

HORIZONE MINI

IN00M02WEB

INSTALLATION MANUAL

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Exclusion of responsibility:

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INTRODUCTION

Safety Information

This manual contains the information necessary to safely operate the device. Anyone interacting with the device must first have read this documentation, especially this safety information. This document supplements and does not replace any safety laws or directives.

The device has been developed using state-of-the-art technologies and following current safety regulations; it is, however, not possible to totally exclude all possible damage or interaction with other devices during its operation. The device complies with EMC guidelines and harmonised European standards; any changes to the device may affect EMC compatibility.

The supply voltage must be strictly within the range indicated in this manual and on the device; danger of fire or explosion if power is supplied outside this range. The equipment shall be powered by a limited power supply circuit whose isolation from the mains shall be not less than that between the primary and secondary circuits of a safety transformer according to IEC 61558-2-6 or equivalent.

The CE declaration of conformity of the device can be requested from Eelectron SpA, at the contacts on the website www.eelectron.com

In accordance with Directive 2002/96/EC, electronic devices must be disposed of in dedicated facilities and not in the collection of municipal solid waste.

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FIRST INSTALLATION

Introduction

HORIZONE MINI is a web monitoring server for apartment and office automation based on KNX technology.

HORIZONE MINI is configured and used through a common web browser (from PC/MAC), or through a dedicated app for IOS and Android (from smartphones and tablets).

Assembly and connections

HORIZONE MINI is designed to be assembled on a DIN rail.

the following connections must be provided to ensure the correct operation of HORIZONE MINI:

- 12V/24V DC power supply (240mA at 12V absorption) using the specific terminal supplied.
- KNX bus by means of the specific terminal supplied
- LAN network using cat. 5 or higher cable and standard RJ45 connector

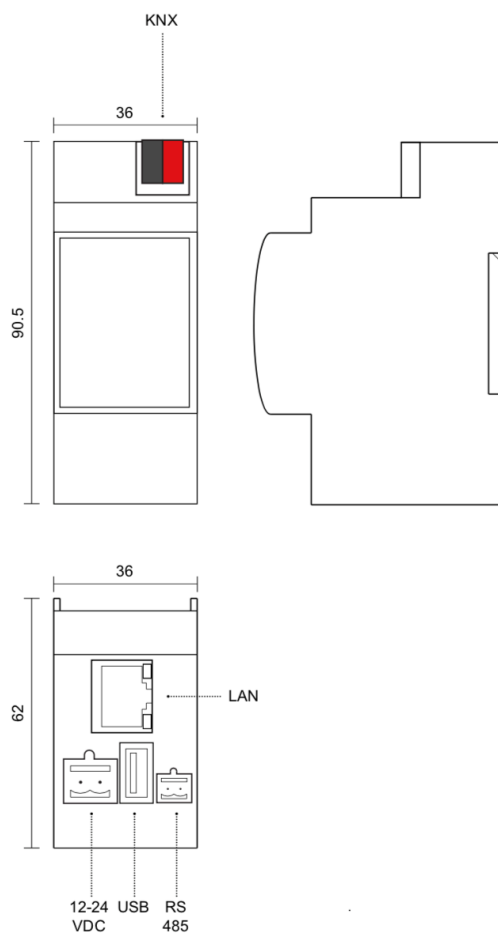
NOTE: connection to the KNX bus is not essential for the configuration of HORIZONE MINI, however, it is preferable because it is not possible to verify its correct operation without this connection.

The front LED identified as “POWER” indicates that power is available, while the “SERVICE” LED normally remains off, unless it indicates specific operations in progress.

HORIZONE MINI also features the following ports:

- RS485: to connect one or more slave devices operating on MODBUS RTU protocol
- USB: available for future integrations

The following figure shows the ports available on the webserver:



NETWORK CONNECTION

The configuration and use of HORIZONE MINI provides a connection to the home or company network. For the initial configuration of HORIZONE MINI and if there is no network available during the installation phase, proceed as follows:

- Connect HORIZONE MINI to your PC via a “cross-over” network cable
- Access your PC's network settings, as described in your operating system documentation
- Change the TCP/IP (version 4) communication protocol settings for the LAN port to which HORIZONE MINI is connected and manually set the following parameters:
 - IP Address: 192.168.0.100
 - Network mask: 255.255.255.0
 - Default gateway: 192.168.0.110
- Save and wait for the new settings to take effect. If prompted, reboot the system.

When these operations have finished, open an Internet browser and type the following in the address bar:

<http://192.168.0.110>

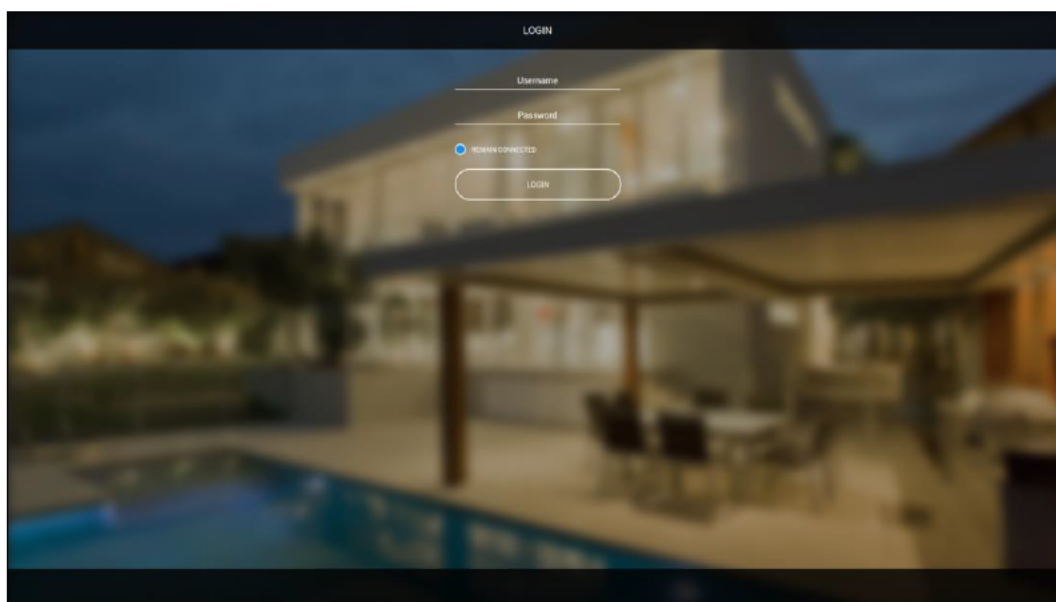


For the best experience, we recommend using the following browsers:

- Google Chrome
- Apple Safari

First login

By opening the browser at the default address, the following login screen is displayed:



HORIZONE MINI presents the following default users in the factory:

USERNAME	PASSWORD	DESCRIPTION
admin	admin	Building automation system administrator user. This user has the rights to create users, manage their rights and to configure supervision
user	user	Basic user. This user has the rights to view the status of the system, browse the WEBSERVER pages and perform the basic commands on the building automation system

Enter the credentials of the “admin” user and confirm to access the main screen of the HORIZONE MINI administration environment.

Administration and Display

HORIZONE MINI is divided into two distinct environments for its configuration and use by the end user:

- **ADMINISTRATION:** working environment with which it is possible (according to the user access rights) to configure all aspects of the WEBSERVER and building automation supervision
- **VISUALISATION:** graphic environment designed for daily use of supervision by the end user, with which you can navigate through the pages included in the CONFIGURATION section, send commands to building automation devices and view their status in real time

To switch between sections:

- From ADMINISTRATION, switch to VISUALISATION by pressing the display button in the upper right corner
- From VISUALISATION, enter the configuration (if you have the necessary rights) via the “CONFIGURATION” button in the toolbar at the bottom of the screen

Restoring the factory IP Address

If necessary, you can reset the factory IP address of HORIZONE MINI using the “RESET” button available on the side of the WEBSERVER. To do this:

- Open the HORIZONE MINI front panel using a small flat blade screwdriver and gently lever it in one of the side slots
- Locate the “RESET” button on the back of the printed circuit board vertically
- Press the button for at least 10 seconds, until the “SERVICE” LED on the front of the device starts flashing, then release the button
- Within the next 5 seconds, press the button for 1 second and release; within a couple of seconds the front LED will light up steadily for a couple of seconds
- When the LED turns off, the WEBSERVER can be reached at the factory IP address (192.168.0.110)

If the LED turns off after pressing for a prolonged period (10 seconds) before pressing it for a short period, repeat the entire procedure.

Factory Restore

If the set configuration makes it impossible to access or correctly use the HORIZONE MINI, factory conditions can be restored by resetting the IP address and clearing the supervision project using the “RESET” button located on the side of the WEBSERVER.

To do this, with respect to the recovery procedure for the IP address, proceed as follows:

- Press the RESET button for at least 10 seconds until the “SERVICE” LED on the front of the device starts flashing, then release the button
- Within the next 5 seconds, press and hold the button for at least 10 seconds
- When the LED turns on steadily, release the button and wait for it to turn off
- When the LED turns off, disconnect and restore power
- Wait about one minute and access HORIZONE MINI with factory IP address (192.168.0.110)

OVERVIEW

Graphic administration interface

The ADMINISTRATION screen is divided into the following sections:

SEARCH	Always available at the top left, allowing you to quickly search for objects based on one or more keywords
MENU	A tree menu that provides access to each page or section of the software, as well as to create, edit, or delete objects
TOOLBAR	Always available at the top, providing a series of buttons to perform the most common operations
WORKSPACE	Main section of the page; initially empty, it hosts object tabs or software configuration pages. You can use multiple tabs at the same time by toggling between them with the "TABS" available at the top, when at least one page has been opened.










The screenshot shows the HORIZONE administration interface. The interface is divided into several sections:

- Search:** Located at the top left, it allows users to quickly search for objects based on one or more keywords.
- Menu:** A tree menu on the left side that provides access to each page or section of the software, as well as to create, edit, or delete objects.
- Toolbar:** Located at the top right, it provides a series of buttons to perform the most common operations.
- Tab bar:** Located at the bottom left, it allows users to toggle between multiple tabs at the same time.
- Workspace:** The main section of the page, which initially is empty and hosts object tabs or software configuration pages. It contains several sections:
 - Lighting:** A table with columns for NAME, ON/OFF (MAIN/FB), VALUE % (MAIN/FB), and CLOUD. It lists various lighting objects like Kitchen light, Living room light, Children bedroom light, Bedroom Light, Study light, External light, Living room floor lamp, and Floor double bedroom.
 - Automations:** A table with columns for NAME, STOP, UP/DOWN (MAIN/FB), STEP (MAIN/FB), and CLOUD. It lists automation objects like Kitchen shutter and Living room shutter.
 - Climate:** A table with columns for NAME, TEMP, SETPOINT (MAIN/FB), MODE (MAIN/FB), and CLOUD. It lists climate objects like Kitchen thermostat, Living thermostat, Study thermostat, and Double room thermostat.
 - Alarms:** A table with columns for NAME, ALARM (MAIN/FB), and CLOUD. It lists alarm objects like Alarm.
 - Energy:** A table with columns for NAME, POWER, ENERGY, and CLOUD.
 - Loads:** A table with columns for NAME, ALARM, ON/OFF (MAIN/FB), and CLOUD.
 - Other:** A table with columns for NAME, STYLE, and CLOUD.
- Message Centre:** Located at the bottom right, it provides a series of buttons to perform the most common operations.

Toolbar

The toolbar provides the following buttons at any time:

SAVE ON FLASH		Allows you to force the database to be saved to the HORIZONE MINI persistent flash memory, ensuring the persistence of the data even when the system shuts down. The button turns red to indicate the presence of unsaved changes; persistent saving occurs automatically every 5 minutes, so it is not necessary to force the save unless the system needs to be shut down before this happens.
CLOUD MANAGER		Allows access to the cloud services integrated with HORIZONE MINI, subject to registration (free of charge). In particular, it allows you to synchronise supervision objects which can then be monitored through remote services, such as voice assistants
CLEAR CACHE		Force all cache mechanisms to be cleared. Use this button only if necessary, if the video content does not reflect the configuration made.
BASIC/ADVANCED		Allows you to set the visibility level of the functions and properties of objects within the pages; the BASIC level offers access to the most commonly used items and only to those set as "VISIBLE"; the ADVANCED level allows you to manage all parameters and access hidden objects
OPEN/CLOSE SIDE AND BOTTOM PANELS		Expand or hide the left side panel (MENU), right side panel (PROPERTY) and bottom panel (MESSAGE CENTER), respectively
LOGOUT		Allows you to close the work session and login as a different user
VISUALISATION		Allows you to switch to the end-user monitoring environment and see the result of the configuration

Navigation Menu

The navigation menu allows you to access all the admin sections of the WEBSERVER and perform the main operations on the objects. The menu is divided into the following main sections:

SETUP	Contains the configuration and general management pages of the WEBSERVER
TECHNOLOGIES	Allows you to configure the technologies that the WEBSERVER manages: KNX, video surveillance, VoIP, multimedia and security systems, etc.
ROOMS	Allows you to configure the supervision of the ROOMS section
SCENARIOS	Allows you to manage the HORIZONE MINI scenarios
NOTIFICATIONS	Allows you to set the messages sent by HORIZONE MINI triggered by alarms and events
LOGICS	Allows the creation of logic between different supervision objects
ENERGY	Allows access to specific functions related to energy and load control
SERVICES	Allows you to extend the functionality of HORIZONE MINI through internet services
USERS AND PERMISSIONS	Allows you to configure system access accounts and determine what rights they have over the different supervision functions and sections
CHANGE PASSWORD	Page that allows anyone, even with basic rights, to change their password

The menu has the tree menu structure; when loading the administration environment, it displays the first level sections, while the upper level sections can be accessed by “expanding” the sections that contain them. All navigation operations within the menu can be done with the mouse.

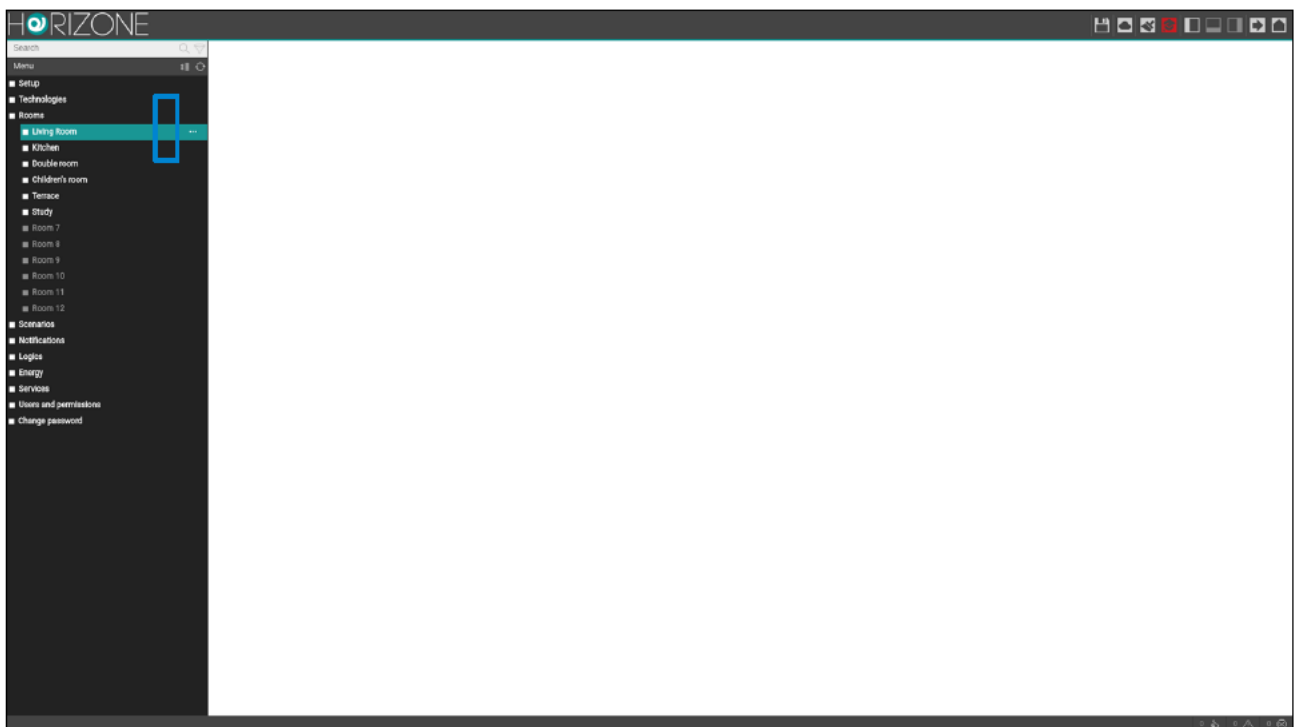
By clicking on a menu item, it is highlighted in blue; if the item includes sub-items, they are loaded and shown below, effectively expanding the selected item. To close the section, click on it again (when it has been selected).

If the selected menu item includes one or more operations, they are made available in the “TOOLBAR” at the bottom of the screen through special buttons; the operations include:

CREATE NEW	Creates a new object within the selected section. Specific types of objects can be created depending on the specific section; if more than one type is available, a context menu is displayed
EDIT	Allows you to edit the properties of the selected object by opening the relevant tab in the "WORKSPACE"
DELETE	Deletes the selected item from the project

If the selected item allows editing, when it is selected, three "dots" appear on the right, which represent a shortcut instead of pressing the relevant edit button in the TOOLBAR.

When an item is open in the WORKSPACE, an arrow appears on the right; when the corresponding TAB is closed, the arrow is hidden and the three edit dots appear next to the menu item again, if selected.



Some sections of the menu allow you to create new objects within them; an "ADD" button is available in the toolbar at the bottom of the screen for this purpose: when you press it, a new object is created (the type depends on where you are located in the tree) and automatically selected; if you press the "EDIT" button now (or the "three dots" next to the menu item), you access the relevant tab to change its properties.

Search

When you type one or more keywords in the search field at the top left, a search is carried on for all objects within the project which contain those words in the name or one of the main properties; the results are displayed on the left side of the screen which temporarily occupies the space normally allocated to the navigation menu.

If you click on an item in the results, it is highlighted in light grey; as already seen in the case of the main menu, if you are allowed to perform operations, they are displayed in the TOOLBAR at the bottom of the screen. Here again, if the object allows it, three dots are shown on the right as a shortcut to open the edit tab within the WORKSPACE.

You can also run the following operations on the search results in the same way as seen for the MENU:

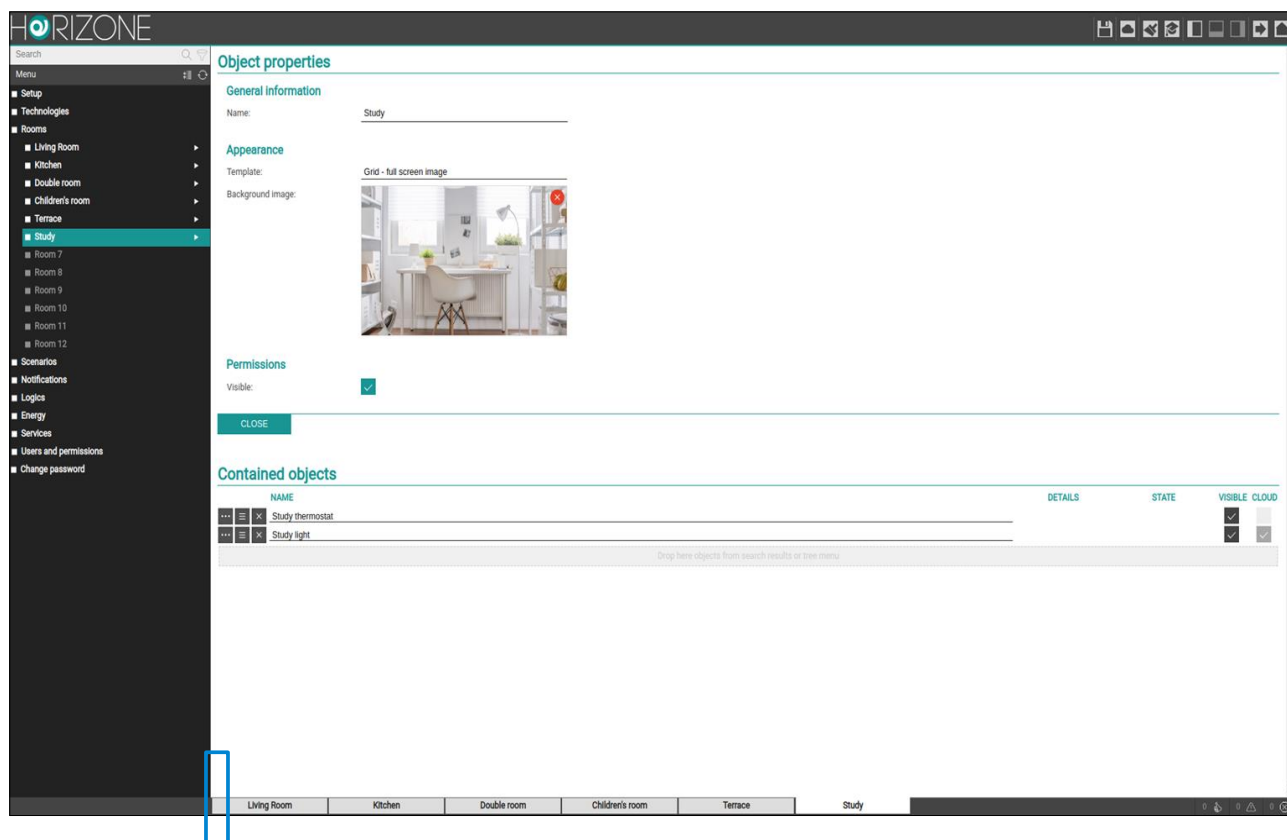
EDIT	Opens the tab of the selected objects
DELETE	Removes selected objects from the project

The search engine also allows **multiple selection** by pressing the CTRL key when clicking on the objects; in this case, the operations will be carried out on all the selected objects.

Workspace

The WORKSPACE is the main admin workspace. It allows you to work simultaneously on more than one TAB or on multiple configuration pages; these pages open when you EDIT an object from the MAIN MENU or SEARCH.

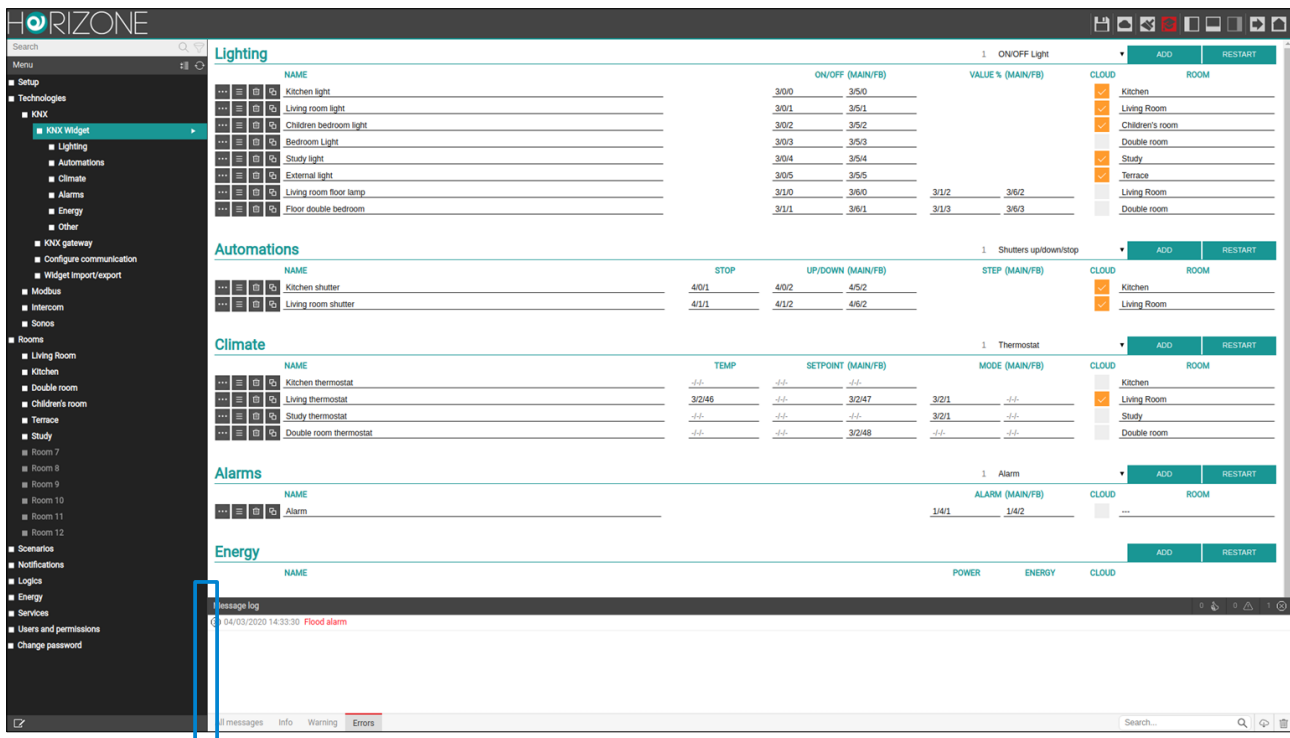
The open TABS are displayed in the TAB-BAR at the bottom; if there are a large number of open TABS, you can access the hidden tabs using the relevant button.



To close an open TAB, simply move over it with the mouse and click the close button (shown only when the mouse is on it). The corresponding window is closed; if there are any unsaved changes, confirmation is requested before closing, resulting in loss of data.

Message Center

A summary of the number of notifications generated by the system is shown at the bottom right, divided by their severity level. Pressing on it opens a panel containing the details of the most recent notifications, as shown in this example:



The screenshot shows the HORIZONE Message Center interface. The sidebar on the left contains a menu with the following items: Setup, Technologies, KNX (selected), KNX Widget, Lighting, Automations, Climate, Alarms, Energy, Other, KNX gateway, Configure communication, Widget import/export, Modbus, Intercom, Sonos, Rooms, Living Room, Kitchen, Double room, Children's room, Terrace, Study, Room 7, Room 8, Room 9, Room 10, Room 11, Room 12, Scenarios, Notifications, Logics, Energy, Services, Users and permissions, and Change password. The main area displays the following sections:

- Lighting**: A table with columns for NAME, ON/OFF (MAIN/FB), and VALUE % (MAIN/FB). It lists various lights like Kitchen light, Living room light, Children's bedroom light, Bedroom Light, Study light, External light, Living room floor lamp, and Floor double bedroom.
- Automations**: A table with columns for NAME, STOP, UP/DOWN (MAIN/FB), and STEP (MAIN/FB). It lists Kitchen shutter and Living room shutter.
- Climate**: A table with columns for NAME, TEMP, SETPOINT (MAIN/FB), and MODE (MAIN/FB). It lists Kitchen thermostat, Living thermostat, Study thermostat, and Double room thermostat.
- Alarms**: A table with columns for NAME, ALARM (MAIN/FB), and CLOUD. It lists Alarm.
- Energy**: A table with columns for NAME, POWER, ENERGY, and CLOUD.

At the bottom right, there is a 'Message log' section showing a notification: '04/03/2020 14:33:30 Flood alarm'. A blue box highlights the 'Message log' link in the sidebar.

Each notification is labelled with the date and time on which it occurred. You can clear the notification list with the trash can at the bottom right or download the log in CSV format.

SETUP

Introduction

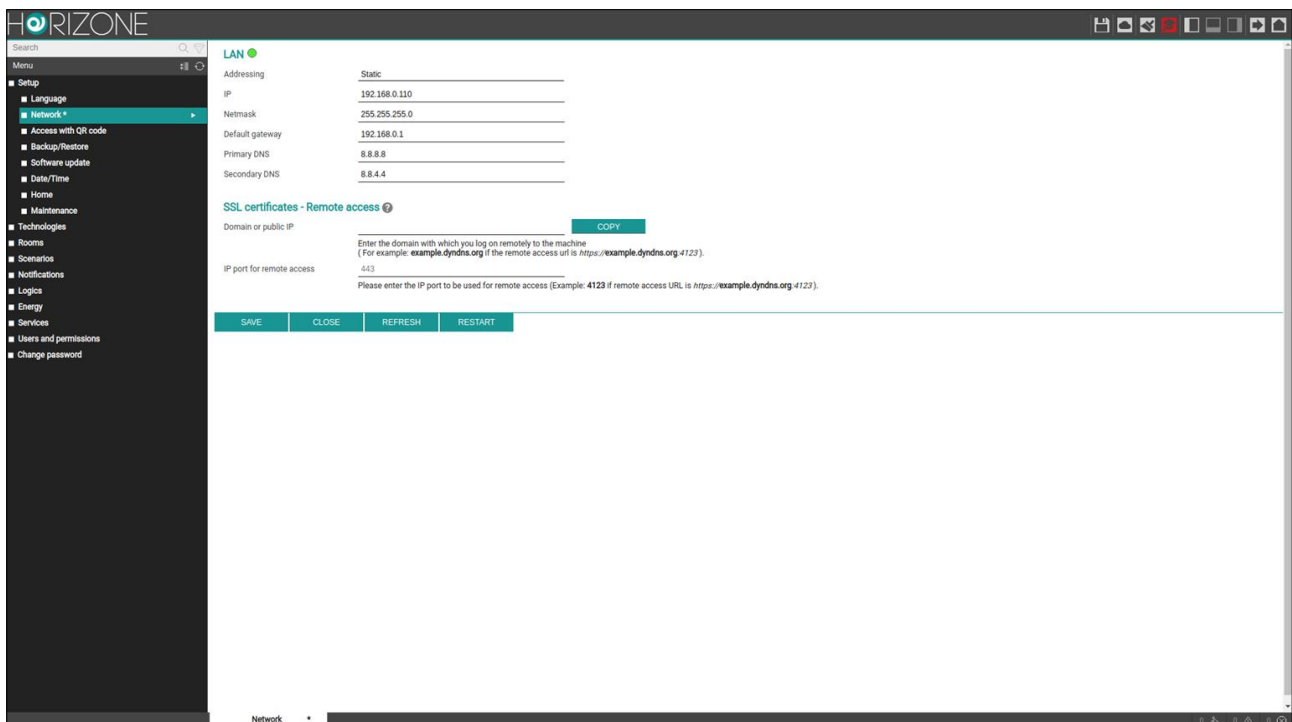
This chapter explores the administration tools offered by HORIZONE MINI for its correct installation and maintenance. All the pages described in this chapter are accessible via the “SETUP” section of the navigation menu; some of them may not be available depending on the user rights of the login used.

Language

This page allows you to set the language to be used in the VISUALISATION environment to generate the graphic interface. Select a language from the available languages, then press the “SAVE” button to confirm the changes; after saving, the page will be reloaded and the new language settings will then be available.

Network

This page allows you to set the network parameters of HORIZONE MINI, for the different network interfaces (if you have a HORIZONE MINI model with WIFI connection, in addition to LAN).



For the LAN network, the parameters required are:

IP address	Address to be assigned to HORIZONE MINI; it must be unique in the network and the first three numbers must be the same as those of the other network devices (unless otherwise indicated by LAN administrators)
NETMASK	Set "255.255.255.0" unless otherwise indicated by LAN administrators
DEFAULT GATEWAY	Provide the IP address of the Internet router (if any) or network reference server, unless otherwise indicated by LAN administrators. NOTE: To allow remote access to HORIZONE MINI, it is essential that this parameter is set to the exact network address of the Internet router (e.g.: ADSL) with which you want to manage access from outside the LAN network. For more information, please refer to the appropriate section of this manual.
PRIMARY DNS SECONDARY DNS	DNS addresses to allow HORIZONE MINI to access the internet (if there is a network connection). Ask your network administrators for indications or leave the factory settings in case of doubt.

Finally, the SSL CERTIFICATES - REMOTE ACCESS section requires:

DOMAIN OR PUBLIC IP	Enter the public IP (if static) or DYNDNS domain name here used to remotely access HORIZONE MINI. If the Cloud Port Remote Service is enabled on HORIZONE MINI, this field cannot be edited and the public address established by the cloud is displayed, which can be accessed remotely.
IP PORT FOR REMOTE ACCESS	If you need to use a port other than 443 for remote access (for specific router settings), enter it in this field

Once the network parameters have been changed, press the "SAVE" button to make them effective; the save operation takes a few seconds, during which time a progress window is displayed.

If you have changed the IP address, the page will reload to the new address at the end. If you also need to change your PC's network connection in the meantime, manually reload the page.

Double check the data to make sure it is accurate before saving, as it may no longer be possible to correctly reach HORIZONE MINI through your network.

If this happens, reset the factory IP address via the reset button following the instructions at the beginning of the manual (section 13).

If HORIZONE MINI is connected to the Internet, a new SSL certificate is automatically generated when saving network parameters, containing the local IP address and – if it has been specified in the "domain or public IP" field - the one for remote access.

Once you have configured your network connections, each has a coloured indicator, showing the connection status.

Access with QR code

You can speed up access from IOS and ANDROID apps by generating a user-specific QR code that contains all login information, eliminating the need to configure the app.

