

OSID

Open-Area Smoke Imaging Detection

Frequently Asked Questions | OSID-R



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OSID-R –NEW Reflective Open Area Beam Smoke Detection

What makes OSID-R special?

OSID-R takes some of the key innovations of the original OSID technology; using a CMOS imager for signal analysis which provides greater levels of information for better decision making than any simple and basic IR photocell receiver technology. The CMOS imager makes beam detection a truly reliable and attractive smoke detection proposal; overcoming the issues of traditional beams. **Smoke Imaging is truly the new benchmark in beam detection.**

Why OSID-R?

Traditional beam detectors emit an IR (infra-red) beam that is captured and analyzed by a receiver, using a single photocell receiver. The limited information captured using a photo cell receiver, i.e. only the changing IR energy level representing obscuration in the path, makes IR beams susceptible to nuisance alarms and faults.

Using a CMOS imager as a receiver on the other hand provides rich data to better differentiate between smoke and foreign objects. A CMOS imager is the equivalent of hundreds of thousands photo cells. Every pixel is a photocell. This technology allows the receiver to 'see' the target and the environment and process information on the environment.

This innovative technology really makes the difference.

Imaging smoke detection offers a never seen resistance to traditional false alarms and faults.

How is OSID-R different – alignment?

Traditional beams are complicated and time-consuming to align and commission, using a number of different methods (targeting mirrors and thumbwheels for example) to adjust; often requiring multiple room crossings to complete the task. OSID-R has a free moving eyeball and 4 arrows that intuitively guide the user to the optimum alignment in minutes. Thanks to the CMOS imager, the detector only looks for a square target with crosslines and ignores reflections during commissioning and in operation.

Once aligned, the eyeball is secured, and the sensitivity is set automatically based on the size of the square reflector in the field of view, reflecting its distance from the detector. Always the best sensitivity, no measurement or judgement is required.

The whole alignment and commissioning process is done in minutes.

How is OSID-R different – building movement?

Building movement is the #1 problem with traditional beam detectors causing false alarms and faults. The OSID-R square target (reflector) is continuously tracked by the CMOS imager and will tolerate building movement up to 1° in all directions for the receiver, outperforming traditional beam receivers with at least 100%.

How is OSID-R different – false alarm rejection?

False alarms due to object intrusion are the #2 problem with traditional beams. As a CMOS imager is the equivalent of several thousands of photo receivers the detector can analyze much more than just the reflected power. It recognizes its own square reflector via the thousands of pixels and combines information on IR power on the reflector. The result is that it can discriminate solid object intrusion from loss of power through smoke or dust.

Solid object intrusion will only generate a fault and never an alarm.

Sunlight saturation is the #3 problem with traditional beams as it generates false alarms. Again, thanks to the CMOS technology, individual pixels within the target area are analyzed and saturation is detected early. The net result is a fault at the most but no false alarm.

FAQ

Q: Is OSID-R fully replacing the BEAM1224 / BEAM200 / FSB200 / range?

A: OSID-R will replace the BEAM1224 / BEAM200 / FSB200 /.... range in the US, Canada and Middle East. At this point in time the legacy beam will be maintained in LATAM and Asia.

Q: When is OSID-R available?

A: OSID-R is available in the territories that require UL approval. EN54/CPR, China, Korea and CIS to follow in 2019.

Q: Will OEM communication protocols and differentiation continue with intelligent units?

A: Yes, OSID-R offers a one-to-one replacement with the intelligent units (Notifier, FCI/GW, FL, SK, etc).

Q: Will the ground level electro-mechanical test facility continue to exist?

A: Yes and no, the electro-mechanical test facility will cease to exist but is replaced by an electronic simulated smoke test. This facility is standard available on all models; conventional and intelligent.

Q: Is OSID-R replacing the Xtralis OSID range?

A: No, OSID-R is complementary to the Xtralis OSID range. OSID-R is a reflective beam and Xtralis OSID (-DE) is a **dual-ended** beam with transmitter and receiver.

Q: What is the (main) difference between OSID-R and OSID-DE (Xtralis)?

A: Further to the reflective and dual-ended differentiation, OSID-R is a single frequency IR beam while OSID-DE has dual frequencies IR and UV.

OSID-DE (Xtralis) is also available in a multi-emitter version (up to 7 emitters for a single receiver).

OSID-R offers both a conventional and an intelligent unit, OSID-DE is conventional only.

Q: When to use the OSID-R range and when to use the OSID-DE (Xtralis)?

