

## FIRE DETECTION TYPES

Fire Detectors come in many types and can be broken into two main categories: **Detecting & Alarming**. This skill sheet will provide a quick overview of various types of fire, smoke and heat detection and alarm systems. An alarming detector alarms locally at the detector. The detecting style alarms a panel. All types may or may not actuate a system, this is based upon the design and needs of the site.



Ionization detectors use ionized particles to detect products of combustion. These types are more sensitive to FLAMING fires.

Photovoltaic use light to detect products of combustion and are better with smoldering fires.

These can be both DETECTORS as part of a system that alarms at a panel and local alarming only, such as those for home use.



Infrared detection detects flaming combustion. This type uses optical sensors that see the flickering of the flames. Many times these are used in conjunction with other types of detection to set off a sprinkler system,



Rate of Rise or Heat detectors are primarily used in areas that are temperature controlled or typically have higher temperatures. These detectors will alarm the enunciator panel when the temperature increases at a certain rate. Meaning if the temperature rises 25 degrees in less than 60 seconds the alarm panel will go into trouble. If the rate still increases, the panel will go into full alarm. These detectors are also used with other types to confirm an alarm or set off a system.

Hermiston String is used as heat detection as well. This string has an electrical current that flows through and when the string heats up it elongates, which in turn increases the resistance. This will either cause an alarm or trip a suppression/control system.