dominium

FERMAX

ENERGY EFFICIENCY KIT REF. 9847/9846

USER MANUAL

dominium
home management

Index

1   GENERAL DESCRIPTION

The FERMAX ENERGY EFFICIENCY KIT add to the regular video entry system monitor the function of controlling and optimising your home's energy consumption by allowing you to instantaneously control and register the electric consumption of connected devices.

The video entry monitor, iLoftBusing VDS model included in these kits, includes a 3.5" touchscreen for programming, presentation of data and system control.

The kit does not include the other devices related to the video entry unit, since the aim of this kit is to be installed in a location where a VDS monitor is already installed (replacing the old monitor with the iLoftBusing).

If you have to perform a complete installation (video entry unit + energy efficiency control), you must purchase the components of the video entry unit (street panel, power supply, etc.).

There are 2 kit models:

BASIC ENERGY EFFICIENCY KIT REF. 9847

This allows complete control of total consumption of the devices installed, viewing the current instantaneous consumption and accumulated consumption during a specified period of time, locally on the iLoft monitor, or remotely via the internet.

ENERGY EFFICIENCY KIT PLUS REF. 9846

Along with the functions of the BASIC ENERGY EFFICIENCY KIT, it allows for the control (automatic, manual and/or remotely) of heating devices (boiler) and air conditioner, allowing you to establish consumption limits after which the corresponding device is disconnected.

You can also control and register the gas consumption, as long as the corresponding meter has a pulse output proportionate to the circulating flow.

2 TECHNICAL SPECIFICATIONS

The technical characteristics of each of the components in the energy efficiency KITS are the following:

iLOFT BUSING MONITOR

- 3.5" TFT screen
- Resolution: 480 (H) x 234 (V) lines.
- Flush Monitor Dimensions: 131 (width) x 197 (height) x 60 (depth) mm
    - It emerges from the wall 14 mm once installed
- FERMAX Flush Mounted Box Size: 108 (width) x 158 (height) x 45 (depth) mm
- Standard Flush Mounted Box Size: 114 (width) x 174 (height) x 50 (depth) mm
- Surface Monitor Dimensions: 131 (width) x 197 (height) x 34.3 (depth) mm
- System Power supply: 18 Vdc (taken from the Video entry unit installation)
- Consumption:
    - in standby: 150mA.
    - during start-up: 250 mA
    - active: 250 mA
    - during a call: 600 mA

iloft- RF BUSING gateway

- Up to 13 channels of communication via radio with the monitor
- 255 ID's
- Consumption:60 mA (from the BUS)
- Maximum distance to the monitor 15 m (clear).

POWER SUPPLY (12 Vdc)

- To power, via bus, the Busing devices
- Maximum current of 1.5 A
- With surge and short circuit protection

MeterBUS-1C (only on the BASIC ENERGY EFFICIENCY KIT)

- Control of 1 single-phase circuit
- Control of 3 virtual channels
- Consumption: 40 mA (from the BUS)

MeterBUS-3C (only on the ENERGY EFFICIENCY KIT PLUS)

- Control of 3 single-phase circuits
- Control of 1 virtual channel
- Consumption: 40 mA (from the BUS)

MODULE 2E2S (only on the ENERGY EFFICIENCY KIT PLUS)

- 2 dry contact outputs. Short power 10A@230V.
- 2 inputs for a low voltage switch or button (SELV5). Minimum current required 5 mA.
- Memory of last position previous to power failure
- Consumption: 80 mA (from the BUS)

TEMPERATURE SENSOR (only on the ENERGY EFFICIENCY KIT PLUS)

- Built-in assembly in the universal mechanism box. Size 55 x 45 x 5 mm.
- Temperature range 0º to 51º C.
- 4 operating modes: winter, summer, mixed, disconnected
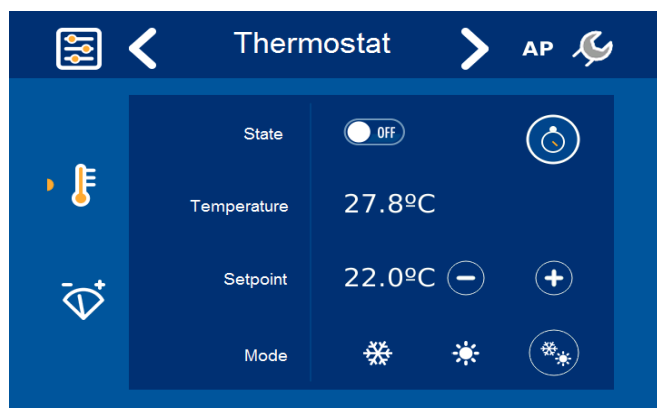- Consumption: 40 mA (from the BUS)

IMPORTANT NOTE:

This manual includes the operating instructions for the ENERGY EFFICIENCY KIT PLUS.
Some of the functions are not available on the BASIC ENERGY EFFICIENCY KIT, which is indicated in the corresponding section.
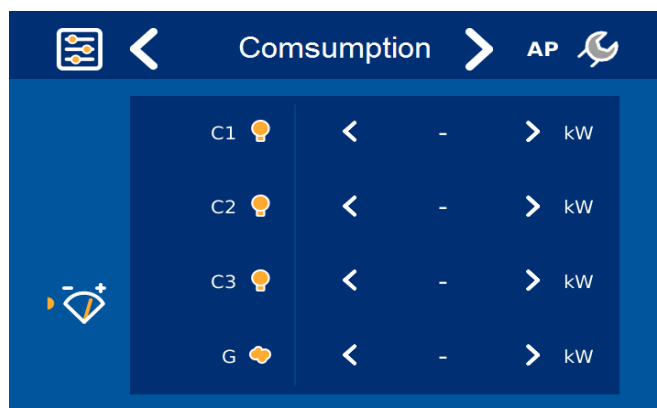
3 CUSTOMISATION

Prior to using this equipment, you should configure the information presentation parameters, and disable the unused channels, and if applicable, configure the pulse meter on the corresponding gas consumption meter.

