CARLO GAVAZZI
Automation Components

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SHAPP

APPLICATION FOR IOS SMARTPHONE/TABLET PC TO CONTROL SMART-HOUSE SYSTEMS

Rev. 1.0

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1 Product description

This document describes the user interface and functionalities of the application running on iOS smartphones and iPAD tablet PCs.

The application connects to the controller, reads the configuration file created by the configuration tool and makes the readable/writable variables available to the user. Communication between the application and the smart-house controller is via the Modbus TCP/IP and only **one** device at a time can connect to a controller.

The functions that can be activated by the application are:
Control: to manage the lighting, heating/cooling, light and humidity sensors, roller blinds, ON/OFF timers, and in general all the functions available on MODBUS TCP/IP home.
Sequences: to simultaneously activate several predefined commands, such as opening the gate and switching on the driveway lights at the same time.
Alarms: by connecting to the smart-house controller, it is possible to arm/disarm and view the alarm status for intrusion, water, fire, etc.

The first time the app is launched, a password will be required. For successive access, this password can be memorised.

1.1 Supported devices and OS versions

1.1.1 Compatible devices

The supported compatible devices are:
- iPhone 3
- iPhone 3GS
- iPad
- iPad2
- new iPad
- iPhone 4
- iPod4 (4th generation)

All Apple devices should support iOS5.0 or later versions.

1.1.2 Minimum controller requirements

The App runs with Controller BH4-CTRLX-230 firmware 3.02.00 or later version.

In the project settings configuration, the Modbus communication over TCP/IP has to be selected, otherwise the App can't communicate with the controller.
The user can use the default communication port (502), or change it to another port.
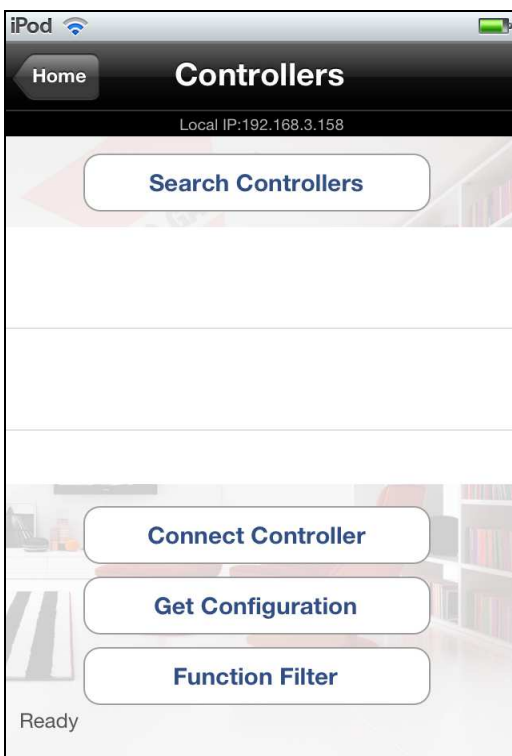
1.1.3 Supported languages

The supported languages are:

- English
- Italian
- Danish
- Swedish
- French
- Spanish
- Norwegian

When the user changes the language in the general settings of the device, the language automatically changes in the App.

2 Connection to a controller

In the navigation menu, tap on the controller icon to enter the page of controller connections.

Tap on Search Controllers icon: the App automatically discovers all available controllers connected in the local network.
The use of a fixed IP address is strongly recommended in order to avoid loss of connection with the controller.
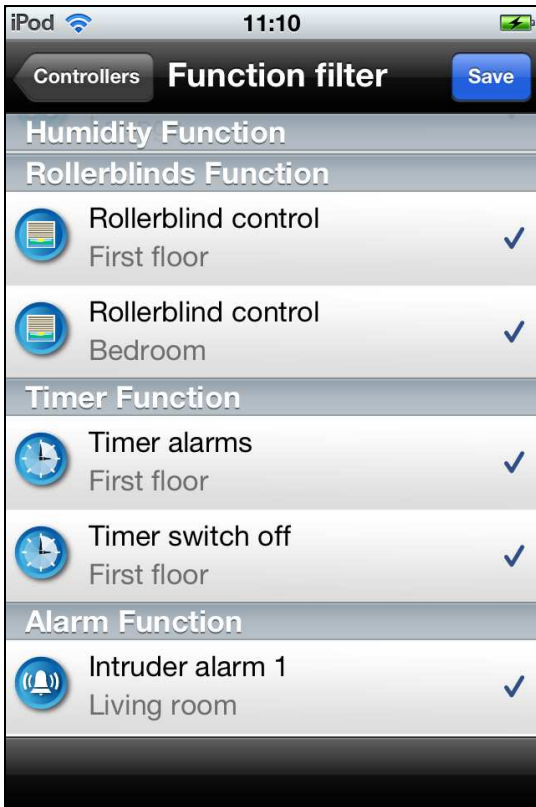
Select the controller from the list and tap on "Connect Controller" to connect the device.

When the connection with the Controller is made, the Controller line is highlighted in light green.

Tap on "Get Configuration" to read the configuration from the Controller and to configure the App.

Tap on "Function filter" and select which functions have to be managed by the App. By default all functions used in the configuration file are managed in the App if no filter is applied.
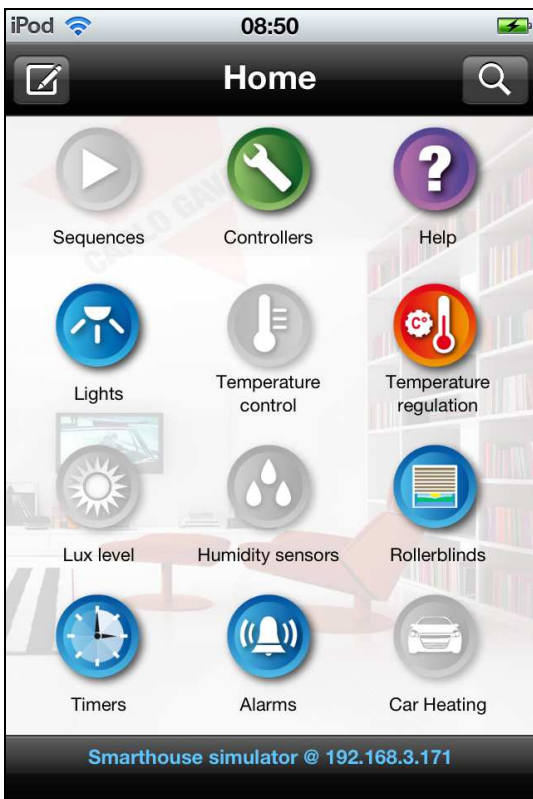
Tap on Home to go to the main menu of the App. If the function filter is applied, some icons could be hidden, according to the function filter selected.
The grey function icon means that the function is not present in the configuration or it is not selected in the filter.

