

ZONiNG

Cloud NETBOX Communication Gateway Configuration and User Guide



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1. Description.

The Netbox device is an external module that connects the Zity central zoning unit to your Wi-Fi network for remote control via a friendly interface.

The contents include:

- Power supply with 2.5 A 5.1 V European and British plug, Micro USB B and 1.5 m cable.
- Netbox device.

The Netbox device consists of a Modbus Rs485 connector, two LEDs for monitoring signal transmission and reception and a power connector.



Figure 1: Netbox device.

2. Before you start.

Before you start the installation and configuration process, please make sure you have the following:

1. Internet Access.

Netbox requires an Internet connection during the registration process and also during normal operating mode.

2. Device with Internet access and Wi-Fi connection.

It requires a device with Internet access ⁽¹⁾ and Wi-Fi connection (desktop PC, laptop, Smartphone or tablet). This device must be connected to the same Wi-Fi network where the Netbox device will be installed.

Make sure your device supports at least one of the following browsers⁽²⁾.

Internet Explorer	9.0 or above
Mozilla Firefox	10.0 or above
Google Chrome	V8 or above
Safari	4.0 or above

¹ The costs related to Internet access are not included in the price of the Netbox.

² Users who have previous versions may experience incorrect operation or misaligned images, buttons and icons on the interface. Please update your browser to reach our minimum requirements.

3. Start.

In order to start enjoying your device, you need to install and register the device to acquire a user account. Below you will find a step-by-step guide to perform all these actions.

3.1. Installation of the Device.

Place the Netbox device in its final location, connect the power supply and the Modbus Rs485 connector, as shown in the following diagram.

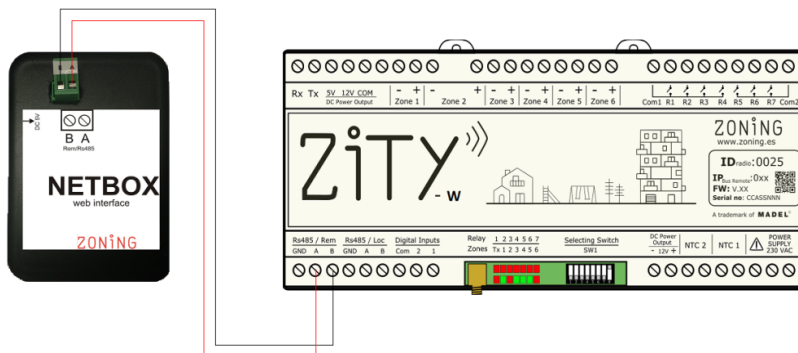


Figure 2: Diagram to connect the Netbox device to the Zity central unit.

3.2. Wi-Fi Configuration.

To link the Netbox interface in the local network to which the device will be connected, follow these 3 steps:

- The Netbox generates a temporary Wi-Fi network "zoningwifi"
- The PC, tablet or smartphone used for its configuration, and which is connected to the local Wi-Fi network, is temporarily disconnected and connected to the temporary network "zoningwifi".
- An application is opened in any of the compatible browsers to assign a Netbox IP in the range of the local network router's IP.

Once the previous steps are complete, the PC, tablet or smartphone automatically reconnects to the network where it was connected and the Netbox interface is now registered in your local network. Proceed following the steps described below:

Once installed and powered, please proceed with the Wi-Fi configuration, following the steps described below:

1. **Select the wireless network generated by the Netbox device.** The name of this network starts with "zoningwifi" followed by 12 characters separated by ":", which correspond to the device's MAC.
 - The password for this temporary network is **Zoe123Zoe**



Figure 3: Selection and connection of the wireless network generated by the Netbox device.

2. **Link the Netbox device in the local Wi-Fi network:** Open one of the browsers compatible with the Netbox device and access its configuration webpage (<http://192.168.44.1:88>). Next, select from the list the Wi-Fi network to which the Netbox will be linked.



Figure 4: Local network to which the Netbox will be connected.

The following Wi-Fi configuration modes are allowed. To change from one type of connection to another, click on the connection type button.

- ✓ **Auto (recommended method):** Where the Netbox device's IP address is assigned automatically by the router.
- ✓ **Static:** Where the assignment of the IP address, subnet mask and the router access address must be specified. In this type of connection, you must take special care when selecting the Netbox device's IP address. You must choose an address that is not being used by any other device.

