OSID

Open-area Smoke Imaging Detection (OSID)

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OSID

Large, open spaces – warehouses, airports, train stations, stadiums and shopping malls – pose unique challenges to reliable fire detection due to their environmental nature and limitations.

Open-area Smoke Detection Reinvented

OSID is designed specifically for these environments, enabling early detection and response to save lives and prevent service disruptions.

OSID uses a sophisticated algorithm to map and compare the strength of infrared (IR) and ultraviolet (UV) light signals from detectors configured in the area.

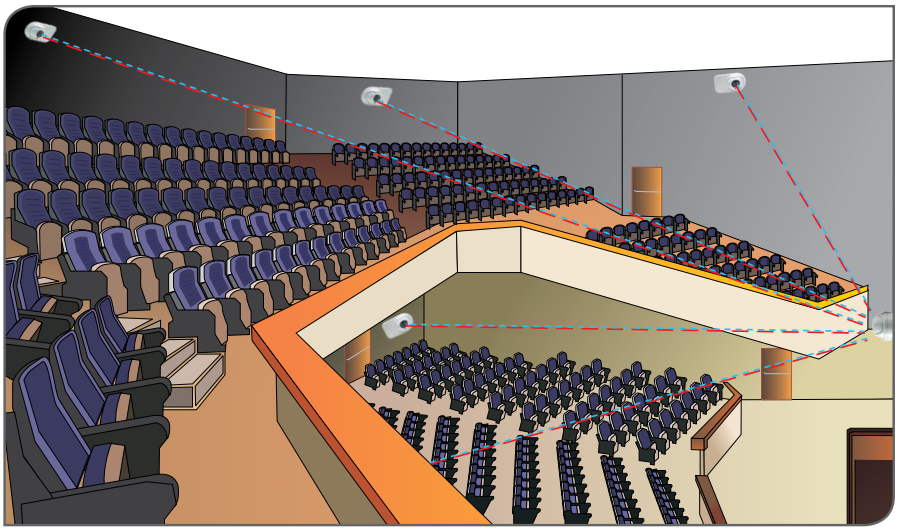
OSID also reduces the costs of installation thanks the ball and socket arrangement with simple laser screwdriver alignment. The Emitters come both battery powered and wired.

Superior Features Offered by OSID

- Patented dual wavelength, UV & IR, particle detection
- CMOS imager with wide viewing angles
- Simple installation, commissioning and maintenance - up to 70% time saving compared to traditional beams
- High tolerance to vibration and structural movement and high airflow
- High resistance to dust, fogging, steam, reflections and object intrusion
- High resistance to reflected sunlight
- Requires as little as 20 x 20 cm (8x8") unobstructed width of view
- On-board log memory for fault and alarm diagnostics
- Software tool for diagnostic purposes
- Aesthetically discreet and 3D coverage
- Long range up to 150 m (492 ft)

OSID Configurations

OSID systems may be configured to protect a range of spaces, regardless of shape. The protection zone or "fire web" is determined by the placement of OSID detectors. Multi-emitter solutions provide a true 3D arrangement.



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Where Flexible Detection Coverage is Needed

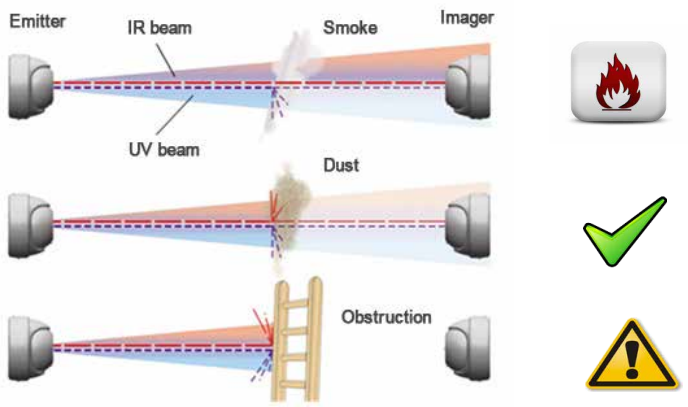
OSID can support up to 7 Emitters with a single Imager making it easy to deploy in unusually shaped areas. Emitters can be placed at different heights to overcome stratification and provide earlier detection. This Multi-Emitter 3D approach also provides a 50% better detection coverage because beams converging to one point are more closely spaced in the area.