Upon powering the system, the following screen will appear, depending on the kit model:
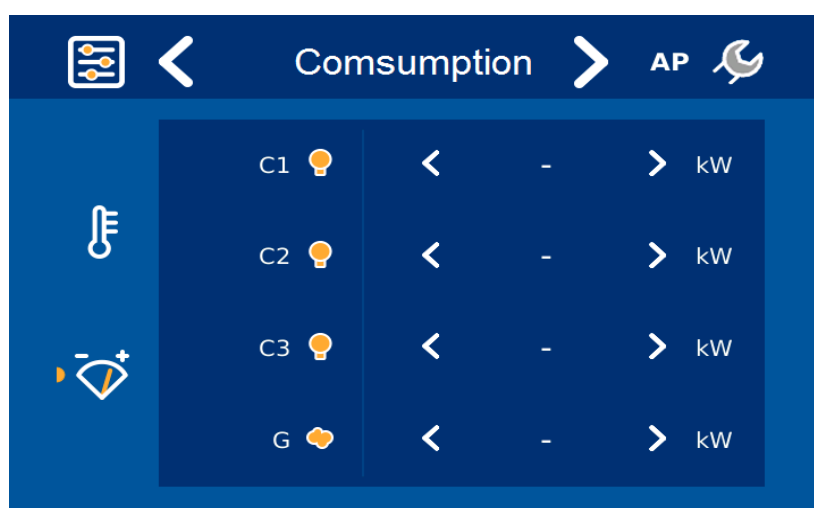

ENERGY EFFICIENCY KIT PLUS

BASIC ENERGY EFFICIENCY KIT

From here we can select between the **thermostat** function or **consumption channel** function, just by touching the corresponding icon.
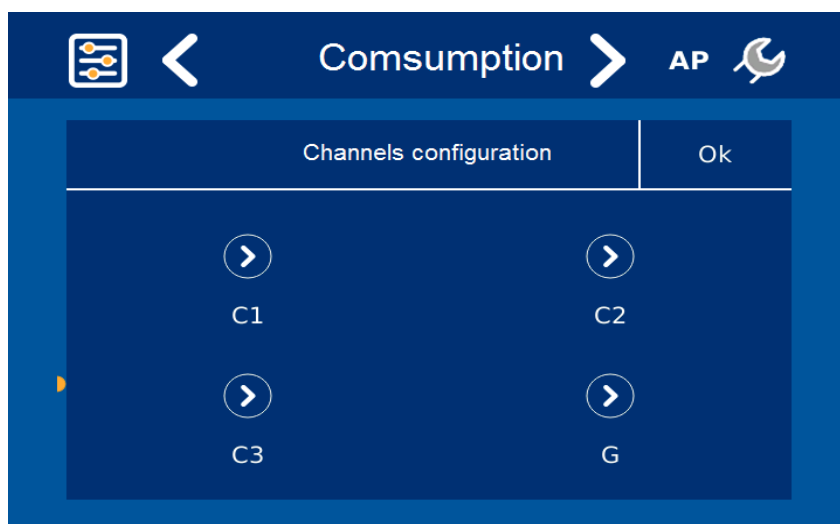
- **Thermostat (not available on the BASIC ENERGY EFFICIENCY KIT)**

- **Consumption channels**

From the Consumption channels option we view the channel names and default assigned functions.

The steps to customise the name, use and disable unused channels (for example, the BASIC ENERGY EFFICIENCY KIT only uses C1) are as follows:

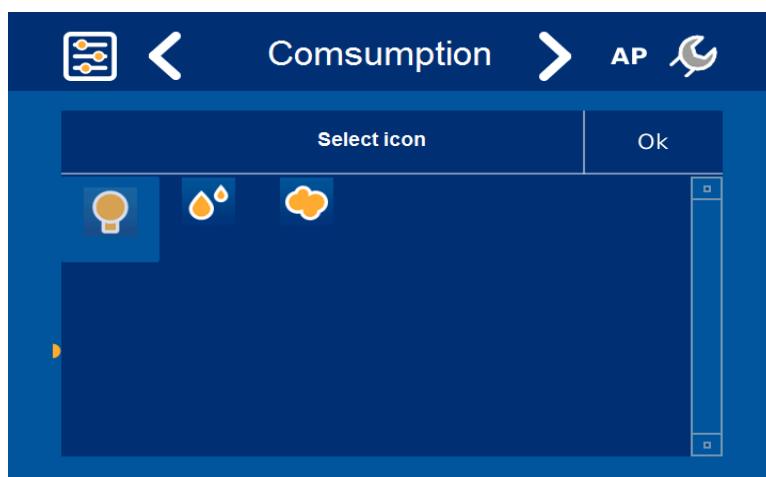Long press any channel icon for 3 seconds and the following image appears:

