PowerMax

Fully Supervised Wireless Alarm Control Solution

Visonic
For a smart and secure lifestyle
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1. Overview

The residential security market poses a number of key challenges for security systems. An advanced security system must be installed and programmed rapidly and conveniently; ensure maximum security and reliability; comply with international standards and offer a wide range of accessories meeting various specific requirements. Moreover, there is growing demand for home automation, GSM back-up and Internet connectivity.

**PowerMax®+ - safe, integrated, interactive**

Produced by Visonic, a world class manufacturer of residential security systems, the PowerMax+ is the ultimate solution for home security and home automation. With over thirty years of experience producing reliable, innovative security systems and world-wide marketing of these systems, Visonic has a keen understanding of customer requirements. Using this insight, Visonic developed the wireless PowerMax+ to meet the design and performance requirements of today’s demanding customer:
Simple & Fast Installation
- No wiring required
- Voice guidance in 24 languages
- Intuitive setup programming

Extreme Reliability
- Patented technologies for advanced detection sensitivity and reliability
- Excellent false alarm immunity
- Advanced jamming detection
- Wireless encrypted transmission (Code Secure™)
- Real-time property viewing capability via the Internet
- Full communication backup/reporting, messaging, 2-way voice and control

Versatility & Flexibility
- Modular design allows easy addition of devices and detectors

Remote Accessibility & Control Options
- Home & system control via Web, SMS message, touch-tone phone and cellular phone
- Latchkey mode capabilities can initiate two-way communication through any touch-tone phone
- Voice messaging center
- Remote initiation of hands-free, two-way full-duplex voice communication

Home Automation & Energy Savings
- Automatic lighting control for enhanced energy saving.
- Controls up to 15 different home electrical devices operated by an advanced scheduler
- On/Off, dimming, appliance status report and scheduling

2. Intrusion
The PowerMax+ family provides numerous wireless detectors and devices, which are easy to install and operate in a wide range of residential applications. Visonic’s advanced digital products are available in various frequency bands in accordance to international standards and have been approved by the radio communication authorities of most countries.

Wireless Digital Motion Detectors
Visonic’s outstanding detectors implement the industry’s most advanced digital and optical technologies. By providing the highest performance in crucial system requirements they are the optimal choice for virtually any application:

False Alarm Immunity
Visonic achieves the industry’s highest catch performance together with false alarm immunity by implementing several highly advanced technologies. True Motion Recognition (TMR™), which is based on advanced algorithms with exceptionally high sampling rates, is complemented by Visonic’s unique “Event Verification” algorithm.

High Sensitivity
Uniform high-sensitivity detection is enabled over the entire supervised area. This unique sensitivity is based on multiple solid vertical “curtains” generated by proprietary patented 3D optical cylindrical lens technology with Target Specific Imaging (TSI™).

Pet immune
Visonic’s patented pet-immune detection technology can distinguish between human intruders and animals weighing up to 38 kg (85 lbs). It ensures accurate detection without animal-related false alarms, while permitting pets to roam freely in protected areas.
Wireless Glass-break Detectors

Visonic’s fully supervised wireless glass-break detectors provide reliable perimeter protection, by detecting the breaking of plate, tempered, wired and laminated glass. Incorporating omni-directional acoustic sensors, the detectors provide full 360° coverage. Reliability and false alarm immunity are ensured by Visonic’s proprietary Pattern Recognition Technology™.

Latchkey Mode

Once the Latchkey mode has been enabled, an alert is automatically sent when a designated keyfob has been used to disarm the system. An example of this feature is “the kids are home from school”: when the system has been disarmed by the children, the Latchkey mode sends a message to their parents (via telephone, SMS, email, etc.), indicating that the children have returned home.

Wireless Door/Window Detectors

Magnetic door/window contacts are fully supervised transmitters. These detectors use built-in magnetic contacts and are designed to provide the most reliable, secure and easily implemented wireless solutions for protecting doors, windows and other objects. These devices can also be used for an unlimited variety of applications utilizing external pushbuttons, contacts, switches and other means of detection that are connected to the transmitter’s protected “end of line” input.

Wireless Portable Keypad

A wireless, hand-held portable keypad unit enables remote system operation. Pressing buttons on the keypad can activate major system functions such as arming, disarming and home control. The wireless keypad can also be mounted on the wall to serve as an extension of the main unit.

Wireless Outdoor Siren / Strobe

PowerMax+ supports a wireless outdoor siren with strobe in addition to the usual indoor system siren. The system supports up to two internal sirens, two external sirens or one of each. Distinctive features of the Visonic outdoor wireless siren include:

- 98 db Piezo siren and strobe
- Two-way radio communications
- Alarm, fire and squawk (arm/ disarm) tones
- Local & remote diagnostics
- Built-in NiMH backup battery
- Tri-state tamper switch
- 3mm Polycarbonate cover
- IP 54 compliance
3. Safety

Visonic’s advanced wireless smoke, gas and flood detectors enhance homeowners' peace of mind. Like other Visonic wireless products, they do not require special installation, and can be quickly and easily added at any time.

