

LIFE PROTECTION



ADVANCED SYSTEMS FOR SEISMIC PROTECTION

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Introduction and availability of the

ADVANCED SYSTEMS FOR PROTECTION FROM SEISMIC DISASTER (SAPAS)

Earthquakes have become more common in the last decade, and more destructive. To prepare your site, private or commercial for such a damaging event, this product and support is offered. It is estimated that in LOS ANGELES alone, about 7.500 will be lost if the earthquake occurs during the day and 380.000 if it happens at night. The difference is explained by the fact that during the day the phenomena accompanying the first moments of the earthquake would be obvious to the population which would take shelter, saving lives. For any Swiss city suffering an important earthquake we'll observe the same difference. [Click on this link.](#)

By warning the population by seconds or even tenths of a seconds before the arrival of the destructive seismic wave, the number of people lost will be greatly reduced, and further improved as the procedure and protection result in overall greater awareness of these life-saving features.

SAPAS usage is directly linked to the reduction of loss of life. However, the secondary effect is the preservation of the structure wherein it is installed. SAPAS protects the buildings against the damage of loss induced by the seismic event by a measure upwards of 50%: it reduces the risk of fires and explosions caused by combustible gases. To ignore this obvious threat exposes loved ones and property needlessly to destruction.

This system is in a most critical need to protect:

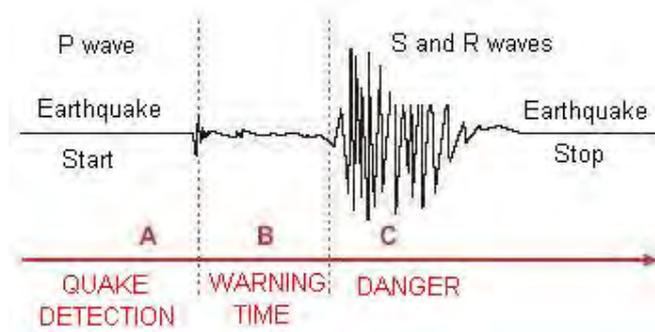
- Emergency headquarters of primary response units such as Emergency Situation Headquarters and the Fire Brigade
- Key central and local administration offices containing executive and legislative staff
- Kindergartens, schools, universities
- Buildings noted to be at risk and in the areas of probable major seismic activity
- Areas of major population
- Gas stations located among apartment blocks
- Apartment blocks and other type of joint owner premises and risk
- Single family homes

1. BASIC Seismic Alert (initial seismic warning)

Detection of the event occurs through a seismic detector, the model AS-01. The device has the capability to include an audible warning that may include more specific security instructions, tailored to each user.

Functions

The SA family of detectors functions by sensing the initial propagation of the primary seismic wave (warning wave) which announces the destructive subsequent wave action. These waves propagate at different speeds, and they arrive at different moments. The delay is measured by the sensing device and the warning provided accordingly. In some cases the warning provided may be about 10...45 seconds. This provides protected parties this time to seek shelter.



Earthquake detection based upon AS technology is reliable and effective. Furthermore it will save both lives and property. Further, the technology is sensitive enough to differentiate between actual seismic event and say, a lightning strike.

If the vibration wave form corresponds to a seismic one, the acceleration level is noted, and for values greater than 0,5 mg of the primary wave it will determine that the seismic event is destructive and the alarm will activate. If the event is less than 0,5 mg the earthquake will be deemed not catastrophic and on lights will be activated to indicate an event of less than catastrophic proportion is in progress.

Specifications

The Seismic detector AS-01 functions by battery, assuring a life of about 3 years, though it is advisable to change the battery every year. The device is placed on a resistance wall located along the foundation in order to best detect earth vibration. This promotes the proper transmission of any signal and as well assures the accuracy of the seismic response to the local event.