Touch the channel icon we want to change (for example C1).
A screen appears requesting the enabling confirmation (YES) or to disable (NO).
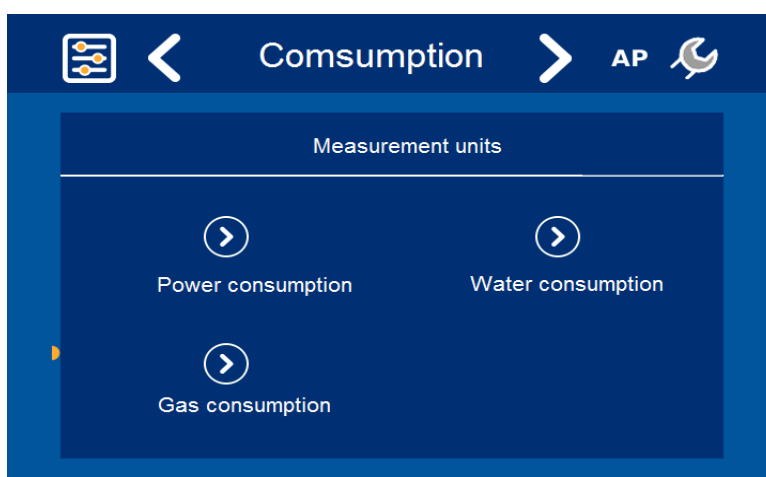
After confirming YES, a keypad appears with which we can enter the name we want to give this channel (For example, power1).
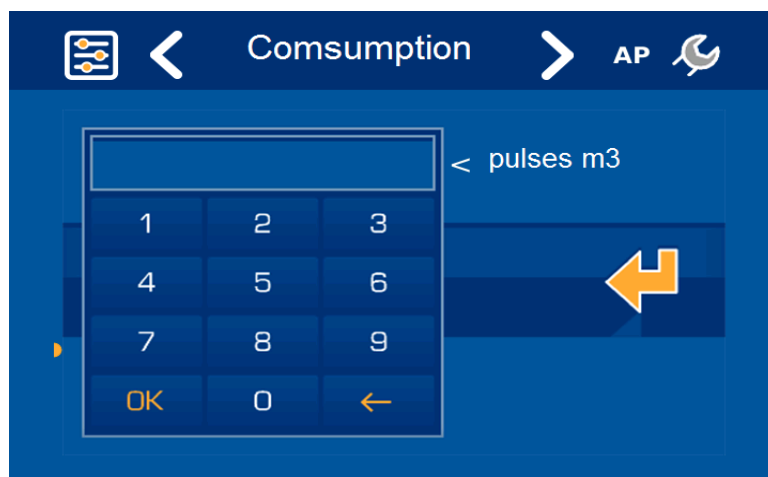

After confirming, it allows us to select with which type of icon we want to identify this channel (electric, water or gas). Confirm by touching OK
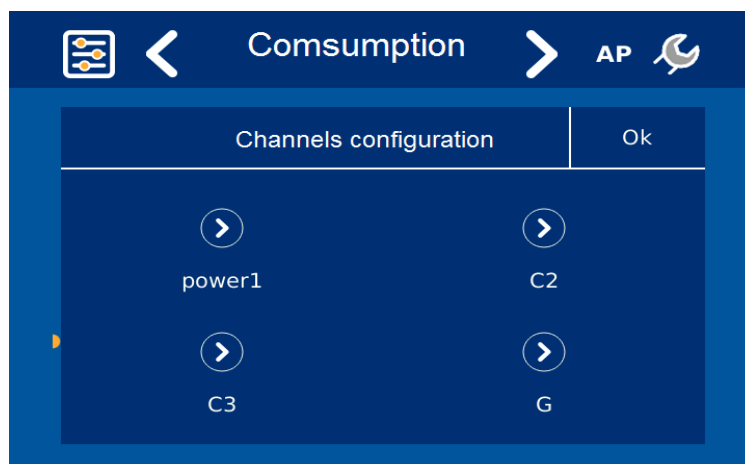
A new screen appears, where we indicate the type of consumption to be measured with this channel. In the case of channel 1, 2 ó 3 only "electrical consumption" will be available. In the case of channel 4 "water consumption" and "gas consumption" will appear as well.

In the case where the type of consumption is water or gas, a new screen appears where we must indicate the pulse/m3 ratio of the corresponding meter, entering the data via the keypad, after which we confirm with OK.
This data depends on the meter's characteristics, so we must check its technical characteristics.
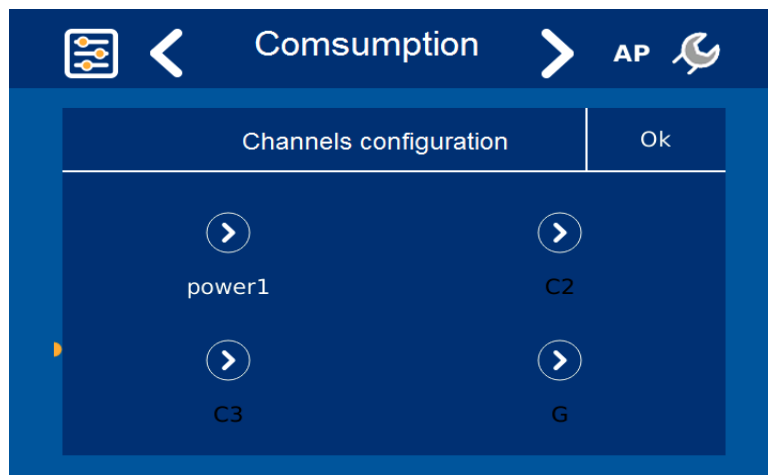
By pressing the back arrow, we return to the previous screen.

Press OK to exit configuration mode.

If we have disabled a channel, this appears in black on the previous screen, being ignored by the monitor.

The following screen displays what appears if we disable channels C2, C3 and C4.

4 FUNCTION

This kit has two operating modes: as a thermostat and as a consumption viewer of the available channels.