**Smoke Detection**

Wireless Photoelectric Smoke Detectors are designed to detect smoke produced by a fire. Smoke detectors based on photoelectric technology are sensitive to the accumulation of dirt on the sensor. In response to such an occurrence, a maintenance event is generated, indicating sensor problems. This self-diagnostic capability significantly enhances detector reliability.

**Flood Detection**

Wireless Flood Detectors are commonly positioned in basements and other flood-prone areas. They issue an alarm when water reaches predetermined levels. Used in conjunction with the X-10 appliance module and an electric water valve, the main water supply can be automatically closed. This provides added protection against flood-related property damage.

**Gas Detection**

Visonic’s Wireless Gas Detectors are designed to detect leaks of Butane, Propane (LPG) or Methane (natural gas that is widely used for cooking and heating purposes). By assigning a "Gas" type zone, the detected gas leak will be reported to monitoring stations or private phones as a "Gas Alert" and not as a general or burglar alarm as reported by other panels. This assures a correct response to the situation.

4. Emergency Assistance

**Wireless Pendant and Wristband Transmitters**

These easy to wear transmitters can activate the PowerMax+, which in turn sends assistance requests to predefined destinations: ambulatory services, monitoring stations, family members, neighbors, or any other telephone number. The recipient of the alert can initiate two-way voice communication with the person requesting assistance.

**No - Activity Monitoring**

If no motion is detected by any motion detector in the house within a pre-programmed time limit, the "No Activity Monitoring" feature transmits an automatic "Lack of Movement" alert message to the monitoring station and/or to family members.
5. Home Automation

Home automation capabilities are easily and quickly added to the Visonic PowerMax+ system. All the benefits of home automation, which have so far been beyond the means of most families, are now affordable and easy to implement. PowerMax+ home automation features make running a household easier, more convenient and safer than ever before. It enables homeowners to control lighting and electric appliances from anywhere in the world. Users can also customize define automated tasks according to predefined conditions or time schedules.

Energy Management & Savings

PowerMax+ makes it possible to realize significant energy efficiencies. Energy-saving functions include:

- Remote query of system appliance/light status
- Remote On/Off activation of appliances and lights
- Lighting control by occupancy-sensitive detectors
- De-activating appliances that are not necessary when the home is unoccupied
- Advanced Energy Management Scheduler:
  - On/Off activation of appliances and lights at designated times, for designated time spans
  - 15 different controllable electrical devices
  - Two different daily cycles of operation can be defined for each of the controlled devices
  - Two additional cycles of operation are available for each controlled device. These cycles can be defined separately for each day of the week.

Sample Power Management Tasks

- Turn on a light in the garden daily from 7 PM to 11 PM. After 11 PM, activate the light in response to movement in the garden.
- Turn on the hot water heater from 7-8 AM Monday through Friday, and from 9-10 AM on Saturday and Sunday.
- Activate pre-loaded washing machines and dishwashers at “Off Peak” hours when electricity costs are lower.

Energy Management Implementation

PowerMax+ is implemented throughout the home with no need for any additional wiring. Secure wireless communication with each appliance in the home is possible thanks to the advanced X-10 protocol.

Wide Range of Controllable Devices

Using a diverse range of X-10 end-units, PowerMax+ can control up to 15 different electrical devices. These end units can range from simple self-install plug-in modules connected between the devices and the electrical outlet, to complex curtain controllers, HVAC modules, wall mounted switches or X-10 DIN rail modules for advanced installations. Powermax+ dim command is used to dim lamps or to adjust shutter height.
Remote Appliance Query

Users can query PowerMax+ from any remote location using any touch-tone phone - conveniently obtaining up-to-the-minute data and remotely activating or deactivating the queried appliance.

PowerMax+ can send commands to appliances and also receive status information such as:
- Is the appliance On or Off?
- Is the appliance malfunctioning or was the command incorrectly received?

These functions are enabled by the X-10 protocol.

Each command or query that is broadcasted in the system is addressed to a specific X-10 end unit, which has a unique ID address. Each end-unit is connected to a single appliance. When an end-unit receives a command, it responds by activating, deactivating or querying the associated appliance.

6. Communication & Remote Accessibility

Voice Guidance

- The voice module enables users to control and activate the system directly at close range or from a remote telephone. Pre-recorded voice announcements respond to commands, guiding the user to perform certain actions. Announcements include alarms, problems and the location of each event. Pre-recorded messages are easily understood.
- Before leaving the premises, users can record a short message in the system message center. Upon arrival, a voice prompt notifies those entering of a waiting message. Messages can be recorded and accessed remotely as well.

PSTN Communication & Report

- Using a regular PSTN line, the PowerMax+ panel can report to central monitoring stations. PowerMax+ uses the most common security protocols, such as Contact ID, SIA ScanCom and 4/2.
- Thanks to a fully integrated speech processor, PowerMax+ can report also to private phones in the local language. If required, event notification can also be sent to pagers.
- Remote system programming and maintenance is easy and convenient using the Windows-based PowerMax+ remote programmer software.
- Full Line Seizure - To ensure full system reliability, PowerMax+ systems are able to establish telephone communication with external locations at any moment. This is true even in households where a single telephone line supports the PowerMax+ system as well as other devices. If the line is busy when PowerMax+ requires it, the system will seize the line. PowerMax+ has precedence over all other devices (telephones, computers, answering machines, etc.)
**Integrated GSM Cellular Solution**

All functions which are available via the PSTN channel are also available via the GSM network. The system connects to the GSM network via the PowerMax+ GSM adaptor. The GSM adaptor also offers faster remote programming.

