# System Objects

## System Object

This object is the main node of the system tree and includes all the main features and data that describe the project. All other objects, which represents the configurable services provided by the server, can be added to the project by right clicking on this node.

By selecting the object, the following properties will be displayed in the grid below:

- **Label** Name of the object.
- **Server type** Type of server and hardware (ThinKnx Compact, Micro, Touch or Rack server).
- **Serial number** Server serial number printed on the box.
- **Password** Password for service user, to login on the web server page.
- **ThinknxCloud** If enabled, the cloud services are active. Enabling this option will allow to upload project directly on the Cloud and to store variables to database.
    - Password for ThinknxCloud: Maintainer password of the cloud services. It can be managed from the server web pages.
6. **KNX address** Physical address (es. xx.xx.xxx) assigned to the server; if not specified it is automatically assigned by the system.
7. **External IP address** IP address (for example 74.14.3.108) or hostname (for example pulsar.dyndns.org) needed to connect with the server from clients that do not operate in the server LAN. To setup the server with the ThinKnx cloud server refer to the Cloud section ().
8. **Server client port** Number of the TCP port needed to remotely connect with the server (outside the server network). The default port is 7550.
9. **Local IP address** IP address (for example 192.168.X.X) needed to connect with the server from clients that operate in the server LAN.
10. **System name** Name to identify the project once it has been uploaded to the server.
11. **Location** Name of the location where the system is installed.
12. **Latitude** Latitude of the location where the server is installed. They are used to enable the iOS geolocalisation function.
13. **Longitude** Longitude of the location where the server is installed. They are used to enable the iOS geolocalisation function.
14. **Send command after reboot** It is possible to launch a command on server full reboot or soft restart after a predefined time interval. If soft restart is selected, the command will be executed also when a new project version will be uploaded. Sending command after a full restart could be useful to notify blackouts. If the property Send command after reboot is not disabled, the following properties will appear:
    - Command delay: Time in seconds passed between the complete reboot of the server and the execution of the command.
    - Command: Command to send after the server reboots.

15. **Time server** If enabled, the server will send date and time information to the bus and ”Time group” and ”Date group” properties will be displayed:
    - Time Group: KNX time group address to receive or send time information.
    - Date group: KNX date group address to receive or send date information.
16. **Licenses** Active licences for the current project, for more details refer to section 2.1.3 .
17. **Users and Groups** Groups and users for the customized exporting process, for more details refer to section 2.1.4 .
18. **Protection PINs** List of PINs used to protect interface objects, for more details refer to section 2.1.7.

## Object commands

Commands sent to the object and recallable from other objects:

#### Send KNX Bit telegram:

This command is used to send a bit value; adjust the ”KNX group” and ”KNX value” (0 or 1) parameters displayed on the right.

#### Send KNX Byte Telegram:

Send a byte value; adjust the ”KNX group” and ”KNX value” (from 0 to 255) parameters.

#### Send KNX Float 2 Byte Telegram:

Send a float 2 byte value; adjust the ”KNX group” and ”KNX value” parameters.

#### Send KNX Float 4 Byte Telegram:

Send a float 4 byte value; adjust the ”KNX group” and ”KNX value” parameters.

#### Send KNX String Telegram:

Send a string 14 byte value; adjust the ”KNX group” and ”KNX value” parameters.

#### Make a pause for a fixed interval

Pause the system for a specified time interval configurable by adjusting the ”Interval” parameter.

#### Change UI Function and Page: GENERAL

This command allows to configure a specific project page that will be recalled on all clients; adjust the ”Function” and ”Page” parameters.

#### Change UI Function and Page: SPECIFIC CLIENT

This command allows to configure a specific project page that will be recalled on a specific client; adjust the ”Function” and ”Page” parameters.

#### Send Push Notification

This command allows to send push notifications on the desired client; adjust the ”Message” parameter to define the notification content.

#### Execute MS Windows Command: GENERAL

This command allows to launch an .exe file directly from the ThinKnx application on all Players for Windows; adjust the ”Command” parameter.

#### Execute MS Windows Command: SPECIFIC CLIENT

This command allows to launch an .exe file directly from the ThinKnx application on a specific Player for Windows; adjust the ”Command”.

#### Recall iOS app with url

This property allows to launch a specific app on iOS devices directly from the ThinKnx app by typing the related url in the ”URL used to recall iOS app” parameter (f.e. http//www.google.com will automatically browse the google safari page).

#### Send Email to recipients

This command allows to send an email message using a default ThinKnx account; define the email subject, content and recipients by adjusting the parameters on the right.

#### Send DTMF tone during intercom call

This command allows to send a DTMF tone or a sequence of tones while an intercom call is running on the client.

# ETS project

This object contains all KNX groups configured in the ETS software. It simplifies visualisation and selection of these groups within the Configurator thanks to a tree displaying. Following properties are displayed in the grid below:

- **CSV file** This property specifies the .csv file containing the project.
- **Label** Object name.

