CX

Capacitive touch panel 3.3”/4”/5”

CVICXxy

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User Manual Version: [1.0]_a

www.zennio.com

USER MANUAL

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1 INTRODUCTION

1.1 CX

CX is an easily and intuitively controllable high-performance **touch screens** from Zennio. The built-in features and functions make them the ideal solution for integral room control in hotels, offices, or any other environments where controlling climate systems, lighting systems, shutters, scenes, etc. is required.

The most outstanding features of CX are:

- **5 inch (5'')** backlit **capacitive touch panel** with backlit 'Home' button incorporated, with screen resolution of 480 x 854 pixel.
- **Vertical/horizontal orientation**.
- Fully **configurable pages** (the number depends on the model and navigation configuration) + 1 **menu page** + 1 **configuration page**
- **Light/dark theme**.
- Option to choose **icon colour**.
- Full **climate** management.
- Programmable **timers**.
- **Scene** control.
- **Alarm** control.
- **Direct links** to other pages.
- **Multi-Language**.
- **Buzzer** for an audible acknowledgement of user actions (with the possibility of disabling it either by parameter or by object).
- Possibility of **locking / unlocking the touch panel** through binary orders or scenes, and of setting a timed/automatic locking of the device (**cleaning function**).

- **Pop-ups** and **Welcome Back object** (binary or scene).
- **Celsius and Fahrenheit** temperature scales for the on-screen indicators, being possible to select them in parameters or through communication object.
- **Access** to a **hidden page**.
- 2 independent **thermostats**.
- Built-in **temperature** sensor.
- **Proximity sensor** for quick start.
- **Humidity** sensor.
- 4 customisable **analog-digital inputs**.
- **Heartbeat** or periodic “still-alive” notification.
- **Elegant** design, available in various **colours.**
- **KNX Security.**

1.2 FUNCTIONALITY

The application program feature the following functions:

- **12 Pages**, with up to 8 boxes each, all of them fully combinable and configurable by the integrator. These pages can be configured as normal or thermostat type pages.
- Configurable boxes as:
  - **Indicator**: binary, enumeration (icon or text), integer (1, 2 or 4 bytes with or without sign), percentage, float (2 or 4 bytes), temperatura and text.
  - **1-Button Control**: switch, two objetcs (short press/long press), hold and reléase, scene, constant (counter, porcentaje and float), enumeration, room state, shutters and dimmer.
  - **2-Button Control**: switch, switch + indicator, two objects (short press/long press), counter, percentage, float, enumeration, shutters, dimmer, multimedia and room state.
  - **Climate Control**: temperature setpoint, mode, fan and special mode.
  - **Other**: RGB, RGBW, weekly timer, alarm, page direct link and alarm clock.
- **1 Configuration Page** (optional), which contains the brightness and sounds settings, the calibration of the built-in temperature probe, the programming button, language settings and reset configuration.

1.3 START-UP AND POWER LOSS

After download or device reset it is necessary **to wait for about 2 minutes without performing any action** in order to make it possible a proper calibration of the proximity sensor and luminosity sensor.

It is recommended not to approach less than 50 cm from the device during this time and to avoid that the light strikes directly.

After download or power failure, the date and time flash to indicate that they may not be correct. The flashing stops when a value is received through the bus or it is set from the configuration page control.

For detailed information about the technical features of CX, as well as on security and installation procedures, please refer to the device **Datasheet**, bundled within the device packaging and also available at www.zennio.com.

2 UPDATE OBJECTS AFTER RESET

The aim of this functionality is allowing the integrator to make a read request to the statuses of the device objects after a reset. There are two situations in which this functionality may be useful:

- In case of a reset, if there have been changes in the bus while the CX was off, after the reset, the objects keep the same value as before the reset, but not their actual value in the installation.
- In addition, after programming from ETS, all objects are initialized to their default values, but not to their actual values in the installation.

When a bus failure or ETS programming occurs, read requests of all the following objects will be sent gradually (to prevent bus overload):

- **General objects**: date and time, disabling pushbuttons, external temperature, and temperature scale.
- **Indicator objects**.
- **Timer** enabling objects.
- **Alarm confirmation** object.
- **Ventilation control:** Auto mode dedicated object.
- **RGB and RGBW** objects.

Objects that will NOT be updated are:

- Control objects.
- Alarm trigger.
- 4-Bit Light Dimming.
- Shutter: Stop/Step.
- All other objects

The time and date objects of CX will be read from the bus always after a reset, regardless of whether this functionality is active or not.

3 CONFIGURATION

After importing the corresponding database in ETS and adding the device into the topology of the desired project, the configuration process begins by entering the Parameters tab of the device.

3.1 MAIN CONFIGURATION

This tab is divided into multiple screens, all of which contain a set of global parameters regarding the general functionality of the device, and therefore not specifically related to a particular page of the user interface.

3.1.1 GENERAL

The "General" tab contains general settings. Most are checkboxes for enabling/disabling other functionalities.

ETS PARAMETERISATION

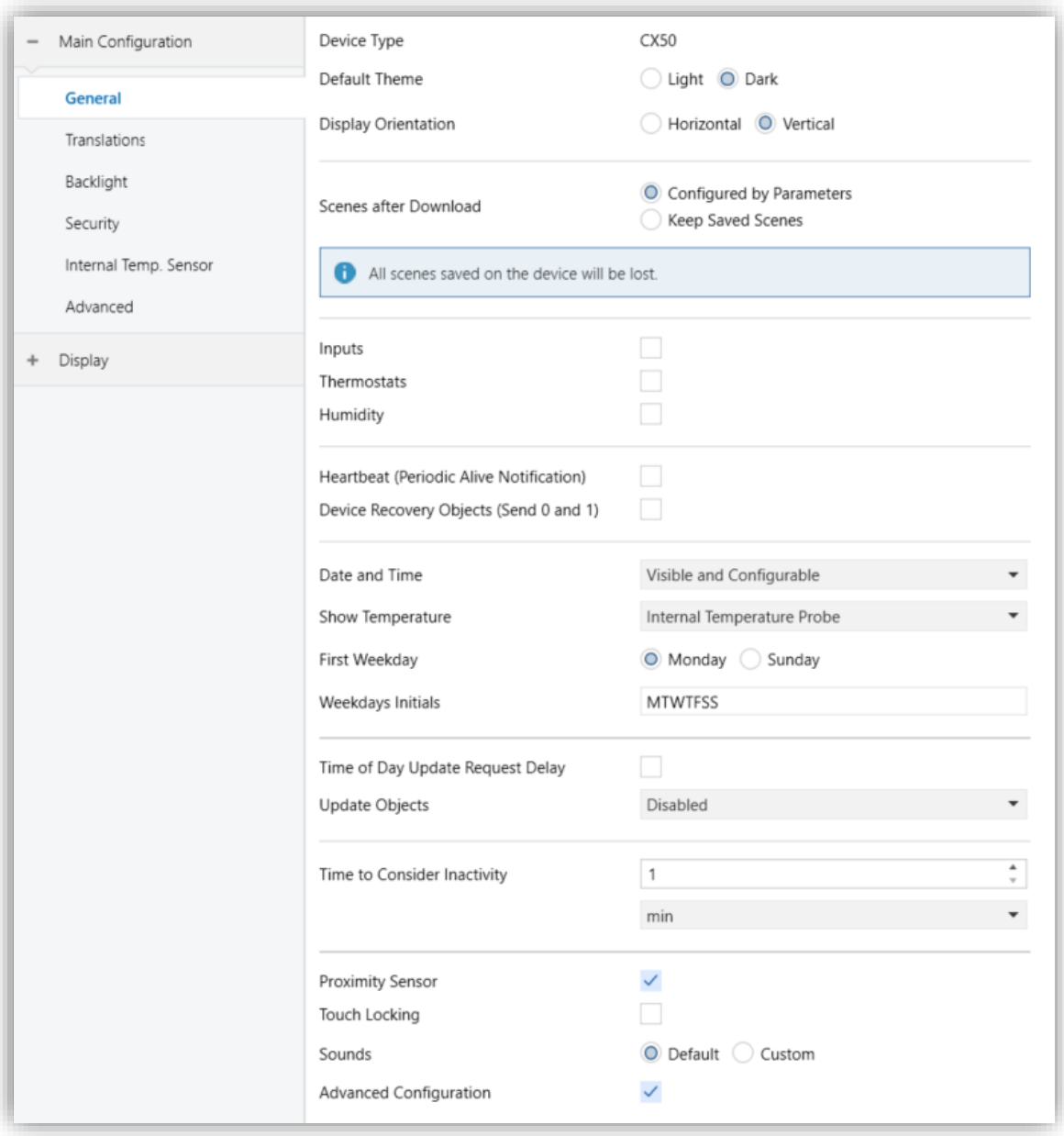

Figure 1. Main Configuration - General.

The following parameters are shown:

- **Device Type** [*CX50*]: defines the device which will be configured.
- **Default Theme** [*Light / Dark*]: determines the theme to be displayed on the screen.
- **Display Orientation** [*Horizontal / Vertical*]: allows to select the layout of the screen elements. The value of this parameter influences how the distribution of pages and controls is configured.

- **Scene after Download** [*Configured by Parameters / Keep Saved Scenes*][1]: allows defining whether the value of the scenes is the configured by parameter or whether the previously saved value is kept after download.

  Note: *if "Keep Saved Scenes" option has been configured, but it is the first download of the device or a different version from the current one, the values configured by parameter will be adopted. If new scenes are added in successive downloads, it will be necessary to perform a download by checking the option "Configured by Parameters" to ensure the correct operation of these scenes.*

- **Inputs** [*disabled / enabled*]: enables or disables the "Inputs" tab in the tree on the left, depending on whether the device will or will not be connected any external accessories. For more information, see section 3.3.

- **Thermostats** [*disabled / enabled*]: enables or disables the "Thermostat" tab in the tree on the left. For more information, see section 3.4.

- **Humidity** [*disabled / enabled*]: enables or disables the "Humidity" tab in the tree on the left. For more information, see section 3.5

- **Heartbeat (Periodic Alive Notification)** [*disabled / enabled*]: incorporates a one-bit object to the project ("**[Heartbeat] Object to Send '1'**") that will be sent periodically with value "1" to notify that the device is still working (*still alive*).

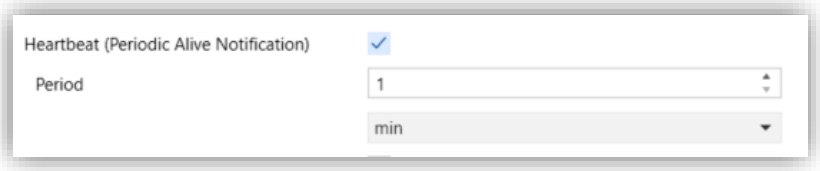

Figure 2. Heartbeat.

  Note: *the first sending after download or bus failure takes place with a delay of up to 255 seconds, to prevent bus overload. The following sendings march the period set.*

- **Device Recovery Objects (Send 0 and 1)** [*disabled / enabled*]: this parameter lets the integrator activate two new communication objects ("**[Heartbeat] Device Recovery**"), which will be sent to the KNX bus with values "0" and "1" respectively whenever the device begins operation. It is possible to parameterise a certain **delay** [*0…255*] to his sending.

[1] The default values of each parameter will be highlighted in blue in this document, as follows: [*default / rest of options*].

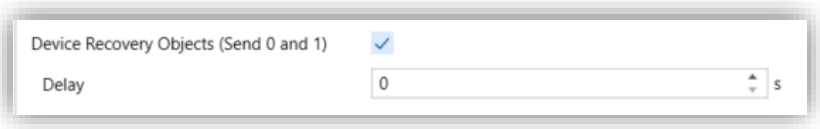

Figure 3. Sending of Indication objects on bus voltage recovery.

Note: *after download or bus failure, the sending takes place with a delay of up to 6,35 seconds plus the parameterised delay, to prevent overload*.

- **Date and Time** [*Hidden / Visible / Visible and Configurable*]: determines whether the header should display the time from the system internal clock. If it is shown, the parameter also allows manual modification of the date and time using the following dialogue box.

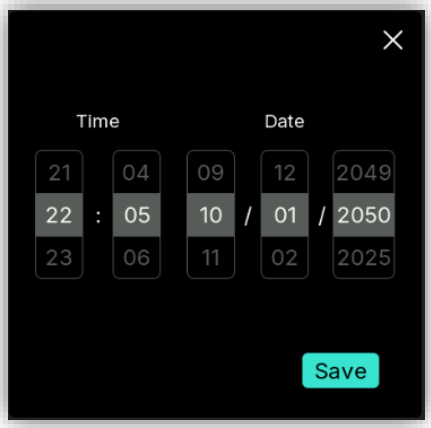

Figure 4. Date and time configuration.

- **Show Temperature** [*No / Internal Temperature Probe / External Value*]: sets whether the current temperature should show or not in the upper right corner of every page, being necessary in such case to choose the source of the temperature value: "Internal temperature probe" or "External value". If the latter is chosen, an object named "**[General] External temperature**" will be enabled, so that it can be grouped with any other object that sends temperature values.

- **First Weekday** [*Monday / Sunday*]: sets the first day of week on calendar.

- **Weekdays initials** [*MTWTFSS*]: permits customising the label that will represent each of the weekdays on the screen. A seven-character string (including letters or numbers), ordered according to the above First Weekday parameter, must be entered – each of the characters will represent one weekday.

- **Time of Day Request Delay** [*disabled / enabled*]: sets a sending **delay** [*1…65535*] [*s / min / h*] for the date/time request when the device starts up.

- **Update Objects**: enables the sending of read requests to update status objects and indicators (see section 2 for further details). There are four options available, some of them with a configurable **Delay**:

  - [*Disabled*]: no read request, therefore objects are not updated.

  - [*After Programming*]: read requests are sent after a complete or partial download (or when pressing the reset button in the configuration page, if set as "Parameters Reset", see section 3.2.1.2), after the parameterised **Delay** ([*0…10…65535*] [*s / min / h*]).

  - [*After Reset*]: read request are sent when a reset occurs (bus failure, the Reset Device ETS option or when pressing the reset button in the configuration page, if set as "Device Reboot", see section 3.2.1.2), after the parameterised **Delay** ([*0…10…65535*] [*s / min / h*]).

  - [*After Programming and Reset*]: combination of the two above options.

- **Time to Consider Inactivity** [*1…65535*] [*min / h*], [*5…65535*] [*s*]: time that must elapse since the last press and/or proximity detection to consider inactivity state. Then the display backlight will dim. See section 3.1.3.

- **Proximity Sensor** [*disabled / enabled*]: enables the proximity sensor. This functionality permits "waking up" the device display when detecting presence through the proximity sensor.

  Please refer to the user manual **"Proximity and Luminosity Sensor"** (available in the product section at the Zennio homepage, www.zennio.com) for detailed information about the functionality and the configuration of the related parameters.

- **Touch Locking** [*disabled / enabled*]: enables or disables the possibility of locking the touch by object. When enabled, a new tab is added in the tree on the left (see section 3.1.6).

- **Sounds** [*Default / Custom*]: sets whether the sound functions (button beeps, alarm and doorbell) should work according to the pre-defined configuration ("Default") or to a user-defined configuration ("Custom") (see section 3.1.7).

- **Advanced Configuration** [*enabled / disabled*]: enables or disables the "Advanced" tab in the tree on the left (see section 3.1.8).

The project topology shows the following objects by default:

- "**[General] Time of Day**": 3-byte object for setting the internal time of the device, for example, by linking it to a KNX clock. This object also allows read requests, so the current time of the device can be checked. It is also automatically sent after time changes made by the user from the screen itself.

  Note: *although the DPT of this object considers a field for setting the day of the week, the screen calculates it from the date and therefore ignores that field.*

  > **Important**: ***CX does not have an RTC clock*** *or battery to keep track of the time in the absence of power. Therefore, it is important to* ***receive the time periodically*** *from a device that obtains it through NTP and/or has a battery to prevent delays during bus failures*.

- "**[General] Date**": 3-byte object for setting the internal date of the device, for example, by linking it to a KNX clock. This object also allows read requests, so the current date of the device can be checked. It is also automatically sent after date changes made by the user from the screen itself.

- "**[General] Scene: Receive**" and "**[General] Scene: Send**": objects for respectively receiving and sending scene values from/to the KNX bus whenever it is necessary (e.g., when the user touches a button that has been configured to send scene commands; see section 3.2.2.3.4).

- "**[General] Activity**"**:** 1-bit object to force activity/inactivity state on the device. For further information, please refer to the user manual "**Proximity and Luminosity Sensor**" and "**Brightness**" (available in the product section at the Zennio homepage, www.zennio.com).

- "**[General] Translations - Select Language**": 1 and 2-byte objects for changing the language showed in the screen when receiving a value through the bus (see section 3.1.2).

- "**[General] Translations - Main Language**": 1-bit object that, after the reception of the value "1" from the bus, will load the main language (see section 3.1.2).

- "**[General] Temperature Scale**": 1-bit object which permits changing in runtime the scale of the temperatures that may show on the screen (see section 3.1.8).

- "**[General] Default Page**": 1-byte object that allows you to modify the default page (see section 3.2.1).

- **[C1] [] Switch - Status:** object associated with Control 1, enabled by default. The second braquets, now empty, will contain the text written on the parameter **Label** of the control. See section 3.2.2.

- "**[General] Proximity Sensor**", "**[General] External Proximity Detection**" and "**[General] Proximity Detection**"**:** 1-bit object whose functionality is tied to the proximity sensor. For further information, please refer to the user manual "**Proximity and Luminosity Sensor**" (available in the product section at the Zennio homepage, www.zennio.com).

- "**[General] Display – Brightness**": 1-byte percentage object for changing the display brightness level.

- "**[Internal Temp. Probe] Current Temperature**": 2-byte object through which the value of the current measurement of the built-in sensor will be sent to the bus, according to the parameterisation (see section 3.1.5).

3.1.2 TRANSLATIONS

Texts of page titles, box titles, indicators, etc. are entered by parameter in the corresponding configuration tab. For each language enabled, an additional textbox is displayed to enter the translation. Texts shown on the screen can be translated into up to **five different languages**.

Note: *depending on the space occupied by the characters on the screen, the full text entered may not be displayed*.

Switching from language to another can be done through three types of communication objects:

- **Up to five 1-bit objects**, one for each language. If this is enabled, when a "1" is received through any of this, the corresponding language is activated in the device.

- **A 1-byte scene object**. The expected values in this object are fixed, from 0 to 4, to select the language. If the value received does not correspond to any language, the texts will be displayed in the main language.

- **A 2-byte ASCII object**. The expected values for this object are two characters of the ASCII code, corresponding to ISO 639-1. If the received character pair does not correspond to any enabled language but is in range, the texts will be represented in the main language, if an out-of-range value is received, it does not change the active language.

  Notes:

  - *Not case sensitive*.
  - *Please refer to https://en.wikipedia.org/wiki/List_of_ISO_639_language_codes for a table with the language codes*.
  - If a language change is made via communication object while a pop-up message is active, the change will not be effective until the pop-up message is hidden.

On the other hand, the device allows the use of Latin, Greek and Cyrillic characters for the texts displayed on the screen.

ETS PARAMETERISATION

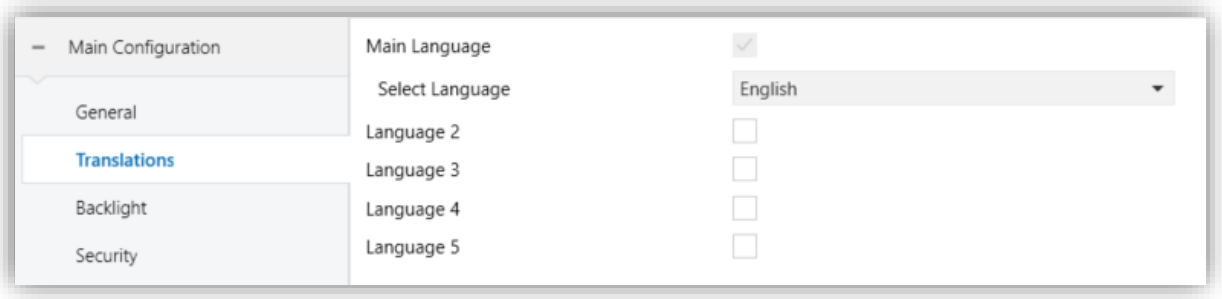

Figure 5. Main Configuration - Translations.

- **Main language** [*enabled*]**:** read-only parameter to make it evident that the main language is always enabled.
  - **Select language:** list of the available languages.
- **Language X** [*disabled / enabled*]**:** enables the additional language X.
  - **Select language**: list of available languages to select the language X.

Only the Main language is enabled by default.

While Translations stays enabled, the following objects are visible:

- "**[General] Translations – Select language**" (one-byte).

- "**[General] Translations – Main language**" (one-bit).
- "**[General] Translations – Select language**" (two-byte).

Up to four specific objects for the additional languages will be also shown, if required:

- "**[General] Translations – Language X**" (one bit).

These objects work accordingly to the behaviour mentioned above.

3.1.3 BACKLIGHT

CX allows managing the brightness of the display according to two operating modes: normal mode and night mode.

Note: *contrast is not a configurable feature in the device.*

Please refer to the specific manual "**Brightness**" (available in the CX product section at the Zennio website, www.zennio.com) for detailed information about the functionality and the configuration of the related parameters.

3.1.4 SECURITY

Any control or page will be given the possibility of **restricted access by password**. Setting one or two different passwords is possible, so the integrator can afterwards configure whether the access to a page or box will be protected by one password or another or remain unprotected – every page can be independently configured.

Buttons that lead to a protected page or box will show a little **lock** icon overlaid on their upper right corner.

Figure 6. Security Pop up. shows "Enter Password" dialog shown to the user when trying to access a protected page.

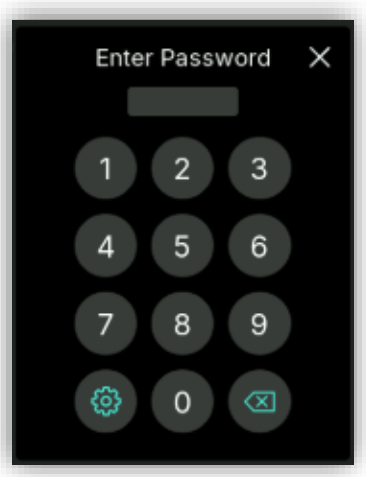

Figure 6. Security Pop up.

In case of setting up **two levels**, the first one is assumed to be *enclosed* by the second one. This means that whenever the device asks the user to type password #1 (to enter a certain page); password #2 will also be accepted (even when changing passwords). On the contrary, password #1 cannot be used instead of password #2. This behaviour permits, therefore, making password #2 available to users with further privileges while password #1 is assigned to users with fewer privileges.

Moreover, when accessing to a protected page, all the boxes and pages with the same or lower access level of the introduced password, are automatically unlocked. It can be set if the elements are relocked after a time period or a page switch.

ETS PARAMETERISATION

This screen permits selecting how many security levels (one or two) will be available for the configuration of the access to the control pages or the boxes.

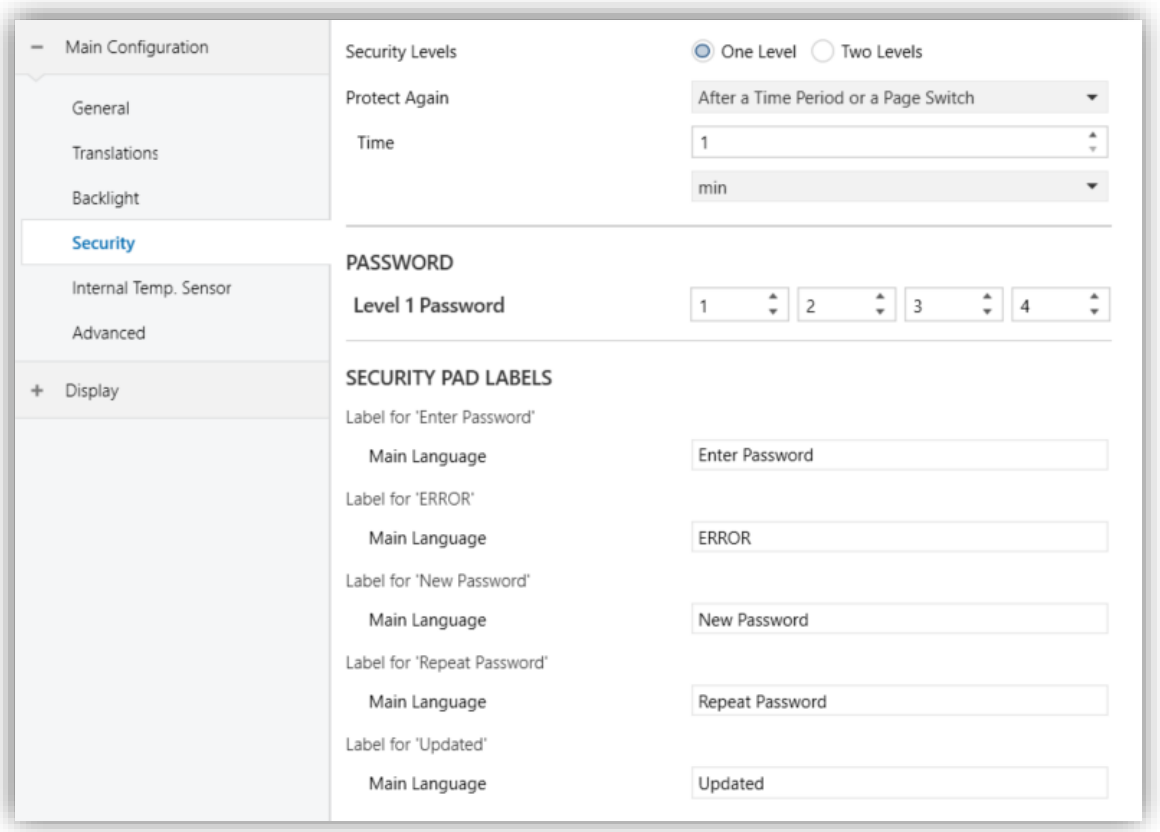

Figure 7. Main Configuration - Security.

- **Security Levels** [*One Level / Two Levels*]: selects whether one or two security levels will be available.

  Note: *with independence of the option selected here, it will be necessary to establish the security level desired for each specific page of controls.*

- **Protect Again** [*After a Time Period / After a Page Switch / After a Time Period or a Page Switch*]**:** sets when is re-activated the security of pages or boxes unlocked. When selecting the first or the last option, a new parameter **Time** [*10…65535*][*s*] [*1…65535*][*min/h*] appears to set the time period.

- **Password** [*Level 1: 1234; Level 2: 5678*]: parameter made of four additional textboxes, each of which should contain one of the four consecutive digits [*0…9*] that will compose the password.

  In case of enabling "Two Levels" of security, the Password parameter will show twice, being the first one referred to the password of Level 1, and the second one to the password of Level 2.

Figure 8. Two security levels.

Important: *the password insertion dialog features a specific option (lower left button) that lets the user change, in runtime, the passwords originally set by parameter. After accessing this option and prior to typing the new password, the user will be required to type the corresponding old password (level 1 or level 2). Note that although it will be possible to type password 2 even if the device asks for password 1, the new password typed afterwards will be anyway stored as the new password for level 1.*

- **Security Pad Labels:** parameter consisting in six additional textboxes, intended for the customisation of the messages that the device shows (or may show) when the user interacts with the password insertion dialog.

  - **Label for 'Enter Password 1'** [*Enter Password 1*]: message shown when the user is required to type in the password for level 1.
  - **Label for 'Enter Password 2'** [*Enter Password 2*]**:** message shown when the user is required to type in the password for level 2.
  - **Label for 'ERROR'** [*ERROR*]**:** message shown to the user when the typed password is not valid.
  - **Label for 'New Password'** [*New Password*]**:** message shown to ask the user for a new password, during the password change process.
  - **Label for 'Repeat Password'** [*Repeat Password*]**:** message shown when the user is required to re-type the new password.
  - **Label for 'Updated'** [*Updated*]**:** message shown to the user as confirmation of the password change.

3.1.5 INTERNAL TEMPERATURE SENSOR

CX is equipped with **an internal temperature sensor** for monitoring the ambient temperature of the room, so that the device can report it to the KNX bus and trigger several actions when the temperature reaches certain values.

Please refer to the specific documentation of the **"Temperature Probe"** available at the Zennio homepage, www.zennio.com, for detailed information about the functionality and the configuration of the related parameters.

3.1.6 TOUCH LOCKING

The touch panel can be optionally locked and unlocked anytime by writing a configurable one-bit value to a specific object provided for this purpose. It can also be done through scene values.

While locked, user presses on the touch buttons will be ignored: no actions will be performed when the user presses on any of the controls. However, if configured, a message will be shown on the display for three seconds if the user touches a button during the lock state.

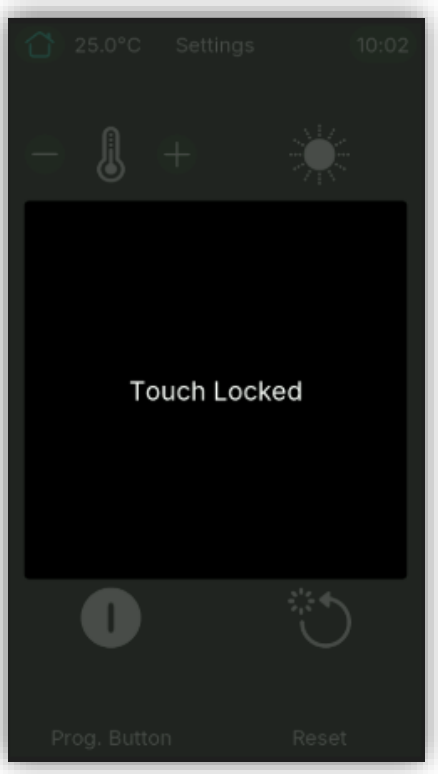

Figure 9. Touch Locking message.

Note: *if an alarm with active lock is activated, it will be disabled and you can press the screen normally. After confirming the alarm, the screen will be locked again.*

ETS PARAMETERISATION

After enabling **Touch Locking** from "General" screen (see section 3.1.1), a new tab will be incorporated into the tree on the left.

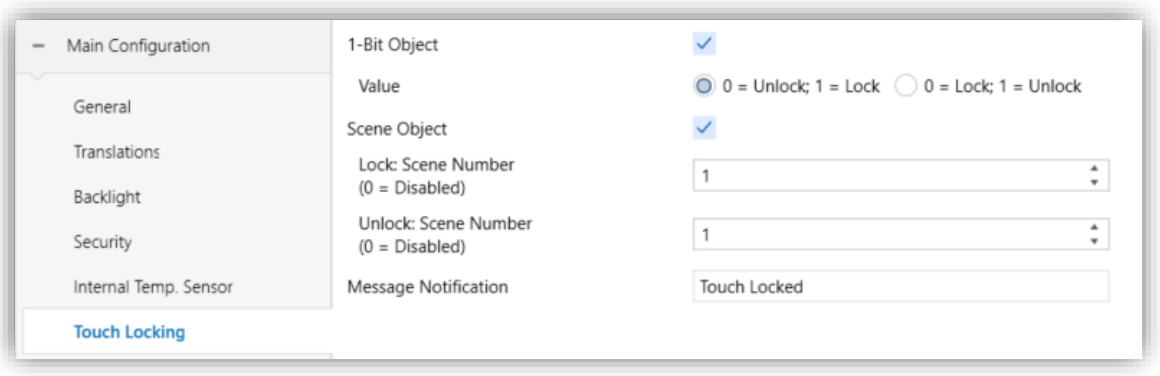

Figure 10. Main Configuration - Touch Locking.

In this tab you can configure the blocking of the presses on the display.

- **1-Bit Object** [*disabled / enabled*]: enables the 1-bit object "**[General] Touch Locking**" to trigger the touch lock.
  - **Value** [*0 = Unlock; 1 = Lock / 0 = Lock; 1 = Unlock*]: parameter to select which value should trigger which action when received through the indicated object.
- **Scene Object** [*disabled / enabled*]: enables the touch locking and unlocking when receiving the configured scene value through the object ("**[General] Scene: receive**").
  - **Lock: Scene Number (0 = Disabled)** [*0…1…64*]: scene number that locks the touch.
  - **Unlock: Scene Number (0 = Disabled)** [*0…1…64*]: scene number that unlocks the touch.
- **Message Notification** [*Touch Locked*]: textbox that defines the message displayed on the screen when the device is locked and the user attempts to press a button.

3.1.7 SOUNDS

CX displays emit **3 types of sounds**, depending on the action performed:

- **Press Confirmation:** short beep indicating that the user has pressed a button. This only applies to step controls, i.e., controls that walk through a certain range of values and that do not send a value after every touch, but only the final value after the last press. For this action, the user can choose between two different sounds.

- **Sending Confirmation**: a slightly longer and sharper beep than the previous one. It indicates the sending of an object to the bus as a result of a press.

- **Alarm:** sharp and longer beep than the previous one, high intensity, which is typically used as alarm or bell.

The range of sounds emitted when these actions are performing will be different depending on the sound type selected.

Enabling and disabling the button sounds can be done in parameters or through an object, being also possible to define in parameters whether the button sounds should be initially enabled or not.

Pressing and sending confirmation sounds can be silenced using one of the following methods:

- Parameterisation after ETS download.

- 1-bit communication object.

- Checkbox in "Configuration Page".

Note: *under no circumstances the alarm or the ring tone will be muted*.

ETS PARAMETERISATION

After enabling the "Custom" configuration of **Sounds** from "General" screen (see section 3.1.1), a new tab will be incorporated into the tree on the left.

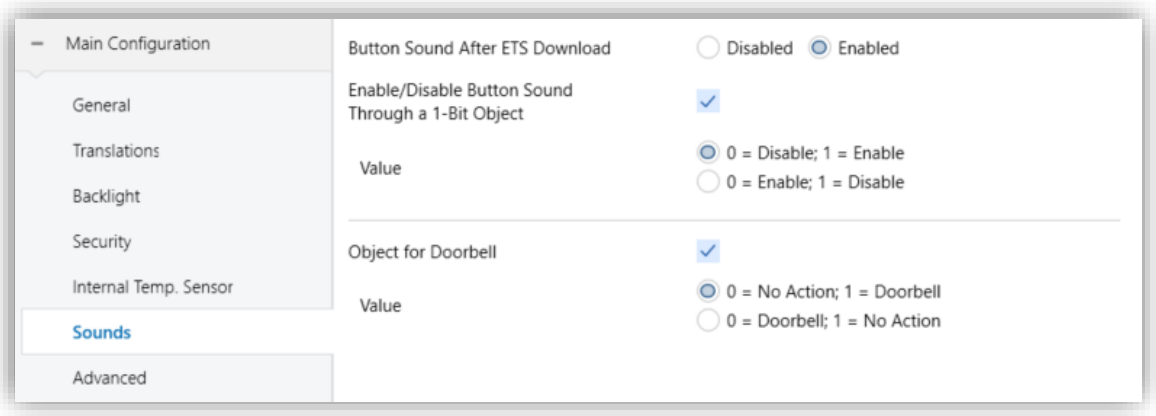

Figure 11. Main Configuration - Sounds.

- **Button Sound After ETS Download** [*Disabled / Enabled*]: sets whether the button beeping function should start up enabled (default option) or disabled after an ETS download.

- **Enable/Disable Button Sound Through a 1-Bit Object** [*disabled / enabled*]: makes it possible to disable / resume the button beeping function in runtime by writing to a specific object ("**[General] Sounds – Disabling Button Sound**").

  - **Value** [*0 = Disabled; 1 = Enabled / 0 = Enabled; 1 = Disabled*]: parameter to select which value should trigger which action when received through the indicated object.

- **Object for Doorbell** [*disabled / enabled*]: enables or disables the doorbell function. If enabled, a specific object ("**[General] Sounds - Doorbell**") will be included into the project topology.

  - **Value** [*0 = No Action; 1 = Doorbell / 0 = Doorbell; 1 = No Action*]: parameter to select which value should trigger which action when received through the indicated object.

3.1.8 ADVANCED

Tab for the parameterisation of some advanced functions is shown in ETS if enabled from the "Configuration" tab. These functions are explained next.

ETS PARAMETERISATION

After enabling the **Advanced configuration** from "General" screen (see section 3.1.1), a new tab will be incorporated into the tree on the left.