2.1 Password and App settings

2.1.1 Login page

In the Login page the User has to tap in the current password to start the App.

The first time the user launches the App, the default password must be entered.

The login password can be changed or removed in the App settings menu.
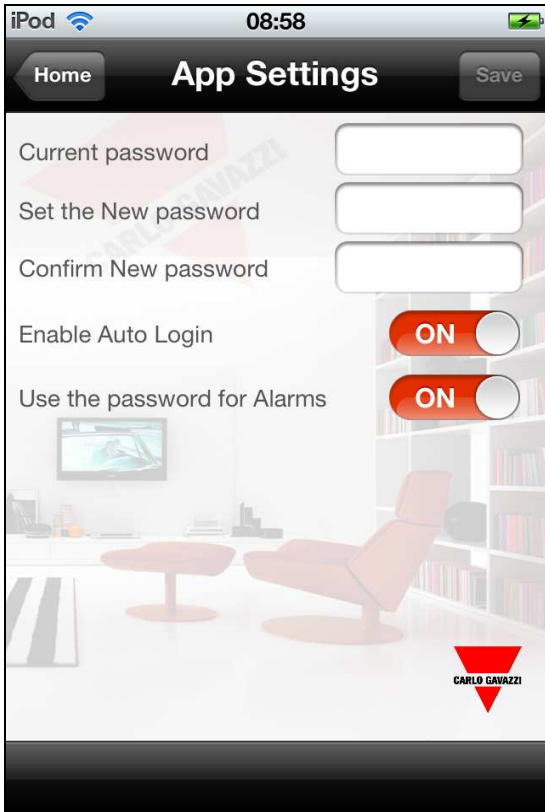
2.1.2 Default password and types

If the App is installed on an iPhone / iPod device, the password type is numerical.
If the App is installed on an iPad device, the password type is alphanumerical.

The default password is 1234.

The user can change the password in the App settings menu.

2.1.3 App settings

On the home page, the user can tap on the top left icon and enter the App settings page.

In the *App settings* menu the user can:
- Change the current password.
- Enable/ disable the auto login mode.
- Enable/ disable the use of the login password for intruder alarms management.

2.1.3.1 Change password settings

1) Enter the current password .
2) Enter the new password.
3) Confirm the new entered password .
4) Tap on the top right icon to save the settings (when the saved settings are accepted the icon becomes blue) .
5) Return to the home menu (**).

2.1.3.2 Change login and alarms settings

1) Enter the current password.
2) Enable/disable the auto login mode and the use of password for alarms.
3) Tap on the top right icon to save the settings (when the saved settings are accepted the icon becomes blue).
4) Return to the home menu (**).

(**) If the save button is not tapped at the end of the setting, the changes will not be stored in the App.

2.1.4 Filter for locations
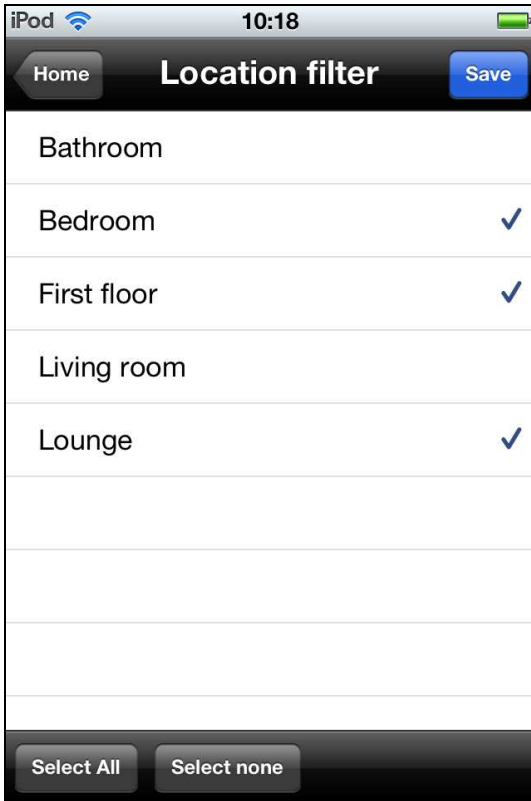
In the location filter, the user can select a location: by default all functions inserted in the selected location will be accessible by the user in the main menu.

Tap on 'location' to select/deselect a single location.

All Locations can be selected/ deselected using the icons at the bottom of the page.
When the user finishes the location selection, tap on *Save* to store the filter settings.

If *Save* is not tapped at the end of the setting, the changes will not be stored in the App.

Go back to the home page to see the filter effect; some icons could be hidden according to the selected locations.

