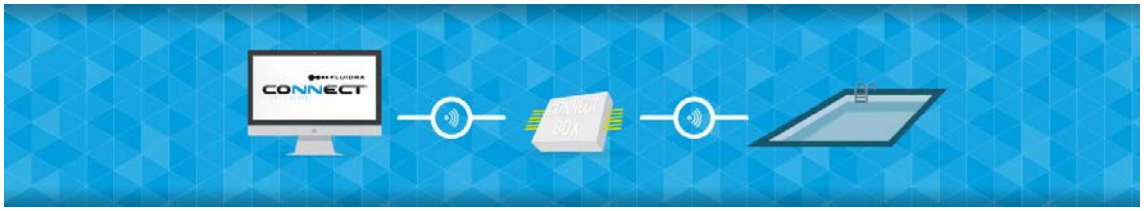

FLUIDRA CONNECT®

Installation manual for Fluidra Connect with an AstralPool circuit board

www.fluidraconnect.com

COMPATIBLE NN thing®

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Installation manual

Congratulations on your purchase of Fluidra Connect!

Fluidra Connect is a system that uses the latest technology for controlling pools. To ensure proper installation, it must be fitted by a pool service engineer or a qualified electrician, who must follow the instructions in this manual.

The AstralPool circuit board will facilitate installation and reduce the time required to do so.

The service engineer/electrician should make the connections to the terminal block in the same way as any conventional circuit board.

Should you have a three-phase power supply, jumper wires must be removed as required.

Tip: Check the Internet connection that is to be used.
See Part 1: Connecting the power supply and Ethernet cable to the Connect Box circuit board.

Tip: Ensure you note down the information given (serial number and control digit) on the Connect Box label.

Tip: Have your username[1] and password at hand that were created to access the Fluidra Connect platform.

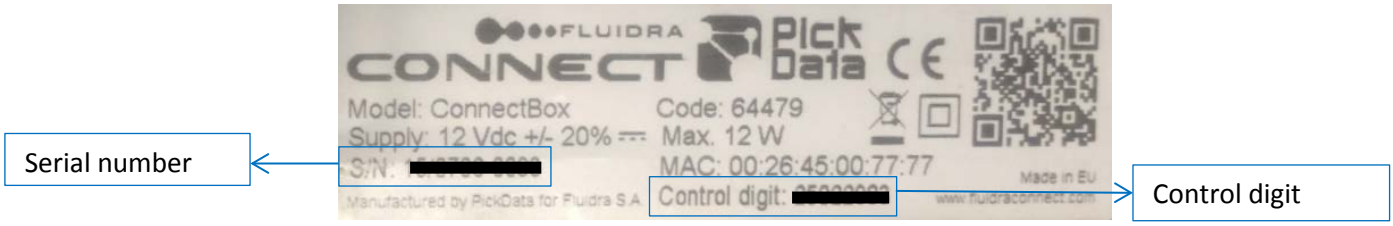


Figure 1: Connect Box label

[1]Should you not have a service engineer/electrician username, please contact us at vguiot@Fluidra.es.

A. Connect Box set-up in the workshop

Part 1: Connect Box set-up

1. Wire the circuit board in order to update Connect Box in the workshop.

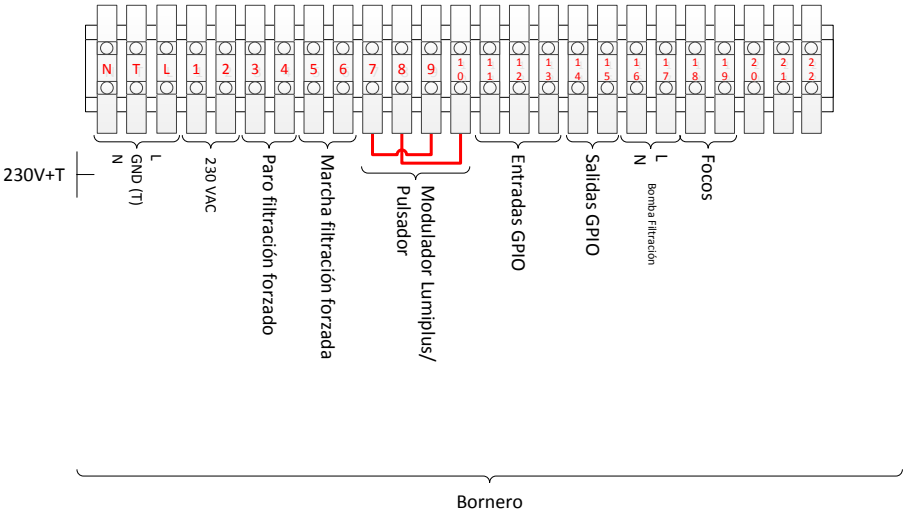


Figure 2: Fluidra Connect terminal block

2. Check that there is a working Internet connection.

3. Set up an Internet connection to Connect Box using the Ethernet cable and ensure that Connect Box is switched on.

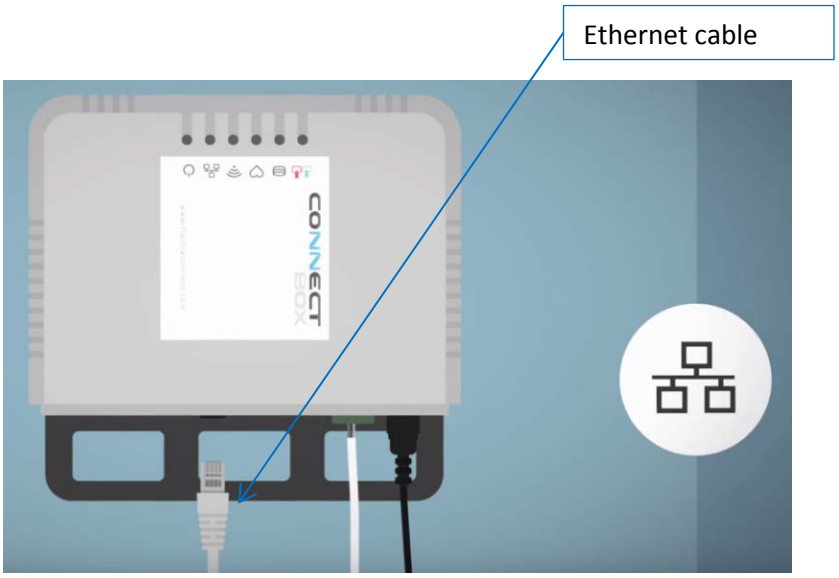


Figure 3: Internet connection

4. Check that it is connected to the server so that it can be properly updated.

   When Connect Box is connected to the power supply and the Internet for the first time, the LEDs will flash on and off for a few seconds. After a few minutes, the server LED will light up, as shown in Figure 4: Connect Box.

   When a stable connection to the server has been established, the LED will remain in solid green.

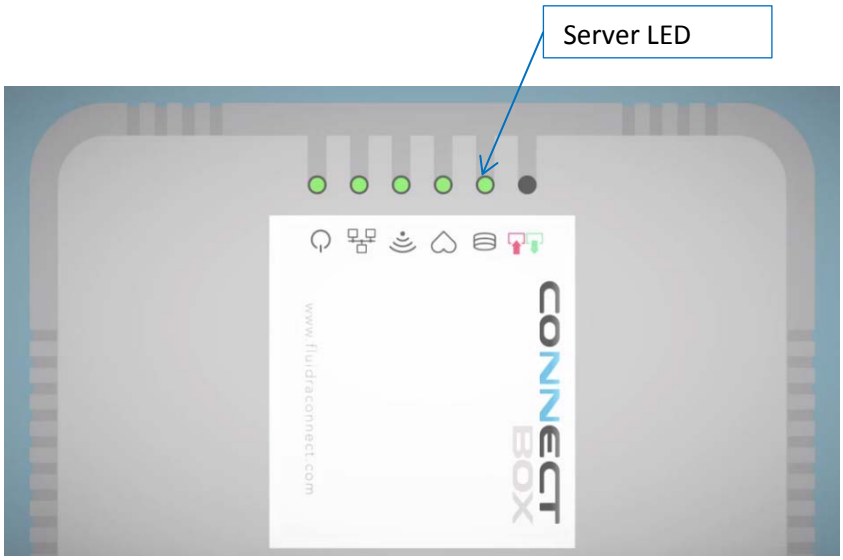


Figure 4: Connect Box

Part 2: Filling in the installation form

Once Connect Box has been updated, it must be configured. To do so, go to the Platform at http://www.fluidraconnect.com and enter your username[2] and password.

The Connect Box circuit board must be switched on and Connect Box connected to the Internet.

Once you have accessed the platform, you should complete the following steps:

1. Click on the "COMUNIDAD" (Community) icon to access the platform.

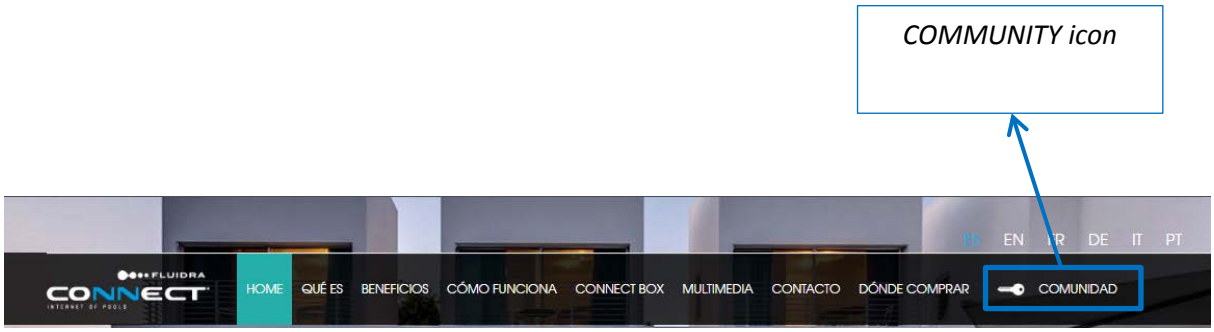


Figure 5: Menu on the *Fluidra Connect* portal.

2. Access it by entering your username and password on the platform's login screen. The username is the service engineer/electrician's email, whilst the password will have been chosen by the service engineer/electrician during the registration process.

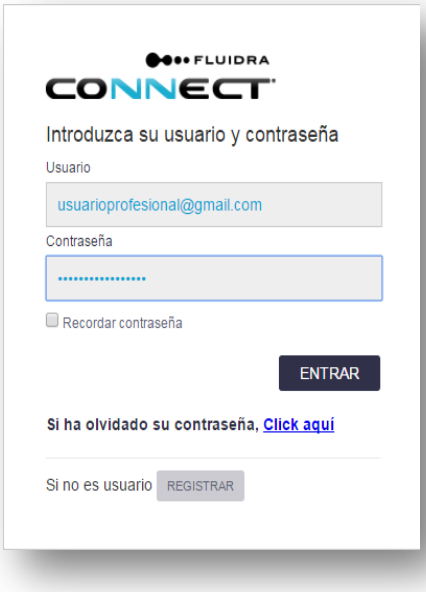


Figure 6: The platform's login screen

[2]Should have been obtained beforehand. Should you not have a service engineer/electrician username, please contact us at vguiot@Fluidra.es.