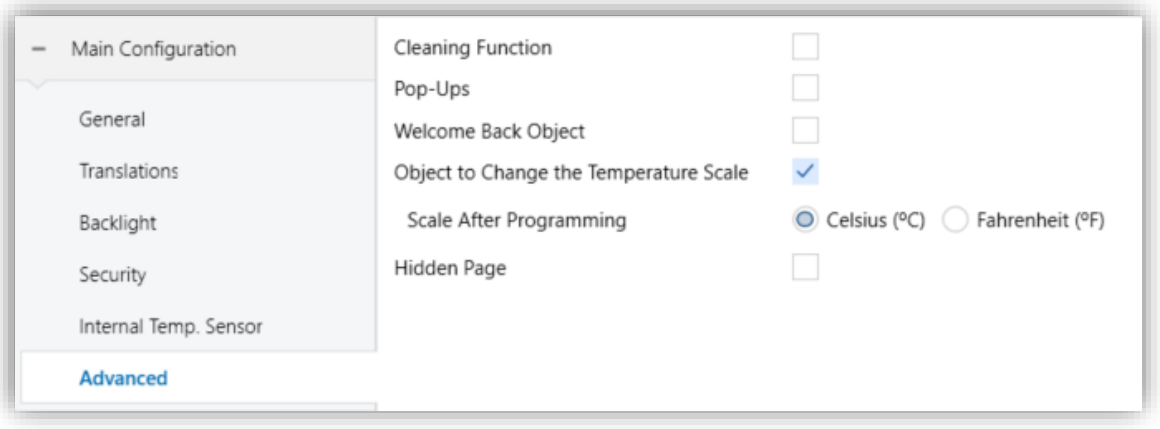

Figure 12. Main Configuration - Advanced.

- **Cleaning Function** [*disabled / enabled*]: enables or disables the "Cleaning Function" tab. See section 3.1.8.1 for details.

- **Pop-Ups** [*disabled / enabled*]: enables or disables the "Pop-Ups" tab. See section 3.1.8.2 for details.

- **Welcome Back Object** [*disabled / enabled*]: enables or disables the "Welcome Back Object" tab. See section 3.1.8.3 for details.

- **Object to Change the Temperature Scale** [*disabled / enabled*]: enables or disables the 1-bit object **"[General] Temperature Scale"**), which permits changing in runtime the scale of the temperatures that may show on the screen. By receiving one '0' through this object, the scale will switch to Celsius, while after receiving one '1' it will switch to Fahrenheit.

  The selected scale applies to any temperatures shown on the screen, such as:

  - Indicators of **temperature controls** linked to a box in the display ([Climate] Temperature setpoint)
  - **Temperature indicators** ([Climate] Temperature).
  - Temperature shown on the thermostat page **setpoint**.

  In this functionality, the following parameter will also appear:

  - **Scale After Programming** [*Celsius (ºC) / Fahrenheit (ºF)*]: sets the scale in use after downloading.

- **Hidden Page** [*disabled / enabled*]: enables access control to a hidden page with a long press on the header bar.

  - **Press Threshold Time** [*1 … 6 … 60*] [*x 1 s*]: time in seconds required for a keystroke to be considered valid for accessing the hidden page.
  - **Page** [*Menu / Page 1 / … / Page 12*]: selects the page to access after clicking.
  - **Protect** [*No / Yes*]: sets whether the page will be password-protected or not.

3.1.8.1 CLEANING FUNCTION

This feature is very similar to the touch locking, that is, it locks the touch area, thus discarding further button touches. The difference is that this function remains active only during a parameterisable time and then stops. During this function, the brightness will be at 100%.

This function is intended to let the user clean the touch area with the certainty of not triggering unwanted actions. A message can be shown during the cleaning state and, when the timeout is about to end, it is also possible to make this message blink or to make the device beep (or both).

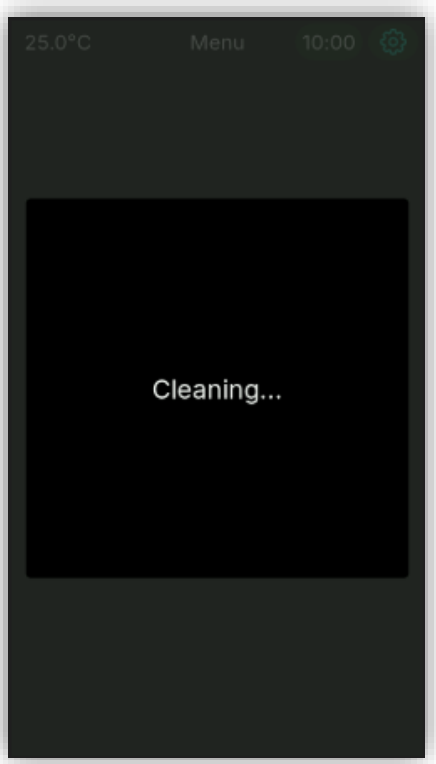

Figure 13. Cleaning Function Pop up.

ETS PARAMETERISATION

After enabling **Cleaning Function** from "Advanced" screen (see section 3.1.8), a new tab will be incorporated into the tree on the left.

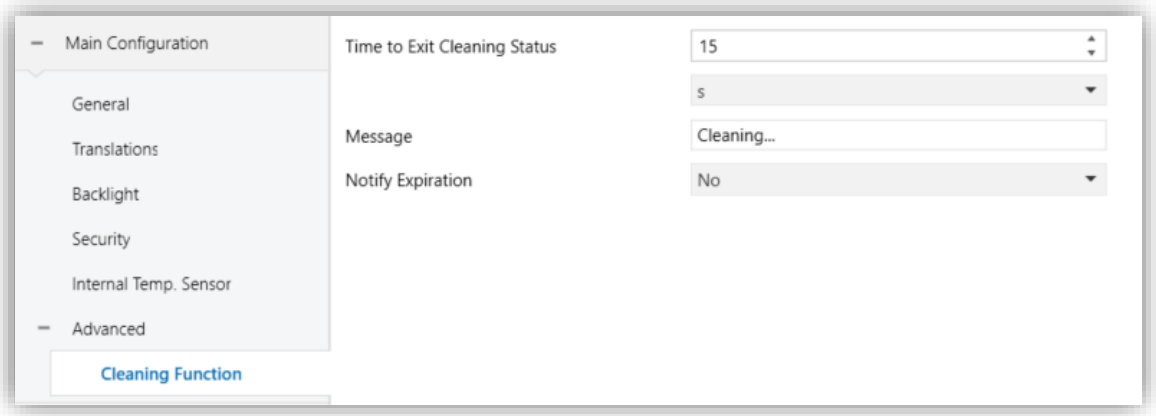

Figure 14. Advanced - Cleaning Function.

- **Time to Exit Cleaning Status** [*[5...15…65535][s] / [1…65535][min / h]*]: timeout to deactivate the cleaning function once triggered.

- **Message** [*Cleaning…*]: textbox to enter the desired message.

- **Notify Expiration** [*No / Blink Message / Play Sound / Both*]: sets whether to notify the timeout expiration or not. When any of the three later options is selected, a new parameter shows up:

  - **Lenght of the Warning** [*1...5…65535*] [*s / min / h*]: sets the ahead-time to start the notification prior to the end of the cleaning function.

"**[General] Cleaning Function**" one-bit object, triggers the cleaning function when it receives a "1" from the KNX bus.

3.1.8.2 POP-UPS

This function is intended to show the user up to 6 different **Pop-Ups** of up to four lines of text on the display, each of which can be object-dependant or set in parameters.

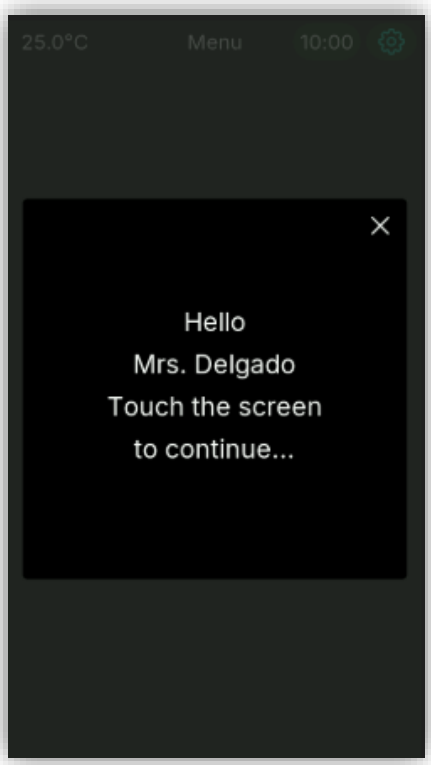

Figure 15. Pop up.

Pop-ups can be shown/hidden through three types of communication objects:

- **1 Bit Object**. The display will show the pop-up when receiving a value of 1 bit and will be hidden when receiving the opposite value.

- **1 Byte Object**. The display will show the pop-up when receiving a value between 0 and 255 and will be hidden with another value between 0 and 255.

- **Changes in 14 bytes Objects** that define the text lines.

Notes:

- *Pop-Ups take precedence over screensaver. When a Pop-Ups is displayed, the screensaver will be disabled until the first one disappears.*

- *If, while a pop-up message is showing another one is enabled, the first one closes and only the last activated message will be shown.*

- *If the same value is set to show and to hide the message, only the order to show will be effective.*

ETS PARAMETERISATION

After enabling **Pop-Ups** from "Advanced" screen (see section 3.1.8) a new tab will be incorporated into the tree on the left to enable up to 6 Pop-ups.

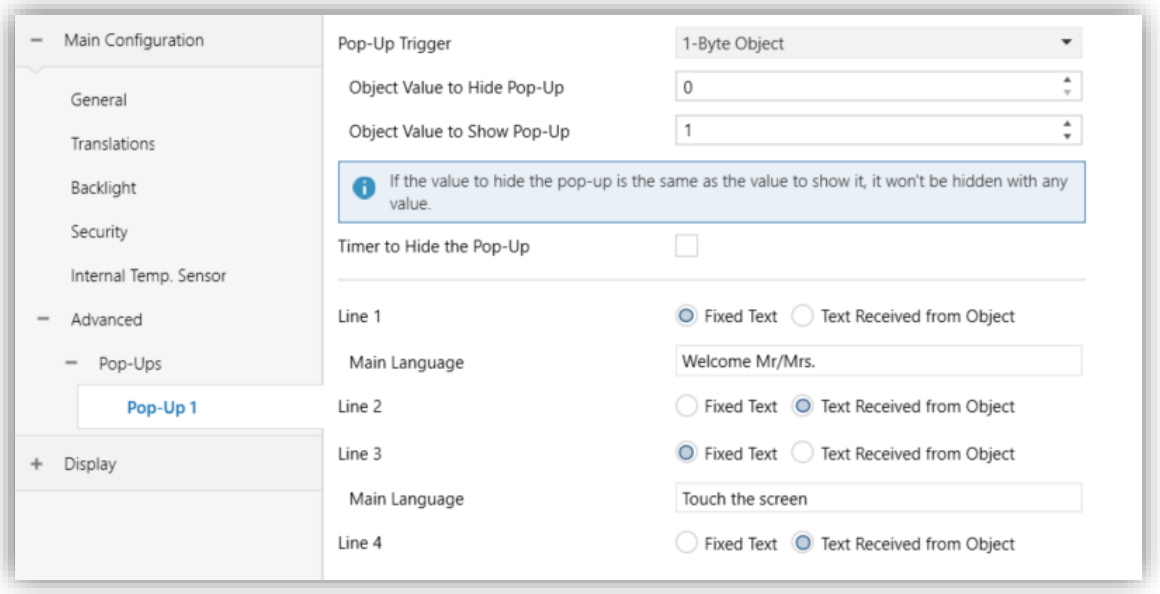

Figure 16. Advanced - Pop-Up 1.

For each pop-up enabled a new tab "Pop-up n" is added with the following parameters:

- **Pop-Up Trigger**:

  - [*1 Bit Object*]: enables the 1-bit object "**[General] [Pop Up. X] 1 Bit**" to show/hide the Pop-Up. The desired value should be set in:

- **Values to Hide/Show the Pop-Up** [*0 = Hide Pop-Up, 1 = Show Pop-Up / 0 = Show Pop-Up, 1 = Hide Pop-Up*].

➢ [*1 Byte Object*]: enables the 1- byte object "**[General][Pop-Up. X] 1 Byte**" to show the Pop-Up. The desired value should to be set in:

- **Object Value to Hide Pop-Up** [*0…255*].
- **Object Value to Show Pop-Up** [*1…255*].

➢ [*Changes in 14 Bytes Objects*]: the pop-up message will be displayed when a value is received in one of the 14-byte objects that define the message text.

- **Timer to Hide the Pop-Up** [*disabled / enabled*]: enables a timer that will close the Pop-Up message once the set time has elapsed.

  ➢ **Time** [*1 … 30 … 65535*][*s*] / [*1 … 65535*][*min / h*]: configurable time to hide the pop-up message.

- **Line [1,4]** [*Fixed / Text Received from Object*]: sets whether the corresponding text line will be pre-defined or object-dependent. If "Fixed" is selected, the following parameter will appear:

  ➢ **Text**: textbox to enter the desired text for the corresponding line. A box will appear with up to a maximum of 5, one for each language configured.

  Up to four 14-byte objects called "**[General] [Pop-Up. X] Line X**" will appear, depending on how many lines of text have been assigned the "Text Received from Object" option.

3.1.8.3 WELCOME BACK

CX can send a specific object (a **one-bit** value, a **scene** value or both, depending on the parameterisation) to the KNX bus when the user presses a touch button or a proximity detection occurs after a significant amount of time since the last press or presence detection. Sending it or not can also depend on an **additional, configurable condition** consisting in the evaluation of up to five binary objects.

Any actions that in normal operation may be executed will not be if the welcome back object is sent to the bus. Thus, if the user presses a button and this causes the welcome back object to be sent, the normal action of that button will not be triggered.

ETS PARAMETERISATION

After enabling **Welcome Back Object** from "Advanced" screen (see section 3.1.8), a new tab will be incorporated into the tree on the left.

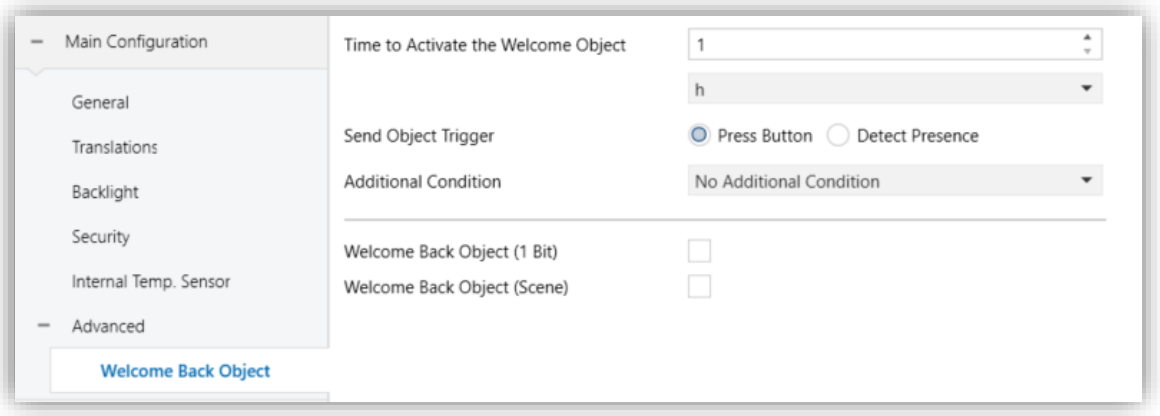

Figure 17. Advanced - Welcome Back Object.

- **Time to Activate the Welcome Object** [*1…65535*] [*s/min/h*]: sets the minimum time that should elapse after the last button touch (or presence detection, when the proximity sensor is enabled) before the next one triggers the execution of the welcome back function.

- **Send Object Trigger** [*Press Button / Detect Presence*]: sets whether the welcome back object is sent after a touch in the screen or when the proximity sensor detects presence.

- **Additional Condition** [*No Additional Condition / Do Not Send Unless All Additional Conditions are 0 / Do Not Send Unless All Additional Conditions are 1 / Do Not Send at Less One of the Additional Conditions is 0 / Do Not Send at Less One of the Additional Conditions is 1*]: condition that must be fulfilled for sending the welcome object. When selecting any condition, the following parameter appears:

  - **Number of Condition Objects** [*1…5*]: up to 5 objects can be selected for the additional condition.

- **Welcome Back Object (1 Bit)** [*disabled / enabled*]: checkbox to enable the sending of a 1-bit value (through "**[General] Welcome back**") when the welcome back function is triggered and the condition (if any) evaluates to true. The desired value should to be set in **Value** [*Send 0 / Send 1*].

- **Welcome Back Object (Scene)** [*disabled / enabled*]: checkbox to enable the sending of a scene run request (through "**[General] Scene: send**") when the welcome back function is triggered and the condition (if any) evaluates to true. The desired value should to be set in **Scene Number** [*1…64*].

3.2 DISPLAY

3.2.1 PAGES

The user interface is organised into **pages** (up to **twelve** different pages, in addition to the "Configuration Page"), each of which can be accessed from the menu page, which (unless the contrary has been parameterised) is automatically shown after the start-up.

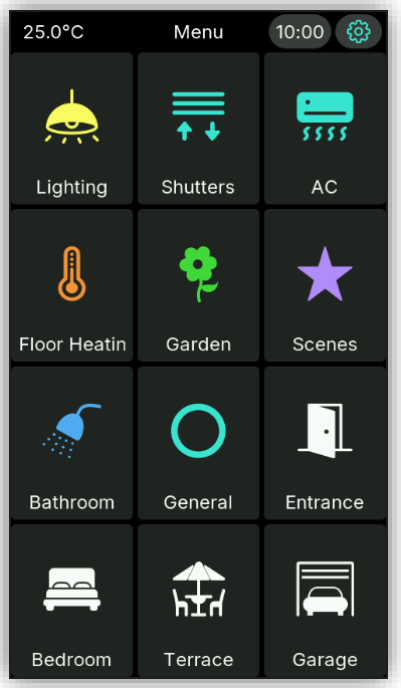

Figure 18. Menu.

Password-protected pages (see section 3.1.4) will display a small icon with a lock next the upper right corner of the associated button. On the other hand, if a page contains a box with an active alarm (see section 3.2.2.6.4), a small alarm icon will be displayed next to the upper left corner.

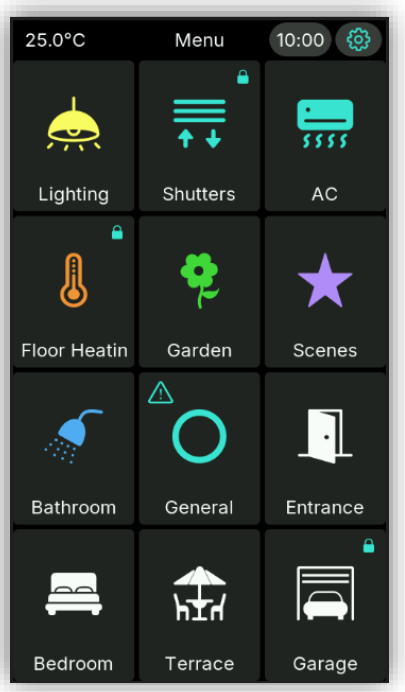

Figure 19. Menu with protection and alarms.

The **twelve pages** of general purpose can be set to:

- **Normal page:** eight **general-purpose boxes** in which up to eight controls/indicators (with different functionalities) can be included, being even possible to combine alarm, climate or any other controls within the same page.

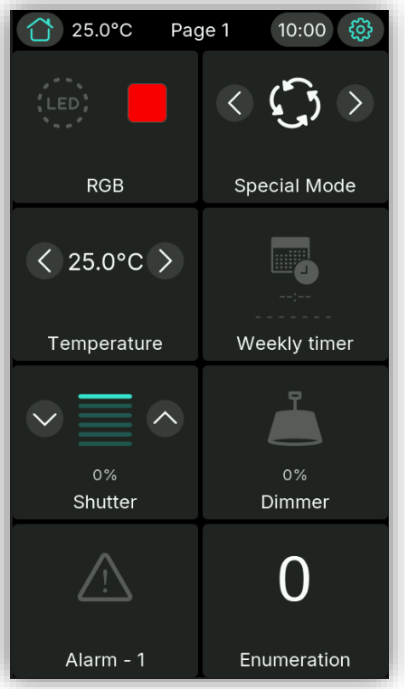

Figure 20. Regular page.

- **Thermostat:** page intended exclusively for the control of an external thermostat.

Figure 21. Thermostat page with arrows.

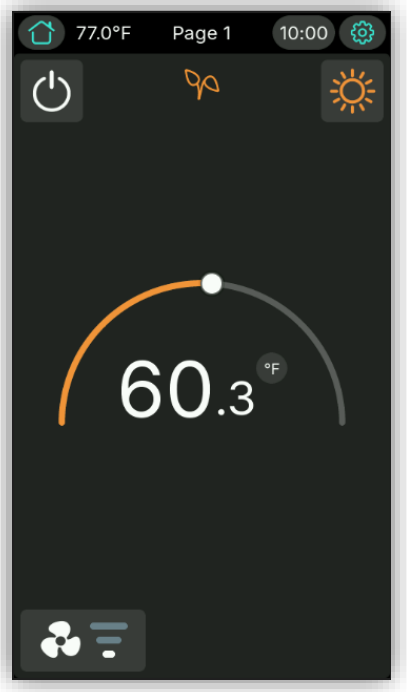

Figure 22. Thermostat page with thermostatic wheel.

In case of enabling the additional controls, the thermostat section is reduced, leaving a space at the bottom of the page where these controls will be located.

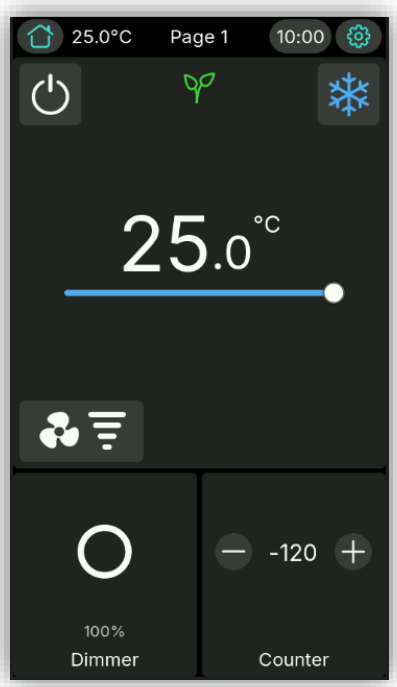

Figure 23. Thermostat page with slider and additional controls.

The **Configuration Page** is **specific purpose**, as it is provided for user customisation of the device.

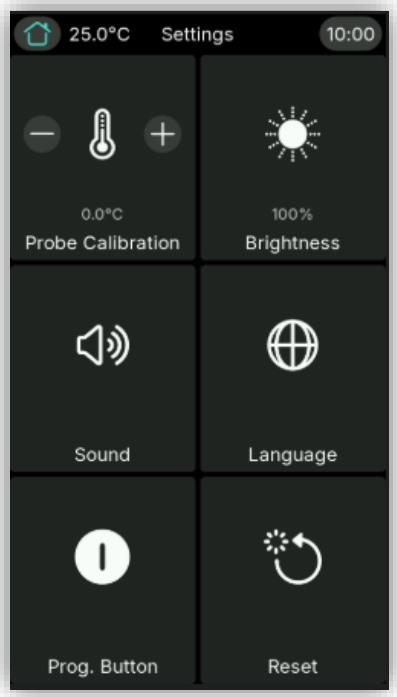

Figure 24. Configuration page.

The user interface will always show on top the title of the current page.

ETS PARAMETERISATION

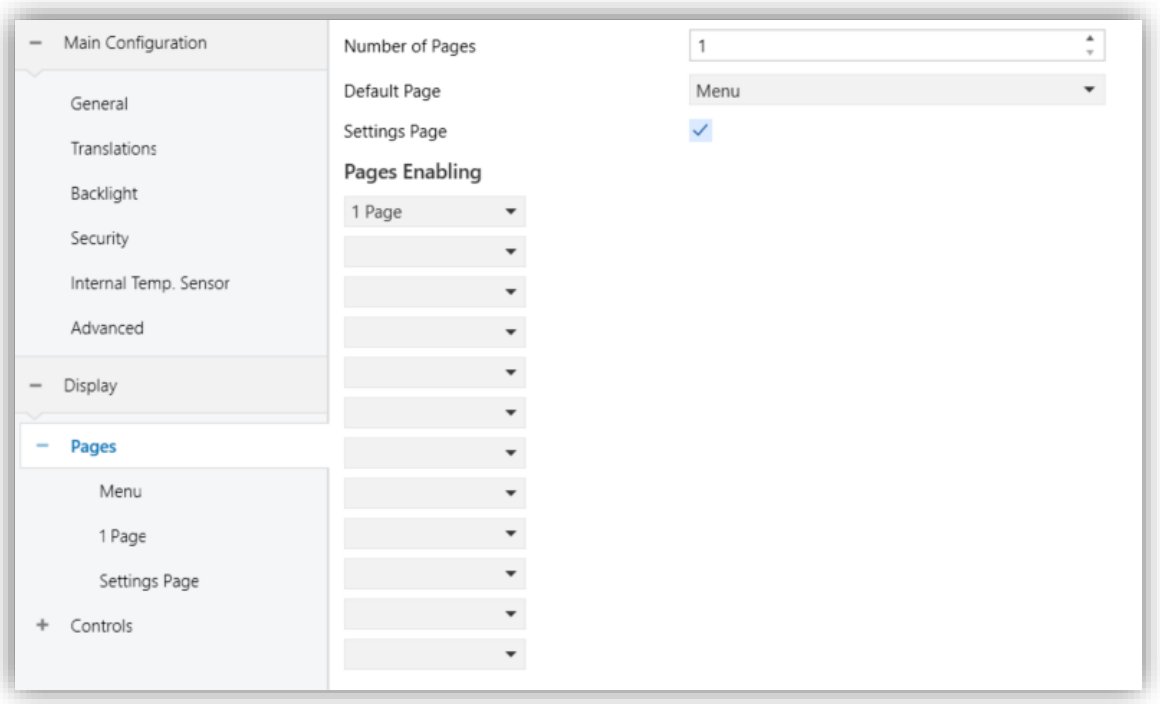

Figure 25. Pages - Configuration.

The parameters available are:

- **Number of Pages** [*1…12*]: number of general purpose pages that will be activated on the device. For each page a dedicated ETS tab will be shown for configuration.

- **Default Page** [*Menu / Page 1 / … / Page 12*]**:** dropdown list that sets the page (Menu, or any of the general-purpose pages) that will behave as the default page. This page will be the one shown after one minute of inactivity, assuming that such page has been enabled and it is not protected with password.

- **Settings Page** [*disabled / enabled*]: if enabled, direct access to the configuration page from the menu page will be allowed.

- **Pages Distribution** [*Empty / 1 Page / … / 12 Page*]**:** set which page will be placed in each of the twelve possible boxes on the screen.

3.2.1.1 MENU

The menu page allows the user to navigate through the various pages in an organised manner.

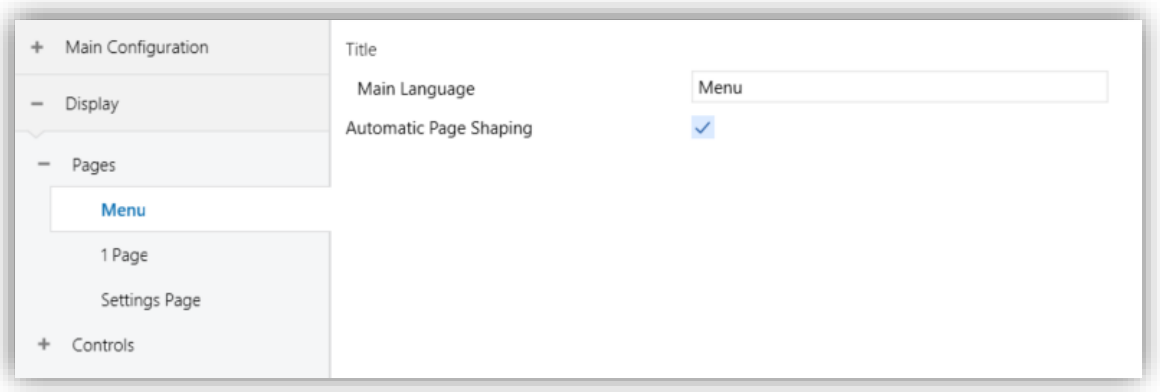

Figure 26. Menu - Configuration.

The parameters available are:

- **Title:**
  - **Language X** [*Menu*]: text field that defines the title that will appear in the top bar of the menu page for the corresponding language.
- **Automatic Page Shaping** [*disabled / enabled*]: enables choosing whether the pages in Menu should be automatically distributed depending on the number of pages configured or be displayed as a static grid.

3.2.1.2 SETTINGS PAGE

The Configuration page lets the user to know or adjust certain technical details about the device, as well as to configure the visual and sound settings.

ETS PARAMETERISATION

After enabling the **Settings Page** from “Pages” screen (see section 3.2.1), a new tab will be incorporated into the tree on the left.

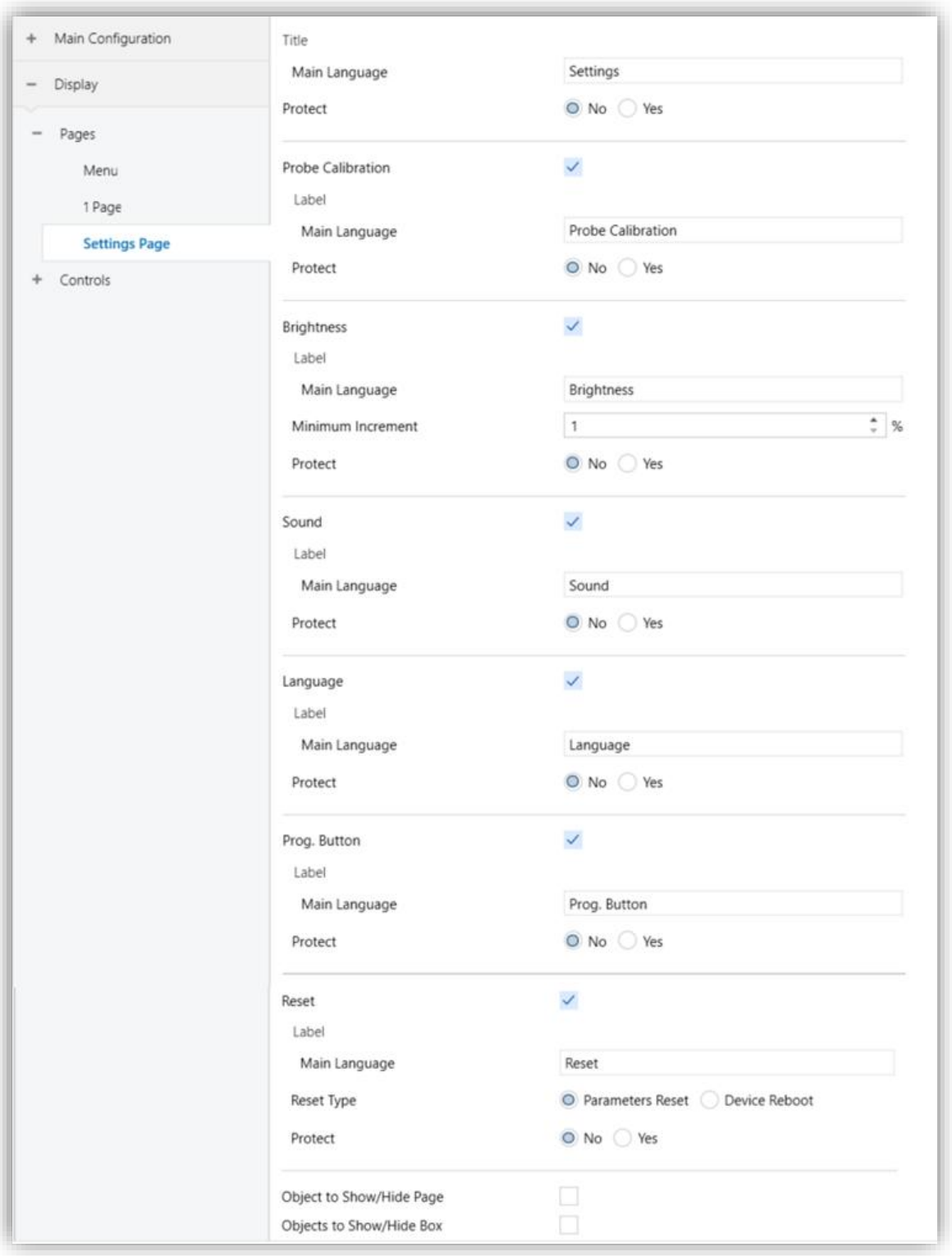

Figure 27. Settings Page.

The parameters of the page itself are:

- **Title**:

  - **Language X** [*Configuration*]: text field that defines the title that will be shown on the top of the Configuration Page for the corresponding language.

- **Protect:** sets whether the page will be password-protected or not. Depending on the security levels configured (one or two; see section 3.1.4) this list will contain the following options:

  - **One Level**:

    - [*No*]: the page will not be protected by password. All users can access it.
    - [*Yes*]: the page will be protected by password. Users will be asked to type the password when trying to access it.

  - **Two Levels**:

    - [*No*]: the page will not be protected by password. All users can access it.
    - [*Level 1*]: the page will implement security level 1. To access it, users will be required to enter password 1 or password 2.
    - [*Level 2*]: the page will implement security level 2. To access it, users will be required to enter password 2.

In addition, the specific controls that can be enabled for the Configuration page are:

- **Probe Calibration** [*disabled / enabled*]: enables or disables the box to configure the offset of the internal temperature probe.

- **Brightness** [*disabled / enabled*]: enables or disables the box to adjust the brightness of the display.

  - **Minimum Increment** [*1…100*] [*%*]: minimum percentage difference for a change in brightness to occur.

- **Sound** [*disabled / enabled*]: enables or disables the box to deactivate/activate the device sounds.

- **Language** [*disabled / enabled*]: enables or disables the box to change the language in which the items on the screen are displayed.

- **Prog. Button** [*disabled / enabled*]: enables or disables the control/indicator that shows the status of the Prog./Test LED of the device. In particular, it permits entering/leaving the programming mode as by pressing the actual programming button of the device.

- **Reset** [*disabled / enabled*]: enables or disables the box to perform a reset on the device, by pressing more than 3 seconds the button:

  - **Reset Type**: sets the reset type required:

    - [*Parameters Reset*]: similar to restoring the device to the just-parameterised state, with the subsequent reset of the object values, alarm controls, timers, etc.
    - [*Device Reboot*]: simple device reset, with no data loss.

Moreover, for all these controls, the following parameters can be configured:

- **Label:** text that will appear to identify the box. Again, new parameters will appear if several translations get enabled.

- **Protection** [*No / Yes*] / [*No / Level 1 / Level 2*]**:** exactly the same as the page protection explained above. In this case, the user can enable the protection of the box.

Additionally, other general parameters that refer to the entire page are included.

- **Object to Show/Hide Page** [*disabled / enabled*]: when this option is enabled, a new 1 bit object appears ("**[Config.] Show/Hide Page**") that allows hiding / displaying the page through the KNX bus

- **Object to Show/Hide Box** [*disabled / enabled*]: when this option is enabled, a new 1 bit object appears for each enabled configuration control ("**[Config.][Bi] Show/Hide Box**") that allows hiding / displaying the box through the KNX bus.

3.2.1.3 *N* PAGE

CX has up to twelve general purpose pages that can be enabled from the "Pages" tab (see section 3.2.1). Thus, a new tab called "*N* Page" will be displayed for each of the n enabled pages.

Within this tab, the parameters for the definition of the page are available, according to which new tabs can be displayed, and the distribution of their boxes.