The selection of both modes is done by touching the corresponding icons on the left of the screen:
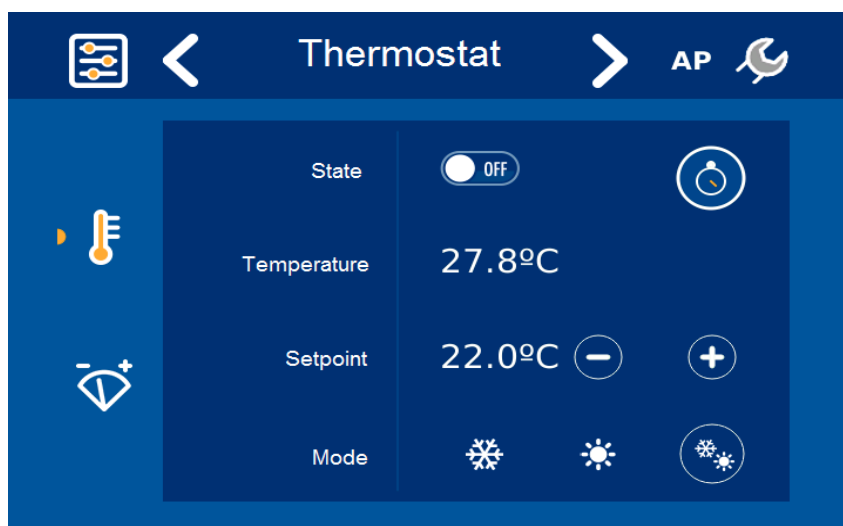
- **Thermostat (not available on the BASIC ENERGY EFFICIENCY KIT)**

- **Consumption channels**

4.1 THERMOSTAT

From the **thermostat** option, we can view a thermometer in real time, from which we can establish the set temperature (**"+" and "-"**) icons to which you want to activate or deactivate the temperature devices (boiler and/or air conditioner)**.**
With the status selector we can deactivate the thermostat (On-Yellow, Off-White).
If we want to deactivate it, the temperature measurement continues to function to include the registry but not to make decisions like turning the boiler on or off.

The operating modes are as follows:

- Cooling Mode (Summer) – When there is need for cooling in the installation

- Heat Mode (Winter) – When there is need for heating in the installation

- Mixed mode– Both modes simultaneously

The operating mode selected has a circle around it.

4.1.1 THERMOSTAT TIMERS

The thermostat timers also have a programmer for up to 10 automatic activities (thermostat timer function).

It is accessed by touching the icon located on the right of the screen:

A new window appears to configure up to 10 weekly scenarios related with the thermostat's functions. To access each of these, just press on the representative numbers on the upper bar **1**. The selected number, representing the scenario currently edited, is bigger than the rest. To identify which timers are active or not **2**, they are white when deactivated, and yellow when activated. To enable or disable, just tick or untick the specified box in the upper left hand corner.

For each of the scenarios you can indicate the time when you will activate the thermostat's timer **3** and what days of the week they will be executed in **4** (Monday through Sunday, from left to right), represented by their initials. To add or delete timer days, just press on the day of the week you want. If the start for the day is displayed, it is activated, while if a dash is displayed, the timer is deactivated and will not perform on that specific day.

Another configurable element is the operating mode selected for the thermostat, **5**, which can be set to cool ❄, heat ☀, mixed ❄☀ or off OFF.

Finally, you can set the temperature for the timer **6**, and it will be defined in the thermostat when the scenario turns on. This temperature can be edited by pressing the number and sliding your finger up without releasing it to increase, down to reduce it.

Once all of the thermostats parameters are defined, check on the coloured horizontal bar on the lower part to see what is established for the next 24 hours (with 00:00h at the far left, and 23:59 at the far right) with regards to programmed settings 7. The higher the setting value, the closer to red, while green represents low setting values. Yellow tones are intermediate, and grey are periods of time where the thermostat is off without any defined programming.

4.2 CONSUMPTION CHANNELS

From the consumption channel option, we can establish, for each channel, the threshold after which we want to perform specific functions (ex. disable heating after reaching the entered consumption value). This value can be changed by using the arrows located to the left and right of the indicated value.

The programming of these functions must be done by specialised personnel, since they require specific programming of the system and possibly additional components.

Contact FERMAX's customer service if you want specific operatives for this function.

4.2.1 CONSULT REGISTERS

Select the icon

We access a new screen from which we can view the consumption registers of each of the enabled channels, along with temperature (only on the ENERGY EFFICIENCY KIT PLUS).

There are 3 options on the left hand side of the screen.

- Check instantaneous values

- Check accumulated registers.

- Select the consultation period.

At the same time, we can select which type of consultation we want to make (temperature or consumption), just by selecting them via the arrows "<" or ">" on the screen's upper bar.

4.2.1.1 CHECK INSTANTANEOUS VALUES

The application includes information issued from thermostats or consumption meters (as selected), and is capable of processing and showing them in a real evolution graph, with up-to-date consumption instantaneously.
This way we can see the evolution of consumption or temperature during these times.

If the consumption meter has more than one channel, you can select the one that interests you most in the listed circles on the right of the screen by simply pressing what was desired.

4.2.1.2 TOTAL REGISTRIES

We can access a registry history for the selected period (see the following section).
The information is displayed in a bar graph.

We can select if we want to consult temperatures or consumption data for the corresponding channels, selecting the corresponding icon on the right of the screen.

4.2.1.3 SELECT THE CONSULTATION PERIOD.

Prior to consulting the accumulated registers, you must select the consultation period.
As a quick access, you can define them for the current day (today), for the last week or last month.

For other customised periods, select the last option and show a calendar that gives the option to choose the range's start date and end date.

After having completed the selection process, the calendar icon shows the established range in the lower part.

CONFIGURATION MENU

The configuration menu, accessed by touching the [icon] icon in the upper right corner, has 9 options.