2.1.5 Communication status indicator
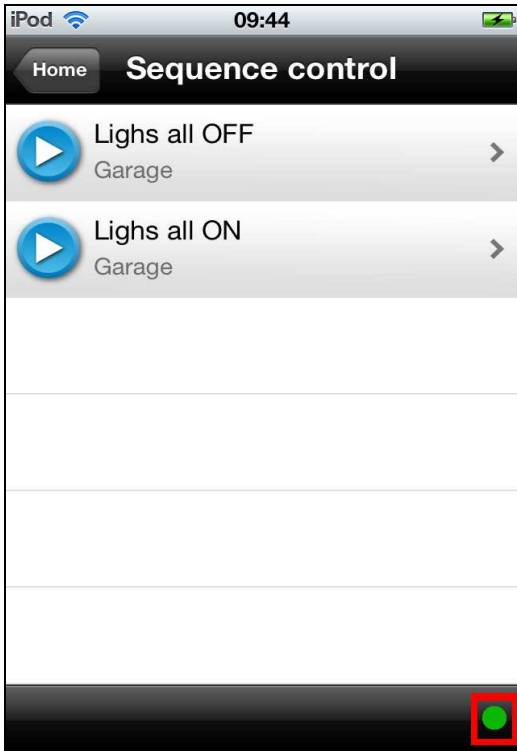
The user can view the status of communication with the controller at the bottom of each Function page.

Status indication:
The green dot indicates correct connection with the controller.
The red dot indicates communication absent.

Each time the communication is interrupted, the App automatically tries to reconnect to the controller: after thirty seconds of the App failing to reconnect, a message error will occur (see picture below).
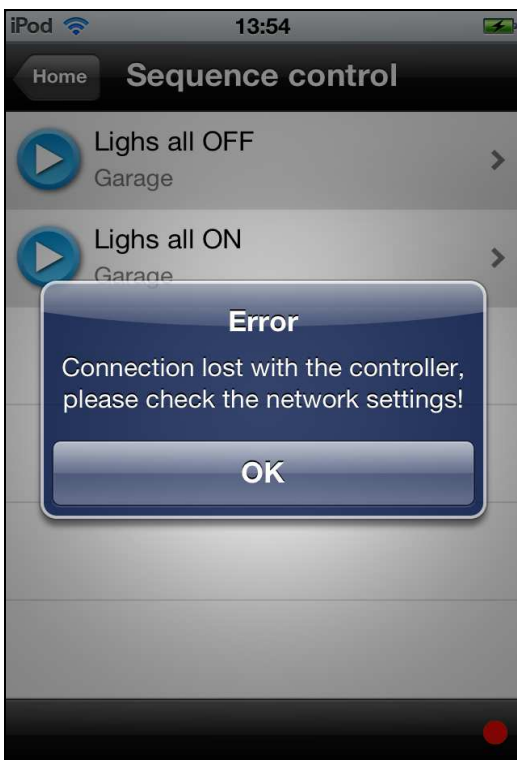
In the Home page and Settings page there is no communication with the controller, so the red dot will be displayed.

2.2 Device settings

Remote connection address field

In this field the user must insert the same IP address used for the remote connection to the Webserver.
Example:
http://myhouse.dyndns.org.
The port forwarding settings of the router, where the controller is connected, must be set according to the Modbus TCP port used in the controller configuration.
Example: If in the configuration file the Modbus port is 502, the user has to create a port forwarding setting with port 502 (see the documentation of the router to properly setup the port forwarding).

All devices can remote-connect with the controller using a Wi-Fi connection.
Devices with 3G connection (such as iPhone/ iPad) can remote-connect with the controller using both Wi-Fi and 3G.

Remote connection:
If remote connection is enabled, the user must enter the address of the remote controller in the *Remote connection* address field.

N.B. The App cannot read the configuration file from a remote controller, so it has to be previously configured with a local connection in order to remotely control the controller.

Display timeout:
If *Display timeout* is disabled, the device display never goes into standby mode: in this way the App will always stay open.
If *Display timeout* is enabled, the device display goes into standby mode.
Page timeout:
When a time is selected in the page *Page Timeout* field, the App will return automatically to the navigation menu page, if the user doesn't touch the display for the selected timeout.
Every time the user touch the display the timer is restarted.
If a 0 seconds timeout is selected, the App never returns to the navigation page in an automatic way.
The timeout is disabled in all the *Setting* pages.
Show Set Cooling:
If *Show Set Cooling* is enabled, the App will show the cooling set point in the Temperature Regulation page.
Release:
The user can see the App release version.
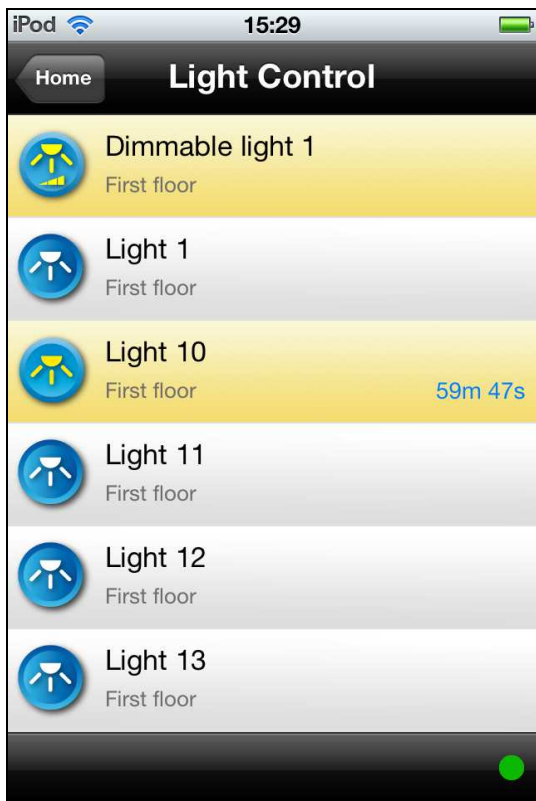
3 Navigation menu

Once the App is launched, all the available functions are shown.

Icons list:

- Sequences
- Controllers
- Help
- Lights
- Temperature control
- Temperature regulation
- Lux level
- Humidity sensors
- Rollerblinds
- Timers
- Alarms
- Car heating

On the top of the page the user can enter the app settings and Location filter pages.

3.1 Lights

On this page all the lights the user can control in the installation are shown.
The user can tap on the light icon and switch it ON/OFF.