ETS PARAMETERISATION

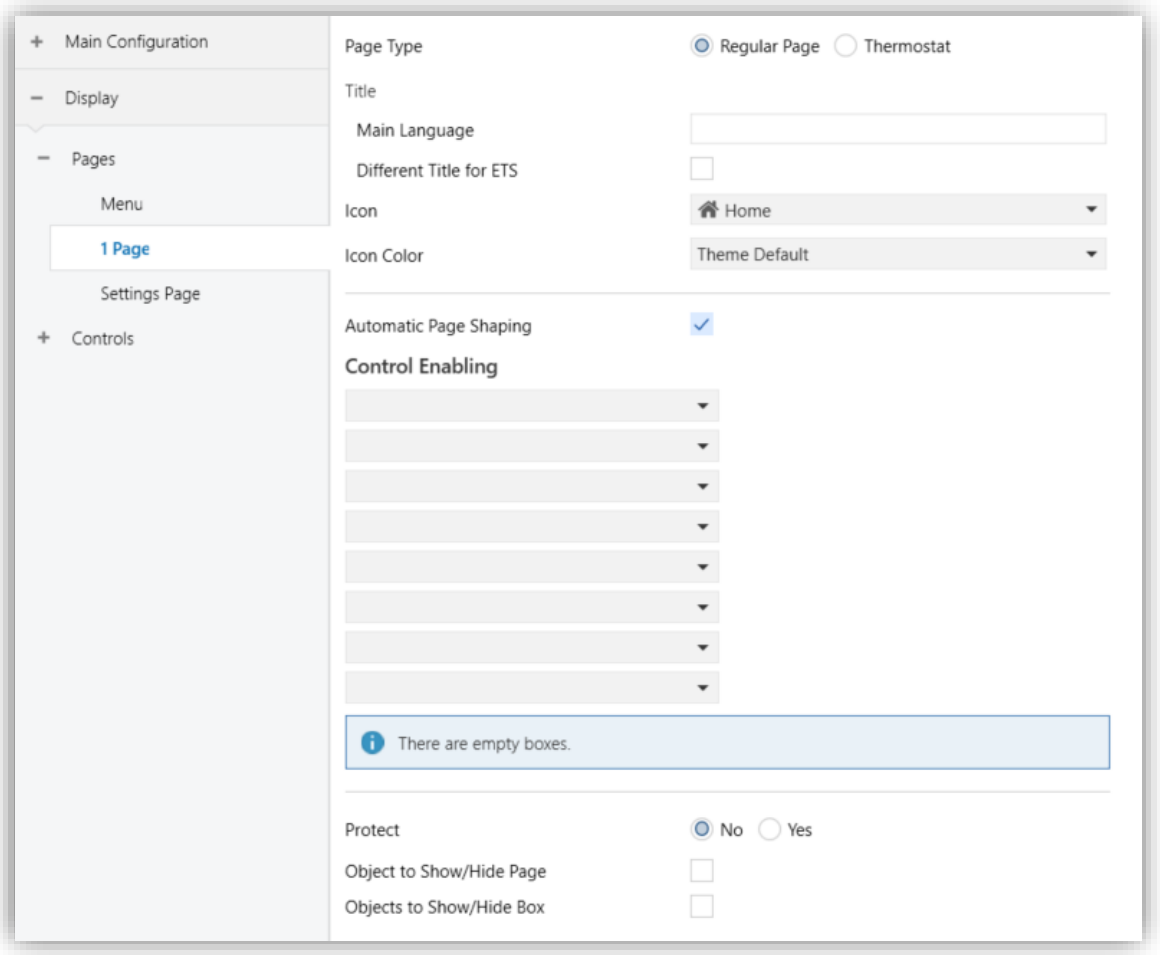

Figure 28. Regular page n - Configuration.

This screen contains the following parameters:

- **Page Type** [*Regular Page / Thermostat*]: allows choosing the display format and functionality of the pages.

The **parameters common** to all of page types are as follow:

- **Title**:
  - **Language X** [*n Page*]: text field that defines the title that will be shown under each Page box for the corresponding language.
  - **Different Title for ETS** [*disabled / enabled*]: allows the text displayed on the screen to be different from that which appears in ETS.

- **ETS Title**: textbox that will be displayed in ETS to refer to the page.

- **Icon** [*Home*]: will represent the page *n* in the Menu page.

- **Icon Color** [*Theme Default / Colour select via drop-down*]: allows to select the colour in which the page icon is displayed in the menu.

- **Protect**: sets whether the page will be password-protected or not. Depending on the security levels configured (one or two; see section 3.1.4) this list will contain the following options:

  - **One Level**:

    - [*No*]: the page will not be protected by password. All users can access it.

    - [*Yes*]: the page will be protected by password. Users will be asked to type the password when trying to access it.

  - **Two Levels**:

    - [*No*]: the page will not be protected by password. All users can access it.

    - [*Level 1*]: the page will implement security level 1. To access it, users will be required to enter password 1 or password 2.

    - [*Level 2*]: the page will implement security level 2. To access it, users will be required to enter password 2.

- **Object to Show/Hide Page** [*disabled / enabled*]: enables or disables a 1-bit object (**"[Pn] Show/Hide Page"**) to show or hide the corresponding page.

- **Object to Show/Hide Box** [*disabled / enabled*]: enables or disables a 1-bit object (**"[Pn][Cx] Show/Hide Box"**) to show or hide the corresponding box.

The following sections will describe the **specific parameters** for each type of page.

3.2.1.3.1 Regular Page

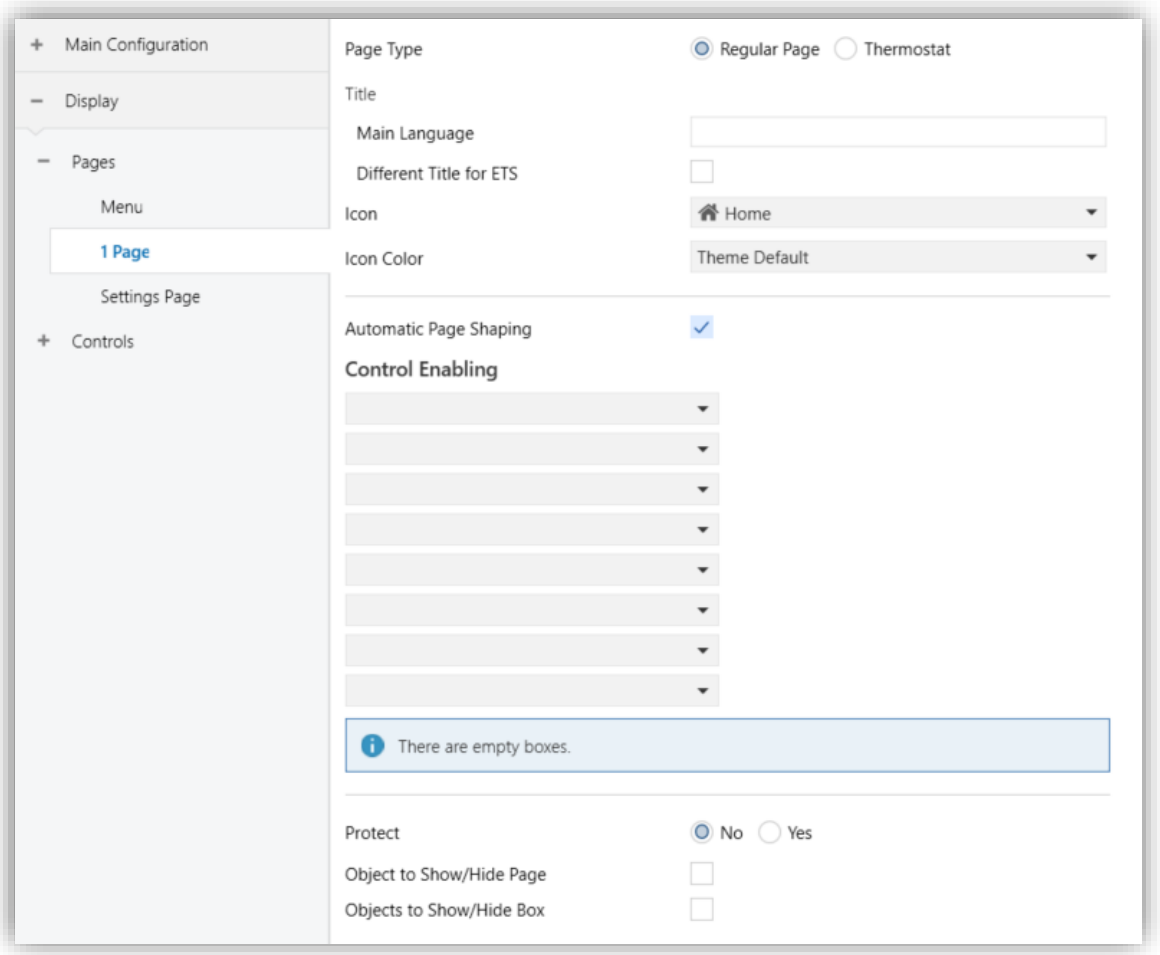

Figure 29. Regular Page.

The following parameters will only be available on normal type pages:

- **Automatic Page Shaping** [*disabled / enabled*]: enables to choose whether the avaible boxes should be automatically distributed ("enabled") dynamically according to the number of boxes configured or be displayed as a static 4x2 grid ("disabled").

- **Control Enabling** [*Nothing / 1 Control / … / 96 Control*]: selects which control will be placed in each of the possible boxes on the screen. Depending on the type of page, the number of boxes, their distribution and size will be different.

  Note:

  - *If automatic page shaping is not enabled, it becomes **Control Distribution**.*
  - *Warnings will be shown if any box is empty or divided into individual boxes and/or if the selected control is not enabled.*

3.2.1.3.2 Thermostat Page

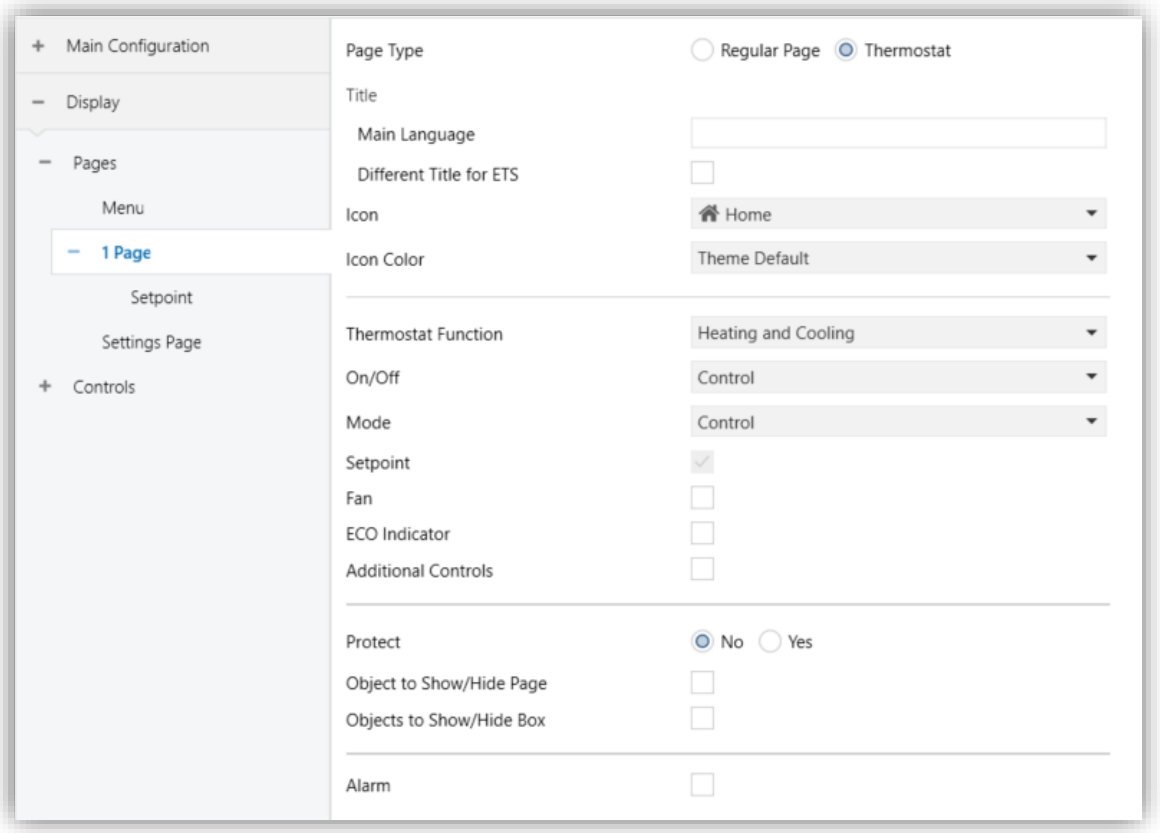

Figure 30. Thermostat Page.

The following parameters will only be available on thermostat type pages:

- **Thermostat Function** [*Heating / Cooling / Heating and Cooling*]: allows to choose the mode in which the thermostat will operate.

- **On/Off** [*Hidden / Indicator / Control*]: offers the possibility of defining whether the on/off button should be displayed on the screen and, if so, whether its use will be for information purposes only or whether it will allow control actions to be performed.

- **Mode** [*Hidden / Indicator / Control*]: offers the possibility of defining whether the mode button should be displayed on the screen and, if so, whether its use will be for information purposes only or whether it will allow control actions to be performed.

- **Setpoint** [*enabled*]: enables the "Setpoint" parameter sub-tab in the "*n* Page" tab. See section 3.2.1.3.2.1.

- **Fan** [*disabled / enabled*]: enables or disabled the "Fan" parameter sub-tab in the "*n* Page" tab. See section 3.2.1.3.2.2.

- **ECO Indicator** [*disabled / enabled*]: enables an ECO mode indicator that will appear just above the setpoint. It will be configured in the “Setpoint” sub-tab within the “*n* Page” tab. See section 3.2.1.3.2.1.

- **Additional Controls** [*disabled / enabled*]: enables a space at the bottom of the page where up to two controls of any type can be included.

- **Alarm** [*disabled / enabled*]: enables an alarm for opening a window, door or both. Its activation will cause all elements of the thermostat page to disappear and the corresponding alarm icon to be displayed.

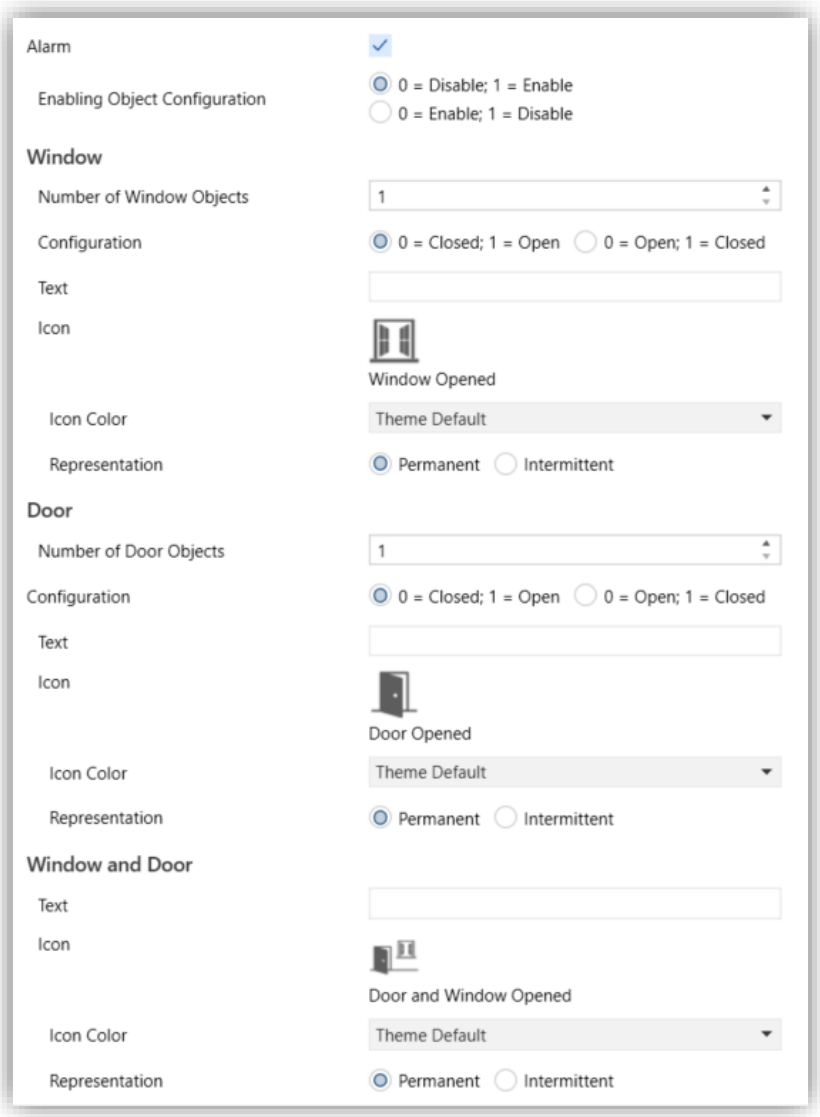

Figure 31. Alarm.

- **Enabling Object Configuration** [*0 = Disable, 1 = Enable / 0 = Enable, 1 = Disable*]: sets the polarity of objects that will enable or disable the alarm at runtime ("**[Pn] Window Alarm - Enable**" and "**[Pn] Door Alarm - Enable**").

- **Number of Window Objects** [*1 … 4*]: enables up to 4 objects for the open window alarm, the object "**[Px] Window X – Status**" appear.

  - **Configuration** [*0 = Closed, 1 = Open / 0 = Open, 1 = Closed*]: determines the polarity of window objects.

- **Number of Door Objects** [*1 … 2*]: enables up to 2 objects for the open door alarm, the object "**[Px] Door X – Status**" appear.

  - **Configuration** [*0 = Closed, 1 = Open / 0 = Open, 1 = Closed*]: determines the polarity of door objects.

For each of the three possible alarm options (window only, door only, or window and door), the following parameters are available:

- **Text**: text that appears in the display when the alarm is activated. If traslations are enabled, a box will appear for each language configured, up to a maximum of 5 languages.

- **Icon:** when the alarm is activated, the setpoint control will disappear and an icon and text will appear. This icon will be fixed and larger than the other icons, and there will be one for each type of alarm.

  - **Colour** [*Theme Default / Colour select by drop-dow*]: determines the colour of the corresponding icon.
  - **Representation** [*Permanent / Intermittent*]: determines how the corresponding icon is displayed.

3.2.1.3.2.1 Setpoint

Pages configured as a thermostat will have a larger central box (always enabled) with two buttons, thermostatic wheel or slider **for controlling the temperature of an external thermostat** through the communication objects enabled to that effect: "**[Pn][Setpoint] Control**" and "**[Pn][Setpoint] Status**".

ETS PARAMETERISATION

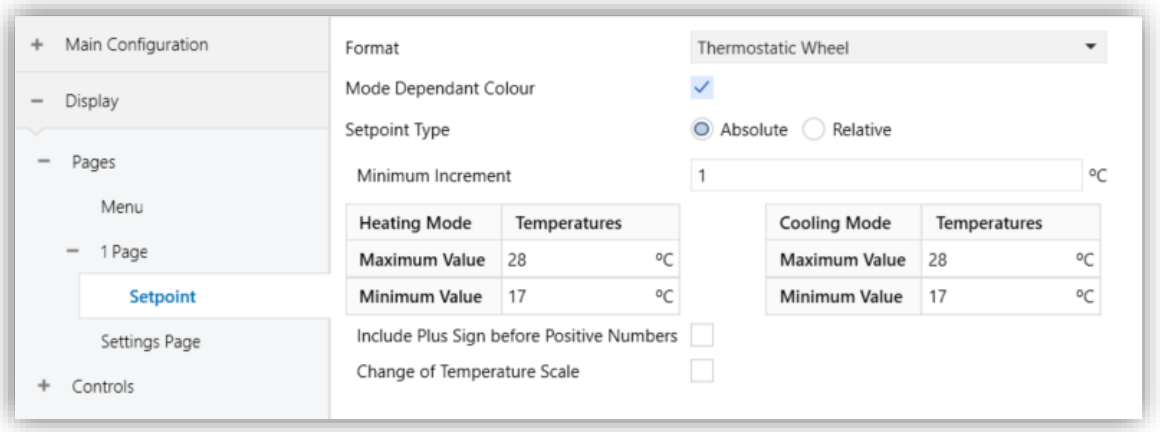

Figure 32. Setpoint Control.

- **Format** [*Arrows / Thermostatic Wheel / Slider*]: determines how the setpoint is represented.

- **Mode Dependant Colour** [*disabled / enabled*]: when enabled, it causes the colour of the thermostatic wheel/slider to be displayed in blue for cooling mode and orange for heating mode. The mode will be received via "**[Pn][Mode] Status**" object. This parameter does not appear if the arrow format has been selected.

- **Setpoint Type:** defines the type of setpoint used. It determines the display of input and output objects. Depending on whether the arrow format has been set or not, this list will show the following values:

  - Arrows:

    - [*Absolute*]: the sepoint temperature is displayed using absolute values. The parameters for **Increment on short press** [*0,1…0,5…10*] [*ºC*] and **Increment on long press** [*0,1…1…10*] [*ºC*] can be defined. In addition, the following parameters are available for both cooling and heating modes.

      - **Maximum Value** [*-99…28…199*] [*ºC*]: maximum temperature value that can be reached by repeatedly pressing the increase button.

      - **Minimum Value** [*-99…17…199*] [*ºC*]: minimum temperature value that can be reached by repeatedly pressing the decrease button.

- [*Relative (offset)*]: the temperature is configured within an offset range base don a base setpoint. To do this, the objects "**[Pn][Setpoint] Offset – Control**" and "**[Pn][Setpoint] Offset – Status**" are used. The following can be parameterised:
    - **Offset: Maximum Value** [*0… 5 … 20*] [*ºC*]
    - **Offset: Minimum Value** [*-20… -5 … 0*] [*ºC*]
    - **Increment on Short Press** [*0,1 … 0,5 … 10*] [*ºC*]
    - **Increment on Long Press** [*0,1 … 1 … 10*] [*ºC*]
    - **Value to Show** [*Setpoint / Offset*]: defines the value which will be shown.
- [*Relative (step)*]: the temperatura is configured within an offset range base don a base setpoint. To do this, a 1-bit object is used to send whether the current value should be increased or decreased: "**[Pn][Setpoint] Offset – Control**". The following can be parameterised:
    - **Offset: Maximum Value** [*0… 5 … 20*] [*ºC*]
    - **Offset: Minimum Value** [*-20… -5 … 0*] [*ºC*]
    - **Setpoint Step** [*0,1 … 0,5 … 10*] [*ºC*]
    - **Value to Show** [*Setpoint / Offset*]: defines the value which will be shown.

➢ **Thermostatic Wheel / Slider:**

- [*Absolute*]: the sepoint temperature is displayed using absolute values. A parameter for **Minimum Increment** [*0,1…1…10*] [*ºC*] can be defined, which corresponds to the minimum change that must occur to trigger a new transmission to the bus. In addition, there are **Maximum Value** and **Minimum Value** parameters for heating and cooling modes, similar to those explained previously.
- [*Relative*]: the parameters **Offset: Maximum Value**, **Offset: Minimum Value**, **Minimum Increment** and **Value to Show appear**, similar to those explained previously.

Note: *long and short increments are applied in ºC regardless of the scale used.*

Aditionally, the parameters always available for the configuration of the setpoint box are:

- **Include Plus Sign before Positive Number** [*disabled / enabled*]: sets whether showing or not the "+" sign before positive temperature values. In case of choosing the relative setpoint type showing the offset, this parameter will not appear, as the offset value itself implies the sign.

- **Change of Temperature Scale** [*disabled / enabled*]: replaces the unit indicator with a button/indicator that permits changing the scale of the temperatures shown on the screen. One press on the button/indicator toggles between Celsius scale and Fahrenheit scale.

3.2.1.3.2.2 Fan

This box, in turn, is divided into several boxes in vertical arrangement **for controlling the fan speed**. It is located at the lower left corner of the page and the icons to be displayed depend on the speed levels selected and whether the auto mode is enabled.

When this box is enabled, a certain control object, depending on the control type selected, as well as the "**[Pn][Fan] Percentage Status"** 1-byte status object appear. The status object (which needs to be linked to the status object of the fan actuator) will express, as a percentage, the value of the current fan level, which will be represented with a variable icon on the box.

ETS PARAMETERISATION

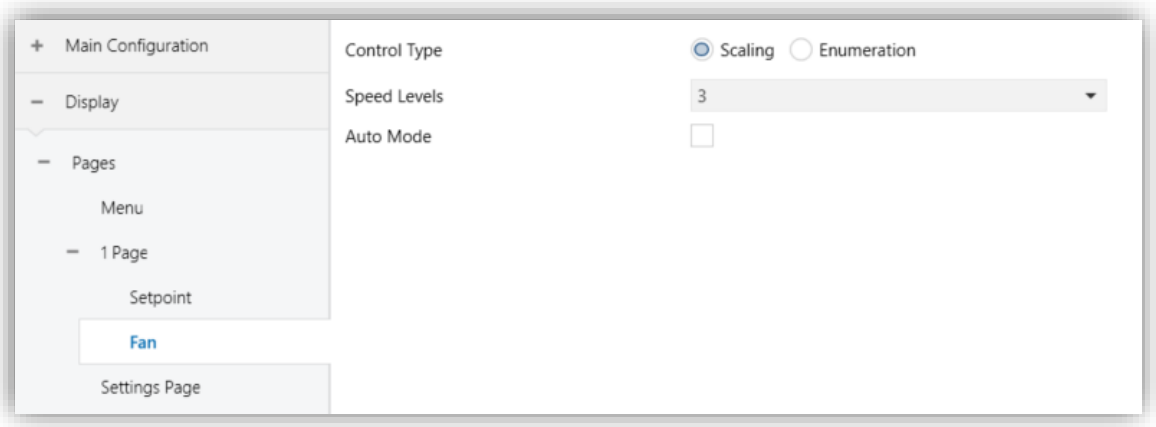

Figure 33. Fan Control.

- **Control Type** [*Scaling / Enumeration*]: depending on the selected option, the fan will be controlled through the objects **"[Pn][Fan] Percentage Control"** or **"[Pn][Fan] Enumeration - Control"** respectively.

- **Speed Levels** [1 / 2 / 3 / 4 / 5]: sets how many speed levels will be available in the control.

- **Auto Mode** [*disabled / enabled*]**:** sets whether the fan Auto mode will be available or not. If checked, the Auto fan mode will be activated by switching to fan level 0 and the following parameter shows up:

  - **Dedicated Object for Auto Mode:** marking the checkbox enables the 1-bit object **"[Pn][Vent.] Fan Control – Auto Mode"**, which will trigger the **Auto mode** when it receives the corresponding value (**Value to Set Auto Mode** [*Send 0 to Set Auto Mode / Send 1 to Set Auto Mode*]) and the AUTO icon will be displayed next to the currently activated speed.

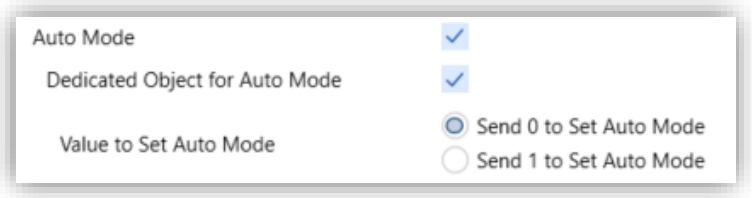

Figure 34. Fan – Dedicated Object for Auto Mode.

3.2.1.3.2.3 ECO Indicator

If the ECO indicator is enabled in the *n Page* tab, limit values are included to classify how environmentally friendly the current setpoint value is.

Heating Mode	Temperatures		Cooling Mode	Temperatures	
Maximum Value	28	ºC	Maximum Value	28	ºC
ECO: Low to Medium	24	ºC	ECO: Medium to High	23	ºC
ECO: Medium to High	21	ºC	ECO: Low to Medium	20	ºC
Minimum Value	17	ºC	Minimum Value	17	ºC

Figure 35. ECO mode temperature values.

- **ECO: Low to Medium** [*-99 … 24 … 199*] [*ºC*]: indicates the temperature at which, when the value decreases, it is considered to be operating in low ECO mode. In cooling mode, the default value is 20ºC.

- **ECO: Medium to High** [*-99 … 21 … 199*] [*ºC*]: indicates the temperature at which, when exceeded, the unit is considered to be operating in high ECO mode. In cooling mode, the default value is 23ºC.

3.2.2 CONTROLS

CX has up to 96 controls that can be enabled from this tab. Thus, a new tab called "*i* Control" will be displayed for each of the *i* enabled controls.

ETS PARAMETERISATION

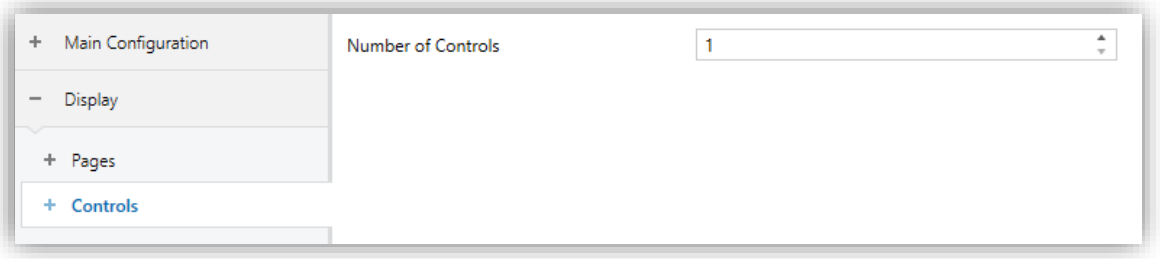

Figure 36. Controls.

- **Number of Controls** [*1…96*]: number of controls that will be available to be configured. For each control a dedicated ETS tab will be shown for configuration.

3.2.2.1 *i* CONTROL

This screen contains the following parameters common to all type of controls:

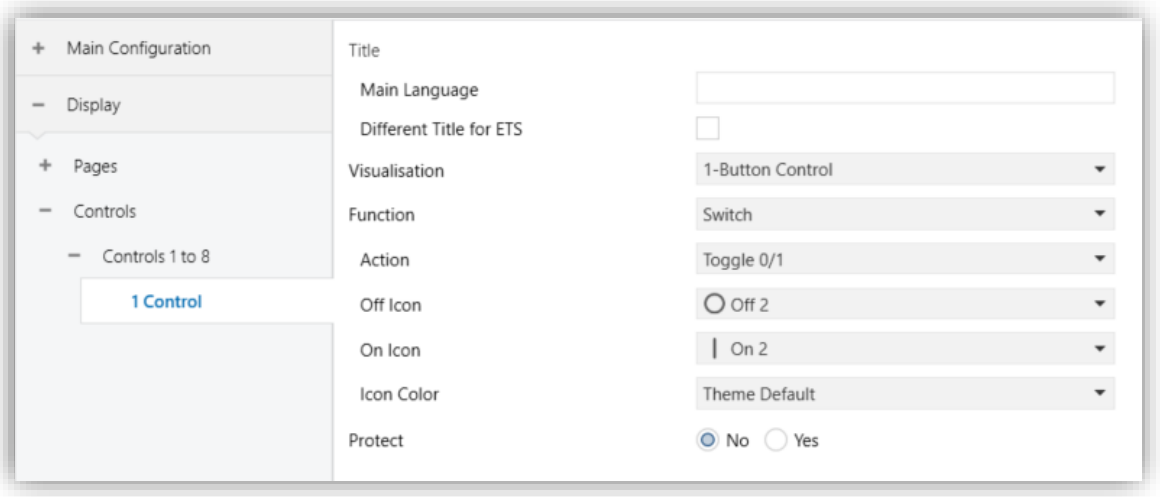

Figure 37. *i* Control.

- **Label**:
  - **Language X**: text field that identifies for the correponding language each of the enabled controls and their communication objects, which are designated with the prefix "**[Cx][Title]**".
  - **Different Title for ETS** [*disabled / enabled*]: allows the text displayed on the screen to be different from that which appears in ETS.
    - **ETS Title**: textbox that will be displayed in ETS to refer to the page.
- **Visualization:** box format. The available box formats are:
  - [*Indicator*]: the box will work as a status indicator.
  - [*1-button Control*]: the box will work as a one-button control.
  - [*2-button Control*]: the box will work not only as a status indicator, but also as a two-button control.
  - [*Climate Control*]: the box will act as a climate indicator and a climate control.
  - [*Other*]: the box will implement some other special functionality.
- **Function:** depending on the "Visualization" type selected, the parameters below will change. The following sections explain the available parameters depending on the visualization type selected.

Afterwards, parameters corresponding to the display may appear if they correspond to the configured control type:

- **Icon** or **Button**: drop-down list with the available icons to show in the indicator(s) and/or button(s) of the box.
- **Icon Colour** [*Theme Default / Colour select by* dropdown]**:** allows to select the colour in which the icon is shown. If "Theme Default" is selected, the colour considered most appropriate for the chosen theme will be used.

Moreover, it is possible to protect with password boxes that are not indicators:

- **Protect**: sets whether the control will be password-protected or not. This function works in the same way as Page *n* security:
  - **One Level**:

- [*No*]: the box will not be protected by password. All users can access it.
- [*Yes*]: the box will be protected by password. Users will be asked to type the password when trying to access it.

➢ **Two Levels**:

- [*No*]: the box will not be protected by password. All users can access it.
- [*Level 1*]: the box will implement security level 1. To access it, users will be required to enter password 1 or password 2.
- [*Level 2*]: the box will implement security level 2. To access it, users will be required to enter password 2.

3.2.2.2 INDICATORS

Controls designed for displaying states, showing a numeric or text value, or displaying an icon permanently or intermittently representing the current value of a communication object.

The functions and the related parameters available are:

3.2.2.2.1 Binary

The control will behave as a binary state indicator. Each of the two states will be shown in the box through the selected icon or text.

When this function is assigned to the box, the **"[Cx][] Switch - Status"** communication object become available. Therefore, when the device receives the value '0' or the value '1' through the aforementioned object, the box will display an icon/text or another.

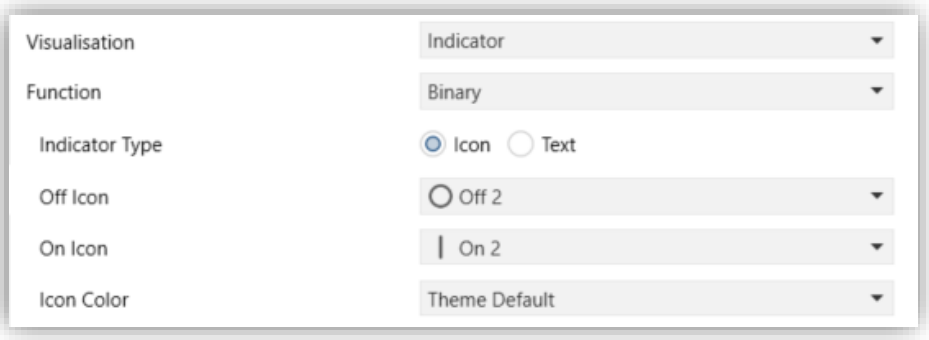

Figure 38. Binary Indicator.

- **Indicator Type** [*Icon / Text*]: allows to choose if the status represented by each indicator value will be text or icon type.

3.2.2.2.2 Enumeration

An icon or text (selectable by parameter) associated with an integer value is displayed, with up to six different values available for configuration.

When this function is assigned to a control, a 1-byte communication object, **"[Cx][] Enumeration - Status"**, will become available. If an unconfigured value is received, no indicator will be displayed on the screen.

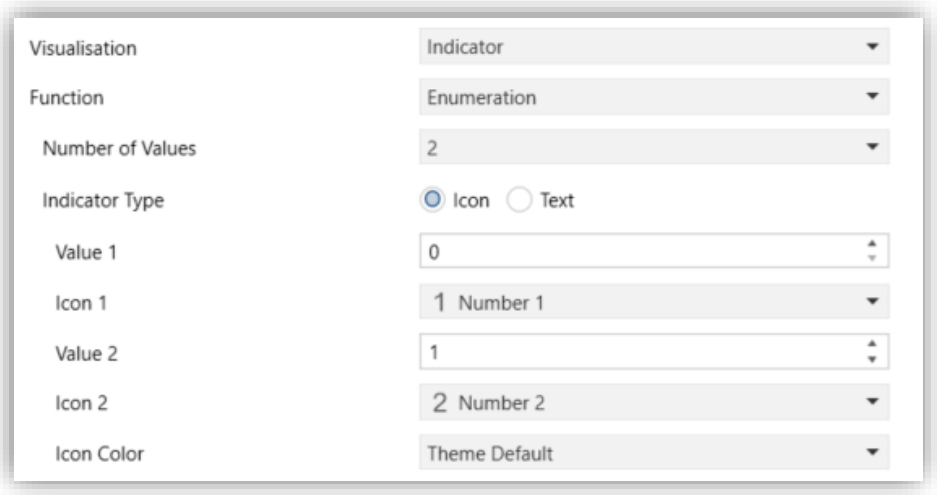

Figure 39. Enumeration Indicator.

- **Number of Values** [*1 / 2 / 3 / 4 / 5 / 6*]: sets the number of states in the listed list. For each of these states, a parameter named **Value** [*0…255*] will be displayed with its corresponding indicator.

- **Indicator Type** [*Icono / Texto*]: allows to choose if the status represented by each indicator value will be text or icon type. As many drop-down lists of icons or text boxes will be displayed as there are statuses enabled in the previous parameter.