## Exporting .csv from ETS

Launch ETS, then right click on ”main groups” (ETS3) or ”Group Addresses” (ETS4) and select the ”export group addresses” option. With ETS 3 use default export parameters, in ETS 4 select CSV format and activate the ”Export header information” flag.

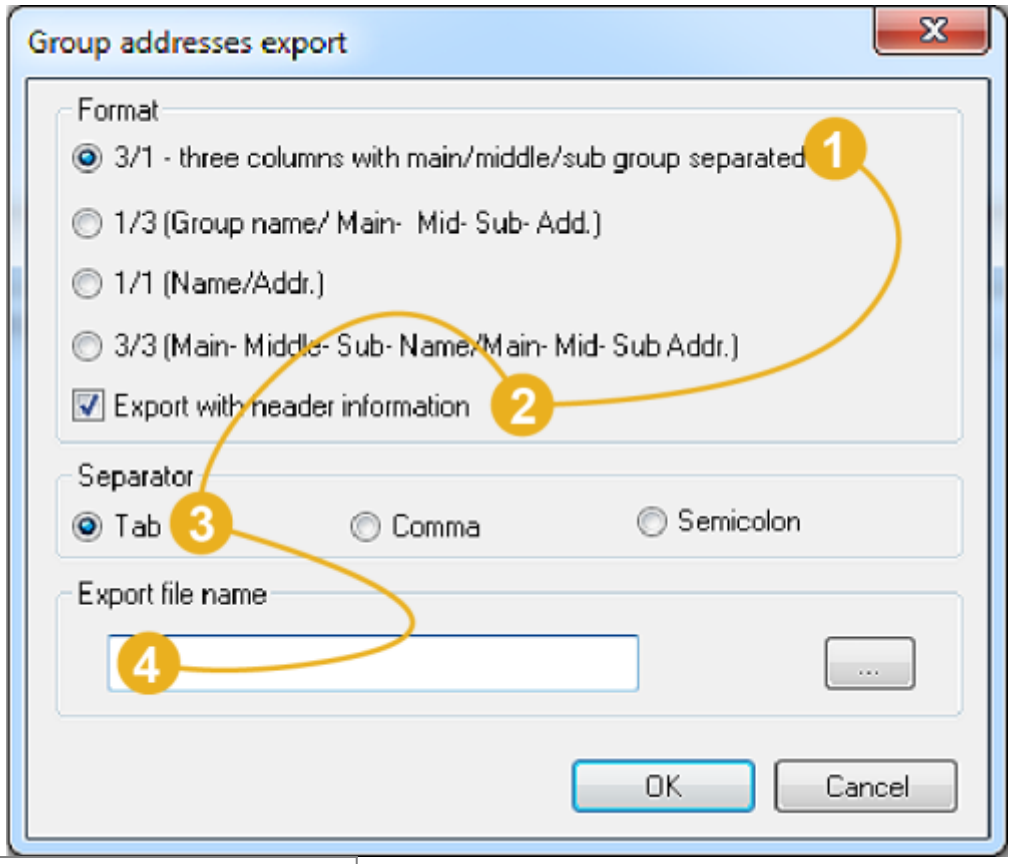



Figure 4.1: ETS 3 export parameters

## Export .esf from ETS

With ETS 4 and later versions, the project can be exported in OPC.
From the ETS application, click on “Other → Export OPC”: the generated “.esf” file can be imported in the Configurator at a later time.

# Scene

This service allows to define a list of actions to be performed by the server on user’s demand or depending on a specific setting. These actions can be specified by the installer directly in the Configurator or in the client application by the user.

- **KNX group** KNX group address used to recall the scene.
- **KNX Data Type** Data type of the KNX group address used to recall the scene. The telegram used to recall the scene can be of two types: DPT 1 (Boolean - 1bit) or DPT 17-18 (Unsigned Integer - 1 byte). In case of 1 bit telegram, the scene is recalled whenever the ThinKnx server receives 1 on the KNX group; otherwise, in case of 1 byte telegram, the scene is recalled whenever the ThinKnx server receives the value specified in the following property.
- **Record** This property has to be enabled when the user is creating a customized scene; if he is selecting actions from the default list, this property can be disabled.
- **Restartable** If enabled, the selected scene can be restarted if launched when already running; it is useful when the scenes is full of pauses and it is particularly long-lasting; when the scenery is launched from KNX, this property has to be disabled because of telegram repetitions.
- **List of actions** By clicking on the button displayed on the right, the action editor will be displayed; the user can add the desired number of action by clicking on ”Add” button. Each action can be given a name and the related command can be selected by clicking on the button displayed on the right side of the dedicated slot.

## Object commands

Commands sent to the object and recallable from other objects:

#### Launch scenery

Launches the selected scene.

#### Stop scenery execution

Stops the selected scene.

# Calendar

This server service allows the user to program on/off KNX commands (switch objects) using client applications; it is also possible to memorize the temporization on server. Different switches can be associated to the same calendar.