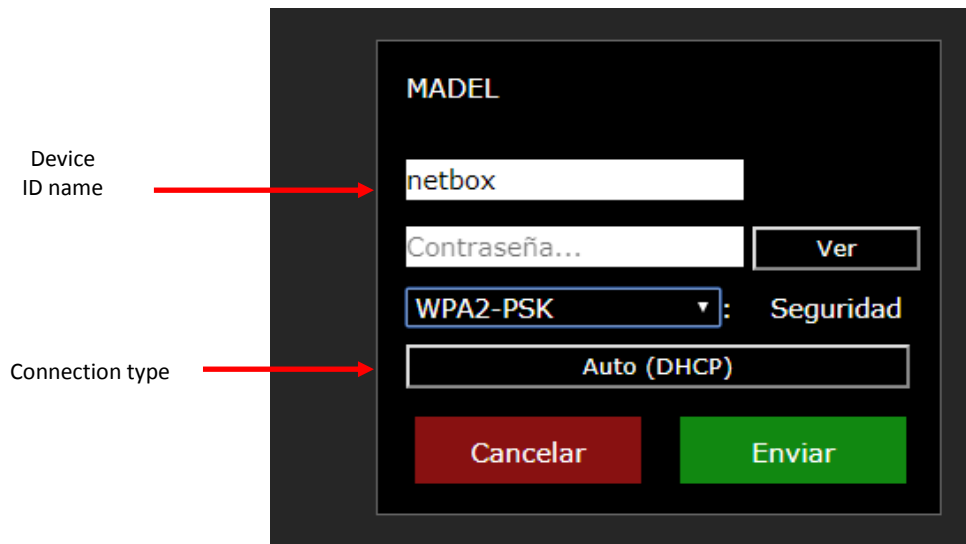


Figure 5: Automatic configuration of the Wi-Fi network.

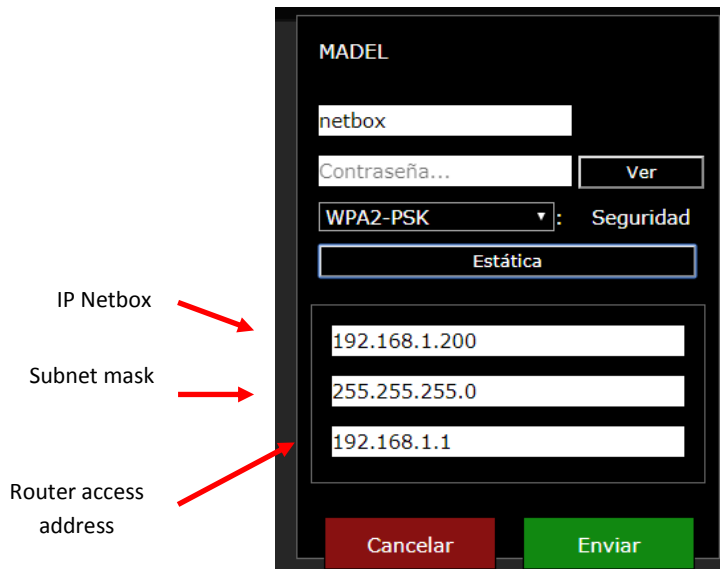


Figure 6: Static configuration of the Wi-Fi network.

The name of the device will be the identifier that you will use later to access the web application. It is important to remember the identifier used. In any case, it is recommended to maintain the default name given (netbox). However, you must take into account that two devices connected to the same Wi-Fi network cannot have the same identifier. In these cases, it is recommended to number them (netbox1, netbox2, etc.).

- 3. Connect to the local Wi-Fi network:** Enter the password of the Wi-Fi network to which it is connected and press the send button. A status bar will appear at the top of the window indicating the evolution of the Wi-Fi configuration process. Once complete, a popup window will appear indicating it, see Figure 8.

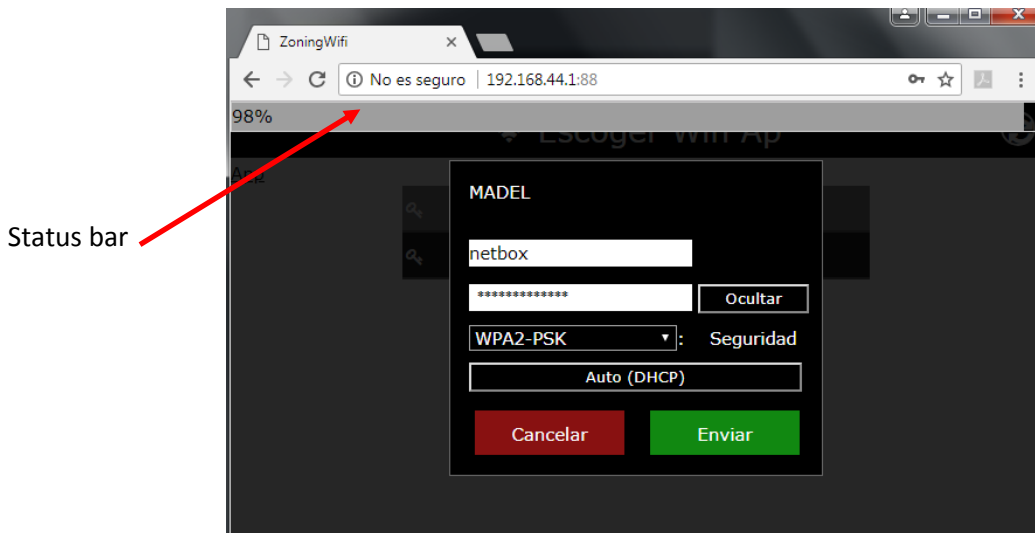


Figure 7: Netbox device Wi-Fi configuration process.