If the user wants to dim a dimmable light, tap it to switch it ON: when the light is ON keep the icon pressed to start dimming the light level.
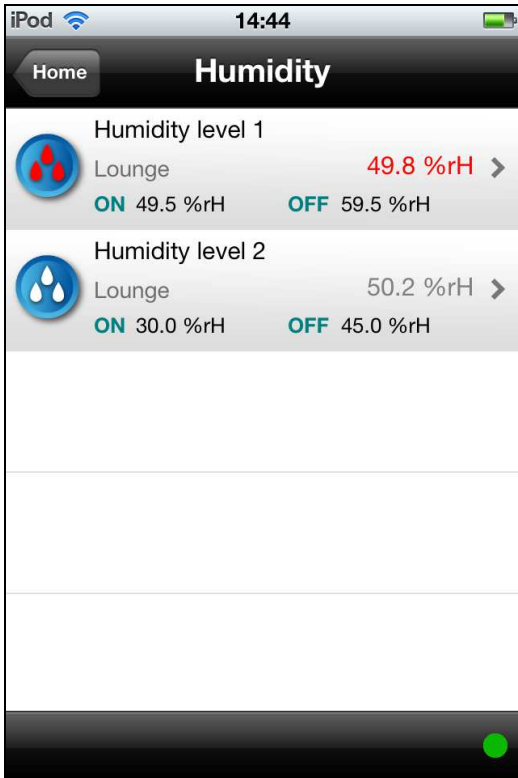
The white icon means that the light is OFF, while the yellow icon means that the light is ON.
When a function is ON the row is highlighted in yellow.

Motion detector automation:
When a function uses a motion detector PIR as an input signal in the automation field, the motion detector delay off timer will be displayed in blue.

3.2 Humidity sensors

On this page the humidity values, measured by the sensors present in the installation, are shown.

When the humidity function is ON, the icon changes colour and shows red drops and the current humidity value becomes red, indicating the status of the activated function. When the function is OFF, the current humidity value is grey and the drops on the icon are white.

The current ON/OFF limits are displayed under the name of the location where the function is placed and can be adjusted as shown below.
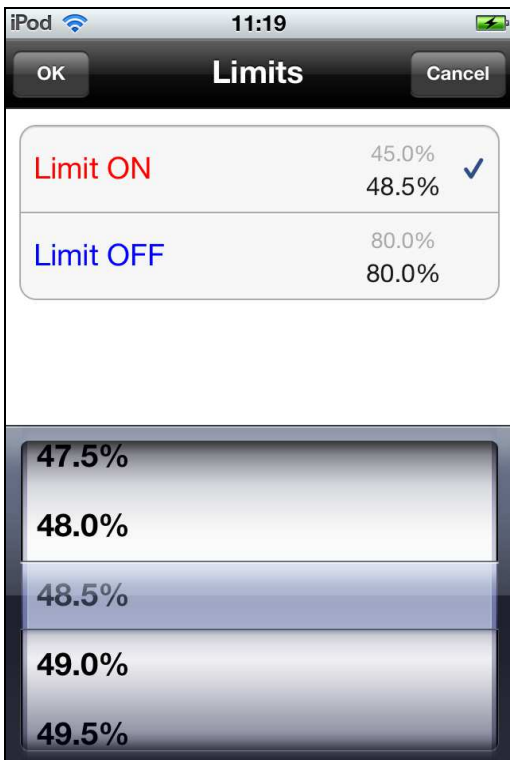

The user can change the ON/OFF limits related to a sensor tapping on the current humidity values shown and entering the *Limits* page.

Both ON/OFF limits show two values: the current humidity value (smaller font in grey) and the new humidity value in black.

Tap on the desired limit to modify the value: when the limits are changed, tap on OK to store the changes and go back to the humidity page.

3.3 Rollerblinds
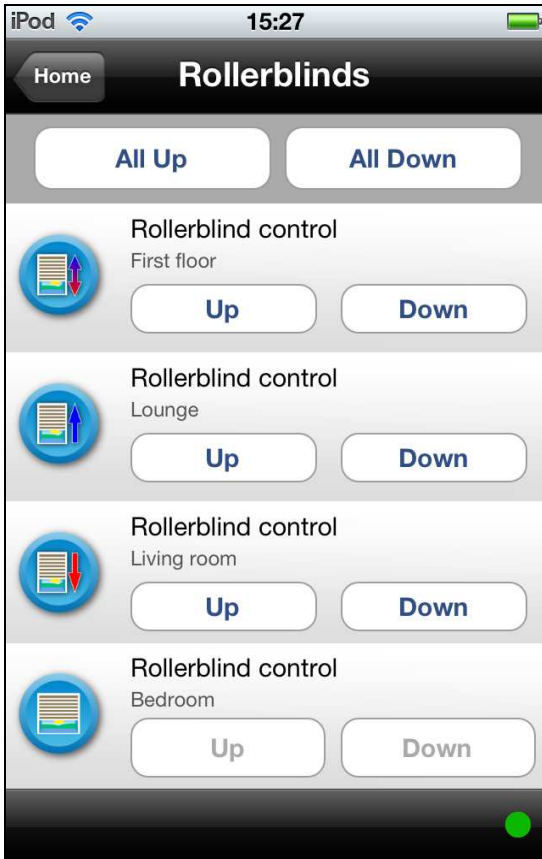
The *Rollerblinds* page shows an icon for each roller blind function that the user can control in the house.

The user can tap on the UP or DOWN button to roll up/down the selected function.

If the user taps the UP/DOWN button, and the rollerblind is moving, the blind is forced to stop moving.

The user can command at the same time all the rollerblind functions by pressing ALL UP/DOWN on the top of the *Rollerblinds* page.

While the roller blind is moving, the icons change: a red arrow indicates moving down, a blue arrow indicates moving up, a double arrow indicates the change from running in one direction to the other.
When the roller blind function is OFF (no movement) the icon does not display any arrow.

If a function provides "tilting blinds", is not possible to control it from the App, and the relevant buttons will be disabled.

