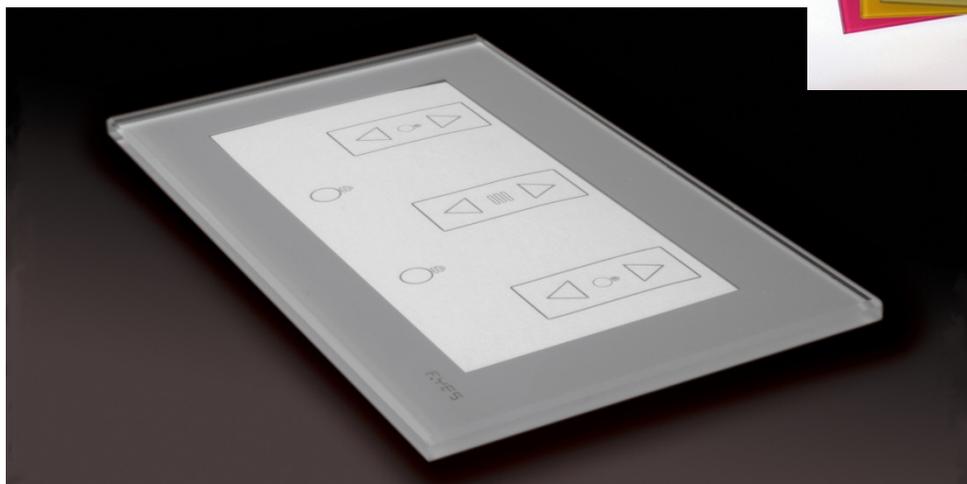


F.YES

INTELLIGENT HOLISTIC CONTROL



What is FYES and how it works

FYES system is the most complete and technologically advanced solution in today's electrical and mechanical installation of living spaces. It is designed in order to meet the needs of small and big residences, buildings, offices, shops, hotels, public areas, production areas and other installations. FYES unifies the control of conventional, electromechanical installations, security systems, communication and IT systems and provides convenience, economy and protection.

FYES consists of a holistic control system which connects and organize all the subsystems of an area (heating cooling, ventilation, water/gas/electricity supply, lighting, switches, electrical appliances, irrigation, monitoring and protection systems, networks, mobile phones, audio and video systems) under a single management. FYES system manages room's operations in an intelligent way, according to the user's needs, the type of installation and after taking into account internal and external conditions, by using the appropriate sensors.

From what is composed:

Its installation is particular simple by minimally interfering in the classic way of building's wiring. Its basic elements are the wallpads, the panel board units and the sensors.



Wallpads



Panel board unit Sensor

- The wall pads are placed at the positions of usual switches and replace them. They have crystal surface and up to 15 touch buttons which are marked by appropriate signs, related to their functions. They have backlighting (with adjustable color), in order to distinguish them in the dark and they are IR remote controlled. You can find them in a variety of colors.

-Sensors have a very discreet presence and detect human presence, openings of doors-windows, temperature, lighting, humidity, smoke etc. They are placed at the appropriate positions, where they are needed and supply the system with information about its environment.

How it works:

-Wall pads and units at the electrical panel, are essentially small computers that operate autonomously.

They communicate with each other though, and exchange information through a cable that connects them all together. Additionally, on top of them, there are different sensors connected, from their neighboring area. As a result, each of them knows what's going on its neighbor and when a change happens, it notifies the others.

Example:

When the motion sensor, which is connected with the wall pad at the living room, understands motion in the room, then the wall pad announces the event to all the units

"I'm the living room's wall pad and I noticed motion"

Then, all the wall pads which have to react at the event (of motion), do react appropriately.

So at this example, where the living room's wall pad noticed motion and announced it, another wall pad will turn on the light at the room, another one the air-condition and another one will send a command at the TV to turn on.

-The characteristic is that no central unit is needed to coordinate all the others. All the units are equal and independent and they communicate with each other.

It can be easily installed:

The electrical installation is done in the classic way but with 2 differences:

1. There is one extra cable added, which passes through every wall pad and ends up at the electrical panel.
2. The wiring of all the others systems, like the alarm system, fire detection etc, is dramatically simplified. This happens because the cables of the sensors are connected to the nearest FYES wall pad and don't have to pass through all the rooms to reach a center, by making long distances.

It is user friendly:

At a FYES system, most of the functions happen automatically, without requiring any action from the user. The most difficult task that has to be done is the push of a button. For example the lights turn on and off automatically depending on our presence in the room. But if we prefer their manually operation, the only thing that we have to do is to press the corresponding button.