Unique Detection Technology

OSID innovatively combines two technologies to reliably detect smoke in large, open spaces.

Dual-wavelength Particle Detection

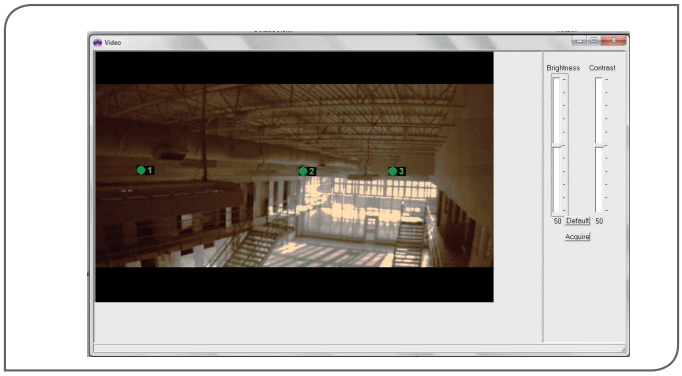
By using two wavelengths of light to detect particles, the system is able to distinguish between particle sizes. The shorter UV wavelength interacts strongly with both small and large particles, while the longer IR wavelength is affected predominantly by larger particles. Dual-wavelength path loss measurements therefore enable the detector to provide repeatable smoke obscuration values, while rejecting the presence of dust particles or solid intruding objects.



Optical Imaging with CMOS Imager Arrays

An optical imaging array in the OSID detector provides a wider viewing angle to locate and capture images. Consequently, the system is easier to install and align and can compensate for drift caused by natural shifts in building structures.

Optical filtering, high-speed image acquisition, and intelligent software algorithms also enable the OSID detector to process images and provide new levels of stability and sensitivity while providing high tolerance to high-level lighting variability.



Actual view from the Imager indicating with icons the position of the various Emitters in its field of view

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Award Winning OSID Range

OSI-10	**Imager 8° FOV** Distance 30-150 m with OSE-SP-01/W. This configuration is for a 1 on 1 system. The OSI-10 is not suited to work with High Powered Emitters.	
OSI-90	**Imager 80° FOV** Distance 6-34 m with OSE-SP-01/W. Distance 12-68 m with OSE-HPW. Distance 12-50 m with OSE-HP-01. The OSI-90 can operate with up to 7 Emitters.	
OSE-SP-01	**Emitter battery powered-alkaline battery** Using battery powered Emitters drastically reduce the wiring and installation costs.	
OSE-HP-01	**Emitter High Power battery powered-alkaline battery** Using battery powered Emitters drastically reduce the wiring and installation costs.	
OSE-SPW	**Emitter Wired 24 Vdc** A preferred solution when 24 Vdc is close by.	
OSE-HPW	**Emitter High Power Wired 24 Vdc** Allows to double the detection ranges of the OSI- 90.	
OSID-INST	**OSID Installation Kit** Kit including laser alignment tool, test filter, PC cable, cleaning cloth, reflectors and manual.	
VKT-301	**OSID Demo kit** Kit consisting of 2 X OSE-SP-01, 1 X OSI-90, 1 X OSID-INST and mounting plates, fitted in a rugged carry case.	
OSP-001	**FTDI Cable 1.5m** Allows to connect a PC and hence OSID Diagnostic SW to the Imager. The FTDI cable can be extended with another 20 m using cable with an active USB amplifier.	