3.4 Temperature control
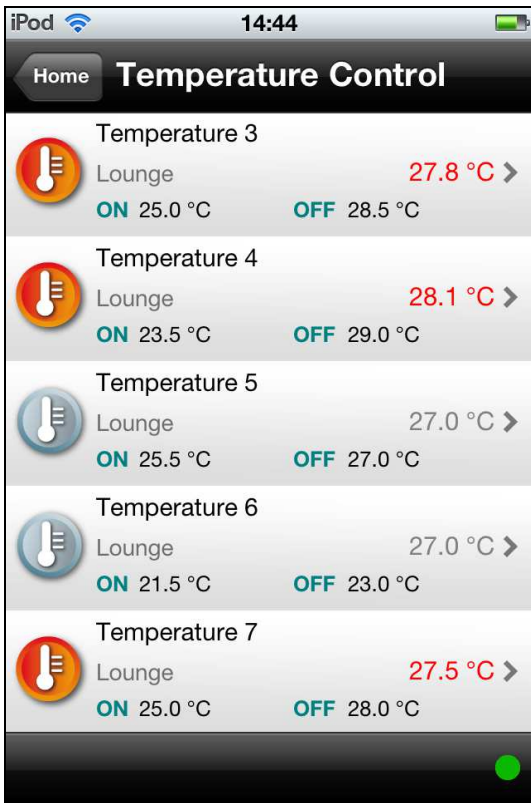
On the *Temperature control* page, all temperatures used in the temperature control functions are shown.

When the temperature control function is ON, the icon and the current temperature value become red, indicating the status of activated function. When the function is OFF, the current temperature value and icon are grey.

Each function displays: the location, the current measured temperature, the current ON limit and the current OFF limit.

The current ON/OFF limits are displayed under the name of the location where the function is placed and can be adjusted as shown below.
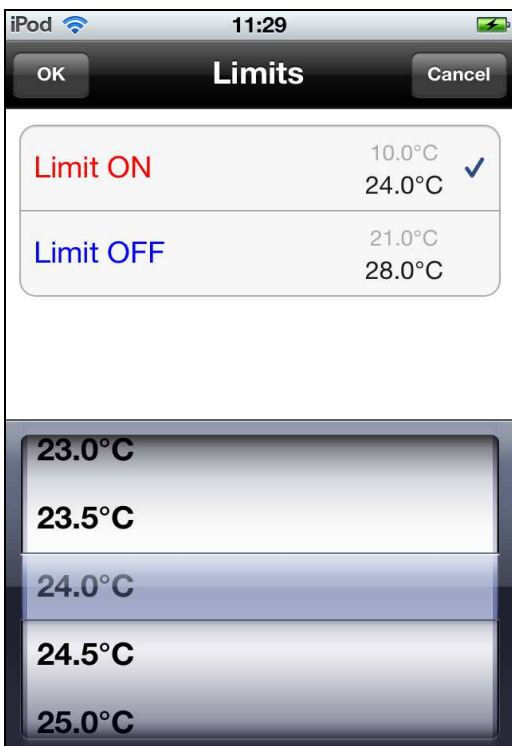
The user can change the ON/OFF limits related to a sensor by tapping on the temperature value shown to enter the *Limits* page.

Each limit shows two values: the current value (smaller font in grey) and the new value in black.

Tap on the desired limit to modify the value: when the limits are changed tap OK to store the changes and go back to the temperature page.

3.5 Temperature regulators
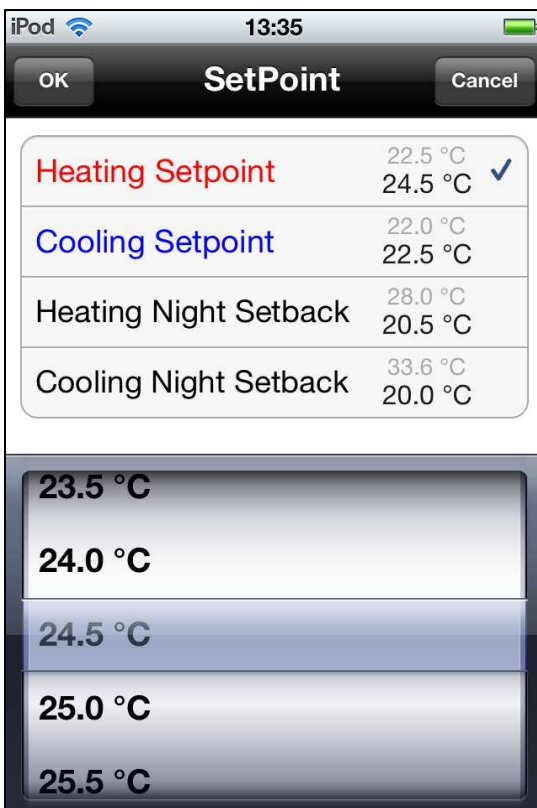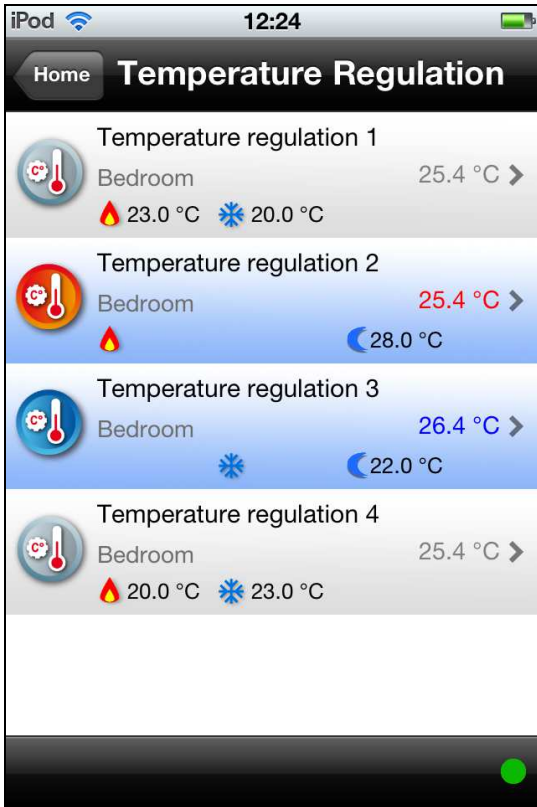
The *Temperature regulators* page shows all the temperature regulators (such as TEMDIS) that the user can control.