- **Force state** If this property is enabled, the server periodically sends value ”1” to the selected KNX group, basing on the pre-set timespan; the light automatically turns on if it has been manually switched off by the user. If enabled, the ”Send interval” property will be displayed:
  - [*Send interval*] Interval between two repeated messages

# HVAC Controller

This object allows to control HVAC devices: a HVAC controller can control more than one device commanded using the same connection type.

- **Controller type** Selection among three possible models:
  - *Mitsubishi AG 150:* Device IP address has to be typed in the empty slot to use this controller.
  - *KNX interface simple:* This controller allows to set mode and speed using standard 1 byte objects.
  - *KNX interface extended:* This controller allows to set mode and speed using 1 bit objects.
    If Controller type is ”Mitsubishi AG 150” the following property will appear to define the device address:
    IP address: HVAC controller IP address.

2. **Devices** List of HVAC devices linked to the system.

### Adding a HVAC device

Select the ”Devices” property and click on the button displayed on the right to open the devices editor window; click on ”Add” button and adjust the properties in the grid.

## Mitsubishi device

- **Name** Device name.
- **Device index** Index associated to the device inside the controller.
- **On/off group** On/off command control KNX group.
- **On/off fb group** On/off command feedback KNX group.
- **Temp. setpoint KNX group** Temperature setting control KNX group.
- **Temp. setpoint fb KNX group** Temperature setting feedback KNX group.
- **Mitsubishi actual temp. KNX group** KNX group of the actual room temperature read from Mitsubishi device (2 bytes). This value will be used by the regulator if the actual temp. KNX group is empty.
- **Enable regulator** If enabled the regulator feature will be active thus the object will act as a thermostat.
  If the property 'Enable regulator' is set to 'Enable' the following properties will appear too:
  - Regulator hysteresis: Value of the hysteresis used by the regulator.
  - Setpoint temperature offset: Value which represents the difference between the setpoint temperature and the temperature sent to the device.
  - Summer/Winter KNX group: KNX group used to determine the working modality of the regulator (1 bit - 0 = summer/cooling, 1 = winter/heating).
  - Actual temp. KNX group: KNX group address of the actual room temperature read from an external sensor and used by the regulator. If this field is empty the temperature considered will the one read by the Mitsubishi device (Mitsubishi actual temp. KNX group).
  - Enable regulator KNX group: KNX group to enable/disable regulator (1 bit).

## KNX interface simple device

- **Name** Device name.
- **Communication protocol** It represents the protocol used to communicate with the device, there are four possible options:
  - *ZENNIODD:* Select this option to control Daikin devices integrated with Zennio KLIC DD or KLIC DI.
  - *ZENNIOIRSC:* Select this option to control devices integrated with Zennio IRSC.
  - *INTESISBOX:* Select this option to control devices integrated with Intesis Box.
  - *Generic:* Select this option to use any other KNX HVAC controller. In this case the byte values for Mode and Fan speed have to be manually typed in the fields below. Each controller has different values, ask the producer for the correct values to enter.
3. **On/off group** On/off command control KNX group.
4. **On/off fb group** On/off command feedback KNX group.
5. **Fan group** Fan speed control KNX group.
6. **Fan fb group** Fan speed feedback KNX group.
7. **Temp. setpoint KNX group** Temperature setting control KNX group.
8. **Temp. setpoint fb KNX group** Temperature setting feedback KNX group.

9. **Mode group** Mode control KNX group (1 byte).
10. **Mode fb group** Mode feedback KNX group (1 byte).
11. **Value fan auto** Value for fan AUTO modality. It will be sent to fan command group to set modality and, if received in fan feedback group, auto modality will be recognized (1byte value).
12. **Value fan min** Value for fan minimum speed modality. It will be sent to fan command group to set modality and, if received in fan feedback group, minimum speed modality will be recognized (1byte value).
13. **Value fan middle** Value for fan middle speed modality. It will be sent to fan command group to set modality and, if received in fan feedback group, middle speed modality will be recognized (1byte value).
14. **Value fan max** Value for fan maximum speed modality. It will be sent to fan command group to set modality and, if received in fan feedback group, maximum speed modality will be recognized (1byte value).
15. **Value Auto Mode** Value that corresponds to AUTO modality for mode group (1byte).
16. **Value Cool Mode** Value that corresponds to COOL modality for mode group (1byte).
17. **Value Heat Mode** Value that corresponds to HEAT modality for mode group (1byte).
18. **Value Dry Mode** Value that corresponds to DRY modality for mode group (1byte).
19. **Value Fan Mode** Value that corresponds to FAN modality for mode group (1byte).
20. **Enable regulator** If enabled the regulator feature will be active thus the object will act as a thermostat.
    If the property ”Enable regulator” is set to ”Enabled”, the following properties will appear:
    - Regulator hysteresis: Value of the hysteresis used by the regulator.
    - Setpoint temperature offset: Value which represents the difference between the setpoint temperature and the temperature sent to the device.
    - Summer/Winter KNX group: Regulator working modality feedback KNX group (1 bit). 0 = summer/cooling, 1 = winter/heating.
    - Actual temp. KNX group: KNX group address of the actual room temperature read from an external sensor and used by the regulator. If this field is empty the regulator won’t work!
    - Enable regulator KNX group: KNX group to enable/disable regulator (1 bit).

