



Downtown apartment, Athens Greece

# Residential applications

1. Tunable white
2. Sophisticated thermostatic control
3. VRV control
4. Fireplace integration
5. Air quality
6. Ventilation
7. Flood avoidance
8. Security system integration
9. IP cameras integration
10. Door unlock functionality
11. SONOS integration
12. Visualization with style
13. Weather station
14. Sun tracing
15. Energy meter
16. Water consumption meter
17. DHW measuring temperature
18. True presence multi-sensors
19. IFTTT integration



The user can choose between 2700K and 6500K color temperature for the DALI lights of the apartment. Besides the manual control, the color temperature is adjusted automatically according to the time of day following 8 specific presets. So, every time the user turns the lights ON, the lights will automatically adjust their color temperature based on what time it is.

The temperature of every room is monitored by Steinel multisensors and controlled by Hager heating actuator with embedded thermostatic controller. So, when the setpoint is raised, the thermostat produces a control variable and then the heating actuator controls the electrothermic heads in the heating manifold with means of PWM in order to reach the new desired temperature that's been set by the user. This method of thermostatic control makes sure that the setpoint will be reached smoothly, saving energy and maintaining comfort for the users. Additionally, this method is 100% compliant with the energy standard EN15232





Using the adequate KNX gateway the user can control the VRV system via KNX touch panels on the wall or even via the KNX server application.

1. Setpoint
2. Modes (auto, heat, cool, fan, dry)
3. On/Off
4. Fan speed

This beautiful fireplace operates with gas. We could not resist to the idea of controlling the flames through a KNX scenario. So, we did it. The owner can control the flames of the fireplace based on the current mood.





What could be more important than air quality? We would say, the heat recovery. So why not have both at the same time. With LUNOS systems integrated into KNX you can have the desired air quality and at the same time protect the temperature of the internal microclimate.



Every bathroom is equipped with LUNOS silvento ventilation systems. A presence detector automatically turns on the DALI lighting and starts the ventilation. The ventilation function has been programmed with retriggering events and a timer of 5 minutes delay after the presence is no longer detected.

