones). If this parameter is configured, the button "UPDATE CONF." must be clicked in order to save the changes.  
Further information can be found in the INTERCOM manual.

If the EXPERT-mode is enabled, the visibility of the CLIENT object can also be set to "true", in order to distinguish it from the non-used / unimportant CLIENT devices.

The CLIENT object can furthermore be used to trigger different actions in dependency of configurable events within the software:

- Execute a PAGE JUMP (either to a room of the VISUALISATION or to an external web page) on the selected CLIENT device.
- Start a new VoIP call

In order to configure those actions, please follow the steps below:

- Drag the object that should be triggering the action (like for example a KNX object) into the section „PASSIVE EVENTS“
- Define the CONDITION for which the action should be executed (the selectable values depend on the type of the connected object)
- Choose one of the available actions; "REDIRECT" (PAGE JUMP) or "VOIP CALL"

Depending on the selection, different options will appear in the column "VALUE". In the case of a PAGE JUMP, the page that should be opened must be inserted. This can be done using one of the following methods:

- Inserting the URL of an external web page (e.g. a homepage, web server contents, ...)
- Selecting a room of the VISUALISATION

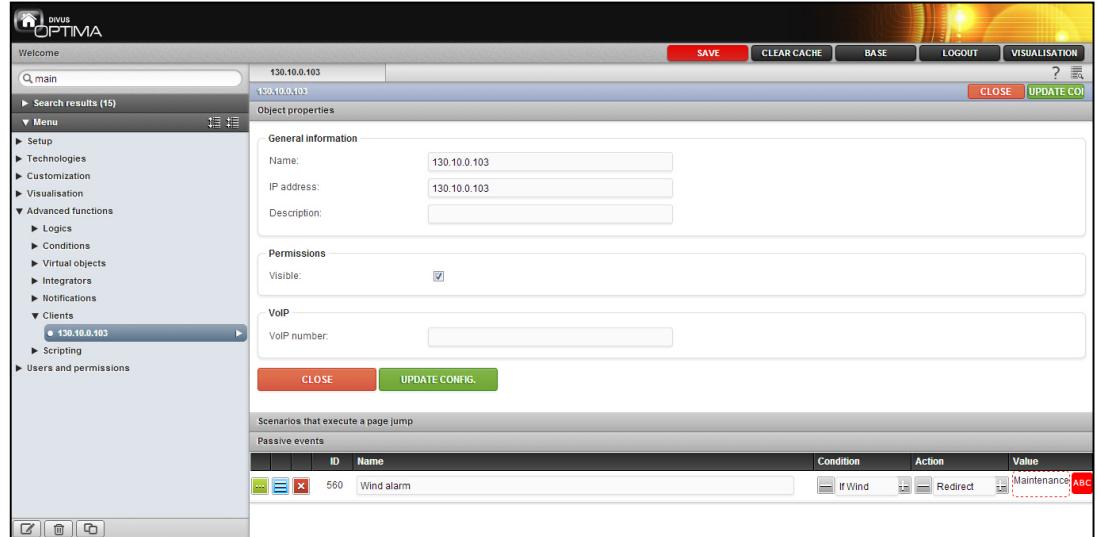
In the first case it is sufficient to input the complete address into the text box; in the second case, the text-box can be, as already seen with the CONDITIONS, transformed into a drop zone using the red button and therefore an arbitrary room can be connected via drag & drop.

If instead "VOIP CALL" was selected as desired action, the following inputs can be made:

- Either directly insert the call number or name of the VoIP unit/ call group
- Or (by switching to the drop zone again) connect a VOIP / INTERCOM object (e.g. IP phone, call group, intercom unit, ...) or a USER via drag & drop

Further information regarding the configuration of the server in combination with VoIP units can be found in the INTERCOM MANUAL of OPTIMA.

The screenshot shows a sample configuration, in which a PAGE JUMP of the CLIENT device with IP address „130.10.0.103“ to the room „Maintenance“ should take place whenever the KNX object “Wind alarm” is in alarm state:



**Hint:** for PAGE JUMPs to be executed correctly, the concerned CLIENT device of course must show a browser page connected to OPTIMA (or in the case of mobile devices, the connected app). Otherwise, the PAGE JUMP is ignored.

## 11.8 SCRIPTING

OPTIMA integrates a flexible and powerful SCRIPTING engine, which permits to extend the functionalities of the software by creating customized php SCRIPTS.

The SCRIPTS, after their creation (or their deduction from one of the numerous sample scripts), can be executed through so-called RUN-SCRIPTS, which can either be represented in the VISUALISATION or are (more typically) connected with other objects of the software.

Thanks to the different libraries of OPTIMA, the SCRIPTS permit to use the following functionalities:

- Control of an AUDIO-MULTIROOM system like e.g. SONOS or DUNE
- Supervision and control of one or more MODBUS SLAVE -devices via TCP/IP
- Creation of extended logics and calculations
- Dispatching of customized strings over the network or RS232 interface (if available)
- Read and write access on the system database, or even on external databases

Further information regarding this topic can be found in the SCRIPTING MANUAL.

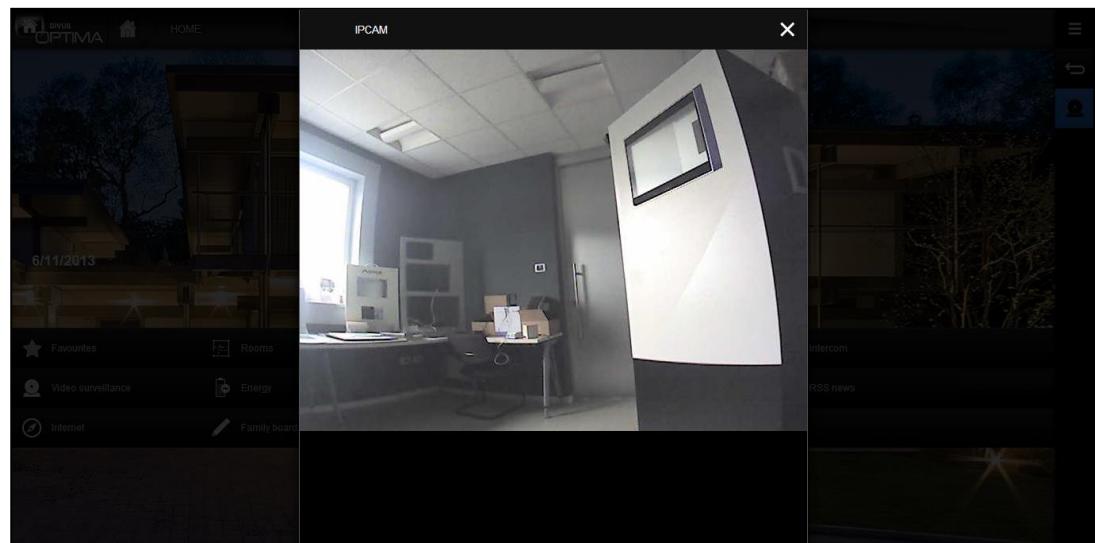
# 12 IP Cameras

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## 12.1 INTRODUCTION

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OPTIMA permits to integrate the stream of one or more IP cameras / video servers within the pages of the visualisation. The cameras can be reached through the corresponding entry inside the navigation menu of the visualisation area. The following screenshot shows the representation of a camera using the "EBONY" theme:



OPTIMA offers integrated support for different camera brands present on the market. When using such a camera, the integration can be done by simply configuring the core parameters of the camera. Furthermore, also cameras of different brands can be integrated by using a generic camera template; however, in this case you have to verify if the used camera offers its image in a supported way. Further information about this topic can be found on the following pages of this manual.

The camera images can be visualised in the local network as well as through the internet; OPTIMA can recognize automatically if the connected Client is located within the same network or connects via internet; depending on this, the server will adapt the path to the camera image in order to ensure a correct visualisation of the camera.

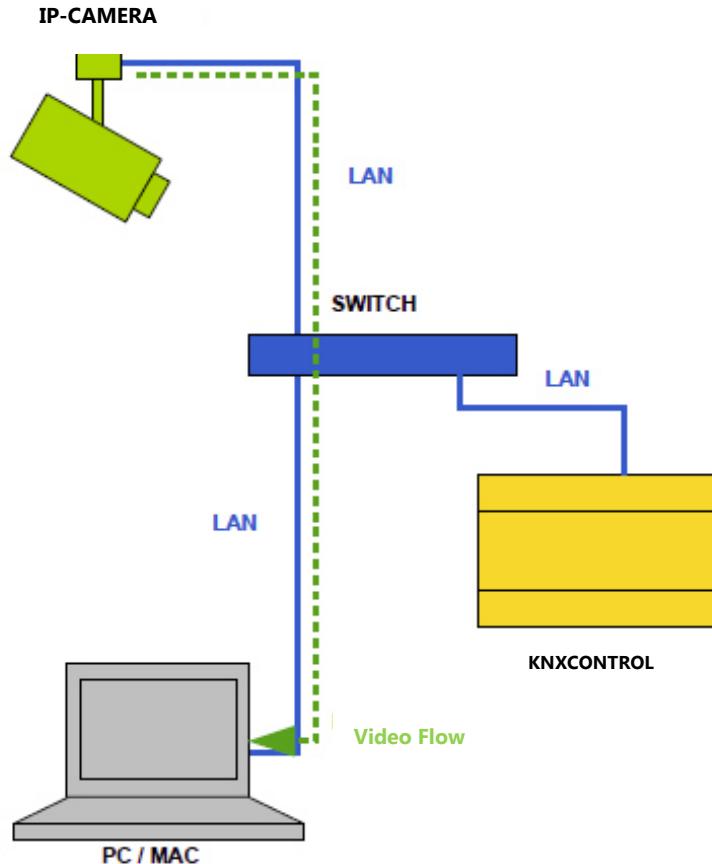
---

## 12.2 VISUALISATION IN LOCAL NETWORK

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When the camera image should be accessed in the local network, a direct connection between the Client and the IP camera is created: OPTIMA just adds a direct link to the IP address (and the port) of the camera to the pages of the visualisation, so that the browser can get the video stream directly from the camera. Therefore, the video signal must not pass through the KNXCONTROL device, what guarantees the best performance and spares the resources of the KNXCONTROL device.

The following graphic shows the video flow within the local network:



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### 12.3 VISUALISATION THROUGH INTERNET

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Since the camera streams are not accessible directly by the Client when connecting from remote (via internet), the video flow must pass through the KNXCONTROL device or the internet router in order to make them accessible. OPTIMA offers 2 methods for showing the camera stream remotely. Both variants have different advantages / disadvantages, therefore the selection of one of the methods depends on the required functionality; please configure the cameras using the method which best fits your requirements.

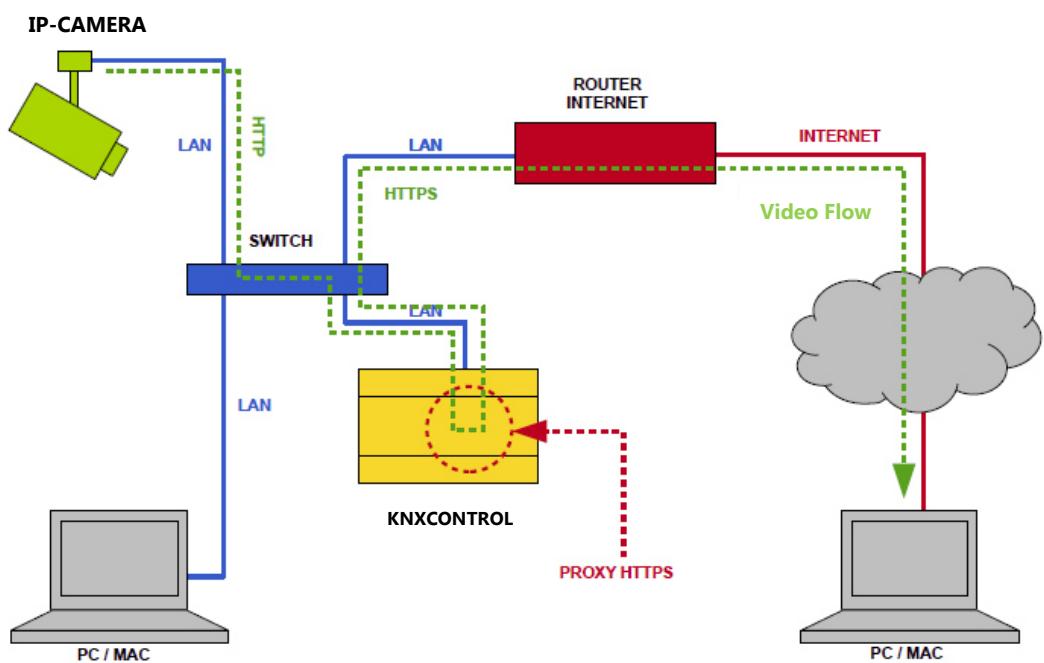
### 12.3.1 ACCESS THROUGH HTTPS PROXY

The function “HTTPS proxy” of OPTIMA makes it possible to access the video signal of one or more cameras through the HTTPS protocol, using the same port which OPTIMA uses to show the pages of the visualisation (normally port 443; check out chapter 14 for further details). The video stream is collected by OPTIMA in the local network through the IP address (and port) of the camera and redirected over the HTTPS protocol, together with the other contents of the visualisation pages. Therefore, the camera signal will become part of the contents generated by the KNXCONTROL device and will be accessible to connected Clients, without direct reference to the camera itself.

This functionality can be very convenient, since it requires no configurations within the internet router, except the Port Forwarding – rule necessary to access OPTIMA itself.

In order to activate this function, please set the parameter “Enable HTTPS proxy” within the configuration window of the camera to “Yes”, as described more in detail in the next chapters. If the selected camera type (setting „Video format“) offers no HTTPS proxy parameter, the camera must be used without proxy, as described in the next chapter.

The following graphic shows the video flow when using the HTTPS proxy:



### 12.3.2 ACCESS WITHOUT HTTPS PROXY

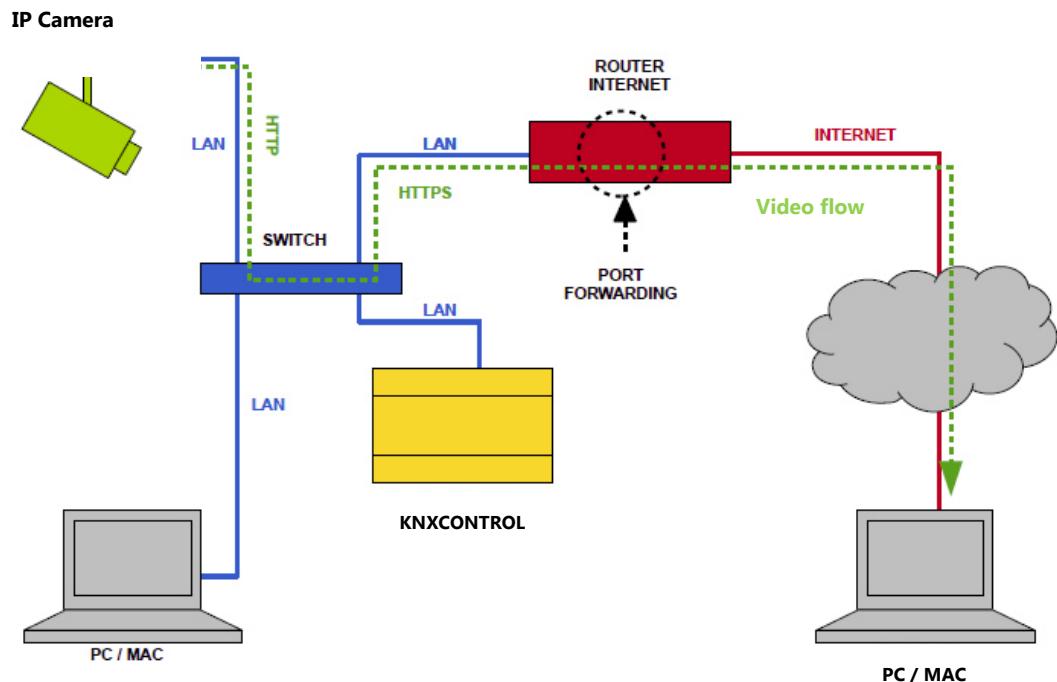
If the visualisation of the camera images as JPG stream, using the HTTPS proxy method explained in the last chapter, should not meet the required performance expectations or should not be supported by the used camera type (e.g. RTSP), a direct connection between the Client and the camera must be configured. In this case, the video signal is not passing through the KNXCONTROL device, but is redirected through the installed internet router. In order to configure this method, please follow the steps below:

Please configure each camera (through the configuration menu of the camera), so that it will be accessible in the local network using a different port (e.g. port 81, 82 etc.)

