

Spot detectors and beam detectors essay example

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Spot Detectors and Beam Detectors

Question 1: What is the difference between the operation of spot detectors and beam detectors? Provide three situations where the use of beam detectors is recommended over spot detectors.

Answer: Beam detectors and spot detectors work on different principles.

Beam detection is one of the newest technologies in the field of fire alarms. The principle on which beam detectors operate is referred to as obscuration. Beam detectors have the ability to appropriately sense the percentage of light blockage and the likelihood of them giving false alarms is very less. They are quite well able to distinguish between a trouble condition and other conditions such as a solid object placed in its path and very slow or small changes in light source's quality. They are usually used in situations where it is impractical, inappropriate or not cost effective (installation, wiring and maintenance) to use traditional point-type detectors (Ffeuk. com, 2012). Spot detectors use either the ionization principle of operation or the photoelectric principle (Orrprotection. com, 2009). They are capable of detecting smoke particles at very early stages of fire. These detectors are recommended for place where early warning signals are required.

Three situations where the use of beam detectors is recommended over spot detectors:

In terms of area coverage, a single beam detector is equivalent to about a dozen spot detectors. Therefore, a beam detector is definitely a better

choice for larger areas. Beam detection has become commonplace within large open warehouses (Wi-ltd. com, 2012).

Beam detectors are considered to be a better option for high ceiling applications because the response time of spot detectors usually increases with the increase in the height.

Spot detectors do not work well in high air movement areas because the high velocity of the air tends to blow smoke out of the sensing chamber.

Beam detectors have a greater sensing range and, therefore, they do not have any such issues.

References

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