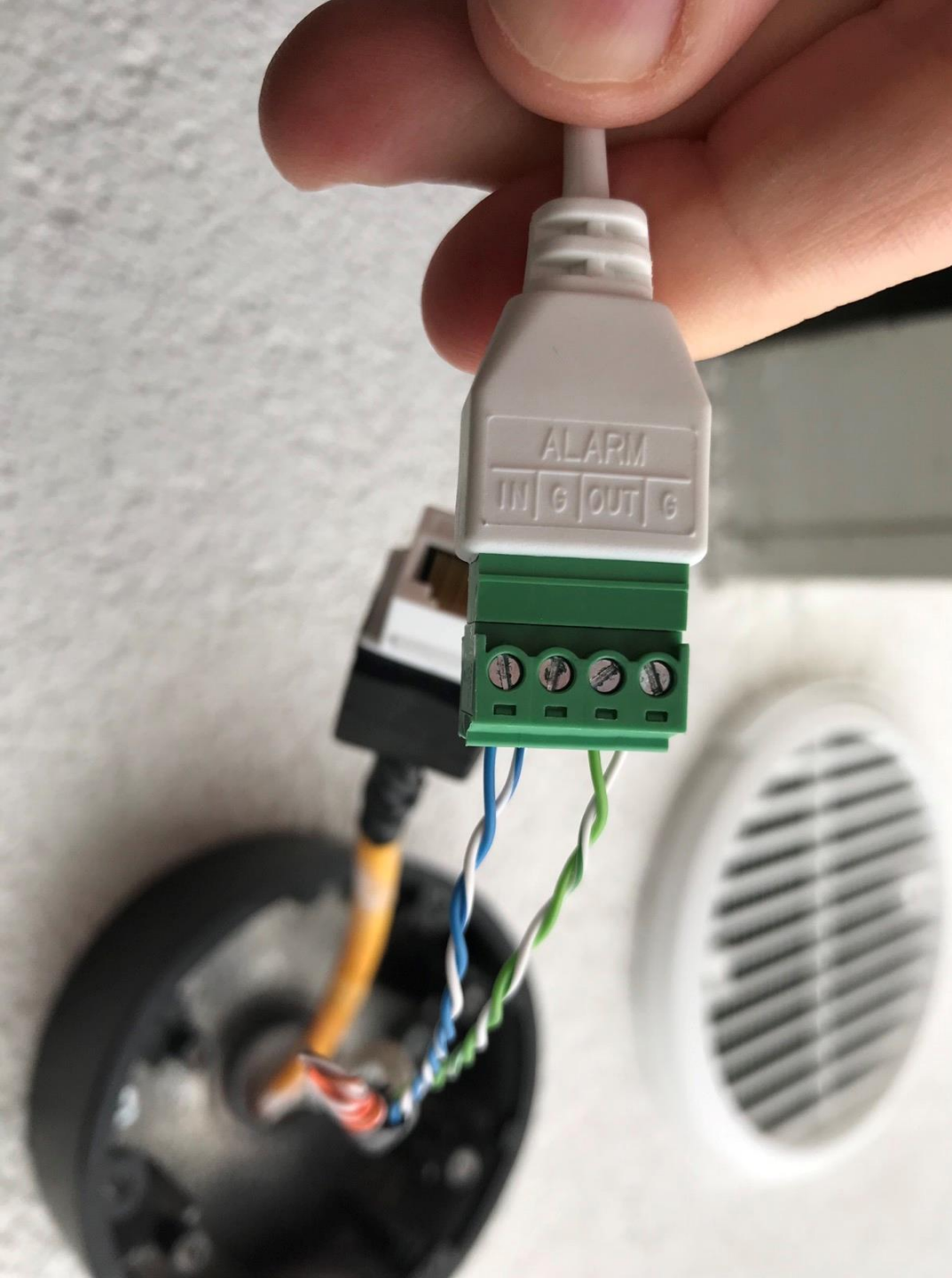


Water leak detection belongs to the past. We offer flood avoidance. When a sensor on the floor detects a certain amount of water then an electromagnetic solenoid cuts-off the water supply in the supervised area.



Security system integration is extremely helpful for the modern residencies. The status of the contacts or even the operational status of the system itself, can be used to operate A/C, presence scenarios, or several other preset conditions in order to enhance security and comfort.





When the magnetic contact of the balcony window opens, then the KNX server requests from the IP camera that monitors the area, to capture a screenshot. Then immediately the server sends a push notification to the user with the incident details along with the captured image. Additionally, since the cameras offer an extra digital output, we use it in order to connect it to a KNX digital input unit. The result is the following. If there is a line crossing event in the main entrance the IP camera is monitoring, then a digital input signal will be used to turn the exterior lights on for 1 minute. That way the security of the apartment is truly enhanced.



The electric lock bolt of the main entrance is controlled through a KNX relay. So, the user can unlock the door via any KNX button on the wall of every room and at the same time can also get the status of the lock. Additionally, the actual status of the door itself is transmitted to the KNX bus through the magnetic contact that is connected to the security system.



The SONOS speakers were integrated into KNX via the KNX server. As a result, the user can have KNX scenarios that include favorite playlists such as a «dinner with friends» scenario or «winter jazzy nights» that includes the fireplace as well. Additionally, the speakers can also play notification sounds to announce a dangerous situation such as a water leakage on the floor, a welcome message or even the status of the security system.



A modern residence apart from having a reliable and robust smart system such as KNX, must also have style. Using a wall mounted iPad, the Domovea KNX server of hager, gives users the ability to operate the entire residence with ease. Trend logs and notifications are being collected daily, so that the owner can access them and extract useful conclusions. Users can create their own scenarios in the KNX server either via the iPad or their mobile device.

A KNX weather station is a very important asset for every modern smart residence. Using the information of the measured wind speed or the rain sensor the shades are being automatically retracted for their own protection, but when the sun is heating the façade, then the shades are being controlled according to sun's position in order to protect the building from overheating.





With the help of the weather station, the louvers are being controlled according to the azimuth and elevation values of the sun.





If you can't measure it, you can't manage it. In this apartment the user can set energy goals and notifications regarding all the below elements.

1. Volt
2. Ampere
3. Active energy
4. Reactive energy
5. Type of reactive energy
6. Frequency
7. Power factor
8. Apparent power

## Water consumption meter



With the use of KNX pulse gateways the owner of this apartment can monitor the daily, weekly, monthly and annually consumption of water and at the same set goals and notifications.

## DHW measuring temperature

The domestic hot water temperature is monitored and recorded by ELSNER's evaluation unit via a T130 sensor. Additionally, we have created a threshold switch function of the measured temperature in order to trigger the recirculation of the hot water using minimum and maximum values. That way the user will always have hot water available instantly.





True presence is monitored by STEINEL multi-sensors. Along with the GPS clock information provided by HAGER's weather station, the true presence behavior is manipulated in such way in order to provide different brightness level in the controlled DALI circuit during day and during night hours. Additionally in every room of the apartment, the below elements are being constantly monitored.

1. Brightness
2. Temperature
3. Humidity
4. CO2
5. VOC



IFTTT integrations for home appliances such as oven, has been made through home connect and the Domovea KNX server of hager. Now the user can have the kitchen counter DALI lights ON every time the door of the oven is open.

Thank you!