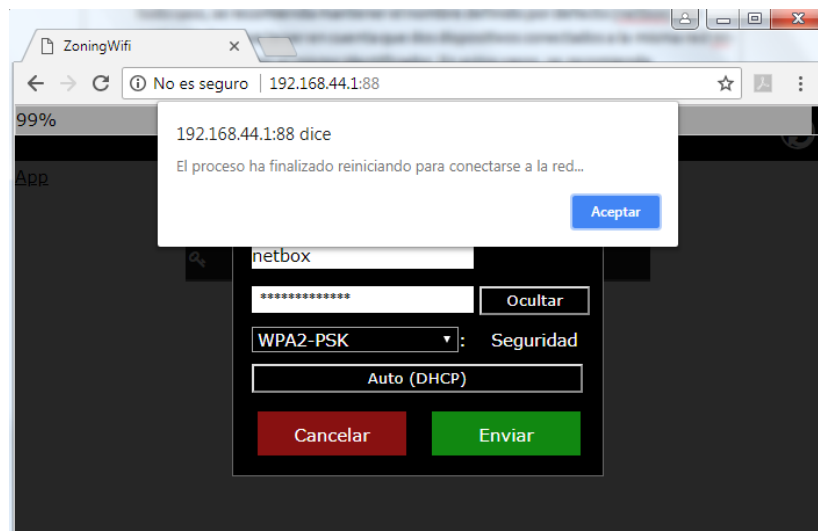


Figure 8: Completion of the Netbox device configuration process.

At this point, the device used (desktop PC, laptop, smartphone or tablet) must automatically reconnect to the Wi-Fi network of the home or premises. Check that this is the case, and if not, connect it manually. This way, both devices (PC and Netbox), will be connected to the same Wi-Fi network.

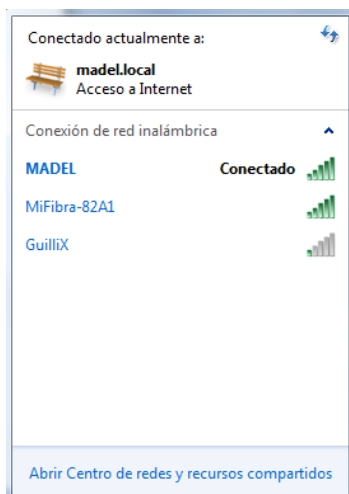


Figure 9: Connection of the device with internet access used, to the same Wi-Fi network where the Netbox device has just been connected.

4. **Complete the process and move on to configure the application:** Wait between 3 and 5 minutes, open a WEB browser at the following address <http://netbox/#/>. (or the name that has been assigned during the configuration process) The PC should connect to the application's configuration webpage.

3.3. Configuration of the local application.

Once the Wi-Fi connection has been made, the installation must be configured in local mode before making the connection to the cloud.

1. As shown in Figure 10, the Web application home page will appear. Initially, the username and password are the following:

- ✓ **Username:** admin
- ✓ **Password:** admin

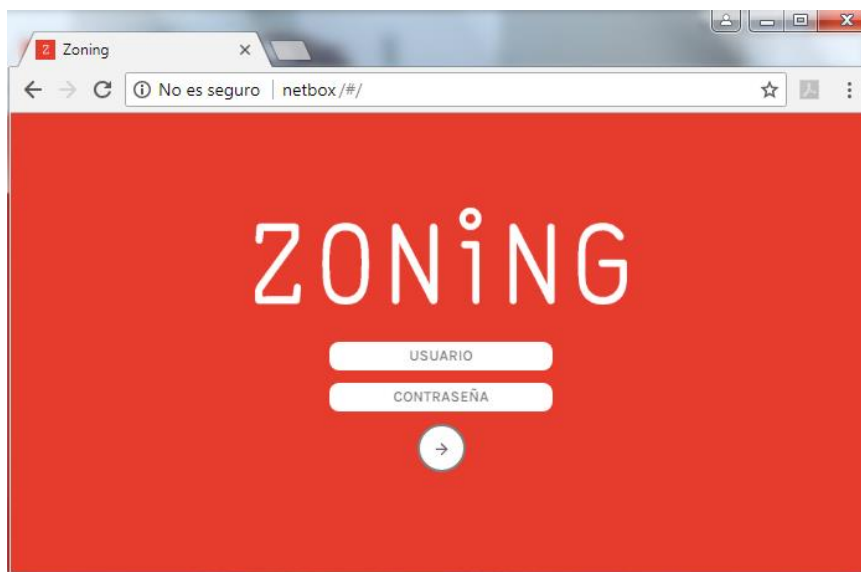


Figure 10: Web application home page.

2. A predefined building will appear in the main window. "Building 1". You can change its name by clicking on the edit button next to the name of the building. Once the new name of the building has been defined, click on the name confirmation button.

