

RELIABLE SMOKE DETECTION IN LARGE, OPEN COMMERCIAL AREAS



There are many areas like open offices, show rooms, banquet rooms, exposition rooms, bowling alleys, casinos, etc., where the interior decor demands unobtrusive smoke detection. Fire designers and architects have been looking for alternatives to traditional spot (point) smoke detectors that can provide superior performance while being aesthetically discrete.

A common alternative is beam smoke detectors, although they don't necessarily fit the aesthetic requirements with their large, industrial-looking reflectors and often require a control unit at ground level.

Fire Detection Challenges

- Unobtrusive detection to minimize disruption to aesthetics
- Reliable detection with minimal false alarms
- Quick installation and easy maintenance without causing business disruptions
- Minimum wiring when retrofitting

Open-area Smoke Imaging Detection

OSID overcomes the weaknesses of beam detectors due to its aesthetics and multi-emitter capability. A system can consist of up to seven emitters and one imager placed on opposite walls, roughly aligned with one another.

Emitters can be battery powered or wired and be placed at different heights, adjusting easily to modern design of rooms and lobbies. The installation requires a minimum of wiring, only along the walls while leaving the ceilings untouched.

The labor component of the installation is equally low. Three emitters will cover an area of up to 600 m² (6,000 sq. ft.); five emitters will go up to 2,000 m² (20,000 sq. ft.) all using just a single 90-degree imager placed in a corner of the room.

In addition, OSID offers many advantages over traditional beam and spot smoke detectors, the primary one being its use of dual light frequencies. Ultraviolet (UV) and infrared (IR) wavelengths, which are outside the range visible to humans, assist in the identification of real smoke compared to larger objects such as insects and dust, thus reducing false alarms. Furthermore, OSID is equipped with a CMOS imaging chip with many pixels rather than a single photo-diode. This concept allows the imager to provide simple alignment as well as excellent tolerance to building movement and vibration, without the use of moving parts.

Alignment of the emitter is simple, achieved by using a low-cost laser alignment tool to rotate the optical spheres until the laser beam from the alignment tool is within proximity to the imager. No further alignment is required, resulting in extremely fast installation and set-up. Only the imager has to be wired versus every receiver as is the case with traditional beam detection.

Benefits of OSID

- Discreet aesthetics
- Simple, quick installation
- Fast and easy maintenance
- Immunity to false alarms
- High resistance to intruding objects