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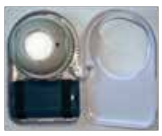
OSP-002	**Laser Alignment tool** A unique alignment tool for fast alignment. Aligns and locks the eyeball. Does also activate Emitters when locked.	
OSID-WG	**Wire Guard** A steel cage to protect OSID Imagers and Emitters from vandalism and accidental damage.	
OSID-EHI	**Imager Environmental Housing** Custom designed IP 66, NEMA 4-4X protective and environmental housings protect OSID Imagers from dust and water ingress in industrial environments.	
OSID-EHE	**Emitter Environmental Housing** Custom designed IP 66, NEMA 4-4X protective and environmental housings protect OSID Emitters from dust and water ingress in industrial environments.	
OSID Diagnostic Tool	**Diagnostic software package** A unique software program that allows visualisation of the Imager's view, quality of alignment and IR/UV real time graphs. The program also features real time logging capability (X/Y Emitter positioning, Emitter temperature and supply voltage) for trouble shooting and site evaluation purposes.	
OSID Selection Assistant	**System selection tool** The program is an intuitive Excel based program that for a given area will calculate 90° and 10° OSID solutions as well offer a price comparison with traditional beams. It also gives the exact location to point the alignment laser tool for optimal FOV for the Imagers in multi-Emitter solutions.	
OSE-RBL	**Emitter replacement kit for Lithium battery**	
OSE-RBA	**Emitter replacement battery Alkaline**	
OSI-LS	**Light shield for Imagers**	
RTS151KEY & RTS151KIT	**Imager Reset Station**	

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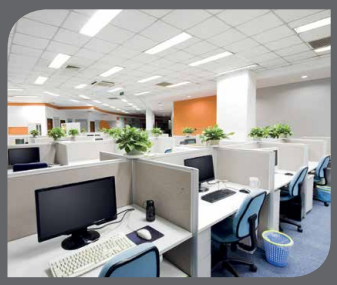


Available Fields of View and Detection Ranges

Image Lens Type	Usable Field of View		Detection Range				Max. Number of Emitters
	Horizontal	Vertical	Standard Power		High Power		
			Min	Max	Min	Max	
10º	7º	4º	30 m (98 ft)	150 m (492 ft)	-	-	1
90º	80º	48º	6m (20 ft)	34 m (111 ft)	12m (39 ft)	68 m (223 ft)/ 50 m (164 ft) *	7

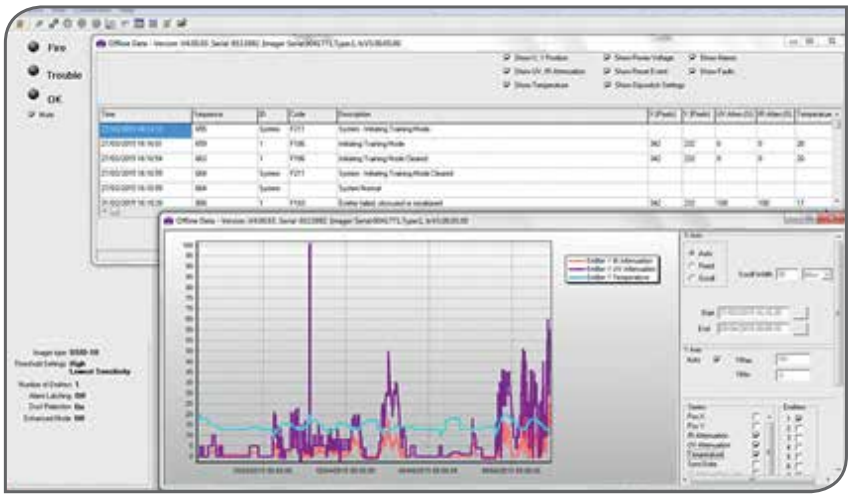
* Range with OSE-HP-01

OSID Diagnostic Software

OSID Diagnostic is a unique tool in the industry that allows for live and off-line diagnostic information about the system and environment.

