

## XTRALIS OSID

### A new generation of Open Area Smoke Detection

Open-area Smoke Imaging Detection (OSID) by Xtralis is a new technology designed to overcome these common fire detection challenges with its unique, patented dual-wavelength multi-beam technology.

● BY EDITORIAL TEAM.



Large, open spaces – airports, train stations, stadiums and shopping malls – pose unique challenges to reliable fire detection due to their environmental nature and limitations. The limitations of traditional smoke detection technologies include:

- Inaccessible ceiling areas incur extra cost and time for installation and maintenance
- Structures are susceptible to building movement which cause nuisance alarms
- Susceptible to false alarms due to dust, birds, spider webs, fog and steam
- Alignment and set up of traditional systems is time consuming and complex
- The presence of natural light and reflections may interfere with detector response
- Wider line of sight of traditional beam detectors is impractical in cluttered ceiling areas or roof voids

Open-area Smoke Imaging Detection (OSID) by Xtralis is a new technology designed to overcome these common fire detection challenges achieved by using a low-cost laser alignment tool to rotate the eye-ball 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, which is a major benefit in large open space applications where access for installation is often limited or restricted.

The imaging chip also allows for the deployment of up to seven Emitters per Imager. These Emitters can be placed on different floors, providing detection at multiple levels of the facility, giving the fire engineer flexibility in providing extra protection at lower levels. Only the Imager has to be wired versus every receiver as is the case with traditional beam detectors.

#### OTHER BENEFITS OF OSID INCLUDE

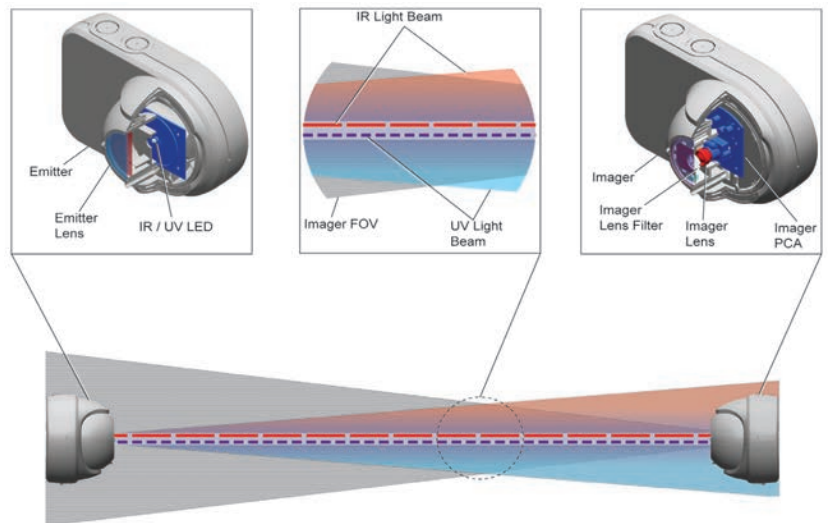
- Longest Operational range available in the market - OSID covers longer distances up to 150m(492 ft) which translates to less beams and lower costs for larger facilities
- Operates in confined spaces - OSID is easily deployed in applications with limited field of view. Only

challenges with its unique, patented dual-wavelength multi-beam technology. In its simplest configuration, a system consists of one Emitter and one Imager placed on opposite walls, roughly aligned with one another.

OSID offers many advantages over traditional beam and spot detectors, the primary one being the use of dual light frequencies. Ultraviolet (UV) and infrared (IR) wave lengths assist in the identification of real smoke compared to larger objects such as insects and dust, thus reducing false alarms. By using two wavelengths of light to detect particles, the system is able to distinguish between particle sizes. The shorter UV wavelength interacts strongly with both small and large particles while the longer IR wave length is affected only by larger particles.

Dual wave length path loss measurements therefore enable the detector to provide repeatable smoke obscuration measurements, while rejecting the presence of dust particles or solid intruding objects. Systems that use single beams cannot discriminate between particle sizes and are prone to nuisance. Further more, OSID is equipped with a CMOS imaging chip with many pixels rather than a single photo-diode, providing the OSID detector with a wide viewing angle to locate and track Emitters. This concept ensures easy alignment at installation, as well as excellent tolerance to building movement and vibration, without the use of moving parts. Optical filtering, high-speed image acquisition and intelligent software algorithms also enable the OSID system to provide new levels of stability and sensitivity with greater immunity to high level lighting variability.

Alignment of the Emitter is simple,



15cm (6") clearance is required and can go where other beams can't.

- Full on-board event memory (an industry first!) - OSID Imagers record smoke changes (both UV & IR), alarms and faults which can be downloaded to a PC. Allows installers and maintenance staff to easily diagnose faults and alarms should they occur.
- Allows connection to the OSID Diagnostic Tool Application - Dedicated PC software provides useful information on OSID behaviour for in-field support,

including visualisation of Emitter position and IR/UV signal monitoring and logging

In summary, the benefits of OSID are:

- Reliable Detection because only OSID has dual wavelength capability to minimise nuisance alarms from dust etc
- The fastest setup. Rapid alignment with the Laser Pointer and adjustable ball arrangement. Automatic set up, requires no manual adjustment
- The highest tolerance to building movement because only OSID has a wide field of view
- Truly unaffected by reflections and sunlight. Intelligent Imager ignores everything but the beam(s)
- Multi emitter deployment allows flexible enhanced protection
- Longest detection path 150m (497ft)
- Operates in small spaces (15cm/6")

