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Survey and Design of Systems

Several factors need to be taken into consideration when planning an implementation of electronic access control system.

Surveying

An electronic access control system is the collection of various components that work together to control access to a building or site. There must be a clearly identified purpose for installing the system and what role it is to play. The client must also understand the benefits and appreciate the demands that are made and will be achieved after installation.

The access control system must rely on users, but surveyors must understand their customer and needs to ensure that the proposed system has a correct purpose. There is an important need to get the correct balance in the system as a whole. Several factors must be taken into consideration in order for electronic access control engineering to influence in the ways all properties are to be secured, including perimeter protection and door protection.

System Design

Consider the design of the access control system as it is the practice to hold the data on information sheets and drawings for reference. Finalize a drawing or floor plan of the full site, then identify the individual areas that require protection.

Cabling

Consider voltage drops in large installations, as this is a vital part of the cabling system design. Additionally, there is a need to determine the standby capacity of power supplies and if there is a requirement for any additional remote power supplies to support ancillary equipment or distant equipment current loads.

It is important that the cables carrying power circuits must not have a quoted resistance that creates a problem for supplying distant loads. It is not always an option to double up the supply cores to reduce the resistance of the supply conductors. Judgment to distance must be made in order to fix the voltage at the terminals of the supply, for example, measuring the distance or the size of the cable.

Security Level

Interlock accessories that are used to make the installation of security door systems must be identified on the data sheets. Whether they are used with monitored or unmonitored releases, provision will be made to detail. In line with the needs of the client, the security level can be established and classed as high, medium or low.

Breakdown

Prior to the breakdown, centralized systems will have all operations terminated and perimeter devices will remain in their state. Distributed systems will be degraded and rendered offline, but certain functions that can be performed will remain depending on the system and component sophistication. Some examples include granting access using a site code and storing events in a memory buffer.

Emergency Access

In order to gain entry to the site, high security manual overrides are used and the location of the site should be specified on the working drawings. The use of firebreak relays will enable release of locking devices from the fire alarm signal, but reset separately from the fire detection system. This will avoid accidental reset during an emergency.

Number of Staff and Turnover

A crucial influence on the system is tallying the number of staff and the turnover rate for an office. This is usually recorded at peak periods, such as start and finish times, when large numbers of staff must pass through the readers at the same time, as well as if all events are to be recorded. For a quicker mode of verification, contactless recognition systems such as facial recognition and RFID card readers are recommended over passwords key-ins and card insertion systems.

A high staff turnover or temporary labor can introduce additional complexities. Therefore, a budget must be introduced in order to solve issues involving new credentials and system programming.

Software

Most operators increasingly use the PC, an essential component in the operation of any business, and software to control elements used in the access control and security industries. Through a range of iconized menus will commands be accessed and the administration will provide access to the overall system control and programming. Real-time monitoring can be achieved to interface with most reader types and the use of a PC-based system or the future introduction of one should be catered for at the design stage.

Integration and Upgrading

The location of all readers should always be included on the design information chart together with the number of units employed at the controlled point. Two readers are needed in the event of a roll call, anti-passback or time registration. Certain settings can also be specified, for example, using the right hand to address the reader and adjusting the height of the reader as a user-friendly device for all types of employees. For system controllers, the location of these devices is important along with the positioning of power supplies as there may be multiple units sited in areas that are not normally accessible.