- Please configure the camera object in OPTIMA using the port defined before in the camera settings; otherwise the camera signal won't show up
- In the internet router, please create a Port Forwarding rule for every single camera that should be reachable from remote. For every camera, the port specified before in the camera settings must be forwarded to the local IP address / port of the camera

If OPTIMA recognizes a remote connection, the path of the camera within the visualisation pages will automatically be adapted, making sure that instead of the local camera address the created Port Forwarding rule will be used. As result, the connected Client will get the video signal directly from the internet router using the configured Port Forwarding rule to the camera.

The following graphic shows the video flow without using the HTTPS proxy:



### 12.3.3 REMOTE ACCESS COMPARISON

The following table shows the pros & contras of the 2 remote access methods:

	HTTPS PROXY	NO HTTPS PROXY
ADVANTAGES	Easy configuration  Security: the JPG stream is protected with SSL	No impact on the performance of the used KNXCONTROL device  Works with all types of video signals

<b>DISADVANTAGES</b>	<p>Impacts on the performance of the used KNXCONTROL device</p> <p>Not compatible with all camera types</p>	<p>Requires a Port Forwarding rule for each camera</p> <p>Security: if the video signals do not have an own encryption, they are transferred unprotected</p>
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**Hint:** It is generally advised not to use the HTTP proxy setup if not absolutely necessary, because it heavily influences the KNXCONTROL device's performance. Cameras cause high data flows already at moderate resolutions and should therefore be managed in a way that does not cause other network devices to be affected by the high bandwidth usage (possibly). Creating a direct connection between camera and client is the best solution: the client is 1. the one interested in watching the video and 2. usually a sufficiently powerful device to handle the data stream. You should consider this in your planning!

## 12.4 CAMERA OBJECTS

OPTIMA provides the possibility to integrate IP cameras into the visualization. For each used camera a camera object has to be created. To use the supported cameras in the visualization the correct configuration of the cameras are presupposed. To create a new camera objects in OPTIMA, follow these steps:

- Access the ADMINISTRATION area
- Select “TECHNOLOGIES → VIDEO SURVEILLANCE”
- Click on the NEW / ADD-button to create a new camera and access its configuration window through the EDIT-button

- Afterwards configure the following parameters:

The video format defines in which format the images should be integrated into the visualization. The format varies from product to product and therefore the used format must be selected:

AXIS cameras and video server

<b>VIDEO-FORMAT</b>	IPV-CAMERA video server
	MOBOTIX cameras
	2N HELIOS IP cameras
	GENERIC (JPG) cameras

---

Local IP address of the camera / video server. For the following video formats the full image path must be specified:

<b>IP-ADDRESS</b>	Generic (JPG)
	The image path must be defined without protocol ("http://", "https://") and without the used IP port, because these information are specified over the corresponding parameters.

---

<b>IP-PORT</b>	IP port through which the video stream can be accessed. Please select port 80 for the HTTP protocol or 443 for the HTTPS protocol, except the camera is using a special configuration
----------------	---

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<b>PROTOCOL</b>	Please select HTTP, HTTPS or RTSP, depending on the port number specified before (normally HTTP)
-----------------	--

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<b>WIDTH</b>	Please specify the size (in pixel) of the box containing the video signal in the pages of OPTIMA1
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#### HEIGHT

---

<b>RESOLUTION</b>	Please specify the resolution of the camera signal that OPTIMA should request from the camera. The supported resolutions can be found within the manual or configuration menu of the used camera / video server.
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<b>IMAGE COMPRESSION [0-100]</b>	Allows to define the desired image compression.
----------------------------------	---

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\* When accessing through mobile devices with a resolution lower than the value of the box, OPTIMA will automatically resize the dimensions of the box in order to make possible the visualisation of the camera signal also on these devices. Therefore, please specify the desired size of the box, as shown on devices with sufficient resolution.

---

<b>MAX. FPS</b>	The maximal frame rate (frames per second) which should be used to reproduce the video can be defined here.
-----------------	---

Camera objects can also be used in rooms. With this setting can be defined how a camera object should be shown inside a room in BACKGROUND mode:

**ICON:** The camera is shown only as icon. If the icon is clicked the video stream is shown in a popup window.

**APPEARANCE IN PLANVIEW**

**PREVIEW:** The camera object is shown as window with the video stream inside, like a preview; the size can be adapted as needed. If you click inside the video window, a popup window with the video stream inside will appear.

Depending of the used video format it could be possible that additional parameters are requested:

**CHANNEL** Number of the channel transferring the video signal (default = 1)

**STREAM** If supported by the camera, you can define whether to use the primary or the secondary camera stream

**USERNAME** Login data for the connection to the camera

**PASSWORD**

**ENABLE HTTPS PROXY** Specify whether for remote access should be used the HTTPS proxy method or not.

If for the video formats "Generic (JPEG)" and "RTSP" an authentication is needed for viewing the camera video, it must be integrated into the image path. Generally, the path shows the following structure:

<username>:<password>@<IP-Adress>:<IP port>/<path>

**Example:**

**Given the following parameters**

User: admin

Password: 12345

IP-Address: 192.168.0.111

Path: /jpg/image.jpg

IP Port: 554

The resulting URL would be:

<http://admin:12345@192.168.0.111:554/jpg/image.jpg>



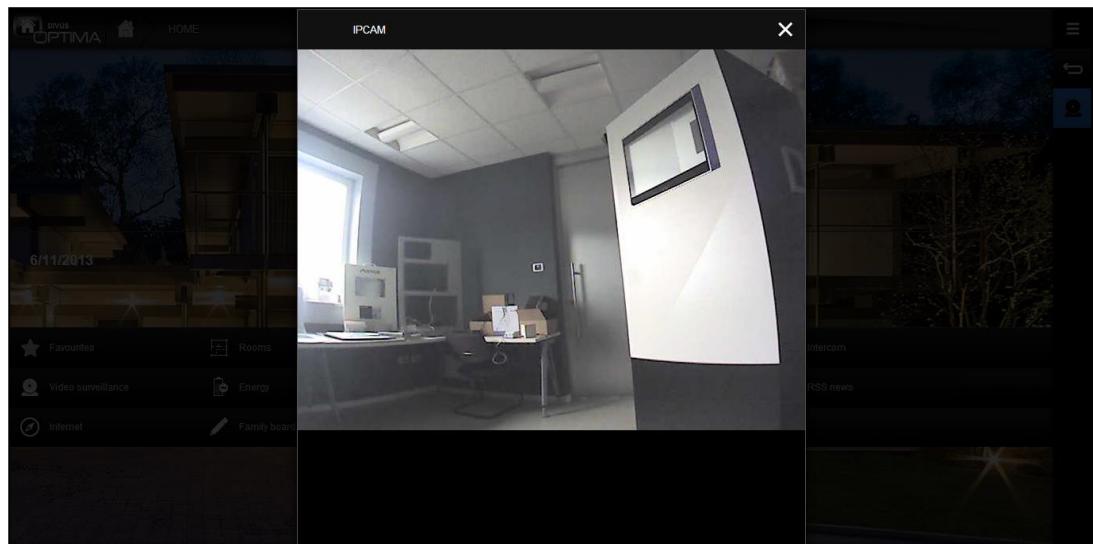
**Hint:** The „Generic (JPEG)” video format has the advantage - even if it isn't as powerful and fluid as other formats - that it can be used in a universal way: The camera / video server only has to provide a path to the fixed-image. This method can also be used on mobile devices without problems.

## 12.5 VISUALISATION

Once the camera objects have been configured as described in the last chapters, they can be implemented in the VISUALISATION area in two different ways:

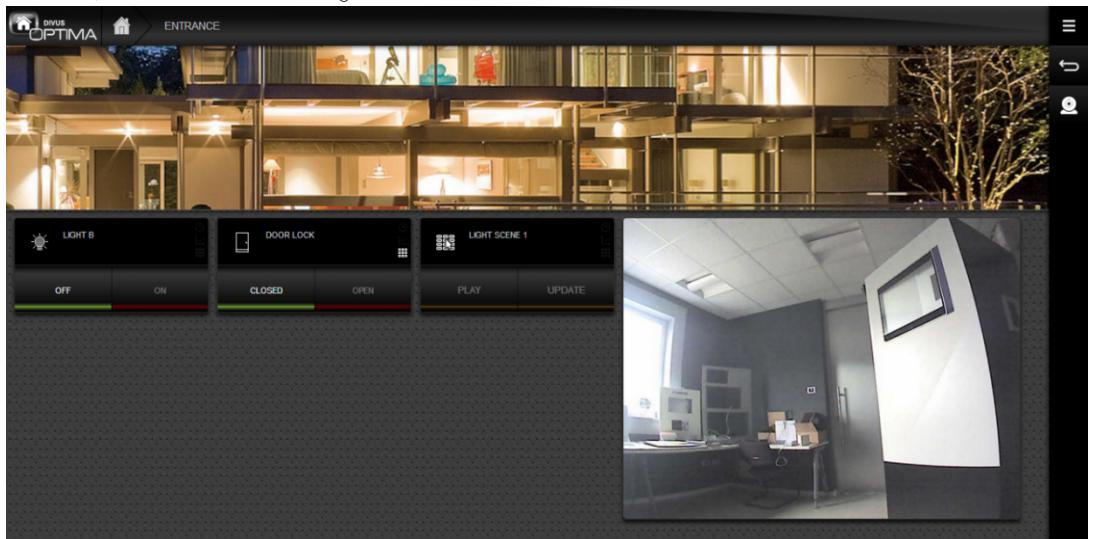
- Either using the pre-configured menu entry "VIDEO SURVEILLANCE" in the NAVIGATION MENU
- Or within rooms in GRID view and also in BACKGROUND view

The software creates the first implementation method automatically. If the entry "VIDEO SURVEILLANCE" is opened, a list of the configured cameras will be shown; a click on one of the listed entries will open a popup window showing the camera stream, as visible in the screenshot below:



If the cameras are also inserted into one or more rooms, their signal can also be shown directly inside the pages of the VISUALISATION (preview).

If the room was created using the GRID view template, the camera is shown together with the "function boxes" of the other objects, with the difference that the camera object takes the place of 6 normal objects (3 rows, 2 columns), as shown in the following screenshot:

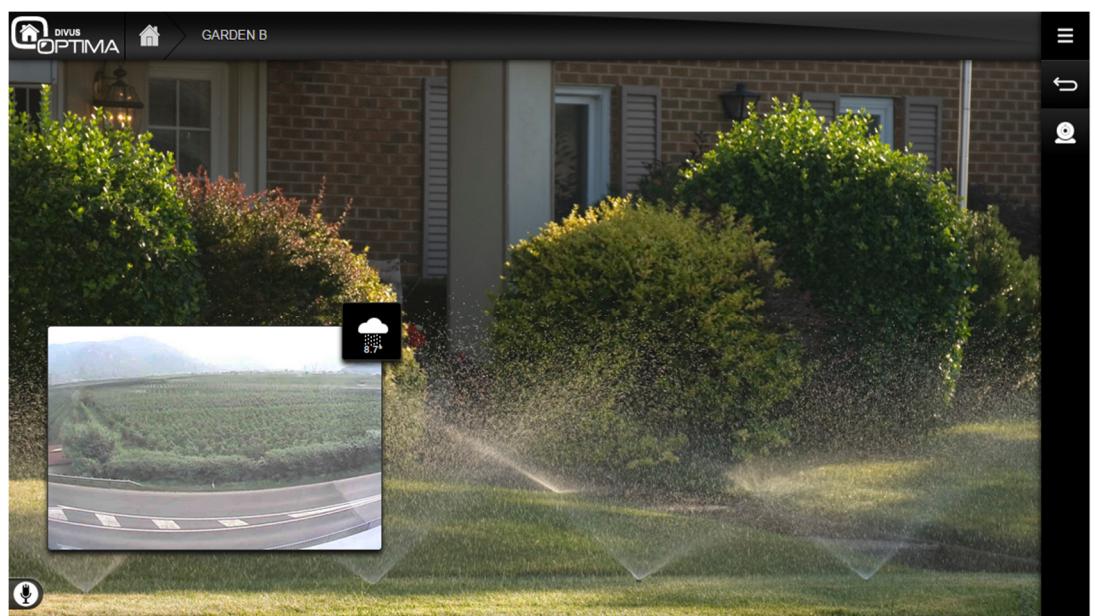


Depending on the resolution of the Client, the other objects are placed around the video signal, occupying the free space on the right and bottom side of the video box.



**Hint:** Since the objects are placed on the RIGHT and BOTTOM side of the video box, it is recommended that the video box is placed in the FIRST column of the page. Otherwise on the left side an empty, not usable space will be shown. Therefore, the ORDER of the objects within the room should be adapted: if the camera object is placed on TOP of the contained objects list, it is assured that the video box will be placed at the first position in the GRID view and the empty space will be filled correctly with the remaining objects.

If the room uses the BACKGROUND view template, the video box can be freely positioned, as all other objects. Compared to other objects, which have a fixed size, the video box can also be resized in order to fit perfectly into the visualisation page. The screenshot shows an example of a room with BACKGROUND view and integrated camera:



As you can see, it is also possible to place objects directly on top of the video signal<sup>3</sup>. In this case, when clicking on an object, the corresponding action will be executed; when clicking on the video signal, the camera stream will be shown in a popup window, showing the resolution that was specified in the settings of the camera object.



**Hint:** In order to place objects on the video signal, they must have a lower ORDER than the video signal. This means that in the configuration window of the room, the objects must be shown ABOVE the video signal. Only in this case objects can be placed on top of the video box. You can change the ORDER of the objects by using the MOVE button and dragging the objects to the desired position.



**Hint:** A nice graphical effect can be created by using camera objects in combination with KNX objects with a TRANSPARENT symbol (available only for ON/OFF objects). In this case, a transparent object can be placed on top of a real object displayed in the camera image (e.g. a lamp); if this transparent area is clicked, the lamp will turn on, which will be shown directly through the camera image, without needing a symbol for the representation of the state.

In both named visualisation methods it is possible to add more than one camera objects per page. Nevertheless it is not recommended, since the camera signals can have a significant impact to the performance of the Client and therefore can slow down the whole visualisation.

# 13 Energy management

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## 13.1 INTRODUCTION

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This chapter explains in detail how to log and display energy consumption in OPTIMA. For being able to measure energy consumption, appropriate KNX devices must be installed in the system and integrated in the ETS project of the system.

In order to configure the energy management features, please access the section "ENERGY" within the menu "TECHNOLOGIES" in the configuration area of OPTIMA.