- PowerMax+ reports to central stations using standard communication protocols.
- PowerMax+ can be used for installations that do not have a PSTN line (such as anchored boats or remote weekend houses).
- GSM can also be used as a backup for the PSTN telephone line in case of failure or sabotage.
- PowerMax+ supports the Short Message System (SMS) protocol to report specific events and to receive remote commands from the user.

**Internet Connectivity and Remote Camera Supervision**

With the PowerMax+ Web Communicator and cameras, the user can view his property in real time. This also allows a more accurate assessment of the situation and the action required to remedy an adverse situation. In addition, "Power Commander" software provides Internet-based access to the PowerMax+ panel.

- Up to four digital wireless or wired video cameras can be connected to the web communicator. Using a regular Web Browser, users can remotely supervise the property by accessing a secure server and activating any of the connected video cameras.
- Internet connectivity also enables remote programming and maintenance of the PowerMax+ system, saving time and resources.

**Real time viewing can be used to:**

- Confirm/reject an alarm (burglary, fire, etc.)
- "Check the kids" or domestic help
- Supervise pets
- Save images on a PC
7. Reliability

Designed for uninterrupted operation over the course of years, PowerMax+ consistently delivers the highest levels of reliability in the industry. This is possible thanks to a number of advanced proprietary technologies, such as PowerCode™ (wireless transmission security) and CodeSecure™ (command encryption). PowerMax+ also implements advanced functions to prevent jamming due to signal interference and signal override caused by simultaneous transmission from multiple devices.

- **PowerCode™: Strong and Reliable Wireless Protocol**
  To assure maximum security of wireless transmission, PowerMax+ uses PowerCode technology. When activated, each transmitter initiates transmission of a 24-bit ID command code - which is selected from 16 million possible combinations, and is therefore unique and virtually impossible to accidentally reproduce.

- **Code Secure™: Encrypted Control Transmissions**
  Code Secure (rolling code) technology achieves the industry’s highest security levels in wireless applications. It prevents potential intruders from recording and reusing access codes, by assigning a unique ID command each time the system is accessed. It utilizes a unique 32-bit CodeSecure® (rolling code) ID command, which is selected from over 100 million possible combinations. CodeSecure IDs are selected by a proprietary code encryption algorithm which can be recognized only by the target receiver.

- **Anti-Collision Algorithm**
  An advanced anti-collision algorithm prevents signal over-ride by simultaneous transmission from multiple devices.

- **Supervision Signals**
  Enhanced system reliability is provided by periodic transmissions of supervision signals that confirm system connectivity at all times and indicate a low battery requiring replacement.

- **Jamming Detection**
  Based on a proprietary Visonic algorithm, jamming interferences are detected and reported to the monitoring services and/or users.

8. Simple & Fast Installation

Installation time and costs are typically key success factors for a service company. Therefore, installing and programming a modern security system must be fast and uncomplicated.

- The complete functionality of the PowerMax+ system is packed into a single wireless solution that is typically installed in about one hour.
- PowerMax+ is a completely wireless system, that eliminates the wiring typically required to connect system components. The result is effortless installation and walls and décor that remain intact.
- Intuitive programming allows for easy setup and detector enrolling. The most important parameters are set to the most commonly used values, thereby minimizing the amount of programming required for deployment. Accessories can be enrolled at the office, further reducing costly onsite installation time.
- Ready for immediate operation anywhere in the world, the PowerMax+ control panel speaks 24 languages, both graphically and with audio interface.

**The PowerMax+ “Plug & Protect™” concept**

Enables the installation of a greater number of systems in a single day
9. Versatility & Flexibility

The PowerMax+ solution is modular, enabling absolute versatility and flexibility. This means that detectors or system components (GSM, Internet access, etc.) can be added to the current system at any time.

Visonic is constantly developing new products and devices to function seamlessly with the PowerMax+ system. These products are designed to meet the standards of most countries around the world. The concept of versatility and flexibility assures that the PowerMax+ solution can be upgraded to provide the very best security solution for protected property.

10. Summary

The PowerMax+ solution is designed to meet the most demanding requirements of today’s home security and automation market:

- Minimum investment in installation resources thanks to wireless devices, intuitive setup/operation and remote access.
- Maximum system reliability made possible by excellent detection sensitivity, maximum false alarm immunity and robust radio communication.
- Simple and fast system expansion/upgrade based on modular and wireless components.

Established in 1973, the Visonic Group has built a strong reputation as a world leader in the design, development, and manufacture of high quality systems and products for the security industry. With over 30 years of experience in every aspect of security, Visonic serves institutional, industrial, commercial and residential markets for both personal and property protection. The Visonic Group is recognized for its advanced patented technologies, reliable high performance systems, and responsive customer support worldwide.