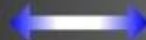
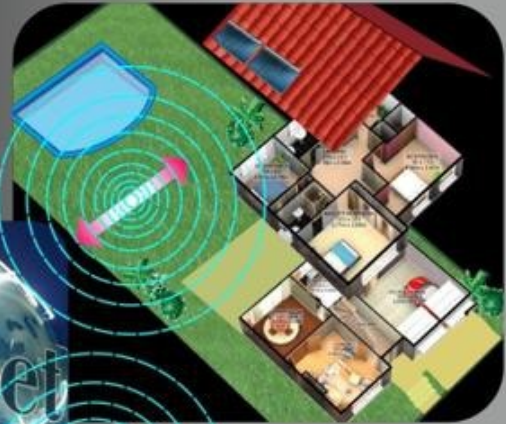




INPHTECH



INSPECTEDHOUSE

Household Automation System Operation, Management, Notifications via the web

Main Features

- Subsystems (devices) are controlled through the internet by a PC or even a smartphone (remote access).
- It is an important possibility that the management and control can be performed by a contracted installer or service organization and not by the owner exclusively
- Every device operates with wireless connection. Thus the installation, the change of devices, the expansion of the system requires minimal interference.
- The user can begin with the installation of a single device. The system can be expanded continuously without interruption of the service.
- Devices generally have a wireless remote control witch is for direct (local, manual) operation.
- The system sends notifications (alarms) to the persons set in case of anomalous operation or off limit parameters.
- Several abnormal conditions can be solved through the internet by reprogramming the dysfunctional device by the owner or by the service personnel.
- The system maintains an event log, which effectively helps the solution of problems. Service personnel can prepare for repair by the evaluation of the event log.
- System elements (the devices) are smart, they operate with the parameters set without either the internet or the wireless connection.
- There is a local touch display unit which shows the status of the system. Several control operations can be performed from here. Complex commands can be programmed to smart buttons.
- In the course of a continuous subscription the user gets the updated software and information of novelties.

General Overview

InspectedHouse is a smarthome system. Its components has been developed and are produced by the vendor. These components are optimized for this systems to allow for broader use and provide more information for the user than the similar solutions. Reliability and quality were the fundamental aspects for the design of the system. Components can operate

autonomously so they are able to handle problems caused by other service providers.

The system uses wireless connections exclusively. These connections are encrypted, interception or jamming is extremely difficult. This wireless communication does not interfere with other wireless devices. The system design is modular, after priming the expansion is easy and fast. Installation

and change of devices is simple due to wireless connections. InspectedHouse devices are compatible with the generally used systems.

Majority of the services are accessed via the internet too. Evidently the components of the system work at interruption of the internet connection. Client pays a small monthly fee for the internet access of the system.

Before installation the devices should be registered into the system on the internet, so the client has to sign a contract with the service provider. Each client receives unique system access ID and password. The contract becomes valid with the purchase of an initial pack which contains a limited time subscription. The initial pack contains an internet connection box and at least one device freely chosen.

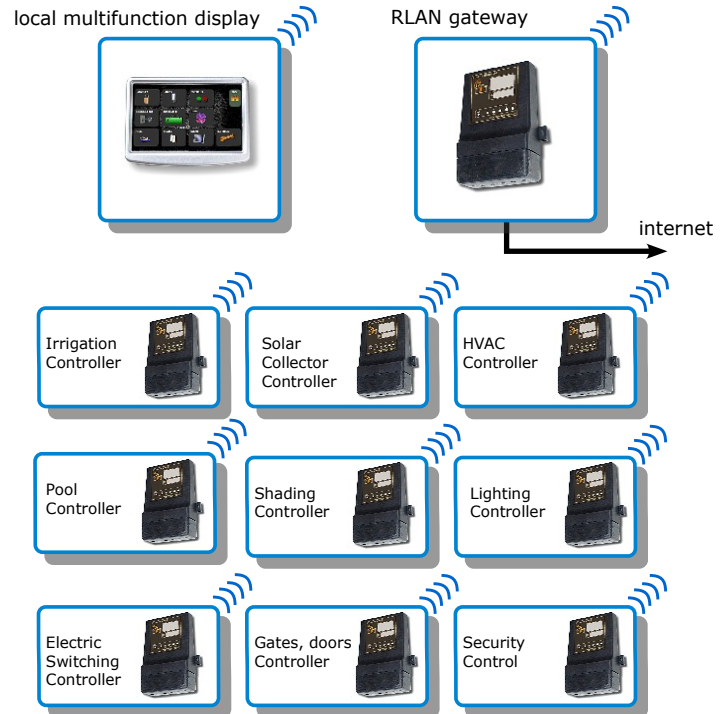
System should be installed by vendor trained personnel. No internet connection is needed for installation. Even a single device can be managed via internet.