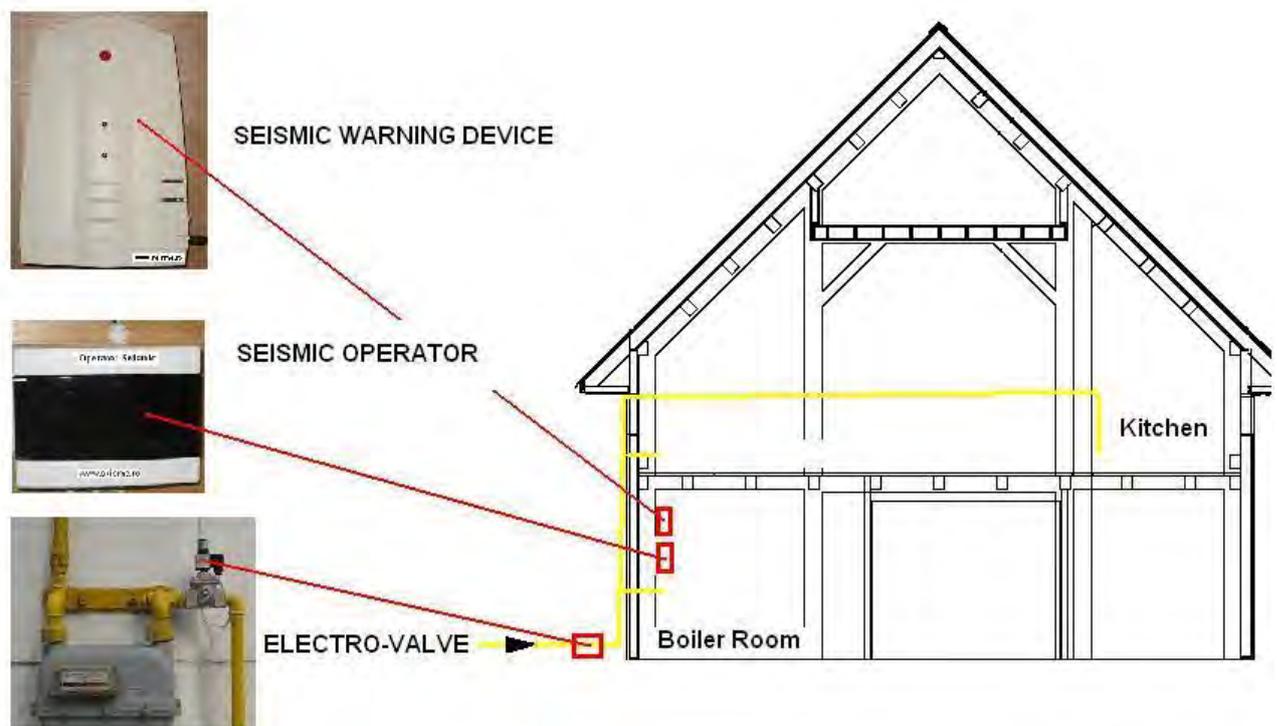
**EARTHQUAKE
WARNING DEVICE**
independent and autonomous

2. ADVANCED Seismic Response System (enhanced features)

The ADVANCED system uses advanced technology which offer, as needed both independent and interrelated response. The technology is isolated from the need of an electric supply, or a GSM network, or GSM signal. This reduces the loss of time associated with the transmission or retransmission of signals.

In addition, the advanced system incorporates additional features to reduce additional risks generally inherent with seismic event. The Advanced System may:

- Transmit the warning to a command center
- Download computer files or lock operations
- Turn off lights or turn on lights for emergency relief
- Cease the flow of dangerous gases and chemicals
- To name only a few of the many possible actions that may be incorporated.



Functions

The ADVANCED System may take both an alert and protection role as a system depending on the need and programming. For home it may be advisable to program the device to serve both roles,

thus further protecting loved ones from both harm and loss of life.