3. Click on "INSTALACIONES" (Installations) under the main menu.

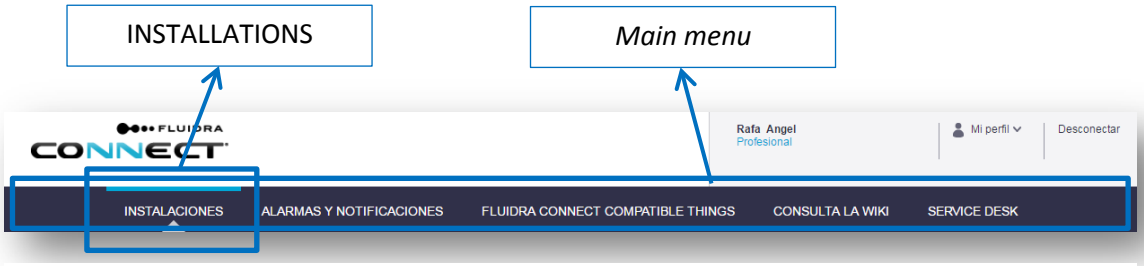


Figure 7: Installations

4. Click on “GESTIONAR INSTALACIONES” (Manage installations).

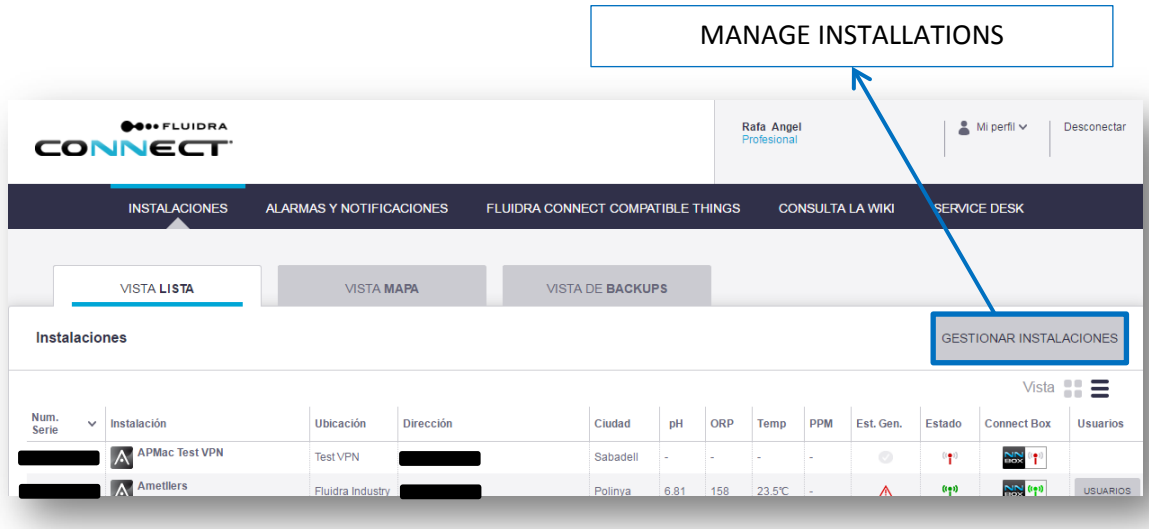


Figure 8: List of installations on the Fluidra Connect platform

5. Click on “AÑADIR NUEVA INSTALACIÓN” (Add a new installation).

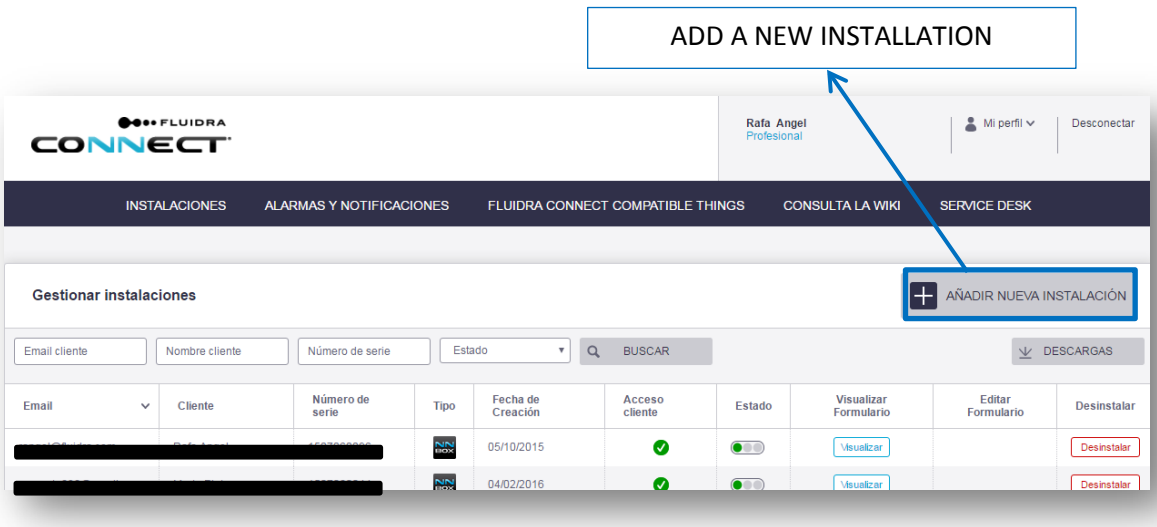


Figure 9: Manage installations screen

6. Fill in the installation form.

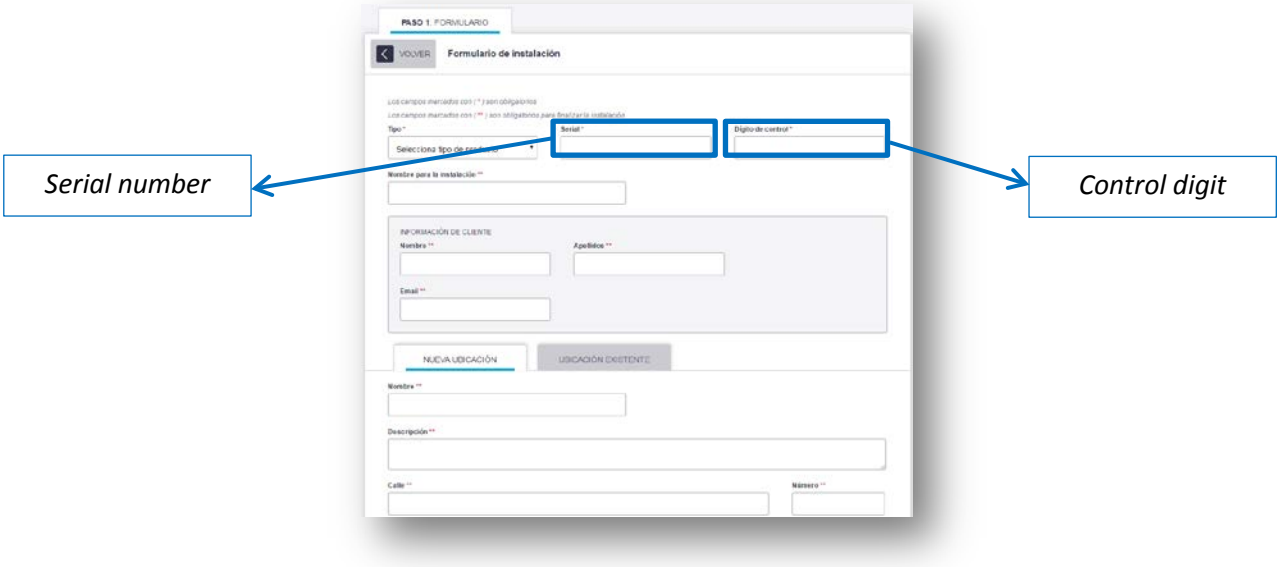


Figure 10: Installation form

7. Click on “GUARDAR BORRADOR” (Save draft) to continue the installation.

8. Click on “CONSULTA LA WIKI” (Consult the wiki) under the main menu (optional).

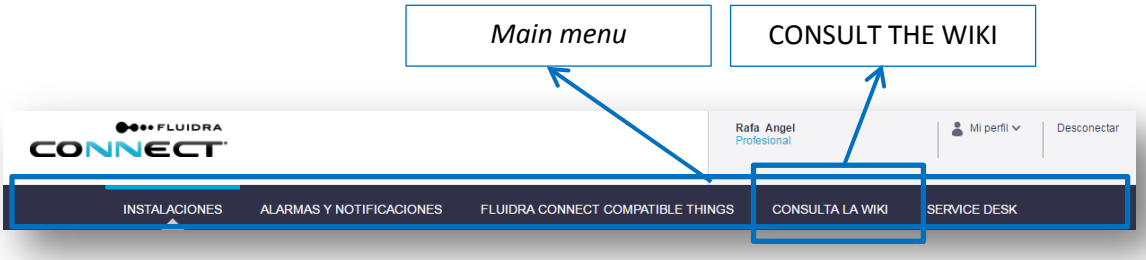


Figure 11: Consult the wiki

9. Search for latest software update (optional).

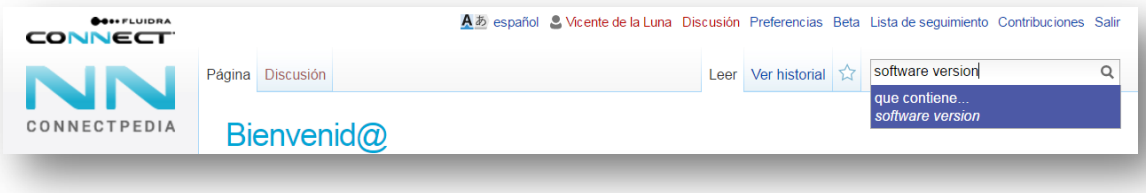


Figure 12: Wiki

1. Place the cursor on the Connect Box serial number to check that the software has been updated. The Connect Box update takes less than 2 hours[3] (optional).

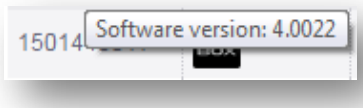


Figure 13: Software version of Connect Box

2. Click on "Acceder" (Access) under the “Gestionar Instalaciones” (Manage installations) menu to see the "Access" button of an installation process that has been started.

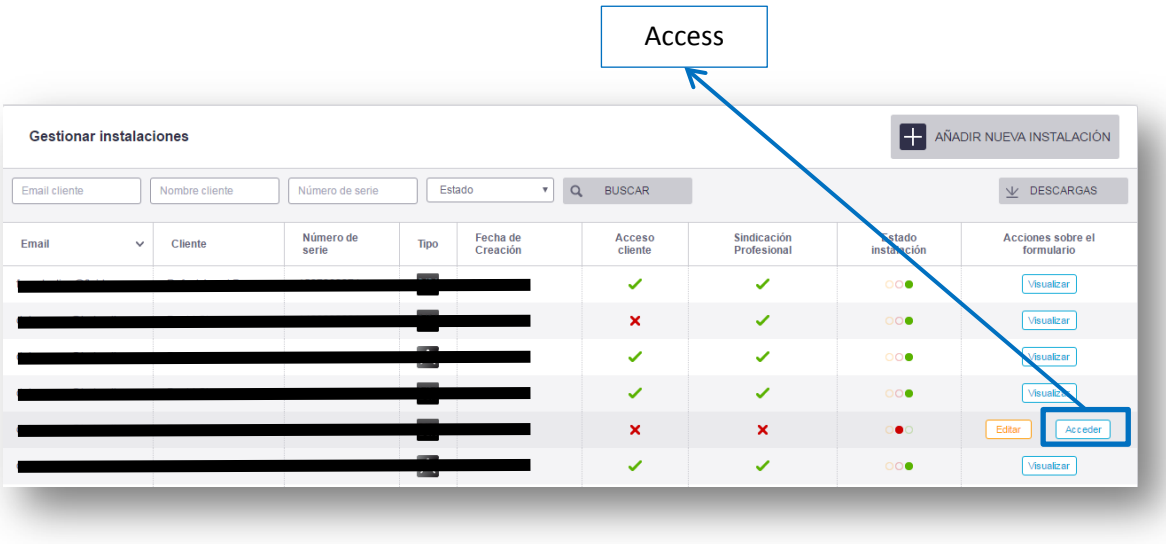


Figure 14: Access button

3. The service engineer/electrician may set up as many installations as she/he likes by repeating the previous steps.

[3] Updates take less than 2 hours in 95% of cases, whilst the remaining 5% will depend on your band width or the stability of your Internet connection.