The internet connection is encrypted (SSL, https), a standard browser can be used. The internet interface can be used via a smartphone too running its browser.

It is possible to monitor data of installed devices and to control them after log in to the server. Alarm events can be set up, the system sends email to the service personnel and/or to the owner in case of occurrence of any. If the problem can be solved via the internet, the service personnel can do it by the internet interface.

System can be monitored on the multifunction local display. Multiple displays can be installed for a system. This display works as a message board too. Compound commands are to be programmed into a single Smart Button (e.g. alarm, lighting, heating setup for family depart or arrive).

System Schema



Several components are to be controlled by wireless remote controller too. Operations performed with the remote will show on the local display and the internet interface as well.

Applications

Subsystems:

- Irrigation
- Solar collector (aux. heating)
- HVAC
- Pool
- Shading
- Lighting
- Electric equipment switching
- Gates, doors
- Security Control
- Multifunction Display

Irrigation

Components:

- Central wireless controller
- Wireless rain and temperature sensors
- Wireless flow sensors
- Wireless remote controller (16 buttons)
- Power supply unit



Main characteristics:

- controls up to 10 independent irrigation circuits
- one master valve control for two modes (valve or pump)
- a programmable output (waterworks, garden lighting etc.)
- up to 10 irrigation cycles daily
- water usage programmable by circuits

- irrigation cycles depend on temperature, rain and sunshine in each circuit
- rain delay
- 3 irrigation modes (continuous, intermittent dripping)
- wireless remote management, manual irrigation by wireless controller, controllable from local multifunction display
- wireless temperature, rain and sunshine sensor
- wireless flow sensor
- measuring used water by circuit (measuring saved water)
- signaling water dropout and leakage
- signaling and managing frost threat
- party mode (stop irrigation for time set by the remote controller)
- signaling and managing season start and end automatically
- monitoring circuit electrical state, short circuit protection
- overload (lightning) protection of outputs of the circuits
- autonomous operation in case of wireless connection interrupt.

The point of irrigation control is the automatic irrigation depending on environmental conditions. High level of water economy and compliance to irrigation regulations is achieved this way.

The system uses the least water to achieve the most efficient irrigation considering environmental conditions. The maximal desired irrigation duration is to be set., the system will decrease this down to even half. Local regulations (day-time, daily, weekly season limits or prohibitions are programmable.

Irrigation of multiple premises (horticultural business, local government gardens etc.) is controlled from a a central location via internet.

Progressive water tax (water consumption beyond a limit) is to be considered by programming. It is possible to set on the web interface that the available water amount is properly distributed. In case of natural precipitation system saves water for drier or warmer days. System monitors the gross irrigation water and alarms on water leakage or pipe break.

Solar collector (water heater)

Components:

- Central wireless controller
- Wireless sensors
- Shutter controller
- Wireless remote controller (16 buttons)
- Uninterruptible power supply unit



Main characteristics:

- 8 possible system schema
- shading shutter operation (at overheating or electric dropout)
- modular design, only great systems need more hardware
- controllable form multifunction display
- circulates domestic warm water and controls its temperature
- auxiliary heating control
- pool water heating control
- checking current drain of output of device

- possibility for control of pump RPM
- monitoring proper operation of sensors (emergency plan on failure)
- wireless connection to other components
- alarm on failures
- possibility for extra sensors (collector pressure, returning temperature, flood net etc.)
- daily program, vacation programming
- frost threat protection

Solar collector control targets the highest efficiency usage of power provided by the collector. Our system uses the highest technology standards available today for hardware and software as well.

