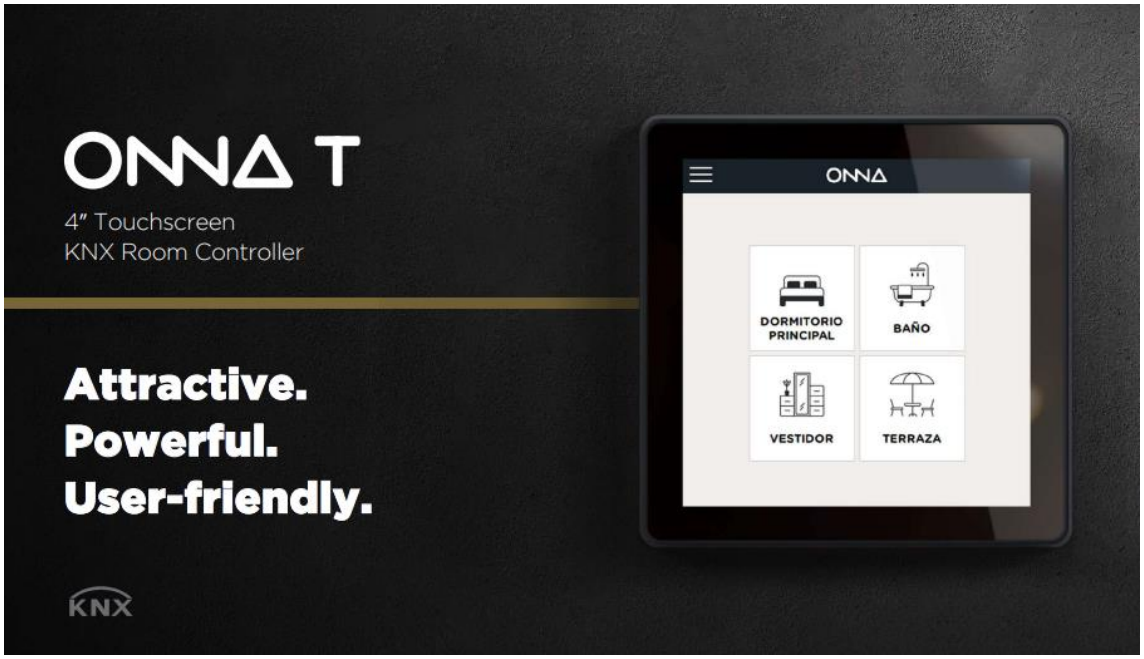
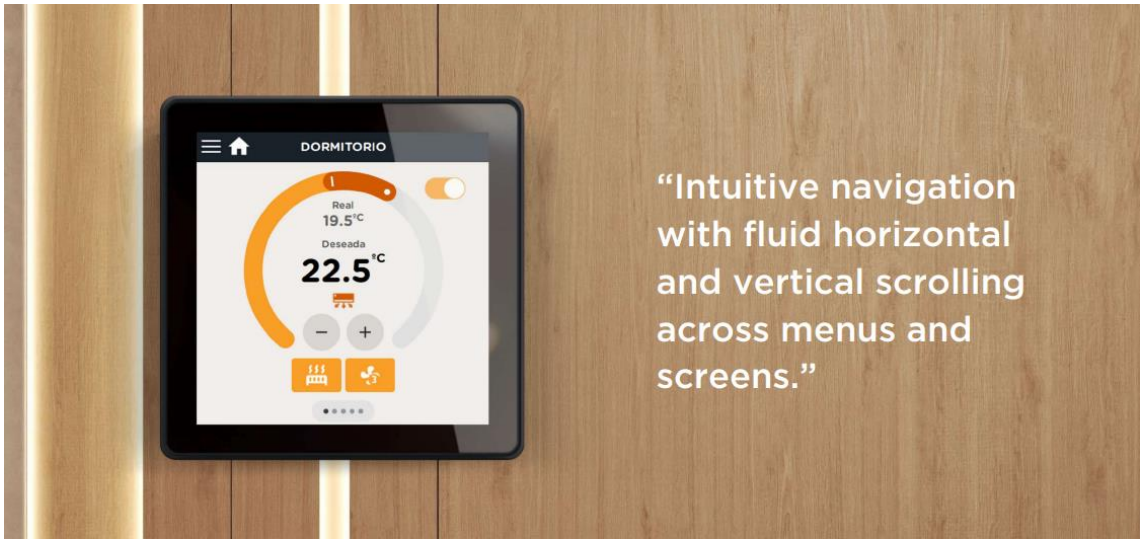
ONNA T

USER MANUAL





Contents

1. INTRODUCTION TO THE ONNA T USER MANUAL 3
1.1. Technical Specifications 3
1.2. Main Menu 4
1.2.1. Configuration 4
1.2.2. Temperature, humidity and risk of condensation 5
1.3. Thermostats 7
1.3.1. Settings 7
1.3.2. Thermostat X 8
1.4. Display 14
1.4.1. Setting 14
1.4.2. Stays 15
1.4.3. Thermostats 16
1.4.4. Page X 21
1.4.5. Device X 22
2. CUSTOMISING THE INTERFACE 35
2.1. Preparing the USB stick 35
2.1.1. Firmware file 35
2.1.2. Logo .png file 35
2.2. Update process 36
2.3. Verification of changes 36
2.4. Recommendations 37
3. FIRMWARE UPDATE PROCESS 37
3.1. Materials required 37
3.2. Preparing the USB stick 38
3.2.1. Format check 38
3.2.2. Downloading the firmware 38
3.2.3. Preparing the firmware file 38
3.3. Update procedure 39
3.4. Precautions and important considerations 41
3.5. Incident resolution 41
3.5.1. The performance does not begin 41
3.6. The connector does not fit properly 42
3.7. The thermostat does not return to the home screen 42
3.8. The problem persists 42

1. INTRODUCTION TO THE ONNA T USER MANUAL

Onna T is a room controller with a 4-inch touchscreen display for controlling KNX systems.

- Multifunction thermostat with built-in temperature and humidity sensor.
- Control of up to 60 KNX devices.
- Navigation by function and by room.
- Option to select different thermostat widgets.

1.1. Technical Specifications

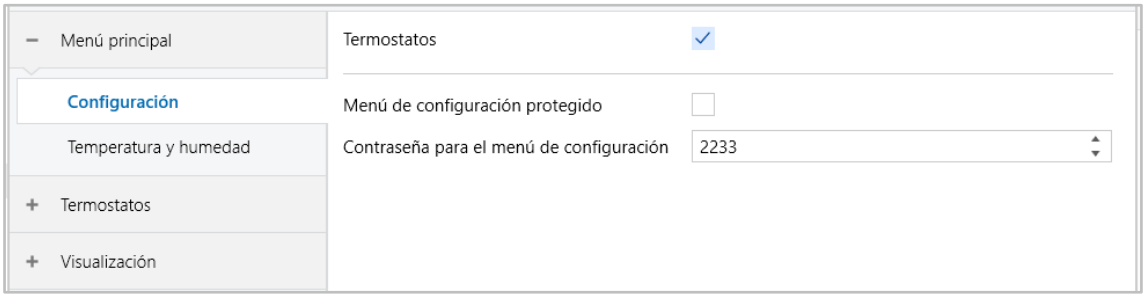
Environmental considerations	
Operating temperature	0 a 45°C
Operating humidity	10 a 80%, non-condensing
Storage temperature	-20 a 60ºC
Storage humidity	10 a 80%, non-condensing
Processor and memory	
Processor	Cortex A7 900Mhz
Power Supply	
Voltage	8 a 14Vdc
Maximum Power Consumption (Start-up)	1.8W (150mA 12Vdc)
Average Power Consumption	1.2W (100mA 12Vdc)
Display	
Size	4''
Resolution	480 x 480
Color resolution	24 bits
Temperature sensor	
Range	-40 a 125ºC
Resolution	0.1ºC
Humidity sensor	
Range	0 a 100%
Resolution	1%
KNX	
Voltage	29Vdc
Type	TP1
Power Consumption	5 a 10mA
Chip	KNX BAOS Module 832
Others	
Buzzer	60dB
Certification	

UNE-EN 50491-5-1:2010, UNE-EN 50491-5-2:2010,
UNE-EN IEC 61000-6-3:2021, UNE-EN 50090-2-2

1.2. Main Menu

This menu contains settings for the device's internal functions relating to temperature and humidity control.

1.2.1. Configuration

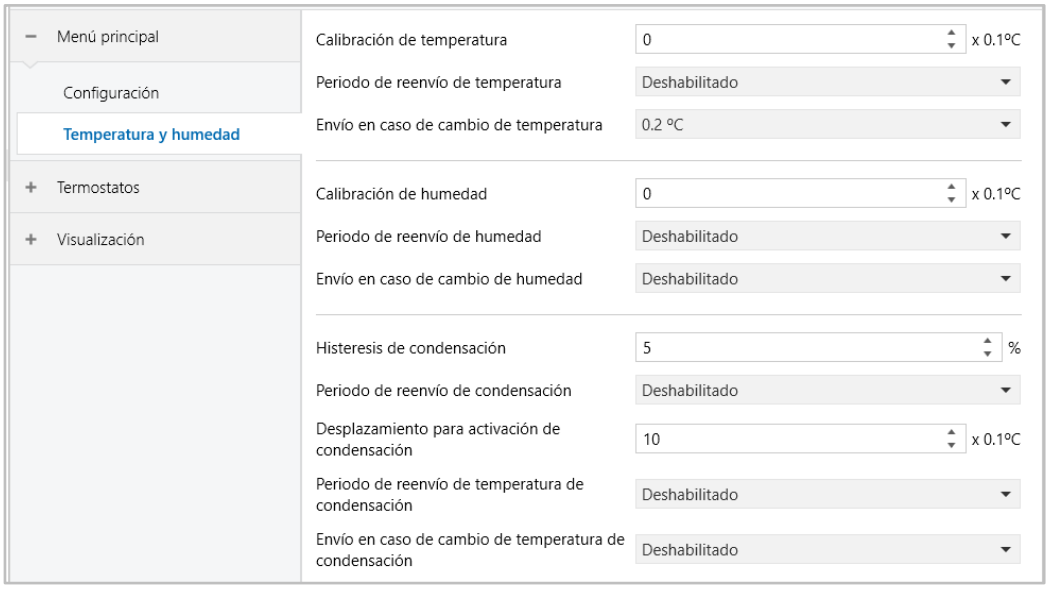


Parameter	
Thermostats	
Description	
This allows you to enable the device's internal thermostats. You must enable this option to access the functions described in section 1.3 Thermostats.	
Permitted values	True / False

Parameter	
Menú de configuración protegido	
Description	
This allows you to set a password for the settings menu.	
Permitted values	True / False

Parameter	
Password for the settings menu	
Description	
Numeric password for accessing the settings menu.	
Permitted values	0000 - 9999

1.2.2. Temperature, humidity and risk of condensation



This allows you to configure the device's internal temperature and humidity sensors, as well as the conditions for transmitting the relevant values to the bus. It is also possible to configure the condensation control system associated with these measurements.

Condensation control helps to reduce the risk of condensation in air conditioning systems. Condensation occurs when a radiant surface is at a temperature lower than the dew point (condensation temperature). The dew point is calculated internally by combining the measured temperature and humidity values. The device compares the calculated temperature with the radiant surface temperature sent by an external device. If the surface temperature is lower than the calculated temperature, a condensation risk warning signal is sent to the bus.

Parameter	
Temperature calibration	
Description	
Calibration of the device's internal temperature measurement. Positive values increase the measured value; negative values decrease it. This value can be overridden by the user via the SETTINGS menu on the display.	
Permitted values	[-128 a 127] x 0.1ºC
Actual values	[-12,8 a 12,7] ºC

Parameter	
Temperature reporting period	
Description	
Selection of the cycle time for transmitting the internal temperature measured by the device to the bus. *The Disabled* setting deactivates this function.	
Permitted values	Disabled / 30 sec / 1 min / 2 min / 5 min / 1 hour

Parameter	
Dispatch in the event of a change in temperature	
Description	
Selects the minimum change that must occur in the internal temperature measured by the device before the new value is transmitted to the bus. The Disabled setting deactivates this function.	
Permitted values	Disabled / 0,1ºC / 0,2ºC / 0,5ºC / 1ºC / 2ºC

Parameter	
Humidity calibration	
Description	
Calibration of the device's internal humidity sensor. Positive values increase the measured value; negative values decrease it.	
Permitted values	[-50 a 50] %

Parameter	
Moisture resubmission period	
Description	
Selection of the cycle time for transmitting the internal humidity measured by the device to the bus. Selecting 'Disabled' deactivates this function.	
Permitted values	Disabled / 30 sec / 1 min / 2 min / 5 min / 1 hour

Parameter	
Dispatch in the event of a change in humidity	
Description	
Selects the minimum change in indoor humidity measured by the device that must occur before the new value is transmitted to the bus. Selecting 'Disabled' deactivates this function.	
Permitted values	Disabled / 1% / 2% / 5% / 10%

Parameter	
Condensation hysteresis	
Description	
This value prevents the 'Condensation Risk' object from being triggered by minor fluctuations in dew point and radiant surface temperatures. The higher the value, the greater the difference required between the two temperatures for the condensation risk value to be updated.	
Permitted values	[0 a 20] x 0.1ºC
Actual values	[0,0 a 2,0] ºC

Parameter	
Condensate discharge period	
Description	
Selection of the cycle time for transmitting the internal condensation risk measured by the device to the bus. Selecting 'Disabled' deactivates this function.	
Permitted values	Disabled / 30 sec / 1 min / 2 min / 5 min / 1 hour

Parameter	
Displacement for condensation activation	
Description	
This helps to reduce the risk of condensation. If set to 0, the surface temperature is compared directly with the dew point temperature. Higher values increase the minimum difference required to prevent the risk of condensation from being triggered.	
Permitted values	[0 a 255] x 0.1ºC
Actual values	[0,0 a 25,5] ºC

Parameter	
Condensation temperature resend interval	
Description	
Selection of the cycle time for transmitting the calculated condensation temperature to the bus. Selecting 'Disabled' deactivates this function.	
Permitted values	Disabled / 30 sec / 1 min / 2 min / 5 min / 1 hour

Parameter	
Shipping in the event of a change in condensation temperature	
Description	
Selects the minimum change that must occur in the calculated condensation temperature before the new value is transmitted to the bus. The 'Disabled' setting deactivates this function.	
Permitted values	Disabled / 0,1ºC / 0,2ºC / 0,5ºC / 1ºC / 2ºC

1.3. Thermostats

This menu includes the settings for the device's two internal thermostats

1.3.1. Settings



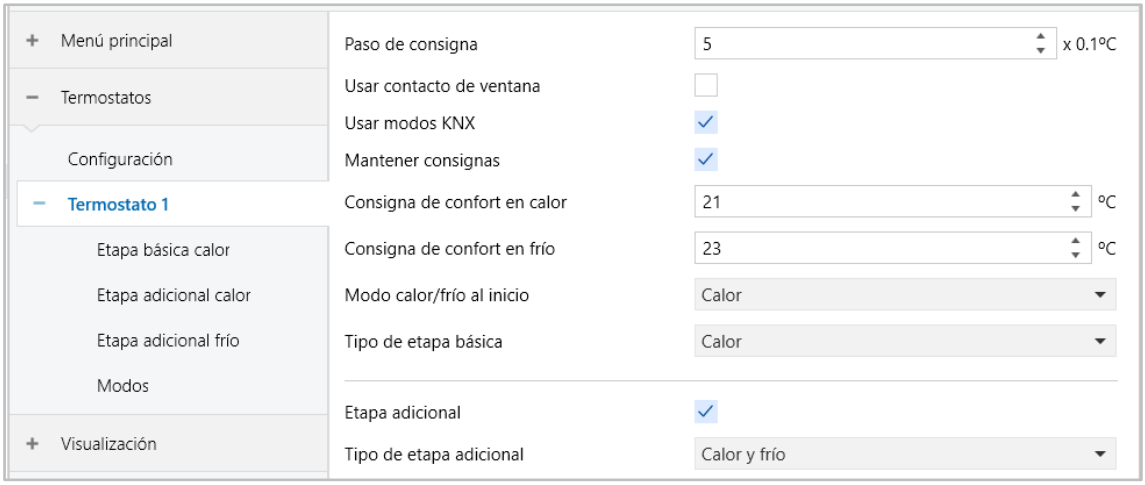
Parameter	
Thermostat 1	
Description	
This enables the device's internal thermostat 1. You must enable this option to access the functions described in section 1.3.2 Thermostat X.	
Permitted values	True / False

Parameter	
Thermostat 2	
Description	
This enables the device's internal thermostat 2. You must enable this option to access the functions described in section 1.3.2 Thermostat X.	
Permitted values	True / False

1.3.2. Thermostat X

This allows you to configure each of the device's internal thermostats. These functional blocks enable the control of external heating and cooling systems to achieve the desired temperature in a room.

The data required for these modules to function are the current temperature and the setpoint temperature. The current temperature can be obtained from the device's internal sensor or by receiving the value via the bus. If you wish to use the internal sensor, you must link *the Onna Device – Current Temperature communication object with the Thermostat X – Current Temperature object.*



Parameter	
Password	
Description	
It limits the possible setpoint temperature values by specifying the increment or resolution of that value. An increment of 0.2°C means that the possible setpoint temperature values will be multiples of that value, e.g. 20.0°C; 20.2°C; 20.4°C, etc.	
Permitted values	[1 a 255] x 0.1ºC
Actual values	[0,1 a 25,5] ºC

Parameter	
Use window contact	
Description	
Activates the communication object of the window contact. External activation of this object via the bus activates protection mode. By default, this mode causes a 14°C offset in the setpoint temperature. The protection offset value can be modified in section 1.3.2.5.	
Permitted values	True / False

Parameter	
Using KNX modes	
Description	
Enables the use of KNX modes and the associated communication objects. KNX modes adjust the setpoint temperature depending on the selected mode: Comfort, Standby, Economy and Protection.	
Permitted values	True / False

Parameter	
Keep to the instructions	
Description	
Enables the current setpoint value to be saved so that it is retained in the event of a power failure and/or device reprogramming. If this option is not enabled, the thermostat will always start up with the comfort setpoint configured via the parameter.	
Permitted values	True / False

Parameter	
Guidelines for staying comfortable in hot weather	
Description	
Comfort temperature for heating mode.	
Permitted values	[-128 a 127] ºC
Visible if	Heat or Heat/Cool modes enabled
Parameter	
Cold comfort	
Description	
Comfort temperature for cooling mode.	
Permitted values	[-128 a 127] ºC
Visible if	Cooling or Heating/Cooling modes enabled

Parameter	
Heat/cool mode at start-up	
Description	
This allows you to select the default mode in which the thermostat is initialised. The “hold” setting allows the current value to be retained between restarts.	
Permitted values	Heat / Cool / Hold

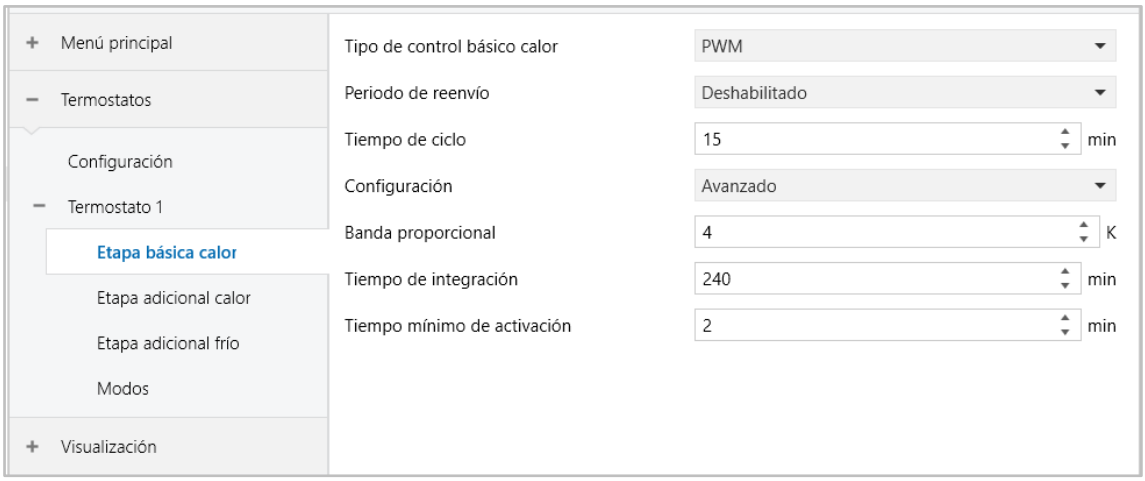
Parameter	
Basic stage type	
Description	
The base unit is the main source of thermostat-controlled heating and cooling. It may be capable of providing heating, cooling or both.	
Permitted values	Heat / Cold / Heat and cold

Parameter	
Additional stage	
Description	
Enable the additional stage.	
Permitted values	True / False

Parameter	
Additional stage type	
Description	
The additional stage is the secondary climate control unit, which is controlled by the thermostat. It must be specified whether this stage is capable of generating heat, cooling or both.	
Permitted values	Heat / Cold / Heat and cold

1.3.2.1. Basic heat stage

This allows you to configure the control parameters for this demand stage.



Parameter	
Basic heating control type	
Description	
There are three types of control strategies: ***2-point:*** Control via an on/off signal with configurable hysteresis. ***PWM:*** Control via a timed on/off signal based on a PI control strategy. ***PI***: Control via a proportional signal.	
Permitted values	2 point / PWM / Pi

Parameter	
Resubmission period	
Description	
Time for forwarding the control signal. If 'Disabled' is selected, the control signal is only transmitted to the bus if its value changes.	
Permitted values	30 sec / 1 min / 2 min / 5 min / 1 hour

Parameter	
Hysteresis	
Description	
The minimum difference between the current temperature and the setpoint temperature that triggers a change in the control signal. Hysteresis applies both above and below the setpoint; therefore, the current temperature must exceed the setpoint plus the hysteresis for the system to deactivate, and fall below the current temperature minus the hysteresis for it to activate.	
Permitted values	[0 a 255] x 0.1ºC
Actual values	[0 a 25,5] ºC
Visible if	2-point control

Parameter	
Cycle time	
Description	
Time base for calculating the proportional control signal.	
Permitted values	[5 a 255] min
Visible if	PI or PWM control mode

Parameter	
Settings	
Description	
Adjustment of the parameters used to calculate the control signal. Default values are set for the most common types of installations, and the advanced option allows individual parameters to be configured manually.	
Visible if	PI or PWM control type
Permitted values	Water / Underfloor heating / Electric / Air / Advanced

Parameter	
Proportional band	
Description	
This defines the proportional component of the control signal calculation. For temperatures below the setpoint minus the proportional band, the control signal will be 100%, and it will decrease proportionally until the actual temperature equals the setpoint. For temperatures above the setpoint, the proportional component will be 0%.	
Permitted values	[1 a 255] ºK
Visible if	PI or PWM control type and Advanced Settings

Parameter	
Integration time	
Description	
This defines the speed at which the integral component of the control signal calculation acts to correct steady-state errors. Specifically, it is the time it would take for the integral component to produce the same correction as the proportional action produces instantaneously in response to a constant error. Short times correct errors quickly, but cause oscillations. Long times correct errors more slowly but more reliably.	
Actual values	[1 a 255] min
Visible if	PI or PWM control type and Advanced settings

Parameter	
Minimum activation time	
Description	
This is used to prevent very short switching cycles in the PWM signal that would have no effect on the control of the control valves. It is advisable to set this to match the opening time of the controlled valve.	
Actual values	[1 a 15] min
Visible if	PWM control type

1.3.2.2. Basic cooling stage

This allows you to configure the control parameters for this demand stage. All parameters are the same as those described in **section 1.3.2.1, 'Basic heating stage', except for:**

Parameter	
Settings	
Description	
Adjustment of the parameters used to calculate the control signal. Default values are set for the most common types of installations, and the advanced option allows individual parameters to be configured manually.	
Visible if	PI or PWM control mode
Permitted values	Cool Roof / Air / Advanced

1.3.2.3. Additional heating stage

This allows you to configure the control parameters for this demand stage. All parameters are the same as those described in section **1.3.2.1, 'Basic heating stage', except for:**

Parameter	
Activation offset	
Description	
A differential that modifies the parameters used to calculate the control signal. The setpoint temperature used for the calculation will be the setpoint temperature minus the activation offset.	
Permitted values	[0 a 255] x 0.1ºC
Actual values	[0 a 25,5] ºC

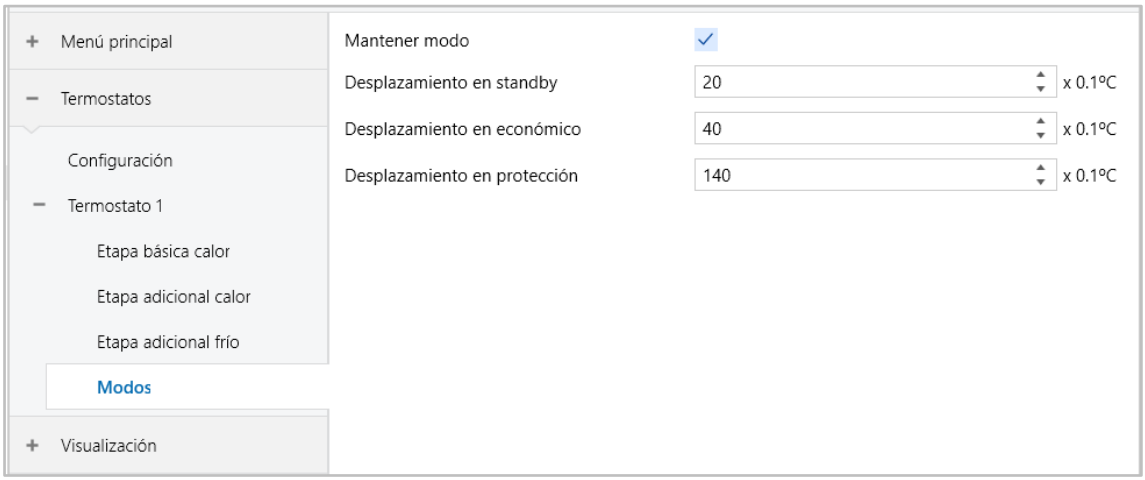
1.3.2.4. Additional cooling stage

This allows you to configure the control parameters for this demand stage. All parameters are the same as those described in **section 1.3.2.2, 'Basic cooling stage', except:**

Parameter	
Activation offset	
Description	
A differential that modifies the parameters used to calculate the control signal. The setpoint temperature used for the calculation will be the setpoint temperature plus the activation offset.	
Permitted values	[0 a 255] x 0.1ºC
Actual values	[0 a 25,5] ºC

1.3.2.5. Modes

This section allows you to adjust the thermostat's behaviour when using its KNX modes.



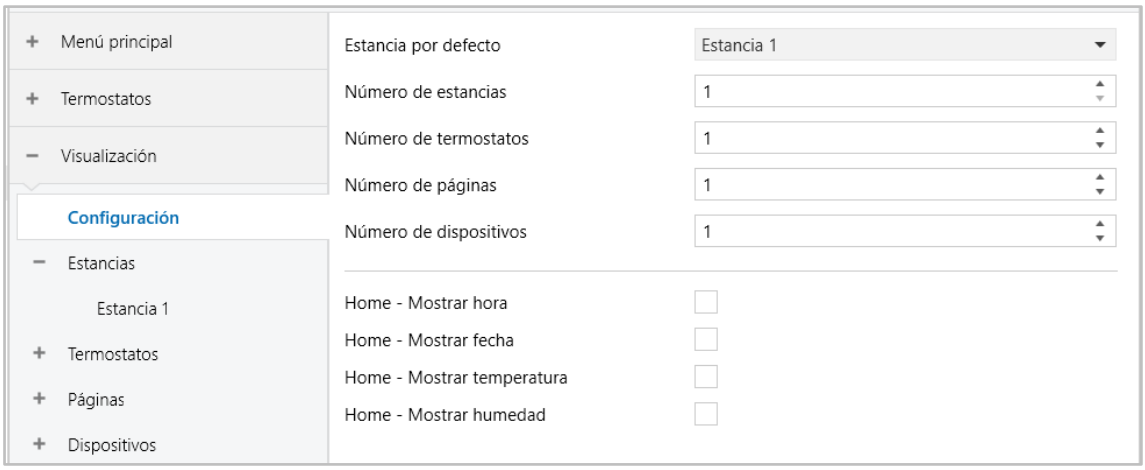
Parameter	
Keep mode	
Description	
Enables KNX mode storage between device reboots.	
Permitted values	True / False

Parameter	
Scrolling in each mode	
Description	
A differential that causes a shift in the setpoint temperature depending on the selected mode. When the thermostat is operating in cooling mode, the selected differential increases the setpoint value relative to the comfort temperature; if the thermostat is in heating mode, the differential decreases the setpoint value. The calculated setpoint value is sent via the 'Thermostat X – Setpoint Status' communication object.	
Permitted values	[0 a 255] x 0.1ºC
Actual values	[0 a 25,5] ºC

1.4. Display

This section allows you to configure how all the device's graphical content is displayed and managed. This is where you create the different rooms, devices and indicators that the user will see. Onna T allows you to create up to 4 rooms, each with up to 5 pages and a maximum of 15 devices per page. The various menus are detailed below.

1.4.1. Setting



Parameter	
Default stay	
Description	
This setting allows you to select the system's main room. This room will be displayed by default, and the device will return to it whenever it enters a period of inactivity. The home screen is the main navigation page that allows you to navigate between rooms.	
Permitted values	Home / Stay 1 / Stay 2 / Stay 3 / Stay 4

Parameter	
Number of stays	
Description	
Specify the rooms that will be visible in the display.	
Permitted values	[1 – 4]

Parameter	
Number of thermostats	
Description	
Define the thermostats that can be used in the display.	
Permitted values	[0 – 4]

Parameter	
Number of pages	
Description	
Specify the number of pages that can be displayed.	
Permitted values	[0 – 20]

Parameter	
Number of devices	
Description	
Specify the number of devices that can be used for display.	
Permitted values	[0 – 60]

Parameter	
Show time	
Description	
This allows you to display the current time on the home screen. You will need to link the relevant communication object.	
Permitted values	True / False

Parameter	
Show date	
Description	
This allows you to display the current date on the home screen. You will need to link the relevant communication object.	
Permitted values	True / False

Parameter	
Show temperature	
Description	
This allows you to enable the display of the current temperature on the home screen. You will need to link the relevant communication device.	
Permitted values	True / False

Parameter	
Show humidity	
Description	
This allows you to enable the display of the current humidity on the home screen. You will need to link the relevant communication object.	
Permitted values	True / False

1.4.2. Stays

When you select each room, you can configure how it is displayed on the home page and how it links to the relevant pages.



Parameter	
Name	
Description	
This allows you to set the name of the room displayed on the home screen.	
Permitted values	String de 20 caracteres

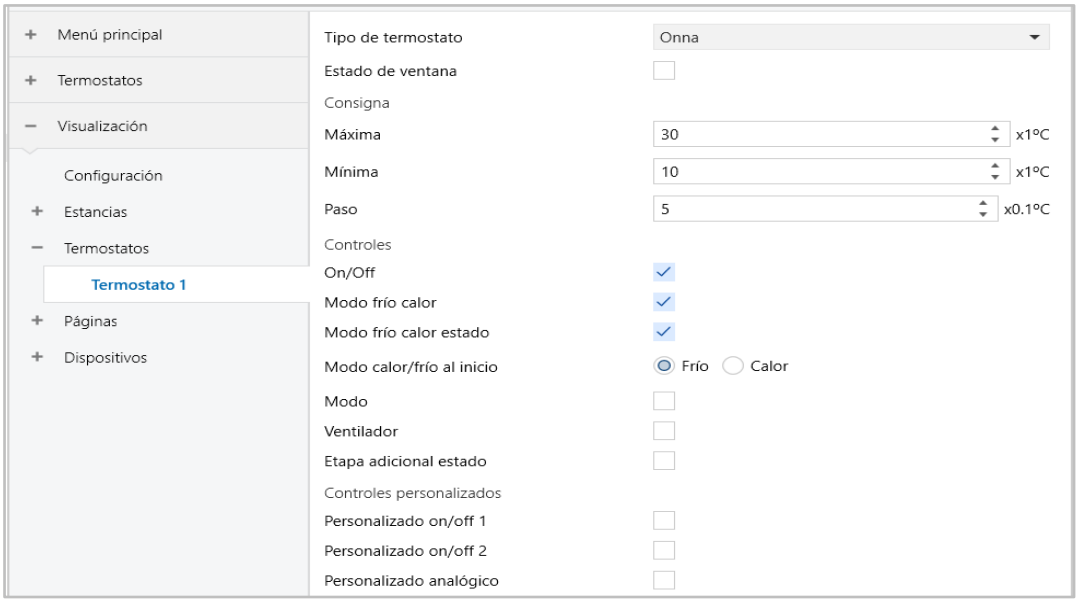
Parameter	
Icon	
Description	
This allows you to set the room icon displayed on the home screen.	
Permitted values	Icon number selector

Parameter	
Page 1	
Description	
This allows you to select the page number to be displayed first in the page carousel. This will be the default page displayed when navigating to the room.	
Permitted values	Thermostat number or page selector

Parameter	
Page X	
Description	
This allows you to select the page number to be displayed at position X in the page carousel.	
Permitted values	Thermostat number or page selector

1.4.3. Thermostats

When selecting each thermostat, you can configure its display. This display can be used to control the internal thermostat or external thermostats connected to Onna T. To control the internal thermostat, you must link the TX Display – [...] communication objects with the Thermostat X – [...] objects.



Parameter	
Type of thermostat	
Description	
There are two display options for thermostats. The Onna design allows you to retain the standard Onna layout and ensure that the Onna T display is consistent with the customer's mobile app. The Round design is a new display format based on a circular slider and icon-based navigation.	
Permitted values	Onna / Round

Parameter	
Window status	
Description	
Enables the display of the open window indicator.	
Permitted values	True / False

Parameter	
Consigna máxima	
Description	
Maximum temperature allowed for user control.	
Permitted values	[-128 a 127] ºC

Parameter	
Minimum deposit	
Description	
The minimum temperature that can be set by the user.	
Permitted values	[-128 a 127] ºC

Parameter	
Password	
Description	
It limits the possible setpoint temperature values by specifying the increment or resolution of that value. An increment of 0.2°C means that the possible setpoint temperature values will be multiples of that value, e.g. 20.0°C; 20.2°C; 20.4°C, etc.	
Permitted values	[1 a 255] x 0.1ºC
Actual values	[0,1 a 25,5] ºC

Parameter	
On/off	
Description	
Enables the ability to switch the thermostat on and off.	
Permitted values	True / False

Parameter	
Cooling and heating mode	
Description	
Enables the option to switch the thermostat between cooling and heating modes.	
Permitted values	True / False

Parameter	
Cooling and heating mode	
Description	
Enables the display of the thermostat's current heating/cooling mode.	
Permitted values	True / False

Parameter	
Heat/cool mode at start-up	
Description	
Specifies the default mode to be displayed on the thermostat screen until it receives the first status value via the TX Display – Heating/Cooling Status communication object.	
Permitted values	Cool / Warm

Parameter	
Mode	
Description	
Enable the following KNX modes: Comfort, Standby, Economy and Protection.	
Permitted values	True / False

Parameter	
Fan	
Description	
Enable fan control	
Permitted values	True / False

Parameter	
Fan speed	
Description	
This allows you to select the data type for the fan control. The discrete type sends discrete values of 1/2/3/4 for each of the selected speeds. The percentage type sends values of 33/67/100%.	
Visible if	Fan enabled
Permitted values	Discretionary / Percentage

Parameter	
Fan speeds	
Description	
This allows you to select the number of fan speed settings and whether or not the automatic fan speed setting is available.	
Visible if	Fan enabled
Permitted values	3-speed / 3-speed + automatic / 4-speed / 4-speed + automatic and

Parameter	
Auto/manual fan	
Description	
Enables the use of a separate control to switch between automatic and manual fan control and select the fan's polarity.	
Visible if	Fan enabled
Permitted values	Disabled / Manual 0 – Auto 1 / Manual 1 – Auto 0

Parameter	
Additional stage status	
Description	
Enable the display of the demand status for the additional stage.	
Permitted values	True / False

Parameter	
Additional stage status	
Description	
Enable the display of the demand status for the additional stage.	
Permitted values	True / False

Parameter	
Additional stage icon	
Description	
This allows you to set the icon for the additional stage.	
Permitted values	Icon number selector

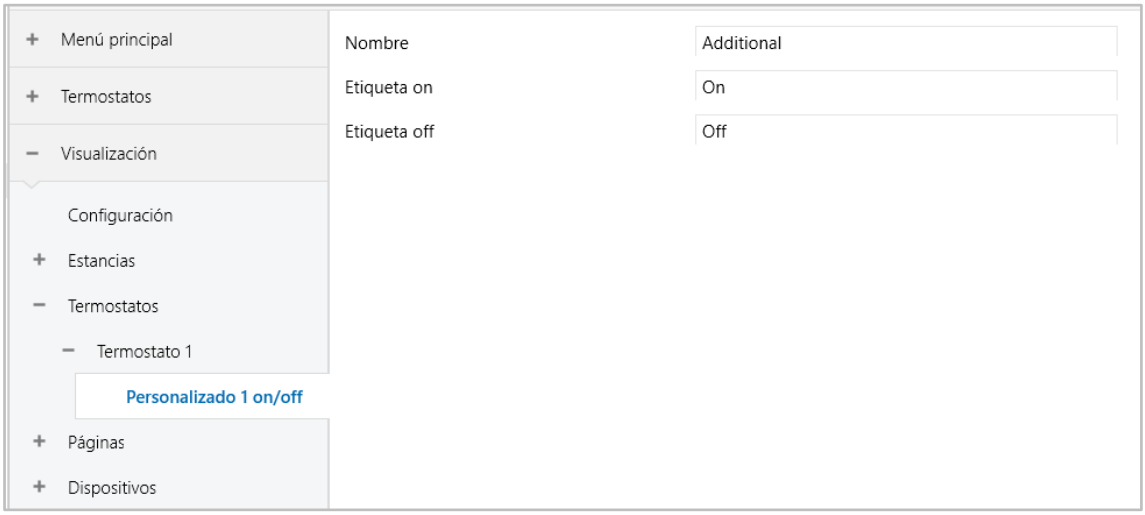
Parameter	
Custom on/off 1	
Description	
This allows you to enable a custom on/off control for controlling and displaying the status of a multipurpose bus element.	
Permitted values	True / False

Parameter	
Personalizado on/off 2	
Description	
This allows you to enable a custom on/off control for controlling and displaying the status of a multipurpose bus element.	
Permitted values	True / False

Parameter	
Custom analogue	
Description	
This allows you to enable a custom analogue control for controlling and displaying the status of a multipurpose bus element.	
Permitted values	True / False

1.4.3.1. Custom X on/off

This allows you to configure the settings for the custom X on/off control. The settings displayed vary depending on the type of thermostat selected [Onna/Round].



Parameter	
Name	
Description	
Allows you to specify the name of the custom control X.	
Visible if	Onna thermostat type
Permitted values	20-character string

Parameter	
On label	
Description	
This allows you to specify the name of the state of the custom control X when it is set to On.	
Visible if	Onna thermostat type
Permitted values	20-character string

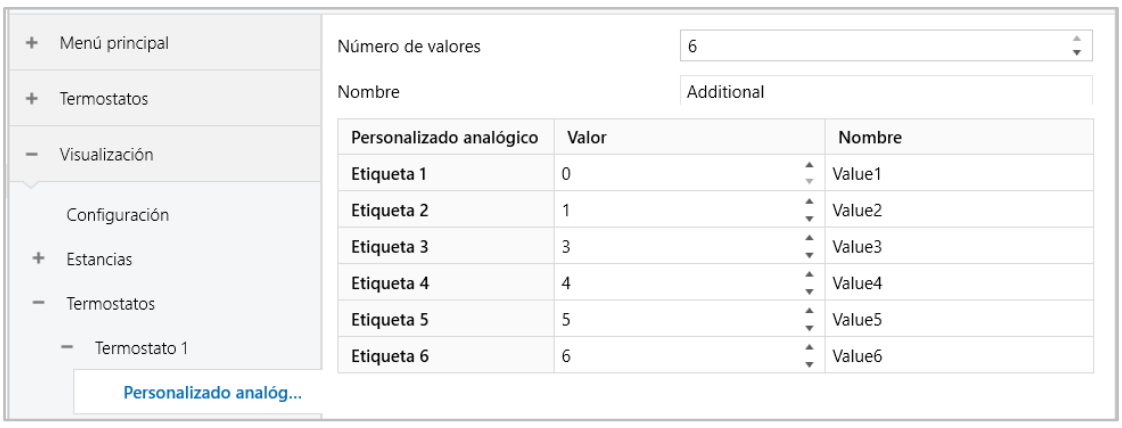
Parameter	
Off label	
Description	
This allows you to set the name of the custom control X's state for the Off value.	
Visible if	Onna thermostat type
Permitted values	20-character string

Parameter	
Icon on	
Description	
This allows you to set the status icon for the custom control X when it is set to On.	
Visible if	Round thermostat type
Permitted values	Icon number selector

Parameter	
Icon off	
Description	
This allows you to set the status icon for the custom control X when it is set to Off.	
Visible if	Round thermostat type
Permitted values	Icon number selector

1.4.3.2. Custom analogue

This allows you to configure the settings for the custom analogue X control. The settings displayed vary depending on the type of thermostat selected [Onna/Round].



Parameter	
Number of values	
Description	
This allows you to set the number of values available for the custom analogue control.	
Permitted values	[1 a 6]

Parameter	
Name	
Description	
Allows you to define the name of the custom analogue control.	
Visible if	Onna thermostat type
Permitted values	20-character string

Parameter	
X label	
Description	
This allows you to define the name and value of each of the analogue labels linked to the custom control.	
Visible if	Onna thermostat type
Permitted values	Values from 0 to 255 and an associated 10-character string

Parameter	
X label	
Description	
This allows you to set the icon and value for each of the analogue labels linked to the custom control.	
Visible if	Round thermostat type
Permitted values	Values from 0 to 255 and associated icon

1.4.4. Page X

When you select each page, you can configure how it is displayed in the linked room and how it is linked to the relevant devices.



Each page allows you to view 15 devices arranged in up to 3 columns and 5 rows. This menu allows you to choose the position of each of the controls linked to the page. It is also possible to enable the display of scene controls at the top of the page, with a maximum of 5 devices. For a device to be displayed as a scene, it is essential to select its type as “Scene”; see section **1.4.1**.

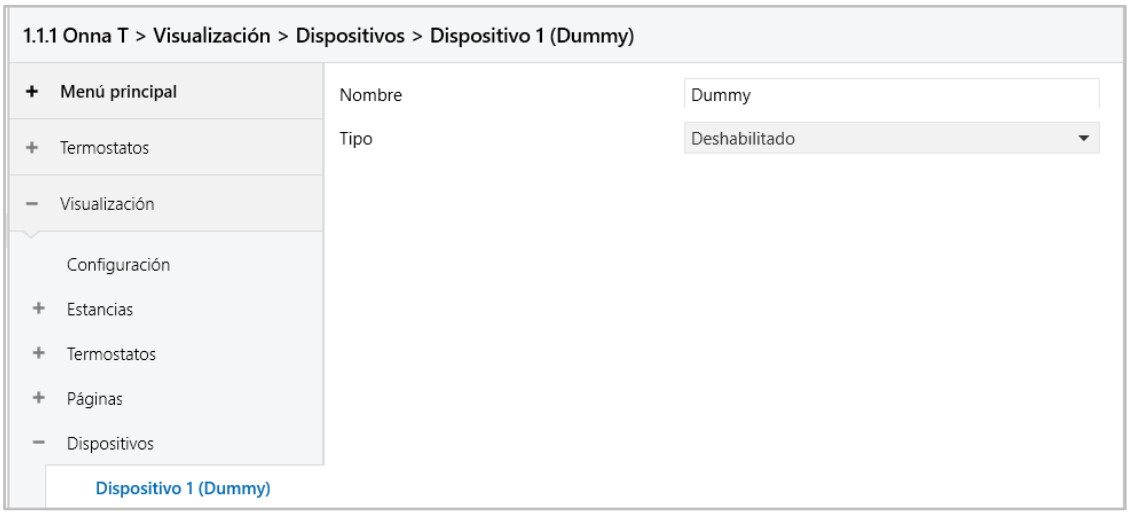
Parameter	
Device selector: Row X Column Y	
Description	
This allows you to select the device in the relevant row and column.	
Permitted values	Device reference

Parameter	
Number of scenes	
Description	
This allows you to specify the number of scenes available for the page.	
Permitted values	[0 a 5]

Parameter	
Scene X device selector	
Description	
This allows you to specify the device linked to scene X.	
Permitted values	Device reference

1.4.5. Device X

When you select each device, you will be able to configure its type and how it is displayed on the linked page.

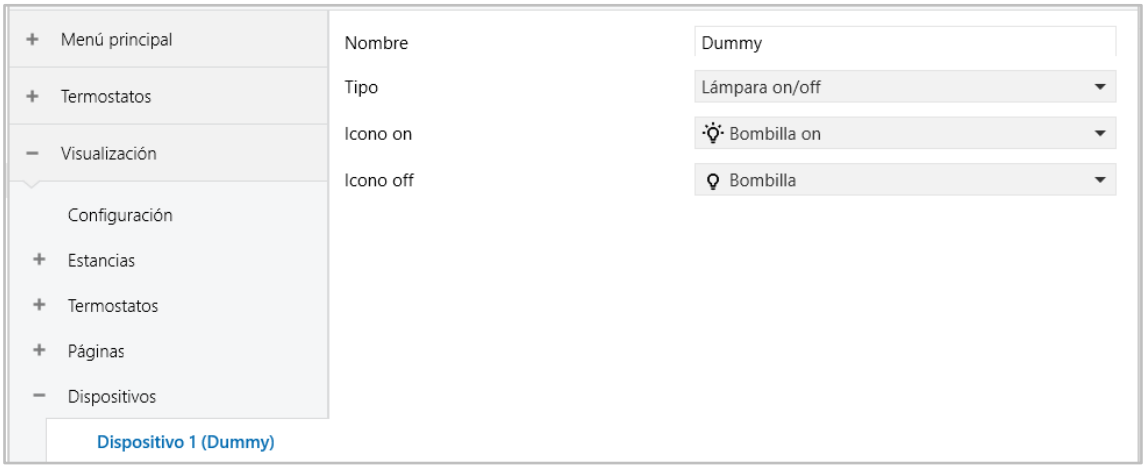


Parameter	
Name	
Description	
This allows you to set the name of device X.	
Permitted values	20-character string

Parameter	
Type	
Description	
This allows you to specify the device type. The communication parameters and objects available for each device type vary considerably; they are therefore covered in separate sections of this manual.	
Permitted values	Disabled / Light on/off / Dimmable light / Coloured light / Blind / On/off label / Analogue label / On/off control / Analogue control / Scene

1.4.5.1. Lamp on/off

This type of device allows you to control non-dimmable lighting and features pre-configured icons that make it easy to set up. These predefined icons can be modified by the user.

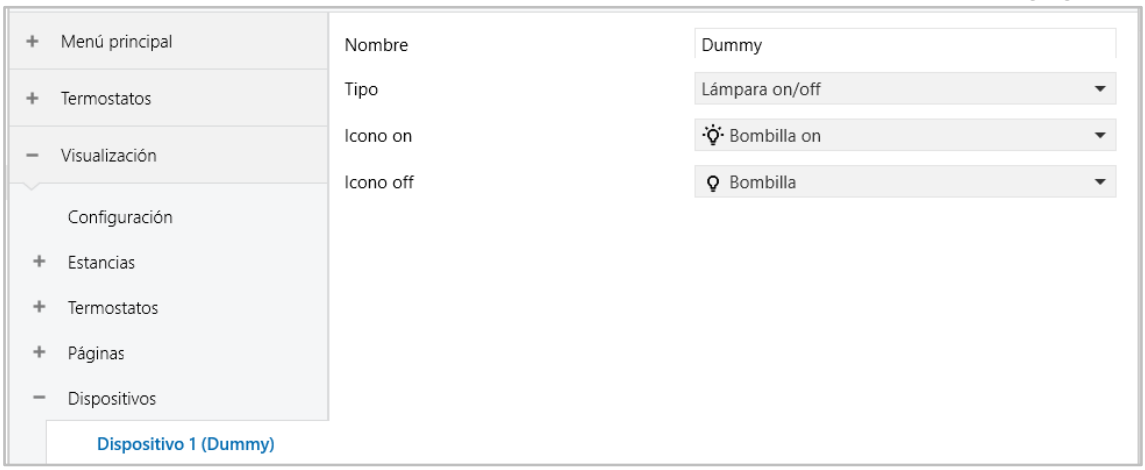


Parameter	
Icon on	
Description	
This allows you to set the status icon for Device X to 'On'.	
Permitted values	Icon number selector

Parameter	
Icon off	
Description	
This allows you to set the status icon for Device X to the 'Off' value.	
Permitted values	Icon number selector

1.4.5.2. Dimmable lamp

This type of device allows you to control dimmable lighting and features pre-configured icons that make it easy to set up. These predefined icons can be modified by the user.

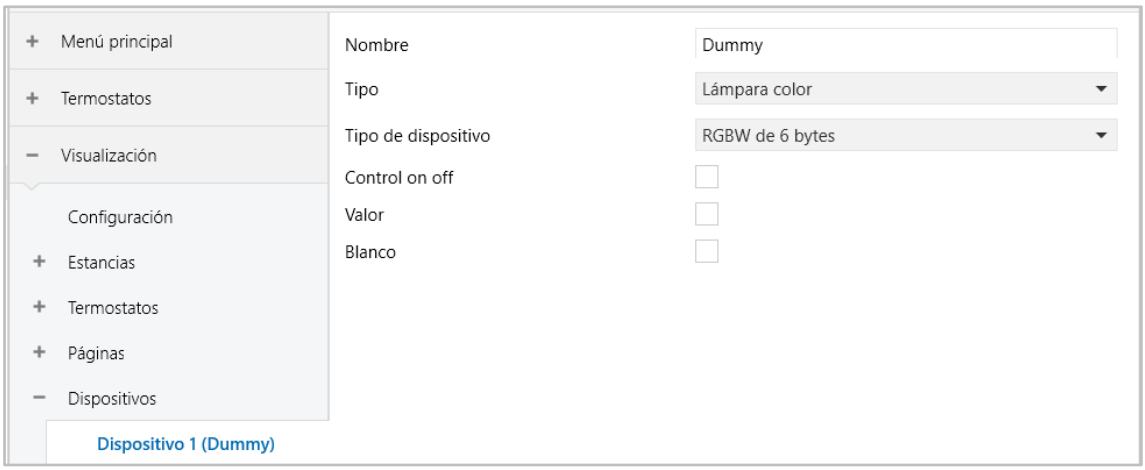


Parameter
Icon on
Description
This allows you to set the status icon for Device X to the 'On' value.
Permitted values	Icon number selector

Parameter
Icon off
Description
This allows you to set the status icon for Device X to the 'Off' value.
Permitted values	Icon number selector

1.4.5.3. Coloured lamp

This type of device allows you to control dimmable lighting and features pre-configured icons that make it easy to set up. These predefined icons can be modified by the user.



Parameter	
Device type	
Description	
This allows you to select the device type based on the communication objects to be controlled. See individual colours (separate 1-byte objects for each colour), 3-byte colour control or 6-byte colour control.	
Permitted values	Individual colours / 3-byte RGB / 6-byte RGBW

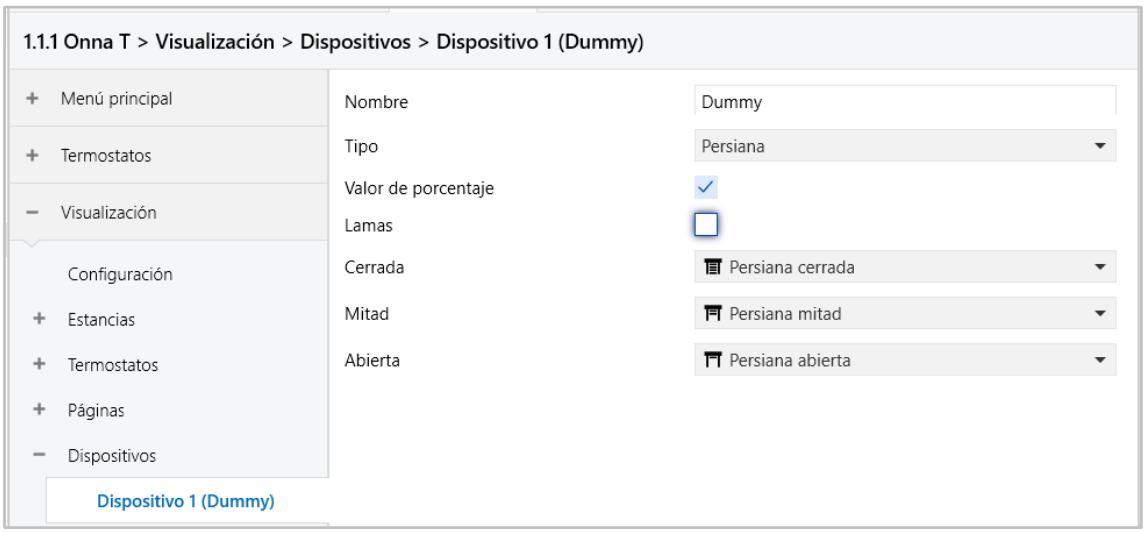
Parameter	
Control on off	
Description	
Enables the ability to switch the coloured lamp on and off using a 1-bit object.	
Permitted values	True / False

Parameter	
Valor	
Description	
Enables the ability to control the colour of the lamp via a 1-byte object.	
Permitted values	True / False

Parameter	
White	
Description	
Enables the ability to adjust the white level using a separate control.	
Visible if	Device type other than 'Individual colours'
Permitted values	True / False

1.4.5.4. Roller blind

This type of device allows you to control blinds with or without slats and features pre-configured icons that make it easy to set up. These predefined icons can be modified by the user.



Parameter	
Percentage value	
Description	
Enables the ability to adjust the position of the blind using a 1-byte object.	
Permitted values	True / False

Parameter	
Lamas	
Description	
Enables the ability to adjust the position of the Lamas using a 1-byte object.	
Permitted values	True / False

Parameter	
Closed	
Description	
Allows you to select the icon that represents the blind when it is closed.	
Permitted values	Icon number selector

Parameter	
Half	
Description	
Allows you to set the icon that represents the blind in its intermediate positions.	
Permitted values	Icon number selector

Parameter	
Open	
Description	
Allows you to select the icon that represents the blind in its open position.	
Permitted values	Icon number selector

1.4.5.5. On/Off Label

This type of device allows you to display the status of a device based on its on and off states.



Parameter	
Label type	
Description	
This allows you to specify the type of label to be displayed for the status indicator.	
Permitted values	Text / Icon

Parameter	
Icon on	
Description	
This allows you to set the icon that represents the status of Device X when it is switched on.	
Visible if	The label type is an icon
Permitted values	Icon number selector

Parameter	
Icono off	
Description	
This allows you to set the icon that represents the status of Device X when it is switched off.	
Visible if	The label type is an icon
Permitted values	Icon number selector

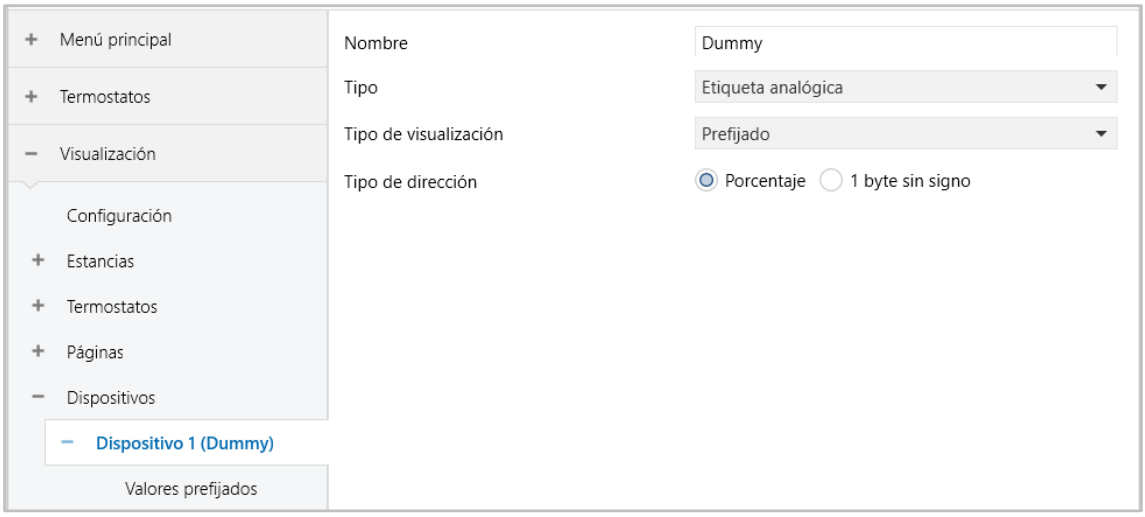
Parameter	
Text on	
Description	
This allows you to define the text that indicates the status of Device X when it is switched on.	
Visible if	The label type is text
Permitted values	20-character string

Parameter	
Text off	
Description	
This allows you to specify the text that indicates the status of Device X when it is switched off.	
Visible if	The label type is text
Permitted values	20-character string

1.4.5.6. Analogue label

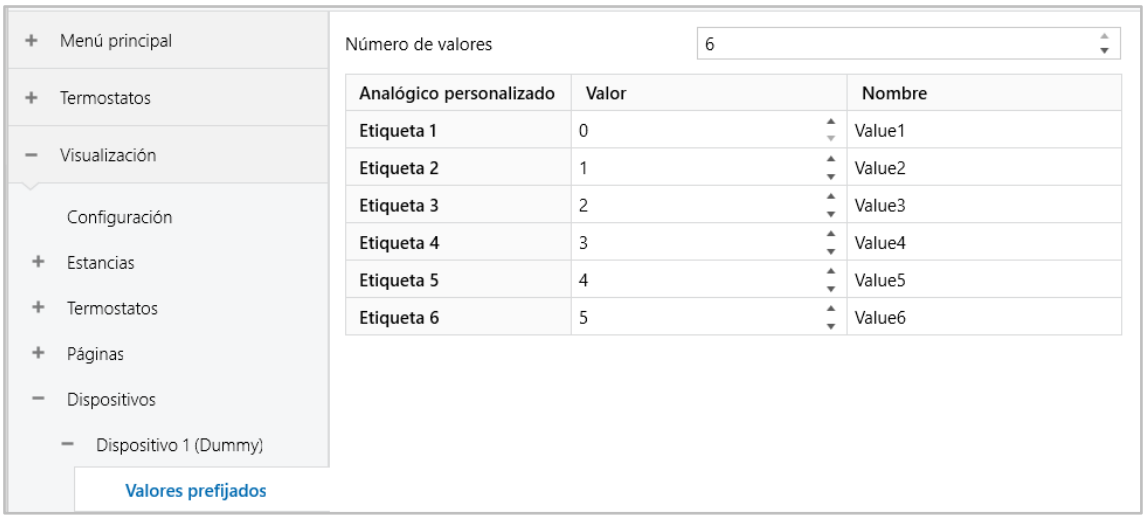
This type of device allows the status of an analogue device to be displayed in relation to its various states. If the preset mode is selected, the display shows indicators in the form of specific labels; if the value mode is selected, the exact value is shown with a suffix.

Default display type.



Parameter
Display type
Description
This allows you to specify the type of label to be displayed for the status indicator.
Permitted values — Value / Preset

Parameter
Type of address
Description
Allows you to select the data type of the communication object linked to the 'Device X Display - Status Value' status.
Visible if — The display type is pre-set
Permitted values — Percentage / 1 unsigned byte



Parameter	
Number of values	
Description	
This allows you to set the number of values available for the custom analogue control.	
Visible if	The display type is pre-set
Permitted values	[1 a 6]

Parameter	
X label	
Description	
This allows you to define the name and value of each of the analogue tags linked to Device X.	
Visible if	The display type is pre-set
Permitted values	Values from 0 to 100 or from 0 to 255, depending on the address type; associated 10-character string

---

Value display type.



Parameter	
Type of address	
Description	
This allows you to select the data type of the communication object linked to the 'Device X Display - Status Value' status.	
Visible if	The display type is Value
Permitted values	Percentage / 1-byte unsigned / 1-byte signed / 2-byte floating-point / 2-byte unsigned / 2-byte signed / 4-byte floating-point / 4-byte unsigned / 4-byte signed / Text

Parameter	
Suffix	
Description	
This allows you to define the text that will appear as a suffix following the status value of Device X.	
Visible if	The display type is Value
Permitted values	10-character string

1.4.5.7. Enable/disable

This type of device allows you to control a device by switching it on and off.



Parameter	
Type of control	
Description	
This allows you to specify whether the device can send a fixed value or switch between the on and off states.	
Permitted values	On and off / On only / Off only

Parameter	
Label type	
Description	
This allows you to specify the type of label to be displayed for the status indicator.	
Permitted values	Text / Icon

Parameter	
Icon on	
Description	
This allows you to set the icon that represents the status of Device X when it is switched on.	
Visible if	The label type is an icon
Permitted values	Icon number selector

Parameter	
Icon off	
Description	
This allows you to set the icon that represents the status of Device X when it is switched off.	
Visible if	The label type is an icon
Permitted values	Icon number selector

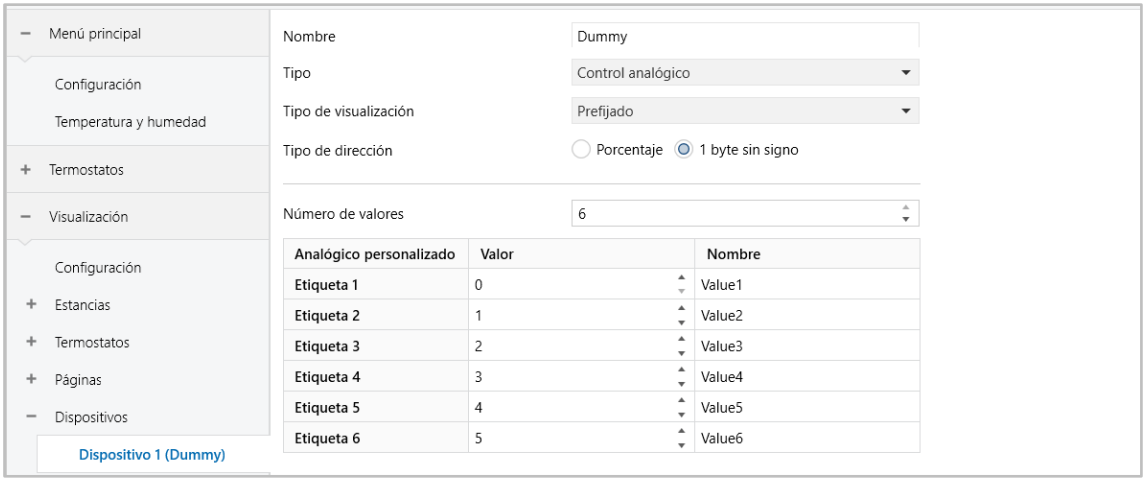
Parameter	
Text on	
Description	
Allows you to define the text that indicates the status of Device X when it is switched on.	
Visible if	Label type is text
Permitted values	20-character string

Parameter	
Text off	
Description	
This allows you to specify the text that indicates the status of Device X when it is switched off.	
Visible if	The label type is text
Permitted values	20-character string

1.4.5.8. Analogue control

This type of control allows you to control an analogue device based on its different states. If you select the preset mode, the display shows indicators in the form of specific labels; if you select the value mode, a slider appears that allows you to control the exact value using a suffix.

Default display type.



Parameter	
Display type	
Description	
This allows you to specify the type of label to be displayed for the status indicator.	
Permitted values	Value / Preset

Parameter	
Type of address	
Description	
This allows you to select the data type of the communication object linked to the 'Device X Display - Status Value' status.	
Visible if	The display type is pre-set
Permitted values	Percentage / 1 unsigned byte

Parameter	
Number of values	
Description	
This allows you to set the number of values available for the custom analogue control.	
Visible if	The display type is pre-set
Permitted values	[1 a 6]

Parameter	
X label	
Description	
This allows you to define the name and value of each of the analogue tags linked to Device X.	
Visible if	The display type is pre-set
Permitted values	Values from 0 to 100 or from 0 to 255, depending on the address type; associated 10-character string

---

Value display type.



Parameter	
Type of address	
Description	
Allows you to select the data type of the communication object linked to the 'Device X Display - Status Value' status.	
Visible if	The display type is Value
Permitted values	Percentage / 1 unsigned byte / 1 signed byte / 2 floating-point bytes / 2 unsigned bytes / 2 signed bytes

Parameter	
Suffix	
Description	
This allows you to define the text that will appear as a suffix following the status value of Device X.	
Visible if	The display type is Value
Permitted values	10-character string

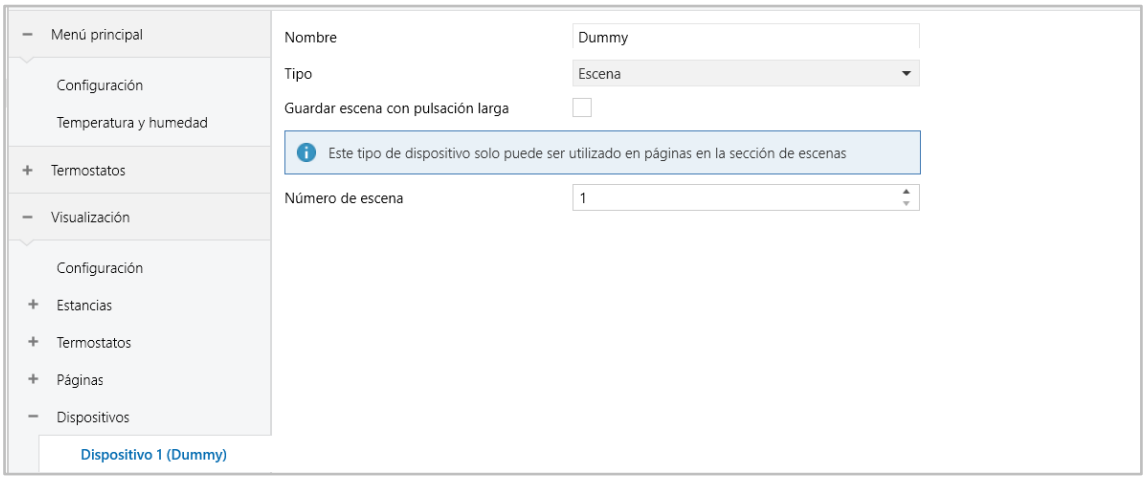
Parameter	
Maximum value	
Description	
Maximum value allowed for user control.	
Permitted values	[-32.768 a 32.767] ºC

Parameter	
Minimum amount	
Description	
The minimum value allowed for user control.	
Permitted values	[-32.768 a 32.767] ºC

Parameter	
Step	
Description	
Limit the possible values by specifying the increment or resolution of that value. An increment of 0.2°C will result in possible values being multiples of that value, e.g. 20.0; 20.2; 20.4 etc.	
Permitted values	[1 a 255] x 0.1ºC
Actual values	[0,1 a 25,5] ºC

1.4.5.9. Scene

This type of control allows KNX scenes to be sent and can only be viewed in the scene control section of the Pages.



Parameter	
Save scene by holding down the button	
Description	
Enabling this option will cause the scene save command to be sent to the bus, along with the scene number, when a long press is performed.	
Permitted values	True / False

Parameter	
Scene number	
Description	
Value sent to the bus associated with the scene.	
Permitted values	[1 a 64]

2. CUSTOMISING THE INTERFACE

The **ONNA T** thermostat allows you to customise the appearance of its interface by replacing the header logo and the image used during the screensaver.

To make these changes, you will need to prepare a USB stick containing the firmware file and, optionally, the customisation files.

Next, carry out the **update procedure** from the thermostat's settings menu.

2.1. Preparing the USB stick

Before you begin, prepare a **USB stick** formatted to FAT16 or FAT32.

The memory does not need to be empty, provided that the requirements set out in the following sections are met.

All the necessary files must be copied directly into the root directory of the USB stick; never into a folder.

2.1.1. Firmware file

To carry out the update process, you must include the firmware file for the device.

The file name depends on the firmware version currently installed on the thermostat.

A. Thermostats with a version earlier than v2.4

1. Rename the downloaded firmware file to **OnnaT**
   Note: (no spaces or full stops at the end)
2. Do not add any extensions to the name manually.
3. Copy the file directly into the root directory of the USB stick.

B. Thermostats running version 2.4 or later

1. You can keep the original file name or rename it.
2. Please check that the file retains the **..fwt** extension.
3. Copy the file directly into the root directory of the USB stick.

2.1.2. Logo .png file

To change the logo that appears in the header of the thermostat interface and during the screensaver, create an image file with the following specifications:

Parameter	Specification
File name	logo.png
Format	PNG with a transparent background
Recommended dimensions	300 × 80 pixels

The file must be named exactly ‘logo.png’ and must be located directly in the root directory of the USB stick.

This file is optional. If it is not included, the current logo and screensaver image will be retained.

2.2. Update process

Once the USB stick has been prepared with the **required firmware file and**, if desired, the customisation files, the procedure can begin.

Important: This procedure will always update the thermostat’s firmware to the version contained on the **USB stick**. Any customisation files will be applied during the same process if they are present.

1. **Connect** the USB stick to the thermostat using the USB-10PIN connection cable.
2. **Power the thermostat** with 12 V DC.
3. **From the main screen**, tap the three-line icon in the top-left corner.
4. **Go to the** ‘Settings’ menu.
5. **Scroll vertically** until you find the ‘Version’ section.
6. **Locate** the blue update icon, represented by two arrows forming a circle.
7. **Tap the icon to start the process**. The thermostat will update the firmware to the version contained on the USB stick and apply the relevant changes to the logo.png file, if present.

The thermostat will detect the files available on the USB stick and carry out the relevant process.

Once this is complete, the device will automatically return to the home screen.

2.3. Verification of changes

Once the process is complete:

1. **Check** that the thermostat returns to the home screen.
2. **Please check that the new logo appears correctly** in the header, provided the logo.png file has been included.
3. **Please check that the new background image** is displayed correctly on the interface.
4. **Please check that the logo.png** image is also displayed during the screensaver.

2.4. Recommendations

To avoid any problems during the procedure, please bear in mind the following recommendations:

- **Only use USB sticks** formatted in FAT16 or FAT32.
- **Check that the firmware** file is compatible with the **ONNA T** thermostat.
- **Follow the firmware naming** convention according to the version installed.
- **Use the exact file names** 'logo.png' and 'bg.png' for the customisation files.

Please use only valid PNG images from reliable sources.

- **Check the recommended** image dimensions before copying them.
- **Copy the files** directly to the root directory of the USB stick.
- **Do not insert or remove the USB stick** whilst the update is in progress.
- **Do not disconnect the thermos**tat from the mains whilst the update is in progress.

3. FIRMWARE UPDATE PROCESS

The procedure for **updating the firmware of the ONNA-T** thermostat using a USB stick and the USB-10PIN connection cable is set out below.

The procedure involves preparing **the USB stick,** connecting the device and running the update via the thermostat's settings menu.

We recommend following all the steps in the order given to ensure that the process is carried out correctly.

3.1. Materials required

Before starting the update, you will need the following items:

- One **ONNA-T** thermostat.
- One **ONNA-T USB-10PIN** connection cable.
- One USB stick formatted to **FAT16 or FAT32.**
- The **firmware** file for the device.

The USB stick may contain other files. It does not need to be empty, provided that the requirements set out in the following section are met.

3.2. Preparing the USB stick

Before connecting the USB stick to the thermostat, you must check **its file system and copy** the firmware file correctly.

3.2.1. Format check

Check that the **USB stick is formatted** using one of the following file systems:

- **FAT16**
- **FAT32**

If the memory is formatted using a different file system, it must be formatted to a compatible format before you continue.

Note: Formatting may delete files stored in the memory. If you need to format the device, **please back up any important data beforehand.**

3.2.2. Downloading the firmware

Download the **latest version** of the firmware from the following link:

https://onnahome.com/documentos/1.ONNA/Software/OnnaT%20

Once you have downloaded the file**, check which firmware version** is currently installed on the thermostat to determine how the file should be prepared.

3.2.3. Preparing the firmware file

The file name depends on the firmware version installed on the thermostat.

A. Thermostats with a version earlier than v2.4

If the installed version is earlier than v2.4:

1. **Rename** the downloaded file to **OnnaT**
   Note: (no spaces or full stops at the end)
2. **Do not add any file extension** to the name manually.
3. **Copy the file** to the root directory of the USB stick.

B. Thermostats running version 2.4 or later

If the installed version is v2.4 or later:

1. You can keep the original file name or rename the file.
2. Check that the file retains the **.fwt** extension.
3. Copy the file to the root directory of the USB stick.

Important restriction

The root directory of the USB stick must not contain more than one file with the **.fwt** extension

Before continuing, please **check that the firmware file** is located directly on the **USB stick** and not inside a folder.

3.3. Update procedure

Once the **USB stick has been** prepared, you can begin the thermostat update procedure.

Step 1. Connecting the cable and the USB stick

1. **Locate** the relevant connector on the **ONNA-T** thermostat.
2. **Connect** the **ONNA-T USB-10PIN** cable to the thermostat.
3. **Check** that the connector is correctly oriented and that all the pins are aligned with their respective positions.
4. **Insert** the connector carefully, without forcing it.
5. **Connect the USB stick** to the USB end of the cable.

Caution: the USB-10PIN connector can only be inserted in one position. Do not force the connection if you encounter resistance. Check the orientation and alignment of the pins before continuing.



Correct connection of the cable to the ONNA-T thermostat.

Step 2. Power supply to the thermostat

With the **USB-10PIN cable and USB stick connected**, power the ONNA-T thermostat using the 12V power supply and, if required, connect the KNX system as well.

Check that the **unit powers up correctly** and that the display is working.

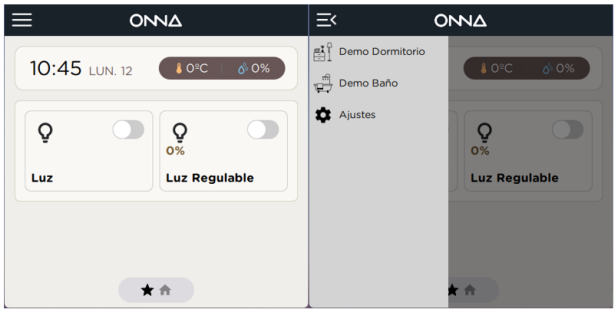
If KNX is not connected, even if the display remains in standby mode, you can still access the menu and update the settings, although no control elements will be displayed.

Step 3. Accessing the settings menu

From the thermostat's main screen:

1. **Tap the three-**line icon in the top-left corner of the screen.
2. **Select** the **'Settings'** option.
3. **Scroll down** the screen until you find the **'Version'** section.

This section displays information about the firmware **version installed on the device**.



Access the 'Version' section from the settings menu

Step 4. Start the update

1. In the **'Version'** section, locate the blue icon showing two arrows forming a circle.
2. Tap the icon to start **the firmware** update process.
3. If the process starts correctly**, the icon will spin briefly** and the update will begin.The process usually takes a few seconds.



Icon that allows you to start the firmware update

Step 5. Completing the update

Once the update has **completed successfully**, the thermostat will automatically return to the home screen.

Once the process is complete:

1. **Check** that the device returns to the home screen.
2. **Go back** to the 'Settings' section and, if necessary, to 'Version'.
3. **Check** that the firmware version installed is the one you wanted to install.

The update will be considered complete once the thermostat has finished the process and returns to its home screen.

3.4. Precautions and important considerations

To avoid any problems during the procedure, please bear in mind the following recommendations:

- Use only a **USB stick formatted** to FAT16 or FAT32.
- **Check that** the **firmware file** is compatible with the **ONNA-T** thermostat.
- **Check the file name and extension** to ensure they match the version installed on the device
- **Copy the firmware file** directly to the root directory of the USB stick.
- Do not have more than one file with the **.fwt** extension in the root directory.
- **Check that the 10-pin USB** connector is correctly oriented and that the pins are aligned.
- **Do not force the connector** when inserting it.
- **Do not interrupt the thermostat's** power supply during the update.
- **Do not disconnect the USB stick** or the cable during the update process.

3.5. Incident resolution

If the update does not start or the process does not complete as expected, please check the following points.

3.5.1. The performance does not begin

Please check that:

- **The USB stick** must be formatted to FAT16 or FAT32.
- **The firmware file** must be located in the root directory of the USB stick.
- **The file name** must be compatible with the installed version.
- **The file must** retain the **.fwt** extension where applicable.
- **There must** be no more than one **.fwt** file in the root directory.
- **The USB-10PIN** cable must be correctly connected.

3.6. The connector does not fit properly

Check the orientation of the connector and the alignment of the pins.

Do not force the connector into place. If it does not fit, carefully remove it and check its position again

3.7. The thermostat does not return to the home screen

If the device does not return to the home screen after the usual refresh time**, do not immediately switch off the power or disconnect the cable.**

Check the status of the device and follow the instructions provided by technical support before taking any further action.

3.8. The problem persists

If the update is not completed after checking the points above, check the **firmware file used and ensure the USB stick has been prepared correctly.**

If you need further assistance, please contact technical support:

soporte@onnahome.com