Some functions indicated in these sections are only applicable if the kit installation has been extended or if the monitor works with HOME AUTOMATION MODE.
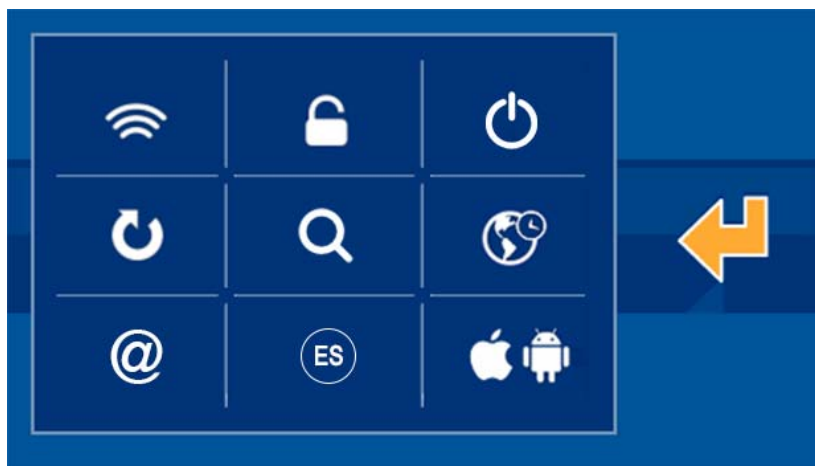

4.2.2 WIFI CONFIGURATION

The WiFi configuration option allows you to edit the wireless network's name to which the screen is connected to, and its access password. As a complement, you can establish the screen's IP address, subnet mask and local network's gateway.

Click on the following menu option to access:

In the first WiFi screen the text fields for configuration of the local network are displayed (network name, password and encryption type). It also allows you to mark a field *ad hoc* to create the screen's own wireless network to then connect other equipment directly, like PCs, tablets or Smartphones without needing to depend on an access point.

To edit the fields just press on them and use the on-screen keypad that drops down.

Within the editable parameters:

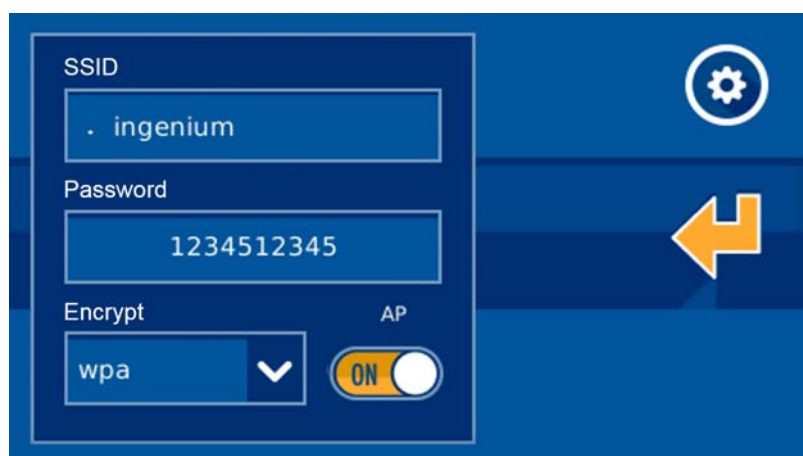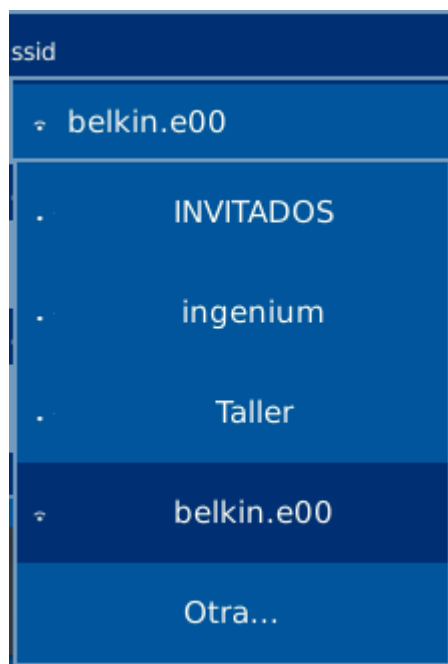- **SSID**: Public name of the wireless network to which video entry unit connects to. When the editable fields are selected, a list with all of the available WiFi networks drops down, displaying each of their coverage. If activating the AP field (*Access Point*), it is the wireless network's name that the screen generates and to which the equipment will be connected to if wanting to communicate with it. When configuring an AP in the dropdown list, you must choose the "Other…" option, and edit the name with the on-screen keypad.

- **Steps**: Wireless network password. Leave it as "none" if you do not want a password. If activating the AP field (*Access Point*) and WEP or WPA, it is the wireless network's password that the screen generates and that must be entered if wanting to establish communication.

- **Type of encryption**: This allows you to select the encryption characteristics to connect to the local network via WiFi: WEP and WPA.

Selecting the **AP option (*Access Point*)**, the video entry unit allows you to create its own wireless network (without requiring an access point) to which the different equipment from which you want to control the installation may connect to (PCs, tablets, smartphones, etc). The wireless network will have the visible name as indicated in the SSID field (Option "Other…" from the editing drop-down menu) and the password from the password field. For the password, the type of encryption is that which we mark in the selectable field WEP, WPA, or no encryption if we select none.

When AP mode is activated, the WIFI coverage icon in the upper right corner changes to this other one AP , to inform what type of configuration the video entry unit has. Once the AP mode is configured, the screen's WiFi module takes a few minutes to restart, so you must wait until the wireless network is available for connection.

By pressing on the icon from the upper right of the screen, you access the configuration of parameters within the local network.

This option allows you to establish the screen's IP address, subnet mask and local network's gateway to connect to.

The following are the configurable parameters:

- **IP Address**: The screen's IP address within the local network.