You must first fill in the information required in section the first time, or if you change the network configuration of HORIZONE MINI

SETUP > ACCESS WITH QR CODE

specifically:

SYSTEM DETAILS

DEFAULT LABEL	Name that will be assigned to the system in the app
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LOCAL SETTINGS

SERVER ADDRESS	HORIZONE MINI IP address on local network
PORT	IP port for accessing HORIZONE MINI If nothing is specified, port 80 will be used for HTTP access, 443 for HTTPS
USE SECURE CONNECTION	Determines whether the secure HTTPS protocol or (default) HTTP access should be used on the local network
HOME NETWORK(S)	Enter one or more WIFI network names (SSIDs) that are to be considered as local networks, i.e. HORIZONE MINI is reachable via local address. Networks should be in the format suggested on the screen, such as: ["network1"] ["network1", "network2"]

REMOTE SETTINGS

SERVER ADDRESS	Specify the public IP address or domain name (without "https://" and without the port number) for remote access If the Remote Cloud Service is enabled on HORIZONE MINI, this field is not writable and the public address assigned by the Cloud Service is displayed
----------------	--

PORT	Specify the IP port for remote access, if different from 443
USE SECURE CONNECTION	<p>This field must normally remain active because HORIZONE MINI does not support unsafe remote connections (HTTP).</p> <p><i>Under particular network conditions, however, you may need to remove this flag; in this case, the IP port must be 80 or another HTTP (non-SSL) port that can be customised at network / router level</i></p>

ADVANCED OPTIONS

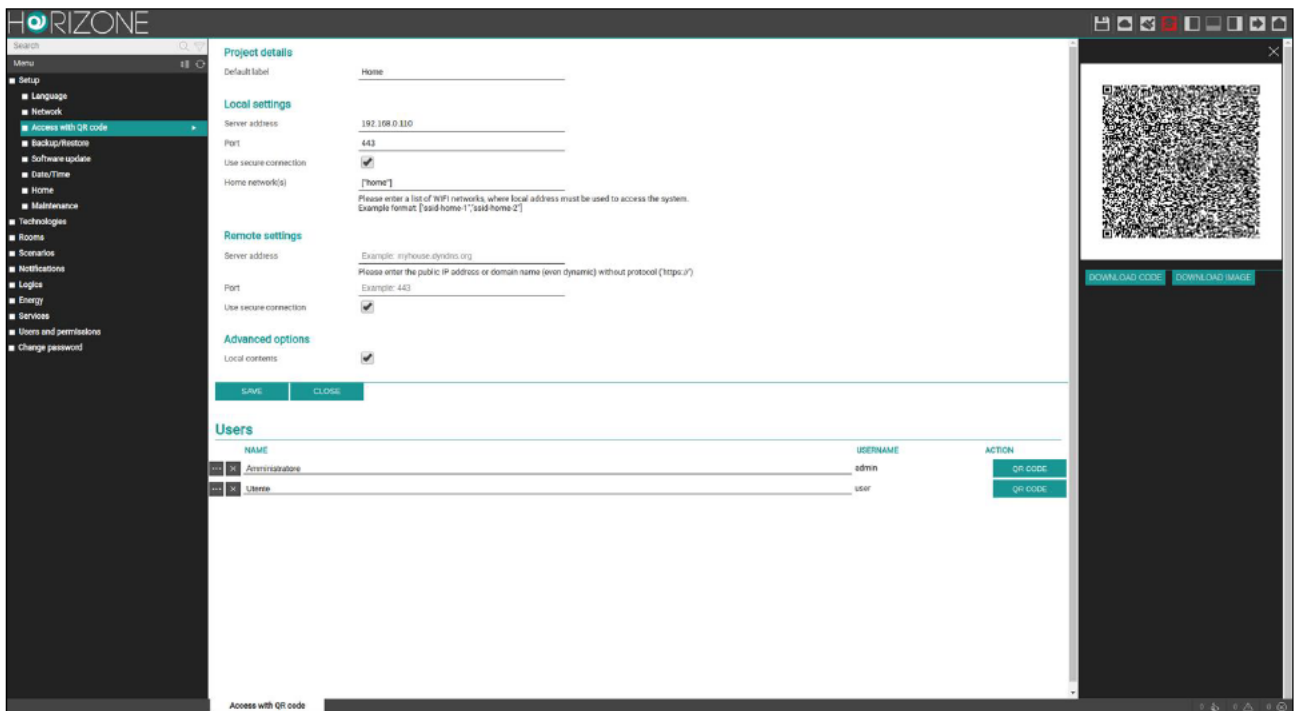
LOCAL CONTENTS	<p>Specifies whether or not to use the contents suite first downloaded from the server in the HORIZONE MINI apps, to optimise browsing.</p> <p><i>This option is enabled by default; if disabled, apps may show an error on SSL certificates if the Eelectron CA certificate has not been installed on the device.</i></p>
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Once all the fields have been filled in, press SAVE and wait a few seconds, after which the page can be edited again.

At this point, a list of all HORIZONE MINI users appears in the section below.

It is possible to generate a unique QR code for each of them, containing all the data and login credentials, to be shared with the user in question, thus allowing quick and secure access (because the content is encrypted) via the HORIZONE MINI apps. To do this:

- Identify the user for whom you want to generate the code
- Press the QR CODE button
- Wait a few seconds for the code to appear in the side panel
- Print or scan the QR code directly on screen, if you have the app when you generate it
- Download the code using the DOWNLOAD CODE button and send it via email / WhatsApp or another similar app, which allows file sharing



Follow the steps indicated below on your IOS or ANDROID mobile device, once you have installed the HORIZONE MINI app:

- If you received the file via mail / WhatsApp / another application, simply tap on it. The HORIZONE MINI app opens automatically and a new on-the-fly system is created
- Alternatively, press the QR symbol in the app in the SYSTEMS section and line up the printed or on-screen code

If you change the login details to HORIZONE MINI or a user's credentials, you must create a new QR code and repeat the procedure, because the previous code will no longer be valid.

You can, however, always manually modify the automatically generated project parameters through QR from within the HORIZON MINI app.

Updating

This item allows you to update the HORIZONE MINI software; only use official installation packages to avoid malfunctions.

When you access the update page, it automatically searches for a newer version on the cloud. If a new version is detected, press the UPDATE button to install it.

If there is no internet connection available, you can proceed manually as follows:

- Go to the update page
- Press the MANUAL button
- Ask Eelectron Technical Support for the latest version of the package and save it to your PC without unzipping it
- Select the update package using the “BROWSE” button (or similar, depending on your browser)
- Click on the “UPDATE” button

The update procedure is completely automatic; wait for the procedure to complete without performing any other operation on the browser and without closing it (otherwise the webserver may malfunction). The procedure may take several minutes, depending on your software version and configuration.

At the end, a summary of the operation is displayed indicating the new software version; to complete the procedure, press the “REBOOT” button that restarts the HORIZONE MINI operating system.

If the update procedure is accidentally interrupted (e.g. power outage, loss of network connection with your PC), perform the following steps:

- Turn the webserver off and on again
- Wait one minute, then open your browser at the HORIZONE MINI IP address
- Wait for the automatic recovery procedure to complete and for the webserver to restart again



The automatic reset procedure can also be started by performing a complete reset via the button reset.

If the automatic reset does not unlock (wait at least 15 minutes to be sure), please contact our technical support.

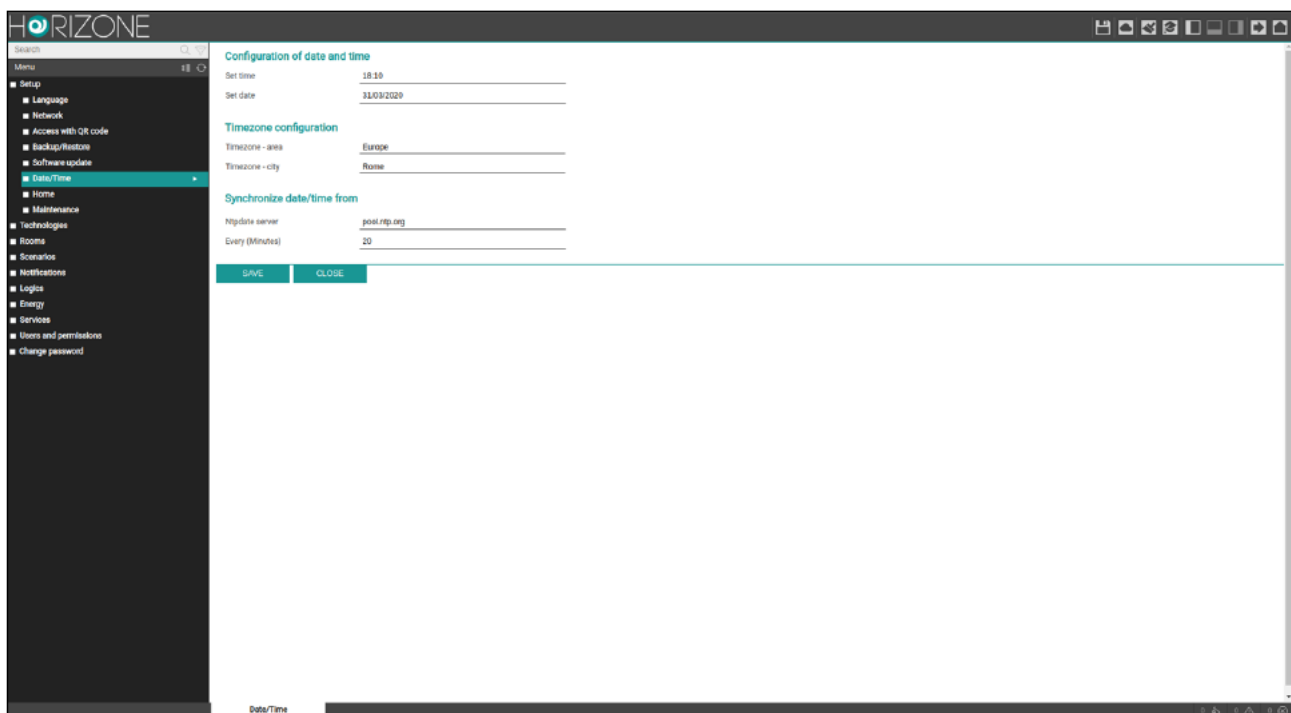
Backup / Restore

This page allows you to make a backup copy of your supervision project or, conversely, to import a previously saved backup (even on a different MINI HORIZONE or in HORIZONE MINI PDK). You can also return HORIZONE MINI to the factory settings by choosing the appropriate menu item (the network address is not changed).

Once you have chosen the operation you want to perform (and selected the backup file in the case of import), press the “EXECUTE” button and wait for the end of the operations, indicated by a relevant message on the screen. Do not interrupt the procedure by performing other operations in the browser or closing it, otherwise it may malfunction.

Date/Time

This page allows you to set a number of system clock options.



The screenshot shows the HORIZONE web interface. On the left is a dark sidebar with a menu. The main area is titled 'Configuration of date and time'. It contains several sections: 'Set time' with a value of 18:30, 'Set date' with a value of 11/09/2020, 'Timezone configuration' with 'Europe' and 'Rome', and 'Synchronize date/time from' with 'pool.ntp.org' and 'Every (Minutes) 20'. At the bottom of the form are two buttons: 'SAVE' and 'CLOSE'.

DATE AND TIME

This section allows you to manually set the system time. Enter the time and date and press the “SAVE” button; while saving the time, and consequently restarting all communication services, a page with an alert message is displayed.



Under some conditions, saving a time different from the one previously set in the webserver may result in a “gateway timeout” error page being displayed.

In this case, simply reload the page; if the problem persists, turn the webserver off and on again and wait about one minute before reconnecting.

TIME ZONE

Allows you to set the working time zone for HORIZONE MINI, if different from the default.

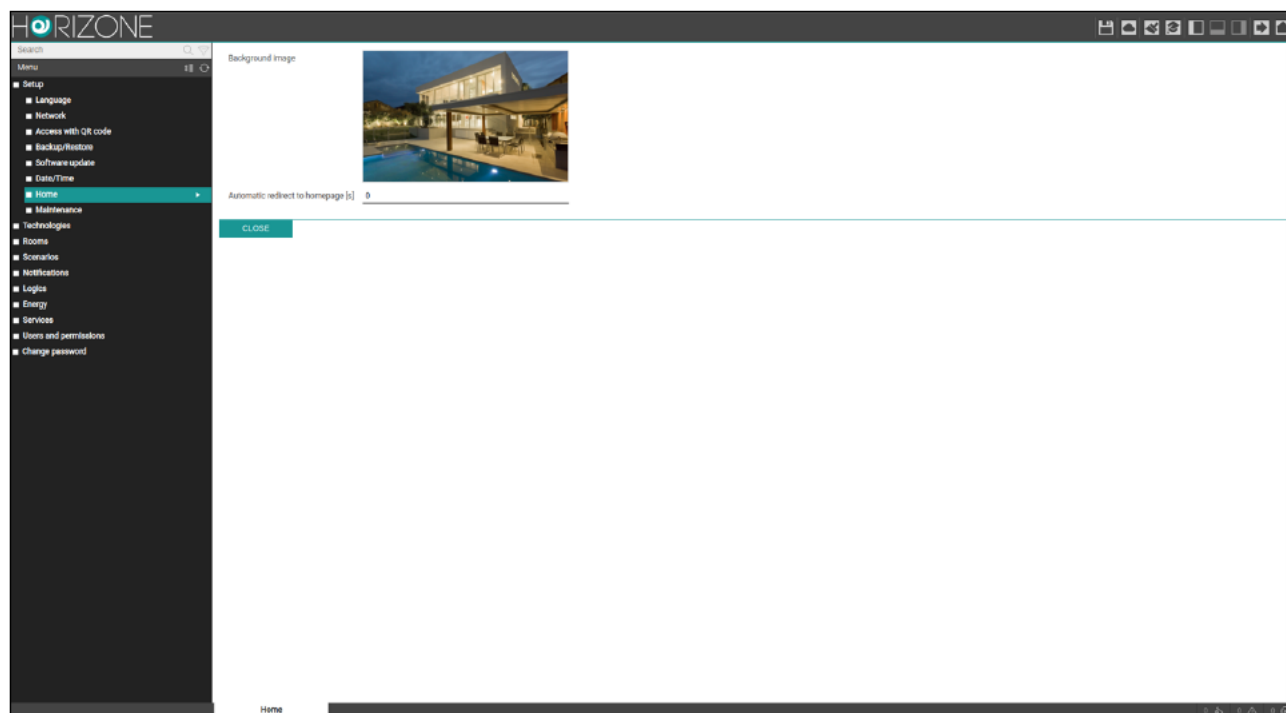
SYNCHRONIZE DATE FROM

This section allows you to automatically update the HORIZONE MINI time via an internet service; you must specify a *time server* (if different from the default) and after how many minutes to synchronise.

Home

Allows you to set the following options for the main screen:

BACKGROUND IMAGE	Photograph to be used as a general background for the supervision on all pages which do not have their own graphics
AUTOMATIC REDIRECT TO HOMEPAGE [S]	If you enter a non-zero value, the display automatically returns to the main page after this time (in seconds) of inactivity



Maintenance

This page allows you to monitor the operating status of the webserver and perform a series of recovery operations.

The “SYSTEM STATUS” section displays the following information:

TIME FROM LAST START	Webserver power-on time
FREE RAM MEMORY USED RAM MEMORY	Free or used RAM, respectively

You can also download the communication services log file to your PC / MAC; this file can provide our customer service team with useful information to troubleshoot any problems.

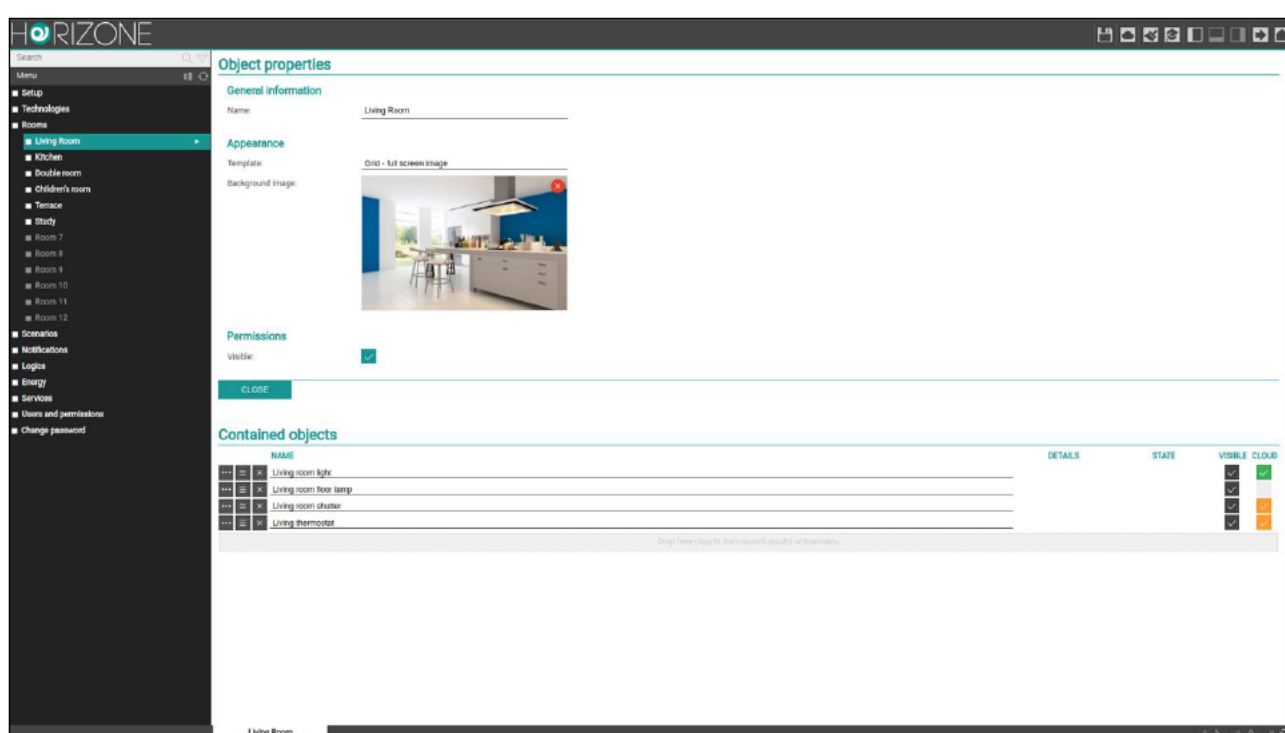
The following activities can be carried out in the “ACTIONS” section, on the other hand:

RESTART COMMUNICATION SERVICES	<p>It forces the restart of the communication services which manage the dialogue with the technologies and carry out logical operations.</p> <p>Try using this operation if there are problems communicating with the technologies or if any configuration changes have not been automatically incorporated.</p>
REBOOT SYSTEM	Forces the device to restart without having to manually switch on and off
REGENERATE LOCAL CONTENTS FOR MOBILE APPS	<p>Allows you to regenerate the <i>software suite</i> that is downloaded from the IOS and Android apps on the first link, thus reducing subsequent data transfers and speeding up access and browsing.</p> <p>Under normal conditions, this suite is generated after each software update. In certain situations, however, it may be necessary to regenerate this archive; in this specific case, once the operation has been carried out, the caches in the app must also be cleared, specifically:</p> <p>HORIZONE FOR IOS</p> <ul style="list-style-type: none"> Press the clear cache button <p>HORIZONE FOR ANDROID</p> <ul style="list-style-type: none"> SETTINGS > CLEAR CACHE ARCHIVES SYSTEMS > System Selection > CLEAR CACHE

ROOMS

Modifying a room

HORIZONE MINI includes 12 default rooms in which you can insert the widgets for automated functions to be managed.



Default environments are hidden; to customise and make them visible, select one from the corresponding administrative menu item, and press the edit button. You can access its detail tab where you can set the following:

NAME	Name identifying the room, used in all points of the software that allows browsing in it
TEMPLATE	<p>Allows you to choose the graphical layout with which the content of the room will be displayed in the VISUALISATION. The following templates are provided:</p> <ul style="list-style-type: none"> GRID - FULL SCREEN IMAGE The image is displayed as the page background

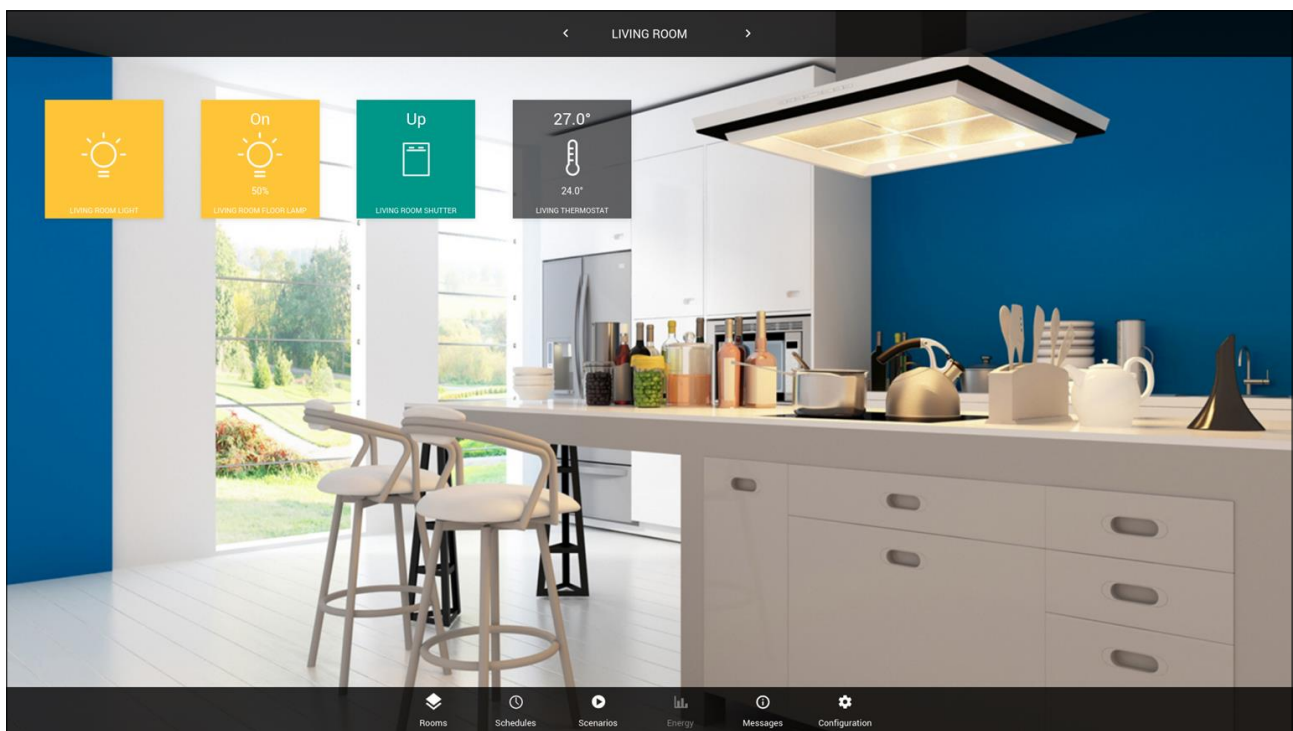
	<ul style="list-style-type: none"> • GRID – NO IMAGE The image is used only in the main menu, but not as the page background
BACKGROUND IMAGE	<p>If the chosen template displays a background image, you can choose one of the available ones by clicking on this item.</p> <p>You can upload new images by pressing the “UPLOAD” button and selecting a file on your PC; after a few seconds (in which the file is transferred to the webserver), it will be available in the list.</p> <p>Clicking on a thumbnail, selects the corresponding image as the background for the room.</p>
VISIBLE	Whether or not the room should be visible in the VISUALISATION

Widget Association

You can associate a technological widget with a room in two ways:

- On the widget configuration page, select the relevant room via the appropriate drop-down menu
- Once the environment page is open, search for the widget in the side menu or with the search engine and drag it to the CONTAINED OBJECTS section

You can change the widget order using the drag and drop button, which determines the order in which items are drawn in the display. When the widget association is complete, the rooms appear in the display as shown in this example:



KNX

Introduction

HORIZONE MINI can manage a KNX system, connected directly to its integrated port, supervising up to 200 group addresses at the same time.

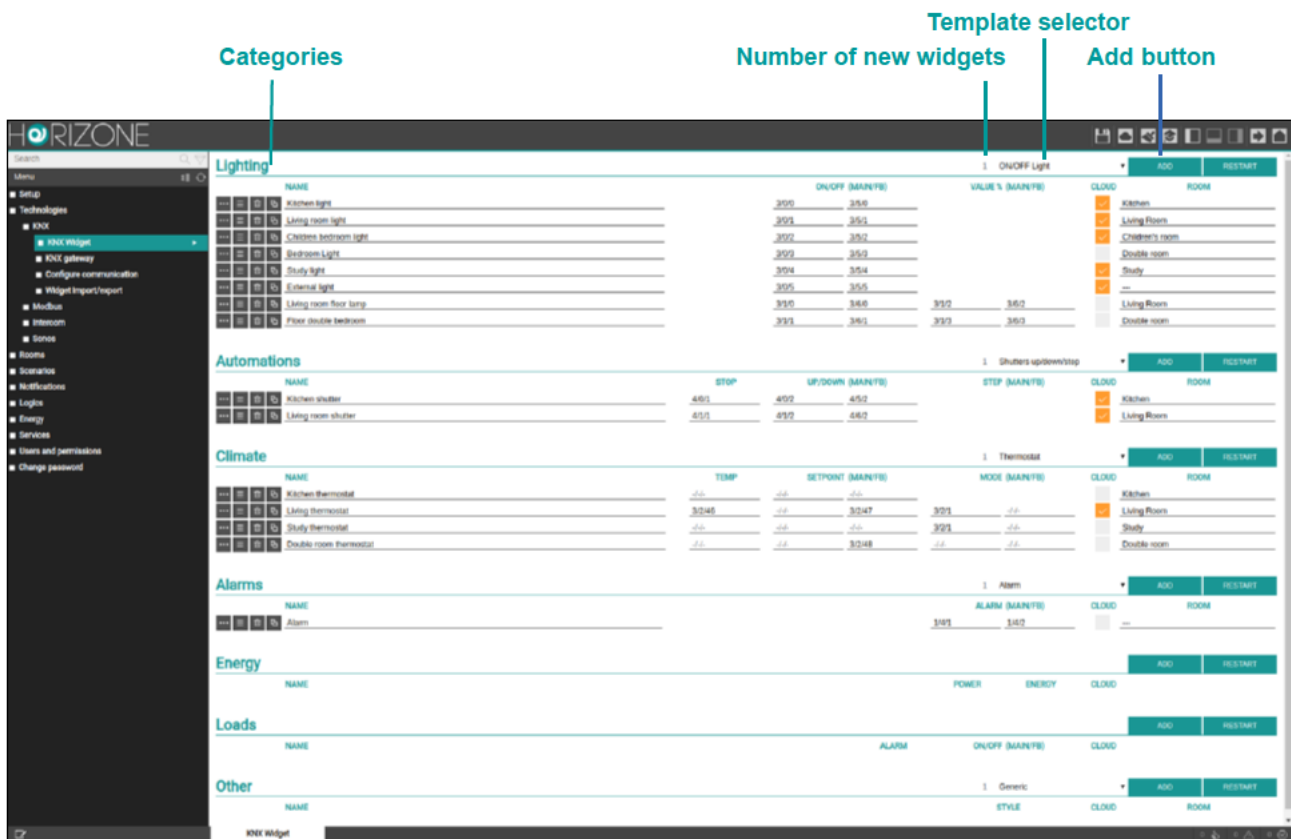
New KNX Widget

To supervise a KNX feature, you need to create one or more *widgets* through the KNX feature page

TECHNOLOGIES > KNX > KNX WIDGET

There is a list of categories in it, which are initially empty, and in which the widgets will be organised. At the top right of the screen, there is a text field alongside each category, in which to enter the number of widgets to be created, and a selector containing a list of *templates* (which represent the type of widget, in terms of both sub-objects and graphic appearance).

By pressing the ADD button, the chosen widgets are created and appended to the list in the corresponding category:



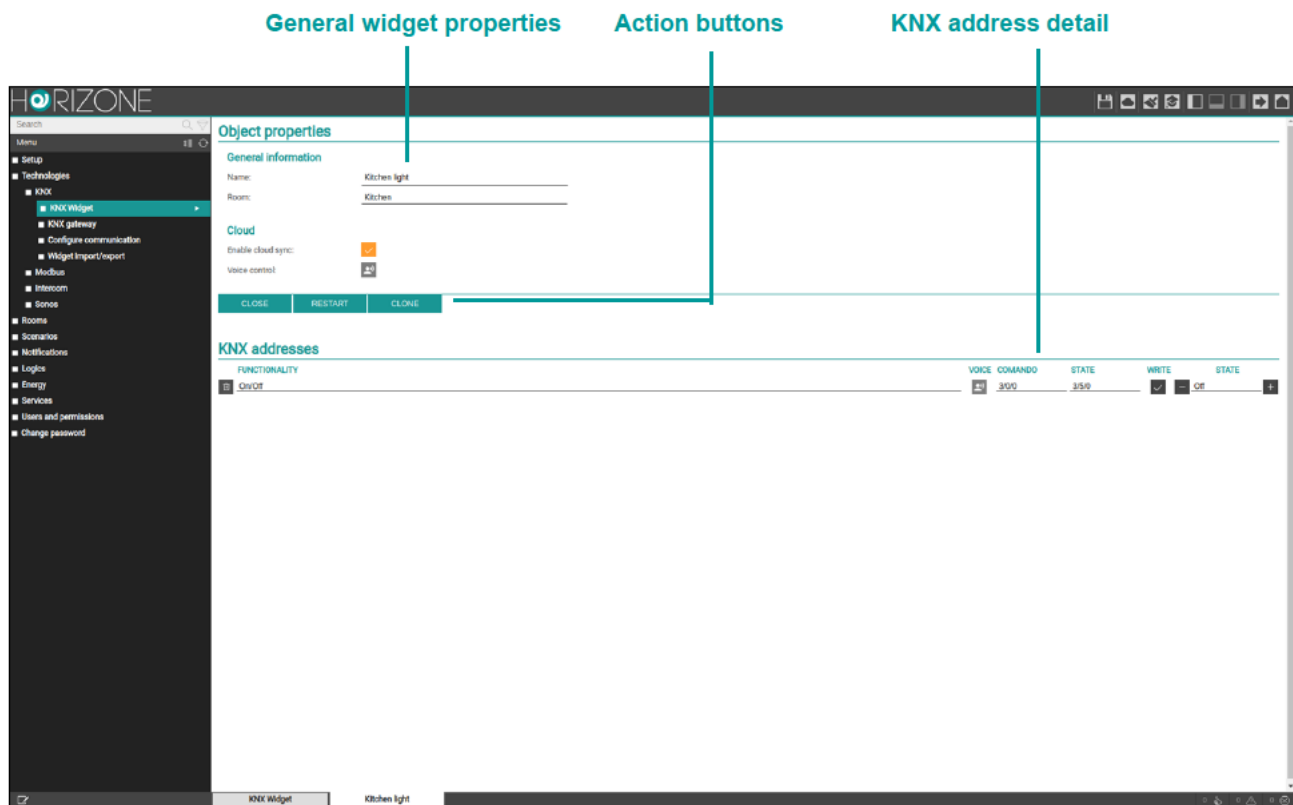
It is advisable to initially create only one widget of a certain type, and then duplicate it, as highlighted in detail below.

In the case of simpler widgets, such as ON/OFF lights or dimmer lights, you can enter KNX addresses directly in the list; where allowed, you can enter both the main address (MAIN) and any status feedback address (FB), all in the X/Y/Z format.

HORIZONE MINI does not perform a duplication check of manually entered KNX addresses, because it may be useful to retrieve the same address in multiple subgraphs. Make sure that the addresses entered are correct.

You can associate widgets with a previously configured room by using the drop-down menu at the bottom of the row (only rooms marked as visible are shown).

To configure the widget in more detail, access its tab using the EDIT button at the beginning of the row (“three dots” symbol):



The initial section contains **general widget information**:

NAME	Label used to identify the widget
ROOM	Room selector in which to display the widget

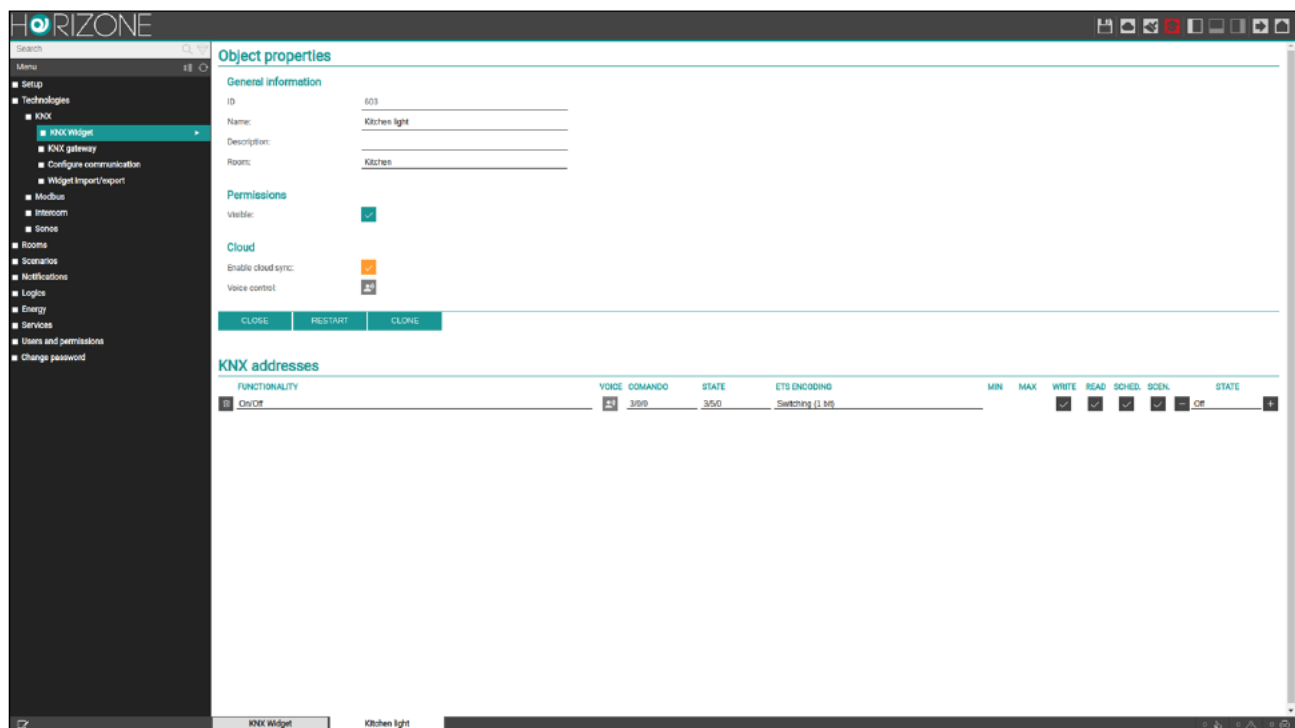
By enabling **ADVANCED** mode, with the relevant button in the *toolbar* at the top of the screen, you can also specify the following:

VISIBLE	Determines whether or not the widget should be visible in supervision
ENABLE CLOUD SYNC	Allows you to synchronise the widget to the cloud and enable it to external services, such as control via voice assistants.
VOICE CONTROL	<p>The VOICE CONTROL indicator indicates whether or not the widget can be controlled by voice.</p> <p>For more details, please refer to the appropriate section of this manual, dedicated to SERVICES.</p>

Conversely, in the section below, the complete list of KNX addresses that can be associated with the widget is shown, depending on the type chosen during creation.

For each one, you can specify the following:

FUNCTIONALITY	Represents the “role” of the KNX address within the widget. It cannot be edited, unless it is a generic widget.
VOICE	Highlights which addresses can be managed by voice assistants; cannot be edited. For more details, please refer to the appropriate section of the <i>voice bridge</i> service manual.
COMMAND	Primary KNX address to which commands are sent (if writable)
STATE	Possible KNX address status, to be monitored to remain aligned with the status of the actuators. In the case of read-only objects, indicate the KNX address here on which HORIZONE MINI expects to receive telegrams.
WRITE	Determines whether or not the address should be writable from the HORIZONE MINI user interface
STATE	Shows the real-time status of the address and, if writable, allows test commands to be sent on the KNX bus



If you enable ADVANCED mode, you can also specify the following using the relevant button at the top right of the *toolbar*:

ETS ENCODING	Type of data exchanged on the KNX bus at this address. You should not change the encoding from the suggested settings.
MIN MAX.	<p>If the addresses have a numeric value, you can force a minimum and maximum limit, which differs from default settings.</p> <p>As a result, you can, for example, decrease or increase the selection limits of a temperature setpoint in a thermostat widget.</p>
READ	Determines whether the KNX address can be queried by read telegram. To send KNX read telegrams, use a scenario.
SCHEDULE SCENARIO	Allows you to determine which address, taken from the list, should be used for a possible schedule (SCHED) or in scenarios (SCEN), when selecting the current widget

After you assign KNX addresses to the widgets, you must restart the communication services for them to take effect. This can be done with the RESTART button, available both in the list of widgets and in the detail tab.

