

Lightning Protection – a necessity not a luxury

A lightning strike one kilometer away can cause catastrophic damage to electrical and electronic equipment as well as structural damage to buildings. In South Africa with the high rate of crime, the continuous effective functioning of access control and alarm systems is of vital importance. Telecommunications, computer systems, and security systems are prone to damage from lightning, surges and other transient pulses, therefore all buildings including houses, need a lightning protection system to protect against damages. The cost of lightning and surge damage can be considerable; however the biggest danger is fire as a result of electrical short circuits caused by such surges. To greatly reduce the risk of damage caused by lightning and other surges it is necessary to have a properly designed lightning protection system which has been correctly installed in accordance with the relevant codes of practice.

A lightning protection system is made up of five elements:

- Air-termination system.
- Down-conductors system.
- Earth-termination system.
- Separating distances.
- Lightning equipotential bonding.

The above five protection elements are further divided into main two categories of protection, namely - external lightning protection and internal lightning protection. A lightning protection system is designed according to certain criteria and it is necessary for a site visit to be conducted in order to ascertain the specific lightning protection needs before a quotation is generated.

Lightning Detection Systems are able to warn of a **possible** lightning strike as well as **actual** lightning strikes. These units are based on the electromagnetic field reception, generated by a lightning discharge and are primarily used by golf courses, schools, stadia, mines and petroleum/ chemical industries.

Although the initial installation of a lightning protection system may seem costly, in the long term, the resultant protection of electrical and electronic equipment as well as buildings greatly compensates for the initial cost.

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