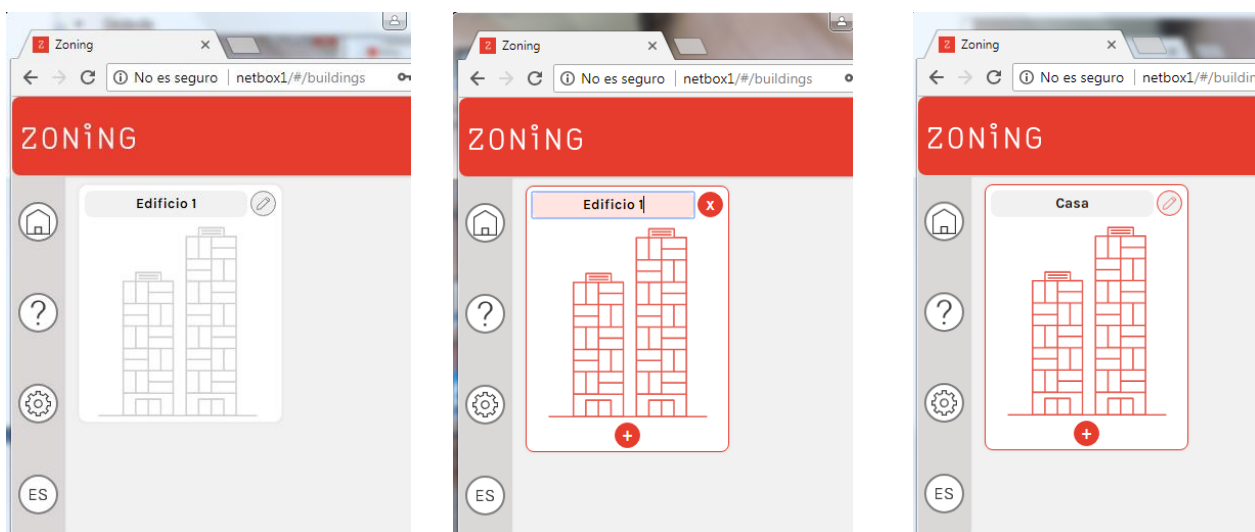


Figure 11: Definition of the building name.

3. Press the **+** button to add a new central unit, and two fields will appear:

- ✓ **Desc:** To write the name of the new central unit.
- ✓ **Modbus:** You must write the Modbus IP address that appears on the front label of the Zity control panel.



Figure 12: Front label of the Zity central unit.

Once the two previous parameters have been defined, press the **↻** button that appears next to the Modbus number.

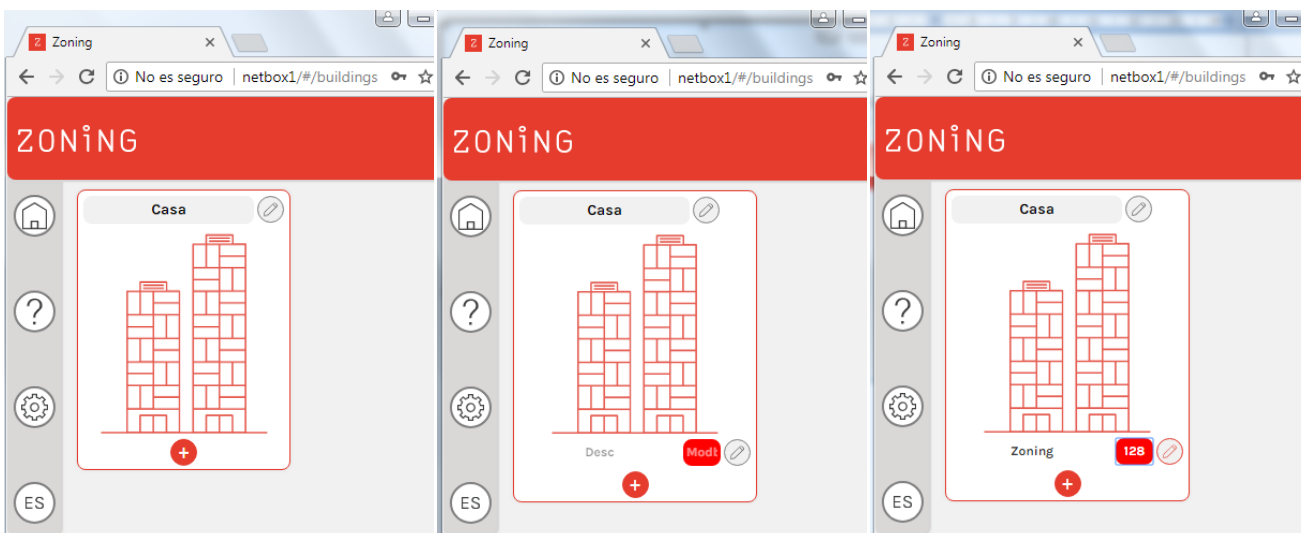


Figure 13: Process to add a new central unit.

4. Wait between 3-5 min and press the arrow that appears next to the Modbus number on the central unit **→**. This way, the system control commands and zones associated with the Zity central unit will appear automatically. The control commands are described in the 4 section of this document.