## KNX interface extended device

- **Name** Device name.
- **Communication protocol** It represents the protocol used to communicate with the device, there are four possible options:
  - *ZENNIODD:* Select this option to control Daikin devices integrated with Zennio KLIC DD or KLIC DI.
  - *ZENNIOIRSC:* Select this option to control devices integrated with Zennio IRSC.
  - *INTESISBOX:* Select this option to control devices integrated

with Intesis Box.
    - *Generic:* Select this option to use any other KNX HVAC controller. In this case the byte values for Mode and Fan speed have to be manually typed in the fields below. Each controller has different values, ask the producer for the correct values to enter.
3. **On/off group** On/off command control KNX group.
4. **On/off fb group** On/off command feedback KNX group.
5. **Fan group** Fan speed control KNX group.
6. **Fan fb group** Fan speed feedback KNX group.
7. **Temp. setpoint KNX group** Temperature setting control KNX group.
8. **Temp. setpoint fb KNX group** Temperature setting feedback KNX group.
9. **Cool group** Cool modality control KNX group (1bit 1=Cool 0=No change).
10. **Cool fb group** Cool modality feedback KNX group (1bit 1=Cool 0=No change).
11. **Heat group** Heat modality control KNX group (1bit 1=Heat 0=No change).
12. **Heat fb group** Heat modality feedback KNX group (1bit 1=Heat 0=No change).
13. **Dry group** Dry modality control KNX group (1bit 1=Dry 0=No change).
14. **Dry fb group** Dry modality feedback KNX group (1bit 1=Dry 0=No change).
15. **Fan group** Fan modality control KNX group (1bit 1=Fan 0=No change).
16. **Fan fb group** Fan modality feedback KNX group (1bit 1=Fan 0=No change).
17. **Auto group** Auto modality control KNX group (1bit 1=Auto 0=No change).
18. **Auto fb group** Auto modality feedback KNX group (1bit 1=Auto 0=No change).
19. **Value fan auto** Value for fan AUTO modality. It will be sent to fan command group to set modality and, if received in fan feedback group, auto modality will be recognized (1byte value).
20. **Value fan min** Value for fan minimum speed modality. It will be sent to fan command group to set modality and, if received in fan feedback group, minimum speed modality will be recognized (1byte value).
21. **Value fan middle** Value for fan middle speed modality. It will be sent to fan command group to set modality and, if received in fan feedback group, middle speed modality will be recognized (1byte value).
22. **Value fan max** Value for fan maximum speed modality. It will be sent to fan command group to set modality and, if received in fan feedback group, maximum speed modality will be recognized (1byte value).
23. **Enable regulator** If enabled the regulator feature will be active thus the object will act as a thermostat.

If the property ”Enable regulator” is set to ”Enabled” the following properties will appear:

- Regulator hysteresis: Value of the hysteresis used by the regulator.
- Setpoint temperature offset: Value which represents the difference between the setpoint temperature and the temperature sent to the device.
- Summer/Winter KNX group: Regulator working modality feedback KNX group (1 bit). 0 = summer/cooling, 1 = winter/heating.
- Actual temp. KNX group: KNX group address of the actual room temperature read from an external sensor and used by the regulator. If this field is empty the regulator won’t work!
- Enable regulator KNX group: KNX group to enable/disable regulator (1 bit).

## Switch schedule

This server service allows the user to program until six daily temporisations for a switch object. The server checks events planning so that value 1 is sent to the switch object at the preset time.

A single Voip PBX object can be added to the system.

- **Force state** If this property is enabled, the server periodically sends value ”1” to the selected KNX group, basing on the pre-set timespan; the light automatically turns on if it has been manually switched off by the user. If enabled, the ”Send interval” property will be displayed:
  - *Send interval*: Interval between two repeated messages

## Chronotermostat

Daily and weekly boiler programs can be configured on the server using this object.