The solar system basically produces domestic warm water. It can be used for heating pool water or for auxiliary heating at spring or fall. Piping and hardware used depend on the actual schema, there are no redundant parts. Devices are designed to the longest life span, there emergency plans for special conditions.

The system is manageable from remote by web interface and email alarms. Graphical diagrams make easy to track the operation and efficiency of the system. Deploying special sensors help to check and set the overall efficiency and ROI of the system.

HVAC

Components:

- Wireless humidity and temperature sensor
- Heating controller
- Air condition controller
- Ventilation controller
- Humidity controller
- Wireless remote controller (16 buttons)



Main characteristics:

- controls multiple parameters (heating, AC, humidity, ventilation)
- wireless temperature and humidity sensors
- wireless radiator controllers
- controllable from local multifunction display
- preprogrammable for day, week, vacation, regular holidays
- pump RPM is controllable
- monitoring current drain of outputs
- frost threat protection
- alarm on failures (emergency plan).

HVAC control system influences multiple devices by means of the integrated temperature and humidity sensor unit.

This wireless sensor is easily installed. Multiple sensors are possible in a home. The internet based remote control provides broad application possibility: home, vacation house, office building etc.

Legacy systems are easy made up to date with flexible hardware components. Homes left for a longer period are protected against damage caused by extreme weather changes.

Considerable energy savings are possible due to state of the art control elements. Furnace and circulation pumps are directly controllable. System allows for using extra sensors (e.g. outdoor temperature) for control.

Pool

- Pool controller
- Wireless sensor
- Display
- Wireless remote controller (16 buttons)
- Chlorine generator



Main characteristics:

- controls pool pumps
- controls circulation of water
- remote control possible

- controls jet massage
- controls underwater lighting
- water level control
- solar heating control
- monitors chlorine level
- monitors water transparency
- monitors filter status (whether change/cleaning is needed)
- monitors current drain of pumps

Pool control effectively helps the pool service, automates certain processes. Client is not bothered by the technique of the pool, checking filters or cleaning them. Web based programming and monitoring of devices means proactive prevention of damages.

Functions are handled easily with the waterproof wireless controller. Operations are timed to prevent unintended abandoning as run. The automatic chlorine system prevents the water from greening. The machinery supervision system timely sends alarm to the service personnel. The level control program provides just the proper amount of water to achieve optimal level of filtering and circulation.

Shading Control

- Shading controller
- Wireless remote controller (16 buttons)



Main characteristics:

- it is fitted to most existing shutters
- preprogrammable for day, week, vacation, regular holidays
- all shutters are operated by a single button of the wireless remote controller if programmed this way
- controllable from the local multifunction display
- monitoring sun radiation level
- monitoring wind strength
- monitors current drain if operators (prevents jamming)

Shutters and shades are to be controlled with a remote in a cozy home, and shutter operation is time programmable locally or via the web. Operating units of the shutters use wireless connections with remote controllers and the internet.

Shutters are set not only to end positions but any previously recorded intermediate state. Sunshine sensor solves the morning – evening automation. A storm indicator automatically closes the shutters to protect windows.

Operations display at the web interface. There is a graphical current drain diagram for damage prevention. Shutters are operated by the remote controller one by one or all at once.

Lighting Control

Main characteristics:

- Lighting controller
- Wireless remote controller (16 buttons)



- can be used for any type of bulb (for economy types too)
- preprogrammable for day, week, vacation, regular holidays
- web interface commands override local switches
- controllable from local wireless remote
- controllable from local multifunction display (E.g. all lighting devices are switched off on leave by a single button. It is possible to set delay for exit door lighting)
- monitors current drain of lighting devices, signals failures.