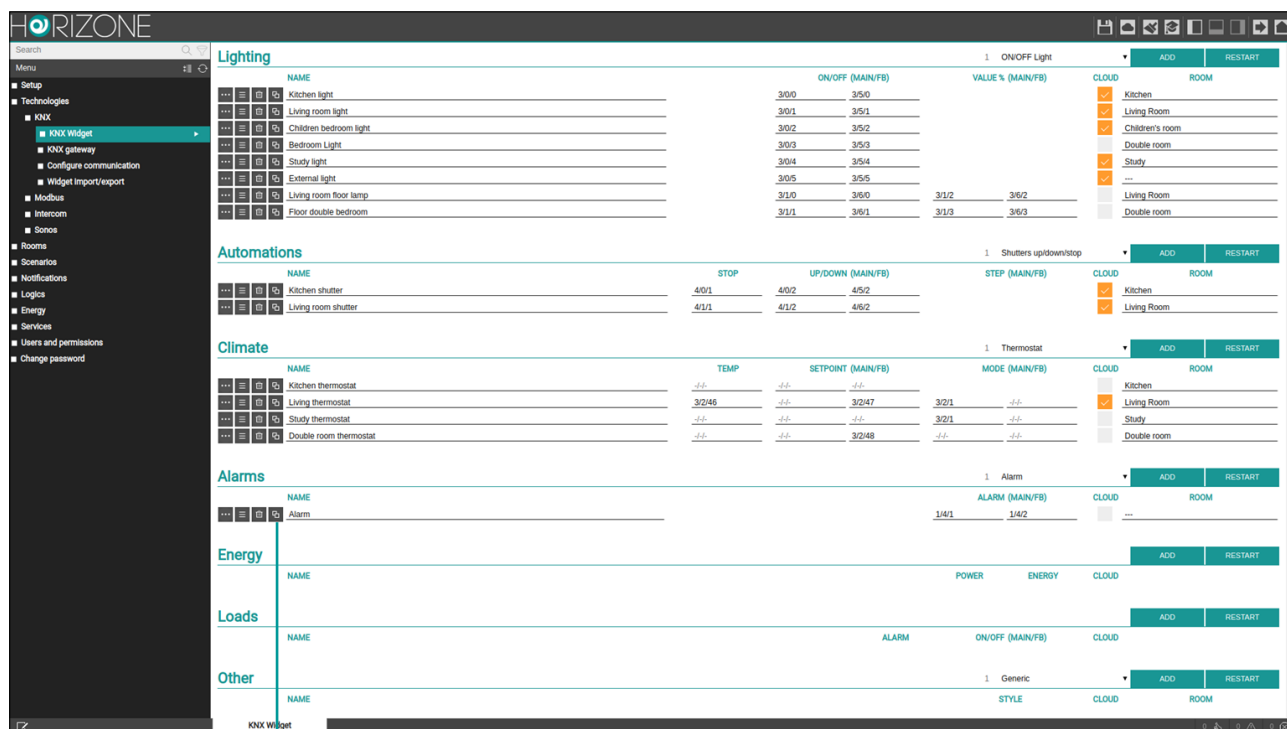
You do not need to restart services every time you change them, but you must do so after a series of changes or after inserting new widgets.

Duplicating a widget

Once a widget has been fully configured, it can be duplicated; this method is the fastest way to quickly implement the supervision project because you can automatically increase the group addresses during duplication.

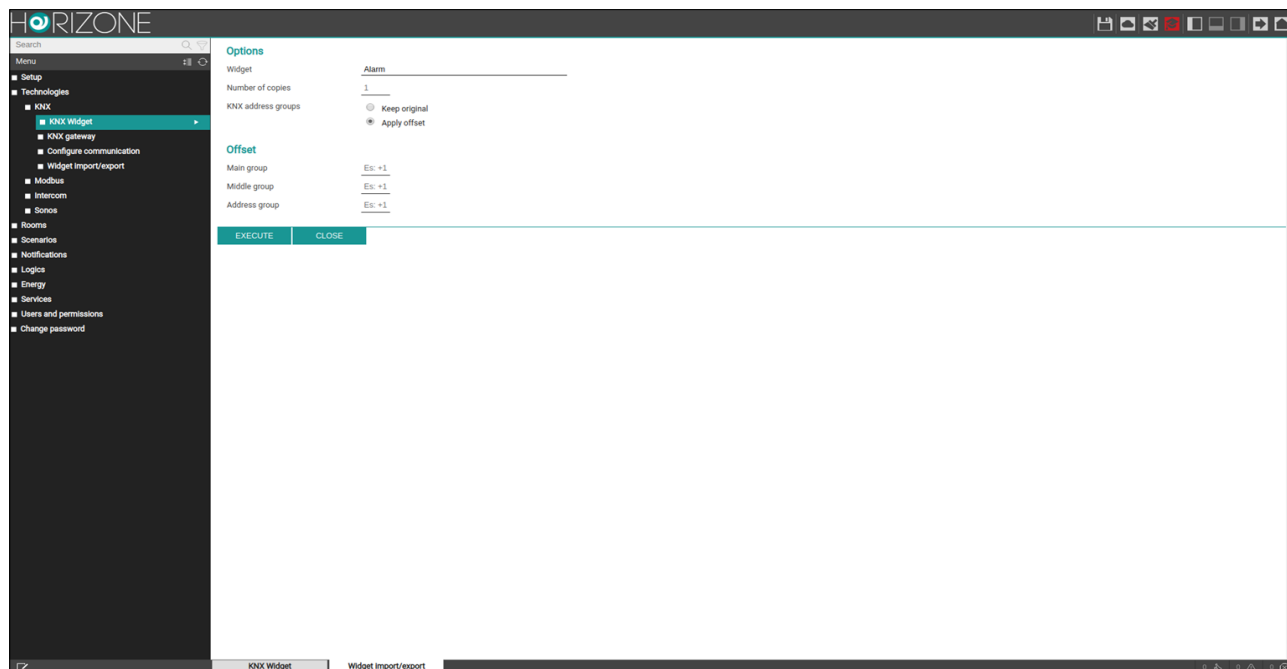
Follow these steps to duplicate a widget:

- Press the corresponding CLONE button in the widget list
- Press the CLONE button in its detail tab



Duplicate button

In both cases, the window below opens:



You can specify the following:

NUMBER OF COPIES	Allows you to specify the number of widgets you want to create, starting from the one you chose
KNX ADDRESS GROUPS	<p>If you select “keep original”, identical copies of the original widget will be created.</p> <p>Conversely, by selecting “apply offset”, it is possible to indicate an increase (offset), for each of the 3 numbers that make up the KNX addresses (main, intermediate and group address), to be applied for each of the duplicates. You can also indicate negative values.</p> <p>For example, by entering “1” or “+1” as an offset on the group address, each KNX address in the original widget will be incremented by 1 on the last number, as many times as copies are required:</p> <p>3/0/1 3/0/2 3/0/3 ...</p>

If you press the EXECUTE button, duplication starts; after a few seconds, the widgets appear in the corresponding section of the KNX WIDGET page.

Now, just:

- Edit the label for the new widgets
- Assign them to the target rooms (all duplicates are placed in the original widget room, if available)

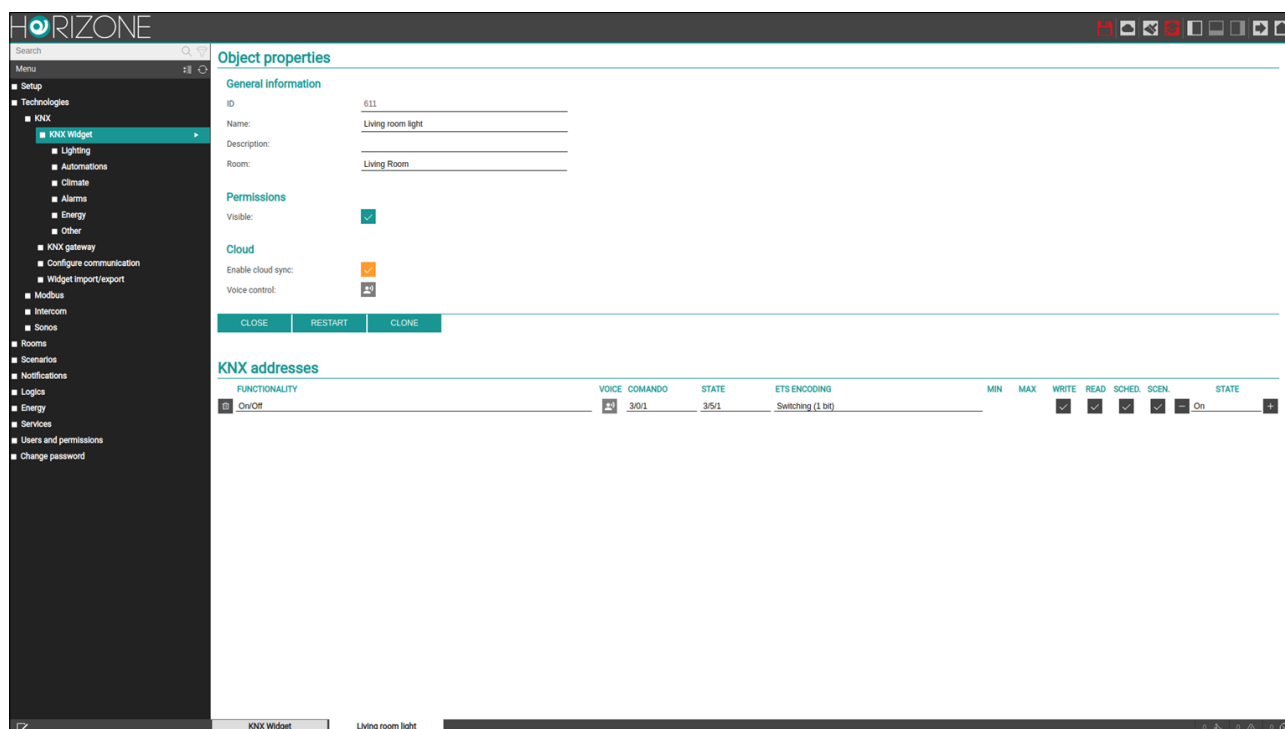
You still have to press the RESTART button after a duplication operation to ensure that the new addresses are correctly managed by HORIZONE MINI in supervision

You should not modify the ETS encoding for the sub-objects of a widget, with respect to the default one. Changing the encoding may cause the widget to malfunction.

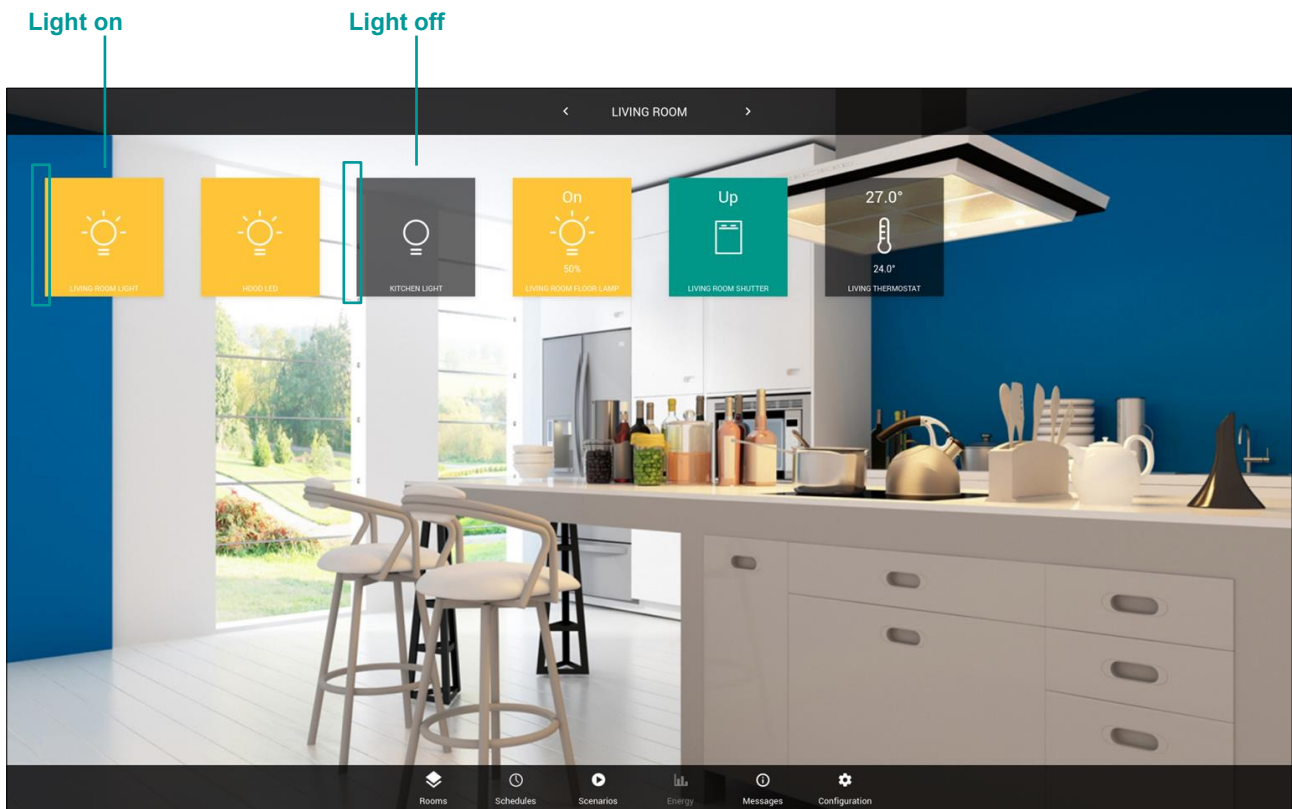
Lighting

ON/OFF LIGHTS

The ON/OFF lights are one of the simplest KNX widgets; they contain only one sub-object, to which you can associate a 1-bit command address and any status feedback:



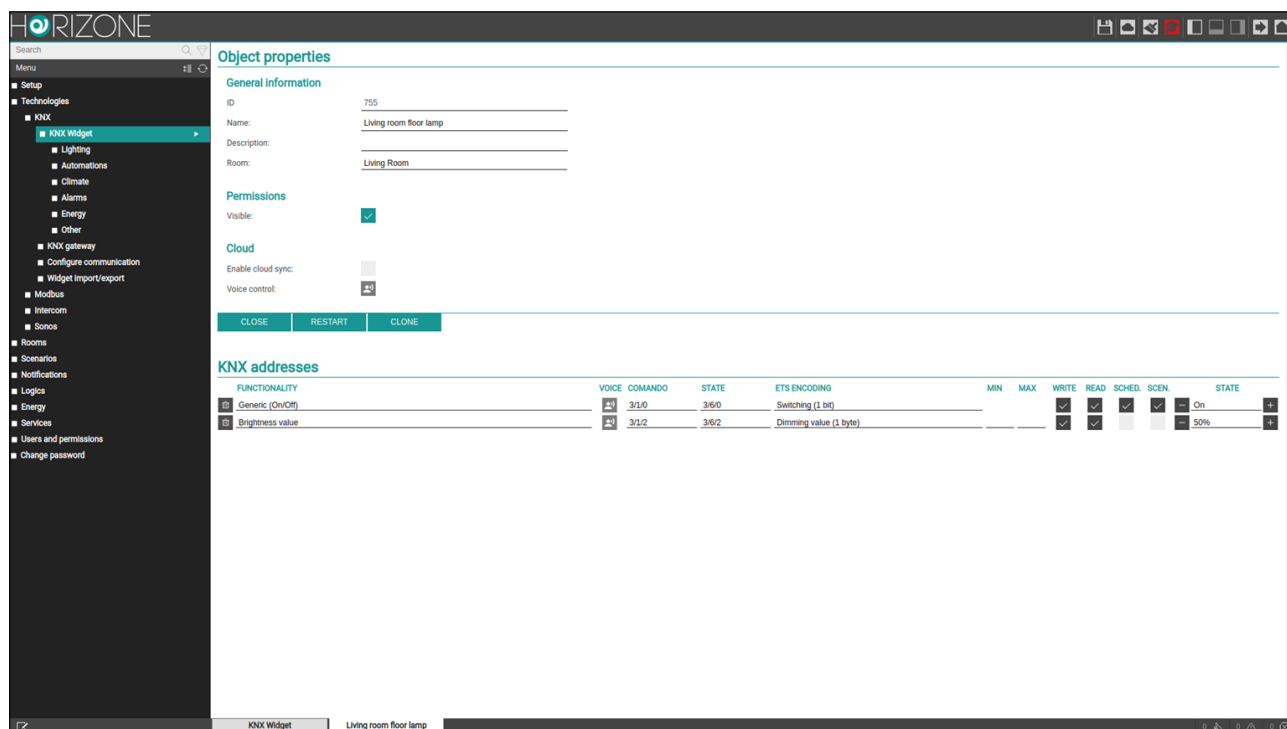
The ON/OFF lights are displayed in supervision as touch control boxes; every time they are touched, the status is reversed between on and off:



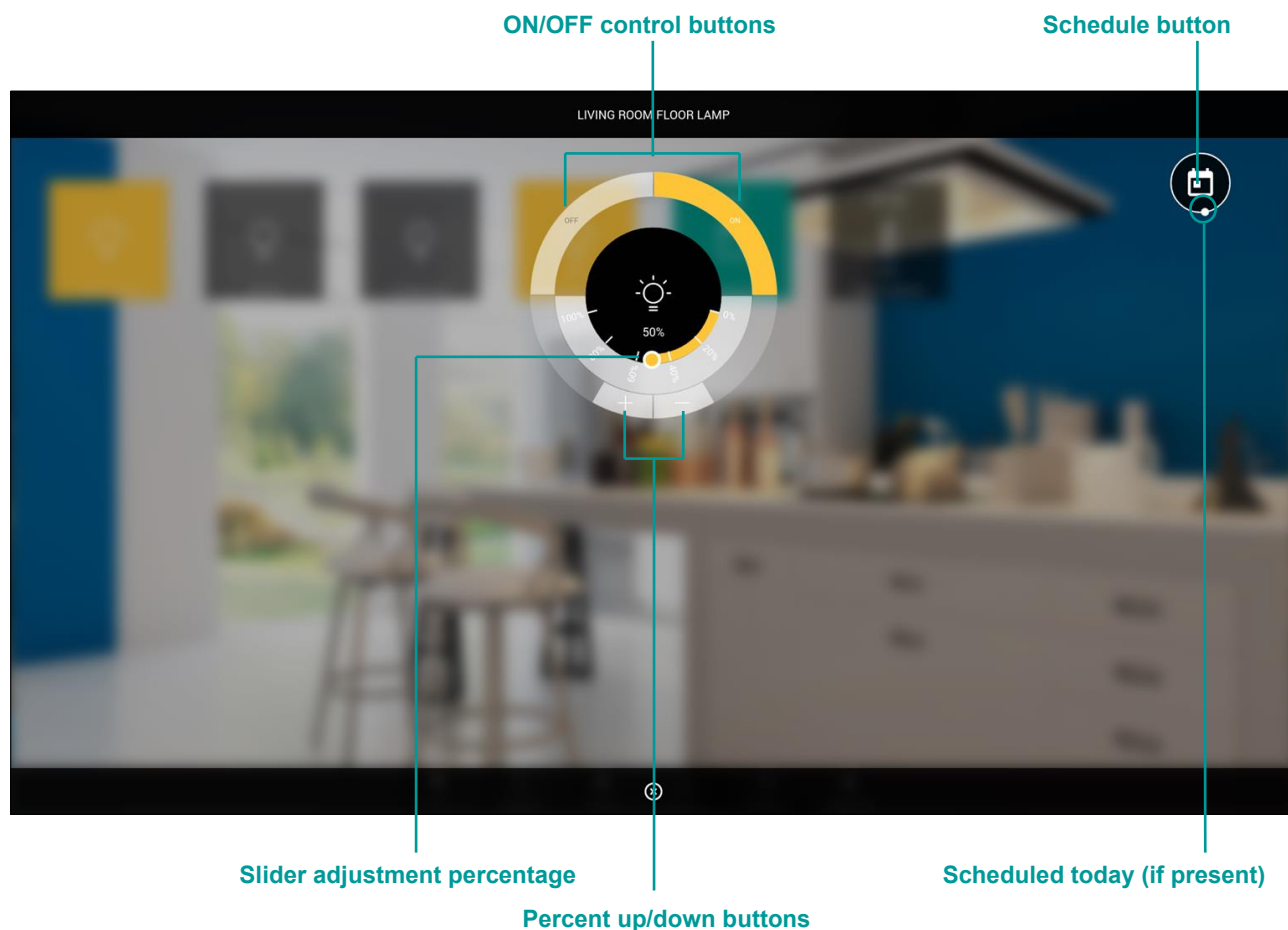
You should not modify the ETS encoding for the sub-objects of the widget; the modification may result in a supervision malfunction.

DIMMER

The dimmer widget provides two sub-objects, to switch the light ON/OFF and adjust its intensity:

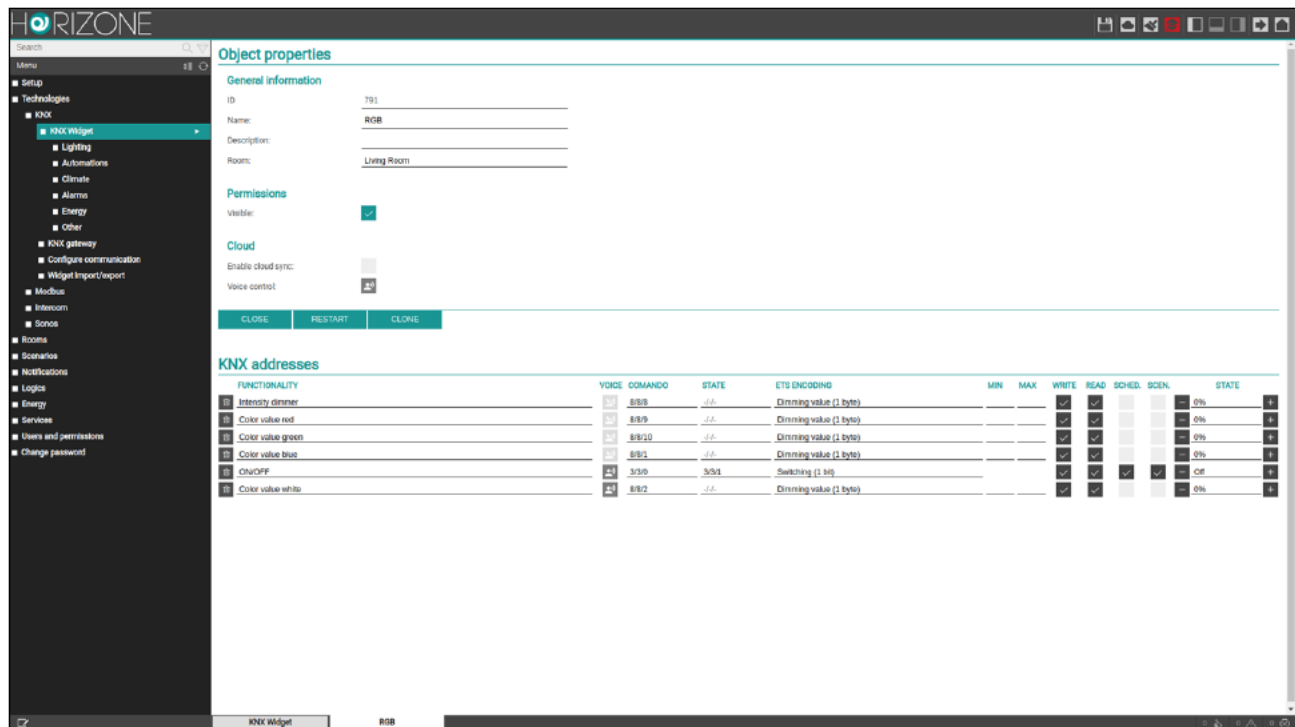


When you press a dimmer light in supervision, the following control pop-up appears:



At the top right, the widget schedule quick access button is available; you can schedule the sub-object marked "SCHED" during configuration.

If there is an active schedule, the button has an animation, the schedule for the current day is summarised at the bottom of the popup window. You can edit it directly by pressing on it.

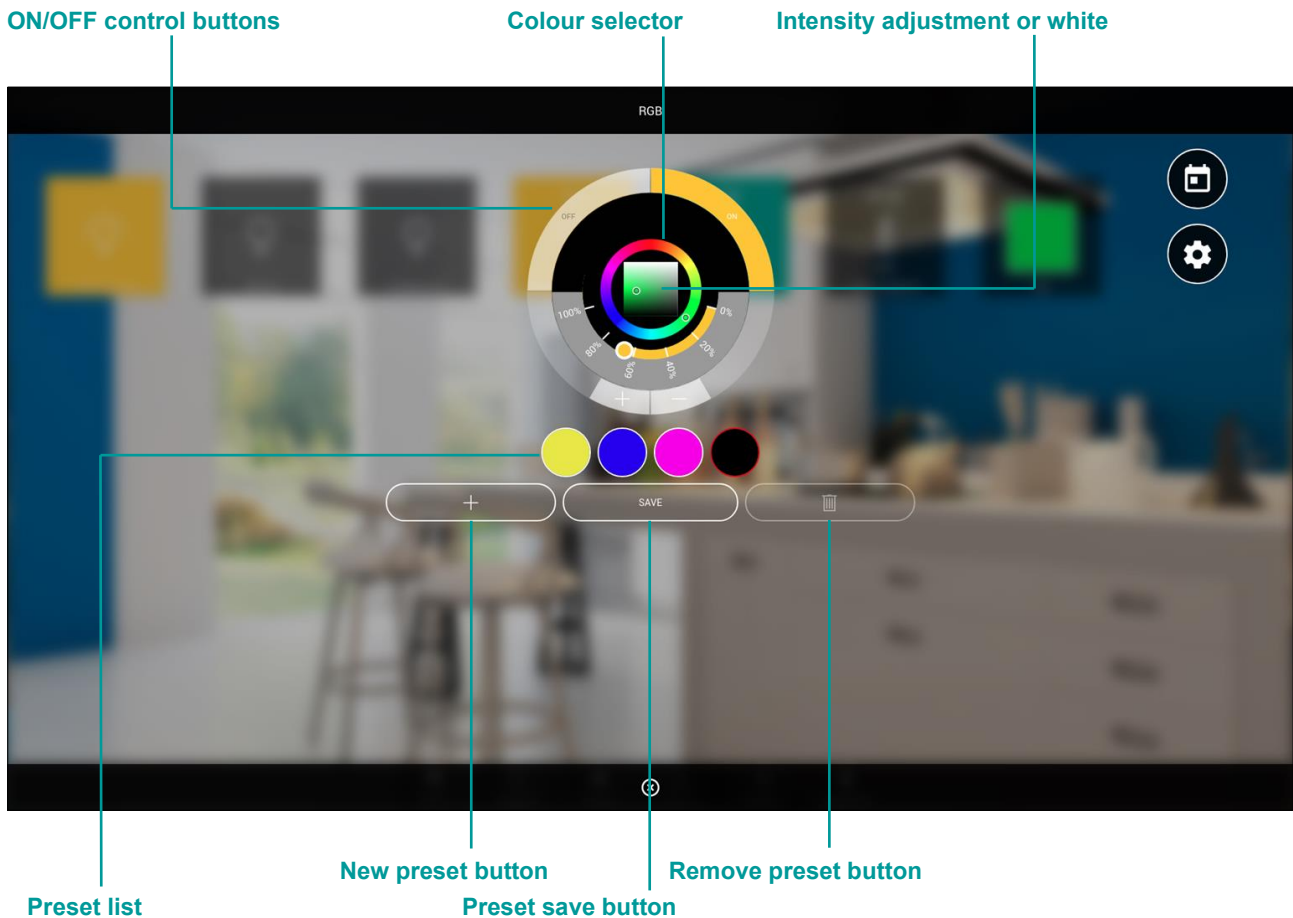


RGB

You can control an RGB controller by creating the RGB controller widget, which provides the following sub-objects:

IDENTIFIER	ETS ENCODING	NOTES
Intensity dimmer	Percentage (1 byte DPT 5)	If present, it adjusts the overall intensity of light, regardless of colour
Red colour value Green colour value Blue value colour	Percentage (1 byte DPT 5)	Dimmer components for adjusting the 3 colours
White colour value	Percentage (1 byte DPT 5)	White component for RGBW controllers
ON/OFF	Switch (1 bit DPT 1)	If present, turns the light on or off

In supervision, this detailed popup window is shown when you press on an RGB control:



You can control the colour of the controller in real time using the colour selector. The chosen colour is separated into R/G/B components and sent to the corresponding KNX addresses.

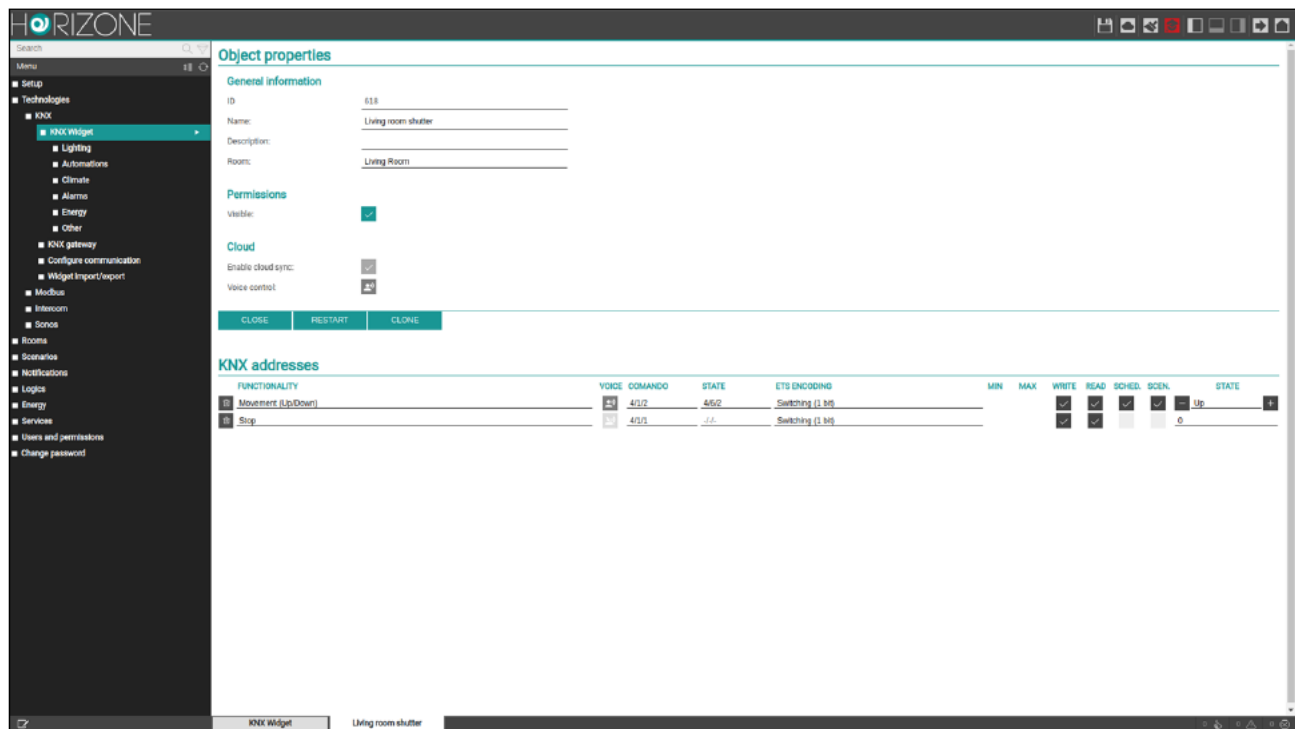
Pressing the add preset button creates a new colour memory, initially black; by selecting a colour, a preset and pressing the MEMO button the colour is saved in the corresponding memory. A preset can be removed by selecting it and then pressing the delete button.

Automations

SHUTTER UP/DOWN/STOP

This type of widget allows you to control simple motors, using two sub-objects, typically made available by KNX actuators for shutters and similar:

IDENTIFIER	ETS ENCODING	NOTES
Movement (up/down)	ON/OFF (1 bit DPT 1)	Typical convention: 1 → lower / close 0 → raise / open
Stop	ON/OFF (1 bit DPT 1)	Typically accepts a 1 to stop movement



The screenshot shows the HORIZONE software interface. On the left is a sidebar menu with categories like Setup, Technologies, KNX, and Rooms. The main area is titled 'Object properties' and contains sections for 'General information', 'Permissions', and 'Cloud'. Below these is a table of 'KNX addresses'.