- **Force settings** If enabled, the chrono will repeat the value corresponding to the actual time. This will override any possible changes made manually from other devices.
- **Temperature mode** If disabled, the system works using a mode functioning logic; if enabled, the system works using the temperature functioning logic and the ”Custom range” property will be displayed: If the property ”Temperature mode” is set to ”Enabled”, the following properties will appear:
- Custom range: If this property is disabled, the system will use the standard temperature range (from 14° to 26°) during both summer and winter; if enabled, the ”Seasonal ranges”, ”Winter range”, ”Winter min.temp.” and ”Winter max.temp.” will be displayed: If the property ”Custom range” is set to ”Enabled”, the following properties will appear:
- Seasonal ranges: If disabled, the configured temperature range will be used for both winter and summer. If the property ”Seasonal ranges” is set to ”Enabled”, the following properties will appear:
    - *Season group*: KNX group used to switch between heating and cooling modes.
    - *Winter range*: This property allows to select a range width of 6° or 12°. (This option allows to determine the maximum temperature).
    - *Winter min.temp.*: Customisable temperature value.
    - *Winter max. temp.*: This value is automatically calculated by the system by adding the preconfigured range to the minum value.
2. *Summer range*: This property allows to select a range width of 6° or 12°. (This option allows to determine the maximum temperature).
3. *Summer min.temp.*: Customisable temperature value. (For summer).
4. *Summer max.temp.*: This value is automatically calculated by the system by adding the preconfigured range to the minum value. (For summer).
5. **Mode feedback group** KNX group (1 bit DPT1) used to send the running chrono modality where 1=chrono and 0=manual.

# Voip PBX

PBX internal to ThinKnx servers (supported by Compact and Micro). This object allows to configure the PBX (extensions, ring groups and door stations).

- **PBX port** This property allows to specify the PBX port if different from the default one (5060).
- **Accounts PBX** This property represents the list of extensions to be registered in the PBX.
- **Ring groups** This property represents the list of ring groups to be registered in the PBX. Ring groups allow to call more than one extension using a single number. The outdoor station can forward the call to several clients using a single number.
- **Intercom devices** This property represents the list of intercom devices to be registered in the PBX.

## Adding PBX accounts

Click on the button displayed on the right to open the PBX users editor window, then click on ”Add” and adjust the properties in the grid:

- **Extension** This property allows to specify the extension number used by the client to join the PBX.
- **Password** This property allows to specify the password associated to the extension number.

## Adding ring groups

Click on the button displayed on the right to open the ring groups editor window, then click on ”Add” and adjust the properties in the grid:

- **Ring Group Number** Number associated to this group in PBX. Group Numbers start from 9000

- **Accounts PBX** PBX accounts associated to this ring group

### Adding intercom devices

Click on the button displayed on the right to open the intercom devices editor, click on ”Add” and adjust the properties in the grid:

- **Device type** It can be selected from the following list:
  - *2N Elios IP*
  - *Mobotix M24*
  - *TCS gateway*
  - *TCS Native*
  - *Generic IP doorstation*
2. **Username web** This property corresponds to on of the login parameters of intercom management web page.
3. **Password web** This property corresponds to on of the login parameters of intercom management web page.
4. **Username PBX** This property corresponds to the extension used by the intercom to register in the PBX; it is automatically generated and it cannot be edited. For devices the numeration starts from 901.
5. **IP address** Outdoor station address.
6. **Port** Outdoor station port.
7. **Intercom buttons** This property allows to configure the intercom button panel, associating to each button the extension or ring group to be called. Click on the button displayed on the right to open the intercom buttons editor, click on ”Add” and adjust the properties in the grid:
   - Label: Label associated to the button in the configurator.
   - Button number: This property represents the button number on the panel.
   - Call single user: If enabled, the call is sent to a single user when the button is pressed. If disabled, the call is sent to a ring group.
   - Ring Group PBX: Ring group associated to this button.

# Irrigation

The Irrigation object allows to manage different zones of the irrigation system, each of them controlled by a different KNX group. These zones can be combined for creating different irrigation programs, directly in the client application.

- **Zones** This property represents the list of zones of the irrigation system.
- **Enable/Disable KNX group** KNX group used to enable and disable the irrigation scheduling directly from KNX (DPT 1 - 1 = enable, 0 = disable). When the scheduling is disabled the irrigation can be controlled manually zone by zone.
- **Use rain sensor** If enabled, it is possible to block the irrigation programs in case of rain. The rain sensor must send a KNX telegram to block irrigation.
  If the property “Use rain sensor” is “Enabled”, the following properties will appear:
    - Rain KNX group: KNX group address used to receive notification from rain sensor (DPT1 - 1 = rain, 0 = no rain).
    - Delay after rain: Time to wait before re-enabling irrigation programs after rain event. In case of rain, events will be blocked for the rain duration time plus the time indicated in this field.

4. **Water pump control** If “Enabled”, the server will perform an OR on the status of the zones to detect if the pump must be turned on or off. If “Enabled” the following properties will appear:
    - Pump command KNX group: KNX group (DPT1) used to turn on and off the water pump of the irrigation system. (1=on, 0=off)
    - Pump status KNX group: KNX group (DPT1) of the status of the water pump. (1=on, 0=off)
    - Turn off delay: Time interval (in

seconds) in which the server waits before turning off the pump. When the server detects that all the zones are off, waits for this time interval before sending the off to the pump. Meanwhile, if another zone turns on, it avoids to perform useless switchings on the pump.