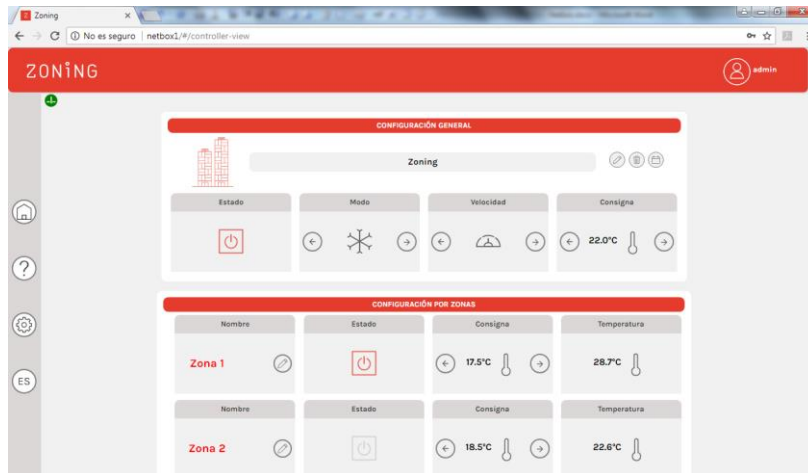






Figure 14: Control commands menu .

5. In the top left-hand corner of the system's command control window, the following icon should appear . If this icon does not appear at any time, go to the configuration menu on the left of the application , and press the base button. By pressing this button, the application takes us back to the building menu. At this point, press F5 and enter the application again.

3.4. User register.

After configuring the Netbox device's Wi-Fi connection, all you need to do now is register the user of the application. To do this, follow the instructions listed below.

1. Press the configuration button that appears to the left of the application .
2. In the “Cloud User” submenu , press the “Create a new user” button. Next, fill in the required fields and press the confirmation button .

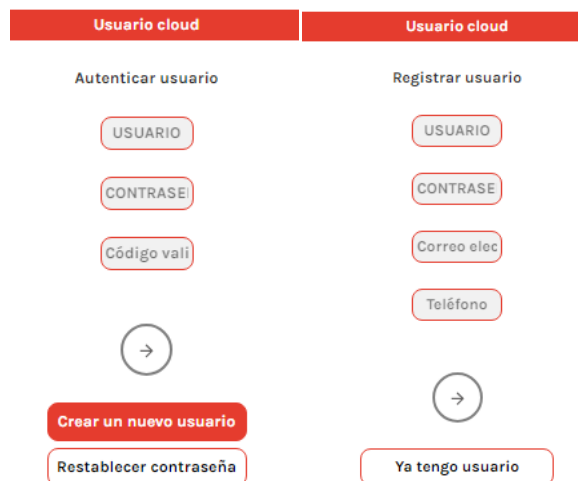



Figure 15: Registering a new user.

3. You will receive an email with a verification code. Enter it in the “Validation code” field and press the confirmation button .

Usuario cloud

Autenticar usuario

Madel

.....

Código vali

El usuario ha sido registrado. Por favor confirma la cuenta con el código enviado al correo.

→

Crear un nuevo usuario

Restablecer contraseña

Figure 16: Defining the validation code corresponding to the user register.

- Once the Cloud user is set up, click on the connect button to finish the connection process to the Cloud. From this moment, access to the application will be established from the following web address <https://www.zoningapp.es>. As shown in Figure 18, to access the Cloud platform you need to enter the user name and passwords specified during the Cloud connection process (Figure 15 y Figure 16).

Usuario cloud : Madel

Cerrar sesión

Dispositivo

Actualmente la aplicación funciona en modo: local

Conectar

Figure 17: Connection to the Cloud.

Es seguro | https://zoningapp.es/#/

ZONING

USUARIO

CONTRASEÑA

→

Restablecer contraseña

Código de validación

Crear un nuevo usuario

Figure 18: Access page to the Cloud platform.

3.5. Advanced configuration menu.

In the configuration web, in addition to the Cloud user register, the following submenus appear:

3.5.1. Restarts

1. **Automator:** It allows the database of the Zity central units registered in each Netbox device to be updated. You must act on this command every time a central unit is deleted. Where necessary, a message will appear like the one shown in Figure 19.

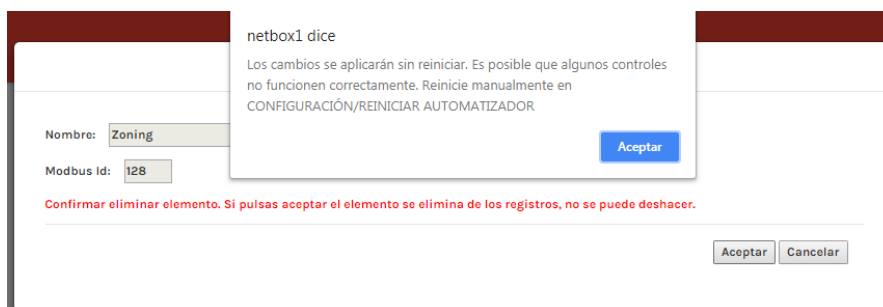


Figure 19: Warning message of restart via automator.

Likewise, once a new central unit has been registered and after waiting 3-5 minutes, if you enter the central unit's control command menu and a message like the one indicated in Figure 20 appears, you must act on the automator. Every time you act on the automator button, wait 2 minutes before returning to register a new central unit.



Figure 20: Error message when detecting a new central unit.

