LightSYS™2
Live Video Security Solution

Engineer Specifications

The contractor shall provide a complete electronically supervised, battery backed-up intruder alarm system with multiple expansion capabilities.

System Main Panel

The main panel shall have 8 hardwired zones and shall be capable of expansion for adding hardwired detectors, addressable Bus detectors and 1-way & 2-way wireless detectors in any combination, up to a maximum of 50 zones.
Note: Maximum number of Addressable Bus detectors shall be 32.

All zones shall be fully supervised and programmable. Panel shall be complete with integral power supply and supervised battery charger, auxiliary power for powering security detection devices, integral supervised digital communicator, and 4 programmable outputs: one relay and three 100mA opto-relays.

Main Panel Housing

A 3mm polycarbonate housing enclosure shall be available. Main panel and accessory modules shall be insertable to the housing by "snap-in" without any needs for bolts or screws. A Metal housing shall also be available.

System Communication Bus

The system shall employ standard non-shielded, 4 conductor wire RS485 bus for powering and communicating with hardwired system expansion modules, detectors and sounders.

The Bus architecture shall be in any combination of "daisy chain", spur or star configuration.

A bus test feature shall be available to check the communication quality between the panel and each module on the Bus. The Bus test validates correct Bus wiring and module communication, saves maintenance time by enables pinpointing intermittent malfunctions or faulty wiring from a remote PC or from the keypad, and allows extending the length of the Bus wiring. The communication quality shall be displayed on the keypad in percentages ranging from 0% to 100% for each of the modules on the bus.

The system shall have an auto-install feature capable of recognizing the connected modules upon power-up, in order to enable rapid and error free configuration and installation.

Addressable Bus Detectors and Sounders

Up to 32 Addressable Bus detectors can be installed on the system communication Bus. Bus zone expanders shall enable installing in several extensions in parallel.

The Bus detectors shall include remote parameter setting and diagnostic capabilities via the Bus from the keypad or CS configuration software. Remote control of parameters shall include detection sensitivity, LED on/off and microwave range. Remote diagnostic capability shall include voltage input measurement to the detector.

Available Bus detectors shall include:

- An outdoor volumetric detector with 2 PIR channels and 2 microwave channels, Active IP anti-mask and proximity anti-sabotage
- A high ceiling dual technology detector for installation up to 8.6m (28ft high)
- An industrial detector with 2 PIR and 2 microwave channels
- Commercial dual technology and PIR Quad detectors that include an extra zone input, which allows the addition of a door/window contact or any other relay detector saving on the wiring back to the panel
- A Seismic detector

External Communication

The system shall include a built-in PSTN dialer and optional plug-in IP and GSM/GPRS communication modules. All modules can be installed within the main panel standard enclosure, made of metal or 3mm polycarbonate.

IP and GSM/GPRS module

The IP and GSM/GPRS modules shall plug-in to the main panel
The GSM/GPRS module shall support SMS commands and operation of the main panel and include a "confirmation of action performed" by return SMS

Smartphone Applications

The main panel shall be able to connect and communicate with a designated cloud server in order to support remote configuration for service via the configuration software and in order to enable end-user operation via smartphone applications (iOS and Android).

Upon an alarm event in the panel the Smartphone App shall receive visual and audio notification even if the App is not open. Upon notification the server shall transfer to the App and the App shall display the alarm event details and extracted images of the event from designated IP cameras in order to allow quick video verification of alarms.

Video Verification with IP cameras

The system shall support video verification of alarms via integrated indoor and outdoor IP cameras. The IP cameras shall be integrated to the alarm system via a designated cloud server.

The following functionality shall be supported:

- Viewing of a sequence of alarm images including pre-alarm images from a dedicated Smartphone App.
- Initiation and viewing by authorized user of streaming video and audio from the IP cameras to the Smartphone App.
- From the Smartphone App or Web Browser the user shall be able to view the event log of the alarm panel. Images and video clips shall be associated to the event log. The user may view these images and video clips within the same Smartphone App as receiving alarm notifications and performing Arm/Disarm

Integration of video verification functionality to monitoring station platforms shall be possible via an API

Automatic Upgrade of Accessories

The control panel shall support automatic firmware upgrade of accessories. Accessory firmware version shall be checked during programming of the control panel and shall be automatically upgraded from the panel to the latest known accessory firmware version. Automatic upgrade shall be supported on the following accessories: IP module, GSM/GPRS module, zone expander module, wireless expander module, bus zone expander module.

Monitoring Station Reporting

The system shall support Contact ID and SIA reporting formats and shall be capable of being programmed to call up to 3 monitoring station telephone numbers. The system shall be programmable for multiple or split reporting, and shall have call saving features. Reporting shall be via any of the PSTN, Long-Range-Radio (LRR), IP or GSM communication channels.

IP Receiver

An IP Receiver software application shall be available for central stations. The software shall transfer the encrypted events received via IP, GPRS or SMS to existing Monitoring Software applications.