Object properties

General information

ID: 638
 Name: Living room shutter
 Description:
 Room: Living Room

Permissions

Visible: ☒

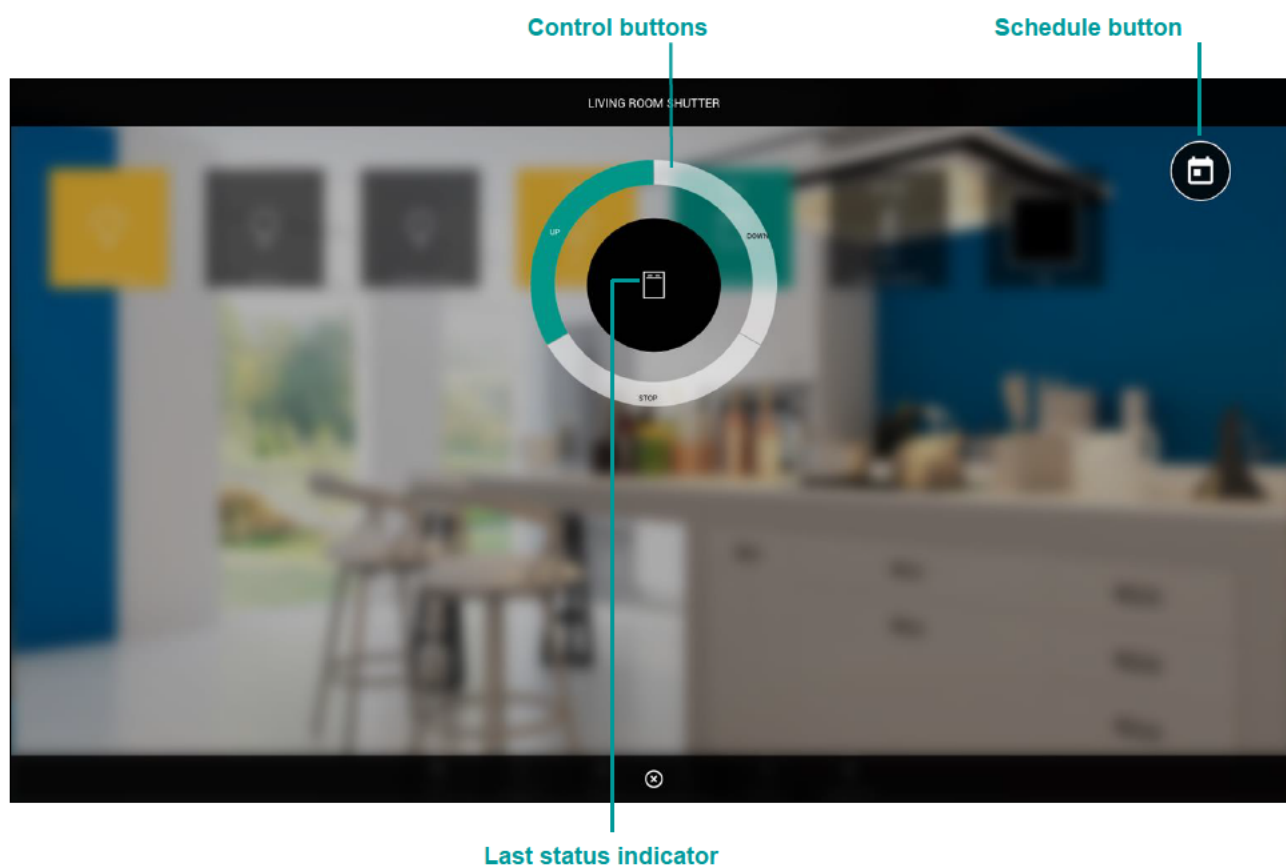
Cloud

Enable cloud sync: ☒
 Voice control: ☒

KNX addresses

FUNCTIONALITY	VOICE	COMMAND	STATE	ETS ENCODING	MIN	MAX	WRITE	READ	SCHED.	SCEN.	STATE
10 Movement (Up/Down)	+	4/1/2	4/6/2	Switching (1 bit)			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Up
11 Stop	-	4/1/1	4/6/1	Switching (1 bit)			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	0

In visualisation, the following popup window is shown by pressing on this widget:

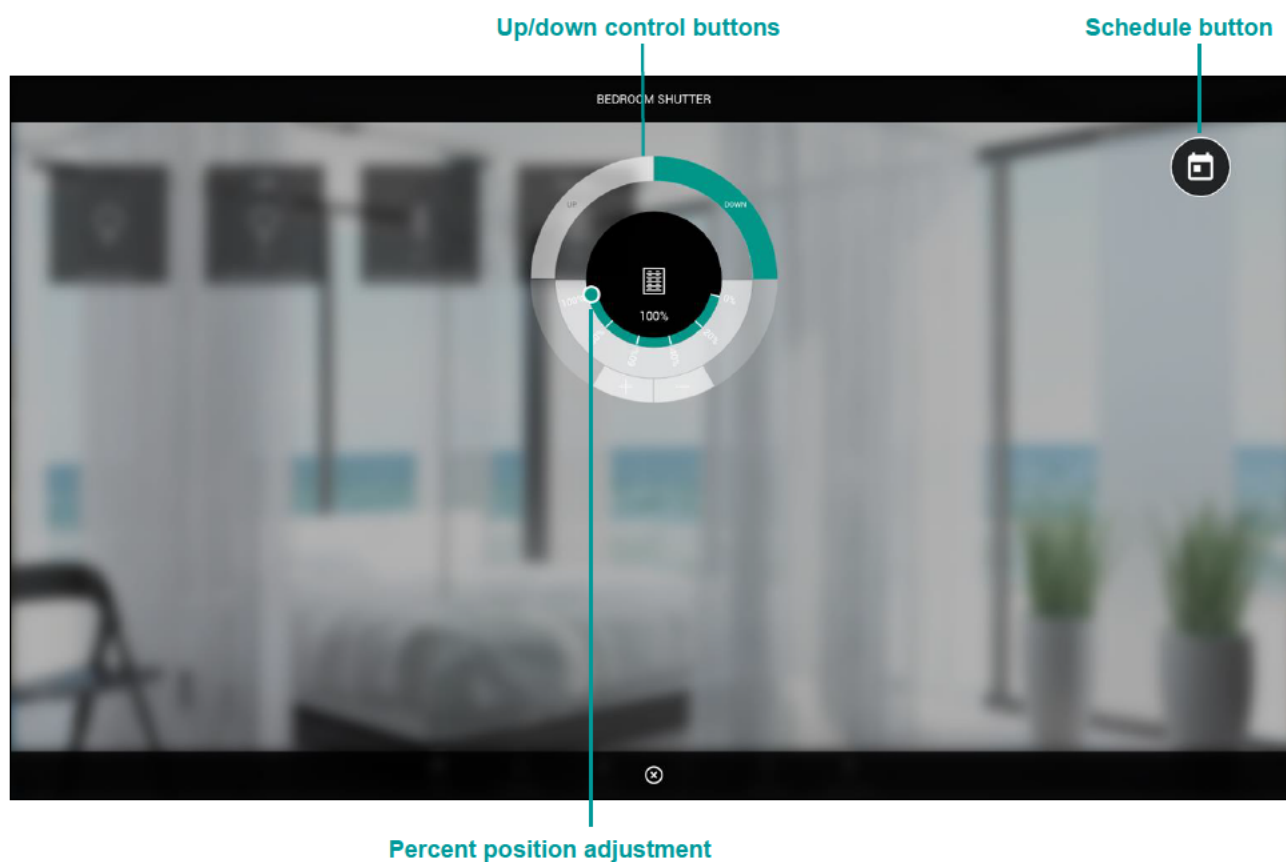


SHUTTER UP/DOWN/PERCENTAGE

This widget allows you to control the percentage position of the movement through two sub-objects:

IDENTIFIER	ETS ENCODING	NOTES
Movement (up/down)	ON/OFF (1 bit DPT 1)	Typical convention: 1 → lower / close 0 → raise / open
Percent value	Percentage (1 byte DPT 5)	Typical convention: 0% → fully raised / open 100% → fully lowered/closed

In visualisation, the following popup window appears by pressing on this type of widget:

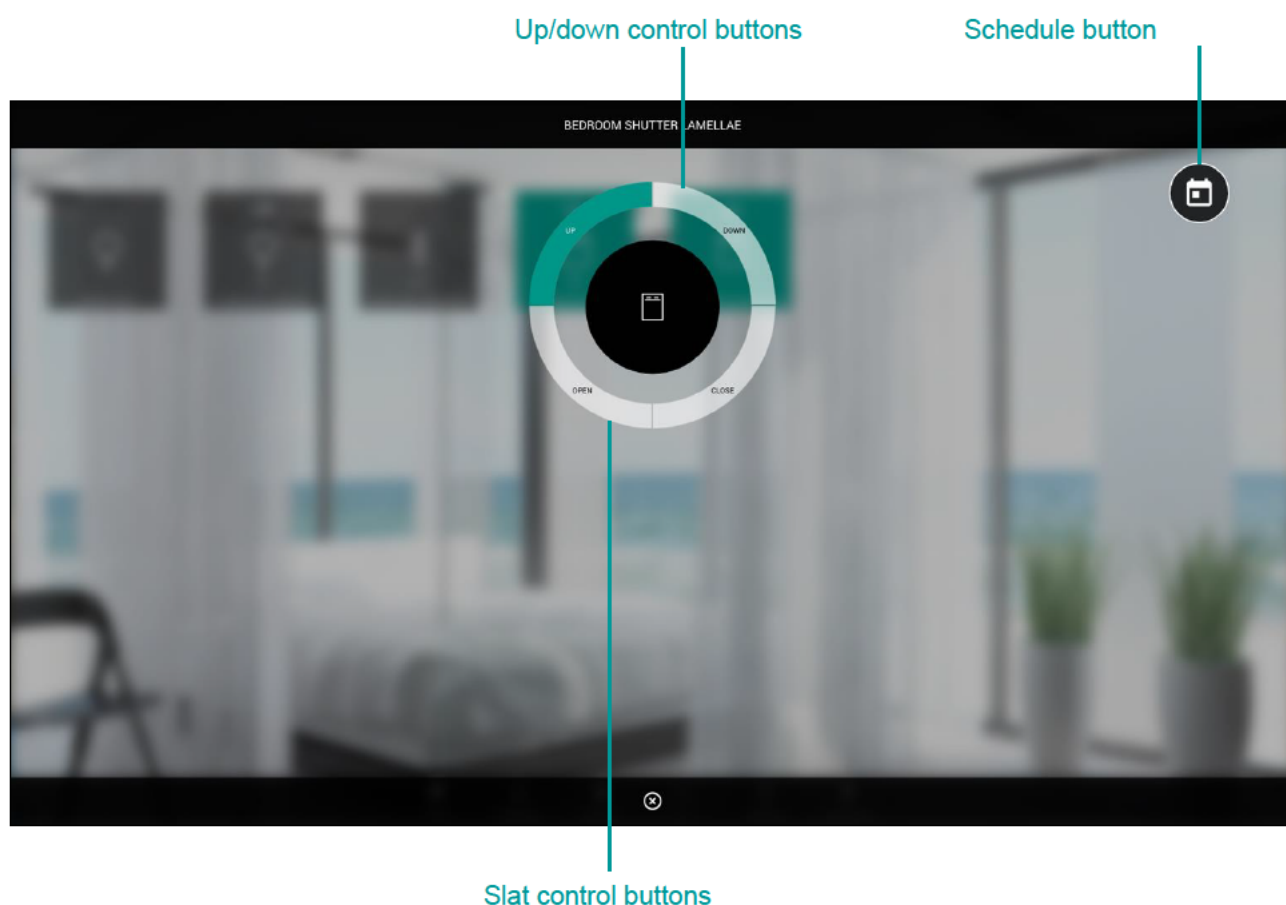


VENETIAN BLIND UP/DOWN/SLATS

This widget allows you to control an actuator for blinds with blade control via two sub-objects:

IDENTIFIER	ETS ENCODING	NOTES
Movement (up/down)	ON/OFF (1 bit DPT 1)	Typical convention: 1 → lower / close 0 → raise / open
Slats (open/close)	ON/OFF (1 bit DPT 1)	Typical convention: 1 → lower / close 0 → raise / open

In visualisation, the widget appears with the following popup window:



Temperature control

THERMOSTAT WITH MODE

This type of widget allows you to manage a controllable thermostat with operating mode; the template provides different variations, depending on the number and type of sub-objects that are associated with a KNX address. Objects without a group address do not appear in the graphics.

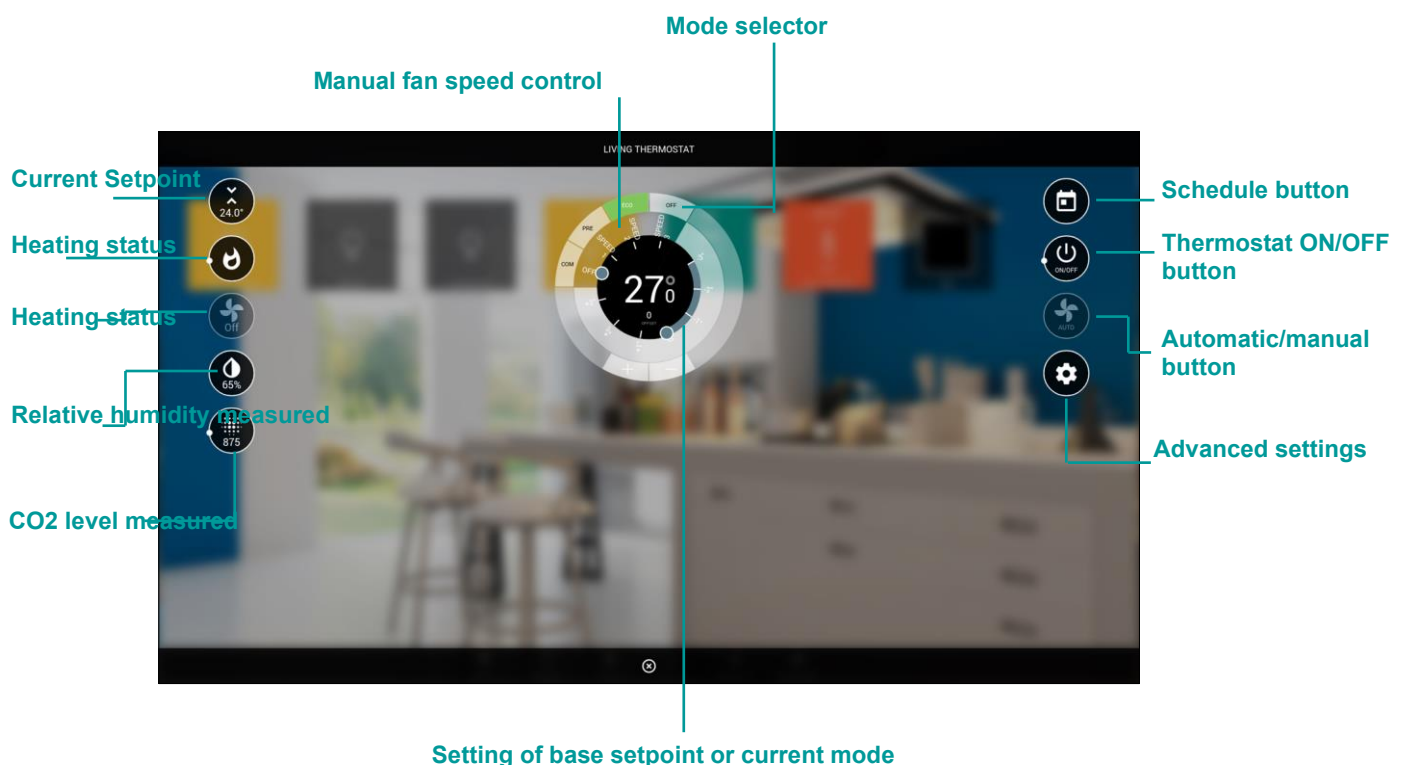
The addresses which can be controlled in this widget are:

IDENTIFIER	ETS ENCODING	NOTES
Measured temperature	Floating point (2 bytes DPT 9)	
Thermostat ON/OFF	ON/OFF (1 bit DPT 1)	If present, it activates or deactivates control of the thermostat and its relevant graphics
Operating mode	Integer (1 byte DPT 6)	Typical convention: 1 → Comfort 2 → Precomfort / Standby 3 → Economy

		<p>4 → Off / Protection</p> <p><i>Note: This sub-object is the one associated with scenarios and schedules by default</i></p>
Setpoint - current	Floating point (2 bytes DPT 9)	Setpoint used by the thermostat based on the current mode. Read-only.
Setpoint base	Floating point (2 bytes DPT 9)	If the thermostat can be adjusted with a single setpoint, or if the current setpoint is also writable (for example, to temporarily bypass the current mode setpoint), associate a KNX address (which can be the same as the current one) in order to adjust it from the graphics
Offset	Floating point (2 bytes DPT 9)	If the thermostat requires +/- 3 ° adjustment with respect to the base setpoint, associate a KNX address to adjust it in the graphics, instead of the setpoint
Setpoint XXX heating / cooling	Floating point (2 bytes DPT 9)	Setpoints associated with the different modes for winter (heating) and summer (air conditioning) seasons
Heating/cooling	ON/OFF (1 bit DPT 1)	<p>Convention:</p> <p>0 → air conditioning (summer)</p> <p>1 → heating (winter)</p> <p><i>Note: if address is absent, the thermostat will be in heating only mode</i></p>
Heating Cooling (ON/OFF)	ON/OFF (1 bit DPT 1)	<p>Heating or air conditioning request status; read-only.</p> <p>If the thermostat controls a single output in both seasons, enter the same KNX address in both lines</p>
Automatic / manual mode	ON/OFF (1 bit DPT 1)	<p>Convention:</p> <p>0 → manual</p> <p>1 → auto</p>
Ventilation speed	Percentage (1 byte DPT 5)	<p>Typical convention:</p> <p>0% → fans stopped</p> <p>33% → speed 1</p> <p>66% → speed 2</p> <p>100% → speed 3</p>
Ventilation speed 1 Ventilation speed 2	ON/OFF (1 bit DPT 1)	Control of fans in the form of individual mutually exclusive objects.

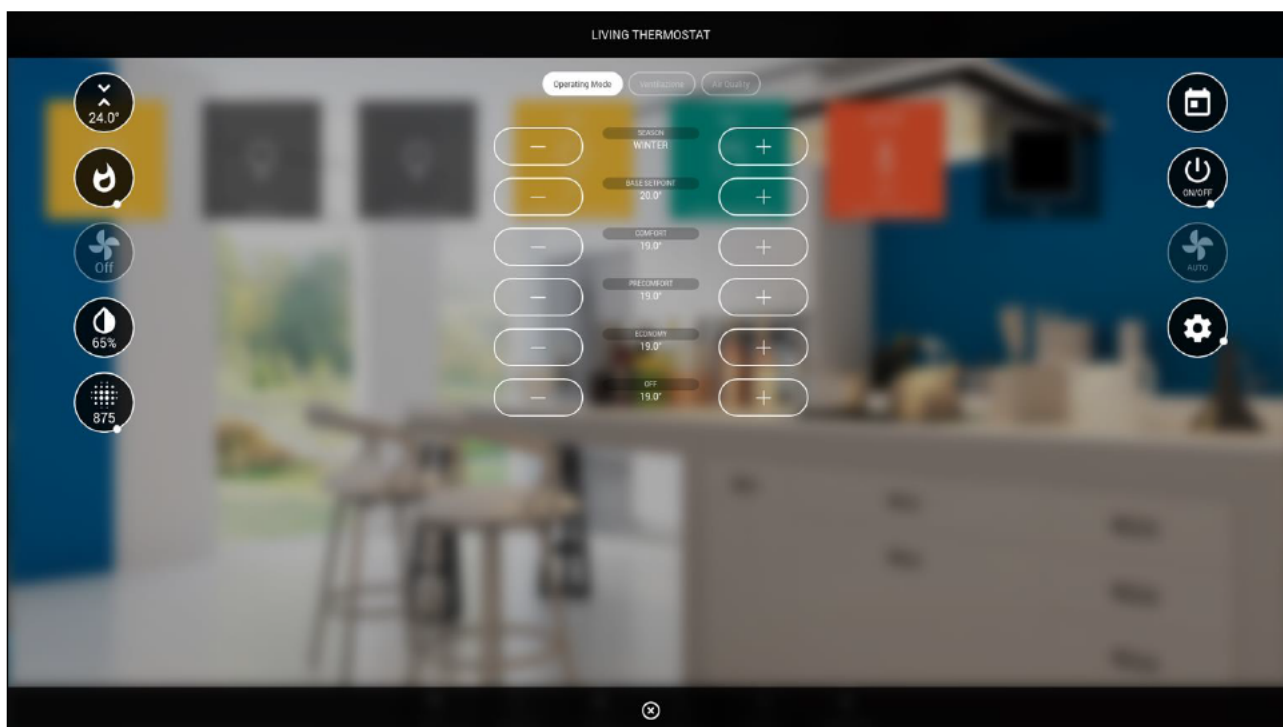
Ventilation speed 3		To be used as an alternative to the 1-byte speed or for the command (keeping the 1-byte object as a status indicator only)
Humidity % State and Setpoint	Percentage (1 byte DPT 5)	If available, they allow you to view the relative humidity measurement and specify a desired setpoint to automatically control ventilation.
CO ₂ level and threshold	Floating point (2 bytes DPT 9)	If available, they allow the CO ₂ measurement and a threshold to be displayed, above which the alarm is activated
CO ₂ alarm	ON/OFF (1 bit DPT 1)	Alarm active if CO ₂ level is above the set threshold
Window (Open / Closed)	ON/OFF (1 bit DPT 1)	Displays the status of a window sensor, where applicable

Pressing the widget of this type of thermostat brings up a popup window similar to the one shown below:



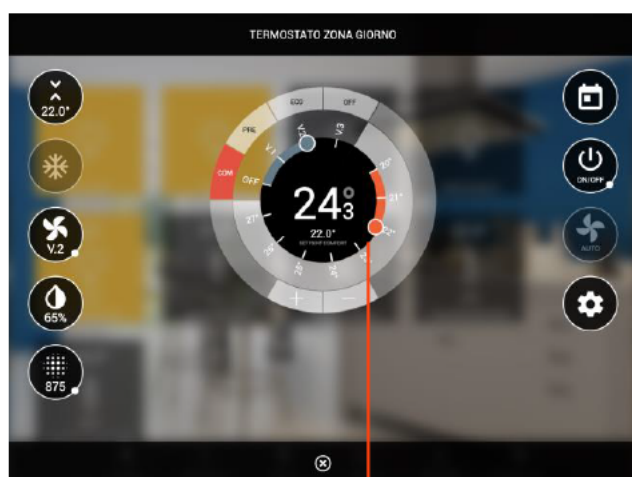
Not all the elements are always present in all configurations; objects without a KNX address are not visible in the graphics.

By pressing the Advanced settings button, all the detail options are shown, divided by category; again; the actual list depends on the configuration and the number of sub-objects associated with a KNX address:

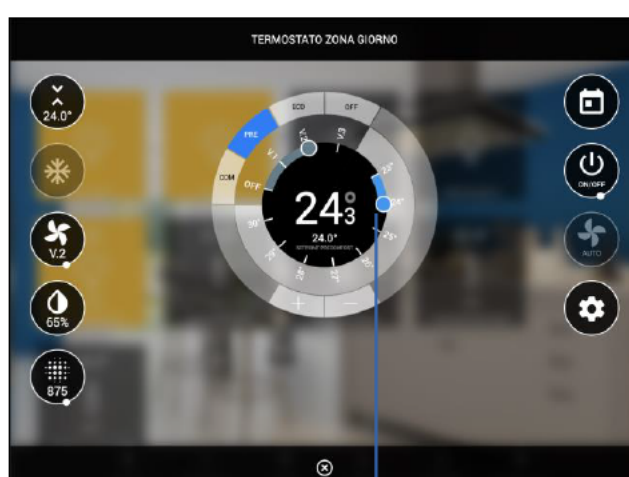


If the base setpoint is entered, the main slider allows you to control this setpoint; in this configuration, any setpoints associated with the different modes can only be modified using the advanced settings.

Conversely, the slider allows you to interact with the slider of the currently selected mode and season:

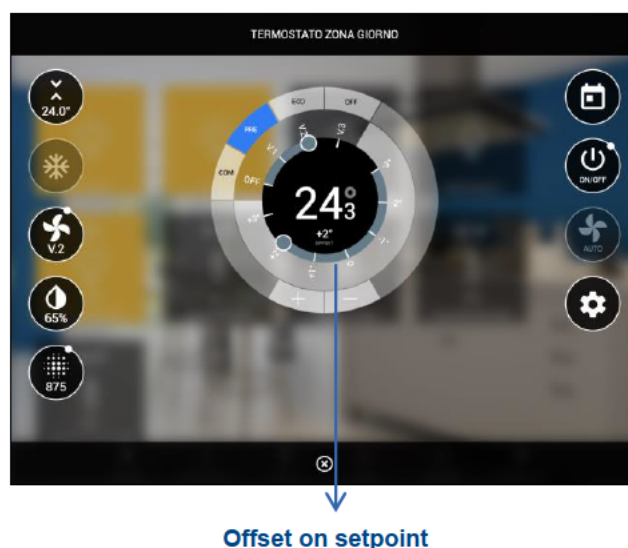


Air conditioning comfort setpoint



Air conditioning precomfort setpoint

Conversely, if a KNX address is entered for the offset, the slider allows an adjustment of $\pm 3^{\circ}$:



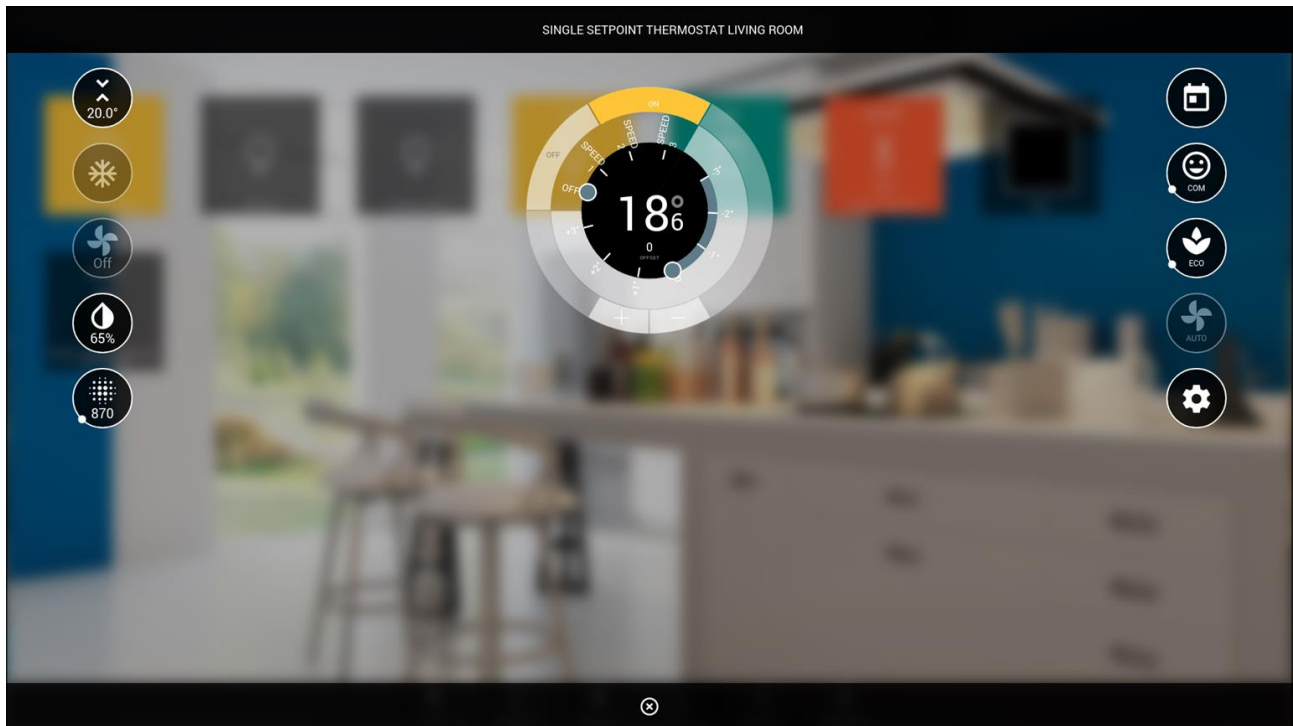
THERMOSTAT WITH SINGLE SETPOINT

Unlike the previous one, this thermostat model does not have an operating mode and, therefore, does not have an adjustable setpoint for each of the modes. In this case, a single setpoint is used which may be increased or decreased by an *offset*, if certain working modes are activated.

The list of sub-objects associated with KNX addresses is similar to the previous one; the operating mode and setpoints for the different operating modes are not present, whilst the following sub-objects, not present in the model shown above, are available:

IDENTIFIER	ETS ENCODING	NOTES
Eco mode	ON/OFF (1 bit DPT 1)	If enabled, it reduces the base setpoint of an <i>offset</i> that can be set in ETS
Comfort mode	ON/OFF (1 bit DPT 1)	If enabled, it increases the base setpoint of an <i>offset</i> that can be set in ETS

The widget is displayed as shown in the following figure:



By enabling the ECO and COM modes, depending on the ETS settings, the current setpoint (displayed at the top left) may differ from the base setpoint, which can be adjusted via the main slider.

Here again, by pressing the Advanced settings button, you can configure all options not shown on the main screen, divided by category, according to the schedule made in administration.

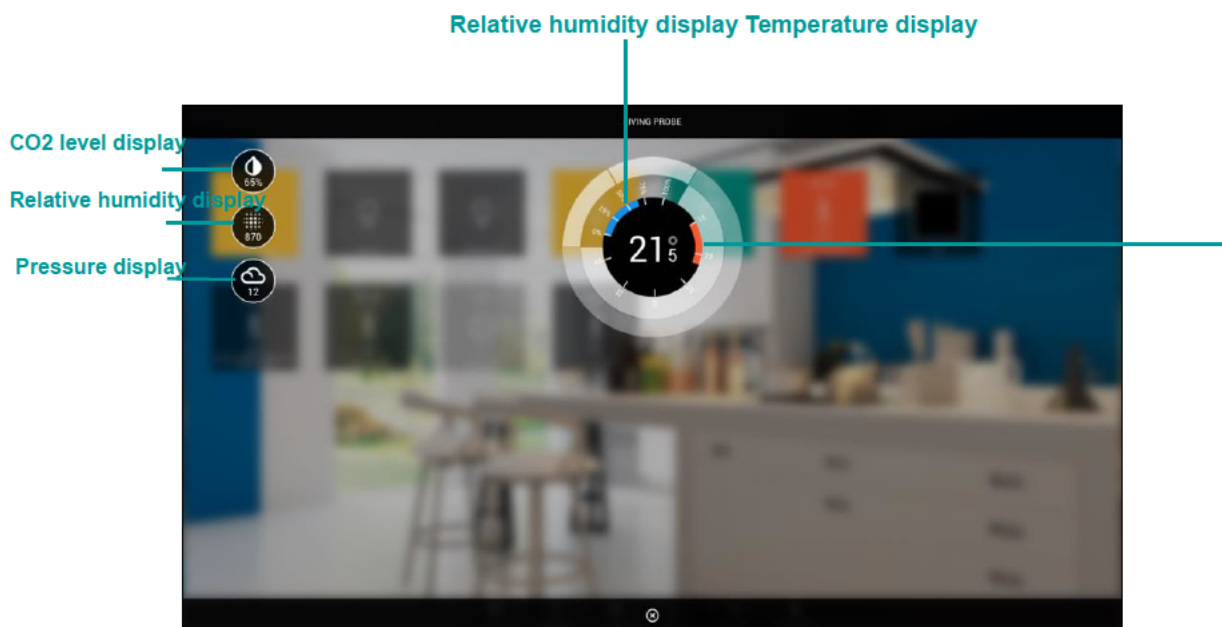
ROOM PROBE

The room probe is a view-only widget of a series of measured quantities, relating to climate comfort and air quality:

- temperature
- relative humidity
- CO₂
- pressure

The quantities in question can only be displayed, and not controlled. Hence, the widget has non-interactive elements, on the left side (status indicators) and in the central part (temperature and humidity display compared to the bottom of the scale set in administration).

The following figure shows an example of a room probe:



PUMP

The Pump Control widget offers the following sub-objects:

IDENTIFIER	ETS ENCODING	NOTES
Pump state	ON/OFF (1 bit DPT 1)	Pump status address
Pump command	ON/OFF (1 bit DPT 1)	Pump control address
Pump selector	Forcing (2 bit DPT 2)	Convention: 0 → Auto 2 → Forced OFF 3 → Forced ON
Pump alarm	ON/OFF (1 bit DPT 1)	Pump operation alarm, if present

SPLIT

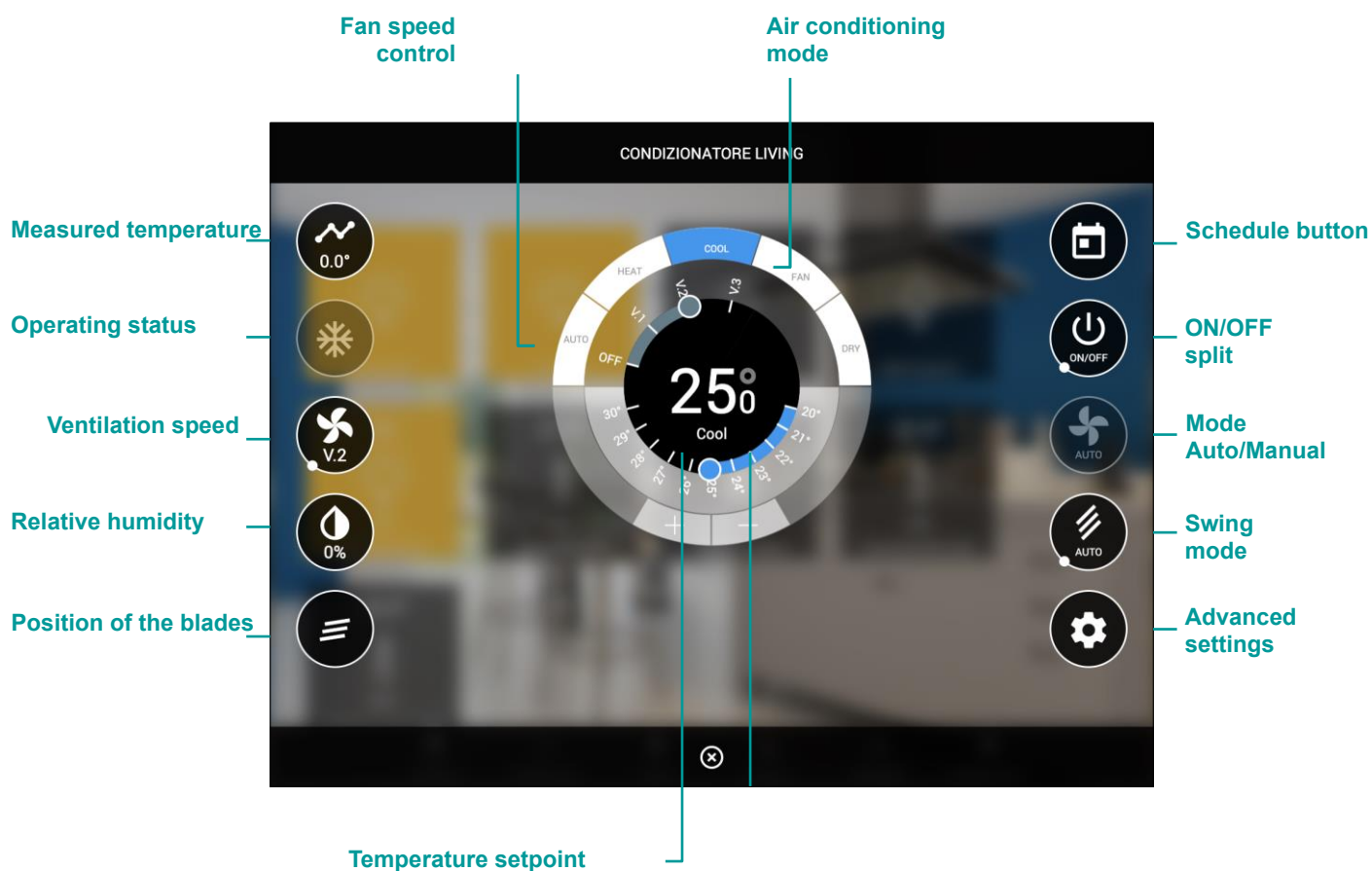
This type of widget allows you to control an air conditioner or VRV/split unit (via KNX interface) through a series of interactive elements, which allow you to manage all the main operating elements, replacing the remote control.

The sub-objects made available are:

IDENTIFIER	ETS ENCODING	NOTES
Measured temperature	Floating point (2 bytes DPT 9)	
Thermostat ON/OFF	ON/OFF (1 bit DPT 1)	If present, it activates or deactivates the management of the split thermostat and related graphics
Working status (ON/OFF)	ON/OFF (1 bit DPT 1)	Indicates if the split is operating or not
Cooling mode	Integer (1 byte DPT 6)	<p>Typical convention:</p> <ul style="list-style-type: none"> 0 → Auto 1 → Heat 3 → Cool (air conditioning) 9 → Fan (ventilation only) 14 → Dry (dehumidification only) <p><i>Note: This sub-object is the one associated with scenarios and schedules by default</i></p>
Setpoint - current	Floating point (2 bytes DPT 9)	Setpoint used by the thermostat. Read-only.
Command setpoint	Floating point (2 bytes DPT 9)	
Automatic / manual mode	ON/OFF (1 bit DPT 1)	<p>Convention:</p> <ul style="list-style-type: none"> 0 → manual 1 → auto
Ventilation speed	Percentage (1 byte DPT 5)	<p>Typical convention:</p> <ul style="list-style-type: none"> 0% → fans stopped 33% → speed 1 66% → speed 2 100% → speed 3
Vanes position	Integer (1 byte DPT 6)	<p>Convention:</p> <ul style="list-style-type: none"> 0 → Auto (optional) 1 → Horizontal 2 → Position 2 3 → Position 3 4 → Position 4 5 → Vertical 6 → Swing (optional)
Swing	ON/OFF (1 bit DPT 1)	If active, it enables fan swing mode

Humidity % State and Setpoint	Percentage (1 byte DPT 5)	If available, they allow you to view the relative humidity measurement and specify a desired setpoint to automatically control ventilation.
Alarm (ON/OFF)	ON/OFF (1 bit DPT 1)	Active if the air conditioner reports an error
Alarm code	String (14 bytes DPT 16)	In the event of an error, brief description of the fault
Window (Open / Closed)	ON/OFF (1 bit DPT 1)	Displays the status of a window sensor, where applicable

The following figure shows an example of a split control popup window:

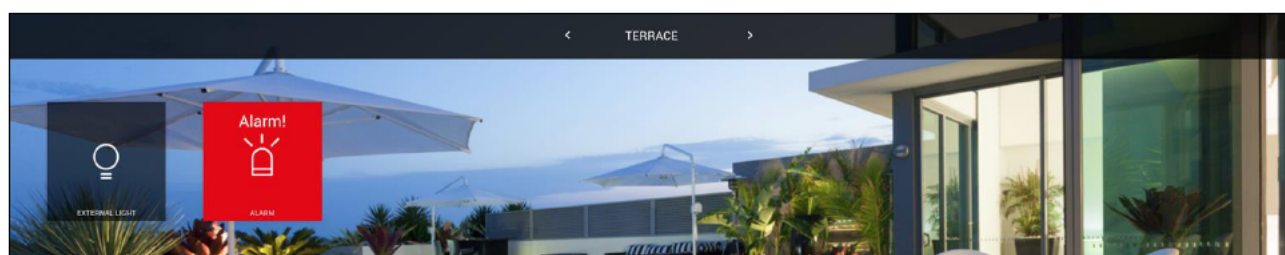


Alarms

This type of widget allows you to monitor an ON/OFF alarm in read-only mode.