Part 3: GPIO SCAN

Having reached this point, you will be in a position to scan any compatible Fluidra Connect devices included on the Connect Box circuit board (1 GPIO).

1. Click on the button "Acceder" (Access) of the installation to be configured on the “Gestionar Instalaciones” (Manage installations) screen.

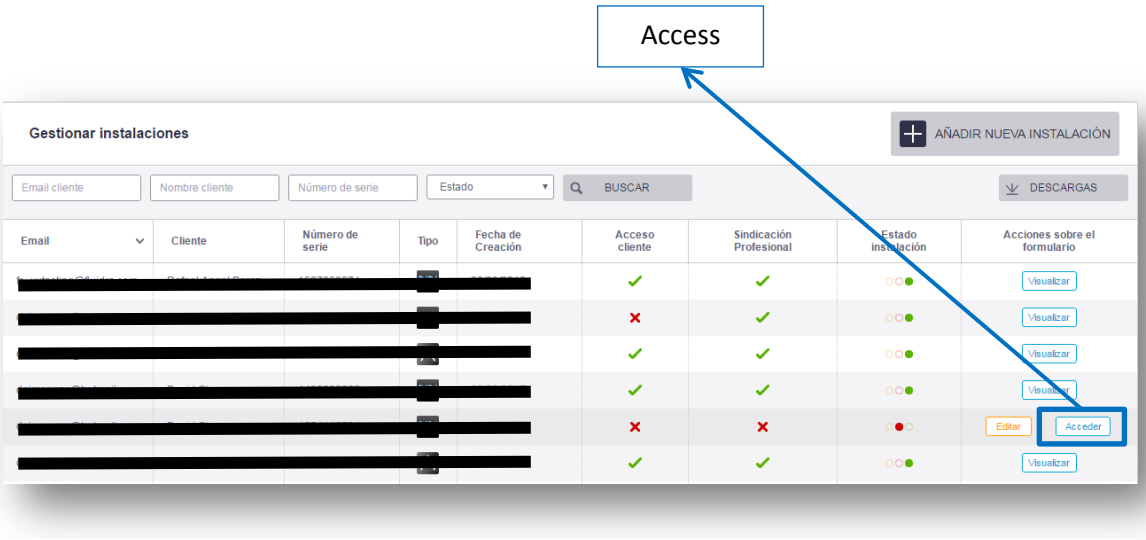


Figure 15: ACCESS button

2. The Connect Box window will open.

3. Click on the “DISPOSITIVOS” (Devices) icon under the Main menu.

4. Click on the "ESCANEAR" (Scan) button.

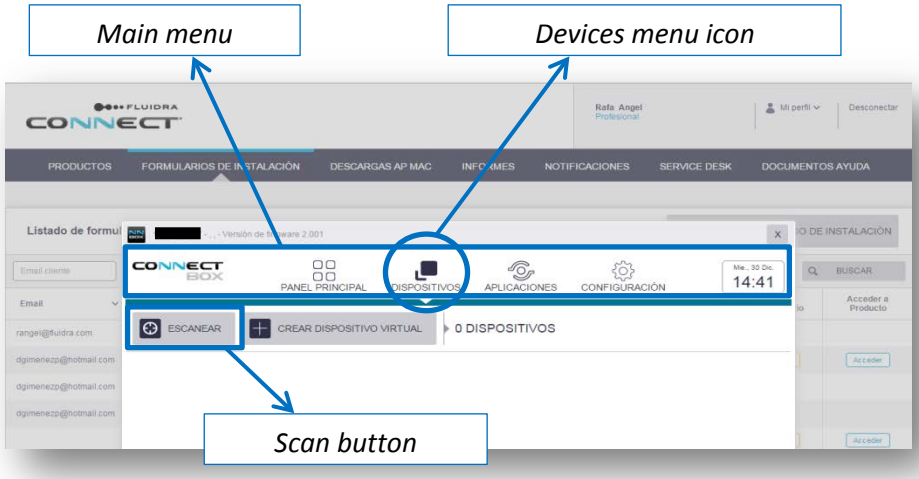


Figure 16: Connect Box screen

5. By clicking on "SIGUIENTE" (Next), the scan will begin. This process can take a few minutes.

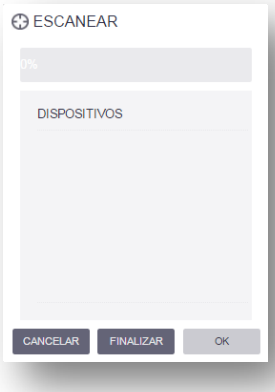


Figure 17: Scan

6. If the scan has been successfully completed, the icon of all of the compatible Fluidra Connect devices connected using a Modbus cable (pre-installed GPIO) will appear on the screen.

Figure 18: Devices screen

7. By clicking on a device's icon, its screen will pop up.
8. The options on a device's screen can be changed by clicking on the bottom tabs, see Figure 19: GPIO screen.

Figure 19: GPIO screen

Part 4: Creating virtual devices

A virtual device is one that although not compatible with Fluidra Connect, it can be controlled through a compatible device, in this case the GPIO.

In order to distinguish them on the platform, they are called "virtual" as they are not scanned nor do they have Modbus characteristics.

This section explains how to link up devices added to the Connect Box circuit board in the GPIO inputs and outputs.

1. Click on the “DISPOSITIVOS” (Devices) icon under the Main menu.

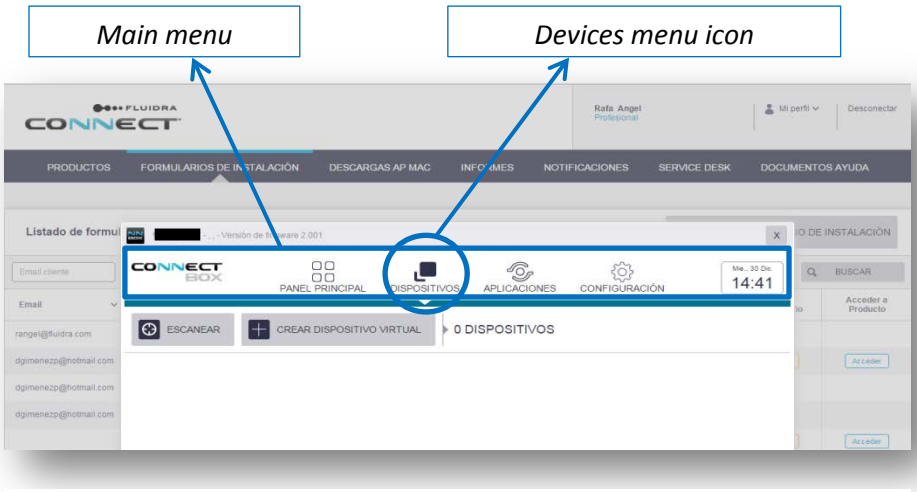


Figure 20: Connect Box main menu

2. Click on the button “CREAR DISPOSITIVO VIRTUAL” (Create a virtual device).

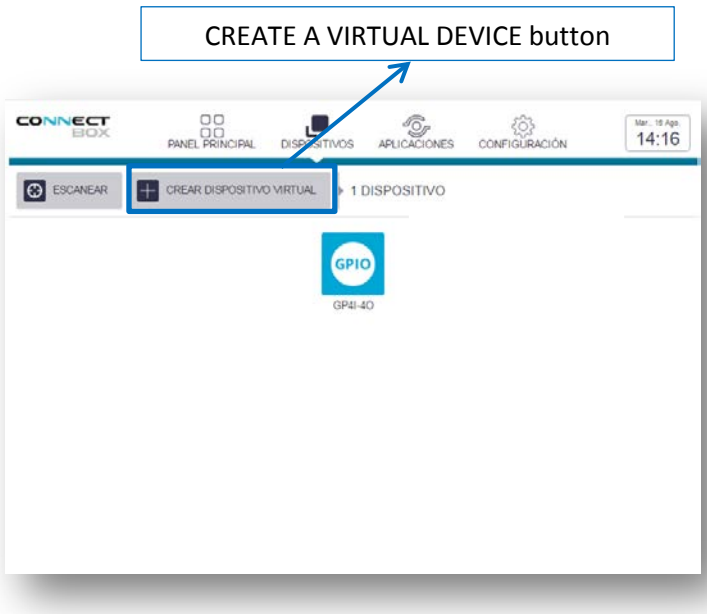


Figure 21: Devices screen

3. The virtual device configuration screen will open.

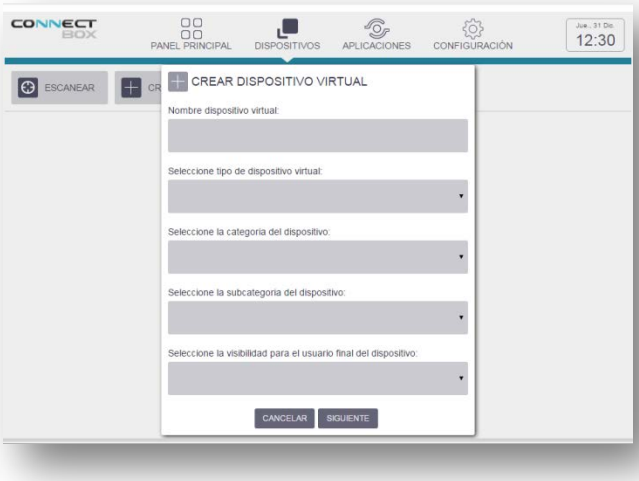


Figure 22: Virtual device configuration screen

4. Create **pump status (optional)**.

   A virtual device option can be added that will show whether or not the pump has a system failure.

   4.1 Click on the button “CREAR DISPOSITIVO VIRTUAL” (Create a virtual device) (optional).

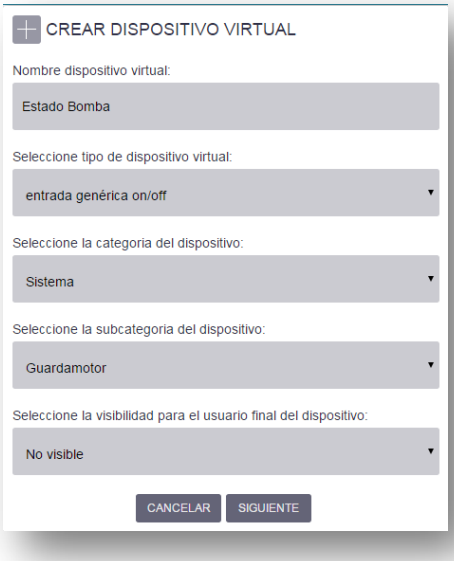


Figure 23: Generic input: Pump failure

   4.2 Give the device the name "Pump failure" (optional).

4.3 Under the type of device, select **“entrada genérica on/off” (generic input on/off)** (optional).

4.4 Under the generic category, select **“Sistema (System – a magnetic starter in this case) (optional)**.

4.5 Select **Guardamotor** (**Magnetic starter)** under the product subcategory (optional).

4.6 Under visibility of the device for the end user, select **"No visible" (Not visible) (optional)**[4].

4.7 Click on "SIGUIENTE" (Next) (optional).

4.8 Link up the status of the virtual device to intuitive names (optional).

Figure 24: Status

4.9 Select **input_1** as this is the GPIO input wired to the pump's power supply (optional).

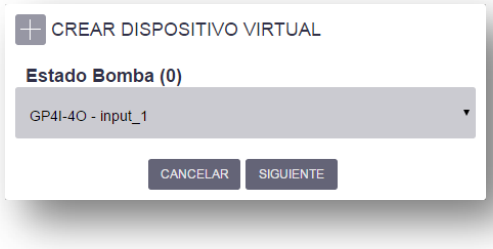


Figure 25: Input selected

4.10 Click on "SIGUIENTE" (Next) (optional).

[4]Visible devices can be accessed by the end user from the app.

