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This is to certify that the following particulars have been recorded in the Register of Patents:

International Application PCT/IT/2004 No International Publication WO/2006 No

Title of Invention

METHOD AND SYSTEM FOR DETECTING ATTEMPTS AT MALICIOUS ACTION AGAINST AN INSTALLATION UNDER SURVEILLANCE

Patentee(s).

Date of Publication

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DEA Security designs, develops and manufactures state-of-the-art perimeter intrusion detection systems. **DEA Security's products**, which are **patented at an International level**, are employed in the protection of perimeters of any size and type, such as military and government sites, airports and seaports, industrial and petrochemical compounds, power plants, nuclear facilities and luxury villas.

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FROM CONCEPT TO FINAL PRODUCT

DEA Security **has full in-house competence and expertise**, therefore it manages the whole product development and construction cycle.



1. CONCEPT

2. HARDWARE AND SOFTWARE DESIGN

As a matter of fact, DEA Security **controls the manufacturing process in each single phase** and has a deep knowledge of all the technologies employed in its products. In this way DEA can assure very high product quality and can also provide customers with an extensive and competent technical support.



3. PROTOTYPE CONSTRUCTION

4. ELECTRONIC BOARD PRODUCTION



DEA Security supplies its products to professional security companies with whom it establishes close cooperation for the full success of the PIDS installation.



From pre-sale to post-sale, DEA Security offers extensive support and high technical advice to installers and systems integrators.





All DEA's detection systems comply with the first principle of perimeter intrusion protection: detecting an unauthorized access far away from the actual target area. The advantage is twofold: on the one hand, these systems nip an intrusion attempt in the bud; on the other hand, they provide more time to undertake the necessary defense actions.

DEA's systems offer **four layers of protection**, from the boundary of an estate up to the target building. Starting from the outer layer, you can find:

- **1.** FUSION P2P, SERIR 50 and TORSUS 50 fence-mounted systems;
- **2. SISMA CP 50** buried system;
- **3.** SISMA CA and SISMA CA PF underfloor systems;
- **4. SERIE A03 PRO, SPC PRO** and **XENSITY** indoor seismic shock detectors.





DEA Security offers three different product lines dedicated to the protection of metal fencing:





system deploying piezodynamic sensors detecting cut, break through

and climb attempts on flexible fences



system deploying dual-tech PIEZO/MEMS sensors (DEA Sensor Fusion technology) to signal cut, break through and climb

attempts on flexible and rigid fences

system deploying piezoceramic torsion sensors detecting shock, break through and climb attempts on rigid fences

FUSION P2P and SERIR sensors are installed in the middle of each fence panel where they receive the vibrations transmitted by the structure. TORSUS sensors are fixed to the base of each post where they perceive the flexions and torsions of the rigid structure.





The detectors are supplied in prewired strings **which allow FUSION P2P**, **SERIR and TORSUS systems to adapt to the perimeter route**, making it possible to follow bends and differences in level, avoid potential obstacles and bypass discontinuities along the fence.



FUSION P2P, SERIR and TORSUS systems offer a high immunity to environmental nuisances, such as harsh climatic conditions and high traffic roads and railways. They are also compatible with evergreen climbing vegetation.



The latest evolution of DEA's solutions for the protection of metal fences is represented by **FUSION P2P**, a Point ID system which deploys **sophisticated sensors with embedded analysis unit**.

FUSION P2P employs dual-tech PIEZO/MEMS sensors and is featured by sophisticated detection algorithms with data fusion technology (DSF).

The system is equipped with IP native support and covers **up to 1,5 km of perimeter** with a single Control Unit.













SERIR 50 and **TORSUS 50** deploy passive detectors with no electronics on board. **The analysis unit is placed on special electronic boards**, prewired in specific selfprotected cabinets. These systems are 50-metre zone based, therefore they can be easily coupled with CCTV systems.















SISMA CP 50 is a buried intrusion system which **detects the seismic waves generated by a person walking on surfaces with no concrete foundations**, such as grassy areas or covered with gravel, asphalt or interlockings. It creates a completely invisible detection band which, depending on the project requirements, can protect the terrain all around the target area or can be employed along walkways and driveways.









SISMACP 50 sensors, supplied in prewired strings, are installed 60 cm underground, a depth which is **compatible with normal gardening works or maintenance activities on the surface** (for example hoeing or re-asphalting activities). They easily adapt to the ground contour, enabling you to follow slopes and differences in level, and to bypass potential obstacles.

SISMA CP 50 system is composed of passive sensors and, as such, they do not need power and **are immune to electric and electronic failures**.

Both the sensors and the connection cable have been designed according to very strict specifications to make them suitable for a permanent use in the soil. The cable is also provided with a **thick rodent-proof metal armour**.











SISMA CA is an intrusion detection system for the protection of flooring with concrete foundations. The system is composed of special pressure sensors which detect a person walking or standing on the protected area. Being integrated inside the flooring, **the detectors prove to be completely invisible and very hard to circumvent and sabotage**.







SISMA CA is employed for the protection of strategic zones such as the **areas before windows and doors, along walkways, driveways and pavements** or around valuable assets (statues, monuments etc.).

Being completely invisible, the system **does not interfere with the aesthetics of the place to be protected**; this is appreciated not only for residential sites, but also for the protection of museums, art galleries and historic places.

SISMA CA allows you to accurately locate the area concerned by the intrusion and calibrate the sensitivity level of each zone independently, varying its security level depending on the risk concerning that area.











DEA NET is an ecosystem of technologies and devices which allow DEA's systems **to centralize and manage** remote signals (alarm, tamper and fail) over proprietary network protocol (DEA NET) and/or Ethernet (TCP/IP). Such network also allows you to integrate DEA's solutions into a wide range of 3rd-party devices and software.

DEA NET **enables you to manage the PIDS from a single remote station**, simplifying its configuration and routine maintenance operations. Via software you can also calibrate and program all the electronic boards connected over the network, check the input and output status, view, in real time, the signals coming from the sensors and download the alarm events.





All DEA's systems can be connected **to an IP network via their native interface** or by means of **BR-DN-ETHCTRL** board. In addition, thanks to specific plug-in software, they **can be integrated into various 3rd-party management systems**, including:



DEA NET system is also composed of **SC-DN-ETHSRV** server board which is employed to centralize and manage, over IP, DEA controllers and analysis units equipped with ethernet interface. The main function of this board is collecting the alarm, tamper and fail signals from the field controller boards and convert them into local dry contacts.



BR-DN-ETHCTRL







DEA Security offers three different lines of products for the protection of indoor environments:

- SERIE A03 PRO system;
- SERIE SPC PRO stand-alone detectors;
- XENSITY system.

Each line of detectors is composed of seismic shock sensors which, once fixed to the concerned structure, perceive the vibrations of the latter discriminating break-in events from environmental nuisances.

Depending on the model, the detectors can protect **windows, doors, glazed surfaces, burglar bars, walls, ceilings, safes** and other types of structure.





SERIE A03PRO represents the evolution of the historic range of SERIE A03 detectors. Its high-performance piezodynamic technology **is able to detect drills and cuts executed with core drills or diamond discs**.

The system is composed of four detectors specialize in the protection of windows, doors, glazed surfaces, walls and burglar bars. The detectors are connected to **a multi-zone electronic board** which manages up to 8 detectors of the same type (two each channel) or 4 heterogeneous models.



Security grade 3 certified (EN 50131-2-8 Environmental class II certified Among the most important features of SERIE A03PRO, you can find the **configuration and calibration of the system via mobile app**, a star connection capability and two-conductor balanced sensors.





SPC PRO is a line of **stand-alone detectors** which therefore do not use separated processing boards: as a matter of fact, the electronics to control and program the sensor is integrated inside the latter. Such a feature allows you to calibrate and program each sensor individually and to pin point an alarm.

SPC PRO offers five models of sensors: two for the protection of windows and doors, two for the protection of walls and one for glazed surfaces.







XENSITY system is featured by the most important technologies developed by DEA Security for the outdoor protection of high-risk compounds: **Point ID technology, self-diagnosis** function, thermal and magnetic tamper, alarm signal centralization and remote management of the system **via IP network**.

XENSITY system offers three sensor models: for doors and windows, for burglar bars and for walls; in addition, it can integrate SERIE AO3PRO sensors for glass break protection. The detectors communicate with electronic control boards and the most powerful of them **can manage up to 64 sensors**. Such boards allow you to configure and monitor, in a simple and centralized way, also the biggest and most complex sites.



Security grade 3 certified (EN 50131-2-8) Environmental class II certified





SISMA CA PF is the only intrusion detection system on the market **conceived for the protection of raised floors**. It employs special piezoceramic sensors which, installed under the pedestals supporting the raised floor, detect a person walking or standing on the protected area.



Even though SISMA CA PF is typically used to protect indoor raised floors (for example in houses and offices), it can also operate outdoors, especially to protect **raised floors installed along terraces and poolsides**.

SISMA CA PF **can be easily integrated into domotic systems** which need a discreet and reliable presence detection, for example for an automated lighting control.





REFERENCES



SITES PROTECTED

police stations telecommunication centers pumping gas stations chemical and pharmaceutical plants malls power plants car dealerships government facilities banks LNG port terminals airports cosmetics manufacturing plants nuclear power plants royal residences military bases port terminals prestigious castles bus and car depots utilities metallurgical plants gas pipelines railway depots farms forensic psychiatric hospitals financial institutions research facilities embassies datacenters amusement parks oil refineries correctional facilities **VIP** residences oil deposits academic institutions





















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