

Photoelectric vs. Ionization Technology

Duct smoke detectors can use either photoelectric or ionization detection technologies. However, only one is the NFPA-recommended technology for use in HVAC applications:

Photoelectric.

Why choose photoelectric technology for duct smoke detection applications?

1. Photoelectric technology is recommended by the National Fire Alarm Code. NFPA 72® reads as follows: *“In almost every fire scenario in an air handling system, the point of detection will be some distance from the fire source, therefore, the smoke will be cooler and more visible because of the growth of sub-micron particles into larger particles due to agglomeration and recombination. For these reasons, photoelectric detection technology has advantages over ionization detection technology in air duct system applications.”*
2. Photoelectric detection operates better in the harsh environment of ventilation systems; for example, high humidity and condensation can cause false alarms with ionization detectors. Photoelectric detectors operate more efficiently with far less chance of false alarms.
3. Only photoelectric duct smoke detectors offer Low-Flow capability, which operates at air speeds as low as 100 feet per minute.



advanced ideas. advanced solutions.™
systemsensor.com/flex