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## 13.2 SECTIONS

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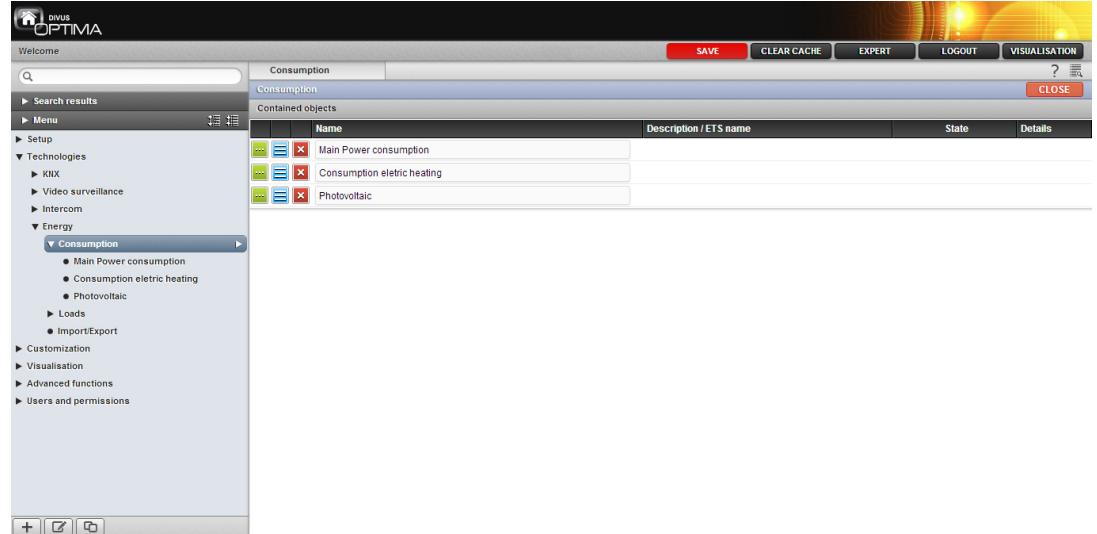
The ENERGY MANAGEMENT is structured in different sections. Each section is assigned to a special aspect of the energy consumption of a building:

<b>CONSUMPTION</b>	This page shows a summary of the generic energy consumption and energy production (photovoltaic) of a building using ENERGY COUNTER objects.
--------------------	--

<b>LASTEN</b>	Shows the energy consumption of configured energy loads in real-time and permits to turn off/on loads depending on configurable logics
---------------	--

<b>IMPORT / EXPORT</b>	Simple page to import or export CSV files containing the collected energy related data.
------------------------	---

If you open the configuration page of the "ENERGY" entry, the order of the different sections can be changed; in EXPERT mode it is also possible to define whether a section should be visible in the VISUALISATION or not:



### 13.3 CONSUMPTION

#### 13.3.1 CREATION OF A NEW ENERGY COUNTER

After selecting the entry "CONSUMPTION" from the "ENERGY" menu, one or more objects of the type ENERGY COUNTER can be created. These objects basically are a special type of COMPLEX OBJECTS, optimized for the visualisation of energy values received from a KNX counter hardware. Furthermore, these objects can also be used as reference objects for the load control functionality, which will be explained in the further chapters of this manual.

After the creation of a new ENERGY COUNTER you can access its properties window, just like for every other object, too. The following parameters can be configured:

##### POWER:

**ENABLE POWER CALCULATION** If this checkbox is enabled, the calculation of the power consumption is done using the received current and voltage data. In this case, in the lower area of the properties window the section „SUB-OBJECTS FOR POWER CALCULATION“ will appear, which is explained more in detail on the following pages.

##### MINIMUM POWER

These values define the maximum and minimum power consumption, through which the percentage values of the current power consumption are calculated and shown in the graphical display of the object.

##### MAXIMUM POWER

---

These levels define how the energy counter is shown in the VISUALISATION; on the other hand they are used for the load control (if the energy counter is used for that),

**POWER – MIN. LIMIT**

The display mode changes the colour of the battery depending on the shown value:

**POWER – MAX: LIMIT**

Measured power < Power - Min. Limit: GREEN

Power - Min. Limit < Measured power < Power - Max. Limit: ORANGE

Power - Max. Limit < Measured power: RED

---

**GRAPHS:****SCALE FACTOR**

Permits to define a scale factor through which the representation of the selected graph can be adapted

Default: 1

---

**UNIT**

Permits to define a measuring unit, which is shown behind the energy values within the graph

---

**SHOW DATA IN GRAPH**

If this option is selected, the data of the ENERGY COUNTER will be shown in graph form, depending on the time period selected by the user (check out next chapter for further details)

---

**SHOW COMPARISONS IN GRAPH**

If this option is selected, in addition to the base graph also the calculated average value, depending on the time period selected by the user, is shown

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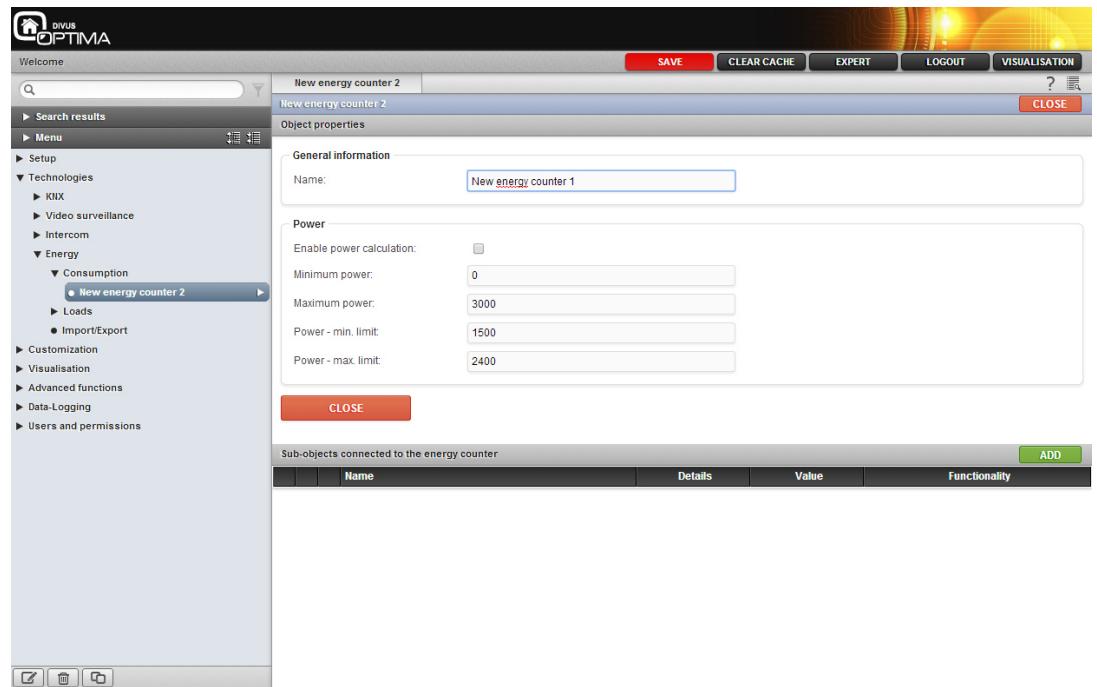
**SHOW RANGE IN GRAPH**

If this option is selected, in addition to the base graph also the range between minimum and maximum value of the ENERGY COUNTER, always depending on the time period selected by the user, is shown as coloured area

---



**Hint:** The section "GRAPHS" will only be visible if a sub-object of type POWER is connected to the ENERGY COUNTER. This will be explained more in detail in the next chapter.



All of these parameters can be overwritten by sub-objects that can be added to the ENERGY COUNTER. The parameters of such an object therefore must not be of static nature, but can also be changed dynamically, for example through inputs of the user (using VIRTUAL OBJECTS), received values of KNX OBJECTS etc. For this section, the following actions are available:

- Creation of a new sub object directly through the ADD-button. In this case, a VIRTUAL OBJECT is created and connected to the counter. Take care, this object doesn't have any own function after its creation; this must be defined - if necessary - by creating events within the properties window of the object.
- Connection of an existing object (e.g. KNX object) via drag & drop from within the search function

In both cases it is necessary to assign to the connected objects a FUNCTIONALITY within the counter. The following options are available:

**POWER – MEASURED VALUE** Electrical power measured by a KNX network analysis device, typically provided through a KNX object.

---

**POWER – MIN. LIMIT** Thresholds determining the graphical representation of the power values within the VISUALISATION (can also be used by the load control if the ENERGY COUNTER is used for that purpose).

**POWER – MAX. LIMIT** Hint: if these functionalities are used, previously entered static values (as explained before) will be ignored and hidden from the properties page.

---

**LOAD OVER LIMIT** ON/OFF object that is triggered automatically when the limits are exceeded (only when the load control is active, check out next chapter).

**LOAD PRIORITY**

Priority of the load, used for switching on/off when load control is active (check out next chapter).

**LOAD ON OFF**

Please use this functionalities only if the ENERGY COUNTER is used for active load control (check out next chapter)

**LOAD AUTO/MAN**

The selection of a FUNCTIONALITY also automatically determines the graphical aspect of the related object as well as its representation in the VISUALISATION. Consequently, no further alterations / adaptations of the connected objects are necessary.



**Hint:** This lastly described feature accelerates the configuration of the ENERGY COUNTERS enormously and offers, especially in cases where no corresponding KNX object is available (for example for limit ad-justment), the possibility to get the desired result fast by using VIRTUAL OBJECTS.

Some FUNCTIONALITIES allow a value input directly within the configuration area; this for example applies for the limit values. This accelerates the configuration again and furthermore it is possible to insert already default values for the end customer (who can naturally adapt the values at any time in the VISUALISATION).

The following screenshot shows the configuration of an ENERGY COUNTER with connected sub-objects:

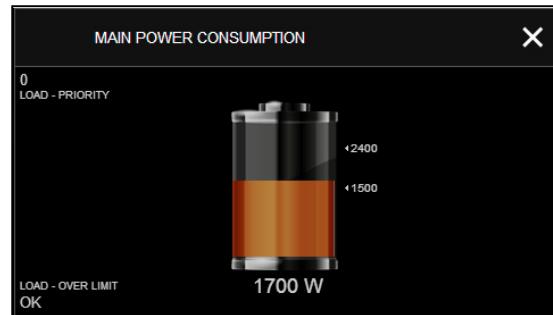
Name	Details	Wert	Funktionalität
Gemessene Leistung Neuer Energiezähler 5	Virtuelles Objekt	1500	Leistung - gemessener Wert
Limit 1 Leistung Neuer Energiezähler 5	Virtuelles Objekt	1500	Leistung - min. Limit
Limit 2 Leistung Neuer Energiezähler 5	Virtuelles Objekt	2500	Leistung - max. Limit
Last - Limit überschritten Neuer Energiezähler 5	Virtuelles Objekt		Last Limit überschritten
Last - Priorität Neuer Energiezähler 5	Virtuelles Objekt		Last Priorität

### 13.3.2 REPRESENTATION IN THE VISUALISATION

In the VISUALISATION it is possible to access the consumption values by selecting the entries "TECHNOLOGIES → ENERGY → CONSUMPTION" from the NAVIGATION MENU:



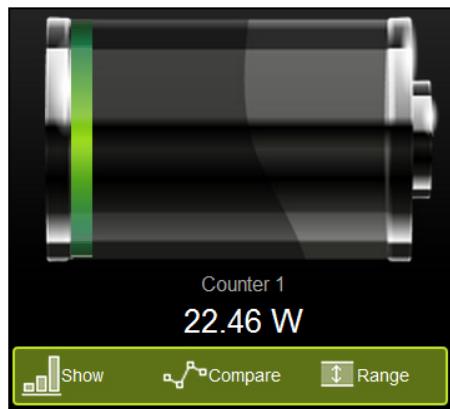
In the upper area of the page, one or more "batteries" are shown, one for every ENERGY COUNTER previously created. They show the current power consumption in real time. The colour (green - orange - red) of the power value indicates graphically when the configured limits are exceeded. If the limits were not configured in a static way, but using sub objects, you can click on one of the "batteries" to open the following pop-up window, which provides the possibility to change the limits gives access to the configurable parameters, which are organized in different TABS:



The sub-objects are (if present) arranged in the following tabs:

- Load control (priority, load over limit...)
- Power(min. and max. limits)
- Energy (min. and max. limits)

Under each battery a coloured box can be seen, which allows the visualisation in graphical way of the data of the connected ENERGY COUNTER. The graphs are shown in the lower part of the page:



The colour of the box is the same as the one of the corresponding graph, what permits to easily recognize it even when more than one graph is visualised. Furthermore, the box permits to change some options of the graphical representation of the shown data:

**SHOW** Shows / Hides the graph of the corresponding energy counter

**COMPARE** Shows / hides the comparison values, which are calculated from the average value of the lastly measured values

**RANGE** Shows / Hides the coloured area which marks the range between the minimum and maximum values of the energy counter (in dependence of the selected time period)

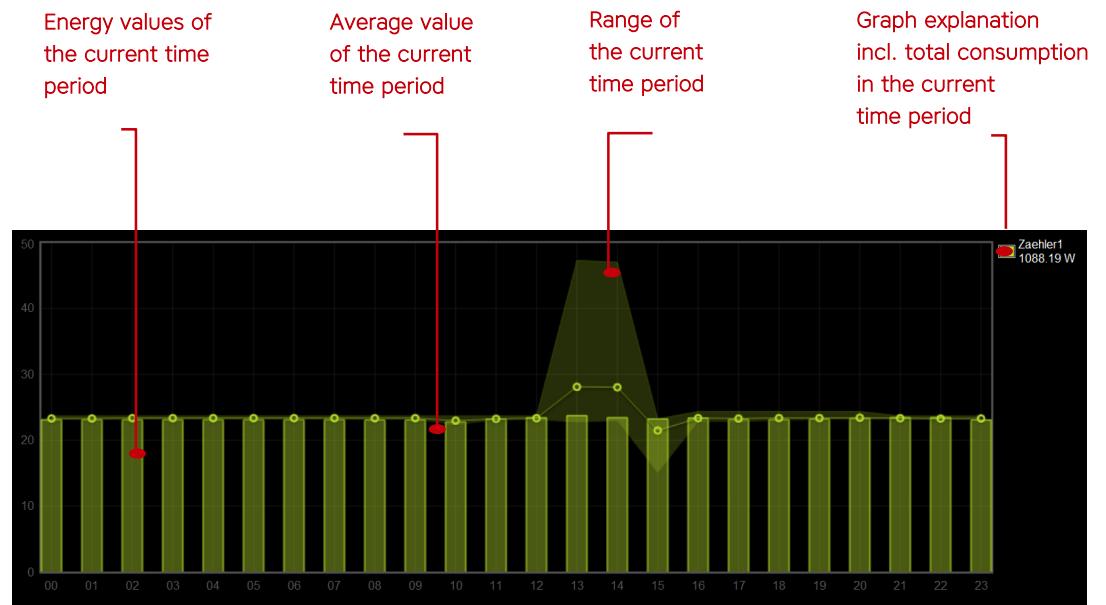
The following screenshot shows an example, in which the options "COMPARE" and "RANGE" have been disabled; in this case, only the real energy values are shown:



The lower area of the page contains the graphs of the single energy counters (batteries) from the upper area. The data shown in the graphs always refers to a certain time period, which can be selected by the user through the different TABS on the top of the page:

<b>TODAY</b>	Data of the current day (from 00:00); the comparison value – if enabled – is calculated from the average of the daily values logged
<b>YESTERDAY</b>	Data of the previous day; the comparison value – if enabled – is calculated from the average of the values logged the previous day
<b>WEEK</b>	Data of the current week (from Monday, 00:00); the comparison value – if enabled – is calculated from the average of the weekly values logged
<b>LAST WEEK</b>	Data of the previous week; the comparison value – if enabled – is calculated from the average of the values logged the previous week
<b>MONTH</b>	Data of the current month (from the first day, 00:00); the comparison value – if enabled – is calculated from the average of the monthly values logged
<b>LAST MONTH</b>	Data of the previous month; the comparison value – if enabled – is calculated from the average of the values logged the previous month
<b>YEAR</b>	Data of the current year (from the first day, 00:00); the comparison value – if enabled – is calculated from the average of the yearly values logged
<b>LAST YEAR</b>	Data of the previous year; the comparison value – if enabled – is calculated from the average of the values logged the previous year

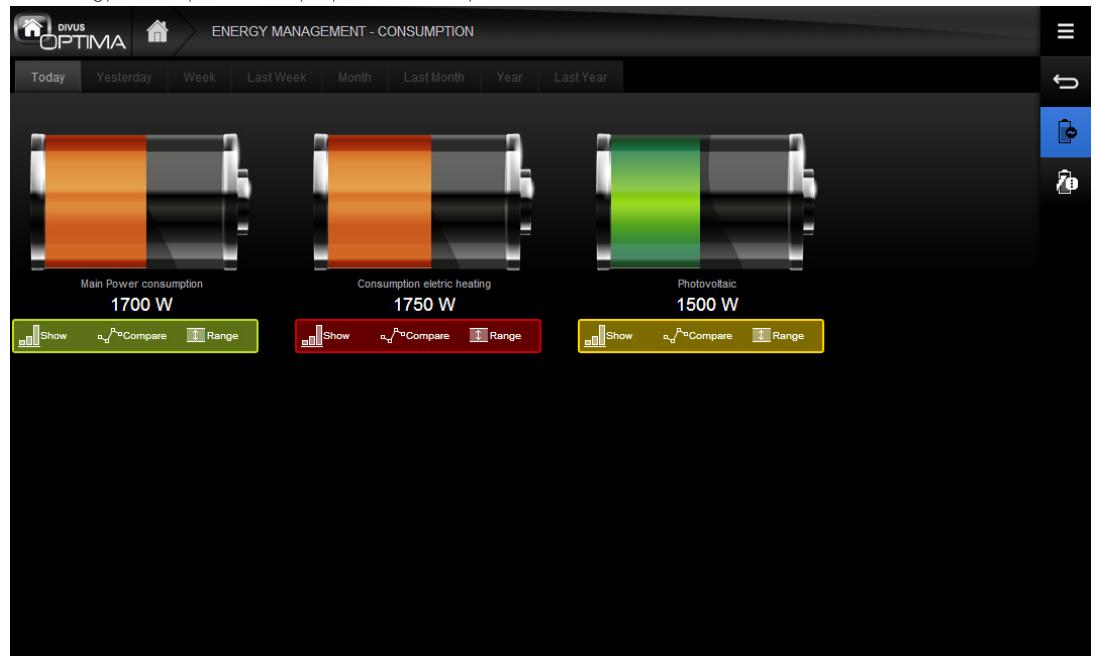
The following screenshot explains the different elements within the visualisation area of the graphs:



In order to change the order of the ENERGY COUNTERS (in which they are shown within the section CONSUMPTION), please follow the steps listed below:

- Select the entry “CONSUMPTION” under “TECHNOLOGIES → ENERGY” in the configuration area
- Click on the EDIT-button  (or the 3 dots right of the entry)
- Change the order of the ENERGY COUNTERS using the blue button, as already seen for other objects

The following screenshot shows a configuration example with 2 ENERGY COUNTERS, in which one of them shows the energy values produced by a photovoltaic system:



### 13.3.3 POWER CALCULATION

In case the electrical power should not be available as a KNX objects, it is also possible to calculate it using a VOLTAGE object and one or more CURRENT objects. To achieve this, the flag “ENABLE POWER CALCULATION” must be checked; this causes the section “SUB-OBJECTS FOR POWER CALCULATION” to become visible. Now you can follow the steps below to set up the power calculation:

- Add a VIRTUAL OBJECT to the section “SUB-OBJECTS CONNECTED TO THE ENERGY COUNTER” and define its FUNCTIONALITY as “POWER – MEASURED VALUE”; this value will be refreshed by OPTIMA every time the values of the voltage or current change.
- Now please drag the KNX objects with the voltage and current data into the section “SUB-OBJECTS FOR POWER CALCULATION” or add them in form of VIRTUAL OBJECTS using the corresponding ADD-button. The calculation is only executed when:
  - There is ONLY one object with the functionality “VOLTAGE”
  - There is at least one object with the functionality “CURRENT”



**Hint:** Normally the power calculation will use KNX objects for current and voltage; nevertheless, also here the usage of VIRTUAL OBJECTS can make double sense:

- If the voltage value is not delivered by the bus, it can be set as a constant value using a VIRTUAL OBJECT (actuators with current values not always will also provide the voltage)
- It is possible to introduce a constant power factor (as “virtual” current value) for devices which do not provide any measured data, in order to get at least an estimated consumption report.

After the configuration of the necessary objects, OPTIMA will refresh the power value automatically, just as it would come directly from the bus. This value can now either be shown in the VISUALISATION or it can be used again, through the ENERGY COUNTER, for example for the load control.

---

## 13.4 LOAD CONTROL

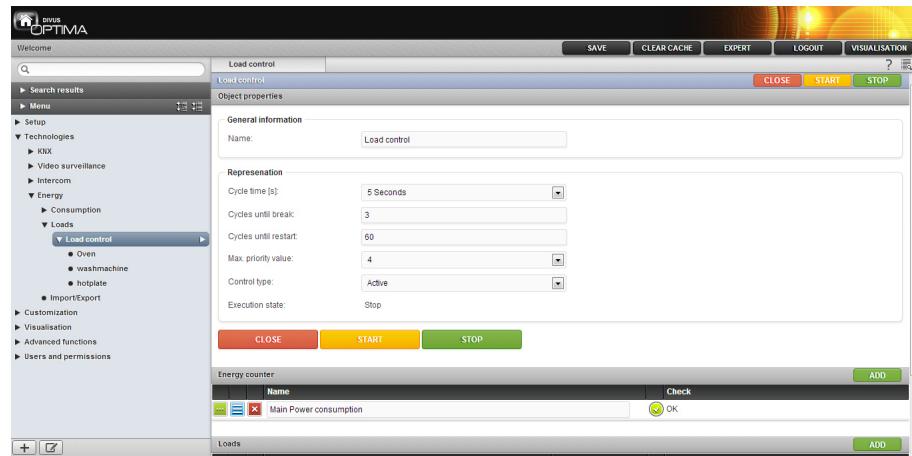
---

### 13.4.1 GENERAL SETTINGS

OPTIMA is able to control loads (consumers) in the installation and also to turn them off at elevated consumption (by configuring limits and priorities). After return to the normal consumption, the loads are activated again in reverse sequence.

OPTIMA offers an integrated load control, which can be reached in the ADMINISTRATION area by selecting “TECHNOLOGIES → ENERGY → LOADS → LOAD CONTROL”. Of course it is possible to create additional load controls, which then can be used in parallel to the standard configuration (e.g. one load control per phase in a 3-phase system).

If the pre-configured LOAD CONTROL entry is selected and its properties window is opened, you will see the following screen:



The section REPRESENTATION offers the following parameters:

#### CYCLE TIME

Time (in seconds) of the “base cycle” of the integrated load control logic. When this time expires, the loads are controlled, the configured limits are checked and eventual actions take place.

#### CYCLES UNTIL BREAK

Amount of base cycles (whose cycle time depends on the previous setting) to be executed before the logic increments the priority (and therefore turns off loads), or, in the contrary case, amount of cycles before the logic decrements the priority and switches loads back on.

#### CYCLES UNTIL RESTART

Normally a low amount of cycles is used for the break, meanwhile a high amount of cycles should be set for the restart, in order to prevent a continuous switching of loads.

#### MAX. PRIORITY VALUE

Maximum amount of handled priority values; the system will not pass the configured value, loads with higher priorities are ignored.

#### CONTROL TYPE

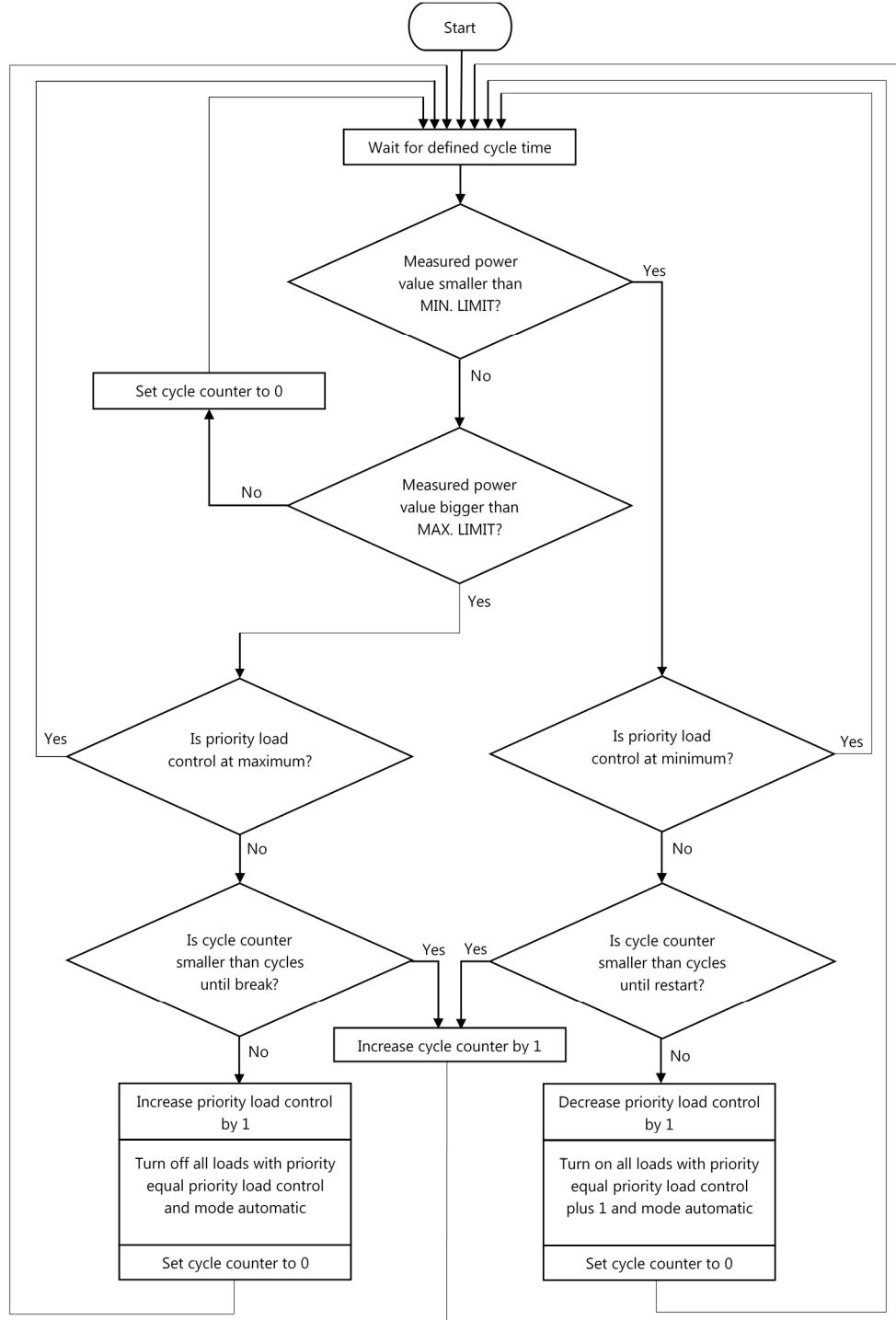
Defines whether OPTIMA is responsible for the load control (active, default setting) or if the control should be passive, which means through an external load controller. In the second case, OPTIMA is limited to the visualisation of the received information and doesn't start any actions.

#### EXECUTION STATE

Shows the state of the load control; normally this field will always show “PLAY”; nevertheless, the load control can be started and stopped using the corresponding buttons inside the properties window, for example in order to adapt changes like adding new loads.

### 13.4.2 PRINCIPLE OF OPERATION

The following flow chart shows how the load control works.



### 13.4.3 CONNECTION OF AN ENERGY COUNTER

In order to work correctly, each load control must be connected to an ENERGY COUNTER. In order to achieve this, please follow one of the steps below:

- Either use an existing ENERGY COUNTER (check out previous chapter) and drag it into the corresponding section of the load control
- Or create a new ENERGY COUNTER by using the ADD-button

In both cases the connected object is shown in the section „ENERGY COUNTER” and beneath its name also the result of an automatic control (check) is shown, which assures that the used ENERGY COUNTER was configured correctly in order to work in combination with the load control.



The following parameters must be configured correctly within the ENERGY COUNTER in order to be used as reference object:

- Power value (either directly or using the power calculation, as seen before)
- Minimum and maximum power limit, either as “static” value or as sub-objects
- Sub-object “priority”

Preferably also the sub-object “Load over limit” should be configured, which is automatically set to 1 if the logic of the load control is enabled and starts switching off loads, and is set back to 0 as soon as the total load falls back under the configured limit.

If the load control is active, the value connected as „POWER – MEASURED VALUE” within the ENERGY COUNTER is used as reference; if this value surpasses the configured limit, the load control logic is enabled (once the configured cycles expire) and increments the priority value (in idle state = „0”) to 1; as a result, all loads that have been set to this priority value will be turned off. This process is repeated as long as the total load falls back under the configured limits; until this happens, the priority value is continuously incremented and the corresponding loads are switched off.

Once the total load falls back, the load control logic will work in the opposite way: as long as the load stays within the limit, the loads are turned back on again in the inverted way, naturally always respecting the configured cycle times and amounts.



**Hint:** The load control logic uses a two-level limit in order to prevent hysteresis phenomena (continuous switching of loads); with one-level limits, the total load would fall back under the limit immediately after switching off a single load, what would just cause the logic to turn the load back on again.

### 13.4.4 CONNECTION OF ONE OR MORE LOADS

The section "LOADS" within the properties window of the load control it is possible to connect one or more ENERGY COUNTERS, which act as loads (consumers) and must be configured for all the devices that should be actively controlled by the load control logic, as described before.

- Even in this case:
- either a previously configured ENERGY COUNTER can be connected
- or a new ENERGY COUNTER can be created using the ADD-button

In the same way as for the „ENERGY COUNTER“ section, also here an automatic check is done, in order to control if all loads present the necessary settings. If this is not the case (e.g. when adding a new counter using the ADD-button), the properties window of the related counter must be opened and the missing parameters must be set.