IDENTIFIER	ETS ENCODING	NOTES
Alarm	ON/OFF (1 bit DPT 1)	Typical convention: 1 → alarm 0 → ok

The alarm is shown in the display as in the following example:



Energy

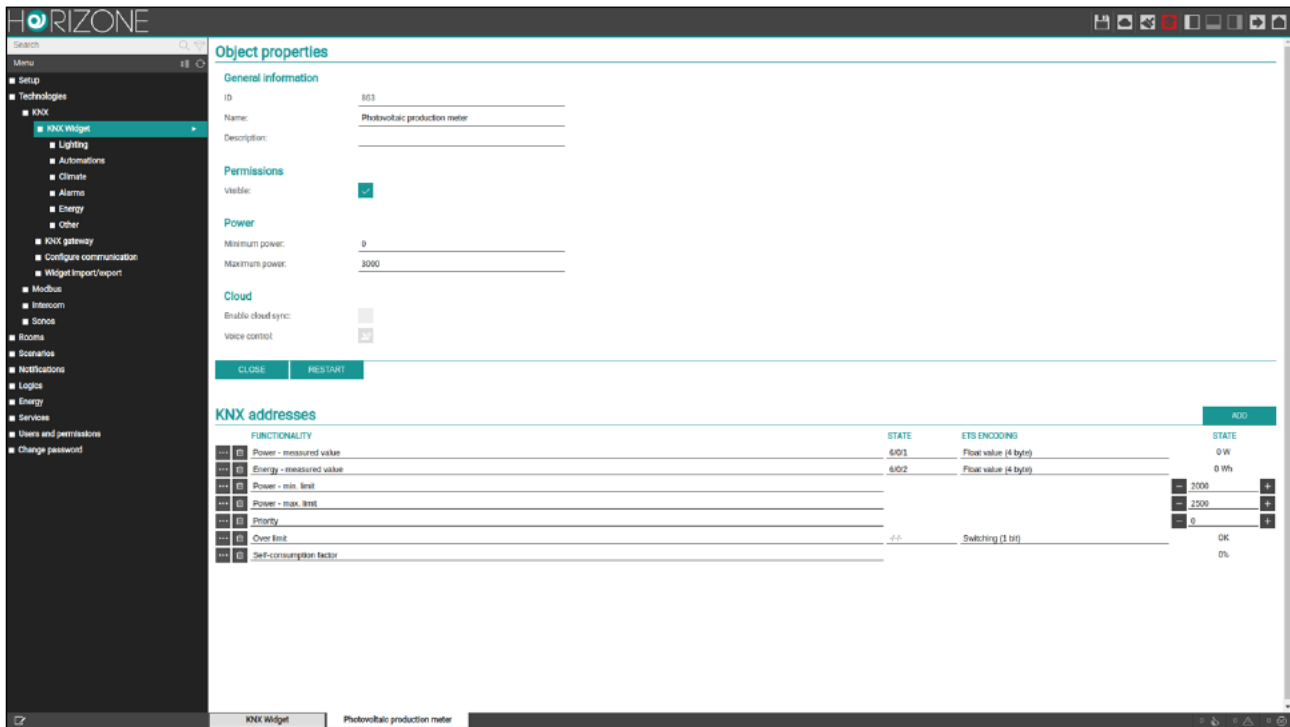
ENERGY METER

This type of widget allows you to monitor a KNX energy meter which can provide a power and (optionally) an energy reading.

IDENTIFIER	ETS ENCODING	NOTES
Power – measured value	Numerical floating point value	Alternatively, use the “32-bit counter” encoding for meters that show the value on DPT 13 (unsigned integer)
Energy – measured value	(4 bytes DPT 14)	
Over limit	ON/OFF (1 bit DPT 1)	If available, it is set by the HORIZONE MINI loads control to 1, if the maximum threshold is exceeded

The following virtual elements are also available, not associated with KNX addresses, but necessary for meter management if associated as a reference to load control:

IDENTIFIER	NOTES
Power – min. limit	They allow you to set the upper and lower limits of absorption, on the basis of which the integrated load control works. For more details, see the section on energy management.
Power – max. limit	



This type of widget cannot be associated with a room, but is displayed in the energy section instead, as described in the chapter dedicated to energy management.

Loads

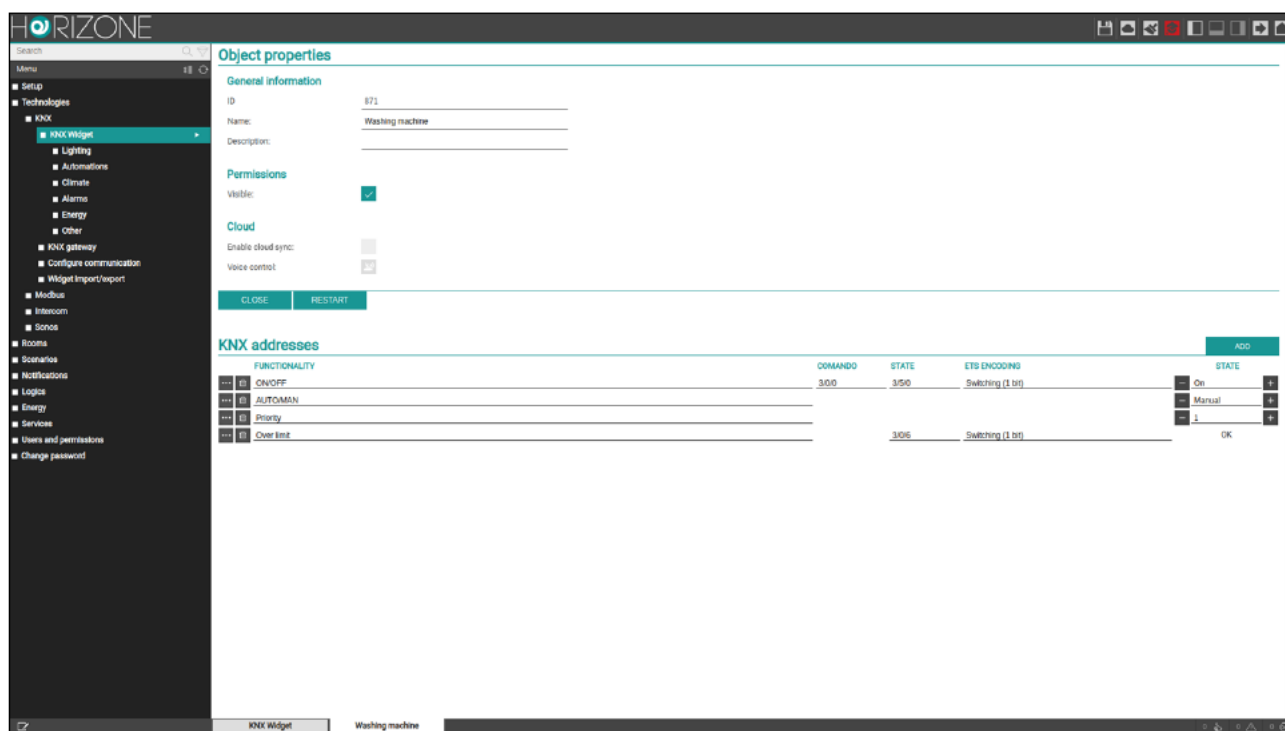
LOAD/APPLIANCE

This type of widget allows you to manage a household appliance in terms of energy control.

IDENTIFIER	ETS ENCODING	NOTES
ON/OFF	ON/OFF (1 bit DPT 1)	Actuator control associated with the load
Over limit	ON/OFF (1 bit DPT 1)	If available, it is set by the HORIZONE MINI loads control to 1, if the maximum threshold is exceeded

The following virtual elements are also available, not associated with KNX addresses, but necessary for meter management if associated as a reference to load control:

IDENTIFIER	NOTES
AUTO/MAN	Allows the user to set the load in manual mode, excluding it from the load control logic.
Priority	Allows you to set the load priority level



This type of widget cannot be associated with a room, but is displayed in the energy section instead, as described in the chapter dedicated to energy management.

Other

SINGLE VALUE

Allows you to manage a single generic KNX value within a room.

IDENTIFIER	ETS ENCODING	NOTES
Single value	< configurable >	<p>Depending on the ETS encoding, you can choose a set of possible icons and values by pressing the ICON button.</p> <p>This choice determines the display within the widget</p>

This widget provides two types of interaction, for the control of the single value:



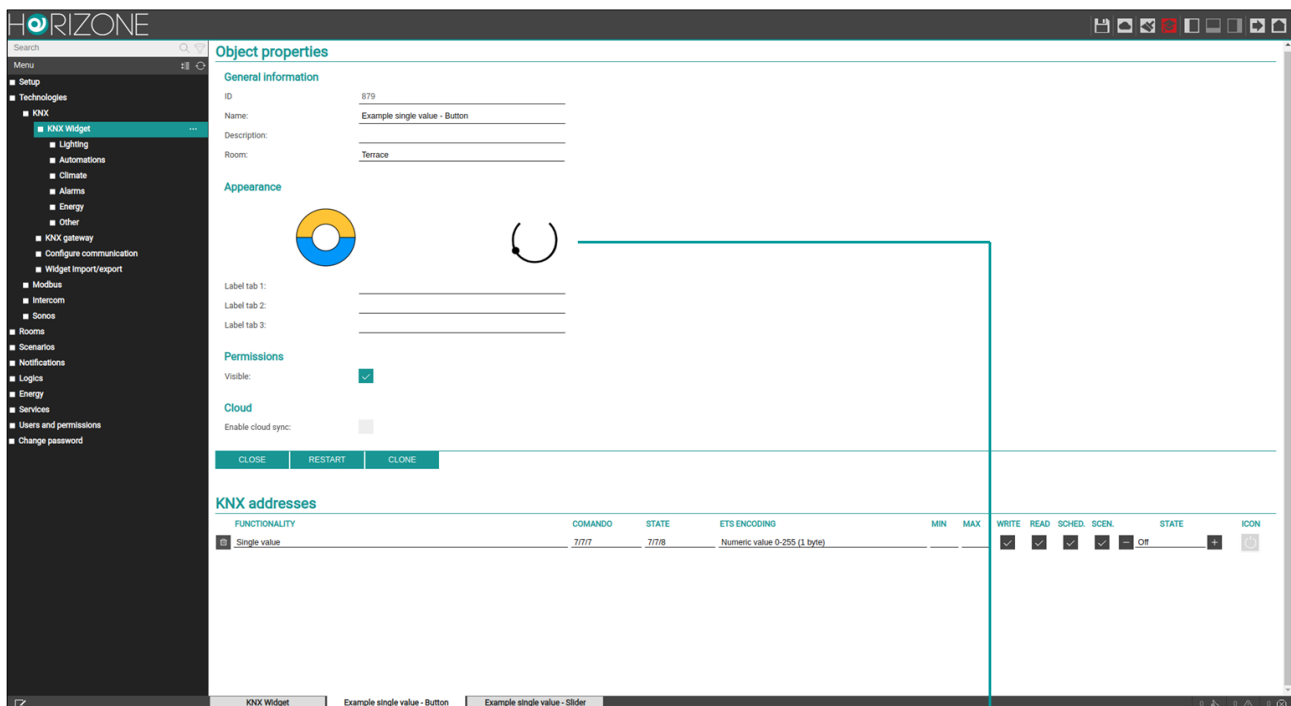
Buttons



Slider

The style can be chosen in two ways:

- Using the appropriate drop-down menu in the KNX widget list
- Inside the detail tab, by selecting the preview of the chosen style



Display Style Selector

As this is a flexible widget, you need to make a consistent choice of settings, including display style, ETS encoding, and icon/value sets; certain combinations may not lead to a plausible graphical result.

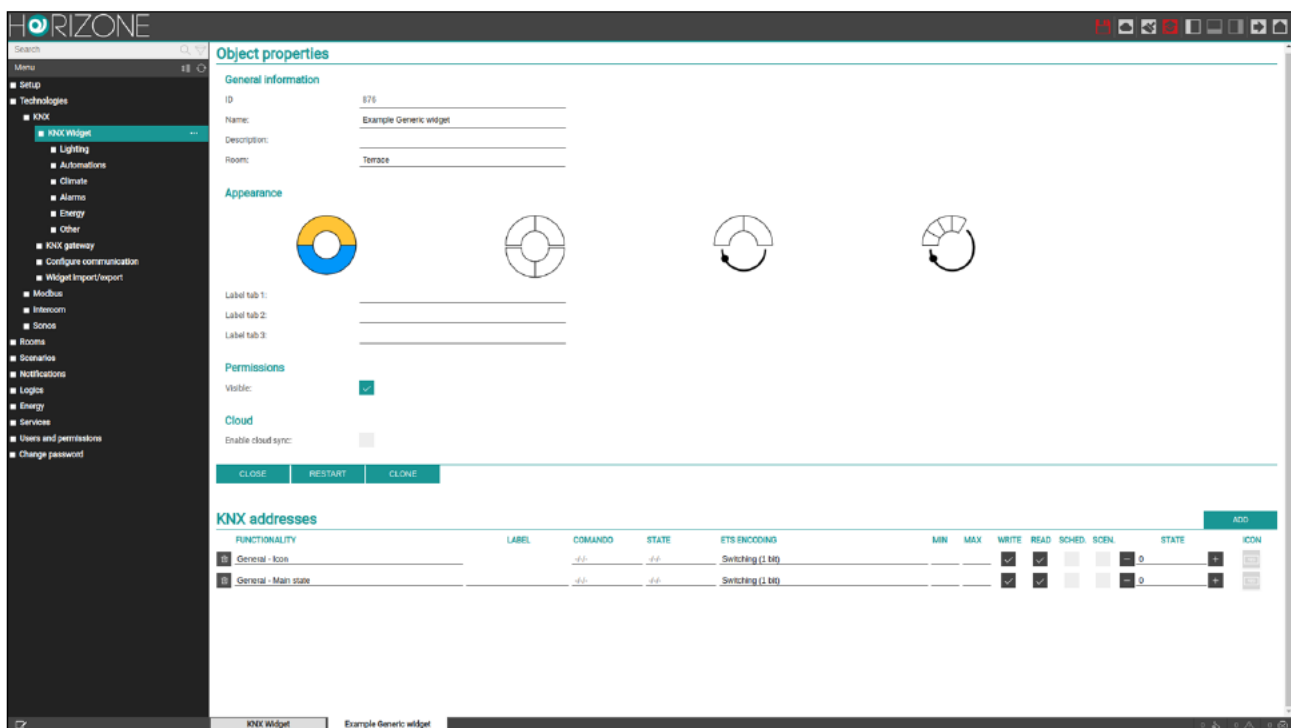
GENERIC

The generic widget allows you flexibility in configuring a composite element, consisting of a series of sub-objects, which can assume the appearance of all the specific widgets previously seen.

This template should be used if the pre-defined templates are not suitable for the representation of the desired automated function; limited use of this template is recommended, not only because of the complexity of its creation, but also because the result cannot be managed through the cloud and voice assistants.

Unlike all previously viewed widgets, in this case when the widget is created, not all sub-objects are automatically arranged, since the number of possible combinations is too high, and you would rarely use all of them. Conversely, only two sub-objects are initially prepared, which are essential for displaying the widget:

IDENTIFIER	ETS ENCODING	NOTES
General - Icon	< configurable >	Used as a representative icon of the widget, when displayed within a room
General – Main state	< configurable >	Represents the primary value, displayed in the widget when displayed in a room



As previously seen for the single-value widget, for this type of template, in addition to choosing the ETS encoding, it is also necessary to select a graphic set to represent each individual sub-object, via the popup window that opens by pressing the ICON button. To do this, activate the ADVANCED mode with the toolbar button, so that you have access to all available options.

You can now choose which display style to attribute to the widget by pressing the most appropriate preview in the “appearance” section:



Single pushbutton panel

A single circular element divided into 2 or more buttons, depending on the number of options provided by the icon set of the chosen object, such as

“General - Central pushbutton panel”

Standard widget example:
shutters up/down/stop



Double pushbutton panel

Two semi-circular elements, upper and lower, with buttons according to the respective options of the following sub-objects:

“General - Top pushbutton panel”

“General - Lower pushbutton panel”

Standard widget example:
shutters with slats



Button panel and 180° slider

Top element with buttons, and bottom slider with 180° width.

Associated sub-objects:

“General - Top pushbutton panel”

“General - Bottom slider”



Button panel and 210° slider

Top element with buttons, and bottom slider with 210° width.

Associated sub-objects:

“General - Top pushbutton panel”

“General - Main slider”

Standard widget example:
dimmer light

Standard widget example:
thermostat

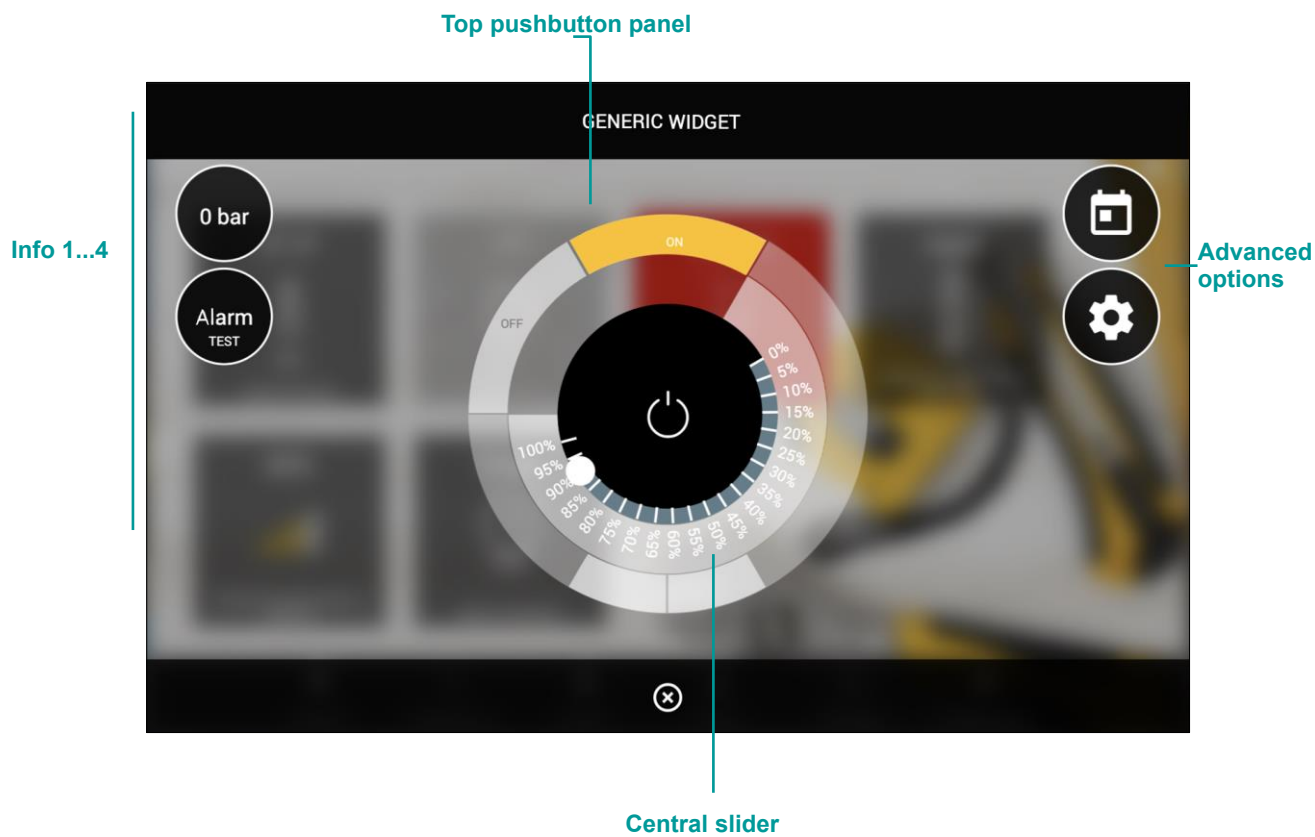
Whenever you change the appearance, any sub-objects previously configured for these main elements are disassociated from the previous role because they are not compatible between one aspect and the other; a message will be displayed asking for confirmation before proceeding. For this reason, you should choose the appearance before proceeding with the creation of the sub-elements.

To add a new sub-object, press the ADD button, and fill in the required fields, as shown before. In addition, unlike the standard templates, you can also associate a label to each sub-object which will be shown as description in the widget popup window.

In addition to the ones previously mentioned, the following sub-objects are available:

IDENTIFIER	ETS ENCODING	NOTES
General – Info 1 General – Info 2 General – Info 3 General – Info 4	< configurable >	They are placed in the area on the left of the popup window, in the form of status indicators, with the value and icon based on the configuration of each object
Tab 1 - Object 1...10 Tab 2 - Object 1...10 Tab 3 - Object 1...10	< configurable >	Allows up to 30 objects to be divided into 3 sections in the “advanced settings” area. If used, specify the labels associated with the different tabs in the section at the top of the page.

Display example:



Remote control of ETS

HORIZONE MINI can be used as an IP port to access the KNX system from ETS, even remotely, to perform diagnostic operations and device configuration.

For more information on this procedure, please refer to chapter 111 on this topic at the end of this manual.

Configure communication

You can specify general KNX communication operation settings by accessing the TECHNOLOGIES → KNX → CONFIGURE COMMUNICATION page

You can set:

PHYSICAL ADDRESS	Physical address with which HORIZONE MINI communicates with the KNX bus, entering it in the appropriate field; the address must be specified in the X.Y.Z form respecting the limits imposed by the KNX protocol: <ul style="list-style-type: none"> • First number between 0 and 15 • Second number between 0 and 15 • Third number between 0 and 255
ROUTING COUNTER	Routing counter of telegrams issued by HORIZONE MINI. Default value: 6

Import/export widget

You can export a KNX widget of the project in CSV format via this page for reuse in other projects. To do this:

- Select “EXPORT” as operation
- Select the widget from the drop-down menu
- Press the EXECUTE button

After a few seconds, the CSV file containing the widget information is downloaded from the browser to your PC.

To import this widget afterwards into the same project, or into another project, do the following:

- Choose “IMPORT” as operation
- Upload the CSV file via the browse button
- Enter the number of copies of the widget to create
- Determine whether the original KNX addresses should be retained or whether they should be increased by an *offset*
- Press EXECUTE

When the operation is complete, the new widgets are listed on the TECHNOLOGIES > KNX > KNX WIDGETS page in the category to which they belong.

SCENARIOS

Introduction

HORIZONE MINI allows you to create custom command sequences, separated by timings as well, which can then be retrieved from the graphics of the VISUALISATION or through logics, schedules, events etc...

Scenarios can be created in administration or directly in the VISUALISATION. In the first case, scenarios can be protected to prevent them from being modified or deleted by the end user. This chapter explains how to create a scenario in administration.



Despite the same name, the HORIZONE MINI scenarios are not the same as so-called "KNX scenarios" configurable through ETS; HORIZONE MINI scenarios do not correspond to the ETS project since they are software functions only. HORIZONE MINI scenarios are also much more flexible than ETS ones; they can incorporate different types of commands and time frames.

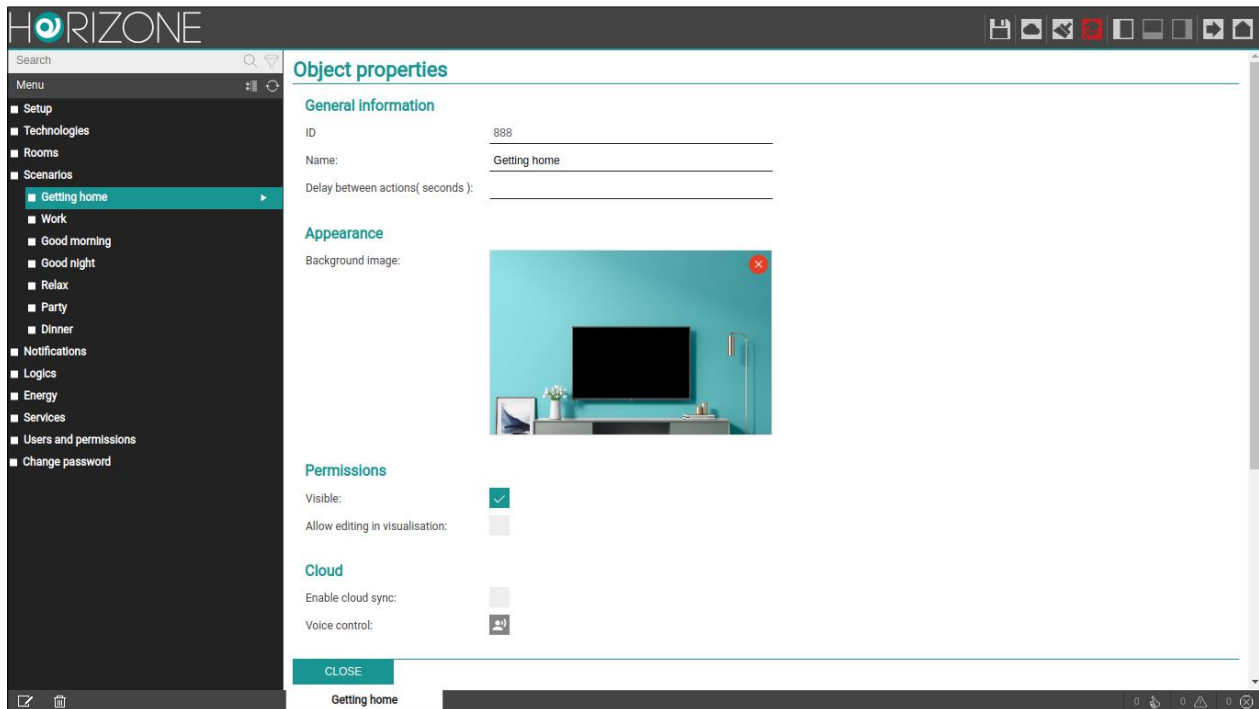
Creating a new scenario

To create a new scenario in ADMINISTRATION, follow these steps:

- Access the HORIZONE MINI CONFIGURATION environment
- Select SCENARIOS from the navigation menu
- Press the "ADD" button to create a new scenario

The new scenario is available in the (initially empty) list of scenarios; accessing its tab later shows a page on which, when the "BASIC" access level is selected, you can set the following scenario properties:

NAME	Scenario identifier name
BACKGROUND IMAGE	Photograph used in visualisation to identify the scenario
VISIBLE	Determines whether or not the scenario should be visible in the VISUALISATION
ALLOW EDITING IN VISUALIZATION	Determines whether or not the scenario can be modified (or deleted) by the end user in the VISUALISATION
ENABLE CLOUD SYNC	Determines whether or not the object is synchronised on the cloud. For further details, please refer to the relevant chapter.



Adding actions to a scenario

Once you have created a scenario, you must associate one or more actions to it. To do this:

- Expand the "ACTIONS EXECUTED FROM THE SCENARIO" section in the scenario tab
- Search for the objects you want to control with the scenario through the SEARCH ENGINE. For KNX objects:
 - Enable ADVANCED Mode (toolbar at top right)
 - Enter the keywords (KNX address or label)
 - Select group address objects (not the widgets) from the results
- Drag the objects into the "ACTIONS EXECUTED FROM THE SCENARIO" list, taking care to place them in the same order in which you want the sequence of commands to occur
- For each object dragged, specify the action to take and - if required – the VALUE to send. In the case of KNX objects, select "WRITE" as the action and the value – among those proposed, depending on the type of object – to be sent on the bus when the scenario is followed

Timed Scenarios

You can place one or more wait commands between the command actions of a scenario, which delay the execution of subsequent actions (depending on the point in the sequence in which the delay is placed) and thus, allow you to create stepped sequences.

Wait commands are basically objects and as such they can be inserted into the command sequence of a scenario by dragging them into the “ACTIONS EXECUTED FROM THE SCENARIO” list after they have been searched for using the search engine. HORIZONE MINI has a series of “standard” delays that can be concatenated to achieve the desired timing:

- 1 second
- 2 seconds
- 5 seconds
- 10 seconds
- 15 seconds
- 20 seconds
- 30 seconds
- 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

All wait commands have the name “Wait (...)” where the relevant wait time is indicated in brackets; they can then be searched for by indicating “wait” as the keyword.



Since the wait commands are system objects, they are stored in the database with the words in English; they cannot be searched for by specifying the exact Italian word that appears on the screen; if you want to search for a particular wait command, type the number corresponding to the wait time, followed by the suffixes “sec”, “min” or “hour” if possible, in addition to “wait”.

The timed scenarios, once executed, can be stopped, while they are in a wait state; to do this, there is a “STOP” button in the graphical interface. Stopping a running scenario interrupts its sequence which is; therefore, not completed; the system, however, is not restored to its original state before executing the scenario, it is, therefore, necessary to prepare other commands and/or scenarios.

NOTIFICATIONS

Notifications are messages that HORIZONE MINI displays in the VISUALISATION against events expected during configuration.

To create a notification:

- Login to ADMINISTRATION
- Select NOTIFICATIONS → NOTIFICATIONS
- Press the ADD toolbar button
- Access the tab of the new object

The following information is requested:

NAME	Identify the notification within the project
MESSAGE CONTENT	Message that will appear in the VISUALISATION
TYPE	Select the type from “Alarm”, “Warning” or “Information”

Once a notification is created, it must be associated with at least one other object through a TRIGGER (PASSIVE for the notification, ACTIVE for the object in question) so that the system actually generates the message when the status of the latter changes. Drag objects from the side menu or search engine and select which values should determine whether the message is effectively sent. Depending on the type you choose, the message center opens automatically in the VISUALISATION.

On-screen notifications can be created with *dynamic text*, i.e. a message in which HORIZONE MINI automatically enters information about the subject to which the notification is linked.

To make the text of a notification dynamic, you must include the following parameters in the message:

{{obj.name}}	It will be replaced with the name of the object that triggers the notification
{{obj.current_value}}	It will be replaced with the current value of the reference object
{{obj.id}}	It will be replaced with the unique id of the object triggering the notification

Notifications are also sent in the form of push notifications, provided that the HORIZONE MINI app (available for both IOS and ANDROID) has been installed on your mobile device.

Notification Log

This page allows you to view a history of all notifications sent by HORIZONE MINI with the relevant date/time and the message sent to users.

LOGICS

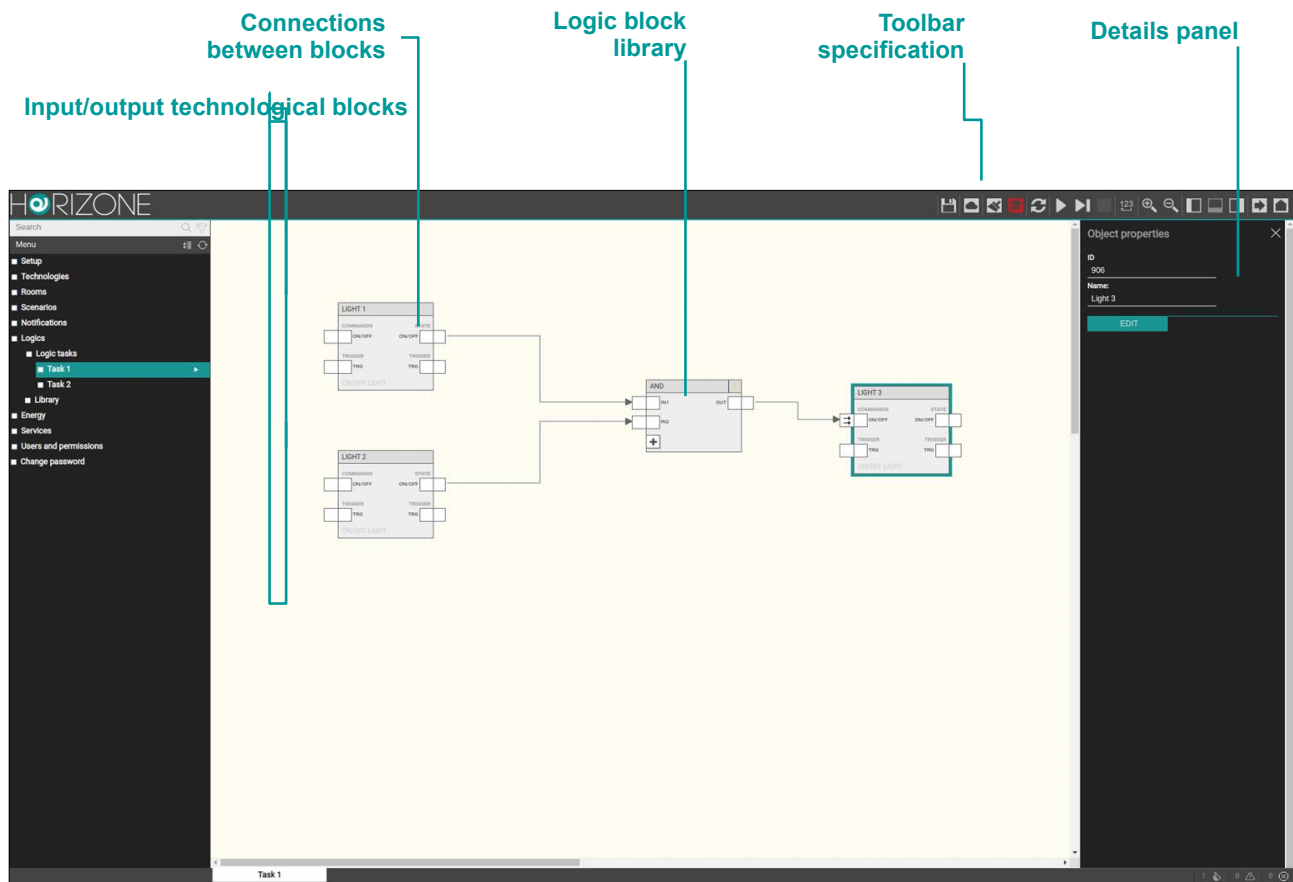
HORIZONE MINI allows you to create logics between previously created objects for the different technologies managed. The integrated logic module of HORIZONE MINI is based on a LUA script, automatically generated by the graphical interface, running continuously in the *background*. The script keeps the exit objects in the state determined by the logic, based on a set of rules that will be described in detail in this chapter.