### Adding irrigation zone

Click on the button displayed on the right to open the zones editor window, then click on ”Add” and adjust the properties in the grid:

- **Zone name** Name assigned to the zone (it will be displayed in the client application).
- **KNX on/off group** KNX group address used to turn on and off the zone (DPT1 - 1 = start irrigating the zone, 0 = stop irrigating the zone).
- **Default time** Default zone irrigation timespan in minutes. It can be changed from user during normal usage.
- **KNX feedback group** KNX group address used to detect the status of the zone (DPT1 - 1 = irrigating, 0 = pause).

## RGB

This object allows the user to control a RGB lamp and create sequences of colors. The bus types supported are: KNX, Modbus and Philips Hue.

### KNX configuration

- **Bus type** If the selected option is

”KNX”, the following properties will be displayed:

- **RGB Data Type** Control type for RGB. When “RGB 1 byte per color” is selected, 6 groups are defined in order to write and read values for each color.
    - Red group: Red color command KNX group address (1byte).
    - Red fb group: Red color feedback KNX group address (1byte).
    - Green group: Green color command KNX group address (1byte).
    - Green fb group: Green color feedback KNX group address (1byte).
    - Blue group: Blue color command KNX group address (1byte).
    - Blue fb group: Blue color feedback KNX group address (1byte).
      When the “RGB Data Type” is set to “RGB 3 bytes”, just 2 groups are defined for a single RGB
    - RGB group: KNX group address to control RGB (3 bytes)
    - RGB fb group: KNX group address with feedback for RGB (3 bytes)

## Modbus configuration

- **Bus type** If the selected option is ”Modbus”, the following properties will be displayed:
- **Modbus Gateway** Previously added ”Modbus Gateway” object (selectable from the list displayed by right clicking on the main node). Please refer to the dedicated section below.
- **Red Datapoint** Red Modbus Datapoint, it must be

configured in the ”Modbus Gateway” properties.
- **Green Datapoint** Green Modbus Datapoint, it must be configured in the ”Modbus Gateway” properties.
- **Blue Datapoint** Blue Modbus Datapoint, it must be configured in the ”Modbus Gateway” properties.

## Philips Hue configuration

- **Bus type** If the selected option is ”Philips Hue”, the following properties will be displayed:
- **Hue gateway** Hue gateway previously added in the system object and selectable from the list displayed by right clicking on the main node.
- **Hue element** Hue element, created inside the Hue Gateway, to control with the current object.

## Object commands

Commands sent to the object and recallable from other objects:

#### Start RGB sequence shuffle with time in seconds

Starts the preconfigured colour sequence in a random order; adjust the ”Time” parameter on the right to select the time interval between two consecutive colours.

#### Start RGB sequence repeat with time in seconds

Repeats the preconfigured colour sequence following the defined order; adjust the ”Time” parameter

on the right to select the time interval between two consecutive colours.

#### Stop the RGB sequence and turn off

Stops the repetition of the colour sequence and turns the RGB lamp off.

## Email account

This object is needed to configure SMTP server parameters to send email messages from the server (used to send alerts, reports etc.).

- **SMTP server** Default server hostname provided by the system.
- **Server port** Default server listening port.
- **From** E-mail address specified in the sender field; if this property is empty in the e-mail will appear noreply@thinknx.com in the from field.
- **Authentication** Enable or disable SMTP user authentication by means of username and password.
  If the property ”Authentication” is set to ”Enable”, the following properties will appear:
  - Username: Email account login parameter.
  - Password: Email account login

parameter.

5. **Use SSL** Use SSL inscription to connect with the server.

### Object commands

Commands sent to the object and recallable from other objects:

#### Send Email to recipients

Allows to send an email message using a customisable personal account; define the email subject, content and recipients by adjusting the parameters on the right.

- Subject of the mail message that will be sent to the specified recipients
- Recipients email addresses, separeted by ;
- Text content of the mail message.

## Web UI

This server service allows to start a web server to control the plant from the web.

- **Users** This property represents a list of enabled users.
- **Web access** Enable or disable web access. This option can be used

to disable web access without deleting all previously set parameters.

### Adding web users

Click on the button displayed on the right to open the users editor window, click on ”Add” and adjust the properties in the grid:

- **Username** Username that will be used to access the webpage. The password for the first access is ”password”. All users can change their own password on the first page of the web interface.
- **User access** Grant/deny this user the access to the web page.

## Presence Simulator

This object is particularly useful to configure a list of actions that can simulate the presence of people even if the house is empty (f.e. turning lights on, starting the audio system etc.).

- **Actions** This property represents the list of simulated actions.

- **Max. duration** Maximum duration time of the simulation; if it is not manually stopped, it will automatically end after this specified time interval (in minutes).
- **Command group** KNX group that activates or deactivates the presence simulator.
- **Status group** KNX group that reads the simulator status.
- **Final command** Command used to end the simulation (f.e. all devices involved in the configured simulation return to the original status.)
- **Random order** If enabled, all the configured actions will be randomly performed by the system; if disabled, they will follow the pre-set order.

## Adding a simulated action

Click on the button displayed on the right to open actions editor window, click on ”Add” and then adjust the properties in the grid:

- **Start command** Command sent when the action starts.
- **Final command** Command sent when the action ends.
- **Medium duration** Interval between starting and ending command (in minutes).