Keypads

The system shall accommodate up to 4 keypads. A touch-screen LCD keypad with or without a proximity reader shall be available.

LCD keypads shall have a display capacity of 32 alphanumeric characters with adjustable contrast. Keys shall be backlit for low light level ease of use. Keypads shall have 4 one-touch buttons that may be programmed for one-touch operation of predefined macro sequence.

2-way wireless keypads shall support arming/disarming the system. An IP 65 rated outdoor model of the 2-way wireless keypad shall be available

Interactive Voice Module

An optional interactive voice module shall provide remote system control and voice status via any touch-tone or mobile telephone. The voice module shall include a full voice menu guide enabling the user to listen to and select the required. The system shall include a prerecorded word library and allow customized messages for zones, partitions, outputs and common system message. System shall be capable of listen-in and speak-in capability to the premises.

Hybrid Wireless Expansion

The panel shall be expandable to a maximum of 50 supervised and programmable wireless zones, by adding up to two 32 zone Wireless Expander. The wireless expander may also be installed inside the polycarbonate housing.

Wireless receiver module functionality shall support 1-way or 2-way wireless devices and shall have an internal antenna for higher security. Frequency shall be in either 433MHz or 868MHz bands. The system shall include signal jamming indication and transmitter low battery indication. Supervision time of the wireless transmitters shall be programmable.

Noise level, threshold level and transmitter signal level shall all be displayable on the system's keypads, enabling installation and calibration without using a separate signal strength meter.

Wireless devices shall be supplied with a long-life lithium battery. The following wireless devices shall be available: Fully battery powered wireless sounders for indoor and outdoor use, door/window contacts and special purpose transmitters, PIR and PIR Pet friendly detectors, curtain detectors, outdoor volumetric and beam detectors, 4 button rolling-code and zone keyfobs, panic transmitters, smoke & heat, gas, CO and flood detectors.

Learning in of the wireless devices shall also be possible via the configuration software by entering the serial ID of the device

Selectable End-Of-Line Resistance

The EOL resistance of the system zones system be selectable in order to match the EOL resistance value in already installed detectors and thuis enable enable faster retrofit. The EOL value shall be selectable per group of 8 zones

User Codes

The system shall provide for up to 30 user codes and up to 8 proximity key readers.

Partitions

The system shall be programmable for up to 4 partitions. Keypads shall be assignable to any partition, combination of partitions, or the whole system. Each zone in the system shall be assignable to one or more partitions.

Groups

In each partition the zones shall be assignable to 4 groups enabling 4 levels of quick partial arming in each partition. The keypads shall support 4 level one-touch partial arming.

Supervision

Each zone in the system shall be fully supervised. The system shall be supervised for AC loss. Batteries shall be supervised for low power and be short circuit protected. Additional power supplies shall be supervised for AC loss, low battery, tamper, auxiliary output failure, and loss of sounder loop integrity. Wireless detection devices shall be supervised for presence and low battery. The RS485 bus shall be supervised for low voltage and presence of each defined expansion module and keypad. Digital alarm communicators shall be supervised for phone line trouble and failure to communicate.

False Alarm Prevention

The system shall include the following false alarm prevention features: audible exit delay, arm/disarm bell squawk, audible exit fault, swinger shutdown programmable by zone, transmission delay, pulse count by zone, soak test by zone, cross zoning, and arming/disarming from outside the protected space using access control.

Programmable Outputs

The system shall have 4 outputs on the main panel and be expandable to a maximum of 32 programmable outputs to operate external devices in response to activities related to alarms, zones, partitions, system events, user actions, and scheduled events.

System Event Buffer

The system shall have the capability to store up to 500 events, including arming, disarming, bypassing, alarms, troubles, restores, and resets. The events may be read from the system's LCD keypad or uploaded via the CS software and printed for further analysis.

System Programming

The system shall be fully programmable via the LCD keypads or the CS configuration software. LCD keypad programming shall have a "Menu and tree structure" and not be "Address & Data" based, in order to allow simple programming of the system without continuous reference to the installation manual. Quick shortcuts shall be available to each option of the menu in order to facilitate quicker service phone calls and faster programming and fault diagnosis.

The installer and end-user menu displayed on the keypad shall dynamically adapt according to the actual accessories installed and according to user or installer authority. Menus of communication modules or other accessory modules that are not installed in the system shall be hidden and not displayed.

All system programming shall be maintained in a non-volatile memory such that program information in maintained even if all AC and battery power in removed.

CS Configuration Software

The CS configuration software shall be Windows based with a friendly graphical user interface. The software shall work both locally via a local adaptor to a USB port of a PC, or remotely via IP, GPRS , Cloud interface or PSTN. The software shall enable remote monitoring of system status and shall have several security level and password controlled access.

A fixed IP address of the panel's IP module shall not be necessary for initiating a CS session.

Initiating of a GPRS configuration software session shall be possible from the CS PC via the Cloud server, without the need for an SMS or other initiation command to the panel

Standards

The system shall meet the following standards:
- EN50131 Security Grade 2
- INCERT
- PD6662:2010