Considerable energy savings and spectacular comfort functions are achieved by controlling lighting devices. No redundant light stays on by means of a smart button programmed for depart situation.

Switches are individually programmable. Maximal on time and maximum intensity are programmable. Control system is installed into existing and newly built buildings too.

Switching Electric Equipment

Main characteristics:

Components:

- Central wireless controller
- Wireless remote controller (16 buttons)
- Wireless couplers for appliances



- heavy loads are possible
- versions for socket group and C-rail mount exist
- monitors current drain of connected equipment
- wireless remote control

- controllable from local multifunction display
- independent switching terminals
- alarm on failure

Household electric equipment is controlled easily and economically by these devices. Some devices drain considerable power even in standby state. It is possible to de-energize devices using mains automatically when leaving the building. It means not only energy saving but prevents severe damage or even fire caused by lightning or other natural disaster.

Wireless control may be deployed for not only the installed, wired devices, but plugged equipment too by the socket group mounted version.

System is flexibly programmable, and is controllable by the remote controller, by the local multifunction display and the web interface. It is possible to switch on or off multiple devices in a single operation. Energy saving is achieved by a smart button switching off all appliances on depart. The current drain monitor sends alarm on irregular operation.

Gates, Doors

- Controller
- Wireless remote controller (16 buttons)
- Wireless controlled locks



Main characteristics:

- wireless, battery powered design

- mains powered version for doors, gates
- own robust keypad with lighting
- to be mounted several standard locks
- remote open, lock and code change too
- monitors battery level, alarms before exhaustion
- possibility for mains power
- controllable from wireless remote control
- controllable from local multifunction display

Lock control is an indispensable feature of a comfortable and trendy home. There is no need for always straying keys, which are out to theft too. Open and lock operations are logged on the internet (away from location).

Persons unaware of code (e.g. some service personnel) are allowed into the location from remote via web interface by even a smartphone.

A lock left open unintended can be shut later. Temporary codes are possible for other tenants (e.g. renters, visiting relatives). Codes are disabled on the web interface to prevent unauthorized entry. It is possible to lock all controlled doors at once from the local multifunction display by a smart button. (At this case the main entry automatically locks after depart.)

Security System

Main characteristics:

Components:

- Wireless security center
- Wireless coupler unit
- Wireless remote controller (16 buttons)
- Extension panel



- wireless design
- 16 zones + 16 extension zones
- handles outdoor alarm
- 4 partitions
- controllable from wireless remote controller
- controllable from local multifunction display
- stay home feature
- 256 user codes
- manages outdoor system
- fire alarm features

This state-of-the-art security center is optimized for internet based management. It is possible to disable web control access only the monitoring features remaining. Alarm may only armed in this restricted access mode. Our security system is compatible with existing wired sensors, their change is easy too. Security system is simply managed from the local display and/or wireless remote controller.

Multifunction Display



Main characteristics:

- Comfortable size (7") LCD, flat, wall mount design
- Touch screen
- wireless connection with the devices
- SD card slot (for software update)

Clients may use a local display unit for monitoring and managing his/her own system. Multiple displays may be installed to a system.

Displays are to be mounted onto a wall, they have own power adapters. Display units communicate wireless with the

components of the system. The display shows user interfaces of the services for checking operation and for setting parameters by the touch screen possibility. The multifunction display is able to perform every control operations that remote control boxes can do, display replaces them.

It is possible to send messages to the display via the internet. These are warning and contact messages e.g. before subscription expiration, availability of new services etc. The multifunction display has a sound system that plays voice messages (WAV files) too. So visual and audible warnings are possible as well.

Operation Overview

Installation begins with the setting the RLAN unit into operation. This identifies the client by a 10 digit ID on the web.

The RLAN unit communicates with the components wireless. Every component has a unique, preprogrammed ID which is used for authentication in wireless communication with the RLAN unit. A component is to be registered to a system in the Setup menu of the given service. These service controllers are set via the web interface as well.