How it is programmed:

The system can be programmed at any PC, with the help of special software which is available for free. Then, the PC is connected with every system's unit and from there it programs all the others. Alternatively, the program can be sent through a computer network (LAN, WIFI) but also remotely via Internet.

Flexibility and expandability:

If you would like to change anything in buttons' operations or in different scenarios, you can do it easily and quickly, just upload a new program. For example, a button that is used for the lighting can quickly change its function and become a button that opens the garage door, and this can happen with no intervention in connections or wiring.

Additionally, the system is open for future expansions. Just install the new, required equipment and upload the new operating program.

Uninterruptable operation:

In case of power failure, FYES continues normally its operation for several hours, with the help of the available batteries. At the same time, it informs about the failure by sending a SMS or an e-mail. This happens due to the extremely low power consumption of the system.

Remote Sensing-Remote Control:

FYES offers remote sensing- remote control for all of its capabilities, through any device that has an Internet browser (PC, Laptop, Tablet, Smart Phone etc) like Mozilla Firefox or Google Chrome. You can connect to FYES (inside or outside the room), with the exactly same way as you connect to any website, and obtain total access in all of its features. In a simple and friendly way, you can be informed about all the conditions (temperature-humidity of the room, doors-windows openings, tank level, electricity consumption, human presence, activated electrical appliances etc) and also handle anything you want, with a simple "click" on its screen.

Reliability:

As it was mentioned before, FYES system does not have a central control unit. Unlike other systems, FYES' architecture distributes the processing power of the system in many regional computers that are located at the units within the control panels and wall pads. This means that if a unit is out of service, then only the part of the installation that has been assigned to this unit will be out of order. The other parts won't be affected.

This situation is like a roundtable meeting. Each participant/ computer announces at the table all the sensors' findings that have been connected to it. At the same time, it monitors all the announcements of other participants, in order to perform the tasks assigned, as appropriate. If one of the participants is absent, it stops the announcements and the performance of its tasks, until he is back again.

Security:

FYES incorporates all the security and protection operations (alarm system, fire detection etc). This means, that the supply of these systems is not required. The operation of these functions is implemented with the most intelligent and flexible ways.

Examples:

1. Before we go to sleep we press the  "goodnight" button and FYES will take care of everything. It will report at the screen the possible open windows or doors, it will turn off the lights and electrical appliances, it will shut the rolls, it will reduce temperature levels in rooms that are not used during the night and it will also activate the alarm system, including motion sensors. Then it observes the form of the motion in every room, if someone gets up to go to the bathroom or to the kitchen, it understands that the motion is internal and therefore legal so the alarm won't be enabled. Otherwise if the system understands an illegal motion (e.g. at the living room because someone broke the window to enter in the house), the alarm will be activated and the lights will be turned on, it will inform by using an audio and visual sign in wall pads, it will send SMS and activate the sirens.

2. In an office building, there is a possibility for a user, considering that he is the last person leaving the building, to press the  "secure the place" button. If this happens and there are other employees in other rooms of the building, the alarm system will be activated and cause disruption. FYES, though knows about the personnel's presence, so in that case, it won't proceed with the command. Instead, it will use audio signs and references to the wall pads' screens that are in the rooms of the remaining staff, in order for them to communicate with each other and to avoid inconvenience.

3. When the external cameras that are located around the building, detect motion, FYES will turn on the TVs in the rooms where tenants are and will display the image from the corresponding camera.

Detection of smoke or high temperature:

A smoke appearance in the kitchen, will cause, as a direct reaction, the turn off of the electricity or gas supply to the cooker, while audio-visual signs from wall pads and a SMS or email will inform you about the event.

Leakages:

1. In case of natural or liquid gas leakage, their supply will immediately stop and the appropriate notifications will be sent from the system. In addition to that, the operation of all the local wall pads' switches will be banned in order to avoid an explosion caused by the presence of an electrical spark.

2. In case of water leakage, FYES will cause the direct interruption of the supply, to avoid the disastrous flooding, while it will inform about the event using the same ways that have already been mentioned. Please note that the interruption will be only for the interior of the rooms, and the water supply for the automatic watering will continue, in order to protect the plants in gardens and terraces, from our long absence.

Monitoring mains power supply:

FYES continuously monitors electricity's voltage. In case of power failure it identifies the causes (if it's due to the electrical company or due to a fuse), and respectively notifies by sending a SMS or an email. If the failure is caused by a fuse, the owner gets informed appropriately and knows that electricity won't come back, so he will have to take care of refrigerators and freezers. When the system detects over voltage or under voltage at the electricity grid, it immediately turns off the supply of the electrical appliances that are in danger and reconnects them when the voltage returns to normal levels. At the same time, it respectively informs about all the events. It also records the electricity's consumption and it is able to present statistics.