3.2.2.3 Numerical Indicators

Indicators configured as "Integer", "Percentage", "Float" and "Temperature" are numerical indicators that display the value of the corresponding communication object enabled at the time that control is assigned to a box.

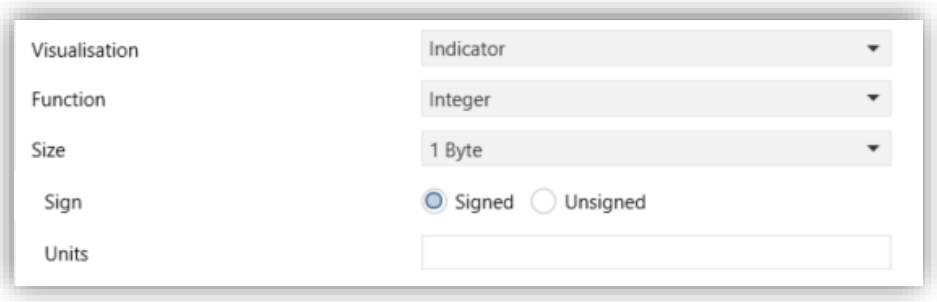

Figure 40. Integer Indicator.

The range of values allowed for each type and the name of the corresponding object are included in the following table.

Función	Tamaño	Signo	Rango	Objeto asociado al control
Integer	*1 Byte*	*Unsigned*	0 – 255	[Cx][] Integer – 1-Byte Unsigned Status
		Signed	-128 – 127	[Cx][] Integer – 1-Byte Signed Status
	2 Bytes	*Unsigned*	0 – 65535	[Cx][] Integer – 2-Byte Unsigned Status
		Signed	-32768 – 32767	[Cx][] Integer – 2-Byte Signed Status
	4 Bytes	*Unsigned*	0 – 4294967295	[Cx][] Integer – 4-Byte Unsigned Status
		Signed	-2147483648 – 2147483647	[Cx][] Integer – 4-Byte Signed Status
Percentage	1 Byte		0 – 100	[Cx][] Percentage - Status
Float	*2 Bytes*		-671088,64 – 670433,28	[Cx][] Float – 2-Byte Status
	4 Bytes		$-3{,}403\text{x}10^{38}$ – $3{,}403\text{x}10^{38}$	[Cx][] Float – 4-Byte Status
Temperature	*2 Bytes*	*Float*	-99 – 199	[Cx][] Temperature - Status

Table 1. Numerical Indicators.

- **Decimal Places** [*0 / 1 / 2*]*:* if the control is set as float, this parameter define the number of decimal displayed in the box.

- **Units:** permits specifying the measuring units of the displayed value.

Note:

➢ *For percentage indicator, the symbol % always will be displayed as unit.*

The temperature indicator will be shown in ºC or ºF depending on the selected scale. In addition, the following parameter will be available for this control type: ***Include Plus Sign before Positive Numbers*** *[disabled / enabled], which shows the '+' sign before positive temperature values.*

3.2.2.2.4 Text

The box will show the text received through the communication object "**[Cx][] Text - Status**".

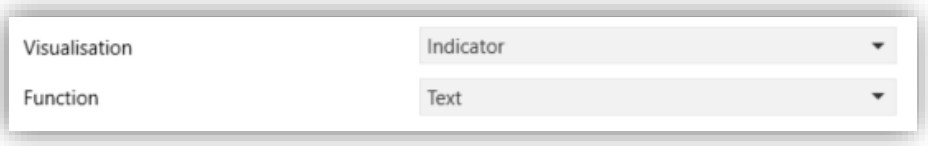

Figure 41. Text Indicator.

Note: *objects associated to the text indicators are stored in salved zone, so its value will be maintained after a restart.*

3.2.2.3 1-BUTTON CONTROL

Boxes configured as 1-button controls show one centred button and a title. There is a parameter (**Function**) that will select the specific function that the control will play.

3.2.2.3.1 Switch

The central button of the box will react to user presses by sending a binary value to the bus through the **"[Cx][] Switch - Control"** object, which turns visible as soon as this function is assigned to the box. In addition, this control will have associated a dedicated object for the box indicator ("**[Cx][] Switch - Status**"), which is automatically updated after the control order is sent and can also receive values from the bus.

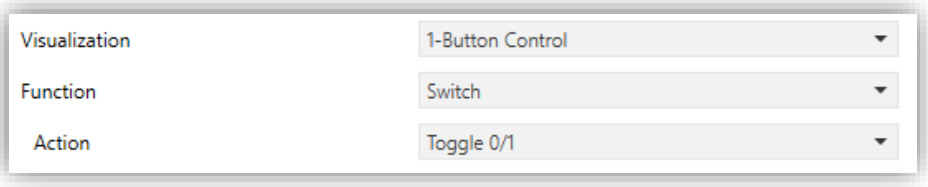

Figure 42. 1-Button Control - Switch.

On the other hand, **Action** permits setting what value will be sent to the bus through the mentioned object, and on what events. The options are:

- [*Send 0*]: one "0" will be sent whenever the button is pressed.
- [*Send 1*]: one "1" will be sent whenever the button is pressed.
- [*Toggle 0/1*]: alternate sending of the values "1" and "0".

3.2.2.3.2 Two Objects (Short Press/Long Press)

The central button in the box will react differently to a short press and to a long press, setting a time threshold to distinguish both types of press by parameter.

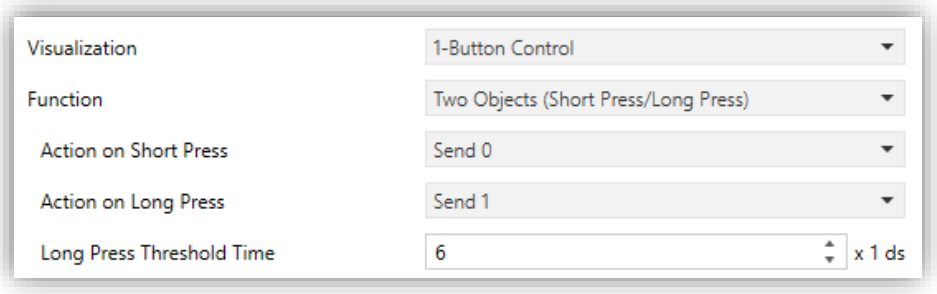

Figure 43. 1-Button Control - Two Objects (Short Press/Long Press).

- **Action on Short / Long Press** [*Send 0 / Send 1 / Toggle 0/1 / Send 1-Byte Unsigned Int Value / Send 1-Byte Signed Int Value / Send 2-Byte Unsigned Int Value / Send 2-Byte Signed Int Value*]: sets what value will be sent to the bus before which events.

  When one of the last four options is selected, the value indicated in **Value** parameter will be sent.

  Different objects are used to send values for short and long pulsations: "**[Cx][] Two objects - Short Press Control**" and "**[Cx][] Two objects - Long Press Control**", respectively.

  If the option chosen is "Send 0", "Send 1" or "Toggle 0/1", the object "**[Cx][] Two objects – Switch Status**" will appear for the box indicator, which is automatically updated after the control order is sent and when values are received from the bus.

- **Long Press Threshold Time** [*4…6…50*] [*ds*]: sets the minimum time the user should hold the button in order to consider it a long press.

3.2.2.3.3 Hold & Release

This control function allows the user to configure sending a binary value on pressing and a different binary value on releasing the button, through the 1-bit object **"[Cx][] Hold & Release – Switch Control"**. In addition, this control will have associated a dedicated object for the indicator ("**[Cx][] Hold & Release – Switch Status**"). The button icon will

change with the value sent by the short press and/or the one received by this indicator object.

Figure 44. 1-Button Control - Hold & Release.

- **Action on Hold / Release** [*Send 0 / Send 1 / Toggle 0/1 / Send 1-Byte Unsigned Int Value / Send 1-Byte Signed Int Value / Send 2-Byte Unsigned Int Value / Send 2-Byte Signed Int Value*]:

3.2.2.3.4 Scene

The central button of the box will react to the different pulses by sending a scene value.

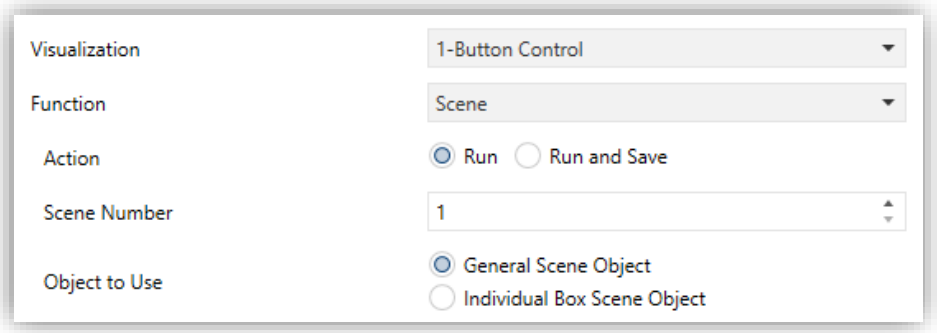

Figure 45. 1-Button Control - Scene.

- **Action** [*Run / Run and Save*]: sets whether the device will only send scene execution orders (after a short press) or if it will be possible, to send scene save orders (after a long press).

- **Scene Number** [*1…64*]: scene value to be sent.

- **Object to Use** [*General Scene Object / Individual Box Scene Object*]: specifies whether the scene value will be sent through the object "**[General] Scenes: Send**" or through the individual object "**[Cx][] Scene: Send Scene Control**".

3.2.2.3.5 Numerical Constant Controls

Whether the box is assigned any of the remaining "constant" control options, the central button in the box will react to user presses by sending a certain numerical value, which is required to be specified under **Object Value**. This numerical value will depend on the constant control type selected to the box (**Function).**

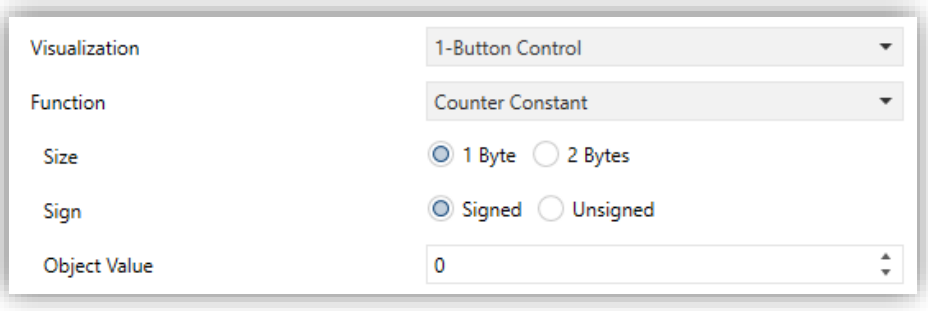

Figure 46. 1-Button Control - Numerical Constant.

Table 2 shows, for every available Function, the permitted value range and the name of the object through which the values are sent to the bus.

Function	Size	Sign	Range	Related Object
Counter	1-Byte	Signed	[-128...0...127]	[Cx][] Integer - 1-Byte Signed Control
		Unsigned	[0…255]	[Cx][] Integer - 1-Byte Unsigned Control
	2-Byte	Signed	[-32768…32767]	[Cx][] Integer - 2-Byte Signed Control
		Unsigned	[0…65535]	[Cx][] Integer - 2-Byte Unsigned Control
Scaling	1-Bte		[0... 100]	[Cx][] Percentage - Control
Float	2-Byte		[-671088,64…0…670433,28]	[Cx][] Float - 2-Byte Control

Table 2. Numerical Constant Control.

- **Decimal Places** [*0 / 1 / 2*]*:* if the control is set as float, this parameter defines the number of decimal places displayed in the box.

- **Units:** permits specifying the measuring units of the displayed value. For percentage indicators, the symbol % always will be displayed as unit.

3.2.2.3.6 Enumeration

The box will be provided with two communication objects, control object "**[Cx][] Enumeration - Control**" and the status "**[Cx][] Enumeration - Status**", both of 1-byte and with the possibility of distinguishing up to six states.

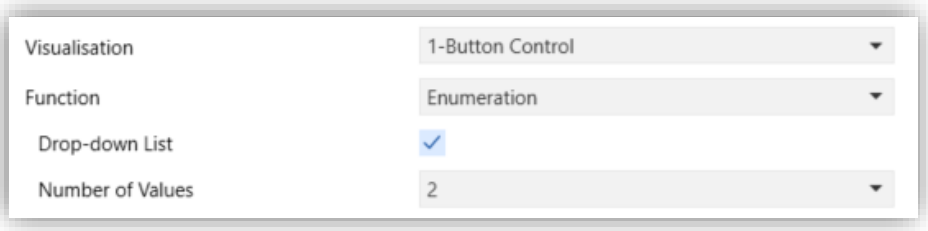

Figure 47. 1-Button Control - Enumeration.

- **Drop-down List** [*disabled / enabled*]**:** if disabled, the behaviour of the box that contains this control is similar to the switch control, but with up to 6 states instead of 2. If, on the other hand, is enabled, a drop-down list will appear with all the options enabled in the **Number of Values** parameter.

Figure 48. 1-Button Control - Enumeration - Droplist.

- **Number of Values** [*1 / 2 / 3 / 4/ 5/ 6*]: sets the number of states in the enumerated list. For every distinguished state, the parameter **Value** [*0…255*] will become available together with the corresponding indicator.

3.2.2.3.7 Shutter

If this function is assigned to the box, precise control of shutter movements can be performed. If the control button is pressed, the following pop-up is launched:

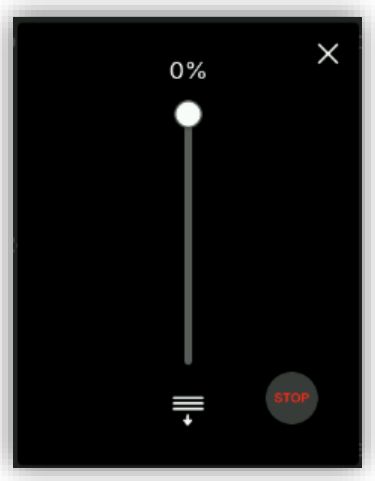

Figure 49. 1-Button Control – Shutter Pop-up.

The control has a numeric indicator that shows the current position, corresponding to last value received through the object "**[Cx][] Shutter – Percentage Control**". This position can be modified throught the control sent through the object "**[Cx][] Shutter – Percentage Status**".

The movement of the shutter will be stopped by clicking on the button in the lower right corner of the pop-up. The command to be sent, through the object "**[Cx][] Shutter - Stop/Step Control**", will depend on the shutter position at the moment (*0% → 1 = Stop/Step Down; 1%-100% → 0 = Stop/Step Up*).

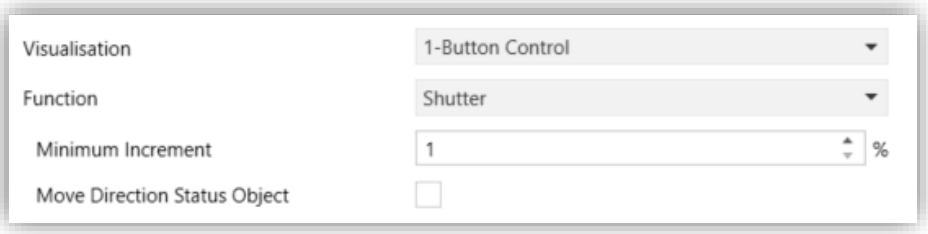

Figure 50. 1-Button Control – Shutter.

- **Minimum Increment** [*1….100*] [*%*]*:* minimum percentage difference for a change to occur in the slider.

- **Move Direction Status Object** [*disabled / enabled*] [*%*]*:* when enabled, the object "**[Cx][] Shutter – Movement Direction Status**" appears, which allows t osee the direction of the movement of the blind.

3.2.2.3.8 Dimmer

Enables precise lighting control, being able to control both the brightness level and the colour temperature of a luminaire.

Clicking on the box button will launche a control pop-up. This dialog always has a slider for controlling the lighting level and, depending on the parameterisation, an additional slider for the colour temperature, as shown in Figure 51. 1-Button Control - Dimmer Pop-up.. The control commands are sent via the objects "**[Cx][] Light – 1-Byte Percentage Control**" and "**[Cx][] Light - Colour Temperature Control**".

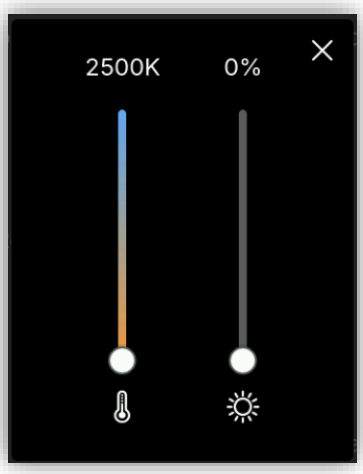

Figure 51. 1-Button Control - Dimmer Pop-up.

Both sliders feature an indicator showing the current value of the dimming and colour temperature, corresponding to the last value received through the objects "**[Cx][] Light – Percentage Status**" and "**[Cx][] Light - Colour Temperature Status**" respectively.

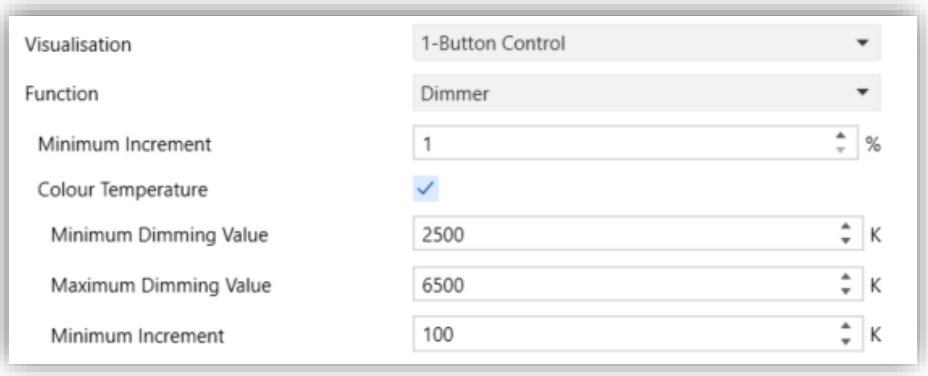

Figure 52. 1-Button Control - Dimmer.

- **Minimum Increment** [*1….100*] [*%*]*:* minimum percentage difference for a change to occur in the slider.

- **Colour Temperature** [*disabled / enabled*]: enables a second slider for the Colour temperature, depending on the temperature selected, the warmth of the Colour will be different.

  - **Minimum Dimming Value** [*1000 …2500… 20000*] [*K*]
  - **Maximum Dimming Value** [*1000 … 6500 … 20000*] [*K*]
  - **Minimum Increment** [*1 … 100 … 1000*] [*K*]

3.2.2.3.9 Room State

Configuring with this function the box, controlling the states of the room will be possible. Thus, pressing on the button will cause the room status to switch between *Normal*, *Make Up Room* and *Do Not Disturb.* The switched values are sent to the bus via the 1-byte object "**[Cx][] Room State - Control**".

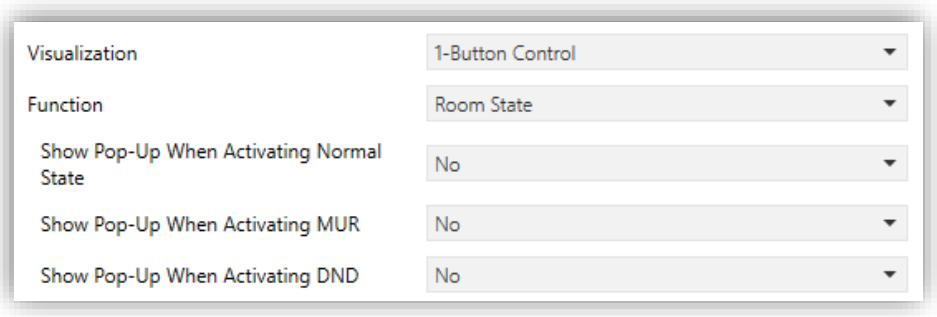

Figure 53. 1-Button Control - Room State.

- **Show Pop-Up When Activating Normal**: [*No / Pop-Up 1/…/ Pop-Up 6*]: allows to select the pop-up to be displayed when the Normal mode is activated.
- **Show Pop-Up When Activating MUR**: [*No / Pop-Up 1/…/ Pop-Up 6*]: allows to select the pop-up to be displayed when the Make Up Room mode is activated.
- **Show Pop-Up When Activating DND**: [*No / Pop-Up 1/…/ Pop-Up 6*]: allows to select the pop-up to be displayed when the Do Not Disturb mode is activated.

  Note: *the pop-ups selected must be activated (see section 3.1.8.2).*

This control will have associated a dedicated object for the indicator ("**[Cx][] Room State - Status**"), which is automatically updated after the control order is sent and when values are received from the bus.

3.2.2.4 2-BUTTON CONTROL

Boxes configured as 2-button controls consist in an indicator and two buttons that, when touched, trigger the sending of an action to the KNX bus through a certain object.

As a general rule, most of the 2-button controls permit configuring a pair of parameters, **Left button** and **Right button**, each containing a dropdown list for the selection of the icons to be displayed inside the buttons in the box.

Note: *when multiple presses are made consecutively on the buttons of a control that regulates (e.g. increases / decreases) the value of a certain variable, only the final value selected by the user will be sent to the bus, to prevent an unnecessary bus traffic due to all the intermediate values.*

On the other hand, the **Function** parameter contains a dropdown list for the selection of the particular two-button control type to be assigned to the box. The available options (and their related parameters) are:

3.2.2.4.1 Switch

When the user presses any of the buttons, the device will send a parameterised binary value to the bus through the object **"[Cx][] Switch - Control"**, while the status object "**[Cx][] Switch - Status**" will determine the icon or text shown in the box. The indicator will be updated automatically after each control order and when receiving values from the bus.

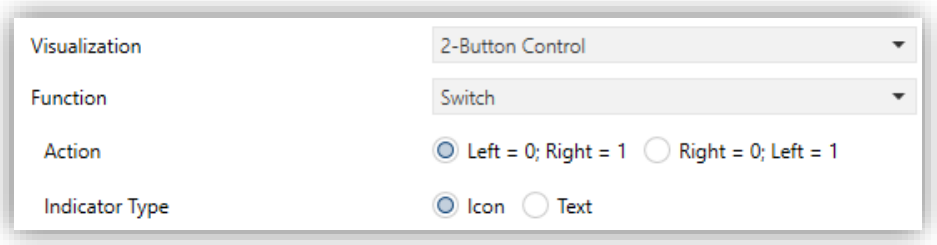

Figure 54. 2-Button Control - Switch.

The parameters available are:

- **Action** [*Left = 0; Right = 1 / Right = 0; Left = 1*]: sets the value to be sent when pressing each of the two buttons.
- **Indicator Type** [*Icon / Text*]: sets whether the indicator of the control will be a text indicator (two text fields wild be displayed to introduce the corresponding

texts for “0” and “1”) or an icon indicator (two drops lists will be displayed to select the corresponding icons for “0” and “1”).

3.2.2.4.2 Switch + Indicator

Like the previous control, when the user presses any of the buttons, CX will send a parameterised binary value to the bus through the object **"[Cx][] Switch - Control"**. However, the indicator is independent; it will be updated according to the value received by the dedicated object.

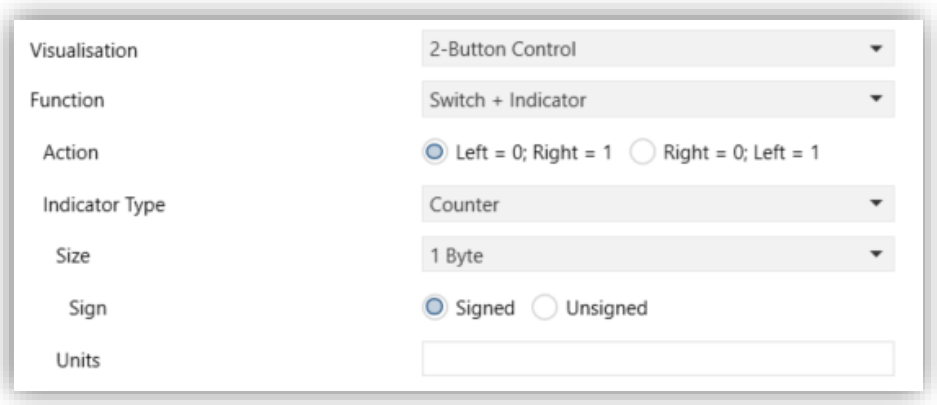

Figure 55. 2-Button Control - Switch + Indicator.

- **Action** [*Left = 0; Right = 1 / Right = 0; Left = 1*]: sets the value to be sent when pressing each of the two buttons.

- **Indicator Type** [*Counter / Scaling / Temperature*]: sets the indicator type. According to the selected indicator the objects “**[Cx][] Integer - x-Byte Signed Status”**, **“[Cx][] Percentage - Status”**, **“[Cx][] Temperature - Status”** will be enabled respectively.

  When selecting “Counter” type, the following parameters appear:

  - **Size** [*1 Byte / 2 Bytes / 4 Bytes Signed Int*]: size of the indicator object.
    - **Sign** [*Signed / Unsigned*]**:** sign of the ind6icator object.
  - **Units**: text field to set the measurement unit displayed next to the indicator.

  When selecting “Temperature” type, the following parameter appear:

  - **Include Plus Sign before Positive Number** [*disabled / enabled*]

3.2.2.4.3 Two Objects (Short Press/Long Press)

Control for sending specific binary values both after a short or a long press on any of the two buttons (i.e., they will work as a joint control; for independent buttons, please configure them as 1-button controls). Two different objects are used to send values for short and long pulsations, "**[Cx][] Two Objects - Short Press Control**" and "**[Cx][] Two Objects - Long Press Control**".

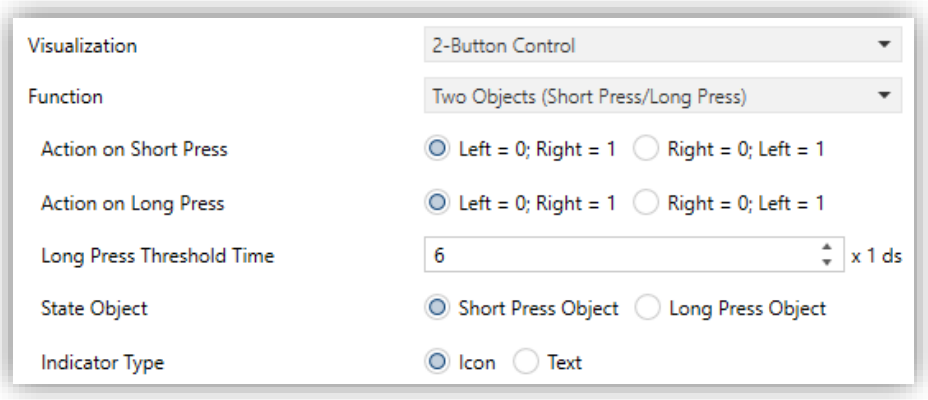

Figure 56. 2-Button Control - Two Objects (Short Press/Long Press).

- **Action on Short / Long press** [*Left = 0; Right = 1 / Right = 0; Left = 1*]: sets the value to be sent when short / long pressing each of the two buttons.

- **Long Press Threshold Time** [*4…6…50*], sets the minimum time the user should hold the button in order to consider it a long press.

- **State Object** [*Short Press Object / Long Press Object*]: allows setting the control command to which the status indicator, "**[Cx][] Two Objects – Switch Status**", will obey. This object can also receive values from the bus.

- **Indicator Type** [*Text / Icon*]: sets whether the indicator of the control will be a text indicator (two text fields wild be displayed to introduce the corresponding texts for "0" and "1") or an icon indicator (two drops lists will be displayed to select the corresponding icons for "0" and "1").

3.2.2.4.4 Numerical Controls (Counter, Scaling and Float)

If the box is assigned any of the numerical functions "Counter", "Scaling" or "Float", user touches over the buttons will trigger the sending of a certain numerical value to the bus. This value will be progressively increased or decreased with every touch on one button or the other, through the control object, while the box itself will permanently reflect the

current value of the control object and/or the corresponding status object. This object can also receive values from the bus.

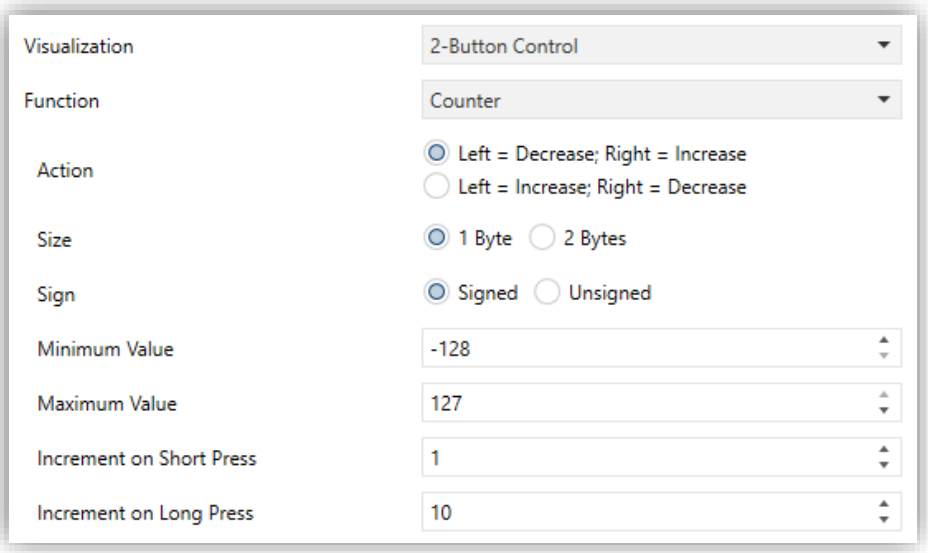

Figure 57. 2-Button Control - Numeric.

The parameters available are:

- **Action** [*Left = Decrease; Right = Increase* / *Left = Increase; Right = Decrease*]**:** sets which of the two buttons will increase the current numerical value and which will decrease it on user presses.
- **Minimum Value**: sets which value from the available range will be the minimum value permitted by the control after a number of presses on the decrease button.
- **Maximum Value**: sets which value from the available range will be the maximum value permitted by the control after a number of presses on the increase button.
- **Increment on Short Press**: sets the increase or decrease to be applied to the current value on every short press over the increase or decrease buttons, respectively.
- **Increment on Long Press**: sets the increase or decrease to be applied to the current value on every long press over the increase or decrease buttons, respectively.

Whether the selected **function** is counter type, two additional options will be enabled:

- **Size** [*1 Byte* / *2 Bytes*]: size of the indicator object.

- **Sign** [*Signed / Unsigned*]**:** sets whether the range includes negative values or only positive values.

The diferent types of configurable 2-buttons controls are listed in the following table:

Function	Size	Sign	Minimum Value	Maximum Value	Increment on short press	Increment on long press	Related Object
Counter	*1 Byte*	*Signed*	[*-128…127*]	[*-128…127*]	[*1…127*]	[*1…10…127*]	[Cx] [] Integer - 1-Byte Signed Control [Cx] [] Integer - 1-Byte Signed Status
		Unsigned	[*0…255*]	[*0…255*]	[*1…255*]	[*1…10…255*]	[Cx] [] Integer - 1-Byte Unsigned Control [Cx] [] Integer - 1-Byte Unsigned Status
	2 Byte	*Signed*	[*-32768…32767*]	[*-32768…32767*]	[*1…32767*]	[*1…32767*]	[Cx] [] Integer - 2-Byte Signed Control [Cx] [] Integer - 2-Byte Signed Status
		Unsigned	[*0…65535*]	[*0…65535*]	[*1…65535*]	[*1…65535*]	[Cx] [] Integer - 2-Byte Unsigned Control [Cx] [] Integer - 2-Byte Unsigned Status
Scaling	1 Byte		[*0… 100*]	[*0… 100*]	[*1…100*]	[*1…10…100*]	[Cx] [] Percentage - Control [Cx] [] Percentage - Status
Float	2 Byte		[*-671088,64… …670433,28*]	[*-671088,64… …670433,28*]	[*0.1…0,5… …670433,28*]	[*0.1…1… …670433,28*]	[Cx] [] Float - 2-Byte Control [Cx] [] Float - 2-Byte Status

Table 3. 2-buttons Numeric Control.

3.2.2.4.5 Enumeration

The box will behave analogously to the case of the switch control, however the communication objects (control object "**[Cx][] Enumeration - Control**" and the status "**[Cx][] Enumeration - Status**") will be 1-byte. Up to six discrete states can be distinguished depending on the value that the status object acquires from the control or receives from the bus.

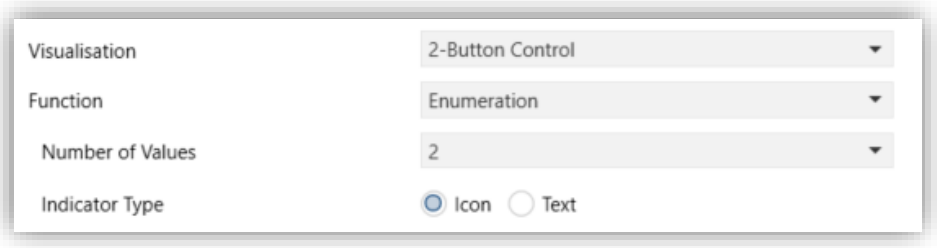

Figure 58. 2-Button Control - Enumeration.

The parameters available are:

- **Number of Values** [*1 / 2 / 3 / 4 / 5 / 6*]: number of states that will be distinguished. For every distinguished state, the parameter **Value** [*0…255*] will become available together with the corresponding indicator (either **Text** or **Icono**).

- **Indicator Type** [*Icon / Text*]: sets whether the indicator of the control will be a text or an icon. If a **text indicator** is selected, a textbox will be added for each state. In the caso of an **icon indicator**, a drop list will be added for each state to set the corresponding icon.

3.2.2.4.6 Shutter

Shutter control permits sending move up, move down (**"[Cx][] Shutter – Move Control"**) or stop (**"[Cx][] Shutter – Stop/Step Control"**) to control a shutter actuator connected to the bus by pressing the buttons in the box. In addition, the box will contain an indicator that will permanently show, as a percentage, the value of the status object (**"[Cx][] Shutter Position"**).

The central indicator can also behave as a button, so that clicking on it launches a dialog for **precise control**. The precise positioning commands will be sent through the object **"[Cx][] Shutter – Percentage Status"**.

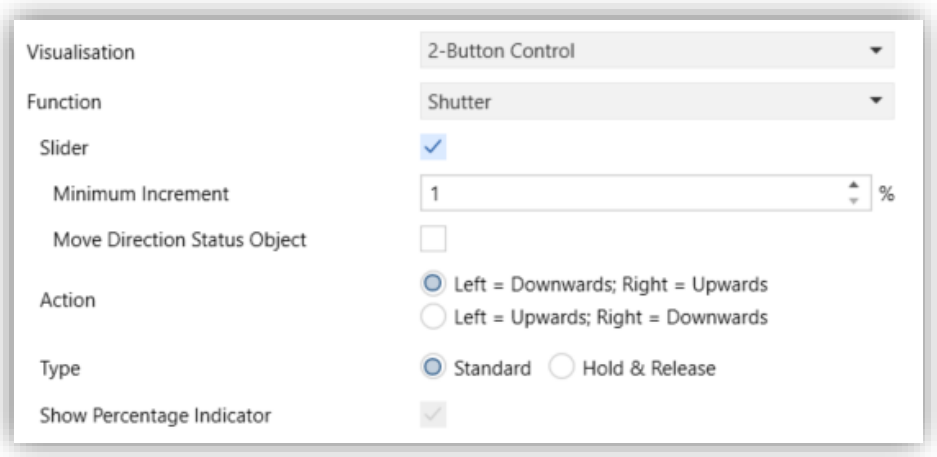

Figure 59. 2-Button Control - Shutter.

- **Slider** [*disabled / enabled*]: if enabled, the central indicator will behave as a button that will open a pop-up, similar to the one mentioned for the one-button shutter control (see Figure 49. 1-Button Control – Shutter Pop-up.), which will allow precise control of the shutter position.

  - **Minimum Increment** [*1…100*] [*%*]*:* minimum percentage difference for a change to occur in the slider.

  - **Move Direction Status Object** [*disabled / enabled*]: when enabled, the object "**[Cx][] Shutter – Movement Direction Status**" appears, which allows you to see the direction of movement of the shutter.

- **Action** [*Left = Downwards; Right = Upwards / Right = Upwards; Left = Downwards*]: sets which of the two buttons will send the move up orders and which the move down orders.