Heating mode:
When the heating function is ON, the icon and the current temperature value become red.
When the function is OFF, the temperature value and icon are grey.

Cooling mode:
When the cooling function is ON, the icon and the current temperature value become blue. When the function is OFF, the temperature value and icon are grey.

Each temperature function displays the location, the current measured temperature, the current heating set point, the current cooling set point and the current night setback(when active). When the night setback condition is active, the function is highlighted in light blue.

N.B. Due to the speed of the Dupline bus, the user has to wait for a few minutes before seeing the new set points on the display.

The user can change the set points related to a sensor by tapping on the shown temperature value.
Each set point shows two values: the current value (smaller font in grey) and the new value in black.
Tap on the desired set point to modify the value: when the limits are changed tap OK to store the changes and go back to the temperature regulation page.
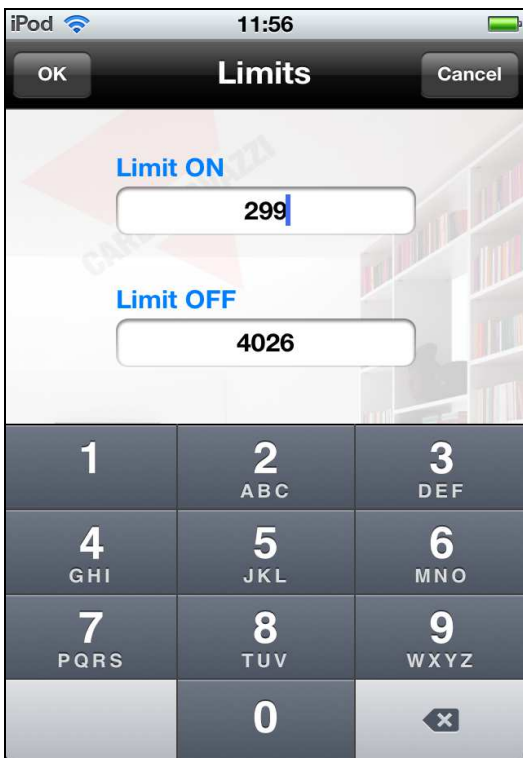
3.6 Lux level
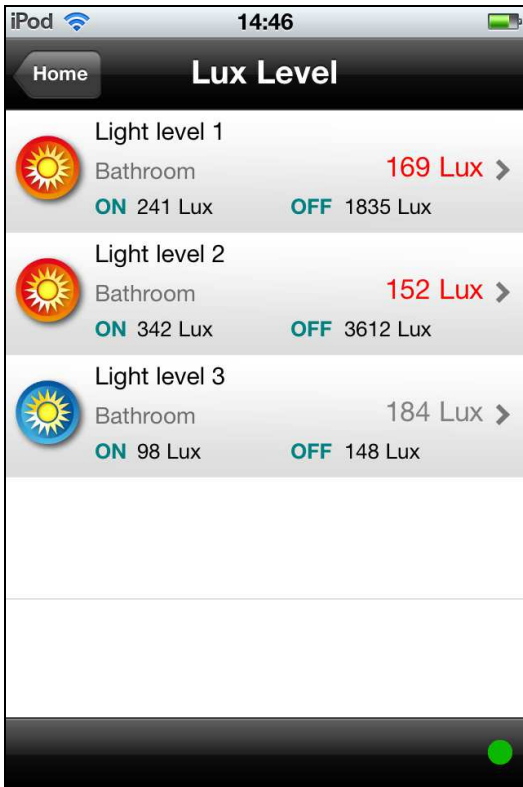
On this page the light values measured by the lux sensors present in the installation are shown.

When the lux level function is ON, the icon and the current light level value become red, indicating the status of activated function: otherwise, when the function is OFF, the temperature value becomes grey and the icon blue.

Each function displays:
The location, the current measured light level, the current ON limit and the current OFF limit.

The current ON/OFF limits are displayed under the name of the location where the function is placed and can be adjusted as shown below.

N.B. Due to a scaling factor, the limits inserted could be automatically approximated to the first valid value for the sensor.

To change the ON/OFF limits related to a sensor, tap on the measured light level value to enter the *Limits* page.
If a limit value greater than the max/min supported limit is inserted, the limit is automatically set at the max/min lux level value (5000 if BSH-LUX-A is used, 300000 if BSH-LUX-B is used).