Monitoring various conditions:

It monitors, displays and informs about the status of various conditions such as: tanks' levels, cesspools, humidity-temperature in wine cellars, temperature in ovens, refrigerators, stores etc. So, for example the owner of a store can be informed, from his computer and his mobile phone, about when a fridge with perishable foods, exceeds the allowable temperature limits.

Prevention:

FYES, with its advanced technology, continuously monitors its environmental conditions and acts autonomously to prevent and protect. In other words it operates as a loyal housekeeper.

For example, if the system detects prolonged absence in the kitchen (no feeling of motion or presence, door/window opening or closing, no command at the local wall pads for a specific time interval and at the same time, it detects current supply to the cooker or the electrical oven, it sends audio and visual message to all the installation's wall pads. The message is going to inform the tenants that the electric stove is operating, while there is immobility for a long time. After waiting 3 to 5 minutes, and as long as the system continues to detect immobility in the kitchen, it will interrupt the electricity supply of the outbreaks or the oven. The supply will automatically be replaced immediately whenever human activity is detected again.

Another example: the departure from the house is normally done with the appropriate announcement to FYES about tenant's intention (press the button for the absence). This announcement activates different security systems of the residence, in each case. The surveillance of the house, via sensors, is permanent and any exceptional event will be announced to the tenants via SMS or email.

However there is always the possibility that the tenants may leave without informing the system, which after a certain period of time will "understand" a state of prolonged immobility. Then, FYES will announce the event to the wall pads, using an audio and a visual message and it will also send a SMS to all the registered recipients that are designated to be informed about the specific case. After that, it will wait for 15 minutes and if it receives instructions via SMS, it will execute them and confirm by sending a new text message. If it doesn't receive any response, then it will proceed to first level actions, by interrupting the operation of probable dangerous or energy intensive appliances. (Kitchen, oven, electric water heater, air-condition etc). After that, it will send a new SMS to announce the measures taken, and it will wait for 15 minutes more. If it continues to not receive any answer, it will proceed in second level actions and put the residence in absence mode, by closing the blinds, turning off the lighting and other electrical appliances and arming the alarm system.

An alternative implementation of the above example is monitoring the elderly people. In that case, the detection of prolonged immobility indicates that the supervised person does not show any activity for a long time, something that maybe means that this person needs help.

Economy:

FYES offers economy in many ways, some examples:

1. The external lighting does not turn on during the daylight, even if we press the lighting button.
2. When the sun rises, all the external lights turn off automatically.
3. When human absence is detected in a room, the operation of the lighting, the ventilation and air-conditions stop.
4. In case of prolonged absence, the heating is stopped, while in case of a lengthy absence, the system simply lowers the temperature of the rooms. When the absence is short, heating remains on, whereas when the house is put on sleep mode, system will lower the temperature or stop the heating in the rooms that are not used. It acts similarly for the cooling system too.

Convenience:

There are some examples following

1. Home-Cinema: With the Start command, system will check the external lighting conditions and if it is necessary it will close the electrical curtains or the blinds to bring darkening in the room. Then it will lower the lighting, draw down the electrical screen and boot the audio and video devices.

If, during the projection, an event happens (if e.g. the phone rings or the doorbell), FYES will pause the projection and boost the local lighting's level until viewers return for the continuation of it.

2. When the doorbell rings, FYES turns on the TVs in rooms where there is human presence and it projects the image from the front door's camera.
3. While entering the house, the wall pad asks for the password. Depending on the time and the password that is entered, the system will deactivate the alarm system, it will bring the appropriate lighting, it will turn on the radio or the TV in your favorite channel, it will set the blinds-rolls to the desired position, it will prepare hot water for bath etc.
4. If we are absent and a visitor rings the doorbell, FYES can call us at the mobile phone and connect us with the door phone, in order to talk with the visitor.

Applications:

FYES is extremely customizable and flexible, and exactly for this reason it offers solutions and can be applied in many cases. Below there are few.

1. Hotels, total control of the entire building from the accessing control in rooms to the management of the heating-cooling, lighting etc.
2. Churches, preset lighting scenarios depending on operation status.
3. Schools, total control of buildings which takes care even of the bell's ring for the break.
4. Army camp, guarding ammunition storages and communication among the systems, via SMS.
5. Pumping stations, when the tank's level, at the top of the hill, is low, it sends a SMS to the remote pump, at the foothills, for the pumping to begin.

It has also been applied in industrial areas, stores, museums, theatres, etc.

Finally what does FYES provide:

The above examples, is only a little sample of the system's capabilities.

FYES is open and can be easily programmed to meet every application's needs.

Its only limit is the imagination.