4.11 On the devices screen, the new virtual device created will pop up (optional).

5. Create **filtration status**.

Under "CREAR DISPOSITIVO VIRTUAL" (Create a virtual device), the input linked up to the filtration pump's contactor will be displayed.

5.1 Click on the button "CREAR DISPOSITIVO VIRTUAL" (Create a virtual device)".

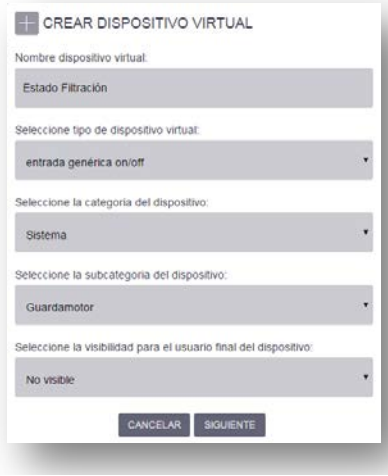


Figure 26: Generic input: Filtration status

5.2 Give the device the name "Filtration status".

5.3 Under the type of device, select **"entrada genérica on/off" (generic input on/off)**.

5.4 Under the generic category, select **"Sistema (System – a contactor in this case) (optional)**.

5.5 Select **"Other"** under the product subcategory.

5.6 Under visibility of the device for the end user, select **"No visible" (Not visible)**.[5]

5.7 Click on "SIGUIENTE" (Next).

5.8 Link up the status of the virtual device to intuitive names.

[5] Visible devices can be accessed by the end user from the app.

Figure 27: Status

5.9 Select **input_2** as this is the GPIO input wired to the filtration pump.

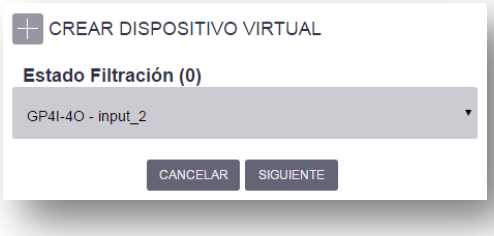


Figure 28: Input selected

5.10 Click on "SIGUIENTE" (Next).

5.11 On the devices screen, the new virtual device created will pop up.

6. Create **filtration pump**.

The way to create a virtual device as an output linked up to the filtration pump is explained below.

6.1 Click on the button “CREAR DISPOSITIVO VIRTUAL” (Create a virtual device)”.

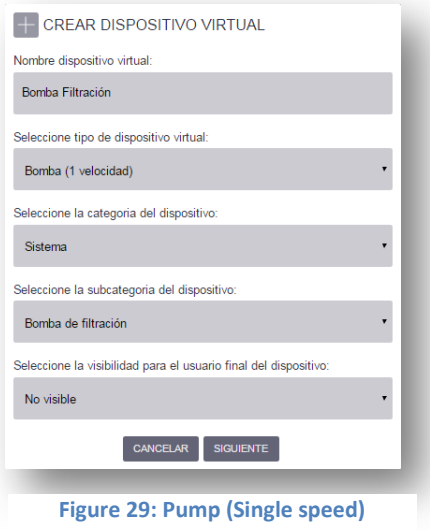


Figure 29: Pump (Single speed)

6.2 Give the device the name "Filtration pump".

6.3 Under "SELECCIONE TIPO DE DISPOSITIVO VIRTUAL" (Select type of virtual device), select "**Bomba (1 velocidad)" (Pump (single speed)).**[6]

6.4 Under the generic category, select **"Sistema" (System).**

6.5 Under the product subcategory, select **Filtration pump.**

6.6 Under visibility of the device for the end user, select **"No visible" (Not visible).**

6.7 Select **RL1** as this is the GPIO output wired to the pumps connection.

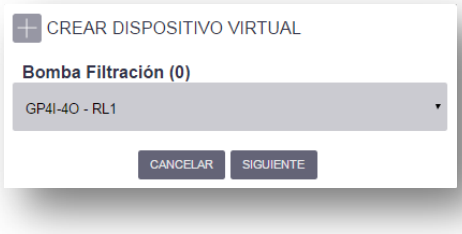


Figure 30: Output selected

6.8 Click on "SIGUIENTE" (Next).

6.9 On the devices screen, the new virtual device created will pop up.

[6]The filtration pump is a specific type of output.

7. Create **spotlights**.

The way to create a virtual device as an output linked up to the pool's lighting is explained below.

7.1 Click on the button “CREAR DISPOSITIVO VIRTUAL” (Create a virtual device)”.

Figure 31: Lighting

7.2 Give the device the name "Spotlights".

7.3 Under the type of device, select **“salida genérica on/off” (generic output on/off).**[7]

7.4 Under the generic category, select “**Entretenimiento” (Entertainment).**

7.5 Select **"Luz” (Lighting)** under the product subcategory.

7.6 Under visibility of the device for the end user, select **"Visible”.**

7.7 Select **RL2** as this is the GPIO output wired to the light fixtures.

Figure 32: Output selected

[7] The filtration pump is a specific type of output.

7.8 Click on "SIGUIENTE" (Next).

7.9 On the devices screen, the new virtual device created will pop up.

If all of the above steps have been properly followed, the virtual devices created will appear on the icon screen.

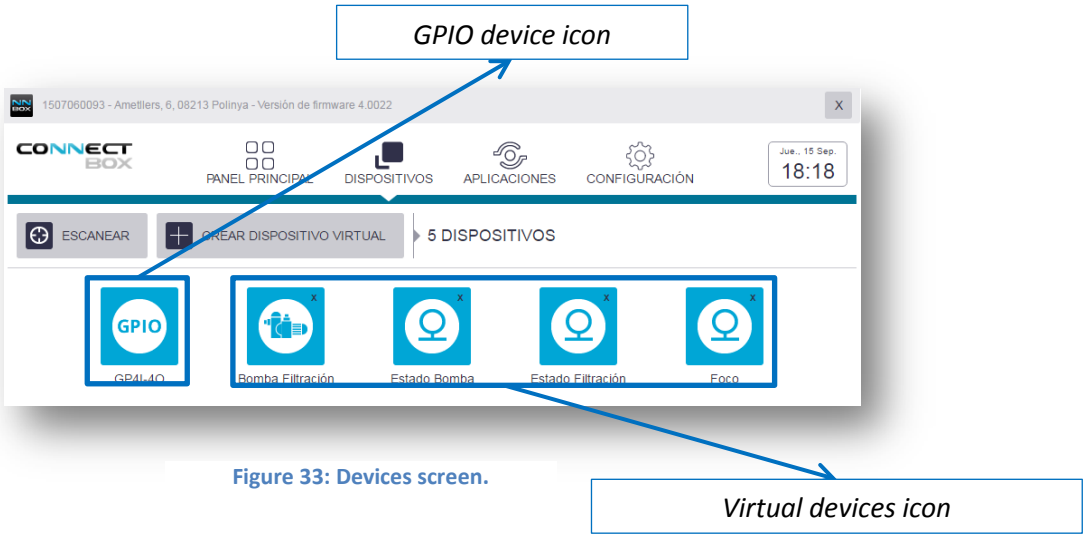


Figure 33: Devices screen.

8. Once the virtual devices have been created, they can be accessed by clicking on their icons.

8.1 The status of virtual devices that have been configured as inputs will be displayed.

Figure 34: Virtual device configured as an input

8.2 Virtual devices that have been configured as outputs can be switched on or off.

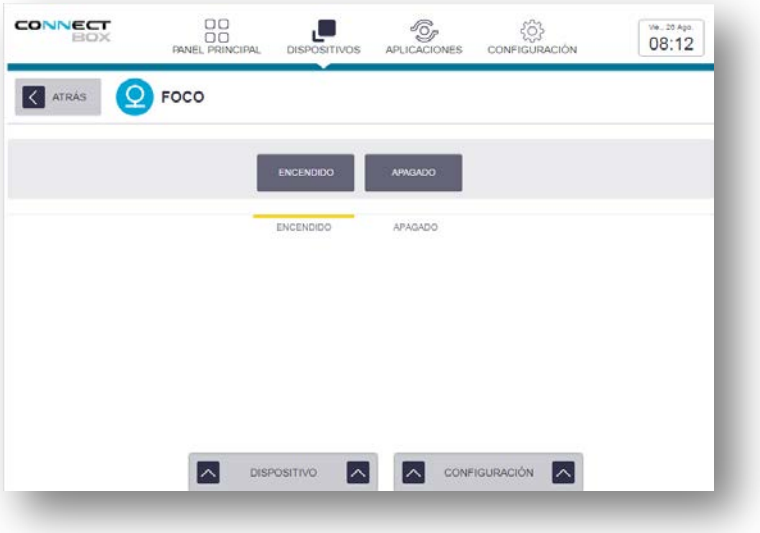


Figure 35: Virtual device configured as an output

The Connect Box circuit board is now ready to proceed to instal it onsite. Congratulations!!

B. Onsite installation

Part 1: Connecting the power supply and Ethernet cable to the Connect Box circuit board

1. Connecting the power supply to Connect Box.

a. Connection of 230V+T

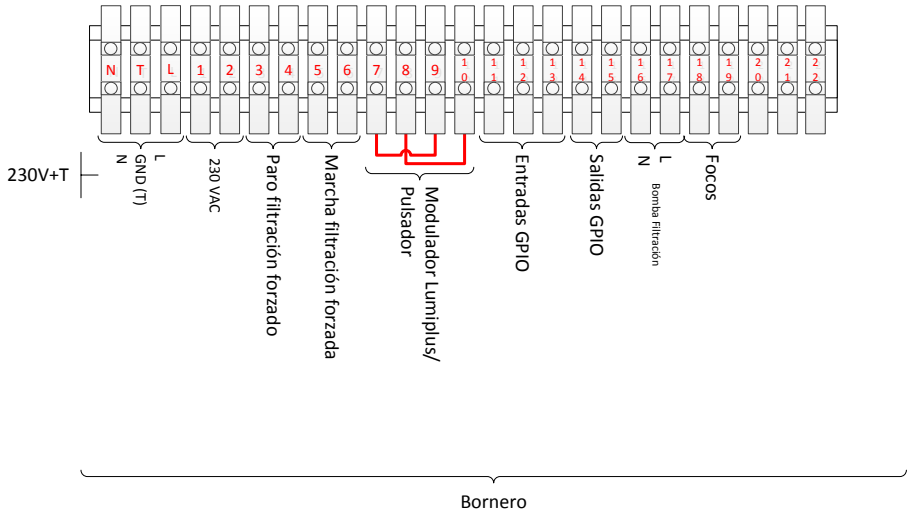


Diagram 1: Connection of 230V+T

2. Select an Internet connection. Table 1, Types of Internet connections, shows all available options. It is recommended to go from left to right and select the first that successfully connects.

Ethernet	Connection from powerline adapters	Wi-Fi	3G
1. Direct connection from an Ethernet cable. 2. Request access from end user. 3. Connect the cable from the router to Connect Box. 4. Check the router connection is working.	1. Connection from a powerline. 2. Request access from end user. 3. Set up the powerline adapters as per the manufacturer's instructions. 4. Checked they are coupled as per the manufacturer's instructions. 5. Connect the Ethernet cable from the powerline adapters in the pump room to Connect Box.	1. Check the (mobile, tablet, etc.) signal in the pump room. 2. Request access from end user. 3. Obtain the password. 4. In the event that the signal does not reach the pump room, other devices can be used such as a repeater (check Fluidra Connect's prices or those of another dealer).	1. Ensure there is 3G network coverage. 2. Obtain a 3G router (check Fluidra Connect's prices or those of another dealer). 3. Obtain a SIM card. 4. Connect the Ethernet cable from Connect Box to the 3G router.