- **Type**:
  - [*Standard*]: a long press will make the device send to the KNX bus an order to start moving the shutter (up or down, depending on the button), while a short press will make it send a stop (or step up / step down) order.
  - [*Hold & Release*]: as soon as the button is held, the device will send the KNX bus an order to start moving the shutter (up or down, depending on the button). Once the button is released, it will send an order to stop and step up / step down.

- **Show Percentage indicator** [*disabled / enabled*]**:** enables or disables the shutter position indicator (in percentage) in the box. If **Slider** is active, disabling it will not be possible.

3.2.2.4.7 Dimmer

The light control function permits making use of the two buttons in the box to send orders to a light dimmer, either through a binary object or through a 4-bit object. Moreover, the box will permanently display the current value of the dimming status object ("**[Cx][] Light – Percentage Status**"), which needs to be linked to the analogous object from the dimmer (as it does not get automatically updated on button presses).

The central indicator can also behave as a button, so that pressing it launches a pop-up for precise dimming of the lighting and colour temperature. These dimming commands are sent through the objects "**[Cx][] Light – 1 Byte Percentage Control**" and "**[Cx][] Light – Colour Temperature Control**", respectively.

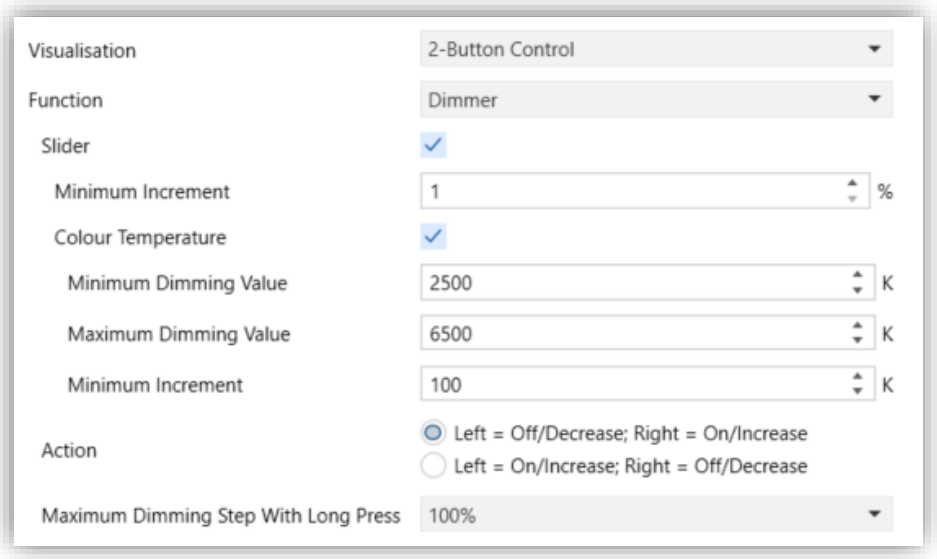

Figure 60. 2-Button Control – Dimmer.

The parameters available are:

- **Slider** [*disabled / enabled*]: the lighting percentage can be adjusted using a slider by clicking on the central icon. In addition, with this option selected, the following will be enabled:

  - **Minimum Increment** [*1…100*] [*%*]*:* minimum percentage difference for a change to occur in the slider.

  - **Colour Temperature** [*disabled / enabled*]: enables the second slider within the Dimmer control dialog. This slider indicates the colour temperature, which, depending on the defined limits, will set the warmth of the Colour.

    - **Minimum Dimming Value** [*1000 …2500… 20000*] [*K*]
    - **Maximum Dimming Value** [*1000 … 6500 … 20000*] [*K*]
    - **Minimum Increment** [*1 … 100 … 1000*] [*K*]

- **Action** [*Left = Off/Decrease; Right = On/Increase / Left = On/Increase; Right = Off/Decrease*]**:** sets the polarity of the buttons to send a command to switch off/decrease and switch on/increase.

- **Maximum Dimming Step With Long Press** [*100% / 50% / 25% / 12.5% / 6.25% / 3.1% / 1.5%*]: sets the increase or decrease in the light level that will be requested, via object "**[Cx][] Light – 4-bits Dimming Control**", from the dimmer with each long press on the right or left button respectively.

After a short press on the “turn on” button the value “1” will be sent through the “**[Cx][] Light - On/Off**” binary object, while a short press on the “turn off” button will trigger the sending of the value “0”.

Note: *most light dimmers implement light step dimming progressively (i.e., sending a dimmer a step order of 25% typically does not imply that the light level is suddenly incremented/decremented by 25%, but a progressive increment or decrement of the light level by 25% which is in fact interrupted if a stop order arrives (such order is sent by the device when the user releases the button). Due to this behaviour, it is advised to parameterise dimming steps of 100%, so that the user can perform a complete dimming (from totally off to totally on, or vice versa) or a partial dimming by simply holding the button and then releasing it as soon as he gets the desired light level, therefore with no need of performing successive long presses for regulations greater than the parameterised step*.

3.2.2.4.8 Multimedia

Tapping on one of the two buttons will send a binary value to the bus, while pressing on the other will make it send the inverse binary value.

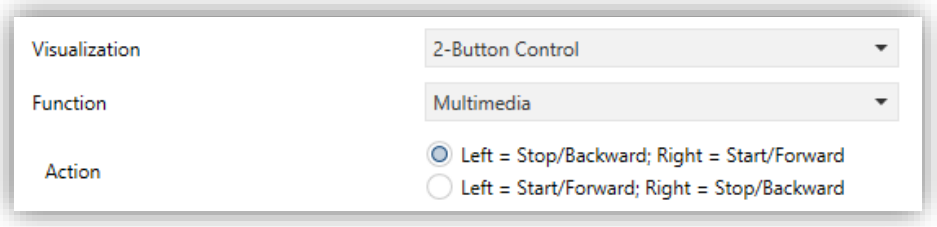

Figure 61. 2-Button Control - Multimedia.

- **Action** [*Left = Stop/Backward; Right = Start/Forward / Left = Start/Forward; Right = Stop/Backward*]: sets which of the two buttons will send the Stop/Backward orders and which one the Start/Forward orders.

The orders will be sent to the bus through the 1-bit object “**[Cx][] Multimedia - Control**”, while the indicator values should be received through the object “**[Cx][] Multimedia - Status**”.

3.2.2.4.9 Room State

Configuring with this function the box, controlling the states of the room will be possible, as well as show the associated pop-up. Thus, pressing on the top button will cause the room status to switch between *normal* and *Make Up Room*, while with the bottom button,

the state will be switch between *normal* and *Do Not Disturb.* The switched values are sent to the bus via the 1-byte object "**[Cx][] Room State - Control**".

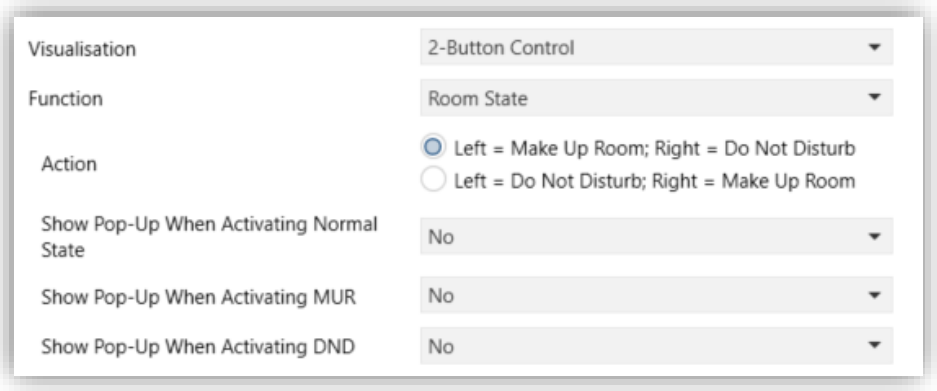

Figure 62. 2-Button Control - Room State.

- **Action** [*Left = Make Up Room; Right = Do Not Disturb; Left = Do Not Disturb; Derecha = Make Up Room*]: determines the polarity of the buttons.

- **Show Pop-Up When Activating Normal State** [*No / Pop-Up 1 / … / Pop-Up 6*]: allows to select the pop-up to be displayed when *normal* mode is activated.

- **Show Pop-Up When Activating MUR** [*No / Pop-Up 1 / … / Pop-Up 6*]: allows to select the pop-up to be displayed when *Make Up Room* mode is activated.

- **Show Pop-Up When Activating DND** [*No / Pop-Up 1 / … / Pop-Up 6*]: allows to select the pop-up to be displayed when *Do Not Disturb* mode is activated.

  Note: *the pop-ups selected must be activated (see section 3.1.8.2)*.

This control will have associated a dedicated object for the indicator ("**[Cx][] Room State - Status**"), which is automatically updated after the control order is sent and when values are received from the bus. It will also have two 1-bit objects that will indicate whether each status (MUR or DND) is activated or not: "**[CX][] Room State – Make Up Room (Status)**" and "**[CX][] Room State – Do Not Disturb (Status)**".

3.2.2.5 CLIMATE CONTROL

This category covers a set of functions related to the climate control. The available options for **Function (**and for the dependent parameters) are detailed in the following sections.

3.2.2.5.1 Temperature Setpoint

This function permits **controlling the temperature setpoint of an external thermostat** by means of a two-button box and of the objects enabled to that effect: "**[Cx][] Setpoint – Temperature Control**" and "**[Cx][] Setpoint – Temperature Status** " for the status.

The control will permanently reflect the value in ºC (o ºF) of the status object, whose value gets automatically updated after sending control orders (that is, after pressing the buttons), being even possible to receive values from the bus, for example, from the corresponding setpoint status object from the external thermostat.

Therefore, after every press on the temperature increment button, the bus will be sent (through the control object) a certain value, progressively increased on every button press until the parameterisable maximum setpoint value has been reached. Analogously, after every press on the temperature decrement button, the bus will be sent a progressively decreased value until the parameterisable minimum setpoint value has been reached.

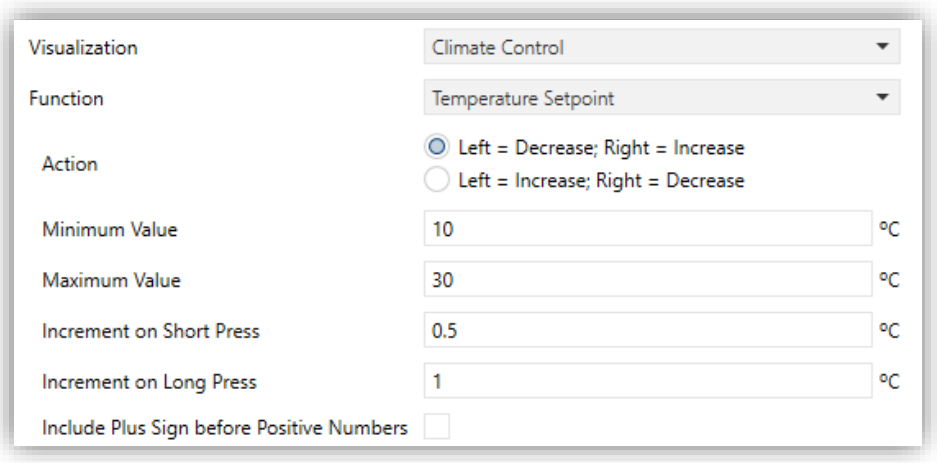

Figure 63. Climate Control - Temperature Setpoint.

The available parameters are:

- **Action** [*Left = Decrease; Right = Increase* / *Right = Increase; Left = Decrease*]: sets which of the two buttons will permit increasing the setpoint value and which one will permit decreasing it.
- **Minimum Value** [*-99…10…199*]: minimum value than can be reached by the control after a number of presses on the decrease button
- **Maximum Value** [*-99…30…199*]: maximum value than can be reached by the control after a number of presses on the increase button.

- **Increment on Short Press** [*0.1…0.5…10*]: sets the increase or decrease step to be applied to the current value on every short press over the increase or decrease buttons, respectively.

- **Increment on Long Press** [*0.1…1…10*]: sets the increase or decrease step to be applied to the current value on every long press over the increase or decrease buttons, respectively.

  Note: *long and short increments are applied in ºC regardless of the scale used.*

- **Include Plus Sign before Positive Number** [*disabled / enabled*]: sets whether showing or not the "+" sign before positive temperature values.

3.2.2.5.2 Mode

This function turns the box into a climate mode control.

When this type of mode control is assigned to the box, two communication objects are enabled: the "**[Cx][] Mode - Control**" and "**[Cx][] Mode - Status**". Depending on the mode selected by the user, the control object will be sent to the bus a certain value, after which the box will display the icon that corresponds to the new mode.

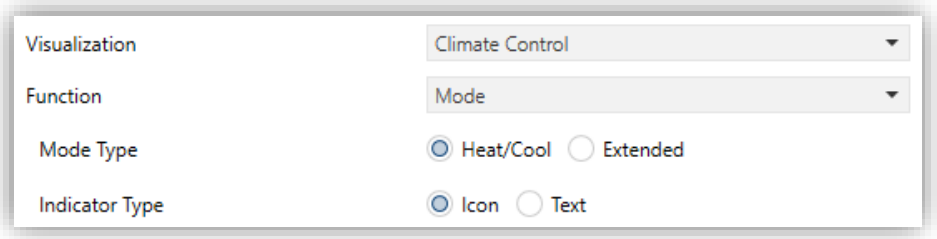

Figure 64. Climate Control - Mode (Heat/Cool).

- **Mode Type:**

  - [*Heat/Cool*]**:** selecting this type of mode control turns the box into a 2-button control one of which will activate the Heat mode, while the other one will activate the Cool mode. A centred indicator will reflect, as an icon, the currently active mode.

    Depending on the mode selected by the user, the control object will be sent to the bus a certain value (see Table 4). Also, the box indicator will automatically alternate between one icon and another when a mode change is performed.

Mode	Icon	Sent Value

Cool		0
Heat		1

Table 4. Heat/Cool Mode vs. Icons vs. Object Value.

- [*Extended*]**:** selecting this type of mode control turns the box into a 2-button control, which permit sequentially commuting among the different HVAC climate modes. A centred indicator will reflect, as an icon, the currently active mode.

  Up to five modes [*Auto / Heat / Cool / Fan / Dry*] are available, each of which can be in ETS by means of the proper checkbox, which permits setting which of all the five extended modes will be included into the sequential scrolling implemented by the buttons.

  Depending on the mode selected by the user, the control object will be sent to the bus a certain value (see Table 5), after which the box will display the icon that corresponds to the new mode. Additionally, if the status object receives from the bus a value that represents any of the modes, the box will adopt the corresponding icon, while if an unrecognised value is received, no icon will be shown.

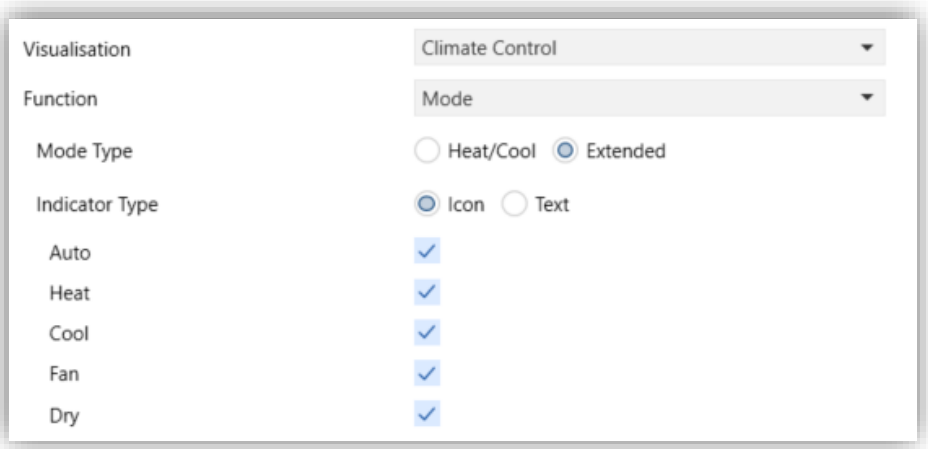

Figure 65. Climate Control - Mode Extended.

Mode	Icon	Sent Value
Auto		0 (0x00)
Heat		1 (0x01)
Cool		3 (0x03)
Fan		9 (0x09)
Dry		14 (0x0E)

Table 5. HVAC Mode vs. Icon vs. Object Value.

- **Indicator Type** [*Icon / Text*]: allows selecting whether the status indicator which each value is represented will be text type or icon type. If text type is set, as many text boxes will be displayed as modes have been enabled. The icons are fixed (see Table 4 and Table 5).

3.2.2.5.3 Fan

This function implements a 2-button (increase/decrease) fan control, as well as an icon indicator.

When this function is assigned to the box, a control object and a 1-byte status object "**[Cx][] Fan – Percentage Status**" are enabled. The status object (which needs to be linked to the status object of the fan actuator) will express, as a percentage, the value of the current fan level, which will be represented with a variable icon on the box.

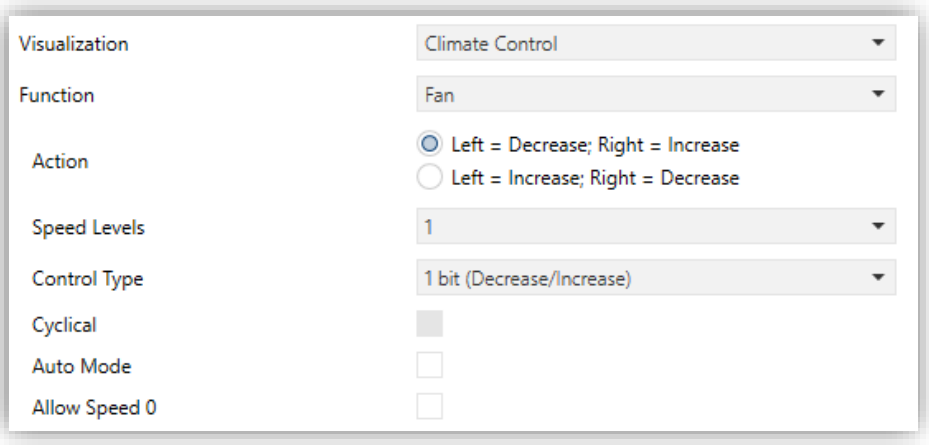

Figure 66. Climate Control - Fan.

- **Action** [*Left = Decrease; Right = Increase / Left = Increase; Right = Decrease*]**:** permits setting the increase or decrease actions to one button or another.

- **Speed Levels** [*1…5*]**:** sets how many speed levels will be available in the control.

- **Control Type**: sets the type of the communication objects that will control the fan level.

  - [*1 bit (decrease/increase)*]: orders of speed increase/decrease are sent through the one-bit object **"[Cx][] Fan – Swich Control"**.

  - [*Scaling*]: scaling values are sent through the one-byte object **"[Cx][] Fan - Percentage Control"**.

  - [*Enumeration*]: integer values are sent through the one-byte object **"[Cx][] Fan – Enumeration Control"**.

- **Cyclical** [*disabled / enabled*]: sets whether scrolling through the speed levels is circular or not. If checked, an increase order in the maximum level switches to the minimum and vice versa (in the minimum level a decrease order switches to the maximum). If the control is 1 bit, it will not be possible to enable this parameter.

- **Auto Mode** [*disabled / enabled*]: sets whether the fan Auto mode will be available or not. If checked, the following parameters are also shown.

  - **Dedicated Object for Auto Mode:** sets how the Auto mode should be activated. In the absence of a dedicated object, the Auto fan mode will be activated by switching to fan level 0.

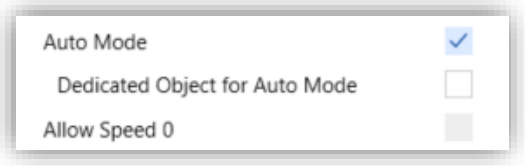

Figure 67. Climate - Fan – Auto mode.

In this case (supposing that Speed Levels has been set to "3"), the fan levels that can be navigated through short presses are:

Auto (0)	Minimum	Medium	Maximum

On the other hand, marking the checkbox enables the 1-bit object **"[Cx][] Fan – Auto Mode"**, which will trigger the **Auto mode** when it receives the corresponding value (**Value to Set Auto Mode** [*Send 0 to Set Auto Mode / Send 1 to Set Auto Mode*])**.**

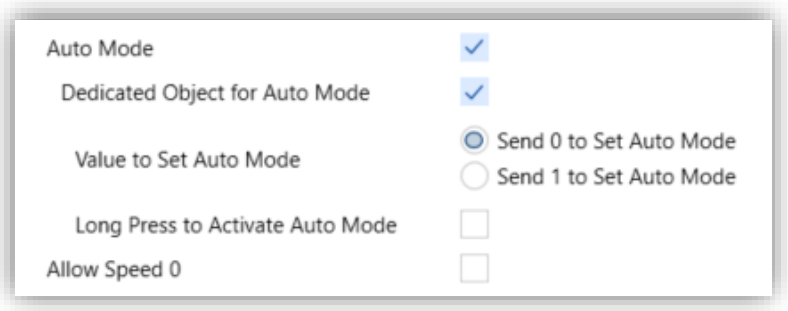

Figure 68. Climate - Fan – Dedicated Object for Auto mode.

However, two alternative (and mutually exclusive) methods are possible to activate this mode:

- By short press: Auto mode can be reached as a further level above the maximum one. In this case the fan levels activated by short presses are (note that speed 0 is optional):

(0)	Minimum	Medium	Maximum	Auto

- By long press on any of the buttons of the control (requires checking "Long Press to Activate Auto Mode").
- A further long press deactivates back the Auto mode and sends the minimum fan level. Instead, a short press deactivates the Auto mode and switches to the next level (or previous, depending on the button). In this case the fan levels reachable through short presses are (speed 0 is optional):

(0)	Minimum	Medium	Maximum

- **Allow speed 0** [*disabled / enabled*]: sets whether the speed level 0 will be present or not. When the **Auto Mode without a dedicated object** has been configured, this option will be necessarily activated.

3.2.2.5.4 Special Mode

Boxes configured as **Special Mode** controls include two buttons that let the user sequentially commute between the different special climate modes, as well as an icon indicator of the the currently active special mode.

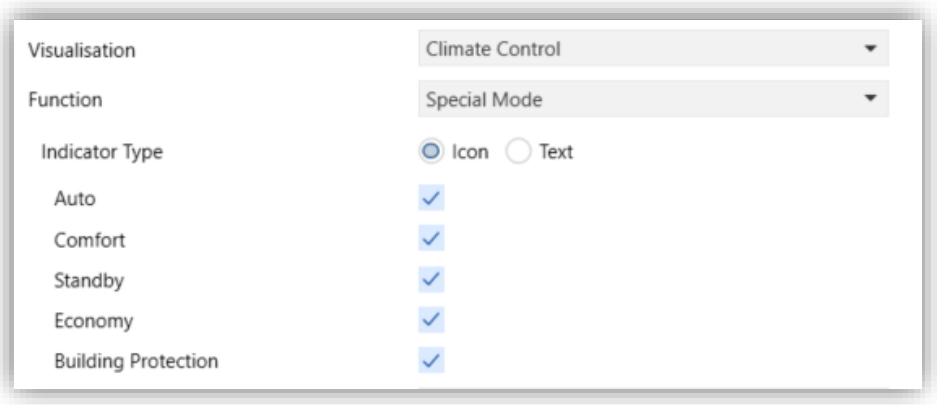

Figure 69. Climate Control - Special Mode.

When this function is assigned to the box, two 1-Byte objects "**[Cx][] Special Mode - Control**" and "**[Cx][] Special Mode - Status**" will be enabled. Through the former object will be sending the bus the value that corresponds to the mode that the user selects by touching the buttons (see Table 6). The box itself will permanently reflect the current value of the control object and/or the corresponding status object. This status object can also receive values from the bus.

If this object receives an unrecognised value from the bus, no icon will be displayed in the indicator.

Special Mode	Icon	Sent Value
Auto Mode		5 (0x005)
Comfort		1 (0x001)
Standby		2 (0x002)
Economy		3 (0x003)
Protection		4 (0x004)

Table 6. Special Modes vs. Icon vs. Object Value.

- **Indicator Type** [*Icon / Text*]: allows selecting whether the status indicator which each value is represented will be text type or icon type. If text type is set, as many text boxes will be displayed as modes have been enabled. The icons are fixed (see Table 6).

3.2.2.6 OTHER CONTROL TYPES

This category involves the following functions, which can be selected through the **Function** parameter:

3.2.2.6.1 RGB Control

This function is intended for sending orders to three-colour LED light regulators.

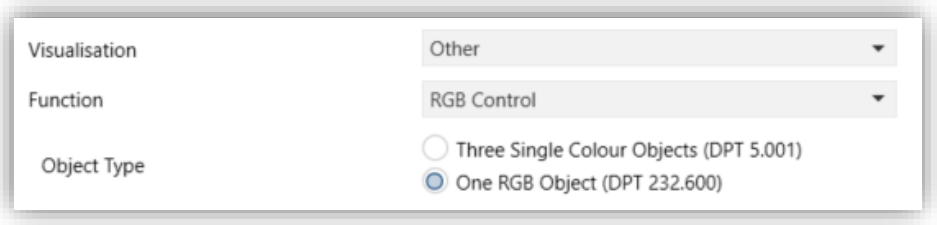

Figure 70. RGB Control.

- **Object Type** [*Three Single Colour Objects (DPT 5.001) / One RGB Object (DPT 232.600)*]: permits selecting what type of object will be used for controlling the light level of the RGB channels.

  If "Three Single Colour Objects (DPT 5.001)" is selected, threee 1-byte objects will be enabled (with their Write and Read flags activated, so they can both send regulation orders and receive the status from the regulator) named: "**[Cx][] RGB - Red Channel**", "**[Cx][] RGB - Green Channel**" and "**[Cx][] RGB - Blue**

Channel”. Control orders will consist in sending the light level (as a percentage) of the different channels through the corresponding objects.

If “One RGB Object (DPT 232.600)” is selected, only one 3-byte object will be enabled: “**[Cx][] RGB Colour**”. In this case, the light levels of the three channels are sent (and received) concatenated into the above 3-byte object.

Note: *if statuses are received while the luminaire performs a regulation, this control may become hardly serviceable until such regulation ends*.

Regarding the RGB control boxes themselves, two buttons can be found:

Figure 71. RGB Box.

- **Short-pressing** on the left button permits commuting between a total absence of light in the three channels, and their respective states previous to the switch-off. **Long-pressing** it, on the other hand, will make the device send a 4-bit dimming order through object **“[Cx][] RGB - Light Dimming Control”**, analogously as the light dimming control.

- The right button, when pressed, opens a pop-up with a colour selector, which allows to select RGB level. There are two sliders, one for choosing the colour and another for adjusting the intensity of that colour. On the right, there are five boxes that will store the last five colours selected and a button to switch between colour scale and greyscale.

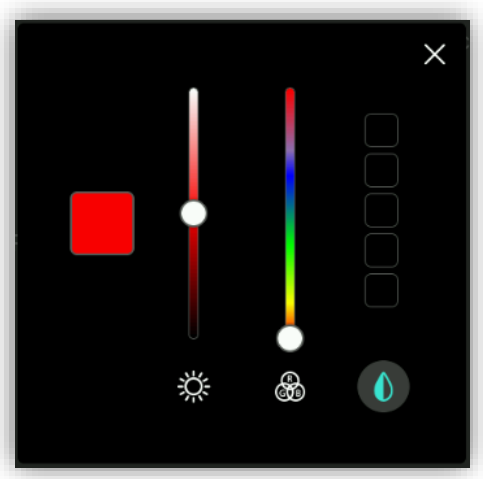

Figure 72. RGB Colour Selector.

3.2.2.6.2 RGBW Control

The RGBW control **is analogous to the above RGB control**, although it also lets controlling a specific fourth channel for white ("**[Cx][] RGBW - White Channel**"), in case such feature is supported by the dimmer.

Figure 73. RGBW Control.

- **Object Type** [*Four Single Colour Objects (DPT 5.001) / RGB and White Object Separated (DPT 232.600 and DPT 5.001) / One RGBW Object (DPT 251.600)*]: selects what type of object will be used for controlling the light level of the RGBW channels.

  The options "Four Single Colour Objects (DPT 5.001)" and "RGB and White Object Separated (DPT 232.600 and DPT 5.001)" are analogous to the RGB control.

  If "One RGBW Object (DPT 251.600)" is selected a 6-bytes object will be enabled: "**[Cx][] RGBW - RGBW Colour**" through which the light levels of the four channels are sent and received concatenated.

3.2.2.6.3 Weekly Timer

Controls configured as weekly timers let the final user program a timed sending of a binary or scene value to the bus (according to the parameterisation) at a certain time on certain days (on a weekly basis).

Hence, when the user presses on the box, a window similar to Figure 74. Weekly Timer Pop-up. will pop up.

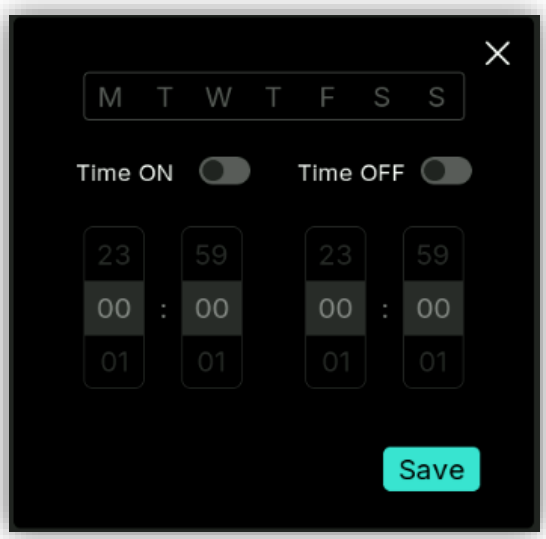

Figure 74. Weekly Timer Pop-up.

This window contains the following elements:

- Day Selector: lets the user select the days the timed sending will take place on. The first day of the week depends on the parameterisation of the "General" tab (see section 3.1.1).

- Value to be Sent (ON / OFF): lets the user set the value to be sent. It can be "ON" or "OFF", or even both. Once selector is provided for each of the two values.

  Note: *if instead of the sending of a binary value, the sending of a scene value has been parameterised, only one checkbox and once selector will be shown, so the user can enable/disable the sending of the scene value and, if enabled, set the desired time.*

- Time Selector: let the user set the time at which the automatic sending will take place.

Hence, at the specified time on the days selected by the user, the bus will be automatically sent the corresponding value through the **"[Cx][] Weekly Timer – Switch**

Control" object (in the case of sending a binary value) or through the **"[General] Scenes: Send"** object (in the case of sending a scene number).

In both cases the **"[Cx][] Weekly Timer - Enable"** binary object will be available, making it possible to disable (by sending the value "0") or to enable (value "1") the execution of the timings set by the user. By default, user timings are always enabled.

Note:

- *In case of disabling a sending through **"[Cx][] Weekly Timer - Enable"**, the corresponding box will show --:-- in place of the configured hours and the icon will appear as disabled, although the box will not lose the configuration previously set by the user.*
- *If a download or bus failure has occurred and the time has not yet been set, the active weekly timings will not be executed. If, once the time has been set, the execution condition of any of the weekly timings is restored, the weekly timings will be executed.*

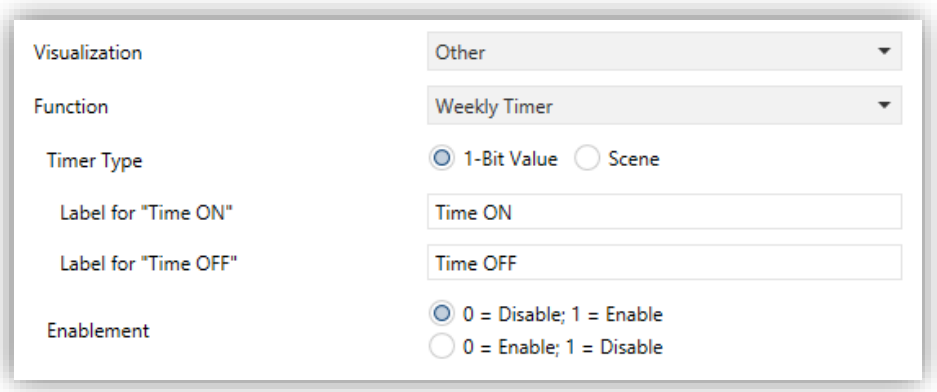

Figure 75. Weekly Timer.

This function offers the following parameters in ETS:

- **Timer Type**: [*1-Bit Value / Scene*]: allows the user to select how the timer will be controlled.
  - **Label for "Time ON"** [*Time ON*]: permits customising the label shown next to the checkbox that enables/disables the sending of the switch-on order.
  - **Label for "Time OFF"** [*Time OFF*]: permits customising the label shown next to the checkbox that enables/disables the sending of the switch-off order.

- **Scene Number** [*1…64*]: shown only after selecting "Scene" for the timer type. This field defines the number of the scene that will be sent to the bus on the execution of the timed sending.

- **Label for "Scene"** [*Scene*]: shown only after selecting "Scene" for the timer type. It permits customising the label shown next to the checkbox that enables/disables the scene sending.

- **Enablement** [*0 = Disable; 1 = Enable / 0 = Enable; 1 = Disable*]: sets the value to enable and disable the timer through the object **"[Cx][] Weekly Timer - Enable"**.

Note: *the execution of user-defined timers is triggered on the detection of state transitions, even if the clock does not specifically pass through the specified time. In other words, supposing one timed sending of the value "ON" at 10:00h am and one timed sending of the value "OFF" at 8:00h pm, if the internal clock is set to 9:00h pm just after 10:00h am (and therefore after having sent the value "ON"), then the "OFF" order corresponding to 8:00h pm will take place immediately after the time change.*

3.2.2.6.4 Alarm

Boxes configured as alarms perform user warnings on anomalous events. For this purpose, boxes of this type are related to the binary object **"[Cx][] Alarm - Trigger"** that permits receiving alarm messages from the bus, thus making CX emit a continuous beep. In addition, the screen will automatically browse to the page containing the alarm box that has been triggered. Any pop-up, message or function that has been activated will be deactivated and the alarm will be given priority.

The **blinking warning icon** shows that the alarm is active and not confirmed. This icon will also appear in the lower right corner of the button of the page where the alarm is located.

When an alarm has been activated, there are two different ways to silence the sound notification.

- Pressing the 'Menu' button: it will silence the sound notification and end the flashing, but it will not confirm the alarm. The alarm box icon will continue blinking.

- Press the icon in the alarm box: this will silence the sound notification, confirm the alarm, and cause the icon to stop blinking. When this button is pressed, the binary object **"[Cx][] Alarm - Confirmation"** with the value "1" will be sent

through the bus. If this object receives from the bus the value "1", the alarm will also be confirmed, having the same effects.

The alarm will definitely become inactive once it has been confirmed and, in addition, once the **"[Cx][] Alarm - Trigger"** object goes back to the "no alarm" state (the order of these two events is irrelevant), after which the box icon and the page icon will finally turn off.

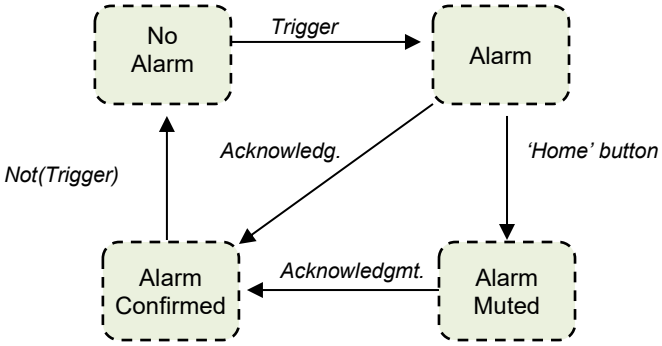

Figure 76. Alarm state diagram (case of confirmation previous to the alarm end).

There is also the possibility of **periodically monitoring** the status of the trigger object, for situations where this object is periodically received from the bus. This will let CX automatically assume the alarm situation if the "no alarm" value does not get sent through the trigger object after a certain time, for example upon failures of the transmitter. The maximum time window can be defined by parameter.

Consequently, alarm boxes permit configuring the following parameters:

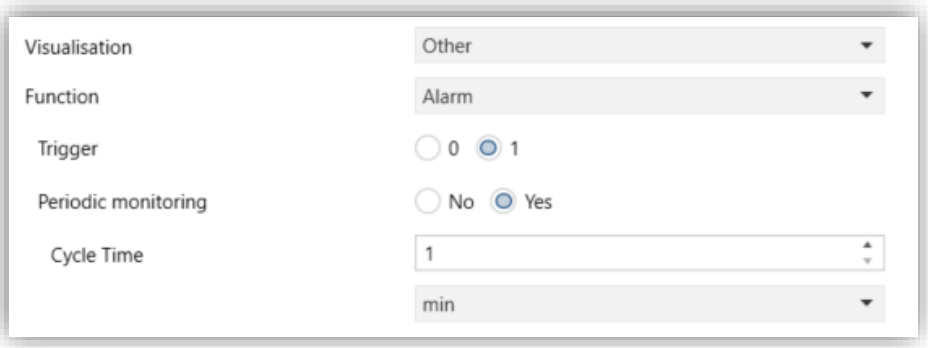

Figure 77. Alarm.