- **Subnet mask:** the local network where the video entry unit is installed.
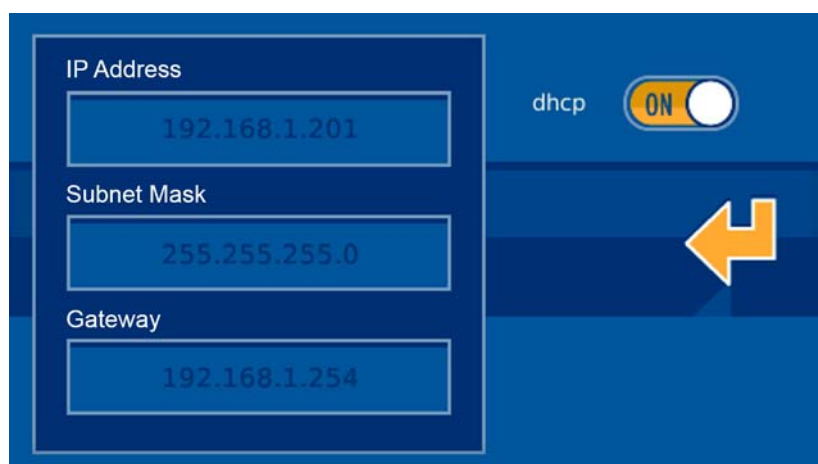
- **Gateway**: The gateway through which the screen has to the exterior, generally the router's address.

You can configure the network parameters for it to be the router (or the screen itself, if AP mode is activated) who assigns the IP address, the subnet mask and the Gateway automatically on the equipment. For this you need to activate the DHCP option.

To validate the data and return to the previous screen (not to save them yet), press [⏎].

Once you have completed editing, upon pressing [⏎] on the screen where you edit ssid, the video entry unit displays the following message:

To confirm saving these changes. To save the changes press [✓], to cancel them press [✗].
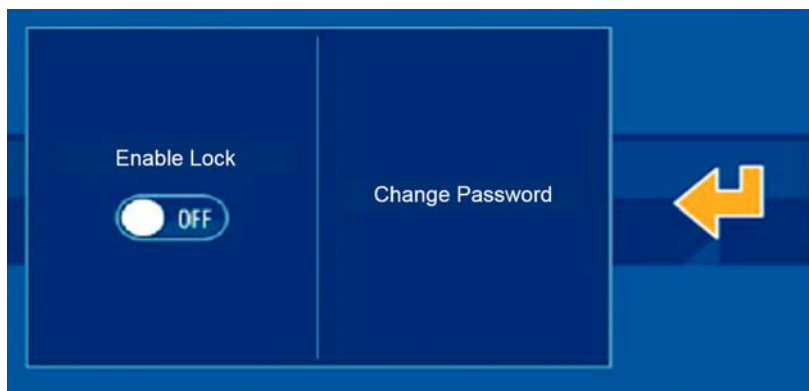
4.2.3 SECURITY (ONLY FOR HOME AUTOMATION MODE)

In this menu option the user can activate monitor usage protection via a 4 digit password, or modify this administrator screen password, which is necessary to carry out actions like activating/deactivating the intruder

alarm. To manage this video entry unit administrator password, you must access the menu option indicated below.

The interface is divided into two options, a left area for activation/deactivation of the number code block, and the right area to change the password.

Using the bar on the left side, you can activate or deactivate the screen block, for which it requests an administrator password. Once activated, the yellow icon is displayed, indicating that the block is activated. When the video entry unit is in stand-by (screen off or dimmed after a few seconds of inactivity), and the user touches the screen, this password is requested to be able to access the home automation application.

On the right side, the application lets you modify the video entry unit's administrator password, using various menu options. Once the change is accessed, the screen asks for the current password, necessary to be able to continue with the process.

Once entered press **OK**. Then, if the current password is entered correctly, the screen will ask for the new 4 character long password.

In order to guarantee proper insertion with the touch screen, and to avoid errors when entering the password, it is asked for a second time to compare it with the first one.

If the new password is entered erroneously, or the two consecutive attempts do not coincide, the screen will display the corresponding error message. If the new password is entered correctly, the screen will display an OK and the new password becomes the current one for activating/deactivating the intruder alarm.

4.2.4 SYSTEM RESTART

The "System Restart", with the icon indicated below, allows for various options associated to the video entry unit's maintenance and operating mode.

Accessing this menu option (after requesting for the administrator password) you get 4 alternatives, described below:

- **Restart:** Restart the system to resolve any inconsistent situation that could have been produced. The video entry unit restarts again after a few seconds.
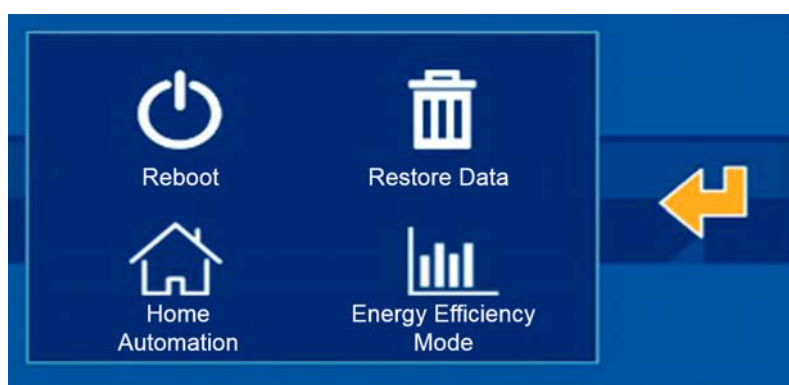- **Restore Data:** The application restores the internal database, and restarts it as a clean system, maintaining the project but without historical registries, schedules, new edited scenarios, etc. The video entry unit restarts a few seconds after the process.
- **Home Automation Mode:** This presents the "Home Automation Mode" application, with maps, icons on the maps, scenarios, schedules, technical alarm management, etc. The video entry unit starts again a few seconds after the process.
- **Efficiency Mode:** Activate "Efficiency Mode" to control and view consumption measuring equipment and/or thermostats. The video entry unit restarts after a few seconds of the process.