Table 1. Types of Internet connections

3. In order to check that Connect Box has an Internet connection, look to see whether the server LED remains lit up.

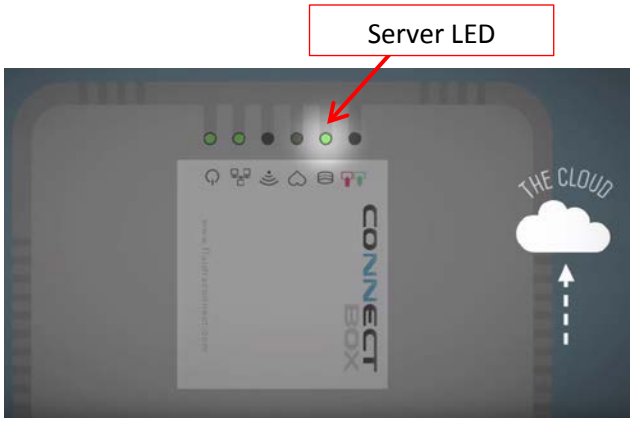


Figure 36: Connect Box

Part 2: Setting up a Fluidra Connect in-line Modbus connection.

The recommended set-up for an in-line Modbus connection is to place one device after another. It is recommended that a Viron pump and an SVRAC II multiport valve – if the installation has them – be placed at either end.

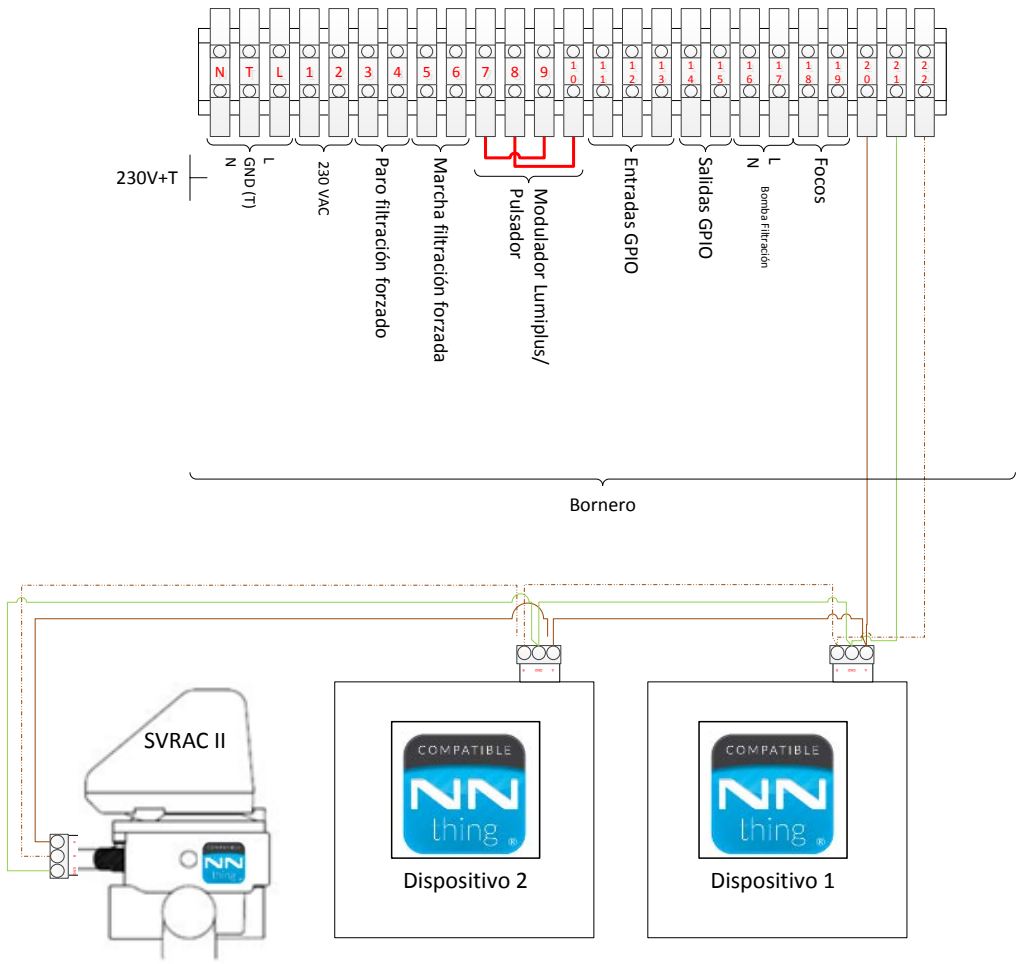


Diagram 2: Fluidra Connect Modbus connection

Part 3: Scanning compatible Fluidra Connect devices.

All devices bearing the NN logo are compatible with the platform. Advice must be sought in the case of devices that do not bear the logo.
To scan a device, follow the steps describe on page 8
Part 3: GPIO SCAN

In this case, the devices located onsite will be added when scanned.

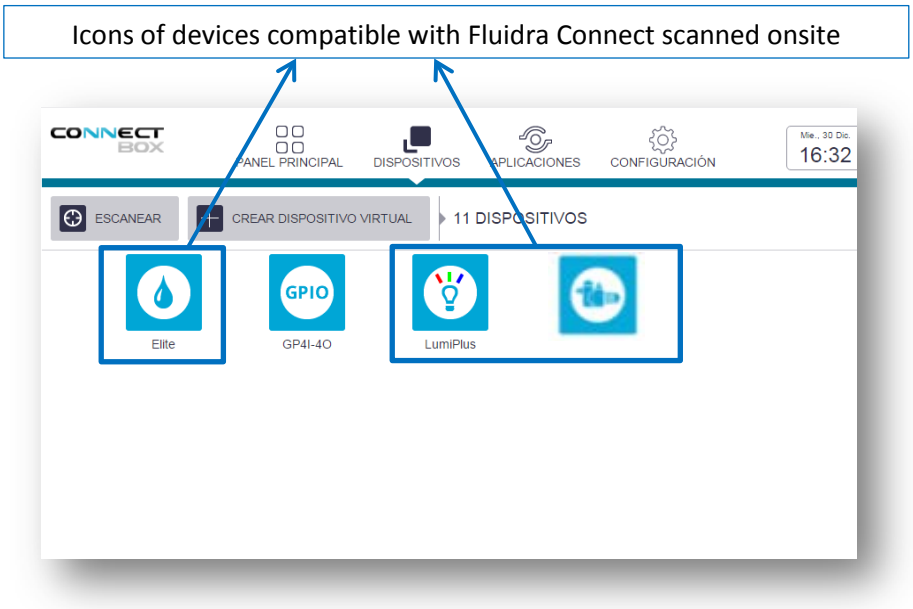


Figure 37: Connect Box screen with devices compatible with Fluidra Connect

Part 4: Matching physical and virtual devices.

Once the installation has been completed, check that the GPIO inputs and outputs programmed in the workshop match the inputs and outputs linked up onsite.

1. By way of example, the status of a magnetic starter has been configured to link up with input 1 on the GPIO.

    1.1 Trip the magnetic starter using the magnetic starter test button.

    1.2 The device's status on screen will display "Tripped", or whatever name have been given to this status. If this does not happen, check the input selected on the GPIO by clicking on the button tab “CONFIGURACION” (Configuration).

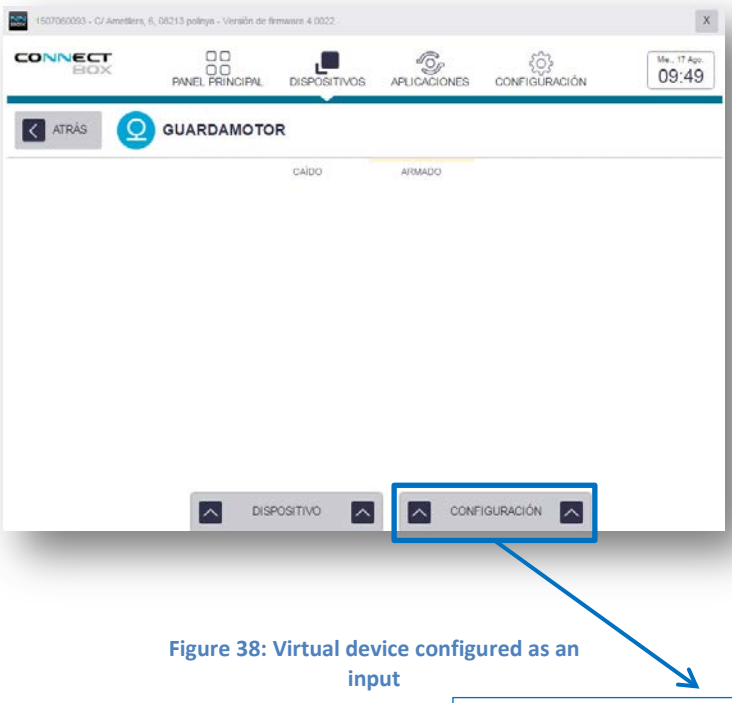


Figure 38: Virtual device configured as an input

2. By way of example, the lighting has been configured to link up to input 2 on the GPIO to switch the lighting on and off.

   2.1 Click on the button “ENCENDER” (On) on the device's screen. The lighting should switch on. If it does not, check the input selected on the GPIO by clicking on the button tab “CONFIGURACION” (Configuration).

   2.2 Virtual devices that have been configured as outputs can be switched on or off.

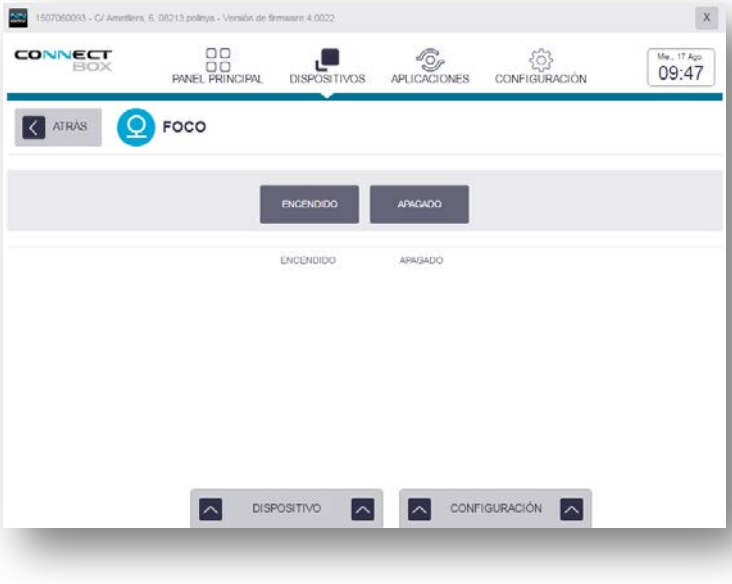


Figure 39: Virtual device configured as an output

The installation of Connect Box has now been completed. You can now manage your smart pool from the Internet. Congratulations!

C. Default apps

The default apps are described below. They must be configured for each installation.

Part 1: Filtration.

By way of example, filtration times will be programmed to run in four time slots: from 8:00 to 10:00, from 12:00 to 14:30, from 16 to 18:30 and from 20:00 to 22:00.

