



Protectomatic solution in electrical utility applications

- * Automatic detection of all movements in out door and indoor areas
- * Alarm transmitted over high voltage power lines or via telephone / radio
- * All events logged in place + time + optional camera photos which can be spread out over www.
- * Automatic ID check of staff by tags and staff position can be sensed by the alarm system.
- * ID tags turns of alarm automatically and optional alarm functions can protect staff

Protectomatic total security system is very well suited for protecting electrical utility systems for intruders and other unwanted guests. The solution offers a TSS total security solution an easy way on remote locations.

The area indoor and out door is protected by different sensors and switches. When activated they look for an ID card carries by staff. If there is no ID card this tell the detection is from an authorized visitor and the alarm is activated. Normally this have a camera grabbing an image over what caused the alarm and the security officer decide what to do.

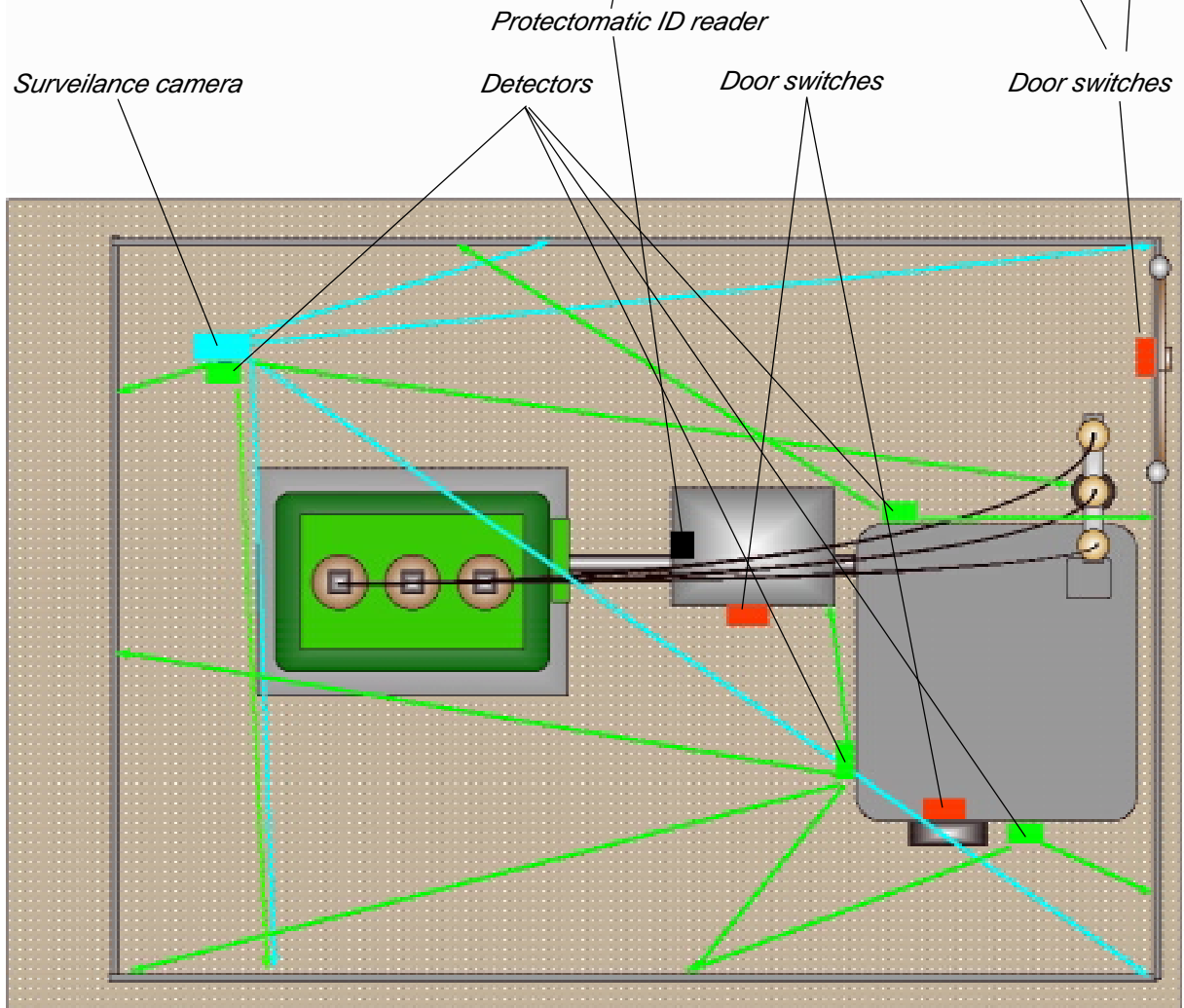
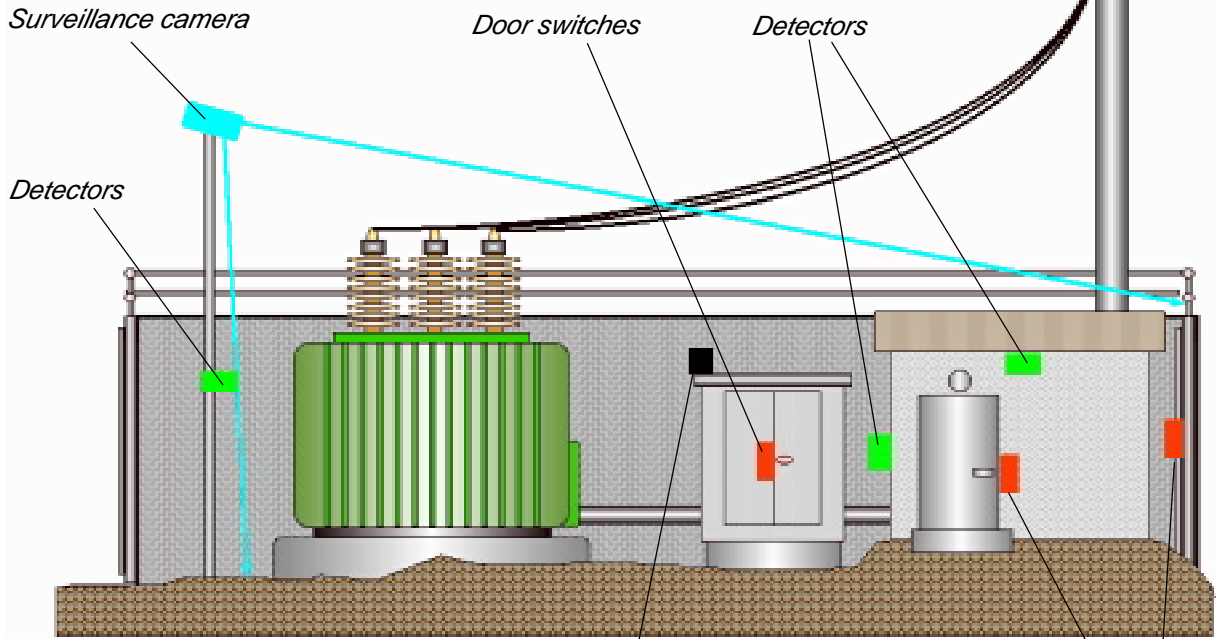
Protectomatic can communicate with an alarm central over carrier frequency at power lines or by any type of phone or RF unit. Guards see what caused the alarm and can then avoid high costs for un necessary jobs. The database logs all events for future analyse.

Protectomatic have interfaces for other sensors so we can also check general house automation functions in a simple was with same electronics as the alarm system use.

Many of our products are protected by patents and patent applications

Datablad PM transformer050410

Installation in transformer station



Proposed system layout of Protectomatic in a transformer station

The drawing on left page shows a typical layout of how to protect a transformer station by Protectomatic main parts of the system and what they do are as follows.

* **Detectors**

The area is protected by detectors sensing if someone is in the area. We use standard detectors when possible but have more advanced solutions when needed. PIR and Radar are useable and we have animal blind detectors. Communication is by cable or wire less. Wireless can have over 5 years battery life time or solar cells.

* **Door switches**

All doors can have a switch so if doors are open this is checked by the Protectomatic central unit. Switches can be based on cables or wire less.

* **Cameras**

The camera is typically a 24 hour day and night camera with IR illumination at nights. Camera send signals to the Protectomatic unit by cable or wire less. We can use 1 , 4 or 8 cameras in one installation. Cameras are possible to activate on demand . Detectors can trig the cameras so they record all movements and intruders in the area.

* **Protectomatic central unit with ID reader and control system**

PM central unit contains following function and parts. They are normally in one cabinet and main voltage operated / battery back up energized.

Alarm unit reading all detectors and switches. When something happens this triggs the PM reader unit and starts the ID reader

ID reader which is a identity reader based on a RFID long range solution. The system can check staff ID at 20-40 meter in distance. If alarm is activated and the ID reader find an approved ID of staff this gives no alarm. If there is no ID card this is telling there are intruders in the area and alarm starts up. Staff in the area and intruder events are always logged in time and event.

Communication unit which sent the information to a central far away. Communication is by telephone lines, mobile phones / GSM/G3 or carrier frequency over power lines. Preferable by LON Works technology.

Net work central is somewhere else and is a PC with a data base software and interfaces. This controls all events and react to events. It is also the data logger and camera interface and video storage unit. Alarms can be relayed by SMS / Phones or other ways to service engineers or guards whatever is needed.

Protectomatic RFID Identity tagg is carried by all in staff. It can communicate with reader wireless to 20-40 meter in distance. It can have an alarm button if carrier want to alert central. It can also send a beep if central system want to alert the carrier about something. Battery life time is about 12 months and easy to replace.

ID card can control an electric lock so the door have an extra invisible loch opened by the ID card on remote distance



Protectomatic in power utility

Application note

Protectomatic technical details and specifications

- Detectors** Standard PIR or radar detectors or special models by Laseroptronix. 3D characteristics on some models
Wire less or cable connection
- Door lock** Switch checking if it is open or not.
Cable or wire less communication.
Door lock can have an extra electric lock which is automatically opened when an authorized ID card is in the area. This is used parallel to the normal key lock
- Cameras** CCD high resolution camera. IR support led giving 24 hour operation in total darkness. IR lamps can support 15-20 meter in range . If more is needed we have separate IR illumination systems.
PAL output standard. TCP/IP and net work cameras optional. USB and Fire wire options
We do offer video routers and HD storage systems at site or at central or at cluster points
- ID readers** Located in the central unit or separate and connected over a net work.
Range typical 20-40 meter free sight. Optional up to 500 meter
Frequency of RFID between 433 and 2400 MHz depending on technology we use
Reading speed about 1 sec for 1- 16 tags
- Central unit** Contain interface to outer world by Telephone. mobile phone G1-G3 standard , radio modem and other wire less systems. Lon-works talking over power line is available
Logic controller talking with ID readers and detectors.
System is available with and without
ID readers and without it is like a normal alarm system
Battery back up or power supply unit
- Cluster central**
PC system at guard central or office with data base software and special interfaces
Communicate with all central units in a large area
Handle data base and all settings of RFID cards and alarm levels
Interface to mobile service units by SMS messaging, E-mail or whatever is needed
HD storage for video recordings transmitted when there is an alarm
Screen for cameras for looking on demand or when alarm is activated.
E-mail of videos and information direct to police or other locations are possible
- ID cards** 55x100x15 mm with location for name and photo on front
IP 54 encapsulation and integrated battery for about 1 year operation
Antenna inside the unit.
Optional alarm button for owner to central and alarm lamp for external messaging from central to carrier
Inventory tags can look the same or have larger batteries or an external power supply

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