2. **Base:** It synchronizes the exchange of information between the Netbox device and the Cloud. In the last point of section 3.2 the cases in which you must act with this command are specified.
3. **Update:** Allows you to update the application's software version. By clicking on this button, the application will take us to the access page. Before re-entering the "User" and "Password", fields, press F5 on the PC.
4. **Power off:** Successfully disconnect the Netbox device.



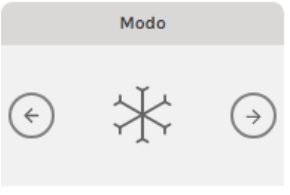
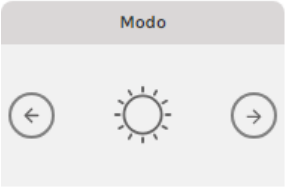
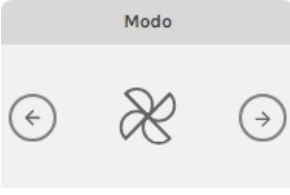




3.5.2. Local user

Allows you to modify the local access password to the Netbox device (<http://netbox/#/>). As indicated in section 3.2, the default password is "admin".

4. Application use

4.1. Air conditioning equipment control commands.

Command	Status	Icon
---------	--------	------

Status	ON: Turns the air conditioning equipment on	
	OFF: Turns the air conditioning equipment off	
Operating mode	Cold	
	Heat	
	Ventilation	
	Dry	
	Radiant cold	
	Radiant heat	
Flexifan <small>(In flexifan mode it must be activated)</small>	Speed 0 of flexifan mode	


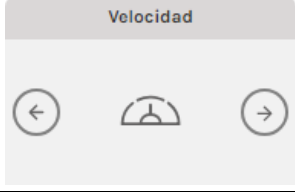


from the Zoe and Zebra thermostats. If it is not activated, this icon does not appear in the application)	Speed 1 of flexifan mode	
	Speed 2 of flexifan mode	
	Speed 4 of flexifan mode	
Set temperature	Allows you to define the same set temperature in all zones with one command.	

Table 1: List of control commands relating to the air conditioning system

4.2. Zone control commands.






Command	Status	Icon
Status	ON: Turns the zone on	
	OFF: Turns the zone off	
Zone temperature	Displays the ambient temperature	
Set temperature	Select the desired temperature in each zone	

Table 2: List of control commands relating to zones

5. Configuration of the Cloud app

5.1. Central unit configuration commands.

You can access by pressing the edition button located next to the central unit's name . The functionality of each of the configuration commands is described below.

1. **Name:** Allows you to modify the name assigned to the central.
2. **Modbus ID:** Displays the central unit's Modbus IP. This parameter was assigned during the Wi-Fi configuration process (see section 3.2)
3. **Active modes:** The list of visible modes that you can use through the Cloud application is defined. On Zebra thermostats, this command is configured from the actual thermostat, which is why it is locked.
4. **Ventilation control:** Indicates whether the ventilation control is activated. This function must be activated from the installation's master thermostat. If the function is disabled the icon corresponding to flexifan will not appear (see Table 2).
5. **Number of fan speeds:** Indicates the number of fan speeds that the direct expansion duct machines have associated with the Zity central unit. To get this information it is necessary to use communication gateways between the machine and the Zity central unit.
6. **Antifreeze control:** Indicates whether the antifreeze function is activated or not. By default, the systems are supplied with this function activated. The antifreeze control will not allow the temperature of each zone to fall below 7°C to avoid risks of freezing.

Central

Nombre:

Modbus Id:

Modos activos:

Control ventilación:

N° velocidades ventilador:

Control antihielo:

Figure 21: Zity central unit configuration menu.

5.2. Zone configuration commands.

You can access by pressing the edition button located next to each zone .

Zona

Nombre:

Mínima temperatura de consigna:

Máxima temperatura de consigna:

Modo eco:

Figure 22: Zone configuration menu.

The functionality of each of the zone configuration commands is described below.

1. **Name:** Allows you to modify the zone name.
2. **Minimum and maximum setpoint temperature:** These are the minimum and maximum setpoint temperatures that can be set for each zone from the Cloud application. For

Zebra thermostats, this field is defined in the actual thermostat, and can be modified from these fields. However, for Zoe thermostats this field is temporarily locked.

- ECO mode:** Activates the ECO function. This function is temporarily locked in Zebra thermostats. If this function is activated, the following icon will appear next to the name of each zone.

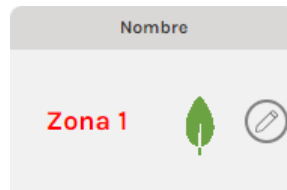



Figure 23: Activation of the ECO function.

6. Annual calendar programming.

The Madel Cloud application offers the opportunity to program equipment or zone control commands. You can access by pressing the calendar button located next to the central unit's name

. The following describes the steps to follow to carry out a time programming.

- Press the “New event” button and it will generate an event on the current day.