1. Click of the icon “APLICACIONES” (Apps).

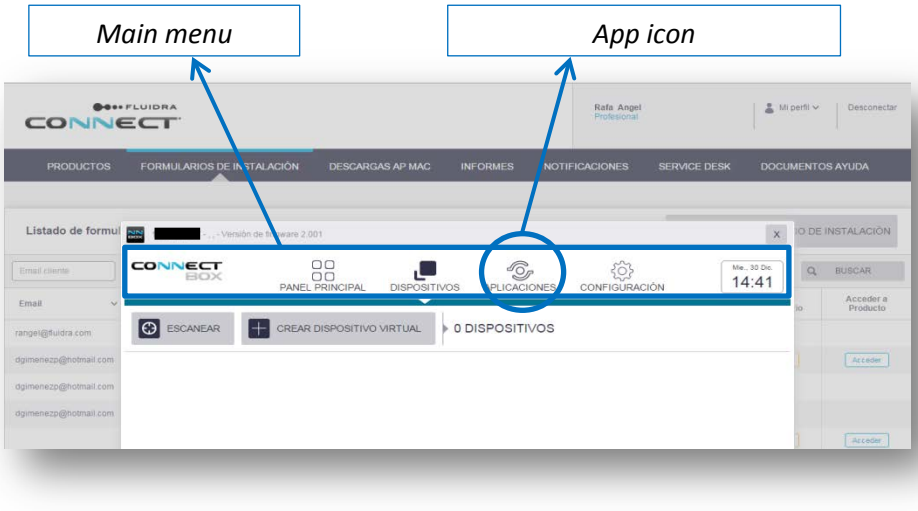


Figure 40: App icon

2. Click on the icon "FILTRACIÓN" (Filtration) under “APLICACIONES POR DEFECTO” (Default apps).

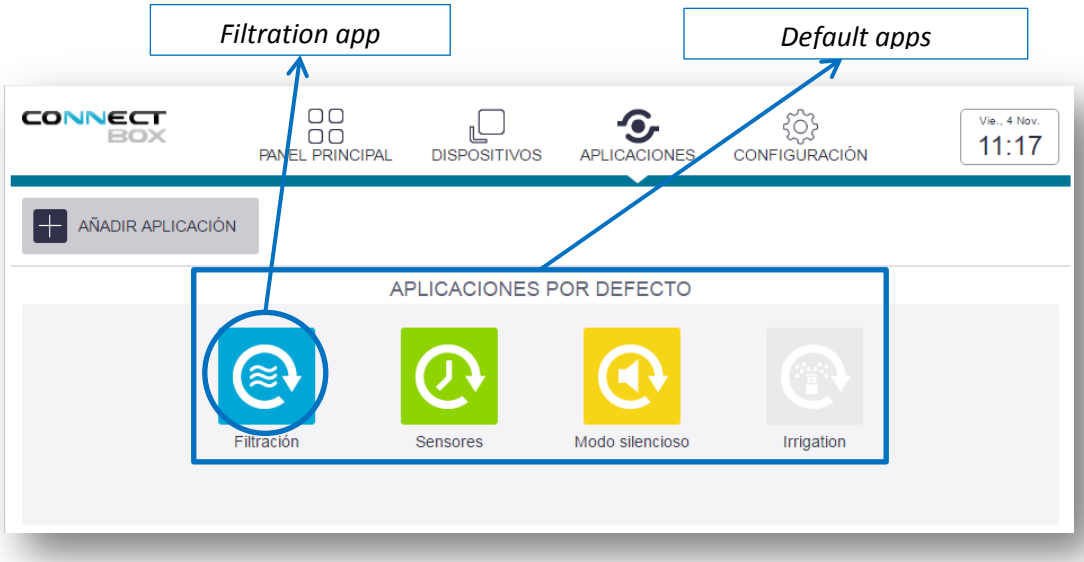


Figure 41: Default apps

3. Click on "EDITAR" (Edit).

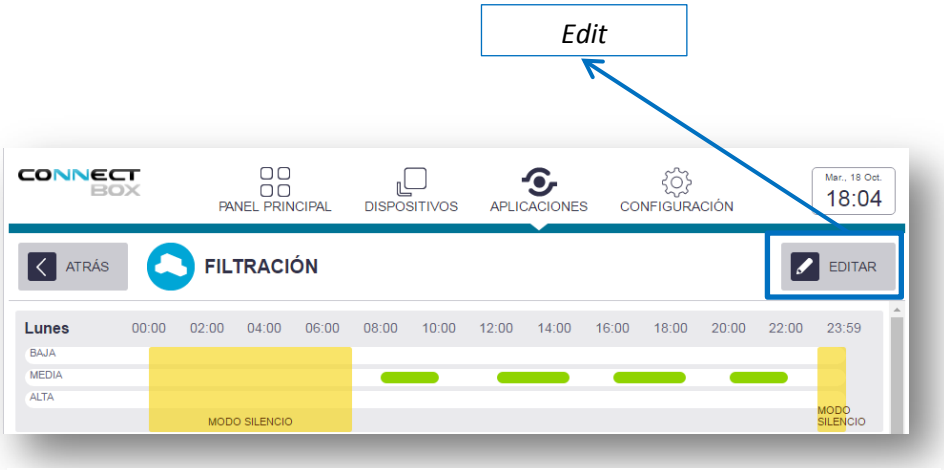


Figure 42: Edit filtration

4. Click on the button “AÑADIR TIEMPO” (Add time slot) to add the desired filtration time slots.

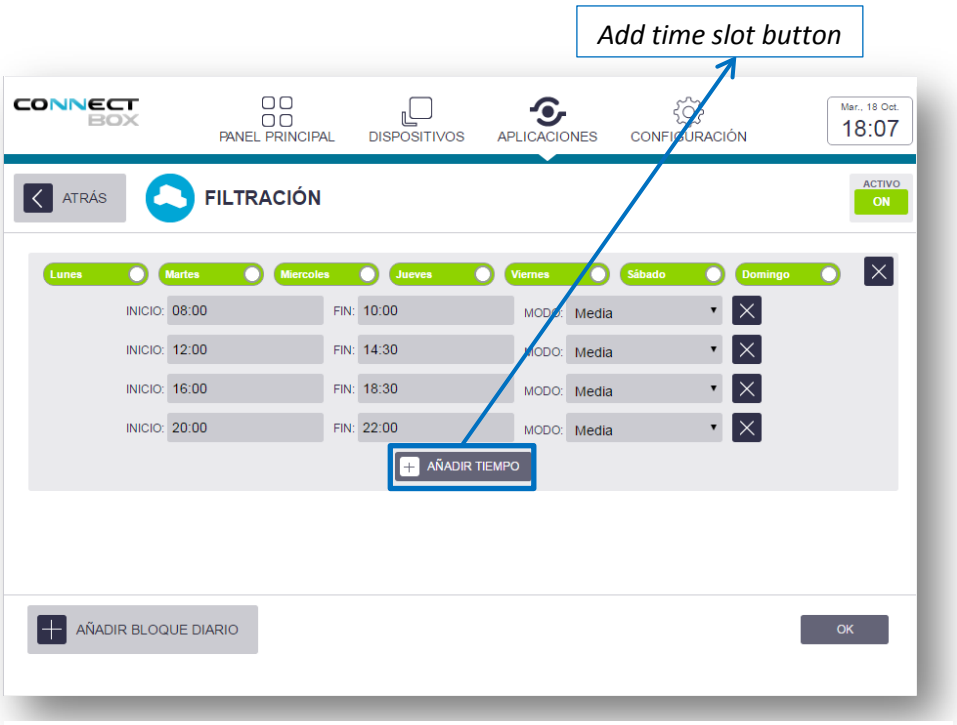


Figure 43: Filtration times

5. Click on the button "OK".

Part 2: Sensors.

The app called “SENSORES” (Sensors) enables the frequency to be set at which the system switches the filtration pump on. Wait until the probe readings become stable and are uploaded to the database.

1. Click on "SENSORES" (Sensors).

Figure 44: Sensor app

2. Select “PERIODO DE MEDIDA” (Measurement time).

Figure 45: Measurement time

Part 3: Silent mode.

The default app "SILENCIO" (Silent mode) enables the times at which the filtration pump does not switch on, even if a measurement time has been set using the Sensor app.

Setting silent mode times is done in the same way as on the Filtration app.

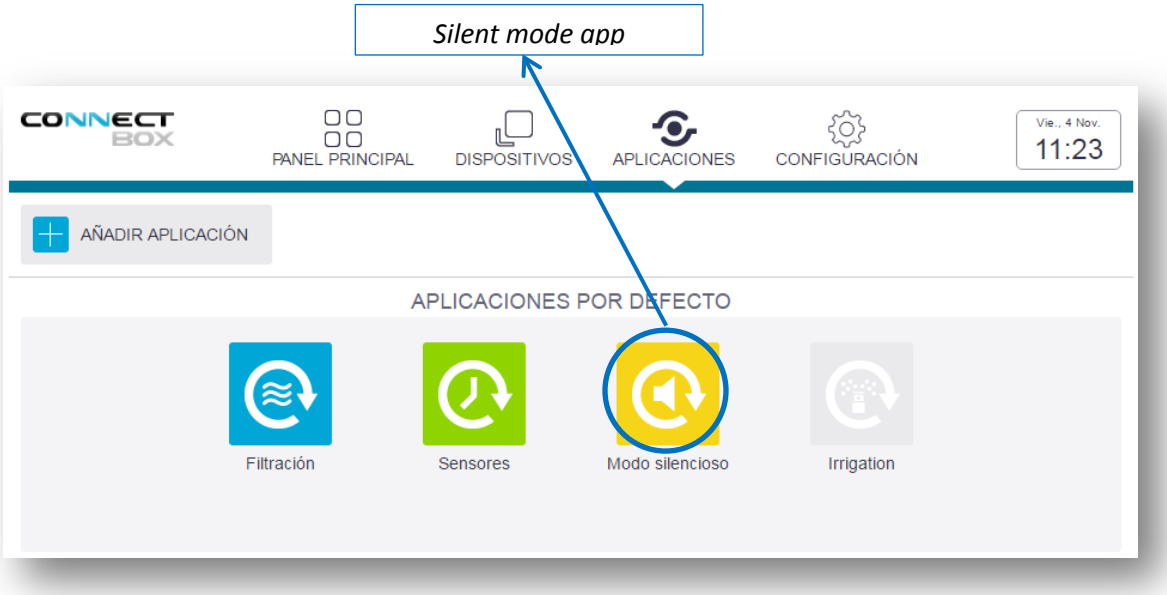


Figure 46: Silent mode

All of the default apps of your installation have now been configured. Congratulations!

D. End-user access using the app

Once the installation of Connect Box has been completed both onsite and on the platform, the end-user app can be set up.