### Object commands

Commands sent to the object and recallable from other objects:

#### Start the presence simulator

Starts the presence simulator sequence of actions.

#### Stop the presence simulator

Ends the presence simulator sequence of actions.

## Sun times and events

This service calculates sun position (sunset, sunrise, azimuth and elevation) starting from the geographic position of the plant. It is also possible to associate actions to sun positions.

- **Sun Actions** List of actions to perform depending on sun positions.
- **Sunrise group** KNX group used to send sunrise time (DPT 10).
- **Sunset group** KNX group used to send sunset time (DPT 10).
- **Azimuth Group** KNX

group used to send sun azimuth position (DPT 9).
- **Elevation Group** KNX group used to send sun elevation (DPT 9).

### Adding actions

To define an action to perform when a predefined sun event occurs, click on the button displayed on the right of the ”Sun Actions” property, click on ”Add” and then adjust the properties in the grid:

- **Sun event** Sun event (Civil dawn, Civil dusk, Noon, Sunrise, Sunset) associated to the action.
- **Action delay** Server wait time (in minutes) before launching the action after the occurrence of the sun event. If this value is negative the action will anticipate the sun event.
- **Command** Command performed by the server when the sun event occurs.

## Alarm device

This object is used to integrate the central alarm in the project; it allows the server to arm or disarm the

central, to read partitions or sensor status and to singularly control them. All alarm panels integrated in the system provide the user with the same graphical effect; they can be selected from the following list of models:

- **Device type** This property allows to select the alarm panel model.
  - *AVS Electronics XTream 640*
  - *Bentel Absoluta*
  - *Bentel Kyo 320*
  - *Bentel Kyo Unit 8 Zones*
  - *Bentel Kyo Unit 16 Zones*
  - *Bentel Kyo Unit 32 Zones*
  - *Brahms series B4 CMP16*
  - *Brahms series B4 CMP32*
  - *Brahms series B4 CMP64*
  - *Elkron MP508 TG*
  - *GE security/Aritech ATS*
  - *Honeywell Galaxy Dimension*
  - *Inim Smartliving 10100*
  - *Inim Smartliving 1050*
  - *Inim Smartliving 515*
  - *Rokonet RP128*
  - *Rokonet RP128 BRTE*
  - *Siemens SPC*
  - *Tecnoalarm TP16-256*
  - *Tecnoalarm TP8-64*
  - *Tecnoalarm*

*TP8-88*
- *Urmet 1067*

2. **Communication:** This property allows to select the type of communication established with the server; it can be selected from the following list:
   - *RS232:* Connected through serial cable.
   - *RS232overTCP_IP:* Connected through link with TCP media converter.
   - *TCP_IP:* Connected through network link.
     If the property ”Communication” is set to ”RS232”, the following properties will appear:
     - Serial Port: This property represents the system serial port number.
       If the property ”Communication” is set to ”TCP/IP”, the following properties will appear:
     - IP Address: Device IP address or RS232overIP address.
     - Port

Number: TCP/IP port number for ethernet connection.
- **Partitions** Group of sensors that can be armed or disarmed together.
- **Max. partitions** Maximum number of partitions supported by the device.
- **Partitions reading** Time interval between two consecutive partitions state readings.
- **Sensors** List of all sensors connected to the alarm panel.
- **Max.sensors** Maximum number of sensors supported by the device.
- **Sensors reading** Time interval between two

consecutive sensors state readings.

- **KNX reading** Enable/disable functions that allow to establish a KNX communication with central alarm system. If in the property ”Device Type” are selected ”AVS Electronics XTream 640”, ”Bentel Absoluta”, ”Elkron MP508 TG”, ”Honeywell Galaxy Dimension”, ”Tecnoalarm TP16-256”, ”Tecnoalarm TP8-64”, ”Tecnoalarm TP8-88” the following property will appear:
  - Default code: Enabled code

for plant status querying. If in the property ”Device Type” is selected ”AVS Electronics XTream 640” the following property will appear:

- Use special functions: Will enable the usage of AVS special way of arming a single partition (ON,

HOME, AREA, PERIMETER). Can be applied only when using a single partition. If in the property ”Device Type” are selected ”Elkron MP508 TG”, ”Urmet 1067” the following property will appear:

- System code: System code of the panel

. Elkron default value is 5555 5555. Urmet default value is 9999 9999. If in the property ”Device Type” are selected ”GE security/Aritech ATS”, ”Honeywell Galaxy Dimension ” the following property will appear:

- Force Arm: Force Arm

partition when arming.
If in the property ”Device Type” is selected ”GE security/Aritech ATS” the following property will appear:
- Users: List of security users associated to this control.
If in the property ”Device Type” are selected ”Tecn

oalarm TP16-256”, ”Tecnoalarm TP8-64”, ”Tecnoalarm TP8-88”, ”Urmet 1067 ” the following property will appear:
- Passphrase: Encryption passphrase used during panel configuration.