Having chosen some of the previous options, the system asks for confirmation to guarantee the voluntary selection, and if the user confirms the selection, the system restarts with the desired changes.

VERY IMPORTANT:

The KITS monitors are configured by default to operate in "efficiency mode". Do not change to "Home automation mode," except if an expansion or home automation installation is done by specialised personnel.

4.2.5 FIRMWARE UPDATE

This option downloads the latest available software version for the video entry unit (only if there is a new version and the video door entry device is connected to the Internet), installing the update immediately and restarting it automatically. When this option is selected from the menu, the screen requieres confirmation.

To accept, press ⌄, to exit without updating press ✕. If you accept, the yellow progress bar under the menu icon appears on-screen indicating the download status of the software update, and when finished, the process is complete.

If there is a new software version on the server, the screen completes the process and restarts automatically. If upon completing the update process the screen does not restart, the latest software version is already installed.

In a short period of time, the screen will be updated to the latest software version and maintain the same BUSing project installed prior to the process.

4.2.6 SEARCH OF EQUIPMENT WITHOUT ADDRESS (ONLY FOR EXTENSIONS)

When working with new equipment from the factory connected to the installation, and they are not programmed, the application can detect these nodes and assign them an address.

The new equipment that are not programmed launch a periodic warning to the bus, that the video entry unit can receive and display on screen as shown below.

No	Add device	Yes

New device detected

Type: Actuator

Subtype: 2E2S

4.2.7 TIME ZONE

This option helps select the time zone in which you find yourself, so as to set the screen's clock to the corresponding zone, guaranteeing proper execution of the timed scenarios.

If the screen has internet connection, the time is set automatically from the network, so it is only necessary to set the time zone for where it installed to adapt to the international time.

The tool has a search engine so you do not have to go through the whole list, selecting the point directly.

You can just select the city and confirm it by pressing ✓ .

4.2.8 LIST OF EMAILS (ONLY FOR HOME AUTOMATION MODE)

You can receive notifications from the video entry unit via email. For this, just edit the email list with those used for different notifications.

Using the + and - buttons, the user has the option of adding new email addresses to the list or delete the selected ones.

In the home automation application, the video entry unit will notify the included emails, the programmed technical alarms recorded (For example, flooding, fire, intrusion, etc.) Meanwhile, in the energy efficiency application, the application will inform the user via email of any rise in consumption of any of the controlled channels or any surpassing the established threshold.

4.2.9 LANGUAGE

On the video entry unit configurations panel, you can select the screen language, so that the texts displayed in the different menus are translated to the language selected by the user. To select the one that interests us, just press on the icon indicated to select from a list of supported languages, until having found the desired language (ES - Spanish, FR - French or EN - English).

Once you have selected the screen language, just press to confirm it and load the texts.

4.2.10 REGISTER INSTALLATION

This menu option is required to register the kit on an enabled server for this purpose, and to use the consultation and remote control functions.
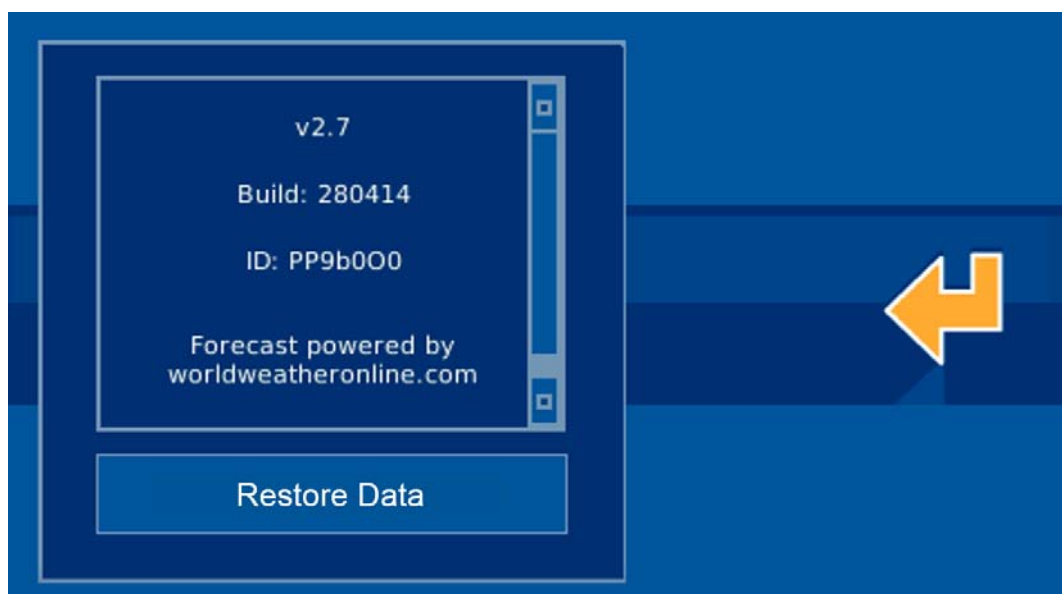
Accessing this tool you must press on "Register device," and then enter the username and password that the client wants to have to access their installation's controls remotely.

Once all user password fields are filled, just press to confirm it and start the server upload process, after a few on-screen validation questions.

Upon completing the process, the screen restarts, and the project remains accessible remotely via the INGENIUM APPS, using the defined username and password.