- **Trigger** [*0 / 1*]: defines the value that will trigger the alarm ("0" or "1"; it is "1" by default), i.e., the value that, when received through **"[Cx][] Alarm - Trigger"**, should be interpreted as an alarm situation. Implicitly, this parameter also defines the inverse "no alarm" value.

- **Periodic Monitoring** [*No / Yes*]: activates or deactivates periodic monitoring of the alarm trigger object. When activated, the following parameter appears:

  - **Cycle Time** [*30…65535*][*s*] [*1…65535*][*min / h*]: sets the maximum accepted time space without receiving the "no alarm" value before the device adopts the alarm situation.

Example I: *supposing a certain sensor responsible for sending the value "1" (once) to the bus when a flood is detected, and the value "0" (again, only once) when such situation terminates, if the object sent is linked to the alarm trigger object from an alarm box in CX where no periodic monitoring has been parameterised and where the value "1" has been set as the alarm value, then it will notify an emergency every time a flood takes place. The notification will stop as soon as the user touches any button, although a warning icon will still blink on the screen. After that, if the user acknowledges the alarm, the icon will stop blinking; switching then off once the sensor sends a "0".*

Example II: *suppose a certain CO_2 sensor responsible for sending the value "0" to the bus every two minutes, except when it detects a dangerous CO_2 level; in such case, it will immediately send the value "1". If the object being sent is linked to the alarm trigger object from an alarm box where periodic monitoring has been parameterised and where the value "1" is configured as the alarm trigger value, then the device will notify the user about the emergency both if the CO_2 level reaches a dangerous level and if the sensor stops sending the value "0", for example due to failures or sabotage. The user should proceed in the same manner as in the above example to manage the alarm notification*.

3.2.2.6.5 Page Direct Link

This control allows one or two shortcuts to the pages indicated by parameter. To configure a box as a page direct link type control, the page to be accessed and the icon and Colour of the button must be set.

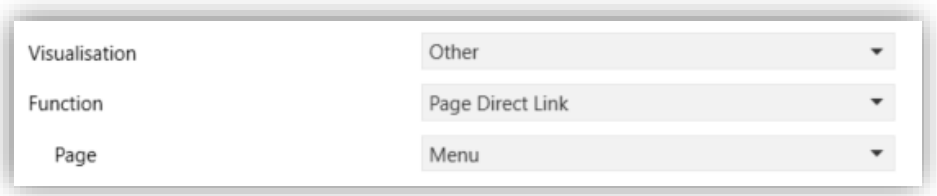

Figure 78. Page Direct Link.

- **Page** [*Menu / Page 1 / … / Page 12*]: page that will be accessed.

3.2.2.6.6 Alarm Clock

Controls with Alarm Clock function enable programming a single automatic sending to the bus (which may be binary or scene value, as defined by parameter) at a certain time. This is a one-button control whose icon will change to indicate whether or not the alarm clock is enabled. In addition, it will be able to show the time it is scheduled for.

When pressing on the button/indicator, a pop-up will appear, from which the user will enable the alarma clock and define the time of sending through two sliders, one for the hour and other for the minutes.

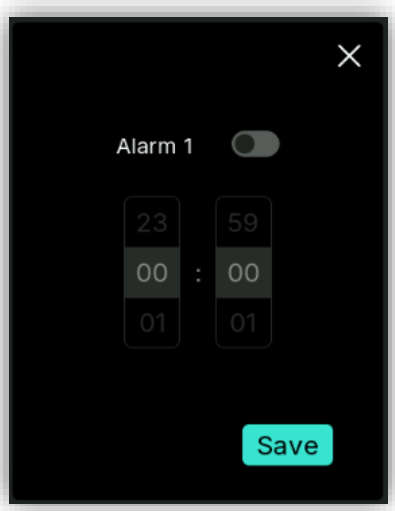

Figure 79. Other Control - Alarm Clock Pop-up.

Pressing the save button will enable the alarm clock at the set time, close the dialog and send the object "**[Cx][] Alarm Clock - Time**". On the other hand, pressing the cancel button will close the pop-up without saving the current setting. When the pop-up will be reopened, last stored setting will be found.

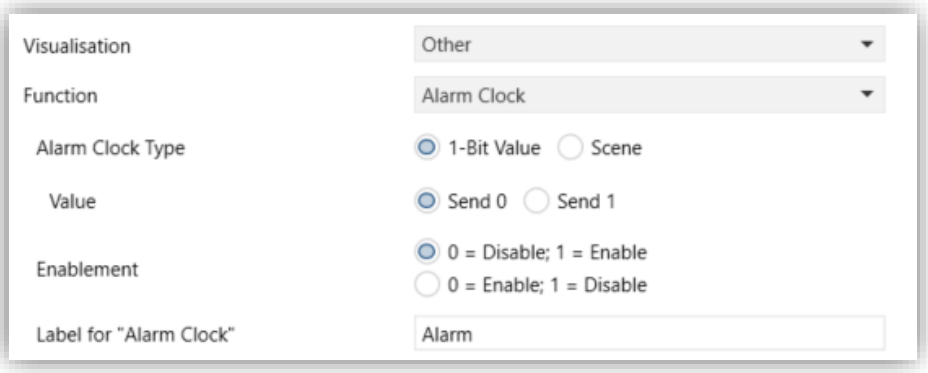

Figure 80. Other Control - Alarm Clock.

The available parameters are:

- **Alarm Clock Type** [*1-Bit Value / Scene*]: at the time specified by the user, the corresponding value shall be automatically sent to the bus via the object "**[Cx][] Alarm Clock - Control**" (in case of selecting "1-Bit value") or via the object "**[General] Scenes: Send**" (in case of "Scene").

  - **Value** [*Send 0 / Send 1*] / **Scene Number** [*1…64*]

- **Enablement** [*0 = Disable; 1 = Enable / 0 = Enable; 1 = Disable*]: allows to choose the value to enable and disable the timer through the object "**[Cx][] Alarm Clock - Enable**".

- **Label for "Alarm Clock"** [*Alarm*]: field that allows to customise the label that will appear next to the alarm clock enable box.

Note: *in the event of a download or bus failure, active timings configured as "Alarm Clock" will not be executed until the time in the device is reset and the execution condition is complied.*

3.3 INPUTS

CX incorporates **four analog/digital inputs**, each configurable as a:

- **Binary Input**, for the connection of a pushbutton or a switch/sensor.
- **Temperature Probe**, to connect a temperature from Zennio.
- **Motion Detector**, to connect a motion detector from Zennio.

3.3.1 BINARY INPUT

Please refer to the specific user manual "**Binary Inputs**", available in the product section, at the Zennio website (www.zennio.com).

3.3.2 TEMPERATURE PROBE

Please refer to the specific user manual "**Temperature Probe**", available in the product section, at the Zennio website (www.zennio.com).

3.3.3 MOTION DETECTOR

It is possible to connect motion detectors from Zennio to the input ports of the device. This brings the device with the possibility of monitoring motion and presence in the room. Depending on the detection, different response actions can be parameterised.

Please refer to the specific "**Motion Detector**" user manual (available in the product section at the Zennio website, www.zennio.com) for detailed information about the functionality and the configuration of the related parameters.

3.4 THERMOSTAT

CX implements **two Zennio thermostats** which can be enabled and fully customised.

Please refer to the specific manual "**Zennio Thermostat**" (available in the product section at the Zennio website, www.zennio.com) for detailed information about the functionality and the configuration of the related parameters.

3.5 HUMIDITY

The device is capable of measure and monitor humidity measurements, as well as **send these values to the bus** and **report high / low humidity situations**. To that end, it is necessary to configure a set of parameters.

Please refer to the "**Humidity**" user manual, available in the product section, at the Zennio website (www.zennio.com).

ANNEX I. COMMUNICATION OBJECTS

- "**Functional range**" shows the values that, with independence of any other values permitted by the bus according to the object size, may be of any use or have a particular meaning because of the specifications or restrictions from both the KNX standard or the application program itself.

Number	Size	I/O	Flags	Data type (DPT)	Functional Range	Name	Function
1	1 Bit	O	C R - T -	DPT_Trigger	0/1	[Heartbeat] Object to Send '1'	Sending of '1' Periodically
2	1 Bit	O	C R - T -	DPT_Trigger	0/1	[Heartbeat] Device Recovery	Send 0
3	1 Bit	O	C R - T -	DPT_Trigger	0/1	[Heartbeat] Device Recovery	Send 1
4	3 Bytes	I	C - W T U	DPT_TimeOfDay	00:00:00 - 23:59:59	[General] Time of Day	Time of Day External Reference
5	3 Bytes	I	C - W T U	DPT_Date	01/01/1990 - 31/12/2089	[General] Date	Date External Reference
6	1 Byte	I	C - W - -	DPT_SceneNumber	0 - 63	[General] Scene: Receive	0-63 (Run Scene 1-64)
7	1 Byte	O	C - - T -	DPT_SceneControl	0-63; 128-191	[General] Scene: Send	0-63 / 128-191 (Run/Save Scene 1-64)
8	1 Bit	I	C - W - -	DPT_State	0/1	[General] Activity	0 = Inactivity; 1 = Activity
9	1 Bit	I	C - W T U	DPT_Enable	0/1	[General] Touch Locking	0 = Unlock; 1 = Lock
	1 Bit	I	C - W T U	DPT_Enable	0/1	[General] Touch Locking	0 = Lock; 1 = Unlock
10	1 Bit	I	C - W - -	DPT_Ack	0/1	[General] Cleaning Function	0 = Nothing; 1 = Clean Now
11	2 Bytes	I	C - W T U	DPT_Value_Temp	-273.00º - 670433.28º	[General] External Temperature	Temperature to Be Shown
12, 18, 24, 30, 36, 42	1 Bit	I	C - W - -	DPT_Switch	0/1	[General][Pop-Up x] 1-Bit	0 = Hide Pop-Up; 1 = Show Pop-Up
	1 Bit	I	C - W - -	DPT_Switch	0/1	[General][Pop-Up x] 1-Bit	0 = Show Pop-Up; 1 = Hide Pop-Up
13, 19, 25, 31, 37, 43	1 Byte	I	C - W - -	DPT_Value_1_Ucount	0 - 255	[General][Pop-Up x] 1-Byte	Hide/Show Pop-Up
14, 15, 16, 17, 20, 21, 22, 23, 26, 27, 28, 29, 32, 33, 34, 35, 38, 39, 40, 41, 44, 45, 46, 47	14 Bytes	I	C - W - -	DPT_String_UTF-8		[General][Pop-Up x] Line x	Text to Show on the Display at Line x
48	1 Byte	I	C - W - -	1.xxx	0/1	[General] Translations - Select Language	0 = Main; 1 = Lang. 2; ...; 4 = Lang. 5
49	1 Bit	I	C - W - -	DPT_Ack	0/1	[General] Translations - Main Language	0 = Nothing; 1 = Choose this Language
50, 51, 52, 53	1 Bit	I	C - W - -	DPT_Ack	0/1	[General] Translations - Language x	0 = Nothing; 1 = Choose this Language
54	2 Bytes	I	C - W - -	DPT_LanguageCodeAlpha2_ASCII		[General] Translations - Select Language	Language Selection Through ISO 639-1 Two Letters Code
55	1 Bit	I	C - W T U	DPT_Enable	0/1	[General] Sounds - Disabling Button Sound	0 = Disable Sound; 1 = Enable Sound
	1 Bit	I	C - W T U	DPT_Enable	0/1	[General] Sounds - Disabling Button Sound	0 = Enable Sound; 1 = Disable Sound

56	1 Bit	I	C - W - -	DPT_Ack	0/1	[General] Sounds - Doorbell	0 = Nothing; 1 = Play Doorbell Sound
	1 Bit	I	C - W - -	DPT_Ack	0/1	[General] Sounds - Doorbell	0 = Play Doorbell Sound; 1 = Nothing
57	1 Bit	O	C R - T -	DPT_Switch	0/1	[General] Welcome Back Object	Switch Object Sent on Wake Up
58, 59, 60, 61, 62	1 Bit	I	C - W - -	DPT_Switch	0/1	[General] Welcome Back Object - Additional Condition	Additional Condition Object x
63	1 Bit	I	C - W T U	DPT_Switch	0/1	[General] Temperature Scale	0 = ºC; 1 = ºF
64	1 Byte	I/O	C R W - -	DPT_Value_1_Ucount	0 - 255	[General] Default Page	Default Page
65	1 Bit	I	C - W - U	DPT_Switch	0/1	[Settings] Show/Hide Page	0 = Hide Page; 1 = Show Page
66, 67, 68, 69, 70, 71	1 Bit	I	C - W - U	DPT_Switch	0/1	[Settings][Bx] Show/Hide Box	0 = Hide Page; 1 = Show Box
72, 100, 128, 156, 184, 212, 240, 268, 296, 324, 352, 380	1 Bit	I	C - W - U	DPT_Switch	0/1	[Px] Show/Hide Page	0 = Hide Page; 1 = Show Page
73, 101, 129, 157, 185, 213, 241, 269, 297, 325, 353, 381	1 Bit	I	C - W - U	DPT_Switch	0/1	[Px][B1] Show/Hide Box	0 = Hide Box; 1 = Show Box
74, 102, 130, 158, 186, 214, 242, 270, 298, 326, 354, 382	1 Bit	I	C - W - U	DPT_Switch	0/1	[Px][B2] Show/Hide Box	0 = Hide Box; 1 = Show Box
75, 103, 131, 159, 187, 215, 243, 271, 299, 327, 355, 383	1 Bit	I	C - W - U	DPT_Switch	0/1	[Px][B3] Show/Hide Box	0 = Hide Box; 1 = Show Box
76, 104, 132, 160, 188, 216, 244, 272, 300, 328, 356, 384	1 Bit	I	C - W - U	DPT_Switch	0/1	[Px][B4] Show/Hide Box	0 = Hide Box; 1 = Show Box
77, 105, 133, 161, 189, 217, 245, 273, 301, 329, 357, 385	1 Bit	I	C - W - U	DPT_Switch	0/1	[Px][B5] Show/Hide Box	0 = Hide Box; 1 = Show Box
78, 106, 134, 162, 190, 218, 246, 274, 302, 330, 358, 386	1 Bit	I	C - W - U	DPT_Switch	0/1	[Px][B6] Show/Hide Box	0 = Hide Box; 1 = Show Box
79, 107, 135, 163, 191, 219, 247, 275, 303, 331, 359, 387	1 Bit	I	C - W - U	DPT_Switch	0/1	[Px][B7] Show/Hide Box	0 = Hide Box; 1 = Show Box
80, 108, 136, 164, 192, 220, 248, 276, 304, 332, 360, 388	1 Bit	I	C - W - U	DPT_Switch	0/1	[Px][B8] Show/Hide Box	0 = Hide Box; 1 = Show Box
81, 109, 137, 165, 193, 221, 249, 277, 305, 333, 361, 389	2 Bytes	O	C - - T -	DPT_Value_Temp	-273.00º - 670433.28º	[Px][Setpoint] Control	-99ºC ... 199ºC
	2 Bytes	O	C - - T -	DPT_Value_Temp	-273.00º - 670433.28º	[Px][Setpoint] Offset - Control	-99ºC ... 199ºC
82, 110, 138, 166, 194, 222, 250, 278, 306, 334, 362, 390	2 Bytes	I	C - W T U	DPT_Value_Temp	-273.00º - 670433.28º	[Px][Setpoint] Status	-99ºC ... 199ºC
83, 111, 139, 167, 195, 223, 251, 279, 307, 335, 363, 391	2 Bytes	I	C - W T U	DPT_Value_Temp	-273.00º - 670433.28º	[Px][Setpoint] Offset - Status	-99ºC ... 199ºC
84, 112, 140, 168, 196, 224, 252, 280, 308, 336, 364, 392	1 Bit	O	C - - T -	DPT_Step	0/1	[Px][Setpoint] Step - Control	0 = Decrease; 1 = Increase
85, 113, 141, 169, 197, 225, 253, 281, 309, 337, 365, 393	1 Bit	I	C - W T U	DPT_Enable	0/1	[Px][Fan] Fan Control - Auto Mode	Switch Auto Mode on Short Press
86, 114, 142, 170, 198, 226, 254, 282, 310, 338, 366, 394	1 Byte	O	C - - T -	DPT_Scaling	0% - 100%	[Px][Fan] Percentage Control	50%, 100%
	1 Byte	O	C - - T -	DPT_Scaling	0% - 100%	[Px][Fan] Percentage Control	33%, 67%, 100%
	1 Byte	O	C - - T -	DPT_Fan_Stage	0 - 255	[Px][Fan] Enumeration Control	1, 2

	1 Byte	O	C - - T -	DPT_Fan_Stage	0 - 255	[Px][Fan] Enumeration Control	1, 2, 3
	1 Byte	O	C - - T -	DPT_Fan_Stage	0 - 255	[Px][Fan] Enumeration Control	0, 1, 2, 3
	1 Byte	O	C - - T -	DPT_Fan_Stage	0 - 255	[Px][Fan] Enumeration Control	0, 1, 2
	1 Byte	O	C - - T -	DPT_Scaling	0% - 100%	[Px][Fan] Percentage Control	0%, 33%, 67%, 100%
	1 Byte	O	C - - T -	DPT_Scaling	0% - 100%	[Px][Fan] Percentage Control	0%, 50%, 100%
	1 Byte	O	C - - T -	DPT_Scaling	0% - 100%	[Px][Fan] Percentage Control	Auto, 33%, 67%, 100%
	1 Byte	O	C - - T -	DPT_Scaling	0% - 100%	[Px][Fan] Percentage Control	Auto, 50%, 100%
	1 Byte	O	C - - T -	DPT_Fan_Stage	0 - 255	[Px][Fan] Enumeration Control	Auto, 1, 2
	1 Byte	O	C - - T -	DPT_Fan_Stage	0 - 255	[Px][Fan] Enumeration Control	Auto, 1, 2, 3
	1 Byte	O	C - - T -	DPT_Scaling	0% - 100%	[Px][Fan] Percentage Control	Auto, 100%
	1 Byte	O	C - - T -	DPT_Scaling	0% - 100%	[Px][Fan] Percentage Control	100%
	1 Byte	O	C - - T -	DPT_Fan_Stage	0 - 255	[Px][Fan] Enumeration Control	1
	1 Byte	O	C - - T -	DPT_Fan_Stage	0 - 255	[Px][Fan] Enumeration Control	Auto, 1
	1 Byte	O	C - - T -	DPT_Fan_Stage	0 - 255	[Px][Fan] Enumeration Control	Auto, 1, 2, 3, 4
	1 Byte	O	C - - T -	DPT_Fan_Stage	0 - 255	[Px][Fan] Enumeration Control	Auto, 1, 2, 3, 4, 5
	1 Byte	O	C - - T -	DPT_Fan_Stage	0 - 255	[Px][Fan] Enumeration Control	1, 2, 3, 4
	1 Byte	O	C - - T -	DPT_Fan_Stage	0 - 255	[Px][Fan] Enumeration Control	1, 2, 3, 4, 5
	1 Byte	O	C - - T -	DPT_Scaling	0% - 100%	[Px][Fan] Percentage Control	20%, 40%, 60%, 80%, 100%
	1 Byte	O	C - - T -	DPT_Scaling	0% - 100%	[Px][Fan] Percentage Control	Auto, 20%, 40%, 60%, 80%, 100%
	1 Byte	O	C - - T -	DPT_Scaling	0% - 100%	[Px][Fan] Percentage Control	25%, 50%, 75%, 100%
	1 Byte	O	C - - T -	DPT_Scaling	0% - 100%	[Px][Fan] Percentage Control	Auto, 25%, 50%, 75%, 100%
87, 115, 143, 171, 199, 227, 255, 283, 311, 339, 367, 395	1 Byte	I	C - W T U	DPT_Scaling	0% - 100%	[Px][Fan] Percentage Status	0% - 100%
	1 Byte	I	C - W T U	DPT_Fan_Stage	0 - 255	[Px][Fan] Enumeration Status	Enumerated Value
88, 116, 144, 172, 200, 228, 256, 284, 312, 340, 368, 396	1 Bit	O	C - - T -	DPT_Switch	0/1	[Px][On/Off] Control	0 = Off; 1 = On
89, 117, 145, 173, 201, 229, 257, 285, 313, 341, 369, 397	1 Bit	I	C - W T U	DPT_Switch	0/1	[Px][On/Off] Status	0 = Off; 1 = On
90, 118, 146, 174, 202, 230, 258, 286, 314, 342, 370, 398	1 Bit	O	C - - T -	DPT_Heat_Cool	0/1	[Px][Mode] Control	0 = Cool; 1 = Heat
91, 119, 147, 175, 203, 231, 259, 287, 315, 343, 371, 399	1 Bit	I	C - W T U	DPT_Heat_Cool	0/1	[Px][Mode] Status	0 = Cool; 1 = Heat
92, 120, 148, 176, 204, 232, 260, 288, 316, 344, 372, 400	1 Bit	I	C - W - U	DPT_Enable	0/1	[Px] Window Alarm - Enable	0 = Disable; 1 = Enable
	1 Bit	I	C - W - U	DPT_Enable	0/1	[Px] Window Alarm - Enable	0 = Enable; 1 = Disable
93, 121, 149, 177, 205, 233, 261, 289, 317, 345, 373, 401	1 Bit	I	C - W - U	DPT_Window_Door	0/1	[Px] Window 1 - Status	0 = Closed; 1 = Open
	1 Bit	I	C - W - U	DPT_Window_Door	0/1	[Px] Window 1 - Status	0 = Open; 1 = Closed
94, 122, 150, 178, 206, 234, 262, 290, 318, 346, 374, 402	1 Bit	I	C - W - U	DPT_Window_Door	0/1	[Px] Window 2 - Status	0 = Closed; 1 = Open
	1 Bit	I	C - W - U	DPT_Window_Door	0/1	[Px] Window 2 - Status	0 = Open; 1 = Closed
95, 123, 151, 179, 207, 235, 263, 291, 319, 347, 375, 403	1 Bit	I	C - W - U	DPT_Window_Door	0/1	[Px] Window 3 - Status	0 = Closed; 1 = Open
	1 Bit	I	C - W - U	DPT_Window_Door	0/1	[Px] Window 3 - Status	0 = Open; 1 = Closed
	1 Bit	I	C - W - U	DPT_Window_Door	0/1	[Px] Window 4 - Status	0 = Closed; 1 = Open

96, 124, 152, 180, 208, 236, 264, 292, 320, 348, 376, 404	1 Bit	I	C - W - U	DPT_Window_Door	0/1	[Px] Window 4 - Status	0 = Open; 1 = Closed
97, 125, 153, 181, 209, 237, 265, 293, 321, 349, 377, 405	1 Bit	I	C - W - U	DPT_Enable	0/1	[Px] Door Alarm - Enable	0 = Disable; 1 = Enable
	1 Bit	I	C - W - U	DPT_Enable	0/1	[Px] Door Alarm - Enable	0 = Enable; 1 = Disable
98, 126, 154, 182, 210, 238, 266, 294, 322, 350, 378, 406	1 Bit	I	C - W - U	DPT_Window_Door	0/1	[Px] Door 1 - Status	0 = Closed; 1 = Open
	1 Bit	I	C - W - U	DPT_Window_Door	0/1	[Px] Door 1 - Status	0 = Open; 1 = Closed
99, 127, 155, 183, 211, 239, 267, 295, 323, 351, 379, 407	1 Bit	I	C - W - U	DPT_Window_Door	0/1	[Px] Door 2 - Status	0 = Closed; 1 = Open
	1 Bit	I	C - W - U	DPT_Window_Door	0/1	[Px] Door 2 - Status	0 = Open; 1 = Closed
408, 425, 442, 459, 476, 493, 510, 527, 544, 561, 578, 595, 612, 629, 646, 663, 680, 697, 714, 731, 748, 765, 782, 799, 816, 833, 850, 867, 884, 901, 918, 935, 952, 969, 986, 1003, 1020, 1037, 1054, 1071, 1088, 1105, 1122, 1139, 1156, 1173, 1190, 1207, 1224, 1241, 1258, 1275, 1292, 1309, 1326, 1343, 1360, 1377, 1394, 1411, 1428, 1445, 1462, 1479, 1496, 1513, 1530, 1547, 1564, 1581, 1598, 1615, 1632, 1649, 1666, 1683, 1700, 1717, 1734, 1751, 1768, 1785, 1802, 1819, 1836, 1853, 1870, 1887, 1904, 1921, 1938, 1955, 1972, 1989, 2006, 2023	1 Bit	O	C - - T -	DPT_Switch	0/1	[Cx][x] Switch - Control: "0"	1-Bit Generic Control
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Cx][x] Switch - Control: "1"	1-Bit Generic Control
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Cx][x] Switch - Control: "0/1"	1-Bit Generic Control
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Cx][x] Hold & Release - Switch Control	1-Bit Generic Control
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Cx][x] Two Objects - Short Press Control: "1"	1-Bit Generic Control
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Cx][x] Two Objects - Short Press Control: "0"	1-Bit Generic Control
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Cx][x] Two Objects - Short Press Control: "0/1"	1-Bit Generic Control
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Cx][x] Switch - Control	1-Bit Generic Control
	1 Bit	O	C R - T -	DPT_Switch	0/1	[Cx][x] Light - Switch Control	0 = Off; 1 = On
	1 Bit	O	C - - T -	DPT_UpDown	0/1	[Cx][x] Shutter - Movement Control	0 = Up; 1 = Down
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Cx][x] Two Objects - Short Press Control	1-Bit Generic Control
	1 Bit	O	C - - T -	DPT_Heat_Cool	0/1	[Cx][x] Mode - Control	0 = Cool; 1 = Heat
	1 Bit	O	C - - T -	DPT_Step	0/1	[Cx][x] Fan - Binary Control	0 = Decrease; 1 = Increase
	1 Bit	I	C - W T U	DPT_Enable	0/1	[Cx][x] Weekly Timer - Enable	0 = Disable; 1 = Enable
	1 Bit	I	C - W T U	DPT_Enable	0/1	[Cx][x] Weekly Timer - Enable	0 = Enable; 1 = Disable
	1 Bit	I	C - W - U	DPT_Alarm	0/1	[Cx][x] Alarm - Trigger	Trigger: 0
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Cx][x] Multimedia - Control	0 = Stop/Backward; 1 = Start/Forward
	1 Bit	I	C - W - U	DPT_Alarm	0/1	[Cx][x] Alarm - Trigger	Trigger: 1
	1 Bit	I	C - W T U	DPT_Enable	0/1	[Cx][x] Alarm Clock - Enable	0 = Enable; 1 = Disable
	1 Bit	I	C - W T U	DPT_Enable	0/1	[Cx][x] Alarm Clock - Enable	0 = Disable; 1 = Enable
	1 Bit	I/O	C R W T U	DPT_Switch	0/1	[Cx][x] RGB - On/Off	0 = Off; 1 = On
	1 Bit	I/O	C R W T U	DPT_Switch	0/1	[Cx][x] RGBW - On/Off	0 = Off; 1 = On
409, 426, 443, 460, 477, 494, 511, 528, 545, 562, 579, 596, 613, 630, 647, 664, 681, 698, 715, 732, 749, 766, 783, 800,	1 Bit	O	C - - T -	DPT_Switch	0/1	[Cx][x] Two Objects - Long Press Control : "1"	1-Bit Generic Control
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Cx][x] Two Objects - Long Press Control: "0"	1-Bit Generic Control

817, 834, 851, 868, 885, 902, 919, 936, 953, 970, 987, 1004, 1021, 1038, 1055, 1072, 1089, 1106, 1123, 1140, 1157, 1174, 1191, 1208, 1225, 1242, 1259, 1276, 1293, 1310, 1327, 1344, 1361, 1378, 1395, 1412, 1429, 1446, 1463, 1480, 1497, 1514, 1531, 1548, 1565, 1582, 1599, 1616, 1633, 1650, 1667, 1684, 1701, 1718, 1735, 1752, 1769, 1786, 1803, 1820, 1837, 1854, 1871, 1888, 1905, 1922, 1939, 1956, 1973, 1990, 2007, 2024	1 Bit	O	**C - - T -**	DPT_Switch	0/1	[Cx][x] Two Objects - Long Press Control: "0/1"	1-Bit Generic Control
	1 Bit	O	**C - - T -**	DPT_Step	0/1	[Cx][x] Shutter - Stop/Step Control	0 = Stop/Step Up; 1 = Stop/Step Down
	1 Bit	O	**C - - T -**	DPT_Switch	0/1	[Cx][x] Two Objects - Long Press Control	1-Bit Generic Control
	1 Bit	I	**C - W T U**	DPT_Enable	0/1	[Cx][x] Fan - Auto Mode	Switch Auto Mode on Short Press
	1 Bit	I	**C - W T U**	DPT_Enable	0/1	[Cx][x] Fan - Auto Mode	Switch Auto Mode on Long Press
	1 Bit	O	**C - - T -**	DPT_Switch	0/1	[Cx][x] Weekly Timer - Switch Control	1-Bit Generic Control
	1 Bit	I	**C - W T U**	DPT_Ack	0/1	[Cx][x] Alarm - Confirmation	0 = No Action; 1 = Confirm
	1 Bit	O	**C - - T -**	DPT_Switch	0/1	[Cx][x] Alarm Clock - Control	1-Bit Generic Control
410, 427, 444, 461, 478, 495, 512, 529, 546, 563, 580, 597, 614, 631, 648, 665, 682, 699, 716, 733, 750, 767, 784, 801, 818, 835, 852, 869, 886, 903, 920, 937, 954, 971, 988, 1005, 1022, 1039, 1056, 1073, 1090, 1107, 1124, 1141, 1158, 1175, 1192, 1209, 1226, 1243, 1260, 1277, 1294, 1311, 1328, 1345, 1362, 1379, 1396, 1413, 1430, 1447, 1464, 1481, 1498, 1515, 1532, 1549, 1566, 1583, 1600, 1617, 1634, 1651, 1668, 1685, 1702, 1719, 1736, 1753, 1770, 1787, 1804, 1821, 1838, 1855, 1872, 1889, 1906, 1923, 1940, 1957, 1974, 1991, 2008, 2025	4 Bit	O	**C - - T -**	DPT_Control_Dimming	0x0/0x8 (Stop) 0x1...0x7 (Dec.) 0x9...0xF (Inc.)	[Cx][x] Light - 4-bits Dimming Control	4-Bit Dimming Control
	4 Bit	O	**C - - T -**	DPT_Control_Dimming	0x0/0x8 (Stop) 0x1...0x7 (Dec.) 0x9...0xF (Inc.)	[Cx][x] RGB - Light Dimming Control	4-Bit Dimming Control
	4 Bit	O	**C - - T -**	DPT_Control_Dimming	0x0/0x8 (Stop) 0x1...0x7 (Dec.) 0x9...0xF (Inc.)	[Cx][x] RGBW - Light Dimming Control	4-Bit Dimming Control
411, 428, 445, 462, 479, 496, 513, 530, 547, 564, 581, 598, 615, 632, 649, 666, 683, 700, 717, 734, 751, 768, 785, 802, 819, 836, 853, 870, 887, 904, 921, 938, 955, 972, 989, 1006, 1023, 1040, 1057, 1074, 1091, 1108, 1125, 1142, 1159, 1176, 1193, 1210, 1227, 1244, 1261,	3 Bytes	I	**C - W T U**	DPT_Colour_RGB	[0 - 255] * 3	[Cx][x] RGB - RGB Colour	Red, Green and Blue Components
	3 Bytes	O	**C - - T -**	DPT_TimeOfDay	00:00:00 - 23:59:59	[Cx][x] Alarm Clock - Time	Time
	3 Bytes	I	**C - W T U**	DPT_Colour_RGB	[0 - 255] * 3	[Cx][x] RGBW - RGB Colour	Red, Green and Blue Components

1278, 1295, 1312, 1329, 1346, 1363, 1380, 1397, 1414, 1431, 1448, 1465, 1482, 1499, 1516, 1533, 1550, 1567, 1584, 1601, 1618, 1635, 1652, 1669, 1686, 1703, 1720, 1737, 1754, 1771, 1788, 1805, 1822, 1839, 1856, 1873, 1890, 1907, 1924, 1941, 1958, 1975, 1992, 2009, 2026							
412, 429, 446, 463, 480, 497, 514, 531, 548, 565, 582, 599, 616, 633, 650, 667, 684, 701, 718, 735, 752, 769, 786, 803, 820, 837, 854, 871, 888, 905, 922, 939, 956, 973, 990, 1007, 1024, 1041, 1058, 1075, 1092, 1109, 1126, 1143, 1160, 1177, 1194, 1211, 1228, 1245, 1262, 1279, 1296, 1313, 1330, 1347, 1364, 1381, 1398, 1415, 1432, 1449, 1466, 1483, 1500, 1517, 1534, 1551, 1568, 1585, 1602, 1619, 1636, 1653, 1670, 1687, 1704, 1721, 1738, 1755, 1772, 1789, 1806, 1823, 1840, 1857, 1874, 1891, 1908, 1925, 1942, 1959, 1976, 1993, 2010, 2027	1 Byte	O	**C - - T -**	DPT_Value_1_Ucount	0 - 255	[Cx][x] Integer - 1-Byte Unsigned Control	0 ... 255
	1 Byte	O	**C - - T -**	DPT_Value_1_Count	-128 - 127	[Cx][x] Integer - 1-Byte Signed Control	-128 ... 127
	1 Byte	O	**C - - T -**	DPT_Value_1_Ucount	0 - 255	[Cx][x] Two Objects - Short Press Control: 1-Byte Unsigned	Send Selected 1-Byte Unsigned Value on Short Press
	1 Byte	O	**C - - T -**	DPT_Scaling	0% - 100%	[Cx][x] Percentage - Control	0% ... 100%
	1 Byte	O	**C - - T -**	DPT_HVACContrMode	0=Auto 1=Heat 3=Cool 9=Fan 14=Dry	[Cx][x] Mode - Control	Auto, Heat, Cool, Fan and Dry
	1 Byte	O	**C - - T -**	DPT_Scaling	0% - 100%	[Cx][x] Fan - Percentage Control	100%
	1 Byte	O	**C - - T -**	DPT_Scaling	0% - 100%	[Cx][x] Fan - Percentage Control	50%, 100%
	1 Byte	O	**C - - T -**	DPT_Scaling	0% - 100%	[Cx][x] Fan - Percentage Control	33%, 67%, 100%
	1 Byte	O	**C - - T -**	DPT_Scaling	0% - 100%	[Cx][x] Fan - Percentage Control	25%, 50%, 75%, 100%
	1 Byte	O	**C - - T -**	DPT_Scaling	0% - 100%	[Cx][x] Fan - Percentage Control	20%, 40%, 60%, 80%, 100%
	1 Byte	O	**C - - T -**	DPT_Fan_Stage	0 - 255	[Cx][x] Fan - Enumeration Control	1
	1 Byte	O	**C - - T -**	DPT_Fan_Stage	0 - 255	[Cx][x] Fan - Enumeration Control	1, 2
	1 Byte	O	**C - - T -**	DPT_Fan_Stage	0 - 255	[Cx][x] Fan - Enumeration Control	1, 2, 3
	1 Byte	O	**C - - T -**	DPT_Fan_Stage	0 - 255	[Cx][x] Fan - Enumeration Control	1, 2, 3, 4
	1 Byte	O	**C - - T -**	DPT_Fan_Stage	0 - 255	[Cx][x] Fan - Enumeration Control	1, 2, 3, 4, 5
	1 Byte	I	**C - W T U**	DPT_Scaling	0% - 100%	[Cx][x] RGB - Red Channel	0% ... 100%
	1 Byte	O	**C - - T -**	DPT_HVACMode	1=Comfort 2=Standby 3=Economy 4=Building Protection	[Cx][x] Special Mode - Control	Auto, Comfort, Standby, Economy, Building Protection
	1 Byte	O	**C - - T -**	DPT_Value_1_Ucount	0 - 255	[Cx][x] Enumeration - Control	0 ... 255
	1 Byte	O	**C - - T -**	DPT_Fan_Stage	0 - 255	[Cx][x] Fan - Enumeration Control	0, 1
	1 Byte	O	**C - - T -**	DPT_Fan_Stage	0 - 255	[Cx][x] Fan - Enumeration Control	0, 1, 2, 3, 4, 5
	1 Byte	O	**C - - T -**	DPT_Fan_Stage	0 - 255	[Cx][x] Fan - Enumeration Control	0, 1, 2, 3, 4