The tool operates under Windows on a standard laptop PC and offers, when connected in the field to the Imager, real time live visualisation of the normalised UV and IR values (0-100% obscuration), the UV and IR grey levels, the X-Y positioning of the 1-7 Emitters on the imager, reference levels and temperature.

The tools also allows for live and off-line evaluation of the imager's log files and reconstruct, with time and date stamp, any significant changes in the system. Log files can also be exported to an Excel file for quick analysis and review.



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Product Specifications

General	
Alarm Thresholds (Configurable)	Low - Highest sensitivity / earliest alarm: 20% (0.97 dB) Medium - Medium sensitivity: 35% (1.87 dB) High - Lowest sensitivity / maximum immunity to nuisance smoke conditions: 50% (3.01 dB) Industrial mode - unapproved sensitivity at 65% (4.56 dB)
Alarm Latching (Configurable)	Latching / Non-latching configured via DIP switch
Status LEDs (Imager)	Red: Fire Alarm; Bi-color Yellow/Green: Trouble or Normal
IP Rating	IP 44 for Electronics; IP 66 for Optics Enclosure
DIP Switch Configuration (Termination Card)	Configuration for alarm thresholds, number of Emitters and alarm latching/non latching
Electrical	
Imager Supply Voltage	20-30 VDC (24 VDC nominal)
Imager Current Consumption	Typical at 24 VDC: 8 mA (one Emitter), 10 mA (seven Emitters)
Emitter Current Consumption	Externally powered Emitter (at 24 VDC): 350 µA Standard Power, 800 µA High Power Battery-powered Emitter: Built-in 5 Year Replacement Alkaline Battery, 3 Year Replacement with OSE-HP-01 Battery life time is only valid for use at room temperature.
Cable Gauge	0.2 - 4 mm^2 (26-12 AWG)
Trouble/Fault Relay	2 A @ 30 VDC, NO-C-NC Dry Relay Contacts
Fire Alarm Relay	2 A @ 30 VDC, NO-C-NC Dry Relay Contacts
Heater Input Power	24 VDC, 16 mA (400 mW)
Environmental	
Operating Temperature	-10°C to 55°C (14°F to 131°F)
Humidity	10 to 95% RH Non-condensing
Mechanical	
Dimensions (WHD)	208 mm x 136 mm x 96 mm (8.2 in x 5.4 in x 3.8 in)
Weight	Imager: 610 g; Emitter (battery powered): 1.2 kg Emitter (wired): 535 g
Adjustment Angle	Horizontal: ±60°; Vertical: ±15°
Maximum Misalignment Angle	±2°

About Xtralis

Xtralis® is the leading global provider of converged solutions for the early detection and remote visual verification of fire, gas and perimeter threats.

Our technologies prevent disasters by giving users time to respond before life, critical infrastructure or business continuity is compromised. We protect high-value and irreplaceable assets belonging to the world's top governments and businesses. Our brands include the VESDA-E – the next generation of aspirating smoke detection technology; VESDA® – the world's leading very early warning aspirating smoke detection (ASD) systems; ICAM™ for flexible ASD; ECO™ – Gas detection & environmental monitoring modules for VESDA & ICAM systems; and, OSID™ – easy to use smoke detection for open areas.

To learn more, please visit us at www.xtralis.com.

Applications

Shopping Malls — 3-D arrangement may be configured to protect many large, open spaces

Long Corridors — Beam length up to 150 m (492 ft)

Airport Terminals and Train Stations — Non-intrusive detection in a wide range of lighting conditions

Heritage Buildings — Discreet and non-intrusive detection

Suspended Ceilings — Discreet and flexible installation

Challenging Logistics — Simple maintenance with no disruption to operations

Indoor Stadiums and Arenas — Multi-layer detection

Dirty Environments — Discriminates against dust, dirt and other intruding objects to reliably detect smoke

Hotel and Office — Tower Atriums

Churches and Cathedrals

Exhibition and Convention Centers

Industrial and Manufacturing Facilities

Learn more: **www.xtralis.com/osid**

www.xtralis.com

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