1. Click on "EDITAR" (Edit) under the menu "Gestionar Instalaciones" (Manage installations).

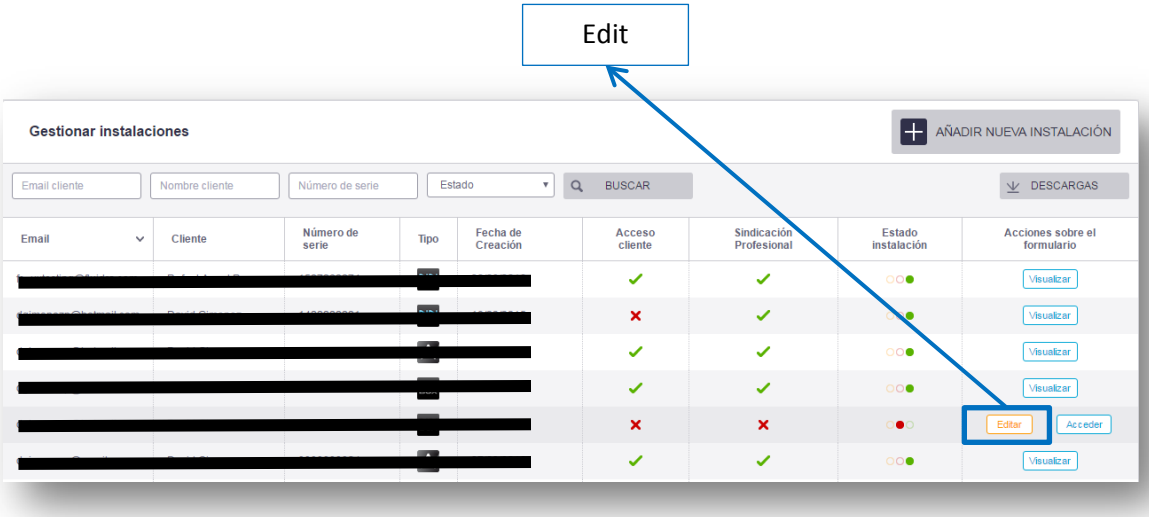


Figure 47: Edit button

2. Tick “Instalación Completa” (Installation completed) and click on “FINALIZAR INSTALACIÓN” (End installation).

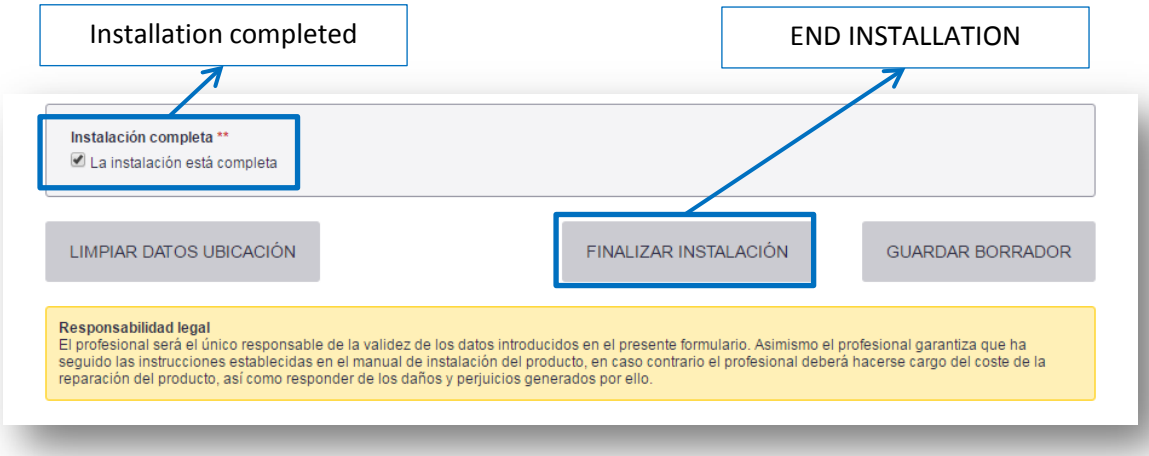


Figure 48: END INSTALLATION

3. The end user will now be able to register and add Connect Box from the Fluidra Connect app for access to all pool control systems.

To do so, the service engineer/electrician will give the end user permission to control all devices by enabling the visibility option. By default, Fluidra Connect will give visibility to all devices classified as entertainment or comfort.

Part 1: App download and installation

To access the app[8] from a mobile or tablet device, it must be installed. To do so, download it from Play Store in the case of Android devices and from the App Store in the case of iOS devices.

Use the word "Fluidraconnect" to search for the app. A number of Fluidra apps will appear in the search. Select the app called “FluidraConnect” with the NN logo and proceed to install it.

Figure 49: App search

[8] See the app manual.

E. Appendix 1: Wi-Fi connection

Part 1: Connect Box Wi-Fi connection

1. Check that the Wi-Fi LED on Connect Box is blinking. Connect Box will display the Wi-Fi connection that should be used to connect it to the Internet from another Wi-Fi connection.

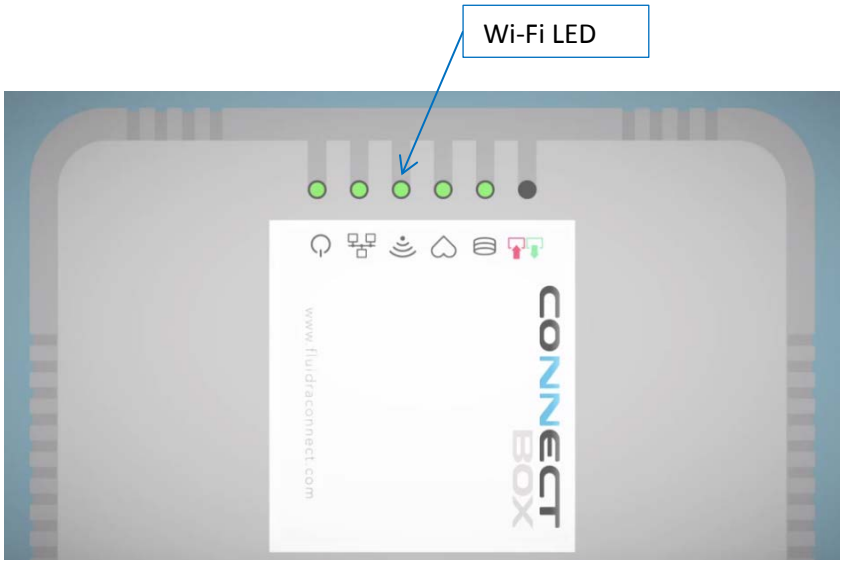


Figure 50: Wi-Fi LED

Part 2: Search for the Wi-Fi network that you wish to use for the Connect Box connection

1. Search for the name or SSID of the Wi-Fi displayed on Connect Box. The name is: cb-XXXXXXXXXX where the Xs correspond to the Connect Box serial number, see Figure 1: Connect Box label.

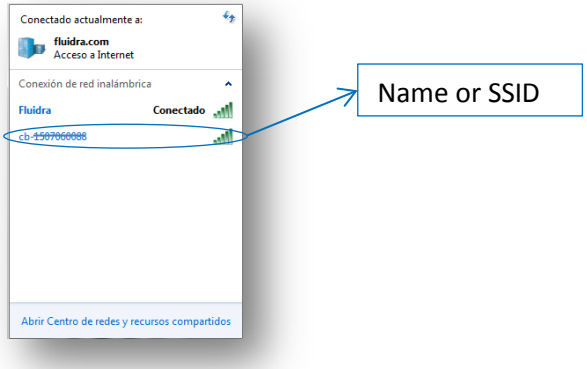


Figure 51: Accessible Wi-Fi connections

2. To connect to the Wi-Fi network enter the password, that is, the control digit on Connect Box, see Figure 1: Connect Box label.

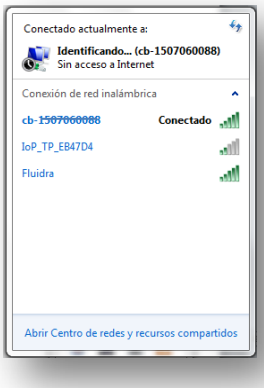


Figure 53: Connect Box Wi-Fi network

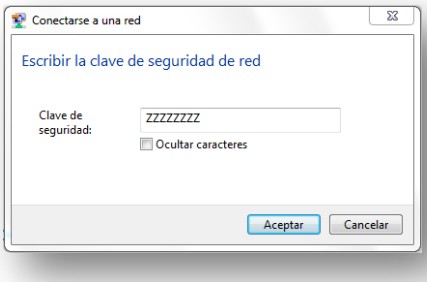


Figure 52: Password

Once the connection has been established with the Connect Box Wi-Fi network, it can be connected to the Internet through another Wi-Fi connection.

Part 3: Connecting to Wi-Fi

To access the Connect Box control panel, you should:

1. Enter the number 192.168.42.1 in your Internet browser.
2. Enter **"admin"** as a username.
3. Enter **"admin"** as a password.

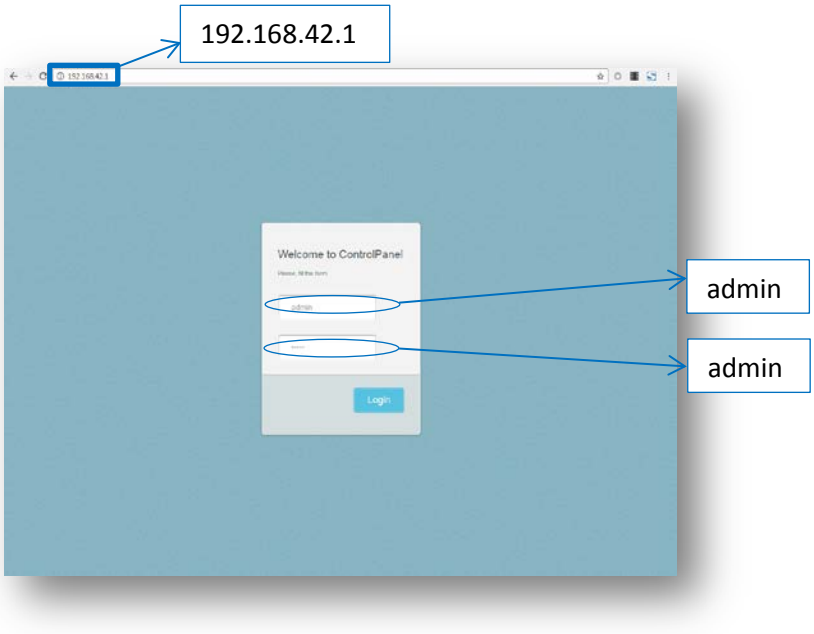


Figure 54: Online login page to the Connect Box control panel

4. Click on **Edit** in the **wireless settings box.**

Figure 55: The Connect Box control panel

5. Click on the button

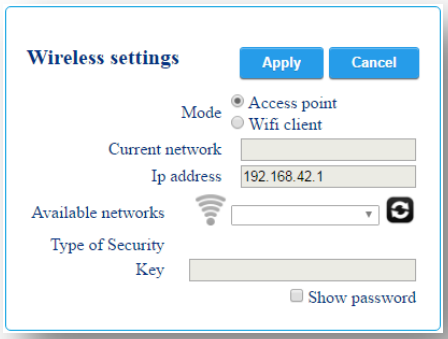


Figure 56: Wireless settings options

Note: wait for one minute and repeat Part 2: Search for the Wi-Fi network that you wish to use for the Connect Box connection. Then repeat steps 1, 2, 3 and 4 of Part 3: Connecting to Wi-Fi

6. In **Mode**, select the option **Wifi client**.

7. Under the option **Available networks,** select the Wi-Fi network that you wish to use for the Connect Box connection.

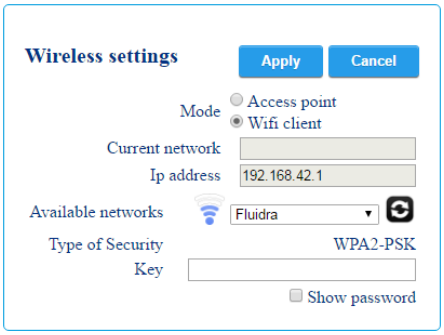


Figure 57: Fluidra selected as the Wi-Fi network in the Wifi client mode.

8. Enter the password of the Wi-Fi network selected in the box marked **Key**.

9. Click on **Apply**.

Note: if the process has been successfully completed, the Wi-Fi LED will remain in solid green.

You have successfully configured Connect Box. Congratulations!

Part 4: Rebooting the Connect Box Wi-Fi connection

If the Connect Box Wi-Fi LED does not remain lit up, you should:

1. Press the button SW1 that can be found of the back of Connect Box. It is recommended that a paperclip be used to press the button. Keep it pressed down for at least 15 seconds. The Connect Box Wi-Fi LED should then blink on and off again.