Logical programs

You can create one or more programs, also called “tasks”, each with a graphical page on which to create a logical network; to create a new task, highlight the item

LOGICS > LOGIC TASKS

and press the ADD (+) button in the toolbar. Alternatively, open the logical programs page, and press the ADD button in the task list. Each task is represented by a graphical page, on which you can drag technological objects (from the side menu or from the search results), and logic blocks available in the library (LIBRARY). The following figure shows an example of simple logic between KNX widgets:



Toolbar

When you work on a task, an additional toolbar is displayed, containing the following buttons:



RUN/PAUSE

Start or stop a program



CONTINUOUS SIMULATION

Start the simulation in real-time mode



STEP-BY-STEP SIMULATION

Start the simulation in step-by-step mode



STOP SIMULATION

Stop the simulation in progress



SORT ORDER

Sort the blocks by automatic sorting according to the position of the blocks



ZOOM +

Magnifies the zoom factor of the workspace

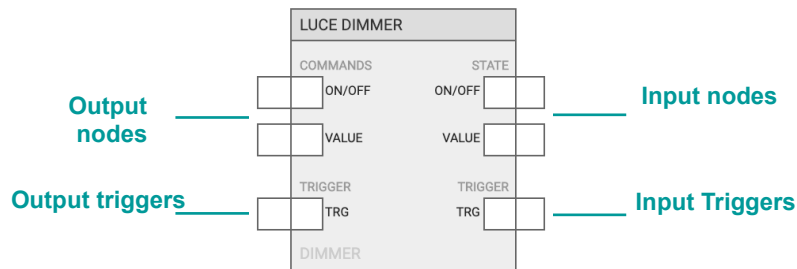


ZOOM -

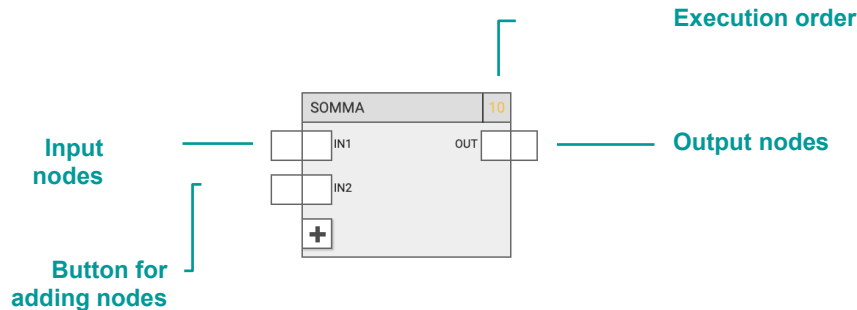
Reduces the zoom factor of the workspace

Technological blocks and logic blocks

Technological widgets, when dragged into a task, are represented by a block similar to the one below:



The input and output nodes, whose number and type depends of the type of widget, respectively allow you to use the status and to control that particular technological function. The same input node can be connected to multiple blocks, whereas the same output node cannot be connected to multiple blocks, within the same task. Trigger nodes have a very specific role which will be explained later. The logic blocks, conversely, must be dragged from the LIBRARY to the side menu, and are shown as follows:



In some cases, as in this example, the block has a variable number of nodes (input or output); in this case, the “+” button allows you to add nodes to the block, up to the maximum number.

The logical function can only be performed correctly if the nodes are connected to other blocks. Not all nodes are strictly necessary for the correct execution of the logic; if an input node is not connected, its default value is used, which can be modified by selecting the node and opening the corresponding details panel (if it cannot be set, it means that the node does not have to be connected).

Blocks can be moved to the workspace, either by single selection, or by selecting a rectangular area that involves multiple blocks. To remove a block from the workspace, select it and press the DELETE key. Connections can also be removed in the same way.

Execution order

During the simulation and compilation phases, the editor generates a LUA script that runs in cycles.

Tasks are concatenated in the script according to their order on the LOGIC TASKS summary page; within each task, logic blocks also have their own execution order, indicated at the top right for each block.

Under normal conditions, blocks are assigned an ascending order based on the order in which they are placed in the program; however, you can force a different execution order as follows:

- Select the block concerned
- Open the details panel
- Choose “MANUAL” as the sort order
- Enter an order number, taking care to enter a number not yet used

Blocks with manual sorting are highlighted in yellow.

Finally, it is possible to reorder the blocks from top/left to bottom/right using the relevant button in the toolbar.

Trigger

Under normal conditions, the logical module maintains the state of the exit objects based on the logic state; as soon as these objects change state (for example, because they receive a command from the bus, external to the logic), their state is immediately restored to that indicated by the logic.

This behaviour is not always desirable; in many situations, in fact, you may want to control an object based on the change of state of other objects, but if this object is then controlled externally, you want to keep it in the latter state. In other words, we want to create a logic that relates to “events”.

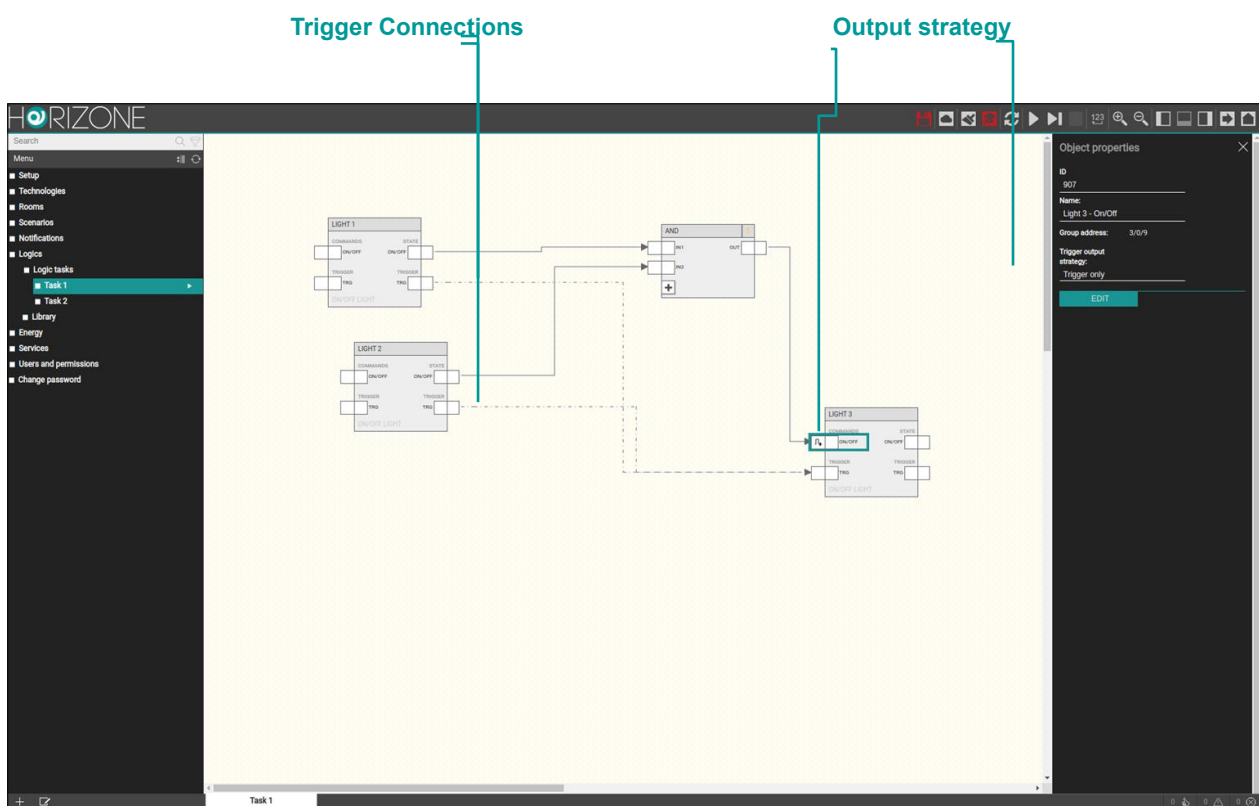
In this case, you must use the input and output TRIGGER nodes. Input triggers emit a pulse (i.e. a value of 1 for a single script run cycle, then return to 0) each time a value is received on a given object.

Output triggers, on the other hand, allow you to determine when to issue a command on an object; whenever a pulse (value 1) is sent on this trigger, the value of the object is sent to the bus, even if it has not changed since the previous execution cycle.

Therefore, if you want to change the logic example shown before (a simple AND between two KNX widgets, which commands a third) so that the output object receives a command whenever the inputs change, but can then change its status; if externally controlled, you must:

- connect the two input TRG nodes of the first objects to the output TRG node of the third

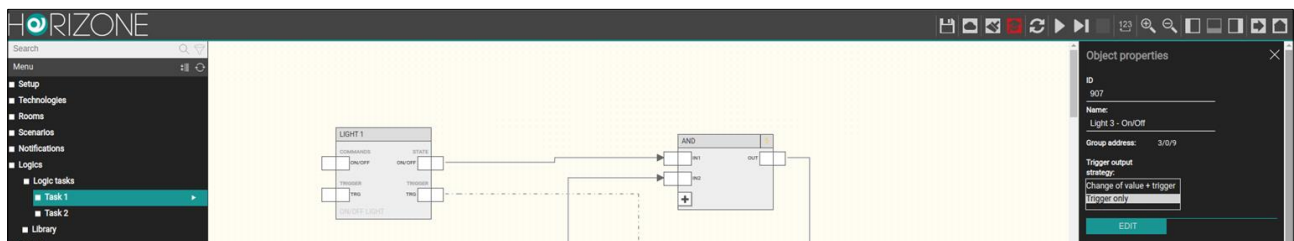
- ensure that the command node has “trigger-only” as its output strategy (thus sending the command only when it receives the status change trigger of one of the inputs)



When the output trigger is connected, the object’s output strategy is automatically set to “trigger-only” (and the symbol on the output nodes changes accordingly).

It is, however, possible to set the strategy manually, to govern when the command should be sent on the bus; in fact, the trigger can also be used to periodically send the value of an output, in addition to its change of status, connecting it to a periodic logic upstream, as happens with many KNX devices.

In the case of composite widgets, by opening the details (side panel) on the TRG node, it is possible to filter the nodes that determine the pulse (for input triggers) or that are influenced by the trigger (on output), through the appropriate multiple selector:



Node selector affected by trigger

Simulation

Once a logical task has been performed, it is possible to simulate its operation in the editor, by manually entering the status of the inputs and verifying the processing of the outputs in real time, by means of the logic blocks as well that change the outputs over time.

Two types of simulation are available:

- **Continuous Simulation:** Task execution occurs in the background and is affected in *real-time* by changes in node status
- **Step-by-step simulation:** each task execution cycle must be launched manually; you can change the status of the nodes between one and the next one

The first type allows a more realistic assessment of the logical networks created; the second allows a thorough and prompt verification of each individual step of values between blocks and offers a higher level of diagnostics.

By pressing one of the simulation buttons (continuous or step-by-step), the editor window is changed as follows:

- The main menu is limited to the PROJECT view only, allowing you only to switch between logical programs. You cannot create or delete programs.
- The details panel closes to provide maximum workspace for simulation
- Any drag & drop, link, change or deletion of logical program content is blocked
- The nodes change colour based on the status and allow you to force the value manually (as detailed below)

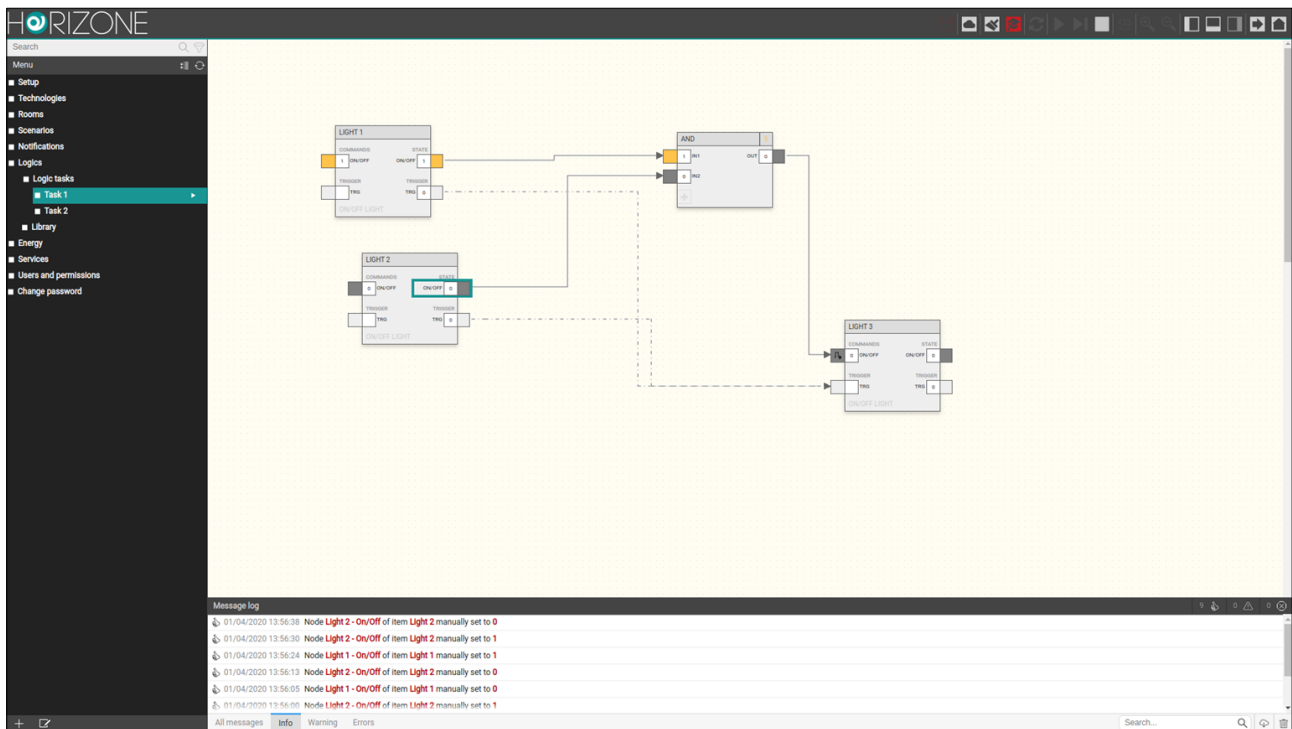
The colour of the nodes is as follows:

Binary nodes	Grey	Value 0 (OFF)
	Yellow	Value 1 (ON)
Numerical nodes	Blue	Any value

During the simulation, the editor displays a series of information in the message area related to program execution, manual (executed by the user) and automatic status changes (detected by logic blocks). In addition, during the step-by-step simulation, many “debug” level messages are displayed that allow an in-depth analysis of the program execution which is especially useful in the event of errors or malfunctions with respect to intentions.

The message area, normally closed to provide maximum useful space for simulation, can be opened to consult these messages, the number of which – depending on the type – is summarised in the right part of the message bar, visible even if closed.

The following figure shows an example of a simulation with the message area open:



To manually set the status of a node during simulation:

- Double-click the node value (label can be edited)
- Delete the current value and enter the new value
- Press ENTER

The colour of the node (if digital) changes depending on the new value, and this is passed to the simulator, which propagates it instantly (in the case of continuous simulation) or to the next execution cycle (in step-by-step mode).

You can stop the simulation at any time by pressing the simulation stop button in the toolbar (normally not accessible outside the simulation).

Running logical programs

Once the tasks have been completed, with the help of the simulation, the programs must be run via the relevant toolbar button. The tasks cannot be edited reports during execution.

If a task is not ready to be executed, you can disable it on the LOGIC TASKS detail page before executing it.

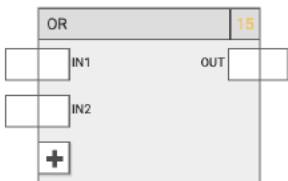
Library

COMBINATIONAL LOGIC

AND

DESCRIPTION:	Performs the logical AND function between two or more binary inputs (up to a maximum of 10)			
PREVIEW:				
NODES:	TAGS	DESCRIPTION	IN	OUT
	IN1 ... IN10	Input 1 ... 10 Possible values: 0 → OFF 1 → ON	X	
	OUT	Output Possible values: 0 → OFF 1 → ON		X
	+	Add Node	X	
OPTIONS:				

OR


DESCRIPTION:	Performs the logical OR function between two or more binary inputs (up to a maximum of 10)			
PREVIEW:				
NODES:	TAGS	DESCRIPTION	IN	OUT
	IN1 ... IN10	Input 1 ... 10 Possible values: 0 → OFF 1 → ON	X	
	OUT	Output Possible values: 0 → OFF 1 → ON		X

	+	Add Node	X	
OPTIONS:				

NOT

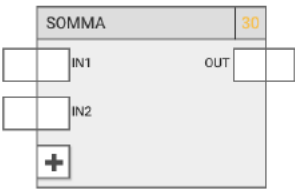
DESCRIPTION:	Performs the logical NOT function of the input			
PREVIEW:				
NODES:	TAGS	DESCRIPTION	IN	OUT
	IN	Input Possible values: 0 → OFF 1 → ON	X	
	OUT	Output Possible values: 0 → OFF 1 → ON		X
OPTIONS:				

COMPARISONS

DESCRIPTION:	Compares the value of the two inputs, and returns a TRUE/FALSE value based on the specific operator Available operators: <ul style="list-style-type: none"> • Greater than • Greater than equal to • Less than • Less than equal to • Equal to • Different 			
PREVIEW:				
NODES:	TAGS	DESCRIPTION	IN	OUT
	IN1 IN2	Input 1, Input 2 Possible values: any numeric value	X	
	OUT	Comparison result Possible values:		X

	0 → OFF 1 → ON		
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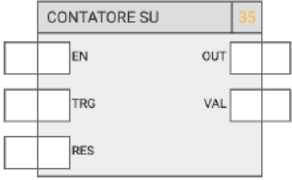
OPERATIONS

DESCRIPTION:	<p>Performs a mathematical operation on the inputs, depending on the type of operator</p> <p>Available operators:</p> <ul style="list-style-type: none"> • Maximum • Minimum • Average • Sum • Subtraction • Multiplication • Division • Absolute value • Log10 • Integrator 			
PREVIEW:				
NODES:	TAGS	DESCRIPTION	IN	OUT
	IN1	Input 1, input 2 ...	X	
	IN2 (*)	Possible values: any numeric value		
	...			
	OUT	Value (result of the operation) Possible values: any numeric value		X

(*) The number of outputs can be limited depending on the operation (e.g.: division max 2, absolute value max 1)

COUNTERS

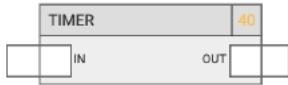
DESCRIPTION:	<p>Counts the number of pulses received in input (trigger), increasing or decreasing its value each time (depending on the type of counter).</p> <p>Counter types: counter up, counter down, counter up/down</p>
---------------------	--

PREVIEW:				
NODES:	TAGS	DESCRIPTION	IN	OUT
	EN	Enabling Possible values: 0 → Not enabled 1 → Enabled	X	
	TRG	Trigger Possible values: 0 → OFF 1 → ON (counter is incremented)	X	
	RES	Reset Possible values: 0 → OFF 1 → ON (reset counter)	X	
	OUT	Output Possible values: 0 → OFF 1 → ON		X
	VAL	Present value Possible values: any numeric value		X
OPTIONS:	Preset	Default value, set when resetting or starting logic Possible values: any numeric value		

TIMERS

TIMER


DESCRIPTION:	<p>Delays the value received on input by a preset time</p> <p>When a 1 is received in the IN input (rising edge), an internal counter starts until the time specified as “rise delay”, after which the output is increased to 1; conversely, upon receipt of a 0 input (falling edge), the block waits for the time specified as “fall delay” before setting the output to 0.</p>
---------------------	---

PREVIEW:				
NODES:	TAGS	DESCRIPTION	IN	OUT
	IN	Input ON/OFF SIGNAL Possible values: 0 → OFF 1 → ON	X	
	OUT	Output ON/OFF signal, delayed by timer Possible values: 0 → OFF 1 → ON		X
OPTIONS:	Rise delay	Delay in the propagation of the rising edge received in input Possible values: from 1 second to 24 hours		
	Fall delay	Delay in the propagation of the falling edge received in input Possible values: from 1 second to 24 hours		

TRIGGER/NUMERIC TRIGGER

DESCRIPTION:	<p>Generates a trigger (cycle pulse duration) when an input edge is detected</p> <p>When it receives a 1 on input, it sets the output to 1 for the duration of a single processing cycle, then the output is set back to 0, in this way it is possible to generate a “pulse” for logic blocks that require it (e.g. scenarios, sequencer etc...) on the rising edge of the input.</p>			
PREVIEW:				
NODES:	TAGS	DESCRIPTION	IN	OUT
	IN	Input edge	X	
	OUT	Cycle Pulse Duration		X
OPTIONS:	Edge	Rising or falling edge to be detected in input, in the case of digital triggers		
	Condition	In the case of a numerical trigger, it allows you to set the numerical value, against which the block generates the pulse		

ASTRONOMICAL CLOCK

DESCRIPTION:	Generates the following information based on time and geographic location: <ul style="list-style-type: none"> day / night (dusk) height of the sun azimuth 			
PREVIEW:				
NODES:	TAGS	DESCRIPTION	IN	OUT
	DAY	Day / night (1 = night)		X
	ELEV	Height of the sun		X
	AZI	Azimuth		X
OPTIONS:	Latitude Longitude	Coordinates in numeric format (point as decimal separator)		
	Threshold	Offset in minutes versus hour of day/night		
	Time zone	Time zone of the place where the system is installed		
	Time change	Disabled: standard/daylight savings time not active Automatic: automatic standard/daylight savings time Manual: manual daylight savings time setting		

OSCILLATOR

DESCRIPTION:	Generates a periodic pulse			
PREVIEW:				
NODES:	TAGS	DESCRIPTION	IN	OUT
	TRG	Output triggers		X
OPTIONS:	Timer	Time after which the trigger is periodically generated		

ENERGY

Introduction

HORIZONE MINI allows you to monitor energy consumption by processing and displaying meters on both KNX technology and USB (in the latter case, part of the Eelectron catalogue).

HORIZONE MINI also incorporates a load control logic, which allows you to automatically switch off and turn on utilities, to prevent the meter from being disconnected due to excessive consumption.

Energy manager

By accessing the

ENERGY > ENERGY MANAGER

section, you can configure the HORIZONE MINI energy management.

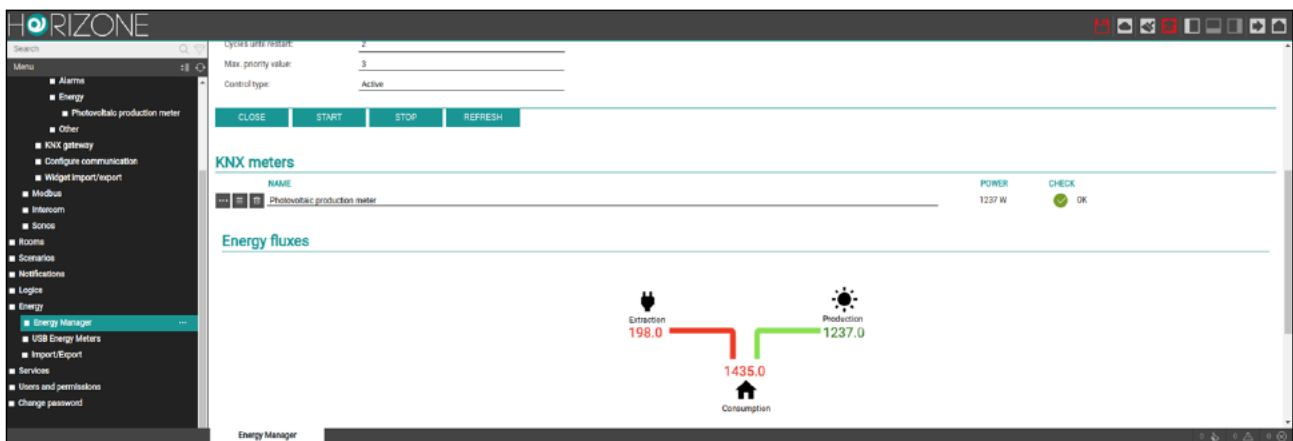
In the GENERAL DATA section, you can choose which meter to use as the general consumption data, and which, if available, for photovoltaic production. See below for creating meters.

The LOAD CONTROL section prompts you to specify the following operating parameters:

CYCLE TIME [s]	Time (in seconds) of the “base cycle” of the load control logic; at the end of this time, the absorption value is checked and compared with the thresholds to determine the actions to be taken
CYCLES UNTIL BREAK CYCLES UNTIL RESTART	<p>Number of base cycles (whose duration depends on the previous parameters) that the system waits before increasing the priority (thus releasing the next priority loads) if the absorption condition above the threshold persists, or conversely, the number of cycles that the system waits before reducing the priority, restoring the corresponding loads.</p> <p>A reduced number of cycles are usually entered for the release and a high number for the recovery to reduce the risk of stress on the utilities and the creation a sort of “loop” that does not solve the problem of excessive absorption.</p>
MAX PRIORITY VALUE	Maximum number of priorities managed by the load control logic; the system does not exceed this number and, therefore, does not manage loads with subsequent priorities

CONTROL TYPE	Specify whether HORIZONE MINI should effectively manage the load control logic actively (default) or passively; in the latter case, the presence of an external load control device is assumed and HORIZONE MINI only displays the information made available (e.g. on the KNX bus) by the latter
EXECUTION STATE	Displays the logic execution status; it should normally always be in “PLAY”, but can be stopped (via the “STOP” button) during configuration, or to correctly implement substantial changes to the configuration (e.g. adding new loads)

The page contains the lists of KNX meters and loads. Moreover, if both consumption and production meters are assigned, a preview of the extraction / production and self-consumption fluxes is displayed, as in this example:



USB meters

In the side menu section of the same name, you can enter an Eelectron USB meter for the single-phase measurement of electricity consumption. The only information required in the tab is the maximum power; once communication has been initiated, the meter displays:

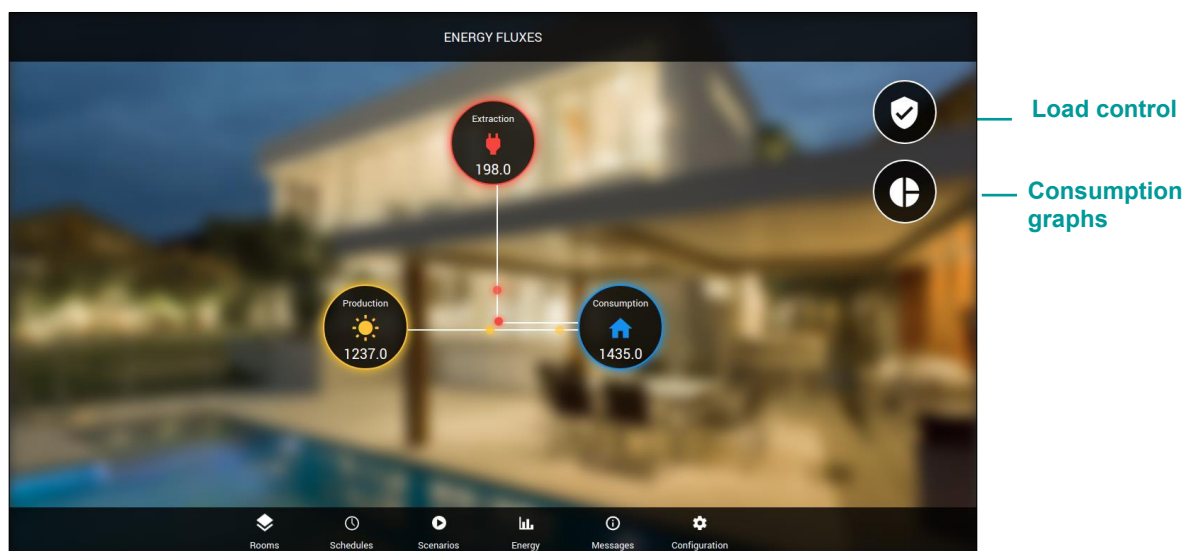
- voltage
- current
- threshold violation alarm

You can also set the following values:

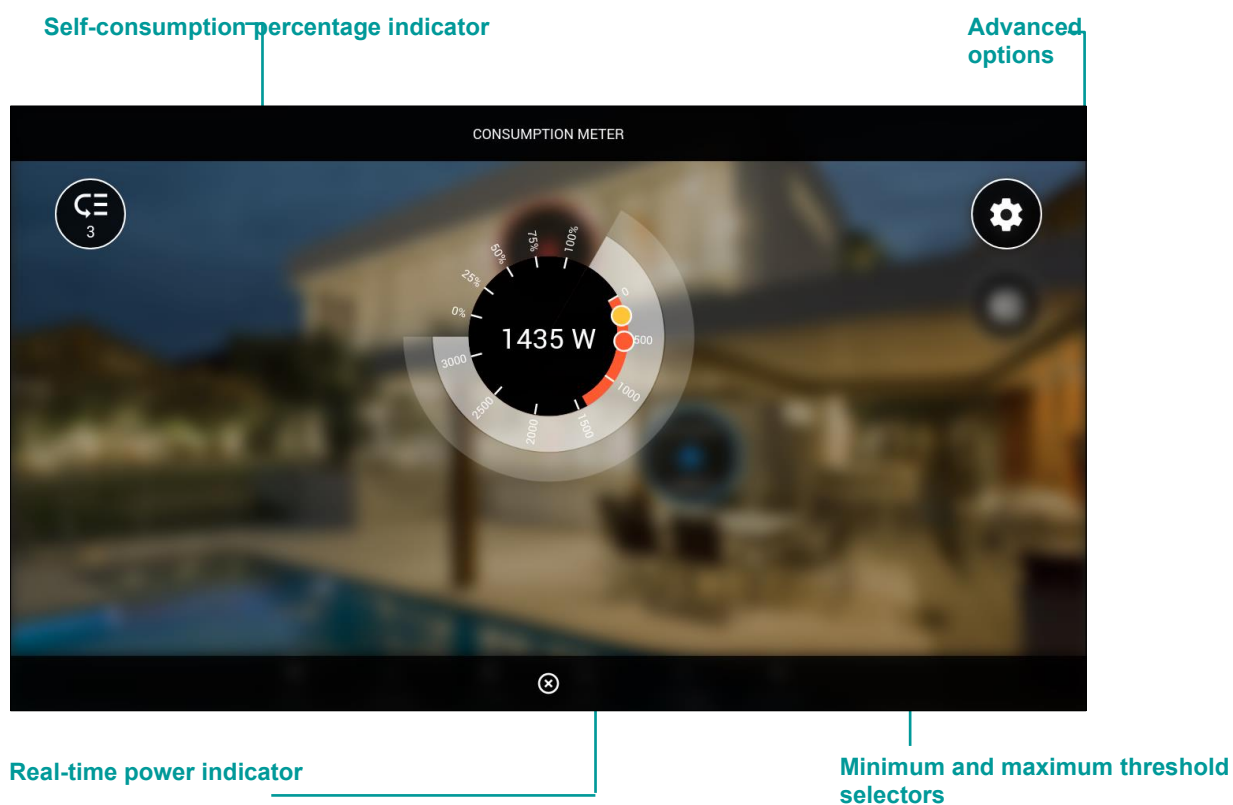
- Power – minimum threshold
- Power – maximum threshold

These two values are used by the load control as reference thresholds.

In visualisation, the ENERGY section shows the following animated diagram, if there is a photovoltaic system:



By pressing on consumption and production, the details of the relevant meters are shown (default view entering the energy section, if there is not photovoltaic system):



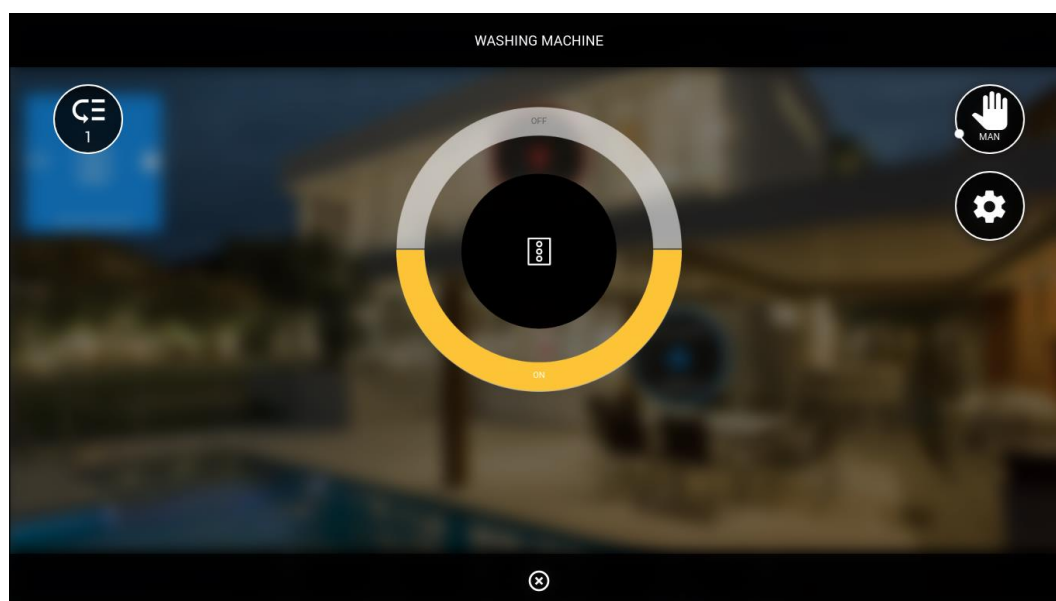
In advanced settings, you can fine-tune the power thresholds, compared to what is possible with the cursors on the main image.

The extraction, production and self-consumption (for a photovoltaic system) produces the following summary graph, accessible by means of a special symbol from the energy page:



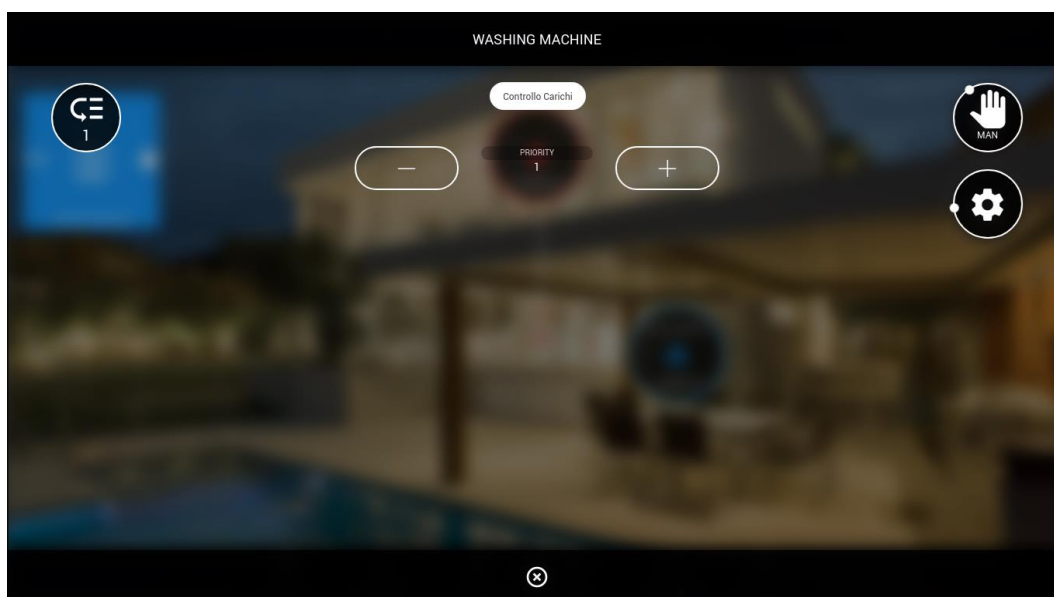
Loads can be managed in the appropriate section, accessible via the button at the top right of the energy page.