## Bentel Interface

The system allows to manage Kyo8, Kyo16 and Kyo32 panels.

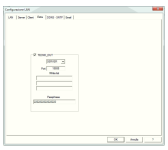
Those panels can establish only a serial connection with ThinKnx system using a null-modem cable. Partitions, in ThinKnx, take numbers starting from 0 for the first one; sensors take numbers starting from 0 for the first one as well.

## Tecnoalarm Interface

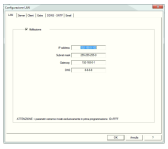
To interact with a TecnoAlarm device, the licence Tecnoout must be enabled on the alarm device following the manufacturer’s instructions. Furthermore, through

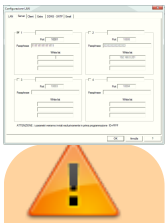
the Centro software, the alarm device must be configured on the network as illustrated in following pictures.

In the “Extra” tab, check the box corresponding to “Tecnoout” and specify the correct port (10500 is recommended) and a password with 16 characters.



In the “LAN” tab, configure the network settings.





The port specified in the “Extra” tab must be different from those specified in the “Server” tab, even if ports specified in the “Server” tab are unchecked.

Parameters for alarm device can be set just during the first configuration. To change those values a complete reset of the device is needed.

## Adding partitions

Click on the button displayed on the right to open partitions editor window,

click on ”Add” and then adjust the properties in the grid:

- **Area Name** Label of text to identify the area.
- **Central index** Insert the number of the partition programmed in the security system.
- **Disarming** Enable/disable the option to deactivate the alarm system throu

gh a KNX com mand .

- **Armi ng** Enabl e/disa ble the optio n to activa te the alarm syste m throu gh a KNX com mand .
- **Com man d bit** KNX group addre ss to com mand armin g of the area (1 bit - 1=ar m, 0=dis arm)
- **Com man d Byte** KNX group addre ss to

command area in byte.

- **Command 14 Byte** KNX group address to command area in with 14 bytes object. The string should be in the form 1|xxxx or 0|xxxx where xxxx represents the user code and 0 or 1 is used to decide if the partition should be

armed or disarmed.
- **Status byte** 1 byte KNX group address sent by the server containing the partition status.
- **Area name** Insert the partition name.

## Adding sensors

Click on the button displayed on the right to open sensors editor window, click on ”Add” and then adjust the

properties in the grid:

- **Index number** Insert the number of the sensor you programmed in your security system.
- **Group** Insert a KNX group address to communicate with the sensor (f.e. to turn on a light using an alarm system motion sensor).
- **Name of**

**the sensor** Sensor name.
- **Send all states** If enabled, the sensor sends all states, if disabled, the sensor sends only alarm state (only value 1).
- **Send on change** If enabled the sensor sends its state only on change (otherwise, senso

r statu s will be sent on every pollin g).

[comb]

# Combination

The ”Combination” object allows to perform logical operations (AND, OR, XOR) on the values coming from KNX groups and to send the result to another KNX group.

- **Operation** This property indicates the type of

desired logical operation.

- ‘*AND*’ is the operation that returns 1 if all the input

sare1,otherwise0.
, *OR* ' is the operation that returns 1 if a

t l e a s t o n e o f t h e o u t p u t s i s 1 , o t h e r w i s e 0 .

- , *X O R* ' i s t h e o p e r

ationthatreturns0iffalltheinputssharethesamevalue(so

all 1 or all 0), otherwise 1.

2. **Inputs** This property represents the list of KNX groups which is possible to pick the values from. For further details about the confi

guration of the inputs, refer to the following paragraph.

3. **Inverted output** This property states if the result of the logical operation needs to be inverted, in other words, 1 becomes 0 and vice versa.
4. **Output sending behaviour** This property indicates when

the result of the operation has to be sent to the KNX group.

- "On result change": indicates that the result

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Xgroupsspecifiedintheinputs.

- **Outputvalues** Thisspropert

ystateswhichoutputvalues(theresultoftheoperation)th

telegramhastobesentfor.

- **Outputgroup** Thisproperyrep

resents the KNX group that receives the telegram containing

the result of the operation.

- **Gate** This property allows to oes

tablishthroughha”gate”input(avaluecomingfromaKNXgrou

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”Enabled”, the following properties will appear:

- Invert

dgate:Thispropertystatesthevaluenneeddedtoenablethe op

eration. If disabled, 1 enables and 0 disables it, if enabled

,0enablesand1disablesit.

- Startupgatestatus:Thisprop

erty allows to specify the start ing value of the KNX group cor

responding to the gate.

3. G
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group: This property allows to define the KNX groups selected as

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hein putsofthecombination,selectthe“Inputs”propertya

ndclickonthebuttontondisplayedontherightt.

Inthedisplay

edwindow, inorderto add a new input, click and the “Add” button

onbelow. An "Input" object will be added to the list; selecti

tandadjustthepropertiesontheright.


Properties: