



Security and Access Control Systems

The various infamous incidents which has happened in the global locations like New York, Oklahoma, Baghdad, Jerusalem and etc. has raised the global public awareness of the necessity to implement security procedures protect lives against irresponsible acts committed by various groups or organizations to further their causes or motives.

An access control system is part of security monitoring systems designed to restrict unauthorized human access into a military facility, industrial, commercial, residential complexes and any other installations which warrant the implementation of such controls. It is an integration of hardware and software controls with human interface procedures to ensure that only proper screened personnel are allowed to enter into these installations or facilities to minimize theft, industrial espionage and acts of terrorism. There is basically no fool proof system as the effectiveness of the best hardware and software systems is dependant on the competency and the skills of the human personnel who are responsible for the designing, installation, commission and maintenance of the access control system.

Access Control System components

Access control readers

The readers will gather information on the person who is seeking to enter the secured premise. The level of sophistication of the readers to be installed is dependant on the security requirements and the budget of the parties involved. There numerous types of readers available and the most common types which are used in the various installations are:-

- **Numeral keypad** readers
- **Magnetic card** proximity readers
- **Biometric readers** which scan fingerprints, retina, veins or even facial features.

Apart from the numeral keypad reader, the other types of readers are able to identify and log the time and location which the person enter the premises.

Electromagnetic locking systems

The readers are linked to the electronic locking system installed at the doors of the secured premises. When the reader authenticates the ID of the person seeking entry, it sends a signal to the electronic locking system to release the lock to enable the authorized person to open the door. The electronic locking system will reactivate after a certain time lapse to relock the doors again. The common types of electromagnetic locking systems installed in various installations are:-

- **Door magnet** system which the door is secured by a strong electromagnet. This is commonly called EM lock system
- **Drop bolt** system which the door is secured by a bolt which will retract when the system is deactivated to open the door.
- **Door strike** system which the catch on the door lock is deactivated to open the door.

Apart from the drop bolt system, the doors using the other two systems can only be open in one direction only. A "door release" switch has to be installed at the inside of the premise to release the door manually and a "break-glass" switch installed to deactivate the electromagnetic locking system during emergencies.

Software system

The software system is built into the access control readers to enable them to be standalone devices or to be linked to a network controlled by computers. The software system basically store the database of the authorized ID's as well as event logging of the time and location captured by the readers. The software is configured to allow reports on the event logging feature to be printed

out [additional hardware needed]. The software system is bundled with the various cards reader system.

Some of the systems come with enhanced features which allow [time and attendance control](#) to enable the system to be configured to replace punch card systems. The time and attendance reports generated can be configured to be used to prepare payroll for the staff which are being paid on hourly basis.

Human interface

The potential users of the access control system are responsible to design and implement the human interface procedure to maximize the effective of the hardware and software systems put in place. The system design should cover the following areas:

- Programming the access privileges of the respective staff within the organization.
- Strict controls in the issue and management of the access cards issued to the staff.
- Proper procedures regarding emergency evacuation, power failure, systems backup and similarly related circumstances.
- Integration with the company's IT network if applicable to facilitate on-line monitoring, time attendance options (if applicable) as well as into the security monitoring network.

Components of a basic access control system



Access control readers



Electromagnetic locks



Door release button



Backup power supply

Preconfigured Access controls system

SRS ACS01m Roger magnetic card proximity access control system

SRS ACS02m Syris magnetic card proximity access control system

SRS ACV03b Verdi biometric finger print recognition access control system

SRS ACE04n E-guard numeric keypad access control system

SRS DCR01m Roger magnetic card proximity data logging and control system

The above systems can be reconfigured to integrate with other security systems e.g. CCTV systems, lift access control systems or to suit the end users security requirement e.g. Electromagnetic locking systems, power supplies, door release switches etc.

Related links:

Tele-entry systems

Access control systems using the telephony systems

Elevator security systems

Access controls to exclusive floors in buildings

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