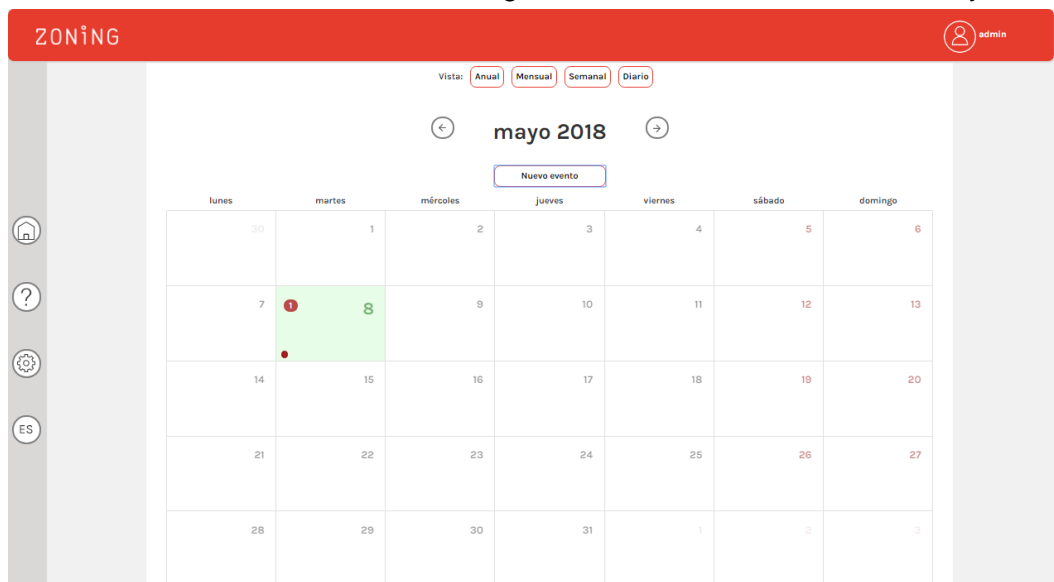


Figure 24: Monthly view of the programming calendar.

- Click on the **bubble** of the generated event, and the event configuration menu will open. Firstly, you can modify the day and time at which the generated event begins. In the same way, you can modify the colour associated with the generated event (see Figure 25).



Figure 25: Definition of day and time the programming begins.

- Once the start time has been set, the actions to be carried out must be programmed. To do this, use the left and right mouse buttons:
 - **Right button**:: Enables and disables the control command. That is, whether that action is going to be taken into account or not.
 - **Left button**: Sets the value to be programmed. E.g. whether it is going to be turned on or off, temperature value, etc.

Only those control commands that are enabled will be sent.

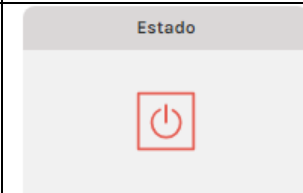
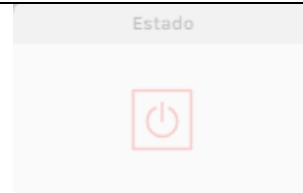

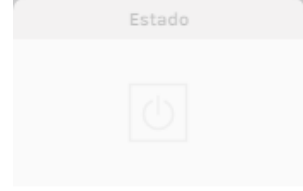
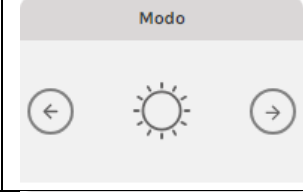
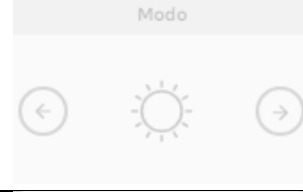
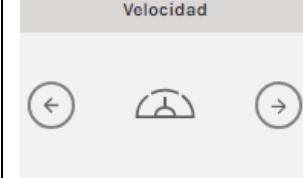
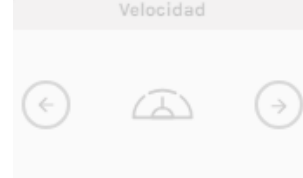
Command	Enabled	Disabled
Status		
		
Operating mode		
Flexifan⁽¹⁾		

Table 3: Examples of enabled and disabled central unit control commands


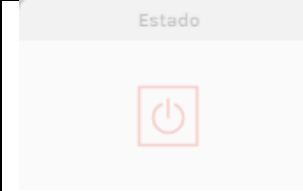
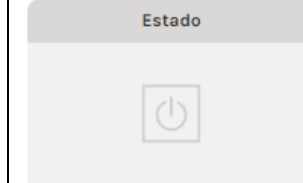
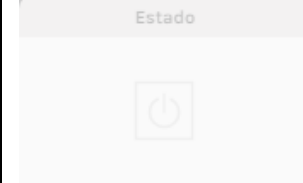
Command	Icon	
	Enabled	Disabled
Status		
		



Table 4: Examples of enabled and disabled zone control commands

- If you only want to program a specific day, you must press the “Save” button to finish.
- If, on the other hand, you want to generate a programming template that will be repeated over several days, you must press the “Repeat” button.
 - In the sub-menu that appears, you must specify the final date to which the programming will be extended. You can also filter the days of the week on which it will be applied. E.g. you can select all the days of the week, excluding the programming on weekends. Finally, pressing the “Save” button ends the programming process.