Energy counter			
	Name		Check
	Main Power consumption		OK
Loads			
	Name	Priority	Check
	Oven	1	<input checked="" type="checkbox"/> OK
	washmachine	2	<input checked="" type="checkbox"/> OK
	hotplate	1	<input checked="" type="checkbox"/> OK

The required parameters are exactly the same as seen in the last chapter. The only difference lies in the following 2 sub-objects, which are required for the single loads:

**LOAD ON/OFF** Control object used by the load control logic in order to turn the load on or off.

This can be either a KNX object of 1bit or 2bit; in the first case, the corresponding output is just turned on or off by OPTIMA (with the risk that the state of the output might be changed by another sensor or another event of the software); in the second case a force (=priority) control of the output is executed, which brings the following 2 advantages:

#### LOAD ON/OFF

The state of the load can't be changed by other events (e.g. push buttons in the installation or the VISUALISATION of OPTIMA)

The base state of the object is not changed by the priority control, which helps avoiding erroneous control (like unwanted activation) of the loads

#### LOAD AUTO/MAN

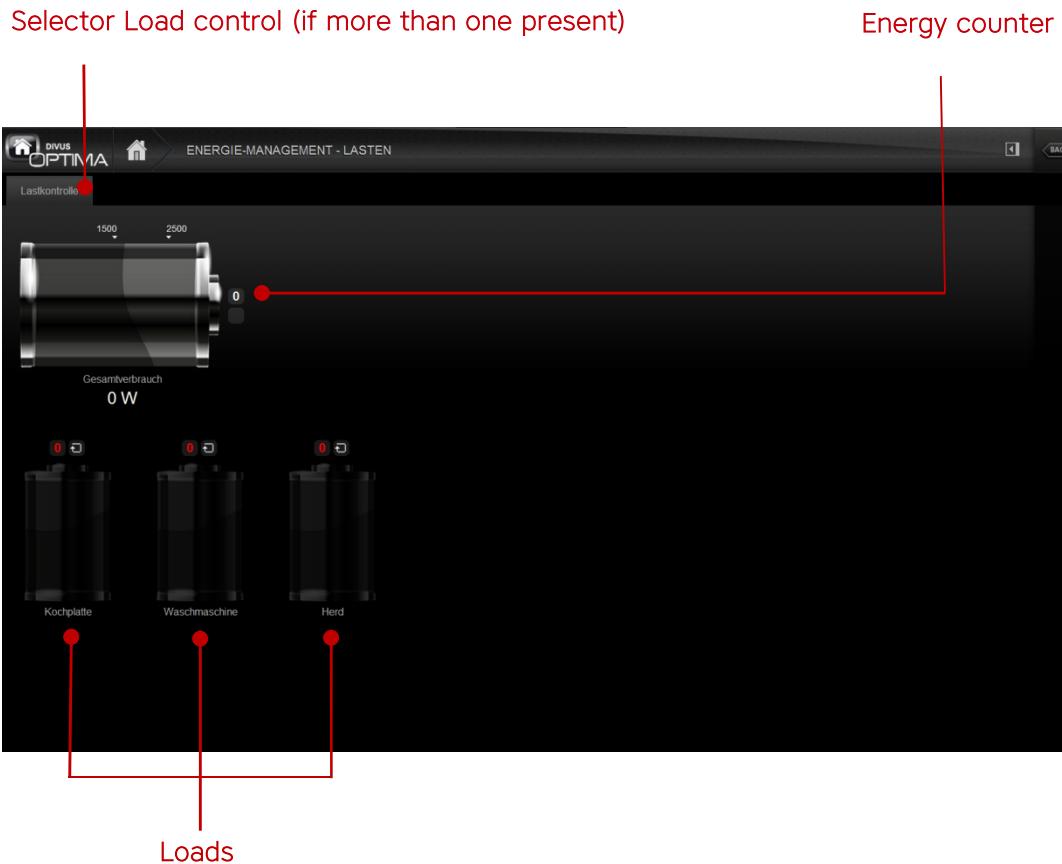
If present, this object permits the user to independently define through the VISUALISATION whether a load should be controlled by the load control (AUTOMATIC) or should permit only manual control; in the second case, the load control logic will not turn off/on the load, which can be helpful if loads should be temporarily excluded from the load control.



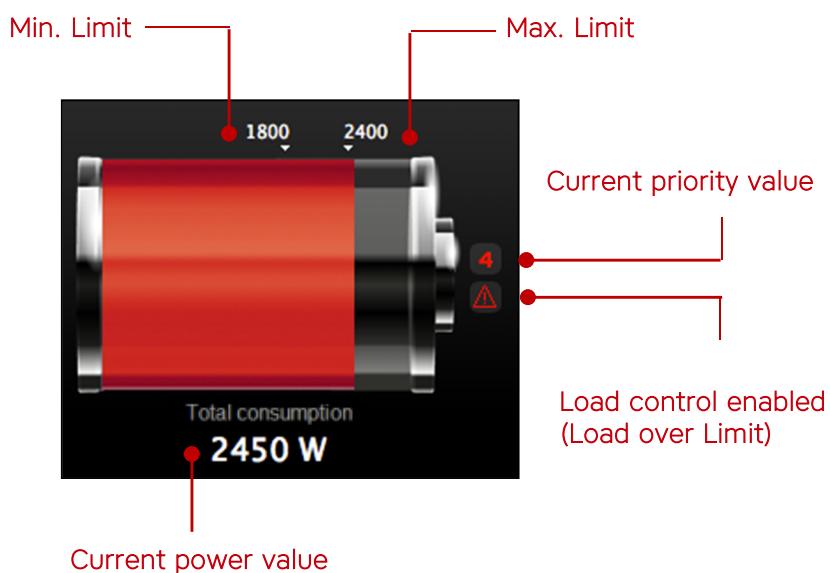
**Hint:** After making changes to the loads connected to a running load control, it is necessary that the load control is restarted using the corresponding buttons in its properties window. Only in this way the changes will be taken over.

### 13.4.5 REPRESENTATION IN THE VISUALISATION

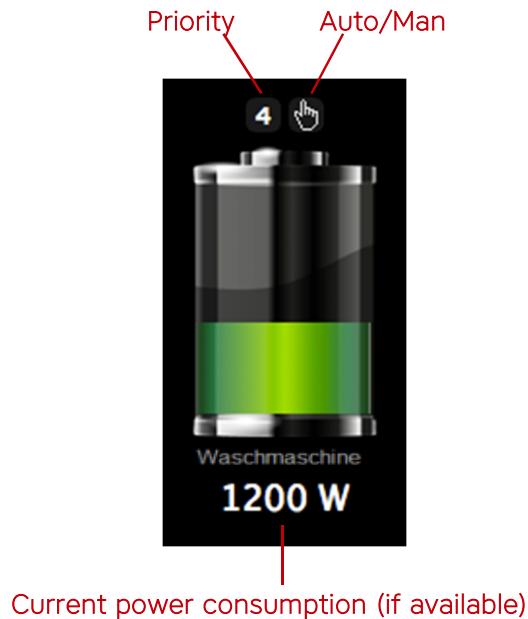
At completed configuration of a load control, the user can find it in the VISUALISATION in the section "LOADS" (by selecting the entry "ENERGY" from the NAVIGATION MENU):



The energy counter in detail shows the following information:

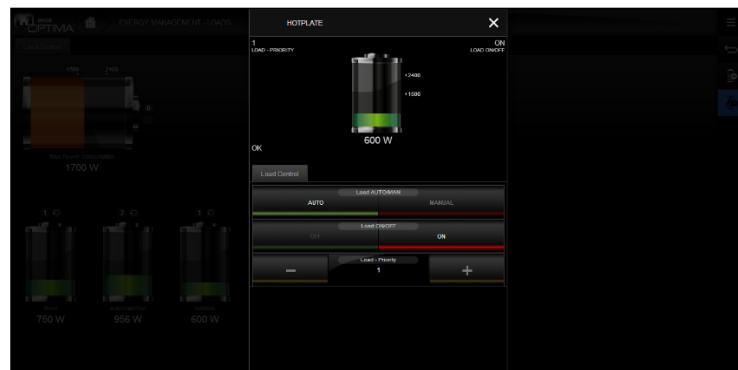


The loads instead are shown in the following way:

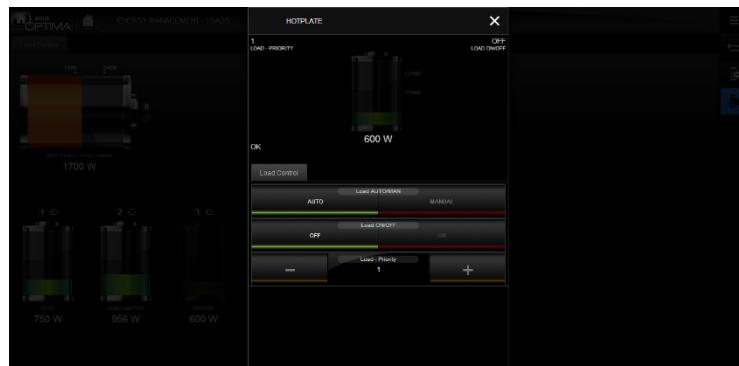


Even in this case a click on the "batteries" will open a pop-up window, which permits to adapt the settings of the load control; furthermore, additional details regarding the general consumption or the single loads / consumers can be viewed.

If the ENERGY COUNTER is clicked, it is e.g. possible to adapt the limits of the load control:

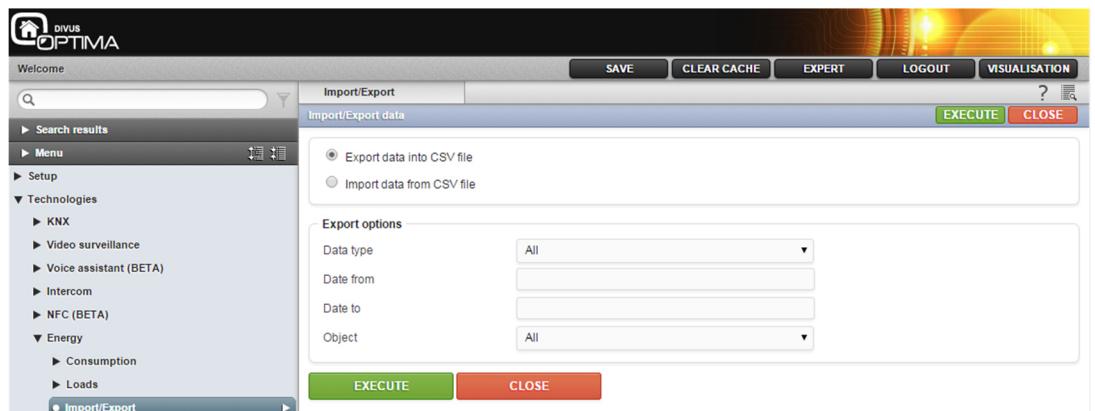


If a load is clicked, it is possible to modify parameters like the priority of the load or the operating mode (AUTO/MAN) and it is possible to control the load manually:



### 13.5 IMPORT/EXPORT

Here you may export or import data related to your power plant measurings (measured through KNX devices or approximated through virtual objects which simulate your power consumptions/productions):



- To import, chose the import radio button, choose the CSV file to load and press the EXECUTE button.
- To export, chose the export radio button which reveals a set of related options; not making specific choices will export everything. The EXECUTE button will start the export process.

Optima offers the possibility to export the data logged through its data-logging module directly by calling a URL. This may be useful if you want to regularly export the data to save it and/or to analyze it through specialized software. The special URL for this task can be customized by changing the parameters contained in its so called query string. The general form of such an URL is this:

```
http://IPADDRESS/smartdomuspad/modules/reporting/track_import_export.php?op=export&language=LANGUAGE&interval=INTERVAL&object_id=XXX
```

You may refer to the following table for the explanation of the parameters

IPADDRESS	If IP address of the OPTIMA device
LANGUAGE	used for the labels of the export data, to be written in English (e.g. english, german, italian)
INTERVAL	possible values are: today, yesterday, week, week-prev, month, month-prev, year, year-prev
XXX	the ID of one single object whose values are being logged and which you want to export into a file. Default is to export all data, so you should completely remove this parameter if you wish to export everything. It is not possible to choose multiple IDs at once.

A URL configured this way may also be used with a Link (see chap. 10) inserted into one or more rooms, offering the user the possibility to manage his collected data autonomously.

Here some examples:

*Export the data of object with ID 1234 regarding yesterday in English from my server with IP address 192.168.0.110:*

`http://192.168.0.110/smartdomuspad/modules/reporting/track_import_export.php?op=export&language=english&interval=yesterday&object_id=1234`

*Export from my server 192.168.2.210 all data of last year in German:*

`http://192.168.2.210/smartdomuspad/modules/reporting/track_import_export.php?op=export&language=german&interval=year-prev`

# 14 Extended Customization

## 14.1 FUNCTIONS / SYMBOLS

The function of an object defines its symbol(s) and options within the VISUALISATION and determines the interaction possibilities of the user. OPTIMA offers a huge standard function library, which can be customized and extended by the user, as described on the next pages.

### 14.1.1 LIST OF FUNCTIONS / SYMBOLS

In order to customize the functions / symbols, please access the configuration area and select “CUSTOMIZATION → CUSTOM SYMBOLS/FUNCTIONS”. The following page will be shown:

	Name	Object types	Length	Values	Level
Lock/unlock	KNX object	1 bit		0.Lock, 1:Unlock	User
Operation mode motion detector	KNX object	1 bit		0.Light, 1:Alarm	User
Heating Valve %	KNX object	1 byte		0.0% ... 100.100%	User
Copy Operating mode(no AUTO)	KNX object	1 byte		1:Com, 2:Pre, 3:Eco, 4:Off	User
RGB_Tristate	KNX object	1 byte		0:Off, 1:Red, 3:Yellow, 4:Green	User
Condition	Conditions			0:LOGIC = FALSE, 1:LOGIC = TRUE	System
Multifunction - Zone	Complex Object				System
Color temperature	Complex Object				System
Dimmer generic	Complex Object				System
RGB	Complex Object				System
Shutters up/down/percentage	Complex Object				System
Shutters up/down/stop	Complex Object				System
Thermostat with operating mode	Complex Object				System
Weather station	Complex Object				System
Shutters	Complex Object				System
Generic	Complex Object				System

Die Auflistung der Funktionen zeigt folgende Spalten an:

<b>NAME</b>	Name that identifies the function within the software and also is shown in the drop down menus within the properties page of the objects.
<b>SYMBOL</b>	Symbol of the function, is normally used for preview purposes, in order to simplify the selection of the correct function.
<b>OBJECT TYPE</b>	Object type, to which the function can be assigned (e.g. KNX object, scenario, ...)
<b>LENGTH</b>	if provided (e.g.: KNX objects), this column shows the data length of the supported objects.

**VALUES** if provided, this column shows the possible values of the function.

**LEVEL** Indicates whether the function is part of the default library (SYSTEM) or if it was created manually (USER).

The buttons on the left side allow to execute the following operations:

- |   |  |
|---|--|
|  <b>EDIT</b>   | Opens the properties window of the function and permits to edit various parameters.<br>This operation can only be executed on functions of level USER. |
| <hr/>   |  |
|  <b>CLONE</b>  | Deletes the function from the database.<br>This operation can only be executed on functions of level USER.   |
| <hr/>   |  |
|  <b>DELETE</b> | Deletes the function from the database.<br>This operation can only be executed on functions of level USER.   |



**Hint:** In order to create a new customized function, you will always have to start by creating a copy of an existing standard function using the CLONE-button. It is recommended to start from the standard function most similar to the function to be created, in order to keep the necessary customizations as small as possible.

#### 14.1.2 CREATION OF A CUSTOMIZED FUNCTION

The following screenshot shows the properties page of a function that was created by cloning the standard function "LIGHT ON/OFF":

Folgende Parameter können bearbeitet werden:

<b>NAME</b>	Name which identifies the function
<b>ALLOWED VALUES</b>	Here can be defined whether the function should dispose of a set of options ("OPTION LIST") or of a range of values between a configurable maximum and minimum value („VALUE RANGE").
<b>MINIMUM</b>	If "VALUE RANGE" has been selected, these fields must be used to determine the minimum and maximum values as well as the step size, in which the values should be changed. The step value also defines the accuracy, in which the values of the function can be changed in the VISUALISATION using the „+/-“ buttons (for example steps of 5, of 10,...).
<b>MAXIMUM</b>	
<b>STEP</b>	
<b>OBJECT TYPE</b>	The object type for the function can be defined here (e.g. KNX object, condition, ...)
<b>FILTER</b>	If the previously selected object type provides it, this field permits to configure an additional object filter (like for example the data length).  In case of KNX objects you can define the length of the KNX telegrams (in bit/byte, corresponding to the DPTs).
<b>FUNCTION</b>	Here can be defined the category (FUNCTION) that an object needs to be connected with, in order to be able to select the current function from the symbol pop-up window.
<b>ICON</b>	Permits to assign a graphical symbol to the function; this can either be an icon from the standard library or a custom icon, uploaded from your PC.  Hint: functions that work with an OPTION LIST will use this symbol only for preview purposes, since the symbols of the function itself are defined through the option list and therefore must be defined for every single option (please check out the next section).  Hint: If customized pictures should be uploaded, it should be ensured that their format is *.png and their size is 50x50 pixels. If the symbol should be used in the background view mode with the "small icons" option enabled, it is recommended to make the picture still with a size of 50x50 pixels, but to use only the central 24x24 pixel area. See below for further details.
<b>FORMATTING</b>	Permits to format the numeric values of the function; the formatting is realized through so called "printf – placeholders, like for example: <ul style="list-style-type: none"><li>• %s → String without formatting (used if field is left empty)</li><li>• %0.2f → Numeric value with 2 decimal positions</li><li>• %s kWh → String with unit "kWh"</li><li>• %s %% → String, followed by the character "%"</li></ul> Further information regarding the formatting can be found in chapter 5.5.1 of this manual.  Hint: this parameter can only be used for functions with VALUE RANGE

**VISIBLE**

Here can be defined whether the function should be visible inside the selection drop down menu (in the properties page of an object) or not.

**14.1.3 UPLOAD OF CUSTOM ICONS**

When the currently selected icon is clicked, the following small window opens:



Through the „UPLOAD“ button you can choose an icon file to upload. Please follow this rules to have a flawless behavior of the new icons, thus being able to use them wherever you can use OPTIMA’s default set of icons:

**Image type:** PNG (Portable Network Graphics)

This image type supports lossless compression as well as transparent backgrounds. No other image types are supported for this purpose.

**Resolution:** 50 x 50 pixel

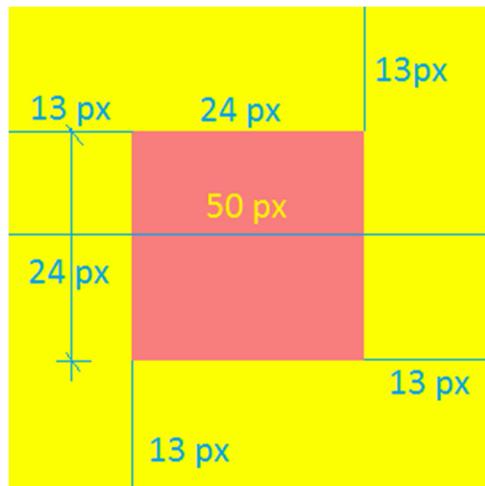
The image should be a square. In any case, the longer side should not be larger than 50 pixel. Also see design.

**Naming:** the following table shows how the files should be named for OPTIMA to recognize them and show them in the right places:

CATEGORY	PREFIX FOR FILENAME
ROOMS	ico_environment_ (for example ico_environment_fitness.png)
CAMERAS	ico_camera_ (for example ico_camera_odcam1.png)
Andere Kategorien	ico_ (for example ico_special-device.png)

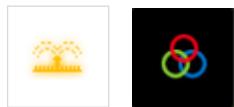
So generally icons should have the “ico\_” prefix in their filenames – plus the special cases shown above.

**Design:** the following scheme shows the optimal dimensions of an icon for OPTIMA



The dimensions are 50x50 pixel externally. In order to be published correctly with both normal and small icons (see chapter 4.4.4), the graphical content should occupy only the inner, red area measuring 24x24 pixel.

That means it should have a border of 13 pixels in any direction. Here are some examples:



**Transparency:** to perfectly integrate on any background (color), the icons should have a transparent background as you can see e.g. in the icons above, where the white background of the first icon and the black background of the second are not part of the images but the background color.



**Hint:** The prepared and uploaded icons will only be available inside the currently used theme (see chapter 4.1)! Therefore, if you should change theme afterwards you will not find your custom icons, but you may of course upload them also there.



**Hint:** Please be aware that the current version of OPTIMA does not save your custom icons with its backup routines. To prevent problems you should therefore keep a folder with all the uploaded icons on your pc.

#### 14.1.4 OPTION LIST OF A FUNCTION

If the function uses the OPTION LIST, through the section "OPTIONS" in the lower area of the properties page it is possible to configure the single states of the function. Every single state / option offers the following parameters:

<b>LABEL</b>	Label, used to show the current value of the function in text format (e.g. "on", "off", "open", "close",...)
--------------	--

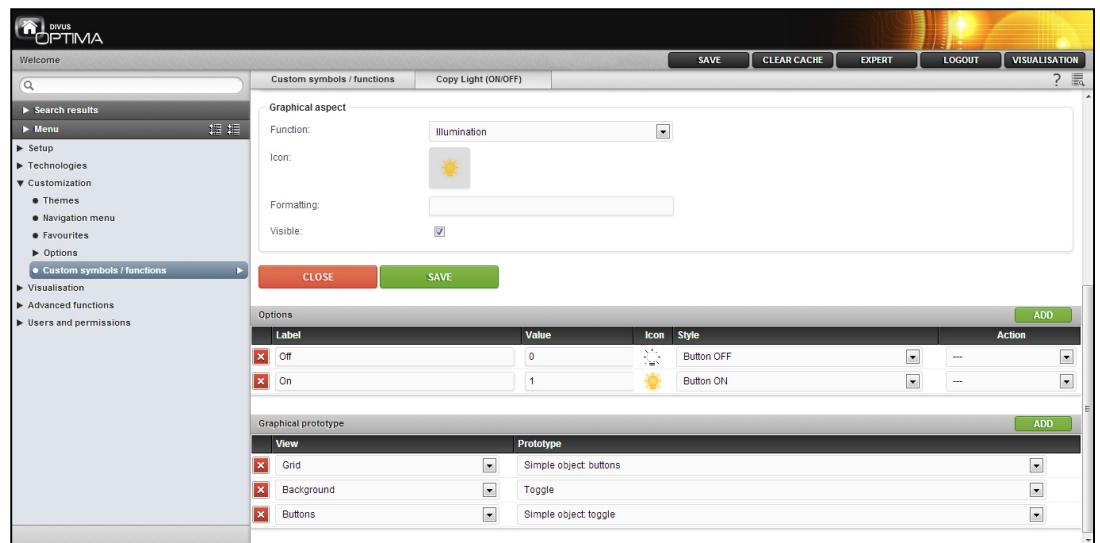
---

<b>VALUE</b>	Numeric value, corresponding to the state of the current option (e.g. 1,0)
--------------	--

**ICON** Symbol, used to show the current value of the function in graphical format. This can either be a symbol of the standard library or an own symbol, uploaded from your PC.

**STYLE** Here can be defined the style of the buttons of the function. This parameter is applied only to the BUTTONS of the function in BACKGROUND and GRID view. Functions that don't use buttons (e.g. all functions using a slider, a text field, „+/-“ buttons, etc.) do not require this parameter.

**ACTION** Permits to select a specific action that should be executed for the current option. Normally it is not necessary to insert any value, since the function will select the correct action on its own, depending on the previously configured object type. So please keep this field empty.



New options can be created using the ADD-button. By doing so, the value of the new option will just be incremented; naturally you can still change the value on your own. The red button on the left side permits to delete options permanently.

#### 14.1.5 GRAPHICAL PROTOTYPES

Finally, the function must be connected to one or more graphical prototypes. Those objects contain the basic HTML definition, over which the representation of the function within the VISUALISATION (in the different view modes and in the pop-ups) is realized. Different functions can also use the same prototypes within the same page; just take as example the different light functions (standard lamp, floor lamp,...), which are presented in the same way (same prototype),but use different symbols.

The section at the bottom of the properties page of the function is used for the connection of the prototypes for the different view modes. Those view modes are:

**GRID** Defines the representation of the objects in ROOMS using the GRID view, in the FUNCTION pages and in the FAVOURITES page.

**BACKGROUND** Defines the representation of the objects in ROOMS using the BACKGROUND view.

**BUTTONS**

Defines the representation of the objects in ROOMS using the BUTTONS view.

**POP-UP**

Defines the representation of the objects within pop-up windows; this view mode can only be used for complex objects.

After the selection of the desired view mode, a drop down menu permits to select one of the available prototypes, in order to adapt the function in the best way to the own needs.



**Hint:** A function can't be shown correctly within a room or a pop-up window if the corresponding graphical prototypes for the respective view mode were not connected before. If a function is cloned, the copy is automatically connected to the graphical prototype of the original. Therefore it is normally not necessary to make adaptations in this section. Nevertheless, the control of this section is always recommended since the lack of the prototype can lead to unsightly representation problems in the VISUALISATION.

# 15 Users

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## 15.1 INTRODUCTION

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In this chapter the user management of OPTIMA is explained and the possibilities of personalization of each user are presented, which allow a safe and convenient use of the VISUALISATION.

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## 15.2 USERS AND USER GROUPS

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The authentication on OPTIMA is defined through 2 different object types:

- USER: these objects represent the accounts for accessing the VISUALISATION; the authentication is done by entering user name and password, configured for each USER in OPTIMA. Every USER must belong to a USER GROUP, so that they get certain access permissions (for example: see the whole VISUALISATION, but no access to the ADMINISTRATION area);
- USER GROUP: A USER GROUP has several access permissions assigned. Each USER of a USER GROUP automatically gets the access permissions defined for the USER GROUP.

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## 15.3 CREATE NEW USERS

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In order to create a new user, proceed as listed below:

- Open the ADMINISTRATION area
- Select “USERS AND PERMISSIONS → USERS”
- Click the NEW / ADD-button

The following settings will be available for each USER:

<b>NAME</b>	Identifies the USER inside the OPTIMA database (not used for the login)
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<b>USERNAME</b>	Username for the authentication on the system – must be at least 4 characters long (alphanumeric characters only)
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<b>PASSWORD</b>	Password for the authentication on the system – must consist of alphanumeric characters only
<b>TRUSTED IP</b>	Optional – enables the automatic authentication on the system when the VISUALISATION is accessed on a PC with the IP address specified here. Use only if the IP is a static address!

---

Once you have created a new USER, it must be assigned to a USER GROUP to receive the desired access permissions. Simply drag the desired USER GROUP into the area "USER GROUPS TO WHICH THE USER BELONGS".

Furthermore it is possible to connect the user to events; they permits to execute the following actions on every client device that is currently logged in with the selected user:

- PAGE JUMP: permits to create a page jump to a certain page on all client devices currently running with the selected user (page jump within the browser on default clients and within the app on mobile clients)
- VOIP CALL: permits to start a VoIP call towards all devices currently running with the selected user

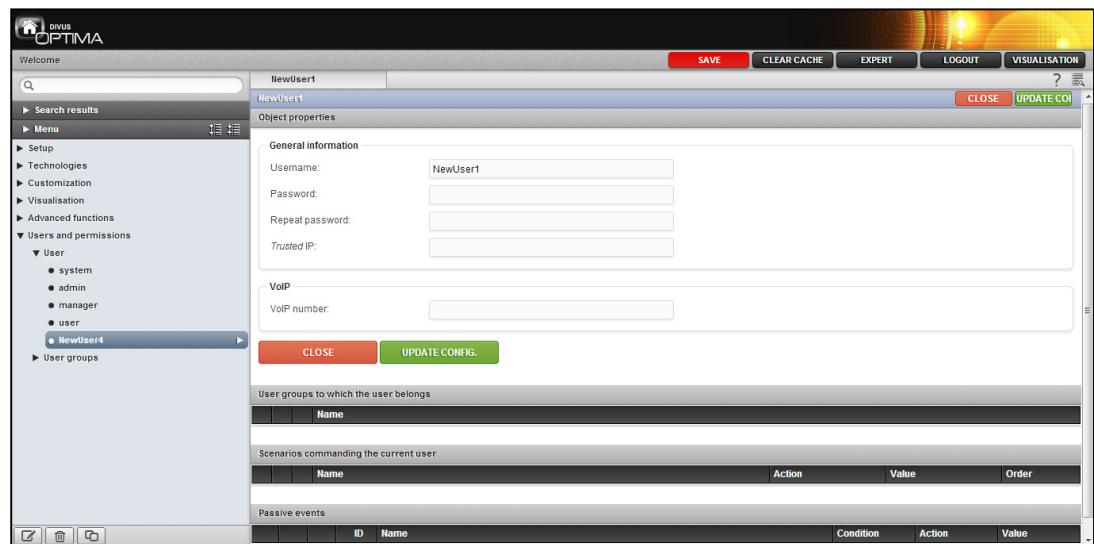
In order to configure a PAGE JUMP, please follow the instructions below:

- Drag the object that should cause the page jump (e.g. a KNX object) into the section „PASSIVE EVENTS”
- Define the CONDITION that should trigger the page jump (the available options depend on the previously selected object)
- Please select “REDIRECT” as ACTION

Now use the column VALUE in order to define the target page, which could be:

- Either an external web page (homepage, web server, etc.)
- Or a ROOM of the software

In the first case it is sufficient to insert the URL of the desired page into the text box. In the second case instead, the text box can be changed into a drop zone using the red button; now a ROOM can be selected using the search function and can be dragged into the drop zone. The following screenshot shows an example configuration, in which the room "ALARM CENTRAL" should be opened at every condition change of the object "ALARM", in fact exclusively on the client devices that are currently running with the chosen user:

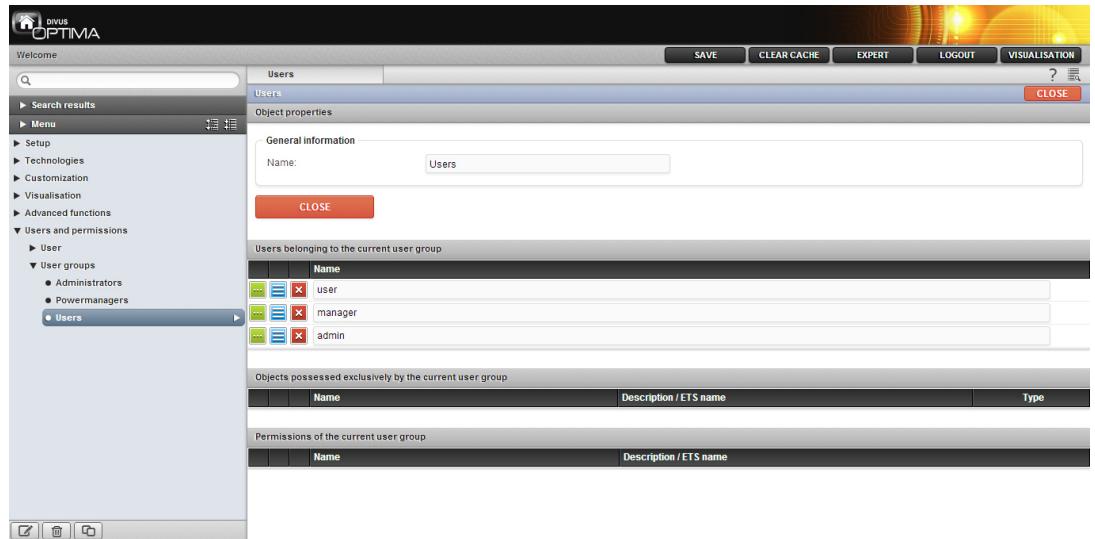


**Hint:** The configuration of EVENTS for single USERS is very similar to the configuration of EVENTS for objects of type CLIENT (please refer to chapter 11.7 of this manual); meanwhile in that case events are limited to one client device, in case of the user the events are executed on all client devices on which the user is currently logged in.

The configuration of an EVENT of type VOIP CALL is described in the OPTIMA INTERCOM MANUAL.

## 15.4 USER GROUPS AND PERMISSIONS

Through the properties window of an USER GROUP it is possible to define - beside its name - the different users that should belong the group; even here the users can be localized over the search function and then connected to the section "USERS BELONGING TO THE CURRENT USER GROUP" via drag & drop:



Furthermore, each USER GROUP can be connected to one or several objects of the VISUALISATION; this has to the consequence that these objects from now on belong to the USER GROUP and consequently can only be seen by users that belong to the chosen group. The allocation of objects takes place over the search function, using drag & drop into the section "OBJECTS POSSESSED EXCLUSIVELY BY THE CURRENT USER GROUP".



**Hint:** After the allocation of an object to a USER GROUP, the object won't be visible / accessible to users of other groups any longer. Therefore is very important to pay attention on how objects are assigned to groups, in order to avoid situations in which certain objects or even rooms become inaccessible. For this reason, it is recommended to connect such objects not only to the desired USER GROUP, but also to the ADMINISTRATOR group; in that way it is at least guaranteed, that the "admin" user will always keep access to all kind of objects.

# 16 Remote access

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## 16.1 INTRODUCTION

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This chapter explains how to configure the network for allowing remote access to OPTIMA and therefore be able to check out the VISUALISATION also from outside of the building.

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## 16.2 REMOTE ACCESS THROUGH INTERNET

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To enable the remote access to OPTIMA through internet, please follow the steps below:

- The parameter "GATEWAY" in the network settings of OPTIMA must be set to the IP address of the installed internet router
- The configuration of the installed internet router must be changed and a Port-Forwarding rule to the IP address of the installed KNXCONTROL device on port 443 and 22 (data type "TCP") must be created.

If the ports 443 or 22 are already used for other remote accesses, then the port forwarding can be realized through other ports, where the external ports must be forwarded to the IP address and the ports 443 and 22 of the installed KNXCONTROL device.

Example: access through URL <https://www.myUrl.com:1443> port 1443 of the internet router must be forwarded to the IP address and port 443 of the installed KNXCONTROL device).

For detailed information on setting up a Port Forwarding rule, please refer to the documentation of the installed internet router.

# 17 Product specific characteristics

In this chapter are described the functions of OPTIMA, that are available only on specific products of the KNXCONTROL series.

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## 17.1 KNXSERVER

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KNXSERVER is a small Box-PC that can be mounted on DIN rail. The device has therefore no screen to display the visualisation of OPTIMA directly, and each access has to be made remotely over client devices.

Technical information about KNXSERVER can be found in the corresponding INSTALLATION GUIDE or DATASHEET.

### 17.1.1 URL

The following table shows the whole URL for the direct access to the different areas of OPTIMA:

AREA	URL
VERWALTUNG	<a href="http://192.168.0.110/knxserver/modules/system/externalframe.php?context=configuration">http://192.168.0.110/knxserver/modules/system/externalframe.php?context=configuration</a>
VISUALISIERUNG	<a href="http://192.168.0.110/knxserver/modules/system/externalframe.php?context=runtime">http://192.168.0.110/knxserver/modules/system/externalframe.php?context=runtime</a>

### 17.1.2 RESET OF THE IP ADDRESS

If needed, the IP address of KNXSERVER can be reset to factory settings through the RESET-button on the bottom side of the device:

- Localize the RESET-button on the device and get a screw driver or a similar tool with a small diameter to reach the RESET-button through the small cutout in the housing of the device.
- Press the RESET-button until the SERVICE-LED starts blinking (about 10 seconds); afterwards release the RESET-button.
- Press the RESET-button again within the next 5 seconds for max. 2 seconds and then release the button again; after a short pause the SERVICE-LED stays on for some seconds.
- As soon as the SERVICE-LED turns off, KNXSERVER is reachable under the factory-IP address ("192.168.0.110")

If the SERVICE-LED stops blinking after the RESET-button was pressed for the first time (10 seconds) and before you were able to press the RESET-button again, please repeat the whole procedure.

### 17.1.3 RESET OF THE DATABASE AND IP ADDRESS

If needed, the database and the IP address of KNXSERVER can be reset to factory settings through the RESET-button on the bottom side of the device:

- Localize the RESET-button on the device and get a screw driver or a similar tool with a small diameter to reach the RESET-button through the small cut-out in the housing of the device.
- Press the RESET-button until the SERVICE-LED starts blinking (about 10 seconds); afterwards release the RESET-button.
- Press the RESET-button again within the next 5 seconds and hold it until the SERVICE-LED turns off.
- Now KNXSERVER is restarting, after 2 minutes the server is reachable under the factory-IP address ("192.168.0.110").
- On the first access after the reset procedure a system check is executed; this takes some minutes.
- Afterwards the database is empty and the device is ready for use.

If the SERVICE-LED stops blinking after the RESET-button was pressed for the first time (10 seconds) and before you were able to press the RESET-button again, please repeat the whole procedure.

### 17.1.4 HIDE NAVIGATION AREA

It is possible to show the visualisation pages of OPTIMA even without the graphical navigation area (title bar, navigation bar, toolbar). In order to enable this, please add one (or more) of the following expression into the address bar of the browser:

**SKIPHEADER=TRUE** Hide title bar (on top)

---

**SKIPMENU=TRUE** Hide navigation bar (on the right side)

---

**SKIPFOOTER=TRUE** Hide toolbar (on the bottom)

---



**Attention!** When inserting the expressions into the address bar of the browser, please pay attention that the inputs are case sensitive!

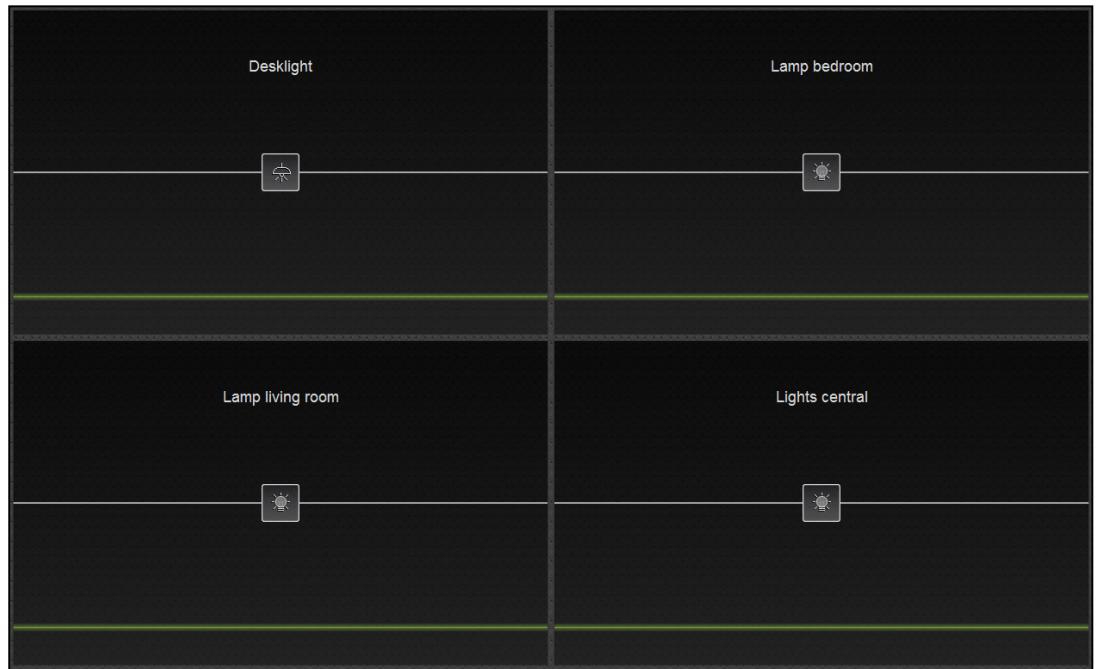
Furthermore, the expressions must be inserted following the typical directives for web parameters:

- The first entry must be led by the character "?"
- Following entries must be separated by the character "&"

**Example:**

```
http://192.168.0.110/knxserver/modules/system/externalframe.php?context=runtime&skipmenu=true&skipheader=true&skipfooter=true
```

The following screenshot shows a visualisation page in template view (will be explained in the further chapters of the manual) with 4 buttons, with disabled navigation area:



This special way of representing the pages of OPTIMA can be created thanks to the template view, which permits to create pages with limited access (max. 8 objects) that do not permit to access other areas of the visualisation.

**Hint:** Without navigation area it is not possible to access all areas of the visualisation. Please consider this during the creation of the visualisation and BEFORE enabling this kind of visualisation!

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## 17.2 KNXSUPERIO

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KNXSUPERIO is a Touch-PC with integrated display, to display the visualisation of OPTIMA directly on the device itself. Additionally it is possible to access the visualisation using (remote) client devices.

Technical information about KNXSUPERIO can be found in the corresponding INSTALLATION GUIDE or DATASHEET.

### 17.2.1 URL

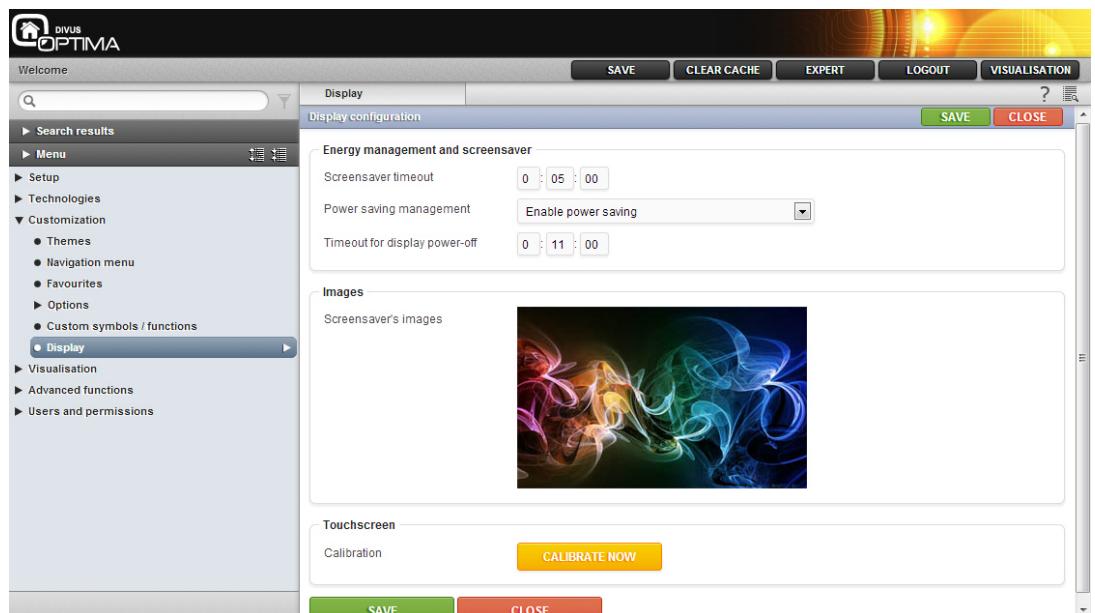
The following table shows the whole URL for the direct access to the different areas of OPTIMA:

AREA	URL

ADMINISTRATION	<a href="http://192.168.0.110/knxsuperio/modules/system/externalframe.php?context=configuration">http://192.168.0.110/knxsuperio/modules/system/externalframe.php?context=configuration</a>
VISUALISATION	<a href="http://192.168.0.110/knxsuperio/modules/system/externalframe.php?context=runtime">http://192.168.0.110/knxsuperio/modules/system/externalframe.php?context=runtime</a>

### 17.2.2 DISPLAY

In the section "CUSTOMISATION DISPLAY" all the settings for the display of your KNXSUPERIO can be configured and also the touchscreen calibration can be started.



#### 17.2.2.1 POWER MANAGEMENT AND SCREENSAVER

The following options are available:

##### SCREENSAVER TIMEOUT

If for the defined timeout the touchscreen of KNXSUPERIO is not operated, the screensaver function will start.

##### POWER SAVING MANAGEMENT

This enables / disables the power saving mode. If the power saving mode is turned on, the display of KNXSUPERIO will be powered off, if for a defined timeout the touchscreen of the device is not used.

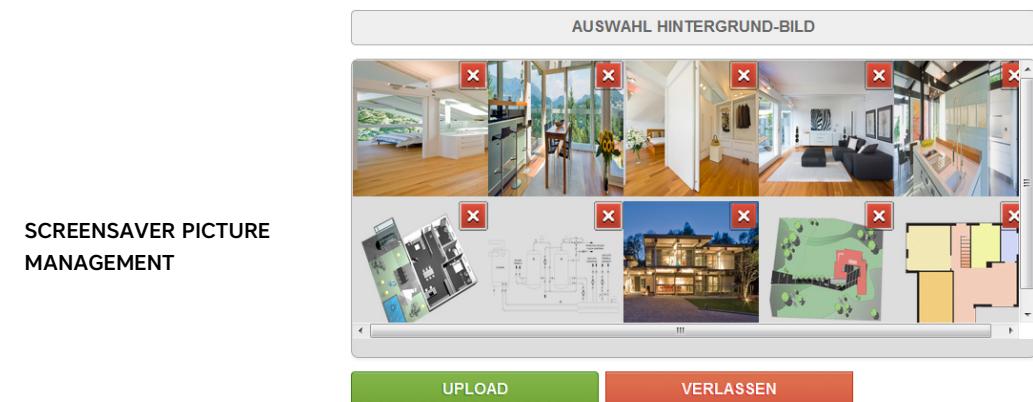
##### TIMEOUT FOR DISPLAY POWER-OFF

If the power saving mode is enabled, this field permits to set the timeout after which the display should be turned off, if not operated.

The settings will be saved correctly only when the „SAVE“-button is pressed. The graphical surface of KNXSUPERIO will be restarted as soon as the „SAVE“-button is pressed; this procedure can take up to 1 minute.

#### 17.2.2.2 IMAGES

Through this option custom images can be uploaded to KNXSUPERIO for being used from the integrated screensaver.



Through the „UPLOAD“-button further pictures can be uploaded to KNXSUPERIO. Through the “X”-button the corresponding picture can be removed from KNXSUPERIO.

#### 17.2.2.3 TOUCHSCREEN

Through the calibration the touchscreen can be optimized for the customer:

##### CALIBRATION

A single click on the button „CALIBRATE NOW“ starts the calibration procedure on the display of KNXSUPERIO. During this procedure, 4 crosses appear on the display of KNXSUPERIO, which must be pressed by the customer one after another. Once all crosses have been pressed, the calibration process is done.



**HINT:** The calibration process can be started only from the administration menu, which is accessible only by a remote PC (desktop PC/ notebook). This permits to start the calibration even when the touchscreen can't be used anymore, e.g. because of a wrong calibration.