	1 Byte	O	C - - T -	DPT_Fan_Stage	0 - 255	[Cx][x] Fan - Enumeration Control	0, 1, 2, 3
	1 Byte	O	C - - T -	DPT_Fan_Stage	0 - 255	[Cx][x] Fan - Enumeration Control	0, 1, 2
	1 Byte	O	C - - T -	DPT_Scaling	0% - 100%	[Cx][x] Fan - Percentage Control	0%, 20%, 40%, 60%, 80%, 100%
	1 Byte	O	C - - T -	DPT_Scaling	0% - 100%	[Cx][x] Fan - Percentage Control	0%, 33%, 67%, 100%
	1 Byte	O	C - - T -	DPT_Scaling	0% - 100%	[Cx][x] Fan - Percentage Control	0%, 50%, 100%
	1 Byte	O	C - - T -	DPT_Scaling	0% - 100%	[Cx][x] Fan - Percentage Control	0%, 100%
	1 Byte	O	C - - T -	DPT_Scaling	0% - 100%	[Cx][x] Fan - Percentage Control	0%, 25%, 50%, 75%, 100%
	1 Byte	O	C - - T -	DPT_Scaling	0% - 100%	[Cx][x] Fan - Percentage Control	Auto, 100%
	1 Byte	O	C - - T -	DPT_Scaling	0% - 100%	[Cx][x] Fan - Percentage Control	Auto, 20%, 40%, 60%, 80%, 100%
	1 Byte	O	C - - T -	DPT_Scaling	0% - 100%	[Cx][x] Fan - Percentage Control	Auto, 25%, 50%, 75%, 100%
	1 Byte	O	C - - T -	DPT_Scaling	0% - 100%	[Cx][x] Fan - Percentage Control	Auto, 33%, 67%, 100%
	1 Byte	O	C - - T -	DPT_Scaling	0% - 100%	[Cx][x] Fan - Percentage Control	Auto, 50%, 100%
	1 Byte	O	C - - T -	DPT_Fan_Stage	0 - 255	[Cx][x] Fan - Enumeration Control	Auto, 1
	1 Byte	O	C - - T -	DPT_Fan_Stage	0 - 255	[Cx][x] Fan - Enumeration Control	Auto, 1, 2
	1 Byte	O	C - - T -	DPT_Fan_Stage	0 - 255	[Cx][x] Fan - Enumeration Control	Auto, 1, 2, 3
	1 Byte	O	C - - T -	DPT_Fan_Stage	0 - 255	[Cx][x] Fan - Enumeration Control	Auto, 1, 2, 3, 4
	1 Byte	O	C - - T -	DPT_Fan_Stage	0 - 255	[Cx][x] Fan - Enumeration Control	Auto, 1, 2, 3, 4, 5
	1 Byte	O	C - - T -	DPT_SceneNumber	0 - 63	[Cx][x] Scene - Send Scene Control	0-63 (Run Scene 1-64)
	1 Byte	O	C - - T -	DPT_SceneControl	0-63; 128-191	[Cx][x] Scene - Send Scene Control	0-63/128-191 (Run/Save Scene 1-64)
	1 Byte	O	C - - T -	DPT_Room_State	0 - 2	[Cx][x] Room State - Control	0 = Normal; 1 = Make-up room; 2 = Do not disturb
	1 Byte	O	C - - T -	DPT_Scaling	0% - 100%	[Cx][x] Light - 1-Byte Percentage Control	1-Byte Dimmer Control
	1 Byte	O	C - - T -	DPT_Scaling	0% - 100%	[Cx][x] Shutter - Percentage Control	0% ... 100%
	1 Byte	I	C - W T U	DPT_Scaling	0% - 100%	[Cx][x] RGBW - Red Channel	0% ... 100%
	1 Byte	O	C - - T -	DPT_Value_1_Count	-128 - 127	[Cx][x] Two Objects - Short Press Control: 1-Byte Signed	Send Selected 1-Byte Signed Value on Short Press
412, 414, 429, 431, 446, 448, 463, 465, 480, 482, 497, 499, 514, 516, 531, 533, 548, 550, 565, 567, 582, 584, 599, 601, 616, 618, 633, 635, 650, 652, 667, 669, 684, 686, 701, 703, 718, 720, 735, 737, 752, 754, 769, 771, 786, 788, 803, 805, 820, 822, 837, 839, 854, 856, 871, 873, 888, 890, 905, 907, 922, 924, 939, 941, 956, 958, 973, 975, 990, 992, 1007,	1 Byte	O	C - - T -	DPT_Value_1_Ucount	0 - 255	[Cx][x] Hold & Release - Control: 1-Byte Unsigned	Send Selected 1-Byte Unsigned Value
	1 Byte	O	C - - T -	DPT_Value_1_Count	-128 - 127	[Cx][x] Hold & Release - Control: 1-Byte Signed	Send Selected 1-Byte Signed Value

1009, 1024, 1026, 1041, 1043, 1058, 1060, 1075, 1077, 1092, 1094, 1109, 1111, 1126, 1128, 1143, 1145, 1160, 1162, 1177, 1179, 1194, 1196, 1211, 1213, 1228, 1230, 1245, 1247, 1262, 1264, 1279, 1281, 1296, 1298, 1313, 1315, 1330, 1332, 1347, 1349, 1364, 1366, 1381, 1383, 1398, 1400, 1415, 1417, 1432, 1434, 1449, 1451, 1466, 1468, 1483, 1485, 1500, 1502, 1517, 1519, 1534, 1536, 1551, 1553, 1568, 1570, 1585, 1587, 1602, 1604, 1619, 1621, 1636, 1638, 1653, 1655, 1670, 1672, 1687, 1689, 1704, 1706, 1721, 1723, 1738, 1740, 1755, 1757, 1772, 1774, 1789, 1791, 1806, 1808, 1823, 1825, 1840, 1842, 1857, 1859, 1874, 1876, 1891, 1893, 1908, 1910, 1925, 1927, 1942, 1944, 1959, 1961, 1976, 1978, 1993, 1995, 2010, 2012, 2027, 2029							
413, 430, 447, 464, 481, 498,	1 Byte	I	**C - W T U**	DPT_Scaling	0% - 100%	[Cx][x] RGB - Green Channel	0% ... 100%
515, 532, 549, 566, 583, 600, 617, 634, 651, 668, 685, 702, 719, 736, 753, 770, 787, 804, 821, 838, 855, 872, 889, 906, 923, 940, 957, 974, 991, 1008, 1025, 1042, 1059, 1076, 1093, 1110, 1127, 1144, 1161, 1178, 1195, 1212, 1229, 1246, 1263, 1280, 1297, 1314, 1331, 1348, 1365, 1382, 1399, 1416, 1433, 1450, 1467, 1484, 1501, 1518, 1535, 1552, 1569, 1586, 1603, 1620, 1637, 1654, 1671, 1688, 1705, 1722, 1739, 1756, 1773, 1790, 1807,	1 Byte	I	**C - W T U**	DPT_Scaling	0% - 100%	[Cx][x] RGBW - Green Channel	0% ... 100%

1824, 1841, 1858, 1875, 1892, 1909, 1926, 1943, 1960, 1977, 1994, 2011, 2028							
414, 431, 448, 465, 482, 499, 516, 533, 550, 567, 584, 601, 618, 635, 652, 669, 686, 703, 720, 737, 754, 771, 788, 805, 822, 839, 856, 873, 890, 907, 924, 941, 958, 975, 992, 1009, 1026, 1043, 1060, 1077, 1094, 1111, 1128, 1145, 1162, 1179, 1196, 1213, 1230, 1247, 1264, 1281, 1298, 1315, 1332, 1349, 1366, 1383, 1400, 1417, 1434, 1451, 1468, 1485, 1502, 1519, 1536, 1553, 1570, 1587, 1604, 1621, 1638, 1655, 1672, 1689, 1706, 1723, 1740, 1757, 1774, 1791, 1808, 1825, 1842, 1859, 1876, 1893, 1910, 1927, 1944, 1961, 1978, 1995, 2012, 2029	1 Byte	I	**C - W T U**	DPT_Scaling	0% - 100%	[Cx][x] RGB - Blue Channel	0% ... 100%
	1 Byte	I	**C - W T U**	DPT_Scaling	0% - 100%	[Cx][x] RGBW - Blue Channel	0% ... 100%
	1 Byte	O	**C - - T -**	DPT_Value_1_Ucount	0 - 255	[Cx][x] Two Objects - Long Press Control: 1-Byte Unsigned	Send Selected 1-Byte Unsigned Value on Long Press
	1 Byte	O	**C - - T -**	DPT_Value_1_Count	-128 - 127	[Cx][x] Two Objects - Long Press Control: 1-Byte Signed	Send Selected 1-Byte Signed Value on Short Press
415, 432, 449, 466, 483, 500, 517, 534, 551, 568, 585, 602, 619, 636, 653, 670, 687, 704, 721, 738, 755, 772, 789, 806, 823, 840, 857, 874, 891, 908, 925, 942, 959, 976, 993, 1010, 1027, 1044, 1061, 1078, 1095, 1112, 1129, 1146, 1163, 1180, 1197, 1214, 1231, 1248, 1265, 1282, 1299, 1316, 1333, 1350, 1367, 1384, 1401, 1418, 1435, 1452, 1469, 1486, 1503, 1520, 1537, 1554, 1571, 1588, 1605, 1622, 1639, 1656, 1673, 1690, 1707, 1724, 1741, 1758, 1775, 1792, 1809, 1826, 1843, 1860, 1877, 1894, 1911, 1928, 1945, 1962, 1979, 1996, 2013, 2030	1 Byte	I	**C - W T U**	DPT_Scaling	0% - 100%	[Cx][x] RGBW - White Channel	0% ... 100%
416, 433, 450, 467, 484, 501, 518, 535, 552, 569, 586, 603,	2 Bytes	O	**C - - T -**	DPT_Value_2_Ucount	0 - 65535	[Cx][x] Integer - 2-Byte Unsigned Control	0 ... 65535

620, 637, 654, 671, 688, 705, 722, 739, 756, 773, 790, 807, 824, 841, 858, 875, 892, 909, 926, 943, 960, 977, 994, 1011, 1028, 1045, 1062, 1079, 1096, 1113, 1130, 1147, 1164, 1181, 1198, 1215, 1232, 1249, 1266, 1283, 1300, 1317, 1334, 1351, 1368, 1385, 1402, 1419, 1436, 1453, 1470, 1487, 1504, 1521, 1538, 1555, 1572, 1589, 1606, 1623, 1640, 1657, 1674, 1691, 1708, 1725, 1742, 1759, 1776, 1793, 1810, 1827, 1844, 1861, 1878, 1895, 1912, 1929, 1946, 1963, 1980, 1997, 2014, 2031	2 Bytes	O	C - - T -	DPT_Value_2_Count	-32768 - 32767	[Cx][x] Integer - 2-Byte Signed Control	-32768 ... 32767
	2 Bytes	O	C - - T -	9.xxx	-671088.64 - 670433.28	[Cx][x] Float - 2-Byte Control	-671088.64 ... 670433.28
	2 Bytes	O	C - - T -	DPT_Value_Temp	-273.00º - 670433.28º	[Cx][x] Setpoint - Temperature Control	-99ºC ... 199ºC
	2 Bytes	O	C - - T -	DPT_Absolute_Colour_Temperature	0 - 65535	[Cx][x] Light - Colour Temperature Control	1000K ... 20000K
	2 Bytes	O	C - - T -	DPT_Value_2_Ucount	0 - 65535	[Cx][x] Two Objects - Short Press Control: 2-Bytes Unsigned	Send Selected 2-Bytes Unsigned Value on Short Press
	2 Bytes	O	C - - T -	DPT_Value_2_Count	-32768 - 32767	[Cx][x] Two Objects - Short Press Control: 2-Bytes Signed	Send Selected 2-Bytes Signed Value on Short Press
416, 417, 433, 434, 450, 451, 467, 468, 484, 485, 501, 502, 518, 519, 535, 536, 552, 553, 569, 570, 586, 587, 603, 604, 620, 621, 637, 638, 654, 655, 671, 672, 688, 689, 705, 706, 722, 723, 739, 740, 756, 757, 773, 774, 790, 791, 807, 808, 824, 825, 841, 842, 858, 859, 875, 876, 892, 893, 909, 910, 926, 927, 943, 944, 960, 961, 977, 978, 994, 995, 1011, 1012, 1028, 1029, 1045, 1046, 1062, 1063, 1079, 1080, 1096, 1097, 1113, 1114, 1130, 1131, 1147, 1148, 1164, 1165, 1181, 1182, 1198, 1199, 1215, 1216, 1232, 1233, 1249, 1250, 1266, 1267, 1283, 1284, 1300, 1301, 1317, 1318, 1334, 1335, 1351, 1352, 1368, 1369, 1385, 1386, 1402, 1403, 1419, 1420, 1436, 1437, 1453, 1454, 1470, 1471, 1487, 1488, 1504, 1505, 1521, 1522, 1538, 1539, 1555, 1556, 1572, 1573, 1589,	2 Bytes	O	C - - T -	DPT_Value_2_Ucount	0 - 65535	[Cx][x] Hold & Release - Control: 2-Bytes Unsigned	Send Selected 2-Bytes Unsigned Value
	2 Bytes	O	C - - T -	DPT_Value_2_Count	-32768 - 32767	[Cx][x] Hold & Release - Control: 2-Bytes Signed	Send Selected 2-Bytes Signed Value

1590, 1606, 1607, 1623, 1624, 1640, 1641, 1657, 1658, 1674, 1675, 1691, 1692, 1708, 1709, 1725, 1726, 1742, 1743, 1759, 1760, 1776, 1777, 1793, 1794, 1810, 1811, 1827, 1828, 1844, 1845, 1861, 1862, 1878, 1879, 1895, 1896, 1912, 1913, 1929, 1930, 1946, 1947, 1963, 1964, 1980, 1981, 1997, 1998, 2014, 2015, 2031, 2032							
417, 434, 451, 468, 485, 502, 519, 536, 553, 570, 587, 604, 621, 638, 655, 672, 689, 706, 723, 740, 757, 774, 791, 808, 825, 842, 859, 876, 893, 910, 927, 944, 961, 978, 995, 1012, 1029, 1046, 1063, 1080, 1097, 1114, 1131, 1148, 1165, 1182, 1199, 1216, 1233, 1250, 1267, 1284, 1301, 1318, 1335, 1352, 1369, 1386, 1403, 1420, 1437, 1454, 1471, 1488, 1505, 1522, 1539, 1556, 1573, 1590, 1607, 1624, 1641, 1658, 1675, 1692, 1709, 1726, 1743, 1760, 1777, 1794, 1811, 1828, 1845, 1862, 1879, 1896, 1913, 1930, 1947, 1964, 1981, 1998, 2015, 2032	2 Bytes	O	**C - - T -**	DPT_Value_2_Ucount	0 - 65535	[Cx][x] Two Objects - Long Press Control: 2-Bytes Unsigned	Send Selected 2-Bytes Unsigned Value on Long Press
	2 Bytes	O	**C - - T -**	DPT_Value_2_Count	-32768 - 32767	[Cx][x] Two Objects - Long Press Control: 2-Bytes Signed	Send Selected 2-Bytes Signed Value on Long Press
418, 435, 452, 469, 486, 503, 520, 537, 554, 571, 588, 605, 622, 639, 656, 673, 690, 707, 724, 741, 758, 775, 792, 809, 826, 843, 860, 877, 894, 911, 928, 945, 962, 979, 996, 1013, 1030, 1047, 1064, 1081, 1098, 1115, 1132, 1149, 1166, 1183, 1200, 1217, 1234, 1251, 1268, 1285, 1302, 1319, 1336, 1353, 1370, 1387, 1404, 1421, 1438, 1455, 1472, 1489, 1506, 1523, 1540,	1 Bit	I	**C - W T U**	DPT_Switch	0/1	[Cx][x] Switch - Status	1-Bit Indicator
	1 Bit	I	**C - W T U**	DPT_Heat_Cool	0/1	[Cx][x] Mode - Status	0 = Cool; 1 = Heat
	1 Bit	I	**C - W T U**	DPT_Switch	0/1	[Cx][x] Two Objects - Switch Status	1-Bit Indicator
	1 Bit	I	**C - W T U**	DPT_Switch	0/1	[Cx][x] Hold & Release - Switch Status	1-Bit Indicator
	1 Bit	O	**C R - T -**	DPT_Switch	0/1	[Cx][x] Room State - Do Not Disturb (Status)	0 = No Active; 1 = Active
	1 Bit	I	**C - W T U**	DPT_UpDown	0/1	[Cx][x] Shutter - Movement Direction Status	0 = Upward; 1 = Downward

1557, 1574, 1591, 1608, 1625, 1642, 1659, 1676, 1693, 1710, 1727, 1744, 1761, 1778, 1795, 1812, 1829, 1846, 1863, 1880, 1897, 1914, 1931, 1948, 1965, 1982, 1999, 2016, 2033							
419, 436, 453, 470, 487, 504, 521, 538, 555, 572, 589, 606, 623, 640, 657, 674, 691, 708, 725, 742, 759, 776, 793, 810, 827, 844, 861, 878, 895, 912, 929, 946, 963, 980, 997, 1014, 1031, 1048, 1065, 1082, 1099, 1116, 1133, 1150, 1167, 1184, 1201, 1218, 1235, 1252, 1269, 1286, 1303, 1320, 1337, 1354, 1371, 1388, 1405, 1422, 1439, 1456, 1473, 1490, 1507, 1524, 1541, 1558, 1575, 1592, 1609, 1626, 1643, 1660, 1677, 1694, 1711, 1728, 1745, 1762, 1779, 1796, 1813, 1830, 1847, 1864, 1881, 1898, 1915, 1932, 1949, 1966, 1983, 2000, 2017, 2034	1 Bit	O	**C R - T -**	DPT_Switch	0/1	[Cx][x] Room State - Make Up Room (Status)	0 = No Active; 1 = Active
420, 437, 454, 471, 488, 505, 522, 539, 556, 573, 590, 607, 624, 641, 658, 675, 692, 709, 726, 743, 760, 777, 794, 811, 828, 845, 862, 879, 896, 913, 930, 947, 964, 981, 998, 1015, 1032, 1049, 1066, 1083, 1100, 1117, 1134, 1151, 1168, 1185, 1202, 1219, 1236, 1253, 1270, 1287, 1304, 1321, 1338, 1355, 1372, 1389, 1406, 1423, 1440, 1457, 1474, 1491, 1508, 1525, 1542, 1559, 1576, 1593, 1610, 1627, 1644, 1661, 1678, 1695, 1712, 1729, 1746,	1 Byte	I	**C - W T U**	DPT_Value_1_Ucount	0 - 255	[Cx][x] Enumeration - Status	0 ... 255
	1 Byte	I	**C - W T U**	DPT_Value_1_Ucount	0 - 255	[Cx][x] Integer - 1-Byte Unsigned Status	0 ... 255
	1 Byte	I	**C - W T U**	DPT_Value_1_Count	-128 - 127	[Cx][x] Integer - 1-Byte Signed Status	-128 ... 127
	1 Byte	I	**C - W T U**	DPT_Scaling	0% - 100%	[Cx][x] Percentage - Status	0% ... 100%
	1 Byte	I	**C - W T U**	DPT_Scaling	0% - 100%	[Cx][x] Light - Percentage Status	0% = Off; 100% = On
	1 Byte	I	**C - W T U**	DPT_Scaling	0% - 100%	[Cx][x] Shutter - Percentage Status	0% = Top; 100% = Bottom
	1 Byte	I	**C - W T U**	DPT_Scaling	0% - 100%	[Cx][x] Fan - Percentage Status	0% - 100%
	1 Byte	I	**C - W T U**	DPT_Fan_Stage	0 - 255	[Cx][x] Fan - Enumeration Status	Enumerated Value
	1 Byte	I	**C - W T U**	DPT_HVACContrMode	0=Auto 1=Heat 3=Cool 9=Fan 14=Dry	[Cx][x] Mode - Status	Auto, Heat, Cool, Fan and Dry

1763, 1780, 1797, 1814, 1831, 1848, 1865, 1882, 1899, 1916, 1933, 1950, 1967, 1984, 2001, 2018, 2035	1 Byte	I	C - W T U	DPT_HVACMode	1=Comfort 2=Standby 3=Economy 4=Building Protection	[Cx][x] Special Mode - Status	Auto, Comfort, Standby, Economy and Building Protection
	1 Byte	I	C - W T U	DPT_Room_State	0 - 2	[Cx][x] Room State - Status	0 = Normal; 1 = Make-up room; 2 = Do not disturb
421, 438, 455, 472, 489, 506, 523, 540, 557, 574, 591, 608, 625, 642, 659, 676, 693, 710, 727, 744, 761, 778, 795, 812, 829, 846, 863, 880, 897, 914, 931, 948, 965, 982, 999, 1016, 1033, 1050, 1067, 1084, 1101, 1118, 1135, 1152, 1169, 1186, 1203, 1220, 1237, 1254, 1271, 1288, 1305, 1322, 1339, 1356, 1373, 1390, 1407, 1424, 1441, 1458, 1475, 1492, 1509, 1526, 1543, 1560, 1577, 1594, 1611, 1628, 1645, 1662, 1679, 1696, 1713, 1730, 1747, 1764, 1781, 1798, 1815, 1832, 1849, 1866, 1883, 1900, 1917, 1934, 1951, 1968, 1985, 2002, 2019, 2036	1 Byte	I	C - W T U	DPT_Scaling	0% - 100%	[Cx][x] Shutter - Slats Percentage Status	0% = Open; 100% = Closed
422, 439, 456, 473, 490, 507, 524, 541, 558, 575, 592, 609, 626, 643, 660, 677, 694, 711, 728, 745, 762, 779, 796, 813, 830, 847, 864, 881, 898, 915, 932, 949, 966, 983, 1000, 1017, 1034, 1051, 1068, 1085, 1102, 1119, 1136, 1153, 1170, 1187, 1204, 1221, 1238, 1255, 1272, 1289, 1306, 1323, 1340, 1357, 1374, 1391, 1408, 1425, 1442, 1459, 1476, 1493, 1510, 1527, 1544, 1561, 1578, 1595, 1612, 1629, 1646, 1663, 1680, 1697, 1714, 1731, 1748, 1765, 1782, 1799, 1816, 1833, 1850, 1867, 1884,	2 Bytes	I	C - W T U	DPT_Value_2_Ucount	0 - 65535	[Cx][x] Integer - 2-Byte Unsigned Status	0 ... 65535
	2 Bytes	I	C - W T U	DPT_Value_2_Count	-32768 - 32767	[Cx][x] Integer - 2-Byte Signed Status	-32768 ... 32767
	2 Bytes	I	C - W T U	9.xxx	-671088.64 - 670433.28	[Cx][x] Float - 2-Byte Status	-671088.64 ... 670433.28
	2 Bytes	I	C - W T U	DPT_Value_Temp	-273.00º - 670433.28º	[Cx][x] Temperature - Status	-99ºC ... 199ºC
	2 Bytes	I	C - W T U	DPT_Value_Temp	-273.00º - 670433.28º	[Cx][x] Setpoint - Temperature Status	-99ºC ... 199ºC
	2 Bytes	I	C - W T U	DPT_Absolute_Colour_Temperature	0 - 65535	[Cx][x] Light - Colour Temperature Status	1000K ... 20000K

1901, 1918, 1935, 1952, 1969, 1986, 2003, 2020, 2037							
423, 440, 457, 474, 491, 508, 525, 542, 559, 576, 593, 610, 627, 644, 661, 678, 695, 712, 729, 746, 763, 780, 797, 814, 831, 848, 865, 882, 899, 916, 933, 950, 967, 984, 1001, 1018, 1035, 1052, 1069, 1086, 1103, 1120, 1137, 1154, 1171, 1188, 1205, 1222, 1239, 1256, 1273, 1290, 1307, 1324, 1341, 1358, 1375, 1392, 1409, 1426, 1443, 1460, 1477, 1494, 1511, 1528, 1545, 1562, 1579, 1596, 1613, 1630, 1647, 1664, 1681, 1698, 1715, 1732, 1749, 1766, 1783, 1800, 1817, 1834, 1851, 1868, 1885, 1902, 1919, 1936, 1953, 1970, 1987, 2004, 2021, 2038	4 Bytes	I	**C - W T U**	DPT_Value_4_Count	-2147483648 - 2147483647	[Cx][x] Integer - 4-Byte Signed Status	-2147483648 ... 2147483647
	4 Bytes	I	**C - W T U**	14.xxx		[Cx][x] Float - 4-Byte Status	-2147483647 ... 2147483647
	4 Bytes	I	**C - W T U**	DPT_Value_4_Ucount	0 - 4294967295	[Cx][x] Integer - 4-Byte Unsigned Status	0 ... 4294967295
424, 441, 458, 475, 492, 509, 526, 543, 560, 577, 594, 611, 628, 645, 662, 679, 696, 713, 730, 747, 764, 781, 798, 815, 832, 849, 866, 883, 900, 917, 934, 951, 968, 985, 1002, 1019, 1036, 1053, 1070, 1087, 1104, 1121, 1138, 1155, 1172, 1189, 1206, 1223, 1240, 1257, 1274, 1291, 1308, 1325, 1342, 1359, 1376, 1393, 1410, 1427, 1444, 1461, 1478, 1495, 1512, 1529, 1546, 1563, 1580, 1597, 1614, 1631, 1648, 1665, 1682, 1699, 1716, 1733, 1750, 1767, 1784, 1801, 1818, 1835, 1852, 1869, 1886, 1903, 1920, 1937, 1954, 1971, 1988, 2005, 2022, 2039	14 Bytes	I	**C - W T U**	DPT_String_UTF-8		[Cx][x] Text - Status	Text String
	14 Bytes	I	**C - W T U**	DPT_String_UTF-8		[Cx][x] Multimedia - Status	14-Bytes Text String
	6 Bytes	I	**C - W T U**	DPT_Colour_RGBW	[0 -1] *4 - [0 - 255] * 4	[Cx][x] RGBW - RGBW Colour	Red, Green, Blue and White Components
2040	1 Bit	I	**C - W - -**	DPT_Enable	0/1	[General] Proximity Sensor	0 = Disable; 1 = Enable
2041	1 Bit	I	**C - W - -**	DPT_Start	0/1	[General] External Proximity Detection	1 = Detection

2042	1 Bit	O	C - - T -	DPT_Start	0/1	[General] Proximity Detection	Send 1 when Proximity is Detected
2043	1 Bit	O	C - - T -	DPT_Bool	0/1	[General] Luminosity (1-Bit)	0 = Over Threshold; 1 = Under Threshold
	1 Bit	O	C - - T -	DPT_Bool	0/1	[General] Luminosity (1-Bit)	0 = Under Threshold; 1 = Over Threshold
2044	1 Byte	O	C R - - -	DPT_Scaling	0% - 100%	[General] Luminosity (Percentage)	0% ... 100%
2045	2 Bytes	O	C R - - -	DPT_Value_Lux		[General] Luminosity (Lux)	0 Lux ... 670760 Lux
2046	1 Bit	I	C - W - -	DPT_DayNight	0/1	[General] Backlight Mode	0 = Night Mode; 1 = Normal Mode
	1 Bit	I	C - W - -	DPT_DayNight	0/1	[General] Backlight Mode	0 = Normal Mode; 1 = Night Mode
2047	1 Byte	I	C - W - -	DPT_Scaling	0% - 100%	[General] Display - Brightness	0% ... 100%
2048	1 Byte	I	C - W - -	DPT_Scaling	0% - 100%	[General] Display - Contrast	0% ... 100%
2049, 2053, 2057, 2061	2 Bytes	O	C R - T -	DPT_Value_Temp	-273.00º - 670433.28º	[Ix] Current Temperature	Temperature Sensor Value
2050, 2054, 2058, 2062	1 Bit	O	C R - T -	DPT_Alarm	0/1	[Ix] Overcooling	0 = No Alarm; 1 = Alarm
2051, 2055, 2059, 2063	1 Bit	O	C R - T -	DPT_Alarm	0/1	[Ix] Overheating	0 = No Alarm; 1 = Alarm
2052, 2056, 2060, 2064	1 Bit	O	C R - T -	DPT_Alarm	0/1	[Ix] Probe Error	0 = No Alarm; 1 = Alarm
2065	2 Bytes	O	C R - T -	DPT_Value_Temp	-273.00º - 670433.28º	[Internal Temp. Probe] Current Temperature	Temperature Sensor Value
2066	1 Bit	O	C R - T -	DPT_Alarm	0/1	[Internal Temp. Probe] Overcooling	0 = No Alarm; 1 = Alarm
2067	1 Bit	O	C R - T -	DPT_Alarm	0/1	[Internal Temp. Probe] Overheating	0 = No Alarm; 1 = Alarm
2068, 2077, 2086, 2095	1 Bit	I	C - W - -	DPT_Enable	0/1	[Ix] Input Lock	0 = Unlock; 1 = Lock
2069, 2078, 2087, 2096	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Short Press] 0	Sending of 0
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Short Press] 1	Sending of 1
	1 Bit	I	C - W T -	DPT_Switch	0/1	[Ix] [Short Press] 0/1 Switching	Switching 0/1
	1 Bit	O	C - - T -	DPT_UpDown	0/1	[Ix] [Short Press] Move Up Shutter	Sending of 0 (Up)
	1 Bit	O	C - - T -	DPT_UpDown	0/1	[Ix] [Short Press] Move Down Shutter	Sending of 1 (Down)
	1 Bit	I	C - W T -	DPT_UpDown	0/1	[Ix] [Short Press] Move Up/Down Shutter	Switching 0/1 (Up/Down)
	1 Bit	O	C - - T -	DPT_Step	0/1	[Ix] [Short Press] Stop/Step Up Shutter	Sending of 0 (Stop/Step Up)
	1 Bit	O	C - - T -	DPT_Step	0/1	[Ix] [Short Press] Stop/Step Down Shutter	Sending of 1 (Stop/Step Down)
	1 Bit	I	C - W T -	DPT_Step	0/1	[Ix] [Short Press] Stop/Step Shutter (Switched)	Switching of 0/1 (Stop/Step Up/Down)
	4 Bit	O	C - - T -	DPT_Control_Dimming	0x0/0x8 (Stop) 0x1...0x7 (Dec.) 0x9...0xF (Inc.)	[Ix] [Short Press] Brighter	Increase Brightness

	4 Bit	O	C - - T -	DPT_Control_Dimming	0x0/0x8 (Stop) 0x1...0x7 (Dec.) 0x9...0xF (Inc.)	[Ix] [Short Press] Darker	Decrease Brightness
	4 Bit	I	C - W T -	DPT_Control_Dimming	0x0/0x8 (Stop) 0x1...0x7 (Dec.) 0x9...0xF (Inc.)	[Ix] [Short Press] Brighter/Darker	Switch Bright/Dark
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Short Press] Light On	Sending of 1 (On)
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Short Press] Light On/Off	0/1
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Short Press] Light Off	Sending of 0 (Off)
	1 Byte	O	C - - T -	DPT_SceneControl	0-63; 128-191	[Ix] [Short Press] Run Scene	Sending of 0 - 63
	1 Byte	O	C - - T -	DPT_SceneControl	0-63; 128-191	[Ix] [Short Press] Save Scene	Sending of 128 - 191
	1 Byte	O	C - - T -	DPT_Value_1_Ucount	0 - 255	[Ix] [Short Press] Constant Value (Integer)	0 - 255
	1 Byte	O	C - - T -	DPT_Scaling	0% - 100%	[Ix] [Short Press] Constant Value (Percentage)	0% - 100%
	2 Bytes	O	C - - T -	DPT_Value_2_Ucount	0 - 65535	[Ix] [Short Press] Constant Value (Integer)	0 - 65535
	2 Bytes	O	C - - T -	9.xxx	-671088.64 - 670433.28	[Ix] [Short Press] Constant Value (Float)	Float Value
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Switch/Sensor] [Rising Edge] 0	Sending of 0
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Switch/Sensor] [Rising Edge] 1	Sending of 1
	1 Bit	I	C - W T -	DPT_Switch	0/1	[Ix] [Switch/Sensor] [Rising Edge] 0/1 Switching	Switching 0/1
	1 Bit	O	C - - T -	DPT_UpDown	0/1	[Ix] [Switch/Sensor] [Rising Edge] Move Up Shutter	Sending of 0 (Up)
	1 Bit	O	C - - T -	DPT_UpDown	0/1	[Ix] [Switch/Sensor] [Rising Edge] Move Down Shutter	Sending of 1 (Down)
	1 Bit	I	C - W T -	DPT_UpDown	0/1	[Ix] [Switch/Sensor] [Rising Edge] Move Up/Down Shutter	Switching 0/1 (Up/Down)
	1 Bit	O	C - - T -	DPT_Step	0/1	[Ix] [Switch/Sensor] [Rising Edge] Stop/Step Up Shutter	Sending of 0 (Stop/Step Up)
	1 Bit	O	C - - T -	DPT_Step	0/1	[Ix] [Switch/Sensor] [Rising Edge] Stop/Step Down Shutter	Sending of 1 (Stop/Step Down)
	1 Bit	I	C - W T -	DPT_Step	0/1	[Ix] [Switch/Sensor] [Rising Edge] Stop/Step Shutter (Switched)	Switching of 0/1 (Stop/Step Up/Down)
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Switch/Sensor] [Rising Edge] Light On	Sending of 1 (On)
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Switch/Sensor] [Rising Edge] Light Off	Sending of 0 (Off)
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Switch/Sensor] [Rising Edge] Light On/Off	0/1

	4 Bit	O	C - - T -	DPT_Control_Dimming	0x0/0x8 (Stop) 0x1...0x7 (Dec.) 0x9...0xF (Inc.)	[Ix] [Switch/Sensor] [Rising Edge] Brighter	Increase Brightness
	4 Bit	O	C - - T -	DPT_Control_Dimming	0x0/0x8 (Stop) 0x1...0x7 (Dec.) 0x9...0xF (Inc.)	[Ix] [Switch/Sensor] [Rising Edge] Darker	Decrease Brightness
	4 Bit	I	C - W T -	DPT_Control_Dimming	0x0/0x8 (Stop) 0x1...0x7 (Dec.) 0x9...0xF (Inc.)	[Ix] [Switch/Sensor] [Rising Edge] Brighter/Darker	Switch Bright/Dark
	1 Byte	O	C - - T -	DPT_SceneControl	0-63; 128-191	[Ix] [Switch/Sensor] [Rising Edge] Run Scene	Sending of 0 - 63
	1 Byte	O	C - - T -	DPT_SceneControl	0-63; 128-191	[Ix] [Switch/Sensor] [Rising Edge] Save Scene	Sending of 128 - 191
	1 Byte	O	C - - T -	DPT_Value_1_Ucount	0 - 255	[Ix] [Switch/Sensor] [Rising Edge] Constant Value (Integer)	0 - 255
	1 Byte	O	C - - T -	DPT_Scaling	0% - 100%	[Ix] [Switch/Sensor] [Rising Edge] Constant Value (Percentage)	0% - 100%
	2 Bytes	O	C - - T -	DPT_Value_2_Ucount	0 - 65535	[Ix] [Switch/Sensor] [Rising Edge] Constant Value (Integer)	0 - 65535
	2 Bytes	O	C - - T -	9.xxx	-671088.64 - 670433.28	[Ix] [Switch/Sensor] [Rising Edge] Constant Value (Float)	Float Value
	1 Bit	O	C - - T -	DPT_Ack	0/1	[Ix] [Pulse Counter] Counter	Send 1
	1 Byte	O	C R - T -	DPT_Value_1_Ucount	0 - 255	[Ix] [Pulse Counter] Counter	Number of Pulses
	2 Bytes	O	C R - T -	DPT_Value_2_Ucount	0 - 65535	[Ix] [Pulse Counter] Counter	Number of Pulses
	2 Bytes	O	C R - T -	DPT_Power	-671088.64 - 670433.28 kW	[Ix] [Pulse Counter] Counter	Power (kW)
	2 Bytes	O	C R - T -	DPT_Value_Volume_Flow		[Ix] [Pulse Counter] Counter	Flow (l/h)
	4 Bytes	O	C R - T -	DPT_Value_4_Ucount	0 - 4294967295	[Ix] [Pulse Counter] Counter	Number of Pulses
	4 Bytes	O	C R - T -	1.xxx	0/1	[Ix] [Pulse Counter] Counter	Flow Rate (m3/h)
	4 Bytes	O	C R - T -	DPT_ActiveEnergy	0 - 2147483647	[Ix] [Pulse Counter] Counter	Energy (Wh)
	4 Bytes	O	C R - T -	DPT_ActiveEnergy_kWh	0 - 2147483647	[Ix] [Pulse Counter] Counter	Energy (kWh)
	4 Bytes	O	C R - T -	DPT_Value_Power	-3.4E+38 W - 3.4E+38 W	[Ix] [Pulse Counter] Counter	Power (W)
	4 Bytes	O	C R - T -	DPT_Value_Volume		[Ix] [Pulse Counter] Counter	Volume (m3)
	1 Bit	I/O	C R W T -	DPT_Switch	0/1	[Ix] [Switch/Sensor] Edge	0/1
2070, 2079, 2088, 2097	1 Byte	I	C - W - -	DPT_Scaling	0% - 100%	[Ix] [Short Press] Shutter Status (Input)	0% = Top; 100% = Bottom
	1 Byte	I	C - W - -	DPT_Scaling	0% - 100%	[Ix] [Short Press] Dimming Status (Input)	0% - 100%
	1 Byte	I	C - W - -	DPT_Scaling	0% - 100%	[Ix] [Switch/Sensor] [Rising Edge] Dimming Status (Input)	0% - 100%
	1 Byte	I	C - W - -	DPT_Scaling	0% - 100%	[Ix] [Switch/Sensor] [Rising Edge] Shutter Status (Input)	0% = Top; 100% = Bottom

	1 Bit	I	C - W T -	DPT_Switch	0/1	[Ix] [Switch/Sensor] [Rising Edge] 0/1 Switching (Immediate Object)	Switching 0/1
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Switch/Sensor] [Rising Edge] 0 (Immediate Object)	Sending of 0
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Switch/Sensor] [Rising Edge] 1 (Immediate Object)	Sending of 1
	1 Bit	I/O	C R W T -	DPT_Switch	0/1	[Ix] [Switch/Sensor] Edge (Immediate Object)	0/1
2071, 2080, 2089, 2098	1 Bit	I	C - W - -	DPT_Reset	0/1	[Ix] [Pulse Counter] Reset	0 = No Action; 1 = Reset
	1 Bit	O	C R - T -	DPT_Alarm	0/1	[Ix] [Switch/Sensor] Alarm: Breakdown or Sabotage	1 = Alarm; 0 = No Alarm
2072, 2081, 2090, 2099	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Double Press] 0	Sending of 0
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Double Press] 1	Sending of 1
	1 Bit	I	C - W T -	DPT_Switch	0/1	[Ix] [Double Press] 0/1 Switching	Switching 0/1
	1 Bit	O	C - - T -	DPT_UpDown	0/1	[Ix] [Double Press] Move Up Shutter	Sending of 0 (Up)
	1 Bit	O	C - - T -	DPT_UpDown	0/1	[Ix] [Double Press] Move Down Shutter	Sending of 1 (Down)
	1 Bit	I	C - W T -	DPT_UpDown	0/1	[Ix] [Double Press] Move Up/Down Shutter	Switching 0/1 (Up/Down)
	1 Bit	O	C - - T -	DPT_Step	0/1	[Ix] [Double Press] Stop/Step Up Shutter	Sending of 0 (Stop/Step Up)
	1 Bit	O	C - - T -	DPT_Step	0/1	[Ix] [Double Press] Stop/Step Down Shutter	Sending of 1 (Stop/Step Down)
	1 Bit	I	C - W T -	DPT_Step	0/1	[Ix] [Double Press] Stop/Step Shutter (Switched)	Switching of 0/1 (Stop/Step Up/Down)
	4 Bit	O	C - - T -	DPT_Control_Dimming	0x0/0x8 (Stop) 0x1...0x7 (Dec.) 0x9...0xF (Inc.)	[Ix] [Double Press] Brighter	Increase Brightness
	4 Bit	O	C - - T -	DPT_Control_Dimming	0x0/0x8 (Stop) 0x1...0x7 (Dec.) 0x9...0xF (Inc.)	[Ix] [Double Press] Darker	Decrease Brightness
	4 Bit	I	C - W T -	DPT_Control_Dimming	0x0/0x8 (Stop) 0x1...0x7 (Dec.) 0x9...0xF (Inc.)	[Ix] [Double Press] Brighter/Darker	Switch Bright/Dark
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Double Press] Light On	Sending of 1 (On)
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Double Press] Light Off	Sending of 0 (Off)
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Double Press] Light On/Off	0/1
	1 Byte	O	C - - T -	DPT_SceneControl	0-63; 128-191	[Ix] [Double Press] Run Scene	Sending of 0 - 63
	1 Byte	O	C - - T -	DPT_SceneControl	0-63; 128-191	[Ix] [Double Press] Save Scene	Sending of 128 - 191
	1 Byte	O	C - - T -	DPT_Value_1_Ucount	0 - 255	[Ix] [Double Press] Constant Value (Integer)	0 - 255

	1 Byte	O	C - - T -	DPT_Scaling	0% - 100%	[Ix] [Double Press] Constant Value (Percentage)	0% - 100%
	2 Bytes	O	C - - T -	DPT_Value_2_Ucount	0 - 65535	[Ix] [Double Press] Constant Value (Integer)	0 - 65535
	2 Bytes	O	C - - T -	9.xxx	-671088.64 - 670433.28	[Ix] [Double Press] Constant Value (Float)	Float Value
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Switch/Sensor] [Falling Edge] 0	Sending of 0
	1 Bit	I	C - W T -	DPT_Switch	0/1	[Ix] [Switch/Sensor] [Falling Edge] 0/1 Switching	Switching 0/1
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Switch/Sensor] [Falling Edge] 1	Sending of 1
	4 Bit	O	C - - T -	DPT_Control_Dimming	0x0/0x8 (Stop) 0x1...0x7 (Dec.) 0x9...0xF (Inc.)	[Ix] [Switch/Sensor] [Falling Edge] Brighter	Increase Brightness
	4 Bit	I	C - W T -	DPT_Control_Dimming	0x0/0x8 (Stop) 0x1...0x7 (Dec.) 0x9...0xF (Inc.)	[Ix] [Switch/Sensor] [Falling Edge] Brighter/Darker	Switch Bright/Dark
	2 Bytes	O	C - - T -	9.xxx	-671088.64 - 670433.28	[Ix] [Switch/Sensor] [Falling Edge] Constant Value (Float)	Float Value
	2 Bytes	O	C - - T -	DPT_Value_2_Ucount	0 - 65535	[Ix] [Switch/Sensor] [Falling Edge] Constant Value (Integer)	0 - 65535
	1 Byte	O	C - - T -	DPT_Value_1_Ucount	0 - 255	[Ix] [Switch/Sensor] [Falling Edge] Constant Value (Integer)	0 - 255
	1 Byte	O	C - - T -	DPT_Scaling	0% - 100%	[Ix] [Switch/Sensor] [Falling Edge] Constant Value (Percentage)	0% - 100%
	4 Bit	O	C - - T -	DPT_Control_Dimming	0x0/0x8 (Stop) 0x1...0x7 (Dec.) 0x9...0xF (Inc.)	[Ix] [Switch/Sensor] [Falling Edge] Darker	Decrease Brightness
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Switch/Sensor] [Falling Edge] Light Off	Sending of 0 (Off)
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Switch/Sensor] [Falling Edge] Light On	Sending of 1 (On)
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Switch/Sensor] [Falling Edge] Light On/Off	0/1
	1 Bit	O	C - - T -	DPT_UpDown	0/1	[Ix] [Switch/Sensor] [Falling Edge] Move Down Shutter	Sending of 1 (Down)
	1 Bit	O	C - - T -	DPT_UpDown	0/1	[Ix] [Switch/Sensor] [Falling Edge] Move Up Shutter	Sending of 0 (Up)
	1 Bit	I	C - W T -	DPT_UpDown	0/1	[Ix] [Switch/Sensor] [Falling Edge] Move Up/Down Shutter	Switching 0/1 (Up/Down)
	1 Byte	O	C - - T -	DPT_SceneControl	0-63; 128-191	[Ix] [Switch/Sensor] [Falling Edge] Run Scene	Sending of 0 - 63

	1 Byte	O	C - - T -	DPT_SceneControl	0-63; 128-191	[Ix] [Switch/Sensor] [Falling Edge] Save Scene	Sending of 128 - 191
	1 Bit	O	C - - T -	DPT_Step	0/1	[Ix] [Switch/Sensor] [Falling Edge] Stop/Step Down Shutter	Sending of 1 (Stop/Step Down)
	1 Bit	I	C - W T -	DPT_Step	0/1	[Ix] [Switch/Sensor] [Falling Edge] Stop/Step Shutter (Switched)	Switching of 0/1 (Stop/Step Up/Down)
	1 Bit	O	C - - T -	DPT_Step	0/1	[Ix] [Switch/Sensor] [Falling Edge] Stop/Step Up Shutter	Sending of 0 (Stop/Step Up)
2073, 2082, 2091, 2100	1 Byte	I	C - W - -	DPT_Scaling	0% - 100%	[Ix] [Double Press] Shutter Status (Input)	0% = Top; 100% = Bottom
	1 Byte	I	C - W - -	DPT_Scaling	0% - 100%	[Ix] [Double Press] Dimming Status (Input)	0% - 100%
	1 Byte	I	C - W - -	DPT_Scaling	0% - 100%	[Ix] [Switch/Sensor] [Falling Edge] Dimming Status (Input)	0% - 100%
	1 Byte	I	C - W - -	DPT_Scaling	0% - 100%	[Ix] [Switch/Sensor] [Falling Edge] Shutter Status (Input)	0% = Top; 100% = Bottom
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Switch/Sensor] [Falling Edge] 0 (Immediate Object)	Sending of 0
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Switch/Sensor] [Falling Edge] 1 (Immediate Object)	Sending of 1
	1 Bit	I	C - W T -	DPT_Switch	0/1	[Ix] [Switch/Sensor] [Falling Edge] 0/1 Switching (Immediate Object)	Switching 0/1
2074, 2083, 2092, 2101	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Long Press] 0	Sending of 0
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Long Press] 1	Sending of 1
	1 Bit	I	C - W T -	DPT_Switch	0/1	[Ix] [Long Press] 0/1 Switching	Switching 0/1
	1 Bit	O	C - - T -	DPT_UpDown	0/1	[Ix] [Long Press] Move Up Shutter	Sending of 0 (Up)
	1 Bit	O	C - - T -	DPT_UpDown	0/1	[Ix] [Long Press] Move Down Shutter	Sending of 1 (Down)
	1 Bit	I	C - W T -	DPT_UpDown	0/1	[Ix] [Long Press] Move Up/Down Shutter	Switching 0/1 (Up/Down)
	1 Bit	O	C - - T -	DPT_Step	0/1	[Ix] [Long Press] Stop/Step Up Shutter	Sending of 0 (Stop/Step Up)
	1 Bit	O	C - - T -	DPT_Step	0/1	[Ix] [Long Press] Stop/Step Down Shutter	Sending of 1 (Stop/Step Down)
	1 Bit	I	C - W T -	DPT_Step	0/1	[Ix] [Long Press] Stop/Step Shutter (Switched)	Switching of 0/1 (Stop/Step Up/Down)
	4 Bit	O	C - - T -	DPT_Control_Dimming	0x0/0x8 (Stop) 0x1...0x7 (Dec.) 0x9...0xF (Inc.)	[Ix] [Long Press] Brighter	Long Pr. -> Brighter; Release -> Stop
	4 Bit	O	C - - T -	DPT_Control_Dimming	0x0/0x8 (Stop) 0x1...0x7 (Dec.) 0x9...0xF (Inc.)	[Ix] [Long Press] Darker	Long Pr. -> Darker; Release -> Stop

	4 Bit	I	C - W T -	DPT_Control_Dimming	0x0/0x8 (Stop) 0x1...0x7 (Dec.) 0x9...0xF (Inc.)	[Ix] [Long Press] Brighter/Darker	Long Pr. -> Brighter/Darker; Release -> Stop
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Long Press] Light On	Sending of 1 (On)
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Long Press] Light Off	Sending of 0 (Off)
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Long Press] Light On/Off	0/1
	1 Byte	O	C - - T -	DPT_SceneControl	0-63; 128-191	[Ix] [Long Press] Run Scene	Sending of 0 - 63
	1 Byte	O	C - - T -	DPT_SceneControl	0-63; 128-191	[Ix] [Long Press] Save Scene	Sending of 128 - 191
	1 Byte	O	C - - T -	DPT_Value_1_Ucount	0 - 255	[Ix] [Long Press] Constant Value (Integer)	0 - 255
	1 Byte	O	C - - T -	DPT_Scaling	0% - 100%	[Ix] [Long Press] Constant Value (Percentage)	0% - 100%
	2 Bytes	O	C - - T -	DPT_Value_2_Ucount	0 - 65535	[Ix] [Long Press] Constant Value (Integer)	0 - 65535
	2 Bytes	O	C - - T -	9.xxx	-671088.64 - 670433.28	[Ix] [Long Press] Constant Value (Float)	Float Value
	1 Bit	O	C - - T -	DPT_Step	0/1	[Ix] [Triple Press] Stop/Step Up Shutter	Sending of 0 (Stop/Step Up)
	1 Bit	I	C - W T -	DPT_Step	0/1	[Ix] [Triple Press] Stop/Step Shutter (Switched)	Switching of 0/1 (Stop/Step Up/Down)
	1 Bit	O	C - - T -	DPT_Step	0/1	[Ix] [Triple Press] Stop/Step Down Shutter	Sending of 1 (Stop/Step Down)
	1 Byte	O	C - - T -	DPT_SceneControl	0-63; 128-191	[Ix] [Triple Press] Save Scene	Sending of 128 - 191
	1 Byte	O	C - - T -	DPT_SceneControl	0-63; 128-191	[Ix] [Triple Press] Run Scene	Sending of 0 - 63
	1 Bit	I	C - W T -	DPT_UpDown	0/1	[Ix] [Triple Press] Move Up/Down Shutter	Switching 0/1 (Up/Down)
	1 Bit	O	C - - T -	DPT_UpDown	0/1	[Ix] [Triple Press] Move Up Shutter	Sending of 0 (Up)
	1 Bit	O	C - - T -	DPT_UpDown	0/1	[Ix] [Triple Press] Move Down Shutter	Sending of 1 (Down)
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Triple Press] Light On/Off	0/1
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Triple Press] Light On	Sending of 1 (On)
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Triple Press] Light Off	Sending of 0 (Off)
	4 Bit	O	C - - T -	DPT_Control_Dimming	0x0/0x8 (Stop) 0x1...0x7 (Dec.) 0x9...0xF (Inc.)	[Ix] [Triple Press] Darker	Decrease Brightness
	1 Byte	O	C - - T -	DPT_Scaling	0% - 100%	[Ix] [Triple Press] Constant Value (Percentage)	0% - 100%
	2 Bytes	O	C - - T -	DPT_Value_2_Ucount	0 - 65535	[Ix] [Triple Press] Constant Value (Integer)	0 - 65535
	1 Byte	O	C - - T -	DPT_Value_1_Ucount	0 - 255	[Ix] [Triple Press] Constant Value (Integer)	0 - 255

	2 Bytes	O	C - - T -	9.xxx	-671088.64 - 670433.28	[Ix] [Triple Press] Constant Value (Float)	Float Value
	4 Bit	I	C - W T -	DPT_Control_Dimming	0x0/0x8 (Stop) 0x1...0x7 (Dec.) 0x9...0xF (Inc.)	[Ix] [Triple Press] Brighter/Darker	Switch Bright/Dark
	4 Bit	O	C - - T -	DPT_Control_Dimming	0x0/0x8 (Stop) 0x1...0x7 (Dec.) 0x9...0xF (Inc.)	[Ix] [Triple Press] Brighter	Increase Brightness
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Triple Press] 1	Sending of 1
	1 Bit	I	C - W T -	DPT_Switch	0/1	[Ix] [Triple Press] 0/1 Switching	Switching 0/1
	1 Bit	O	C - - T -	DPT_Switch	0/1	[Ix] [Triple Press] 0	Sending of 0
2075, 2084, 2093, 2102	1 Byte	I	C - W - -	DPT_Scaling	0% - 100%	[Ix] [Long Press] Dimming Status (Input)	0% - 100%
	1 Byte	I	C - W - -	DPT_Scaling	0% - 100%	[Ix] [Long Press] Shutter Status (Input)	0% = Top; 100% = Bottom
	1 Byte	I	C - W - -	DPT_Scaling	0% - 100%	[Ix] [Triple Press] Shutter Status (Input)	0% = Top; 100% = Bottom
	1 Byte	I	C - W - -	DPT_Scaling	0% - 100%	[Ix] [Triple Press] Dimming Status (Input)	0% - 100%
2076, 2085, 2094, 2103	1 Bit	O	C - - T -	DPT_Trigger	0/1	[Ix] [Long Press/Release] Stop Shutter	Release -> Stop Shutter
2104	1 Byte	I	C - W - -	DPT_SceneNumber	0 - 63	[Motion Detector] Scene Input	Scene Value
2105	1 Byte	O	C - - T -	DPT_SceneControl	0-63; 128-191	[Motion Detector] Scene Output	Scene Value
2106, 2143, 2180, 2217	1 Byte	O	C R - T -	DPT_Scaling	0% - 100%	[Ix] Luminosity	0 - 100%
2107, 2144, 2181, 2218	1 Bit	O	C R - T -	DPT_Alarm	0/1	[Ix] Open Circuit Error	0 = No Error; 1 = Open Circuit Error
2108, 2145, 2182, 2219	1 Bit	O	C R - T -	DPT_Alarm	0/1	[Ix] Short Circuit Error	0 = No Error; 1 = Short Circuit Error
2109, 2146, 2183, 2220	1 Byte	O	C R - T -	DPT_Scaling	0% - 100%	[Ix] Presence State (Scaling)	0 - 100%
2110, 2147, 2184, 2221	1 Byte	O	C R - T -	DPT_HVACMode	1=Comfort 2=Standby 3=Economy 4=Building Protection	[Ix] Presence State (HVAC)	Auto, Comfort, Standby, Economy, Building Protection
2111, 2148, 2185, 2222	1 Bit	O	C R - T -	DPT_Switch	0/1	[Ix] Presence State (Binary)	Binary Value
	1 Bit	O	C R - T -	DPT_Start	0/1	[Ix] Presence: Slave Output	1 = Motion Detected
2112, 2149, 2186, 2223	1 Bit	I	C - W - -	DPT_Window_Door	0/1	[Ix] Presence Trigger	Binary Value to Trigger the Presence Detection
2113, 2150, 2187, 2224	1 Bit	I	C - W - -	DPT_Start	0/1	[Ix] Presence: Slave Input	0 = Nothing; 1 = Detection from slave device
2114, 2151, 2188, 2225	2 Bytes	I/O	C R W - -	DPT_TimePeriodSec	0 - 65535	[Ix] Presence: Waiting Time	0 - 65535 s
2115, 2152, 2189, 2226	2 Bytes	I/O	C R W - -	DPT_TimePeriodSec	0 - 65535	[Ix] Presence: Listening Time	1 - 65535 s
2116, 2153, 2190, 2227	2 Bytes	I/O	C R W - -	DPT_TimePeriodMin	0 - 65535	[Ix] Presence: Safety Time	0 - 1440 min

2117, 2154, 2191, 2228	1 Byte	I/O	C R W - -	DPT_Value_1_Ucount	0 - 255	[Ix] Presence: Number of Detections of the Filter	2 - 5
2118, 2155, 2192, 2229	1 Byte	I/O	C R W - -	DPT_Value_1_Ucount	0 - 255	[Ix] Presence: Filter Detection Window	15 - 60 s
2119, 2156, 2193, 2230	1 Bit	I	C - W - -	DPT_Enable	0/1	[Ix] Presence: Enable	0 = Disable; 1 = Enable
	1 Bit	I	C - W - -	DPT_Enable	0/1	[Ix] Presence: Enable	0 = Enable; 1 = Disable
2120, 2157, 2194, 2231	1 Bit	I/O	C R W - -	DPT_DayNight	0/1	[Ix] Presence: Day/Night	0 = Day; 1 = Night
	1 Bit	I/O	C R W - -	DPT_DayNight	0/1	[Ix] Presence: Day/Night	0 = Night; 1 = Day
2121, 2158, 2195, 2232	1 Bit	O	C R - T -	DPT_Occupancy	0/1	[Ix] Presence: Occupancy State (Master Output)	0 = Not Occupied; 1 = Occupied
	1 Bit	I	C - W - -	DPT_Occupancy	0/1	[Ix] Presence: Occupancy State (Master Input)	0 = Not Occupied; 1 = Occupied
2122, 2159, 2196, 2233	1 Bit	I	C - W - -	DPT_Switch	0/1	[Ix] Presence: Access Guest/Employee	0 = Guest; 1 = Employee
	1 Bit	I	C - W - -	DPT_Switch	0/1	[Ix] Presence: Access Guest/Employee	0 = Employee; 1 = Guest
2123, 2160, 2197, 2234	1 Bit	I	C - W - -	DPT_Bool	0/1	[Ix] Presence: Sold/Unsold Room	0 = Unsold; 1 = Sold
	1 Bit	I	C - W - -	DPT_Bool	0/1	[Ix] Presence: Sold/Unsold Room	0 = Sold; 1 = Unsold
2124, 2161, 2198, 2235	1 Bit	I	C - W - -	DPT_Start	0/1	[Ix] External Motion Detection	0 = Nothing; 1 = Motion detected by an external sensor
2125, 2131, 2137, 2162, 2168, 2174, 2199, 2205, 2211, 2236, 2242, 2248	1 Byte	O	C R - T -	DPT_Scaling	0% - 100%	[Ix][Cx] Detection State (Scaling)	0 - 100%
2126, 2132, 2138, 2163, 2169, 2175, 2200, 2206, 2212, 2237, 2243, 2249	1 Byte	O	C R - T -	DPT_HVACMode	1=Comfort 2=Standby 3=Economy 4=Building Protection	[Ix][Cx] Detection State (HVAC)	Auto, Comfort, Standby, Economy, Building Protection
2127, 2133, 2139, 2164, 2170, 2176, 2201, 2207, 2213, 2238, 2244, 2250	1 Bit	O	C R - T -	DPT_Switch	0/1	[Ix][Cx] Detection State (Binary)	Binary Value
2128, 2134, 2140, 2165, 2171, 2177, 2202, 2208, 2214, 2239, 2245, 2251	1 Bit	I	C - W - -	DPT_Enable	0/1	[Ix][Cx] Enable Channel	According to parameters
2129, 2135, 2141, 2166, 2172, 2178, 2203, 2209, 2215, 2240, 2246, 2252	1 Bit	I	C - W - -	DPT_Switch	0/1	[Ix][Cx] Force State	0 = No Detection; 1 = Detection
2130, 2136, 2142, 2167, 2173, 2179, 2204, 2210, 2216, 2241, 2247, 2253	1 Byte	I	C - W - -	DPT_Scaling	0% - 100%	[Ix][Cx] Luminosity Threshold	1 - 100%
2254	1 Byte	I	C - W - -	DPT_SceneControl	0-63; 128-191	[Thermostat] Scenes	0 – 63 (Execute 1 – 64); 128 – 191 (Save 1 – 64)
2255, 2306	2 Bytes	I	C - W T U	DPT_Value_Temp	-273.00º - 670433.28º	[Tx] Temperature Source 1	External Sensor Temperature

2256, 2307	2 Bytes	I	C - W T U	DPT_Value_Temp	-273.00º - 670433.28º	[Tx] Temperature Source 2	External Sensor Temperature
2257, 2308	2 Bytes	O	C R - T -	DPT_Value_Temp	-273.00º - 670433.28º	[Tx] Effective Temperature	Effective Control Temperature
2258, 2309	1 Byte	I	C - W - -	DPT_HVACMode	1=Comfort 2=Standby 3=Economy 4=Building Protection	[Tx] Special Mode	1-Byte HVAC Mode
2259, 2310	1 Bit	I	C - W - -	DPT_Ack	0/1	[Tx] Special Mode: Comfort	0 = Nothing; 1 = Trigger
	1 Bit	I	C - W - -	DPT_Switch	0/1	[Tx] Special Mode: Comfort	0 = Off; 1 = On
2260, 2311	1 Bit	I	C - W - -	DPT_Ack	0/1	[Tx] Special Mode: Standby	0 = Nothing; 1 = Trigger
	1 Bit	I	C - W - -	DPT_Switch	0/1	[Tx] Special Mode: Standby	0 = Off; 1 = On
2261, 2312	1 Bit	I	C - W - -	DPT_Ack	0/1	[Tx] Special Mode: Economy	0 = Nothing; 1 = Trigger
	1 Bit	I	C - W - -	DPT_Switch	0/1	[Tx] Special Mode: Economy	0 = Off; 1 = On
2262, 2313	1 Bit	I	C - W - -	DPT_Ack	0/1	[Tx] Special Mode: Protection	0 = Nothing; 1 = Trigger
	1 Bit	I	C - W - -	DPT_Switch	0/1	[Tx] Special Mode: Protection	0 = Off; 1 = On
2263, 2314	1 Bit	I	C - W - -	DPT_Trigger	0/1	[Tx] Comfort Prolongation	0 = Nothing; 1 = Timed Comfort
2264, 2315	1 Byte	O	C R - T -	DPT_HVACMode	1=Comfort 2=Standby 3=Economy 4=Building Protection	[Tx] Special Mode Status	1-Byte HVAC Mode
2265, 2316	1 Bit	I	C - W - -	DPT_Window_Door	0/1	[Tx] Window Status 1 (Input)	0 = Closed; 1 = Open
2266, 2317	1 Bit	I	C - W - -	DPT_Window_Door	0/1	[Tx] Window Status 2 (Input)	0 = Closed; 1 = Open
2267, 2318	1 Bit	I	C - W - -	DPT_Window_Door	0/1	[Tx] Window Status 3 (Input)	0 = Closed; 1 = Open
2268, 2319	1 Bit	I	C - W - -	DPT_Window_Door	0/1	[Tx] Window Status 4 (Input)	0 = Closed; 1 = Open
2269, 2320	2 Bytes	I	C - W - -	DPT_Value_Temp	-273.00º - 670433.28º	[Tx] Setpoint	Thermostat Setpoint Input
	2 Bytes	I	C - W - -	DPT_Value_Temp	-273.00º - 670433.28º	[Tx] Basic Setpoint	Reference Setpoint
2270, 2321	1 Bit	I	C - W - -	DPT_Step	0/1	[Tx] Setpoint Step	0 = Decrease Setpoint; 1 = Increase Setpoint
2271, 2322	2 Bytes	I	C - W - -	DPT_Value_Tempd	-671088.64º - 670433.28º	[Tx] Setpoint Shift Offset	Float Shift Offset Value
2272, 2323	2 Bytes	O	C R - T -	DPT_Value_Temp	-273.00º - 670433.28º	[Tx] Setpoint Status	Current Setpoint
2273, 2324	2 Bytes	O	C R - T -	DPT_Value_Temp	-273.00º - 670433.28º	[Tx] Basic Setpoint Status	Current Basic Setpoint
2274, 2325	2 Bytes	O	C R - T -	DPT_Value_Tempd	-671088.64º - 670433.28º	[Tx] Setpoint Shift Offset Status	Current Setpoint Shift Offset
2275, 2326	1 Bit	I	C - W - -	DPT_Reset	0/1	[Tx] Setpoint Reset	Reset Setpoint to Default
	1 Bit	I	C - W - -	DPT_Reset	0/1	[Tx] Shift Offset Reset	Reset Shift Offset
2276, 2327	2 Bytes	I/O	C R W T U	DPT_Value_Temp	-273.00º - 670433.28º	[Tx] Comfort Setpoint (Cooling)	[-20°C, 100°C]
	2 Bytes	I/O	C R W T U	DPT_Value_Tempd	-671088.64º - 670433.28º	[Tx] Comfort Shift Offset (Cooling)	[-10°C, 10°C]
2277, 2328	2 Bytes	I/O	C R W T U	DPT_Value_Temp	-273.00º - 670433.28º	[Tx] Standby Setpoint (Cooling)	[-20°C, 100°C]

	2 Bytes	I/O	C R W T U	DPT_Value_Tempd	-671088.64º - 670433.28º	[Tx] Standby Shift Offset (Cooling)	[-10°C, 10°C]
2278, 2329	2 Bytes	I/O	C R W T U	DPT_Value_Temp	-273.00º - 670433.28º	[Tx] Economy Setpoint (Cooling)	[-20°C, 100°C]
	2 Bytes	I/O	C R W T U	DPT_Value_Tempd	-671088.64º - 670433.28º	[Tx] Economy Shift Offset (Cooling)	[-10°C, 10°C]
2279, 2330	2 Bytes	I/O	C R W T U	DPT_Value_Temp	-273.00º - 670433.28º	[Tx] Comfort Setpoint (Heating)	[-20°C, 100°C]
	2 Bytes	I/O	C R W T U	DPT_Value_Tempd	-671088.64º - 670433.28º	[Tx] Comfort Shift Offset (Heating)	[-10°C, 10°C]
2280, 2331	2 Bytes	I/O	C R W T U	DPT_Value_Temp	-273.00º - 670433.28º	[Tx] Standby Setpoint (Heating)	[-20°C, 100°C]
	2 Bytes	I/O	C R W T U	DPT_Value_Tempd	-671088.64º - 670433.28º	[Tx] Standby Shift Offset (Heating)	[-10°C, 10°C]
2281, 2332	2 Bytes	I/O	C R W T U	DPT_Value_Temp	-273.00º - 670433.28º	[Tx] Economy Setpoint (Heating)	[-20°C, 100°C]
	2 Bytes	I/O	C R W T U	DPT_Value_Tempd	-671088.64º - 670433.28º	[Tx] Economy Shift Offset (Heating)	[-10°C, 10°C]
2282, 2333	2 Bytes	I/O	C R W T U	DPT_Value_Tempd	-671088.64º - 670433.28º	[Tx] Lower Dead Band (Only for Comfort Mode)	Automatic H/C Mode Changeover Band [0°C, 10°C]
	2 Bytes	I/O	C R W T U	DPT_Value_Tempd	-671088.64º - 670433.28º	[Tx] Lower Dead Band	Automatic H/C Mode Changeover Band [0°C, 10°C]
2283, 2334	2 Bytes	I/O	C R W T U	DPT_Value_Tempd	-671088.64º - 670433.28º	[Tx] Upper Dead Band (Only for Comfort Mode)	Automatic H/C Mode Changeover Band [0°C, 10°C]
	2 Bytes	I/O	C R W T U	DPT_Value_Tempd	-671088.64º - 670433.28º	[Tx] Upper Dead Band	Automatic H/C Mode Changeover Band [0°C, 10°C]
2284, 2335	1 Bit	I	C - W - -	DPT_Heat_Cool	0/1	[Tx] Simplified Mode	0 = Cool; 1 = Heat
2285, 2336	1 Bit	O	C R - T -	DPT_Heat_Cool	0/1	[Tx] Simplified Mode Status	0 = Cool; 1 = Heat
2286, 2337	1 Bit	I	C - W - -	DPT_Switch	0/1	[Tx] On/Off	0 = Off; 1 = On
2287, 2338	1 Bit	O	C R - T -	DPT_Switch	0/1	[Tx] On/Off Status	0 = Off; 1 = On
2288, 2339	1 Bit	I	C - W - -	DPT_Switch	0/1	[Tx] Force Secondary System (Cool)	0 = Off; 1 = On
2289, 2340	1 Bit	I	C - W - -	DPT_Switch	0/1	[Tx] Force Secondary System (Heat)	0 = Off; 1 = On
2290, 2341	1 Byte	I	C - W - -	DPT_ChangeoverMode		[Tx] Mode	0 = Auto; 1 = Cool; 2 = Heat
2291, 2342	1 Byte	O	C R - T -	DPT_ChangeoverMode		[Tx] Mode Status	0 = Auto; 1 = Cool; 2 = Heat
2292, 2343	1 Byte	I/O	C R W T U	1.xxx	0/1	[Tx] System Selector (Cool)	0 = S1 (Main) / S2 (Additional); 1 = Only S1; 2 = Only S2; 3 = S2 (Main) / S1 (Additional)
	1 Byte	I/O	C R W T U	1.xxx	0/1	[Tx] System Selector (Cool)	0 = S2 (Main) / S1 (Additional); 1 = Only S1; 2 = Only S2; 3 = S1 (Main) / S2 (Additional)
2293, 2344	1 Byte	I/O	C R W T U	1.xxx	0/1	[Tx] System Selector (Heat)	0 = S1 (Main) / S2 (Additional); 1 = Only S1; 2 = Only S2; 3 = S2 (Main) / S1 (Additional)

	1 Byte	I/O	C R W T U	1.xxx	0/1	[Tx] System Selector (Heat)	0 = S2 (Main) / S1 (Additional); 1 = Only S1; 2 = Only S2; 3 = S1 (Main) / S2 (Additional)
2294, 2300, 2345, 2351	1 Byte	O	C R - T -	DPT_Scaling	0% - 100%	[Tx] [Sx] Control Variable (Cool)	PI Control (Continuous)
2295, 2301, 2346, 2352	1 Byte	O	C R - T -	DPT_Scaling	0% - 100%	[Tx] [Sx] Control Variable (Heat)	PI Control (Continuous)
	1 Byte	O	C R - T -	DPT_Scaling	0% - 100%	[Tx] [Sx] Control Variable	PI Control (Continuous)
2296, 2302, 2347, 2353	1 Bit	O	C R - T -	DPT_Switch	0/1	[Tx] [Sx] Control Variable (Cool)	2-Point Control
	1 Bit	O	C R - T -	DPT_Switch	0/1	[Tx] [Sx] Control Variable (Cool)	PI Control (PWM)
2297, 2303, 2348, 2354	1 Bit	O	C R - T -	DPT_Switch	0/1	[Tx] [Sx] Control Variable (Heat)	2-Point Control
	1 Bit	O	C R - T -	DPT_Switch	0/1	[Tx] [Sx] Control Variable (Heat)	PI Control (PWM)
	1 Bit	O	C R - T -	DPT_Switch	0/1	[Tx] [Sx] Control Variable	2-Point Control
	1 Bit	O	C R - T -	DPT_Switch	0/1	[Tx] [Sx] Control Variable	PI Control (PWM)
2298, 2304, 2349, 2355	1 Bit	O	C R - T -	DPT_Switch	0/1	[Tx] [Sx] PI State (Cool)	0 = PI Signal 0%; 1 = PI Signal Greater than 0%
2299, 2305, 2350, 2356	1 Bit	O	C R - T -	DPT_Switch	0/1	[Tx] [Sx] PI State (Heat)	0 = PI Signal 0%; 1 = PI Signal Greater than 0%
	1 Bit	O	C R - T -	DPT_Switch	0/1	[Tx] [Sx] PI State	0 = PI Signal 0%; 1 = PI Signal Greater than 0%
2357	1 Byte	I	C - W - -	DPT_Percent_V8		[Hum] Sensor Calibration	-12% ... 12%
2358	2 Bytes	O	C R - T -	DPT_Value_Humidity	-12% - 12%	[Hum] Current Humidity	Humidity Sensor Value
2359	2 Bytes	O	C R - T -	DPT_Value_Temp	-273.00º - 670433.28º	[Hum] Dew Point Temperature	Dew Point Temperature Value
2360	2 Bytes	I	C - W - -	DPT_Value_Humidity	-12% - 12%	[Hum] High Humidity Alarm Threshold	Value of High Humidity Alarm Threshold
2361	2 Bytes	I	C - W - -	DPT_Value_Humidity	-12% - 12%	[Hum] Low Humidity Alarm Threshold	Value of Low Humidity Alarm Threshold
2362	2 Bytes	I	C - W - -	DPT_Value_Temp	-273.00º - 670433.28º	[Hum] Surface Temperature	Input Surface Temperature Value
2363	1 Bit	O	C R - T -	DPT_Alarm	0/1	[Hum] High Humidity	0 = No Alarm; 1 = Alarm
2364	1 Bit	O	C R - T -	DPT_Alarm	0/1	[Hum] Low Humidity	0 = No Alarm; 1 = Alarm
2365	1 Bit	O	C R - T -	DPT_Alarm	0/1	[Hum] Condensation	0 = No Alarm; 1 = Alarm

Join and send us your inquiries about Zennio devices:

https://support.zennio.com

Zennio Avance y Tecnología S.L.
C/ Río Jarama, 132. Nave P-8.11
45007 Toledo, Spain.

Tel. +34 925 232 002.

www.zennio.com
info@zennio.com