By clicking on the single load widget, the following detail popup window is displayed:



Within it, you can:

- Enable or disable manual mode, which excludes the load from the load control logic (in this case, the corresponding widget is highlighted in blue)
- Enable or disable the load (with the buttons in the central control)
- Change the priority within the load control by accessing the advanced settings



If the load is managed through an ELEKTRA PLUG socket, the detail popup window shows more information, since the consumption of the connected utility is also available.

Also, in this case, the socket can be controlled by the ON/OFF buttons, and put in manual mode, to temporarily exclude it from the load control logic.

CLOUD SERVICES

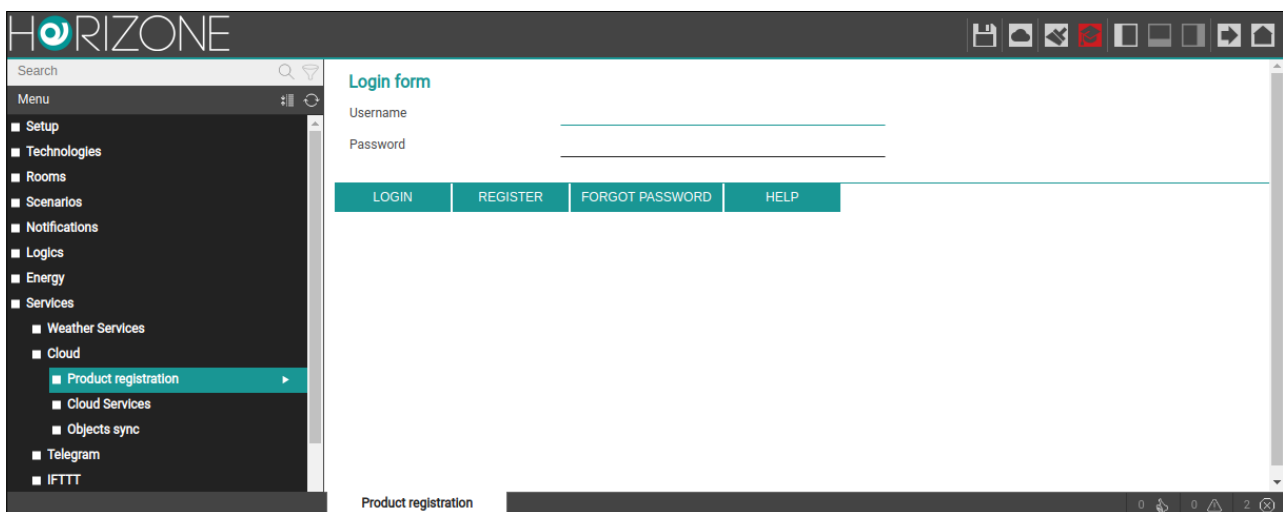
Registration

HORIZONE MINI can be registered on the Eelectron cloud to benefit from exclusive services, which enhance its local operation.

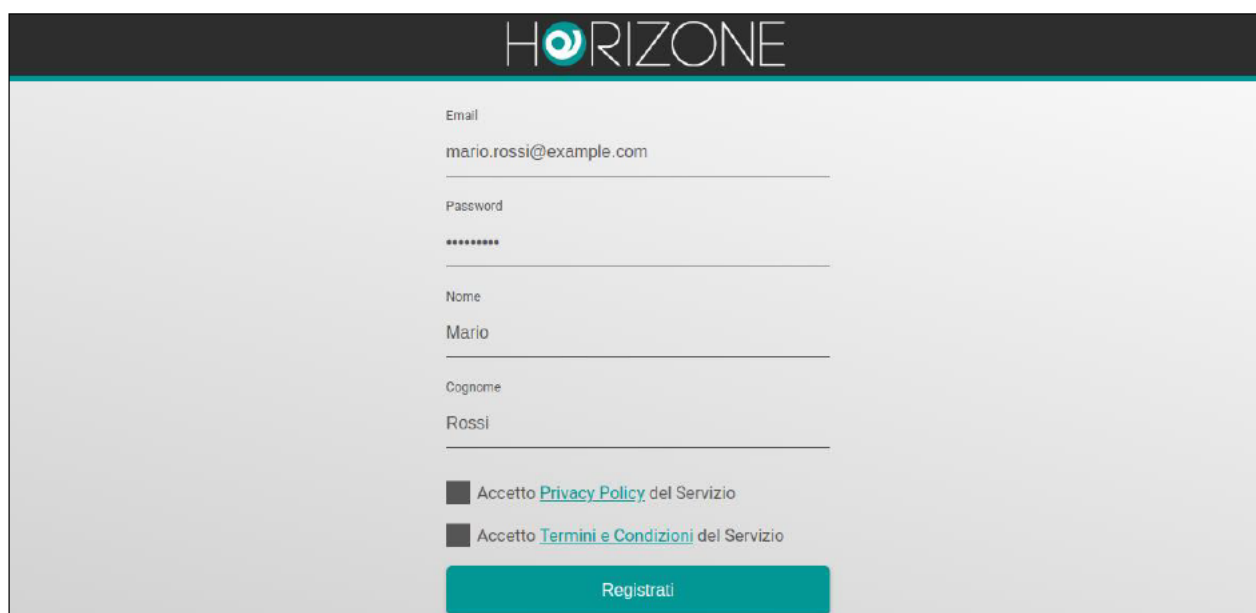
The first step is to create a free account on our cloud, if you do not already have one (because, for example, you have already registered to use the products of the ELEKTRA range through its app). By pressing the cloud icon in the toolbar at the top of the screen or by accessing the admin menu item

SERVICES > CLOUD > PRODUCT REGISTRATION

you can enter your own cloud credentials, if already available...



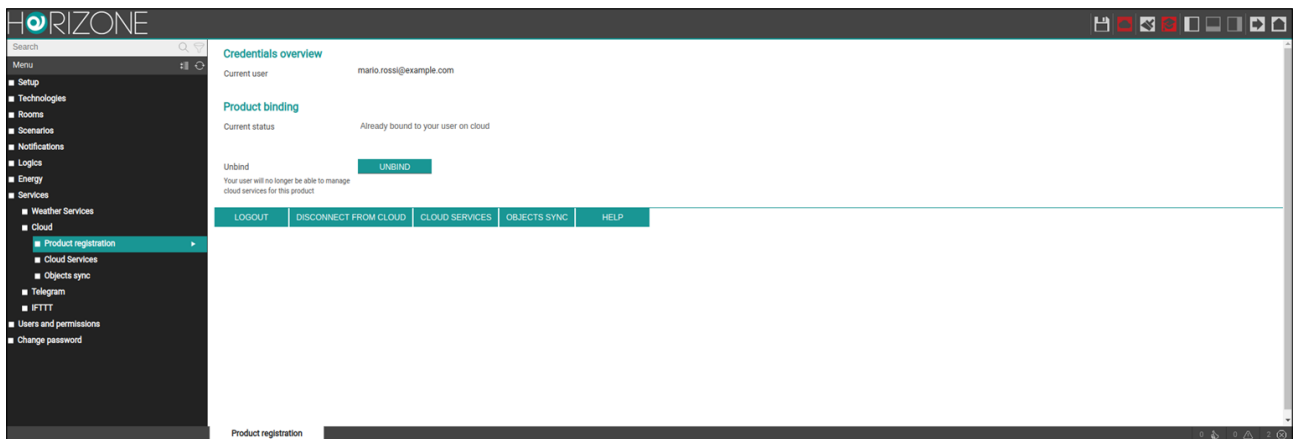
... or by pressing the REGISTER button, create a new account on the fly:



Once you have entered your credentials, you can associate the current user, with which you accessed HORIZONE MINI, with your cloud account. You can choose two types of association:

OWNER	<p>You will have full rights on HORIZONE MINI and full management of the services associated with the cloud.</p> <p>It will also be possible to control the functions of HORIZONE MINI through cloud services and voice assistants</p>
INSTALLER	<p>You will be associated with HORIZONE MINI as an installation and configuration technician.</p> <p>You will not be able to control objects using voice assistants and the cloud.</p>

By pressing the corresponding button, the current user of this HORIZONE MINI is matched to the cloud account entered; after a few seconds, the following summary screen is displayed:

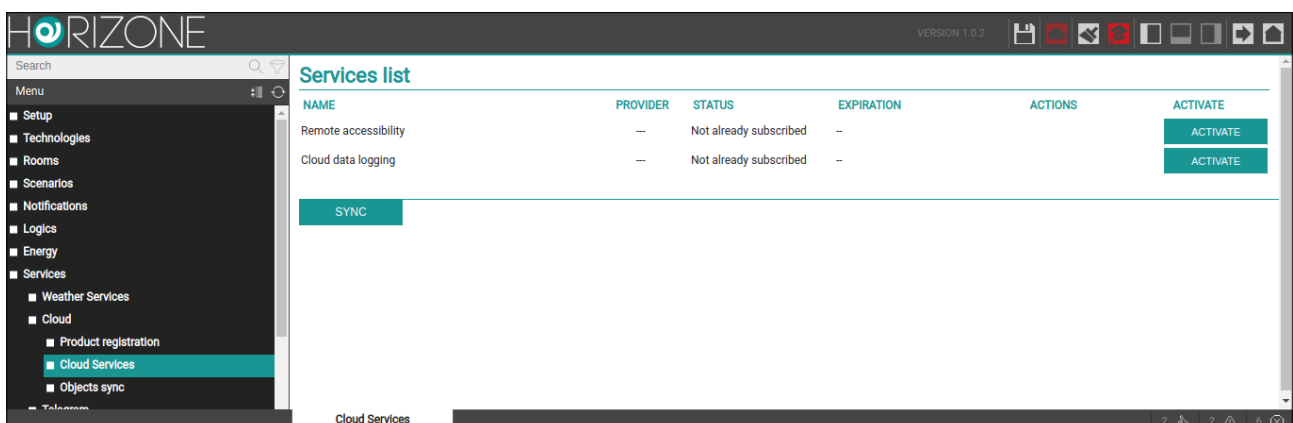


You can now access the following sections:

CLOUD SERVICES	Enables cloud-based services on the server, such as remote access without opening ports on the router
SYNC OBJECTS	Allows you to record cloud supervision widgets, so that you can control them through external services, such as Alexa and Google voice assistants

Remote access

The CLOUD SERVICES page allows you to activate the remote service, which allows you to access HORIZONE MINI without opening IP ports on the Internet router:



By pressing the service activation button, a request is sent to the cloud, which after a few seconds sends a confirmation email to the applicant (the same email address used to access the cloud section) containing:

-
- The address that can be accessed remotely (to be entered directly in the browser, or in the HORIZONE MINI app)
 - The service expiration date

The remote service is offered free of charge for a period of 6 months from activation, after which it must be renewed annually; for further information of a commercial nature, please refer to the details in the confirmation email and to our customer service.

Once the service has been activated (it may take a few minutes before it starts and is operational), you can also see the remote IP address of HORIZONE MINI on the following pages:

- SETUP > NETWORK
- SETUP > ACCESS WITH QR CODE

On both pages, where you could manually enter the references of your public IP or dynamic DNS if the service is not active, in this case you cannot make manual changes but you can, however, copy the cloud address to be used in the browser or apps, or shared with other users.

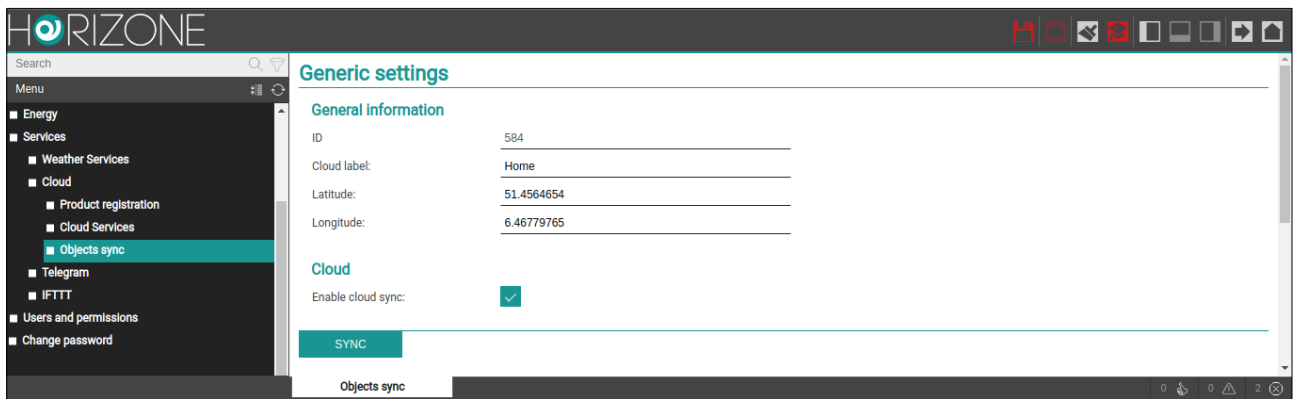
Because the cloud address consists of random characters and is, therefore, not easy to remember, it is recommended that you share access to HORIZONE MINI via QR, as explained above in the SETUP section

Even if you associate more than one HORIZONE MINI users with the same number of cloud accounts, you only need to activate remote access once; once activated, in fact, HORIZONE MINI becomes available for external access, regardless of the user who then materially logs in.

Cloud Sync

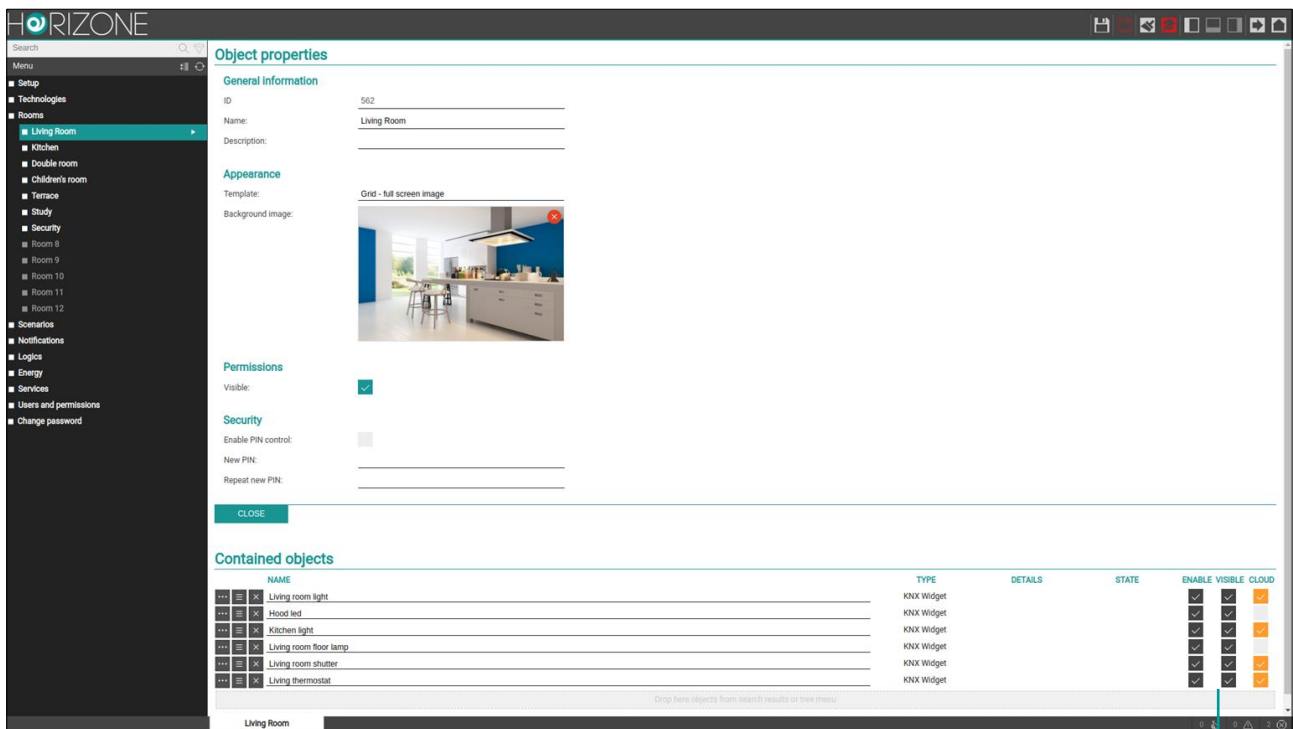
Through this section you can sync HORIZONE MINI to the cloud, identifying a number of *widgets* that can be controlled by external services, such as Alexa and Google voice assistants.

First of all, you should identify your MINI HORIZONE with a label and the coordinates of the place where it is installed:

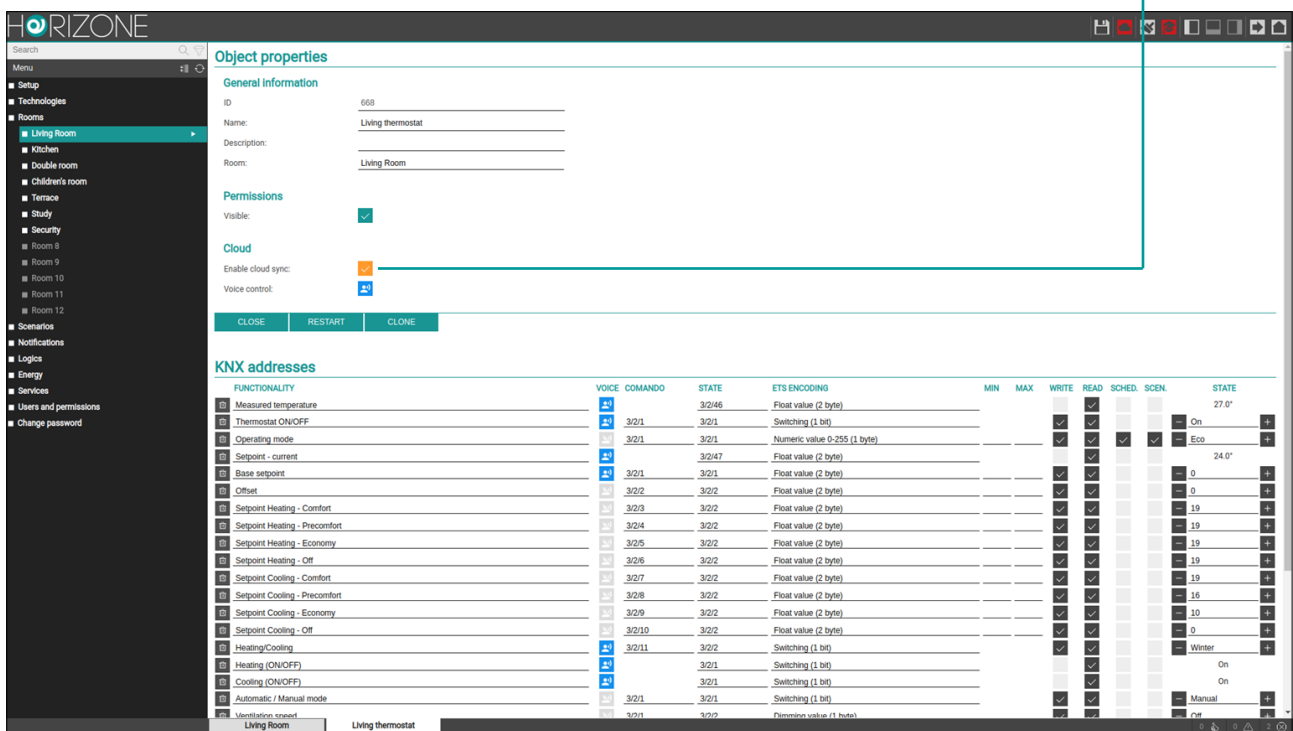


This information is not strictly essential, but makes it easier to identify the server on the cloud. The SYNC button must be pressed when any changes are made.

Within the configuration pages, whether they are a room, list of widgets of a given technology or the detail tab, you can enable cloud synchronization of one or more widgets / supervision objects:



Enable synchronization
on cloud



Initially the selector is orange, indicating that synchronization with the cloud has not yet taken place. Once you have selected all the objects to synchronize, by pressing the cloud indicator again in the toolbar, you can review the summary of the objects, and start the procedure with the SYNC button.

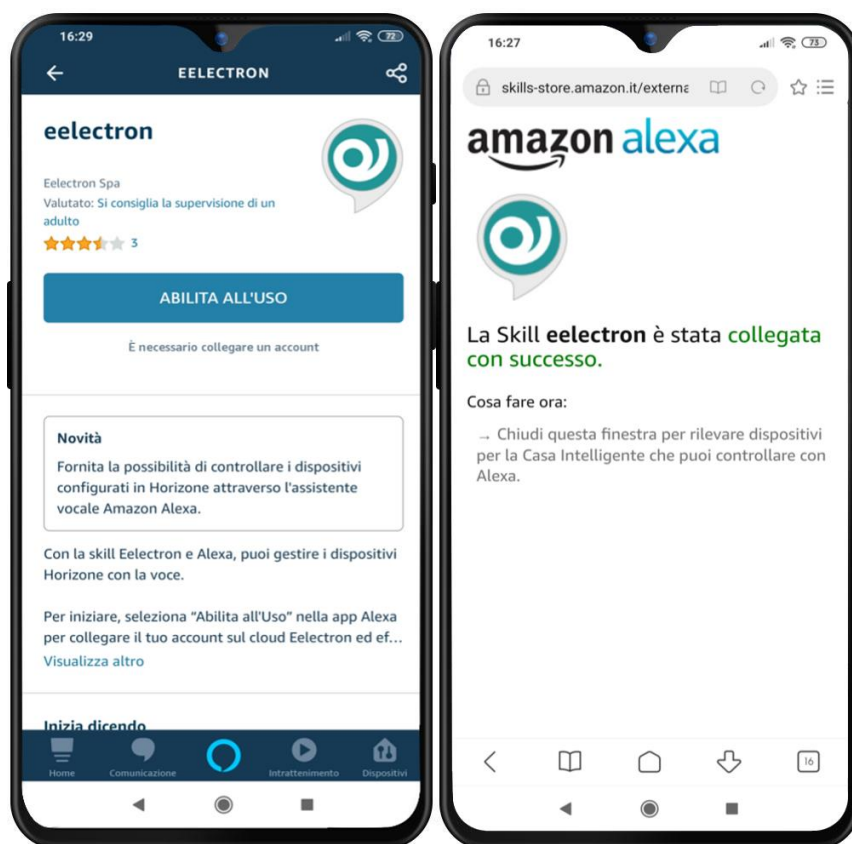
At the end of the procedure, all objects are marked in green, until a new change to their configuration occurs; in the latter case, a new synchronization will be required. The status of the cloud indicator in the toolbar – green or red – indicates whether or not there are objects to synchronize.

If an object remains orange after synchronization is completed, you should verify its configuration; for example, composite widgets may lack the minimum number of sub-objects necessary for proper cloud management.

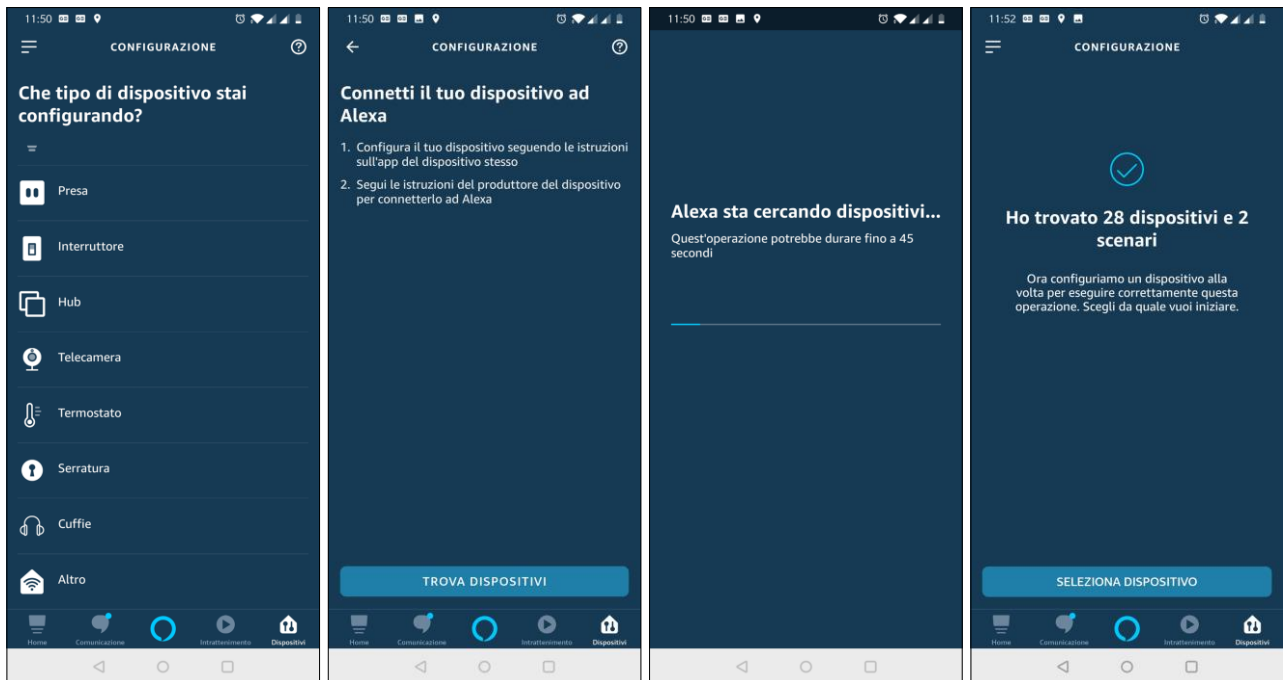
Voice Assistant Control

Once the widgets have been synchronized correctly, you can control them through the Alexa and Google voice assistants, through the *smart home* management of their respective systems ("Alexa" app for Amazon, "Home" for Google). This chapter will describe the procedure for Alexa, by way of example.

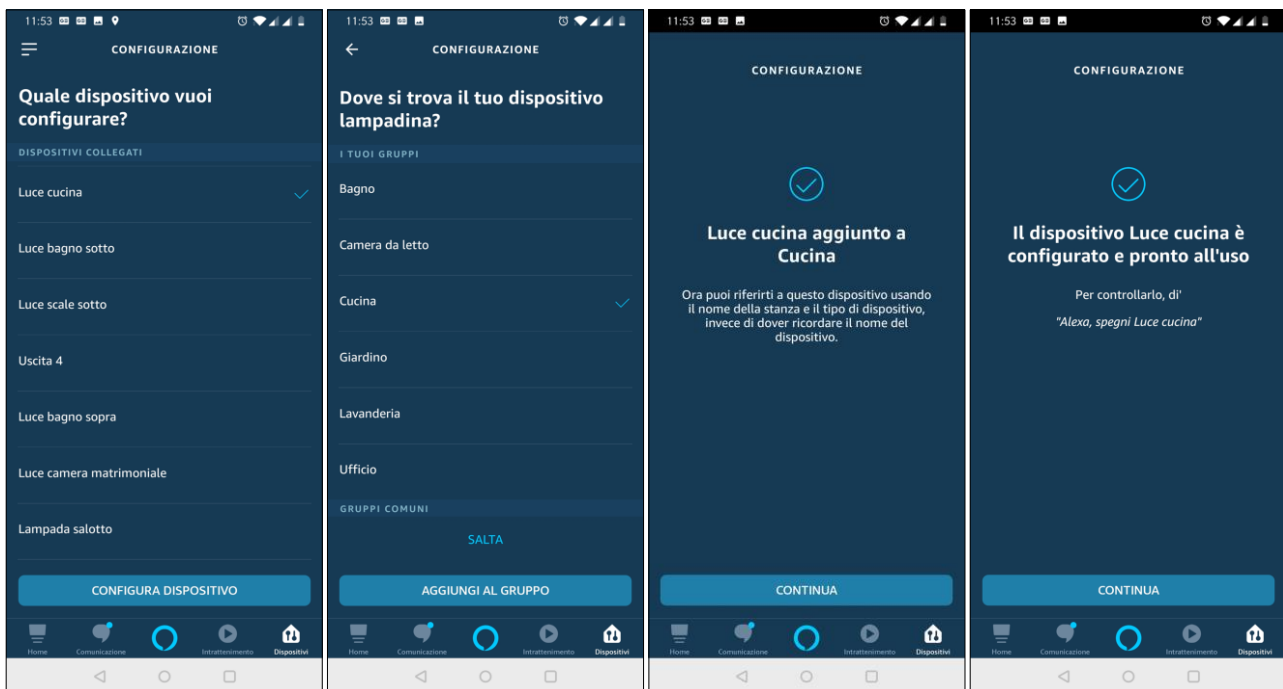
As a first step, it is necessary to activate the Eelectron skill in the Alexa and Google Home apps; during the procedure, you are required to associate the account on the Eelectron cloud (with which the procedure described above was carried out):



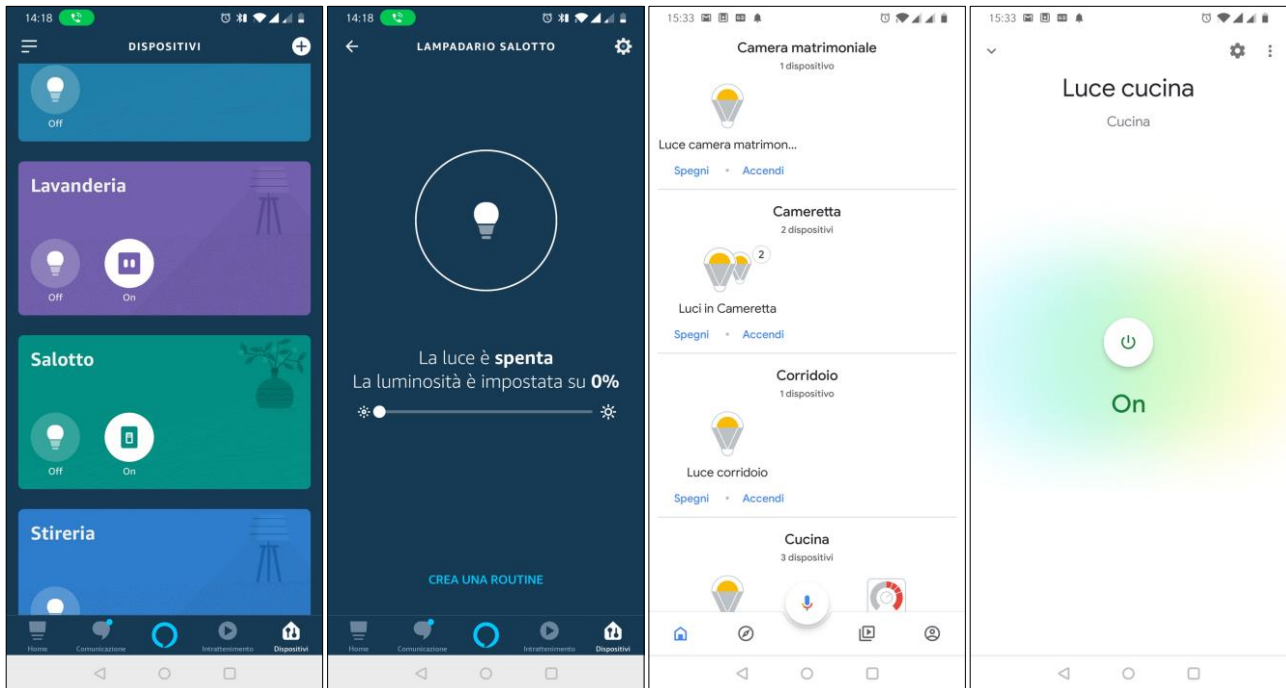
At this point, it is necessary to launch a scan for new devices:



Once the procedure is complete, you can associate each of the devices with a group to identify it more easily (and be able to make group commands, or refer to the name of the group by voice):



At this point, you can control the new features with your voice, or with the graphics of the Alexa/Google Home app:

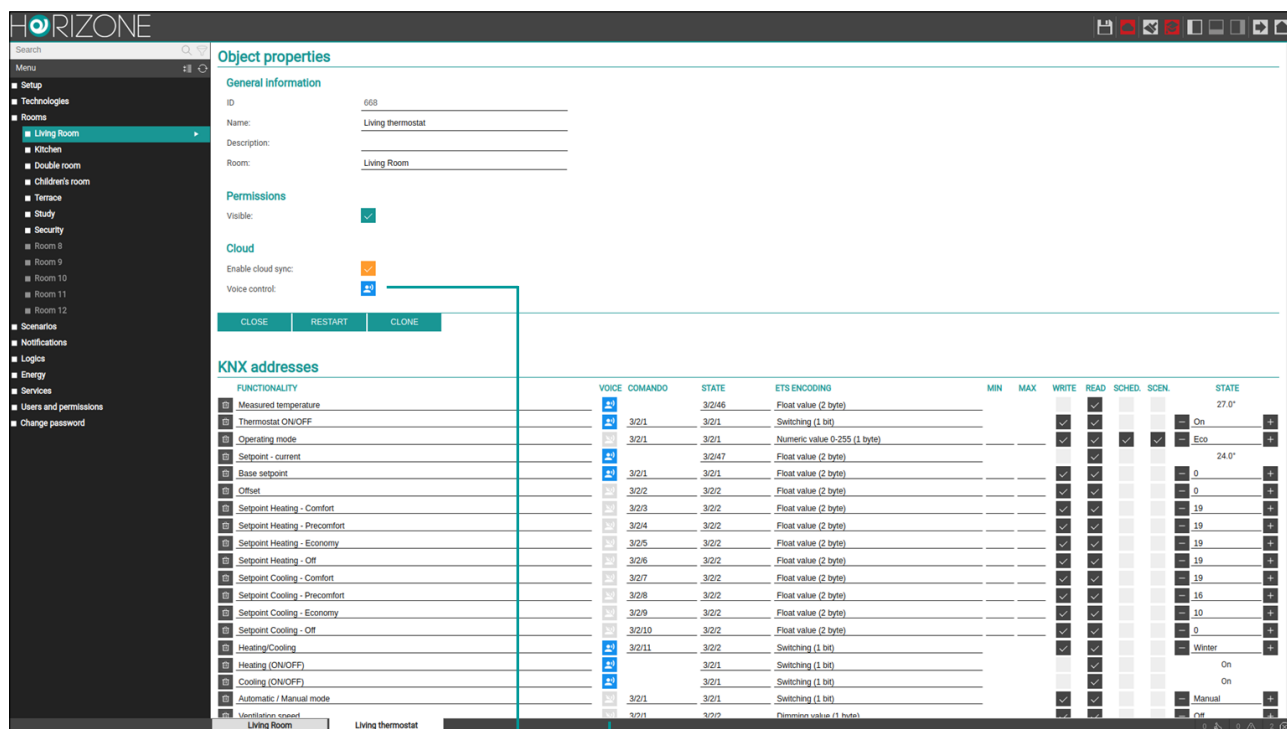


For a list of specific keywords, please refer to Alexa and Google Assistant documentation; here are some examples of common requests:

Alexa, turn on the light in the kitchen
Alexa, set the light in the living room to 70%
Alexa, increase the light in the bedroom by 20%
Alexa, tell me the temperature in the living room.
Alexa, set the temperature in the kitchen to 21 degrees
Alexa, shut down everything

Please note that not all HORIZONE MINI features can be managed with Alexa and Google Assistant because the models of these systems are extremely simplified and basic compared to the features offered by a KNX system.