A: While both types are very tolerant to building movement, OSID-DE (Xtralis) is better suited for challenging environments as the dual frequencies offer a superior false alarm resistance; narrow openings as the target areas is reduced for OSID-DE and where you want volumetric detection where OSID-DE can have multiple emitters reporting in to a single receiver.

Q: Is there a difference in distance and area covered between OSID-R and OSID-DE?

A: Yes, OSID-R has range up to 328 ft. (100m) and OSID-DE up to 490 ft. (150m).

Q: What approvals will OSID-R carry?

A: At launch the OSID-R will be UL, ULC, FM and CSFM approved. Other approvals/certifications (EN54/CPR, CCCF, VNIPO and KFC) will follow.

Q: What is the cost of the OSID-R?

A: OSID-R will be sold at a premium to the legacy beam.

But its many advantages in terms of reduced installation cost, service, maintenance and false alarm resistance reduce the Total Cost of Ownership.

Furthermore, the OSID-R also has these cost-saving features:

- Every unit covers a full 16-328 ft. (5-100 m)
 - No need for long-range kit (BEAMLRK)
 - One unit covers all applications, fewer SKUs
- Built-in heater – no need for the detector heating kit (BEAMHKR)
- Standard built-in ground test facility – no need for electro-mechanical test facility (-S versions)
- 50° horizontal and 20° eyeball movement – reduce/eliminate the need for brackets (BEAMMMK)

The total cost of ownership will be significantly lower.

Q: Where can we buy OSID-R?

A: OSID-R is available through all the currently existing channels and distributors of both the legacy beam and OSID product lines.

Xtralis will only sell the conventional OSID-R unit under Xtralis label.

Summary of Differences

Feature	OSID-R	OSID-DE
Beam	Single IR	Dual IR/UV
Technology	Reflective	End-to-End
Distance	100 m/ 328 ft.	150 m/ 492 ft.
Free FOV	40 x 40 cm/ 15.6 x 15.6 “	20 x 20 cm / 7.8 x 7.8”
Building Movement	+/-1°	+/-2°
Resistance to Dust	No	Yes
Beam through Glass Panes	No	Yes
Resistance to Solid Object Intrusion	Yes (Fault)	Yes (Fault)
Resistance to Sunlight Saturation	Yes (Fault)	Yes (Fault)
Log & Diagnostics	No	Yes
Test at Ground Level	Yes	No
IP Range	IP 55	IP45

Value Proposition

Customer Needs	OSID-R Solution	Competitor Offering
<p>Minimum false alarms</p> <ul style="list-style-type: none"> • Building movement #1 problem for beams • Foreign objects intruding #2 problem for beams • Direct/ reflective sunlight #3 problem for beams 	<p>CMOS imager replaces traditional photodiode</p> <ul style="list-style-type: none"> • Highly resistant to building movement up to $\pm 1^\circ$ • Resistant to solid foreign intrusion; banners, birds, etc. • Will <u>not</u> alarm when saturated by sunlight 	<p>Photodiode receiver; signal loss = alarm</p> <ul style="list-style-type: none"> • Will alarm when support structure is moving; 0.6° is maximum movement tolerance • Alarms on any foreign object intrusion, and if exposed to direct or reflected sunlight or bright light source
<p>Easy installation and commissioning</p>	<ul style="list-style-type: none"> • Intuitive alignment with laser tool and LED arrow guidance • Automatic sensitivity setting 	<ul style="list-style-type: none"> • Complicated and time-consuming alignment and commissioning • Use of targeting mirrors and thumbwheels adjustments • Multiple room crossing to the reflector • Safe sensitivity setting selection or trial and error
<p>Cost-effective solution</p>	<ul style="list-style-type: none"> • Single ended with reflector. Only detector needs wiring • Loop powered addressable solution. No need for extra PSU and wiring nor additional loop modules • Fast set-up, considerable savings on labor • Temperature range up to -20°C • On-board heater 	<ul style="list-style-type: none"> • Long and complicated installation. Multiple room crossing to the reflector • Need I/O or zone modules for intelligent addressability • Heated external housings not possible with single ended beams
<p>Easy maintenance and servicing</p>	<ul style="list-style-type: none"> • Install and go approach with auto tracking of reflector • Self-test feature on each detector can be activated at ground level and through the FACP for intelligent variant 	<ul style="list-style-type: none"> • Marginal tolerance to movement • Manual testing with filter
<p>Aesthetics</p>	<ul style="list-style-type: none"> • Aesthetically pleasing design, OSID family look 	<ul style="list-style-type: none"> • Basic industrial look