Tap on the desired limit to modify the value: when the limits are changed, tap on OK to store the changes.
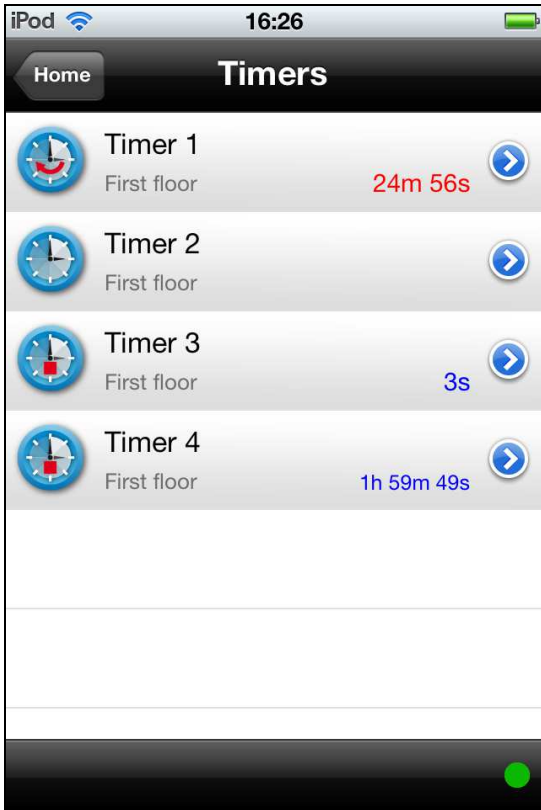
3.7 Sequence page
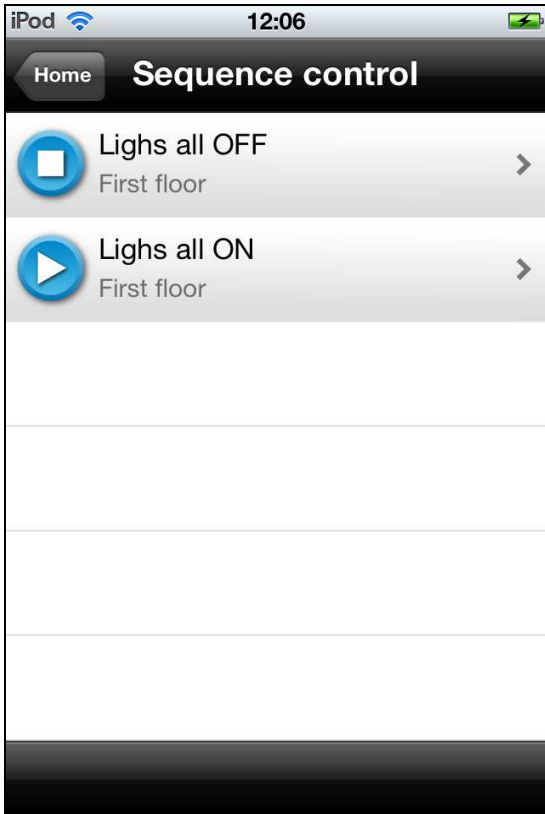
The *Sequence page* shows an icon for each sequence which is programmed in the house, that the user can control.

By clicking on ► the sequence is activated: the symbol ■ is shown, indicating that the sequence is in progress.

If the sequence is in progress and the user taps on the ■ icon, the sequence is forced to stop.

3.8 Timers

The Timers page shows an icon for each timer which is programmed in the house, that the user can control.

The user can tap on the timer line to activate the delay on timing: during the delay each tap will reset the counter.
When the delay on time is elapsed, the function become on and stay in this state until another tap occurs.
When the timer is on the user can tap the function for starting the delay off timing: during the delay each tap will reset the counter.

If the user wants to stop the timer during the ON or OFF delay, he must keep the icon pressed for 1 second to stop the timer immediately.

Each function displays: the location, the current delay ON timer (in blue) and the current delay OFF timer (in red).

The current delay ON/OFF can be adjusted in the timers settings page.

To change the delay ON/OFF timers related to a function, tap on the blue button on the right of the function row and enter the timer settings page.

Each delay time shows two values: the current delay time value (shown in a smaller grey font) and the new delay time value in black.

Tap on the limit row to modify the delay value: when the limits are changed, tap on OK to store the changes and go back to the *Timers* page.
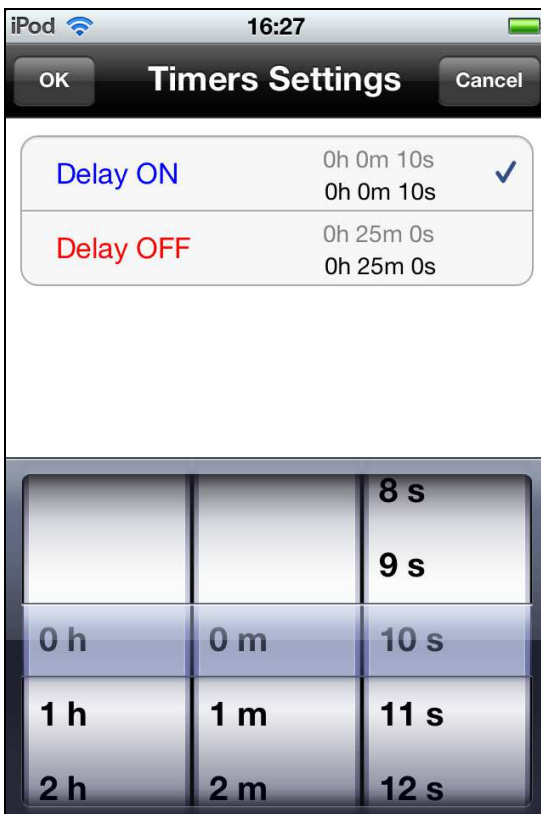
3.9 Alarms
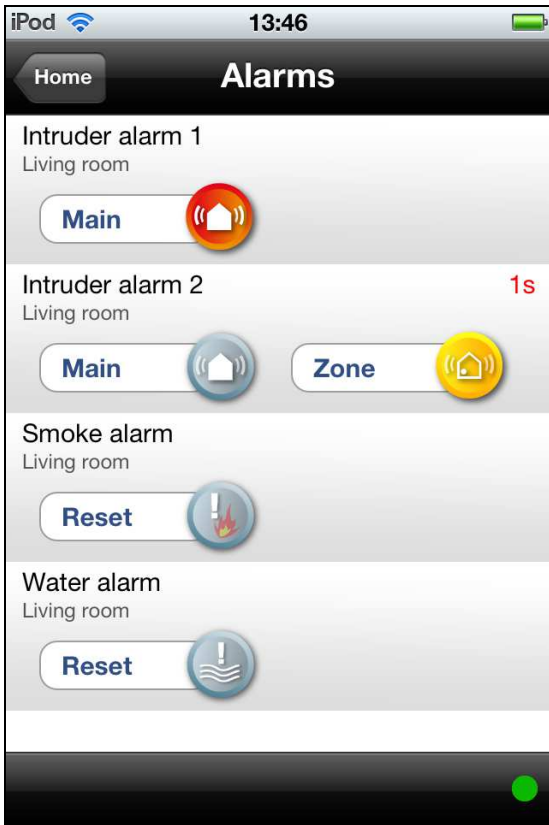
On the Alarms pages the user can manage all the alarms functions in the house.

Intruder alarm: the white icon means that the alarm is OFF (not armed), the yellow icon means that the alarm is armed and ready to react, the red icon means that the alarm is ON.