If you want to unregister a kit from the server, repeat the operation, but this time the available operation is "*Restore data*" (this option can only be accessible if the project was previously registered). If you decide to delete the kit from the server, the screen will request confirmation from the user prior to starting the process.

After confirming, the kit is deleted from the server and may not be controlled remotely. If you want to re-upload the kit to the server again, the user can do so by registering their device again and defining the username and password.

If a change is made on any of the kit's characteristics running on the installation (a project has been generated) you must unregister and re-register the device so that the project is in the server in its latest version. This way we can guarantee that the project accessible remotely for controlling the installation via the APPs is the latest version.

4.2.11 RECOVERY SCREEN

This screen is displayed when the video door-entry system enters in an inconsistent mode, facilitating the tools to restore specific values or to recuperate the device from operating problems.

The screen has four options: Restart the complete video entry unit project [1], configure the WiFi network on the screen [2], restore the vital application files from the Ingenium server for the screen to work [3] (for these options you need an internet connection) and the last option, restore to default values [4].

4.2.12 RESTART PROJECT

This first menu option restarts the screen, resolving minor problems that may be presented. This is the fastest solution to recuperate a mistake in the system, and the first to recur to in any case. If the problem persists, you can go to any of the other options explained below.

4.2.13 WIFI CONFIGURATION

This allows you to configure the WiFi connection to the screen, using the same interface as explained in section WiFi Configuration. Just press on any point on the blue rectangle to access the tool.
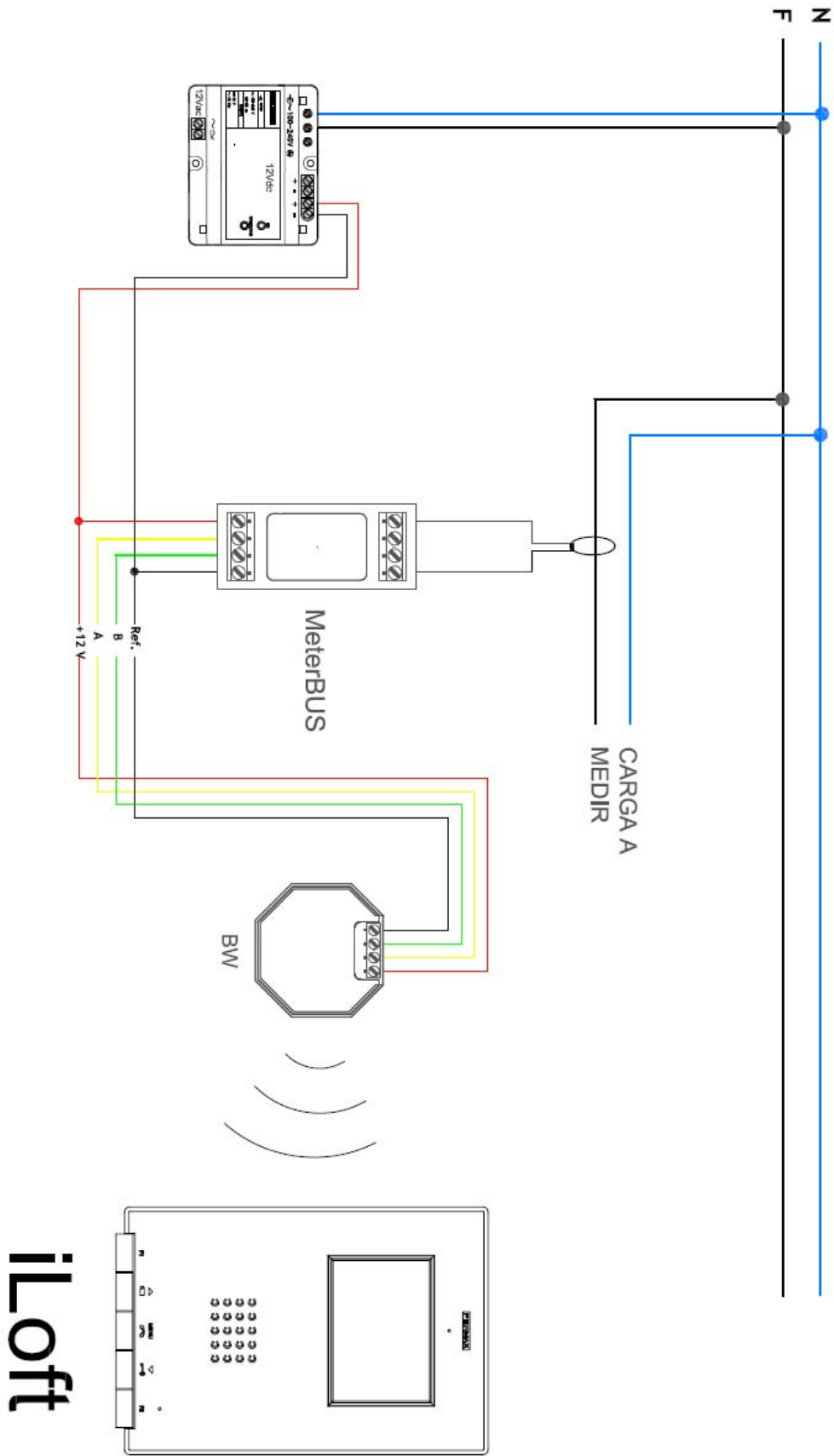
4.2.14 SYNCHRONISATION

The synchronisation downloads all of the application's vital files for the screen's function, reinstalling all files and updating the equipment to the latest available firmware version. To access the tool, press it on the menu. After completing the synchronisation process, the screen restarts.

For proper performance of this tool, you need a properly configured WiFi and the screen must have an internet connection.

5 INSTALLATION DIAGRAMS

5.1 BASIC ENERGY EFFICIENCY KIT DIAGRAM