To this end, an indicator has been added to HORIZONE MINI which highlights whether a certain widget / object can be controlled by voice.



Object properties

General information

ID: 668
 Name: Living thermostat
 Description:
 Room: Living Room

Permissions

Visible: ☒

Cloud

Enable cloud sync: ☒
 Voice control: ☒

KNX addresses

FUNCTIONALITY	VOICE	COMANDO	STATE	ETS ENCODING	MIN	MAX	WRITE	READ	SCHED.	SCEN.	STATE
Measured temperature	<input checked="" type="checkbox"/>		3/2/46	Float value (2 bytes)			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			27.0°
Thermostat ON/OFF	<input checked="" type="checkbox"/>	3/2/1	3/2/1	Switching (1 bit)			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			On
Operating mode	<input checked="" type="checkbox"/>	3/2/1	3/2/1	Numeric value 0-255 (1 byte)			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Eco
Setpoint - current	<input checked="" type="checkbox"/>		3/2/47	Float value (2 bytes)			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			24.0°
Base setpoint	<input checked="" type="checkbox"/>	3/2/1	3/2/1	Float value (2 bytes)			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			0
Offset	<input checked="" type="checkbox"/>	3/2/2	3/2/2	Float value (2 bytes)			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			0
Setpoint Heating - Comfort	<input checked="" type="checkbox"/>	3/2/3	3/2/2	Float value (2 bytes)			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			19
Setpoint Heating - Precomfort	<input checked="" type="checkbox"/>	3/2/4	3/2/2	Float value (2 bytes)			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			19
Setpoint Heating - Economy	<input checked="" type="checkbox"/>	3/2/5	3/2/2	Float value (2 bytes)			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			19
Setpoint Heating - Off	<input checked="" type="checkbox"/>	3/2/6	3/2/2	Float value (2 bytes)			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			19
Setpoint Cooling - Comfort	<input checked="" type="checkbox"/>	3/2/7	3/2/2	Float value (2 bytes)			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			19
Setpoint Cooling - Precomfort	<input checked="" type="checkbox"/>	3/2/8	3/2/2	Float value (2 bytes)			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			16
Setpoint Cooling - Economy	<input checked="" type="checkbox"/>	3/2/9	3/2/2	Float value (2 bytes)			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			10
Setpoint Cooling - Off	<input checked="" type="checkbox"/>	3/2/10	3/2/2	Float value (2 bytes)			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			0
Heating/Cooling	<input checked="" type="checkbox"/>	3/2/11	3/2/2	Switching (1 bit)			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			Winter
Heating (ON/OFF)	<input checked="" type="checkbox"/>		3/2/1	Switching (1 bit)			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			On
Cooling (ON/OFF)	<input checked="" type="checkbox"/>		3/2/1	Switching (1 bit)			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			On
Automatic / Manual mode	<input checked="" type="checkbox"/>	3/2/1	3/2/1	Switching (1 bit)			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			Manual
Ventilation speed	<input checked="" type="checkbox"/>	3/2/1	3/2/2	Proportion value (1 byte)			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>			net

Indicator elements controlled by voice

... or which sub-objects they are, in the case of composite widgets.

IFTTT

HORIZONE MINI is compatible with the IFTTT cloud platform, which allows you to create free association rules between compatible devices and services (called “applets” or “recipes”) according to the logic

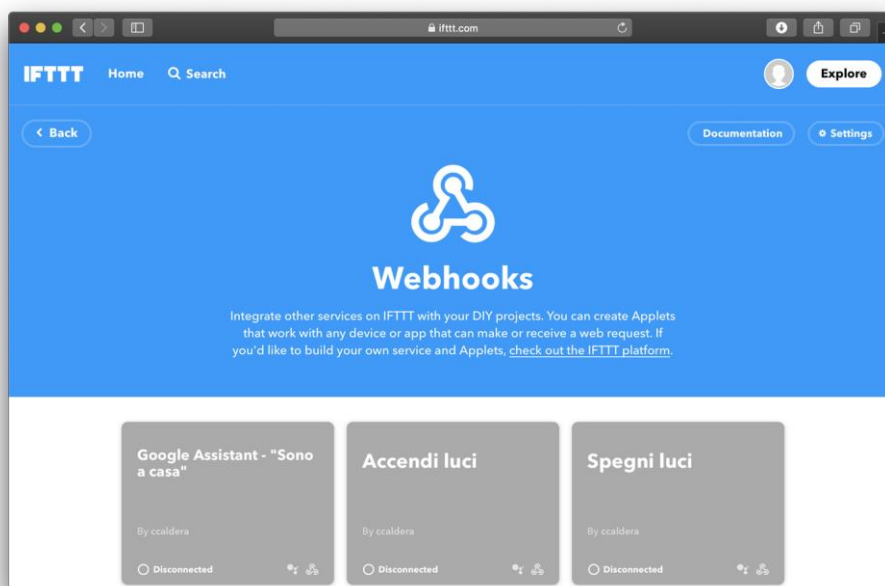
if this then that

hence the acronym IFTTT. To use this service, you must first register for free on ifttt.com and then add the “webhooks” service to your account.

The “documentation” page displays your personal API key, which must be pasted into the page

SERVICES > IFTTT > WEBHOOKS

for HORIZONE MINI.

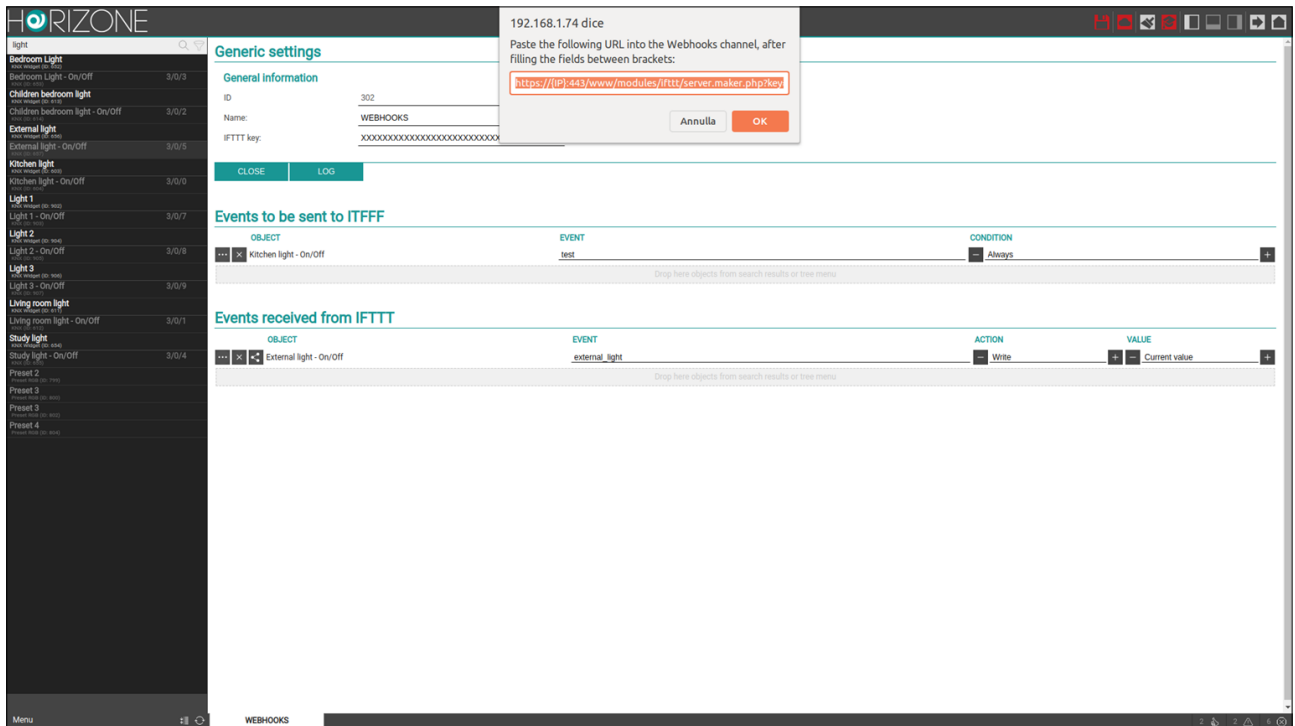


To invoke an applet when a HORIZONE MINI object changes its status, drag it from the side menu, or from the search engine, to the “EVENTS TO BE SENT TO” section. In the case of composite widgets (such as KNX widgets), you must drag the sub-object whose status change is to determine the event, searching for it in the search engine:



Value1	ID of the object that invoked the event
Value2	Name of the object that invoked the event
Value 3	Value (in numeric format) of the object at the time it invoked the event

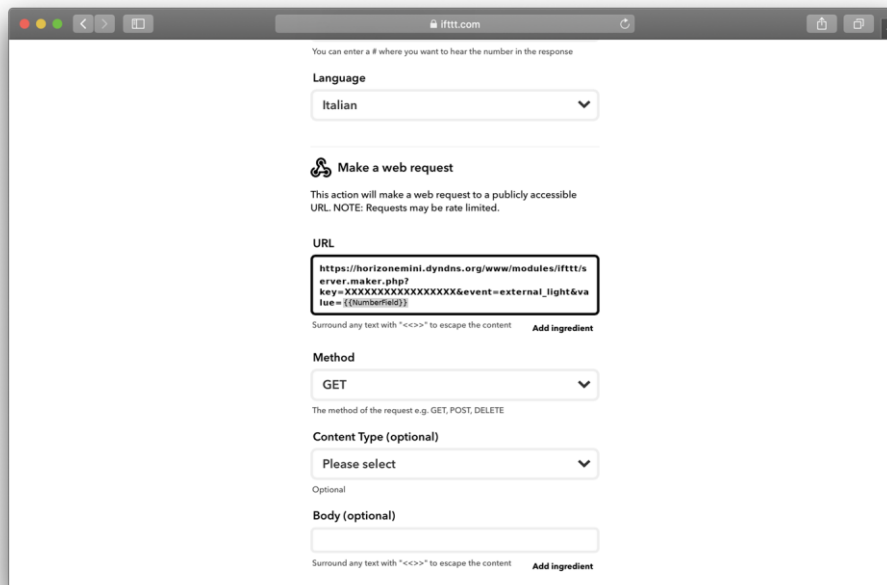
104 / 118



... again specifying an event name, and the action + value to be sent to the object when invoked by IFTTT. If you choose “current value”, the value will be passed to the URL invoked by IFTTT.

Pressing the link button next to an object a dialog box appears in which you can copy the URL, to be entered in IFTTT. HORIZONE MINI must be pre-configured for remote access via public IP, dynamic DNS or cloud service.

During the creation of the *applet* in IFTTT and after choosing the starting service by pressing “that” and choosing “webhooks” as a service, you are asked to paste the previous address; if necessary, you can replace fixed values in it with “ingredients” that derive from the starting event, to make the invocation dynamic based on the triggering cause:



Two tools can be used to monitor the correct operation of the rules in both directions:

- the LOG button in HORIZONE MINI, which shows a series of messages collected on the server during communication with IFTTT
- the “activity” section in IFTTT, which records all service events

USERS AND PERMISSIONS

Introduction

This chapter explains the user management of HORIZONE MINI and how to customize it according to your needs, to ensure secure and versatile access to the supervision pages.

Users and User Groups

Authentication in HORIZONE MINI is based on two types of objects:

- **USERS:** these are the real supervision access accounts, identified by a “username” and a “password”. Users do not have permissions and privileges, but may belong to one or more USER GROUPS that determine their level of access to the software
- **USER GROUPS:** Hold permissions to access the different functions of the software. Changing a permission to a group simultaneously affects all users who are part of it.

Creating a new user

To create a new user, as with the other object types previously seen:

- Access the HORIZONE MINI CONFIGURATION environment
- Select USERS AND PERMISSIONS → USERS
- Press the "ADD" button and access the newly created object tab

The users tab allows you to set the following properties:

USERNAME	Name used to log on to the system – <u>Must consist of alphanumeric characters without spaces or special characters</u>
PASSWORD	System access password - <u>Must consist of alphanumeric characters with no spaces</u>
HOME PAGE ROOM	You can drag a room from the side menu that opens immediately when this user accesses the VISUALISATION

User groups and access rights

By accessing the tab of a USER GROUP – whether default or created manually – it is possible (in addition to specifying its name) to determine which users are part of it, by dragging them from the tree menu or from the search engine in the appropriate “USERS” section.

You can also assign one or more supervision objects to the USER GROUP, thus making them “private” and accessible only to USERS belonging to that USER GROUP: to do this, simply drag the desired objects to the “OBJECTS” section.

Once an object has been assigned to a user group, it can no longer be used by users outside the group, so it is important to be take care over this to avoid situations where you are no longer able to use objects or change these settings. For this purpose, it is recommended that you always associate “private” objects with the ADMINISTRATORS user group (so that “admin” can always operate on them), and possibly also with the other user groups that you want to have control of these objects.

Default passwords

It is of paramount importance that the default password for all users preinstalled in HORIZONE MINI is changed so that access is secure, especially when there is a remote connection.

HORIZONE MINI displays an error message when accessing administration, if at least one of the default users has not changed their password.

Change Password

Any user, even with basic rights, can change their login password through the “CHANGE PASSWORD” entry of the administration menu.

On this page, you can change your username, and enter a new password, which (once entered correctly twice) will be immediately operational.

REMOTE ACCESS

Introduction

This chapter explains how to configure your network to allow remote access to HORIZONE MINI, to be able to make the most of supervision even when you are not inside the building.

Opening ports on the router

In order to access HORIZONE MINI via the internet, you must:

- Ensure that the network configuration of HORIZONE MINI has as its “DEFAULT GATEWAY” the IP address of the Internet router through which you want to remotely access
- Configure the router with which you access the Internet (typically, an ADSL router) to perform a port forwarding of port 443 and port 22 on the IP address assigned to HORIZONE MINI, specifying “TCP” as the packet type

If public ports 443 and/or 22 are already occupied by other devices, different ports may be specified in the *port forwarding* rules, provided that these rules address external requests on ports 443 and 22 (respectively) within the LAN.

For more information, please refer to your internet router documentation.

Remote Cloud Accessibility

As an alternative to opening ports on the router, you can activate a remote service that allows you to access the webserver without opening ports on the router, through the support of our cloud.

After pairing HORIZONE MINI with your Eelectron cloud account, as described above, simply log in to the

SERVICES > CLOUD > CLOUD SERVICES

page and press ACTIVATE at the REMOTE ACCESSIBILITY service.

Once the service has been enabled by our customer service, it is active in the list and requires no further configuration. By accessing the

SETUP > NETWORK

page, the REMOTE ACCESS section displays the public address assigned by the cloud, which you can point to in order to access HORIZONE MINI.

If you use the QR LOGIN feature, the QR web server access code for apps automatically contains this public address, so you do not have to enter it manually in the app.

REMOTE CONTROL OF ETS

Introduction

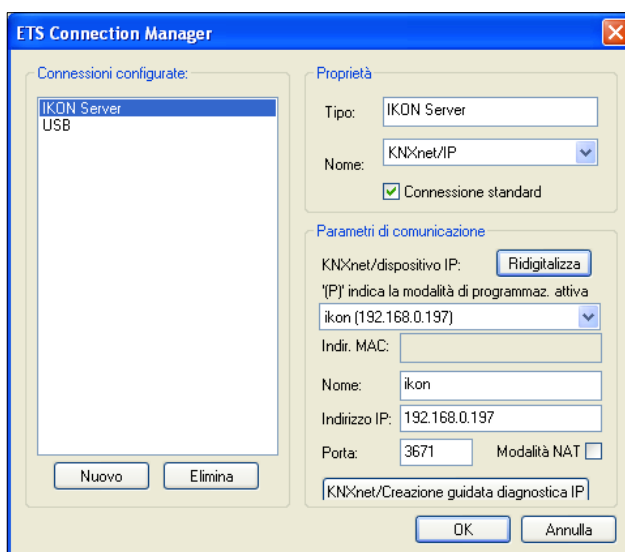
HORIZONE MINI offers the possibility to remotely control its communication port with the KNX bus for access via ETS, both on the local network and through the internet. In this way, you can use the web server to program KNX devices or diagnostics, without having to be physically connected with your PC to the system via a USB port or similar.

Local network usage

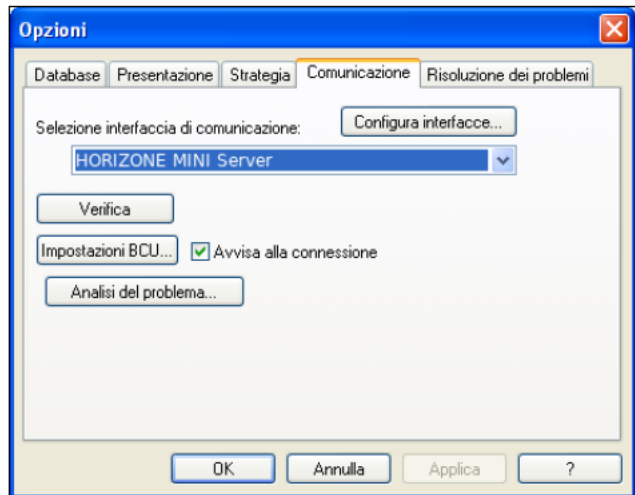
On the local network, you can connect your PC with ETS directly to HORIZONE MINI provided they are connected to the same network (even wireless).

If ETS3 is used, proceed as follows:

- Select "OPTIONS" from the "OTHER" menu and select "COMMUNICATION"
- Press the "CONFIGURE INTERFACES" button
- Press the "NEW" button then assign "MINI HORIZONE" as "type" and choose "KNXNet/IP" from the drop-down menu
- Wait a few seconds for the network scan, then select HORIZONE MINI from the drop-down menu below. If MINI HORIZONE is not detected, press the "REDIGITALIZE" button
- If HORIZONE MINI is not detected automatically due to network problems, manually enter its IP address and specify "3671" as the port, taking care not to select NAT mode
- When finished, confirm the changes with the "OK" button

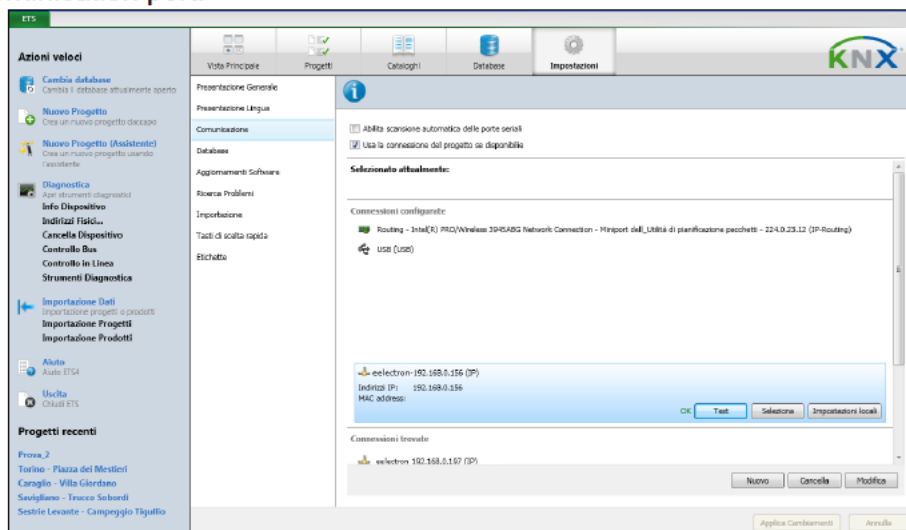


- In the communication management window, select “HORIZONE MINI” and press the “TEST” button to verify the communication. If the message “OK” is displayed after a few seconds, ETS is ready to use HORIZONE MINI as the communication port.



Conversely, if ETS4 is used, proceed as follows:

- Select “SETTINGS” from the main menu
- Select “COMMUNICATION” from the side submenu
- After a few seconds, HORIZONE MINI appears in the list of “CONNECTIONS FOUND”
- Press the “NEW” button to open the “NEW CONNECTION” window; specify a name for the connection, select “KNXNet/IP” and manually enter the IP address of the webserver, specifying 3671 as the port (not NAT mode)
- Once confirmed with the OK button, the connection is available in the “CONFIGURED CONNECTIONS” section. Click on it to select it; press “TEST” to check the correct configuration and “SELECT” to make it active. ETS is now ready to use HORIZONE MINI as a communication port.



In ETS remote mode, only the “ON-LINE CONTROL” function can be used to perform a diagnostic of the system; the “PROJECT CONTROL” function requires a direct connection to the bus. This constraint applies to both ETS3 and ETS4.

Remote use

If you want to use ETS remote control over the Internet, you need to channel KNXNet/IP traffic through HORIZONE MINI's built-in VPN service. As a first step, you must configure this service by:

- Selecting the "TECHNOLOGIES" entry from the administration menu
- Select "KNX" and finally "ETS REMOTE CONTROL"
- Enter the required information:

USERNAME <input type="checkbox"/> PASSWORD	Credentials to for remote VPN connection
IP HOST	Specify the IP address that serves as the VPN server (specify the IP address of HORIZONE MINI unless otherwise specified by your network administrator)
IP RANGE	<p>Indicate a range of IP addresses that will be dynamically assigned to PCs that will connect remotely; use the form XXX.XXX.XXX.XXX-YYY – Example:</p> <p style="text-align: center;">192.168.0.120-130 (Range of 11 available addresses)</p> <p>The address range should not already be used on the network by other devices or apparatus</p>

Once you have entered all the information, press the SAVE button to confirm. After a few seconds, a confirmation message is displayed that the VPN service has been saved; from now on, the VPN service is active with the specified parameters.

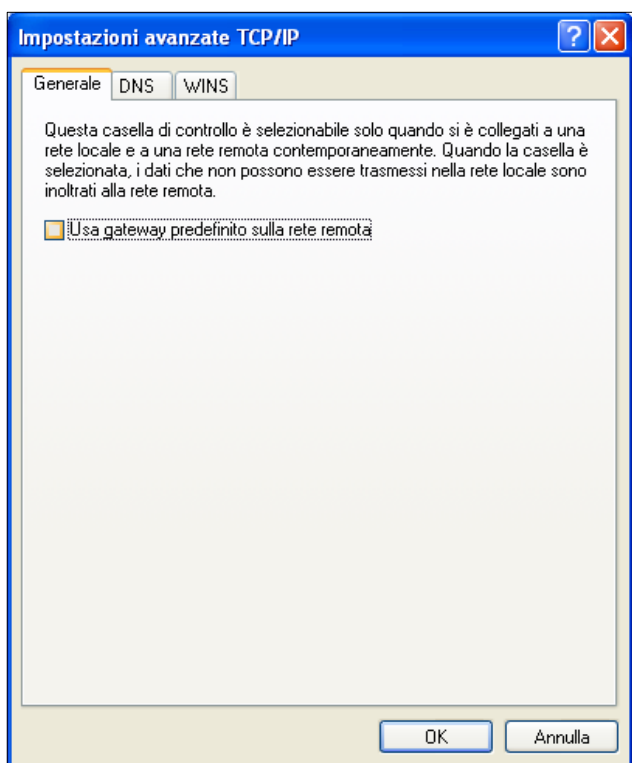
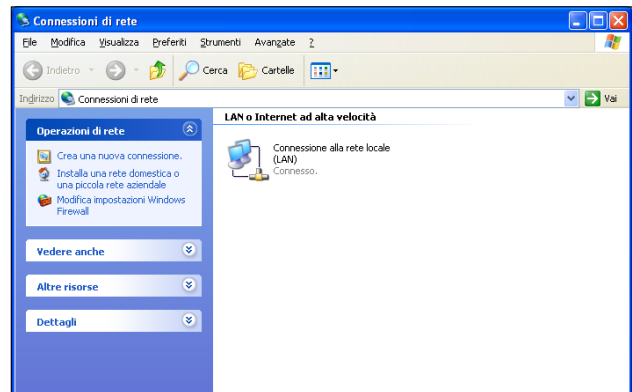
At this point you need to create a *port forwarding* rule on your Internet router (e.g. ADSL) so that the remote connections on the VPN port are correctly routed to HORIZONE MINI. Depending on your router specification, create a rule with the following attributes:

- External port: 1723
- Internal port: 1723
- Internal IP address: MINI HORIZONE IP address
- Transport: TCP + UDP

Once the rule is configured on the router, you can connect remotely. The connection involves creating a VPN connection to the network on which HORIZONE MINI is located, whose public IP address or, alternatively, the DYNDNS domain name must be known.

If you are using Windows XP on your PC, do the following:

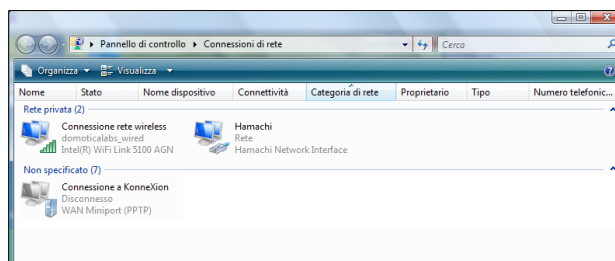
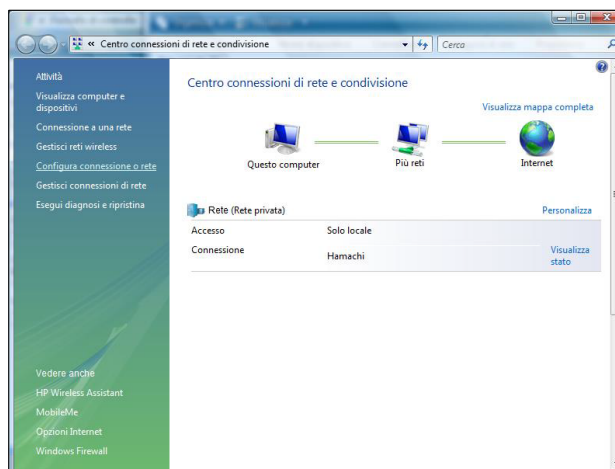
- Access the control panel, then select “network connections”
- Select the entry “create a new connection” from the left-hand menu, then select the “connection to the company network” type when prompted
- Select “VPN connection” at the next request, then provide a name for the connection to the next request “company name” (e.g. “HORIZONE MINI”)
- Specify the IP address to connect to; in the case of local network connections, specify the IP address of HORIZONE MINI, vice versa specify the public IP address used by the Internet connection
- Finish the process of creating the new connection and close the connection window prompt below
- Identify the new connection in the “network connections” window, right-click on it and select the “properties”
- Identify the “network” section, then select “internet protocol (TCP/IP)” and click on “properties”
- Click on “advanced” then in the “general” section deselect the item “use default gateway on remote network”; save and close all configuration windows



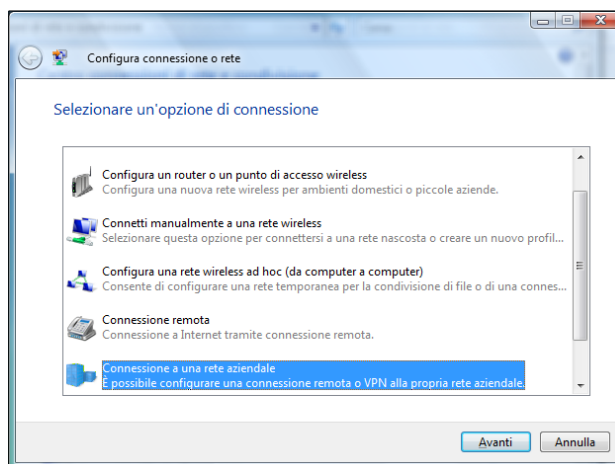
The new connection is now ready to be used; by double-clicking on it, the window in which to enter the login credentials (entered in the configuration page of HORIZONE MINI) is shown. Once the connection is started, after a few seconds the PC is “projected” into the VPN network with one of the IP addresses provided in HORIZONE MINI; at this point, you can switch to the ETS configuration as described above in the case of use on the local network.

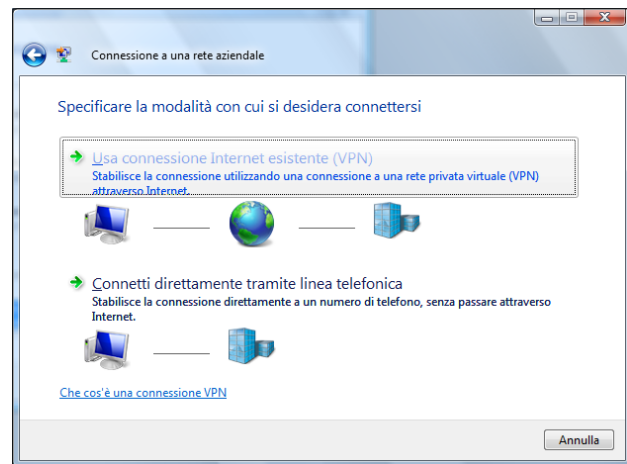
If you are using Windows VISTA or SEVEN, do the following:

- Log in to the dashboard, then select “Network and Sharing Center”
- Select “configure connection or network” in the side menu

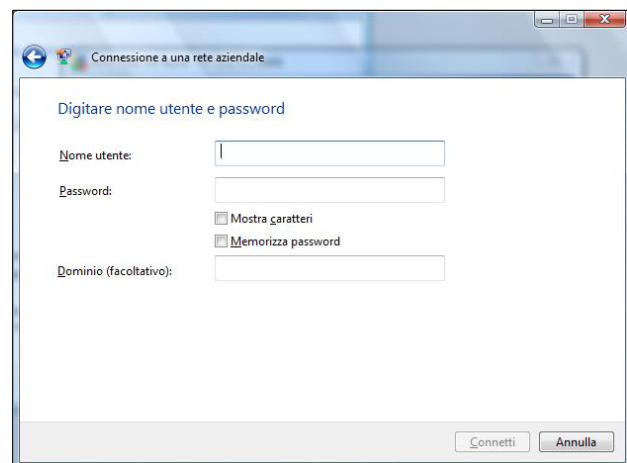


- Specify “connection to a company network” as the type of the new connection, then click on “use existing internet connection” in the next screen

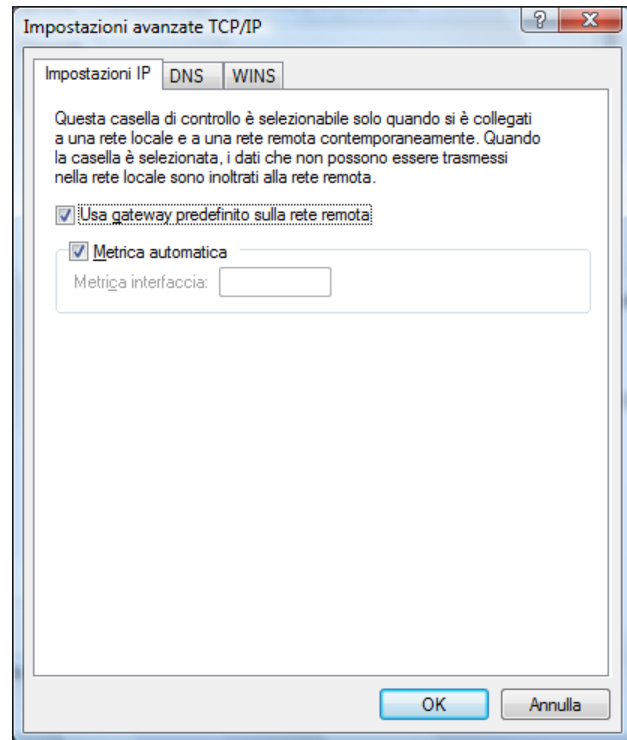




- Enter the IP address of HORIZONE MINI under the heading “internet address” (specifying the public IP address of the router if you connect remotely), and specify a name for the connection (e.g.: “HORIZONE MINI”)
- Specify the login credentials indicated in the HORIZONE MINI configuration tab and leave the “domain” box blank



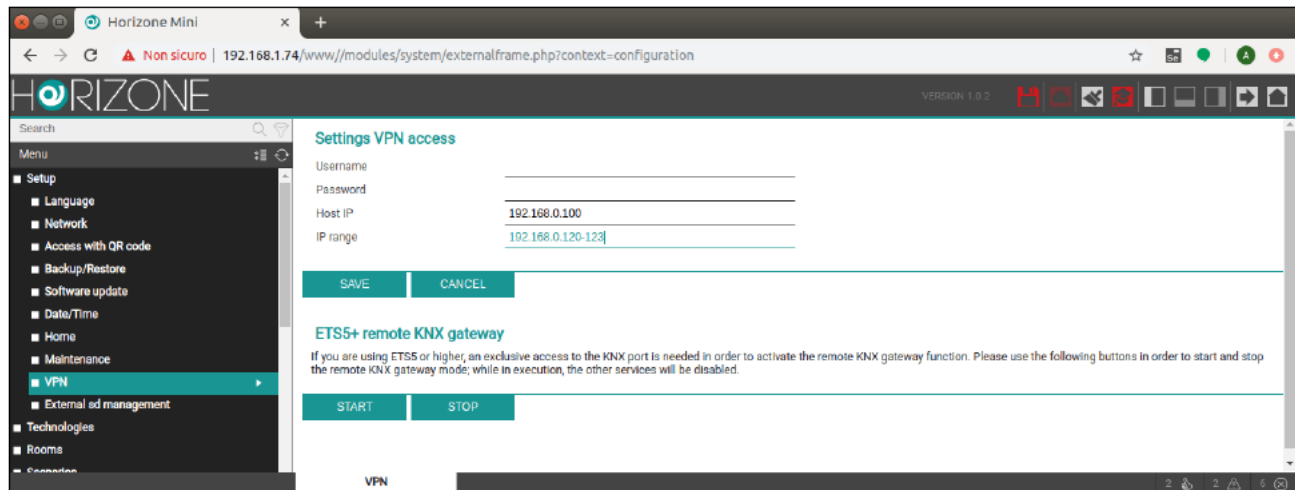
- End the connection creation process without connecting; the new connection is available on the Network Connections page ("Manage Network Connections" in the side menu of the "Network and Sharing Center")
- Right-click on the connection, then select "properties"; in the "network" section, locate "internet protocol version 4" and click on "properties" again
- Click on "advanced", then in the "general" section select "use default gateway on remote network"; save and close all configuration windows



The new connection is now ready to be used; by double-clicking on it, the window in which to enter the login credentials (entered in the configuration page of HORIZONE MINI) is shown. Once the connection is started, after a few seconds the PC is "projected" into the VPN network with one of the IP addresses provided in HORIZONE MINI; at this point, you can switch to the ETS configuration as described above in the case of use on the local network.

Remote control for ETS5+

If ETS5 or higher is used, normal HORIZONE MINI communication with the bus must be temporarily suspended. To do this, use the START and STOP buttons on the ETS remote control page:



If ETS5+ remote control buttons are not available, please contact our technical support to install support on the webserver.