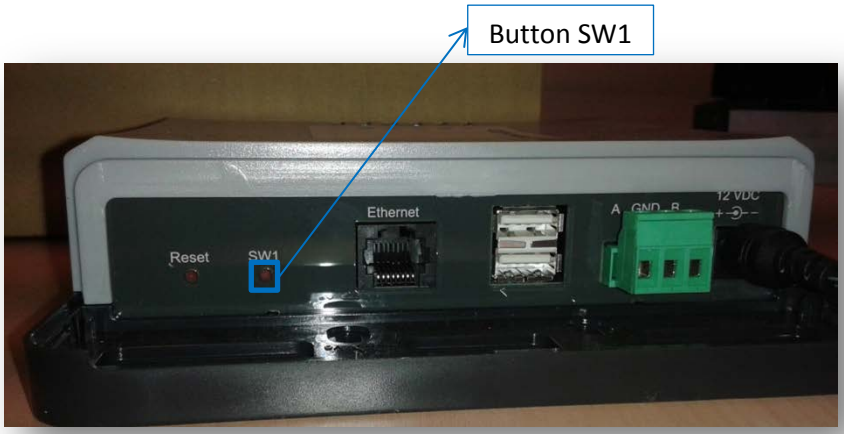


Figure 58: Back of Connect Box

2. Repeat the process from the beginning and check:

   2.1 That the Wi-Fi password is correct.

   2.2 The Wi-Fi signal that appears in the **wireless settings** box shows at least one illuminated strip.

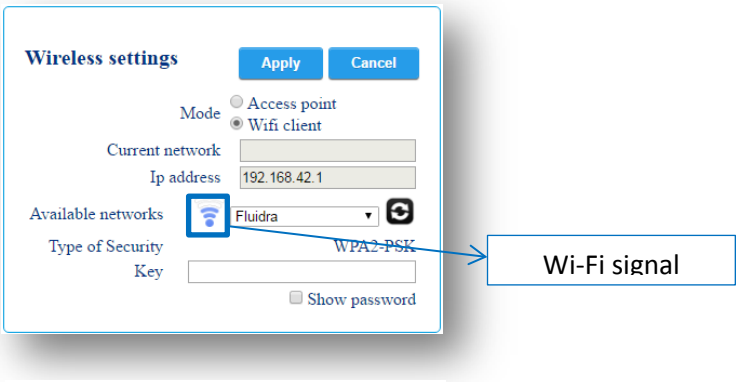
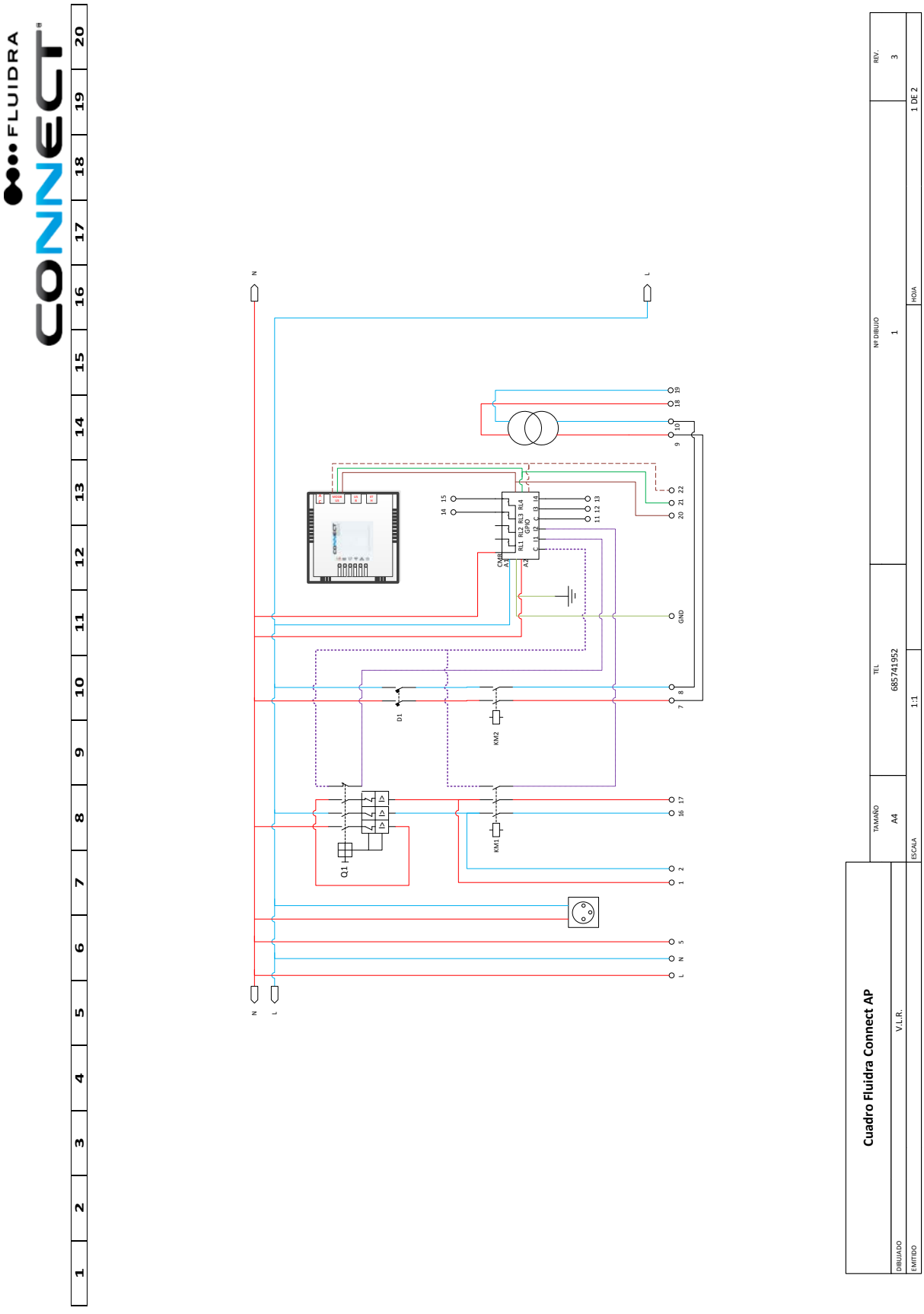
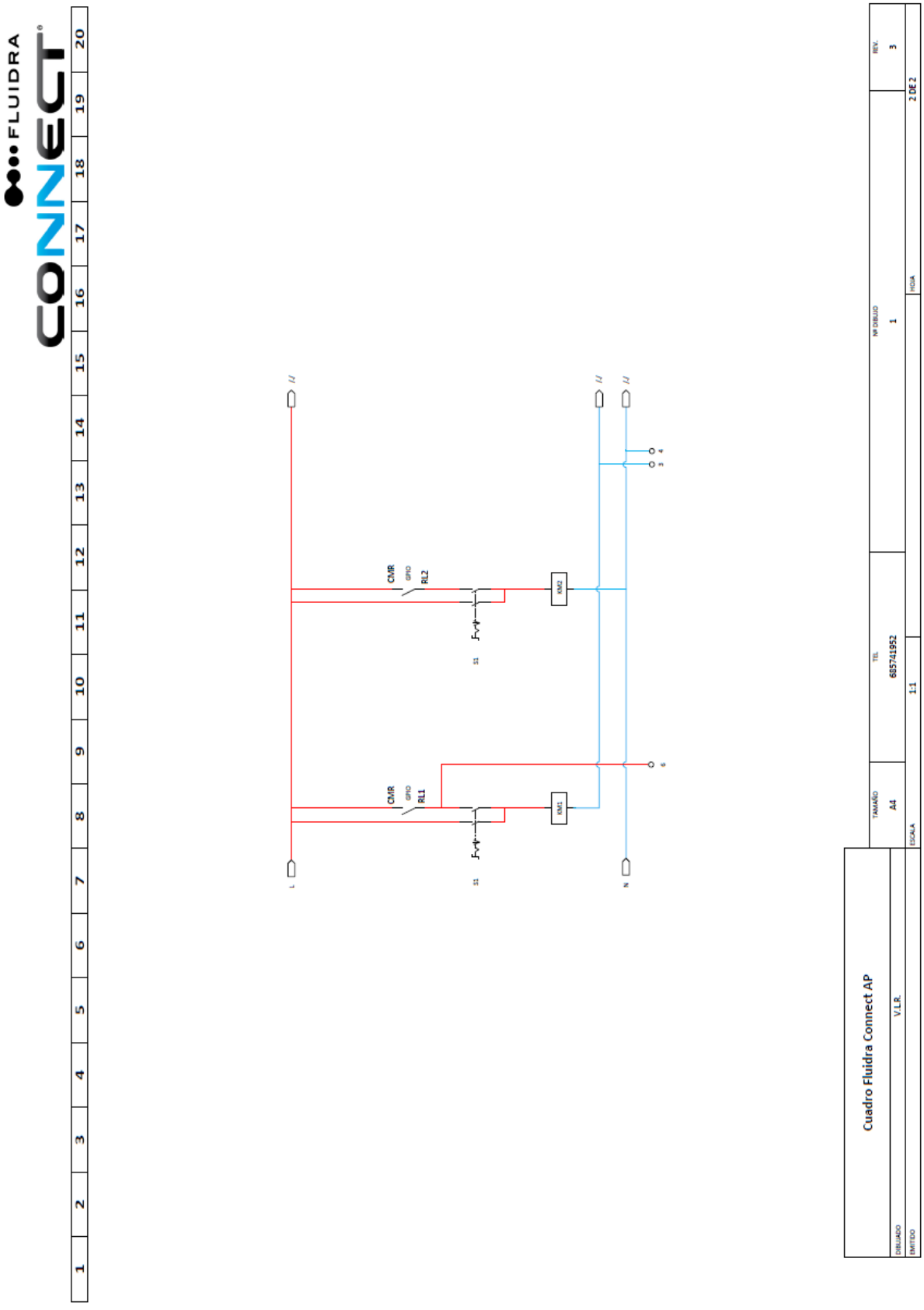


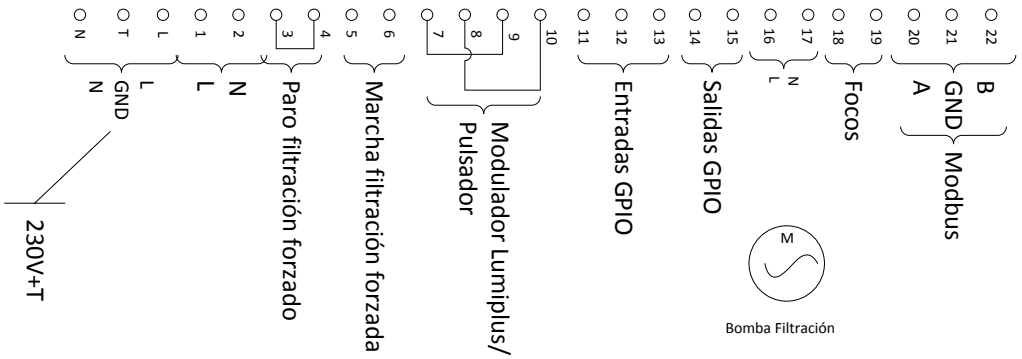
Figure 59: Wi-Fi signal

F. Appendix 2: Diagram of the circuit board




FLUIDRA
CONNECT
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
L
N
CMR
GPIO
RL1
RL2
KM1
KM2
Cuadro Fluidra Connect AP
V.L.R.
A4
1:1
685741952
1
3
2 DE 2

Terminal block



Material	
Q1	Guardamotor
D1	DPN
KM1	Contactor Filtración
KM2	Contactor Focos
S1	Selector 3 posiciones
S2	Selector 3 posiciones
Connect Box	
GPIO	
Enchufe Schuko Rail DIN	