In the industrial domain ADVANCED systems offer physical plant protection and as well protection for staff and employees on site during such a seismic event. In any town there is a need for attention to gas stations located among the densely populated apartment blocks of the city or in much polluted areas. The explosion of one or more gas reservoirs could have dramatic and costly consequences to the owner and to those caught on site during such an event.

Specifications

SAPAS installation specifications include:

- The AS-01 must be located on a resistance wall

- Internally to the product, the seismic operator has an intelligent command module that senses the signal from the AS-01, determines the validity of the signal and if viable, transmits a commands to the execution body.
- The execution module acts to protect against fire. The system utilizes state-of-the-art technology to prevent the internal flow of combustible gas, even before the flow enters the building. This solution represents the most efficient solution to this problem.

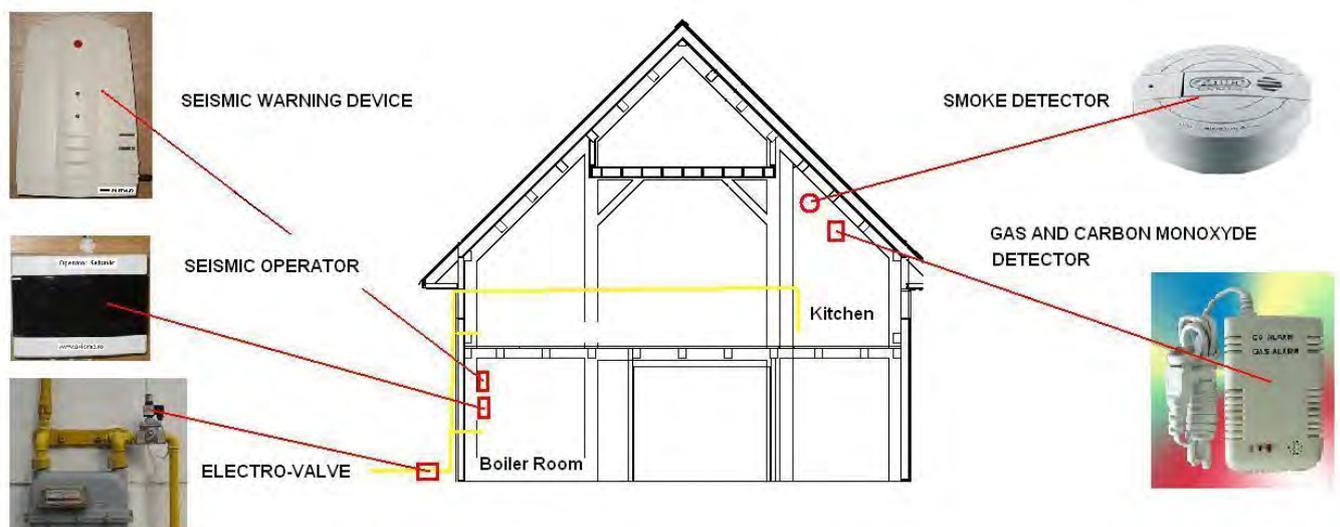
3. SMART System (Integrated system of protection: earthquake/gas/smoke/CO)

The latest in features designed to protect against the most common events resulting in loss of life. This unit provides a high level of security for the population at large and may be integrated into the SAPAS system to provide protection beyond the occurrence of seismic event.

These features may be added to the SAPAS system for detection of combustible gases (natural gases or GPL), CO detection and smoke detection. This integrated system is continuously monitored and upon detection is sent to an intelligent module for evaluation and appropriate command. All additional features of the system apply.

Specifications

- DETECTION and action are provided by the seismic detector AS-01 combined with features to detect combustible gas, carbon monoxide and smoke.
- The COMMAND control is from the Seismic operator - intelligent control module
- The EXECUTION is driven by an electro-vane, the ventilating fan, circuit closer, etc., depending on risk factors.



The ease of installation of this system recommends itself as a particularly efficient and cost effective solution to an important problem.