During the arming of main alarm, the timer value is showed in red.

If the password for alarms is used, the user must always insert the current password code to arm and disarm the alarm (see 2.1.3).

If the zone alarm is not managed in the alarm function, the arming zone button and the zone icon will not be showed.

Smoke alarm: the white icon means that the alarm status is OFF, the red icon means that the alarm status is ON. Tap on *Reset* to activate the reset of the smoke alarm function.

Water alarm: the white icon means that the alarm status is OFF, the red icon means that the alarm status is ON. Tap on *Reset* to activate the reset of the water alarm function.

3.10 Car heating page
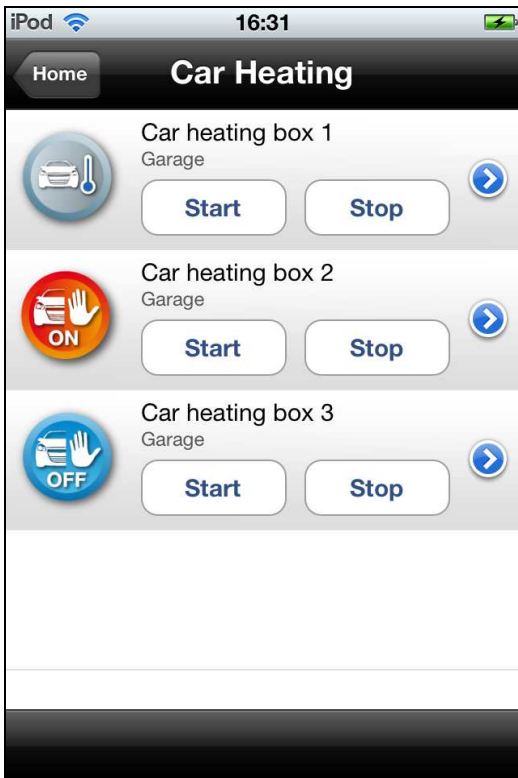
The icon is white if the function is not active, red if the car heating is on.

If the user activates/deactivates it manually with the command START/STOP, a small hand will appear together with the car as a reminder that the function will remain activated/ deactivated until the user gives another command manually: this means that it will not be activated/ deactivated automatically according to the defined calendar entries until it is in manual mode.
If the user wants to stop the manual mode, he has to tap again on the START/STOP button.

The user will be able to enter the setup with a single tap on the blue icon on the right of the car heating function.
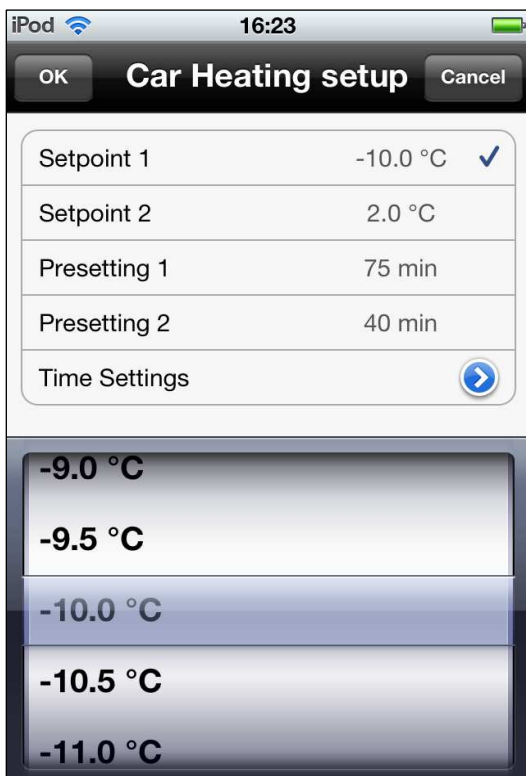
set point 1: a temperature in the range [–30 to +10 °C] can be selected.
**set point 2:** a temperature in the range [–30 to +10 °C] can be selected.
presetting 1: a time value for set point 1 can be selected in the range [0 to 480 min].
presetting 2: a time value for set point 2 can be selected in the range [0 to 480 min].
time settings: five different action intervals can be managed as described below.

NB: The user should be aware that set point 2 has to be greater than set point 1. Presetting time 1 has to be greater than presetting time 2.
If the user inserts invalid values an error will appear on the display (Invalid date settings).
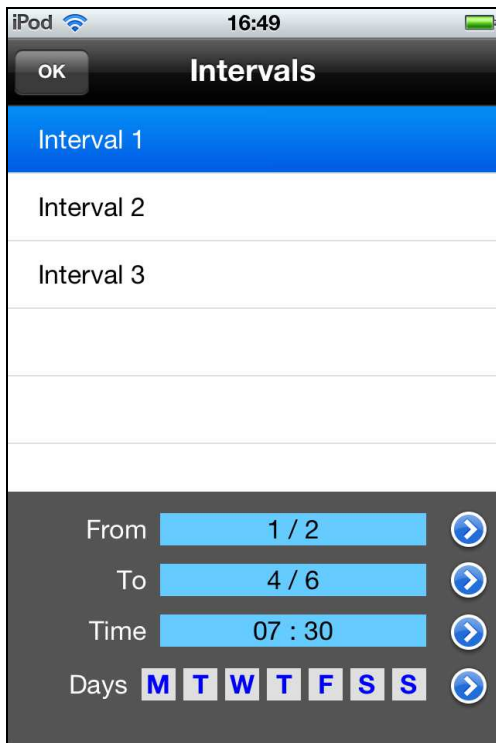
Tap on the time settings blue icon and enter the intervals page; each interval can be selected with a single tap.
When selected, the interval is highlighted in blue.
The user can set on each interval:

1)The start date for the activation of the car heating function.
2)The end date for deactivation of the car heating function.
3)The time when the car has to be ready.
4)The days when the function has to operate; if a day is selected the letter becomes blue, otherwise the letter remains white.

When the user finishes the setup, a single tap on the OK button is required to store settings and return to the car heating main page.