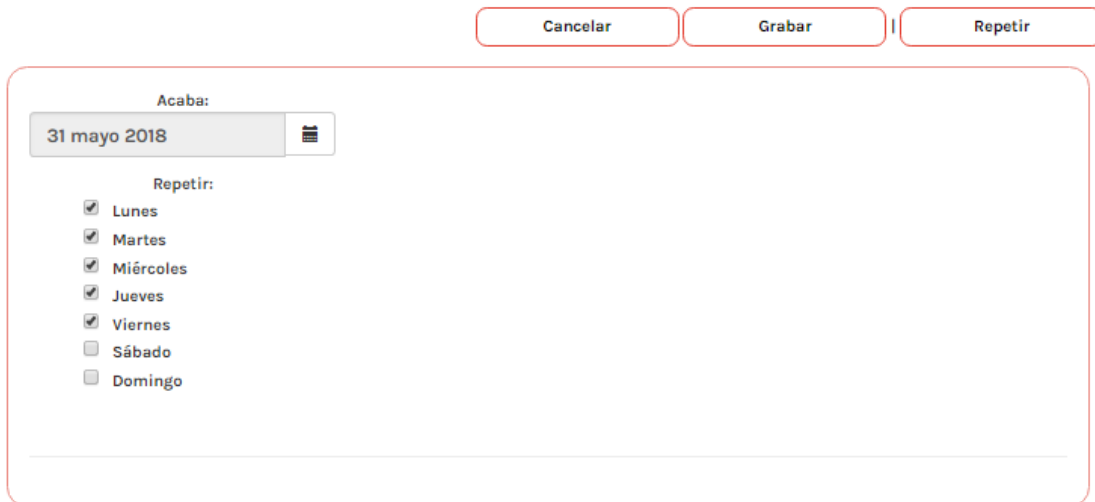


Figure 26: Generation of a programming template

As you can see in Figure 27, we have repeated the same programming event from the 8th to the 31st of March, excluding weekends.

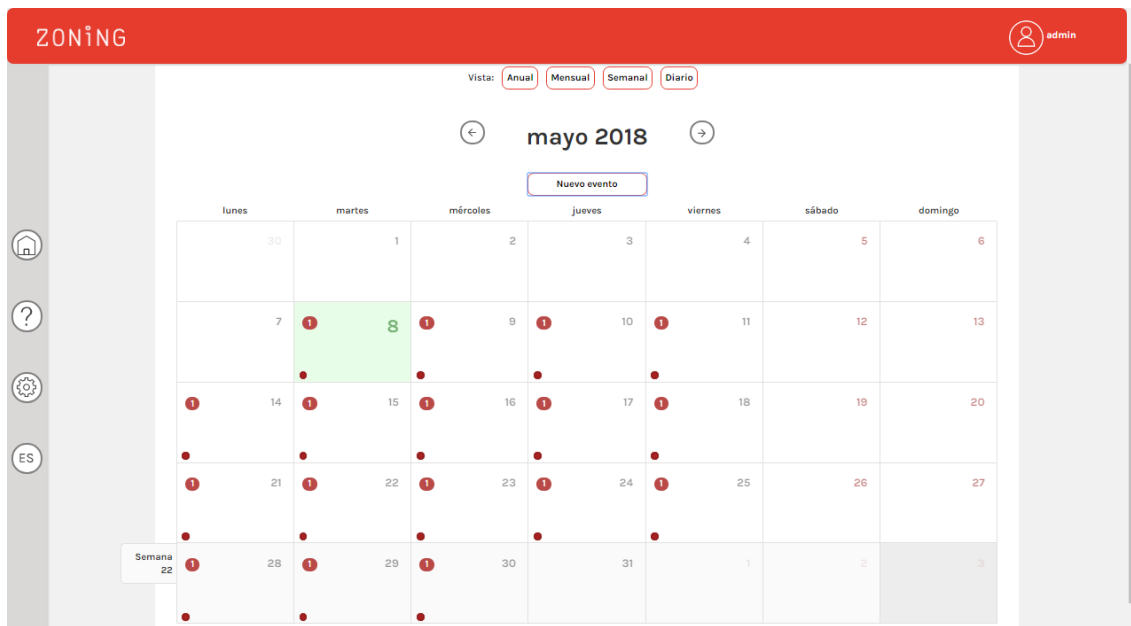


Figure 27: Example of a programming template

7. User management

If you want to give remote access to the installation to other users, they must register from the cloud access page <https://www.zoningapp.es>.

For this, you must press the “Create a new user” button. Next, fill in the required fields and press the confirmation button . You will receive an email with a verification code. Click on the “Validation” code button and the validation form for a new user will appear.



Figure 28: Registration of new users of the Cloud application (left). Validation form for a new user. (right).

This new user can be assigned access permission to view and control data corresponding to one or more buildings. To do this, from the application of a user who has administrator permissions on a building, press the configuration button that appears on the left. A list of buildings on which the user has administrator permissions will appear. By pressing the button next to the name of each building, a new user can be added identified by their user name. Subsequently, you can give them “Administrator” and “Viewer” permissions. The difference between both lies in the fact that a user

with “Viewer” permissions will not be able to access the central unit or zone configuration menus or delete central units or buildings.



Figure 29: User management menu.

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