#### 17.2.3 RINGTONES

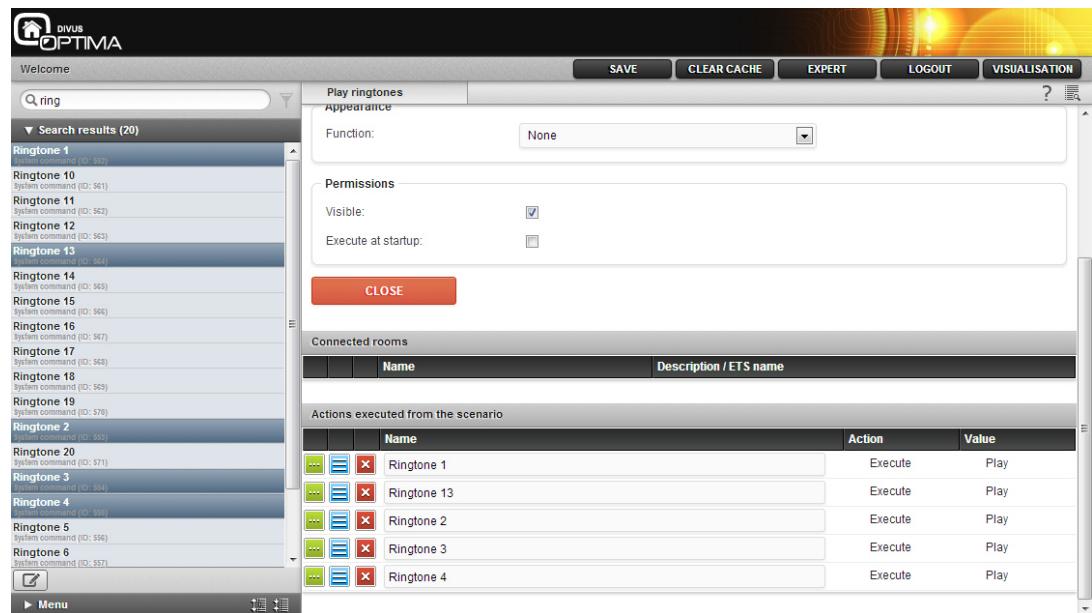
On KNXSUPERIO OPTIMA provides the possibility to play acoustic signals called "ringtones", which can be triggered through scenarios.

With the following steps the playback of the ringtone can be configured:

- Access the ADMINISTRATION area

- Use the search engine to search for „ringtone“, as result all 20 ringtones are displayed
- Create a new scenario and open it in a new tab
- Add the desired ringtones o the actions executed by the scenario using drag & drop.

Ringtones can only be played directly on the loudspeaker of KNXSUPERIO, not on other client devices that are connected to KNXSUPERIO. The playback is only possible through scenarios. So first a scenario must be created, then the ringtones can be added to the scenario and the event, which will start the playback of the ringtones, can be defined.



For more detailed information about scenarios in OPTIMA, please refer to chapter 9 of this manual.

# 18 Appendix

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## 18.1 RECYCLING INFORMATION

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**English**

Information on Disposal of Old Electrical and Electronic Equipment (applicable for EU countries that have adopted separate waste collection systems)

Products with the symbol (crossed-out wheeled bin) cannot be disposed as household waste.

Old electrical and electronic equipment should be recycled at a facility capable of handling these items and their waste by products. Contact your local authority for details in locating a recycle facility nearest to you. Proper recycling and waste disposal will help conserve resources whilst preventing detrimental effects on our health and the environment.

**Deutsch**

Entsorgung von gebrauchten Elektrischen und Elektronischen Geräten (anzuwenden in den Ländern der Europäischen Union und anderen europäischen Ländern mit einem separaten Sammelsystem für solche Geräte)

Das Symbol (durchgestrichene Mülltonne) auf dem Produkt oder seiner Verpackung weist darauf hin, dass dieses Produkt nicht als normaler Haushaltsabfall behandelt werden darf, sondern an einer Annahmestelle für das Recycling von elektrischen und elektronischen Geräten abgegeben werden muss. Durch Ihren Beitrag zur korrekten Entsorgung dieses Produktes schützen Sie die Umwelt und die Gesundheit Ihrer Mitmenschen. Unsachgemäße oder falsche Entsorgung gefährden Umwelt und Gesundheit. Weitere Informationen über das Recycling dieses Produktes erhalten Sie von Ihrer Gemeinde oder den kommunalen Entsorgungsbetrieben.

**Italiano**

Informazioni sullo smaltimento delle vecchie apparecchiature elettriche ed elettroniche (valido per i paesi europei che hanno adottato sistemi di raccolta separata)

I prodotti recanti il simbolo di un contenitore di spazzatura su ruote barrato non possono essere smaltiti insieme ai normali rifiuti di casa. I vecchi prodotti elettrici ed elettronici devono essere riciclati presso un'apposita struttura in grado di trattare questi prodotti e di smaltirne i loro componenti. Per conoscere dove e come recapitare tali prodotti nel luogo a voi più vicino, contattare l'apposito ufficio comunale. Un appropriato riciclo e smaltimento aiuta a conservare la natura e a prevenire effetti nocivi alla salute e all'ambiente.

**Français**

Information sur l'élimination des anciens équipements électriques et électroniques (applicable dans les pays de l'Union Européenne qui ont adopté des systèmes de \* collecte sélective)

Les produits sur lesquels le pictogramme (poubelle barrée) est apposé ne peuvent pas être éliminés comme ordures ménagères. Les anciens équipements électriques et électroniques doivent être recyclés sur des sites capables de traiter ces produits et leurs déchets. Contactez vos autorités locales pour connaître le site de recyclage le plus proche. Un recyclage adapté et l'élimination des déchets aideront à conserver les ressources et à nous préserver des effets nocifs sur notre santé et sur l'environnement.

### **Nederlands**

Informatie over het weggooien van elektrische en elektronische apparatuur (particulieren)

Dit symbool geeft aan dat gebruikte elektrische en elektronische producten niet bij het normale huishoudelijke afval mogen. Lever deze producten in bij de aangewezen 'inzamelingspunten', waar ze gratis worden geaccepteerd en op de juiste manier worden verwerkt, teruggewonnen en hergebruikt. Voor inleveradressen zie [www.nvmp.nl](http://www.nvmp.nl), [www.ictmilieu.nl](http://www.ictmilieu.nl), [www.stibat.nl](http://www.stibat.nl). Wanneer u dit product op de juiste manier als afval inlevert, spaart u waardevolle hulpbronnen " en voorkomt u potentiële negatieve gevolgen voor de volksgezondheid en het milieu, die anders kunnen ontstaan door een onjuiste verwerking van afval.

### **Español**

Información acerca de la eliminación de equipos eléctricos y electrónicos al final de la vida útil (aplicable a los países de la Unión Europea que hayan adoptado sistemas independientes de recogida de residuos)

Los productos con el símbolo de un contenedor con ruedas tachado no podrán ser desecharados como residuos domésticos. Los equipos eléctricos y electrónicos al final de la vida útil, deberán ser reciclados en instalaciones que puedan dar el tratamiento adecuado a estos productos y a sus subproductos residuales correspondientes. Póngase en contacto con su administración local para obtener información sobre el punto de recogida más cercano. Un trámite correcto del reciclaje y la eliminación de residuos ayuda a conservar los recursos y evita al mismo tiempo efectos perjudiciales en la salud y el medio ambiente.

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## 18.2 RELEASE NOTES

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### 18.2.1 VERSION 1.0.2:

- Scenarios can now be started automatically directly after the boot process of KNXSERVER
- Extension of the video server support for camera integration
- Added new graphical symbols for KNX objects
- Fan control DAIKIN
- Fan control ZENNIO
- Introduction of the scripting module for the creation of customized functionalities through scripts (please refer to the scripting manual for details)
- Introduction of link objects for the creation of page jumps
- Introduction of the TEMPLATE view for the creation of simplified user interfaces
- Optimized the import rules (when creating new rules, now it's not necessary to reload the complete page)

### 18.2.2 VERSION 1.1:

#### NEWS:

- New energy management version, including extended load control
- Graphical logging of energy values in the section „CONSUMPTION“ now possible
- Possibility to use the same user on more than one client device (multi-login)
- The complex object for RGB-LED control now supports the creation of presets
- Introduction of a simple on-screen-keyboard for soft-inputs within the software interface
- Introduction of a cleaning mode for touch devices
- Touch areas of rooms within the background view can now be coloured and therefore be used like buttons
- Integration of the new Weather-API from World Weather Online: The weather-service is working now with the new Weather-API from the provider and therefore all API-keys generated on the providers homepage are compatible; the old weather-API will be shut down on 31.08.2013.
- KNX objects can now be created also via CSV import
- New section for the customization of the graphical functions / symbols of the software
- New management of the VoIP / intercom objects:
  - Automatic registration through the browser (JAVA required), no special configuration needed anymore
  - Possibility to call client devices directly over their IP address or user name; in the second case all devices logged with the specified user will start to ring
  - Users can be directly assigned to call groups
  - Possibility to create SIP phone lines in order to register also with external SIP services
  - Possibility to configure events at the beginning or end of calls, which can also be triggered through calls of external members (e.g. IP phones)
  - Possibility to create quick access buttons to KNX functions within the intercom pop-up window
  - Support of a secondary door opener signal for external units
- Further information can be found in the INTERCOM MANUAL of KNXSERVER
- Creation of page jumps, which permit to open certain pages on client devices in dependency of events
- New scripting functions and samples for interaction with SONOS and DUNE systems
- Improvement of the debug functions within the run-scripts
- Possibility to send out notifications via scripting
- New graphical symbols and templates for KNX objects and complex objects
- Multimedia control

- Colour temperature control
- Shutter and curtain control
- Management of the states of Honeywell centrals
- Audio control SONOS / DUNE
- Sub-objects of complex objects are now automatically connected to the correct symbol (in dependency of the selected functionality)
- Extension of the camera support, now compatible with following devices:
  - "2N HELIOS IP" intercom system
  - "ELVOX" IP cameras
  - "HIKVISION" IP cameras
- Change of the „BASE/EXPERT” mode behavior: the button now shows the mode that will be enabled on click, and not the current mode.

#### **BUGFIXING:**

- Reactivation of the weather preview service, basing on an alternative, free weather service
- Fixed communication problems on APPLE devices with iOS6 operating system
- Fixed problems when saving the physical address of KNXSERVER
- Fixed problems when sending RGB values on the KNX bus
- Fixed visualisation problems of long messages within the notification central
- Fixed problems when trying to delete sub-objects (only English version)
- Fixed problems when trying to clone wait commands
- Fixed missing symbols / incorrect visualisation of the complex weather object
- Fixed visualisation problems with AXIS cameras
- Fixed the "Show/hide label" function in the edit mode of the background view
- Fixed missing MJPG streams after continuous reboots of Google Chrome
- Fixed wrong visualisation of months within the notification central
- Fixed missing "Visible" flag for virtual objects
- Fixed Login problem related to Java 7 Update 21

#### **18.2.3 VERSION 1.2:**

##### **NEWS:**

- Saving of login state ("REMEMBER ME")
- HTML server cache for acceleration of access time
- HTML client cache for acceleration of access time
- DB client cache for acceleration of operating
- OPC import: ETS projects can now be exported directly from ETS into a compatible format for import into OPTIMA (\*.esf)
- Integration of the „FOLLOW ME” functionality for mobile devices
- Enhanced navigation menu
- Optional PIN protection for rooms
- Visualisation of IP cams in the background mode as icons or preview
- Integration of reference days for time scheduling
- Different ending for different backup files for better differentiation
- Editing of object names directly in the search engine
- Maintenance area for restarting the device or the communication services
- Management area for the cache technologies
- New function "CLEAR CACHE" for deleting the HTML server cache

**BUGFIXING:**

- Changing the range of integer objects from "0 – 255" to „-32768 – 32767"
- Fixing of compatibility problem with iOS7
- Enhancing of mailing service for compatibility with different providers
- Fixing the wrong integration of login information in the url for the request of images for IP cameras
- Enhancement of handling of MJPG streams to prevent overloads and to solve compatibility problems
- Enhancement of handling of links on mobile devices
- Solving of smaller problems on the selective ETS import
- Integration of control routines for different fields in the administration to prevent problems
- Introduction of help text for nearly all areas in the configuration

**18.2.4 VERSION 1.3.1:****NEWS:**

- New DIVUS OPTIMA Logo
- New product limitations
- New languages Chinese & Polish
- New optional module UP-DATALOG-SW for advanced graphical logging
- New blue Notification Icon for unread family board messages
- New thermostat operation rendering (Night/Stby/Com/Frost)
- New standard ntp time server "pool.ntp.org"
- Integration of a new certificate for the JAVA webphone
- Cross-Import of backups from different KNXCONTROL products is now possible
- New filter-function in the search machine to filter only search results of interest
- New languages Chinese & Polish
- New formatting possibility to personalize the format and measure unit of existing system renderings
- Unification of the ETS-Import to only one import wizard
- Introduced additional product specific information on Update page
- Different improvements on update process

**BUGFIXING:**

- RSS feeds with included pictures are now shown correctly
- Time scheduling actions fired at 00:00 will work correct now
- Minor Design fixes
- 14-Byte strings are now displayed correctly
- Weekday "Sunday" is now sent rightly on the bus within the defined group address for time synchronisation

**18.2.5 VERSION 1.3.2:****NEWS:**

- Important stability improvements
- Enhanced scenarios:
  - Confirmation message for LEARN-Function with possibility to abort
  - Only buttons, which have a function are shown
  - Visible feedback indicating LEARN-Function running or finished
- New language spanish
- Time scheduling now also possible on mobile devices (iOS/Android)

- New grid view with full screen background image
- New standby mode: Status polling from client to KNXSERVER/KNXSUPERIO is no more disabled totally after 8 minutes, but only slowed down from interval 1 second to 2 minutes; as soon as there is a new action on the client device triggered inside the visualisation (navigation etc.), the polling interval is again set to 1 second.
- HTML5 Fallback: HTML5 cache is automatically deactivated if the used client doesn't support HTML5 caching.
- Images related to a room now can also be deleted from the room, over the new "X"-button.
- Datalog: In graphs now the same object can also be used multiple times.
- Generation of SSL certificates
- New data type „Character string“ for 14 byte strings, which on system level is handle das string and not any more like the old renamed data type „Character string (RAW)“, which on system level is handle das HEX value; in the display area data type „Character string“ is displayed as text „Character string (RAW)“ as HEX value.
- Virtual object can now also be related to functions
- Different adaptions for the new TOUCHZONE generation
- Voice control (BETA)
- Automatic correlation of status feedback (BETA)
- Auto-zoom (BETA)
- NFC support(BETA)

#### **BUGFIXING:**

- Changes done in the screensaver image memory now are persistent, also after reboot (delete/add).
- Missing symbol "humidity" added in complex object "weather"
- Adapted weather API to support old API-keys (version 1) and API-keys created with new registered accounts (version 2)
- HTML interpretation of „<xxx>“ in names of navigation menu entries removed
- Scrolling in the weather popup is functional again
- Datalog: Time trend curves of type „Max. value“ are now shown correctly inside the visualisation
- Cloning of KNX group address object is blocked

#### **18.2.6 VERSION 1.3.3:**

##### **NEWS:**

- DTMF method for sending DTMF tones can now be selected in OPTIMA administration (RFC2833, SIP-INFO, both)

##### **BUGFIXING:**

- Scenarios are updated now correctly also on converting an old database and work correctly without the need of any adaption
- The actual state of run-script objects is now displayed dynamically in real-time in the optima administration
- Scripts with empty output ("output()") are now converted correctly and can so run stable without the need of any adaption
- Objects with integrated touch events like for example the complex object dimmer with the embedded slider for brightness control are no more closed during usage if opened in rooms with template „planview“; the existing timeout for closing the complex object starts when the user interaction is finished.

### **18.2.7 VERSION 1.3.5:**

#### **NEWS:**

- ETS Import: Import of KNX devices from an ETS project via OPC Export "\*.phd"-file to monitor the installed KNX devices
- Minor system optimizations

### **18.2.8 VERSION 1.3.6:**

#### **BUGFIXING:**

- Language: Spanish can now be used without problems
- KNX: After software-Update or changing the physical address of KNXSERVER/KNXSUPERIO in certain situations the communication to the KNX bus could be lost. In OPTIMA 1.3.6 this is no more possible.
- Scenarios: Update scenarios on iOS devices in rooms inside OPTIMA containing also complex objects, now causes no wrong confirmation messages any more
- Logging (UP-Datalog-SW): For the graphs now it is possible to define also negative values for min./max limits of the Y-axis
- Minor bugfixes

### 18.3 NOTES

