Aspiration systems for smoke and gas detection

Flexible fire and environmental solutions

◆ xtralis®

ICAM®

Technology pioneers
in high-sensitivity air-sampling
smoke detection systems

Providing solutions beyond traditional smoke and fire detection.
A wide range of Xtralis ICAM systems are applicable to a
host of applications - stand-alone or networked, smoke
detection, gas detection, early warning, very early warning or
environmental monitoring.

The Xtralis ICAM range provides solutions for even the
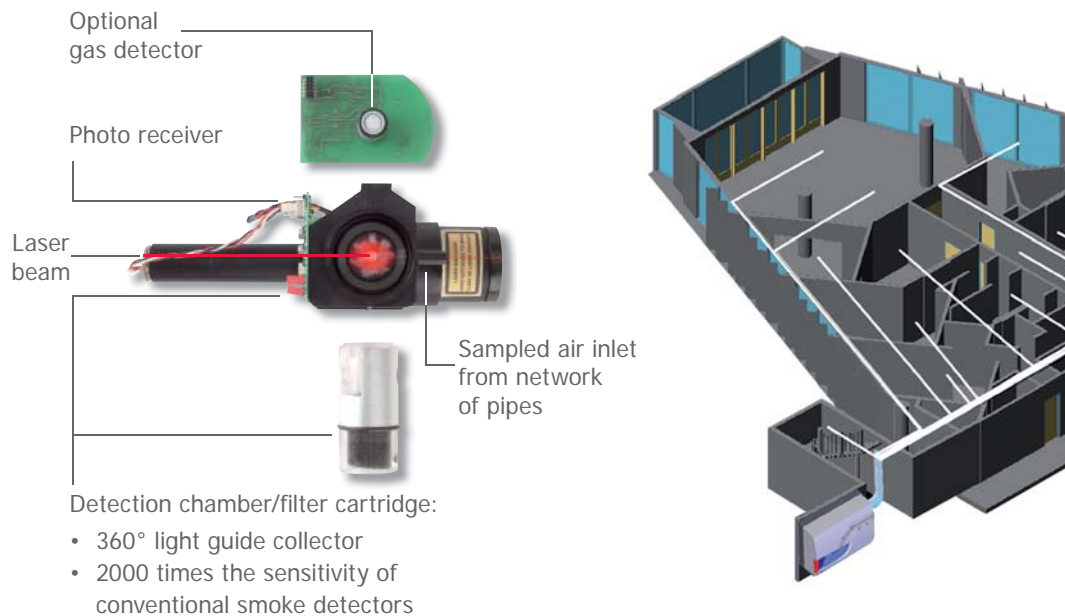toughest environments.

Our state-of-the art equipment, built for flexibility and
dependability, are found in power stations, telecommunication
sites, mines, IT facilities, LCD Fabs, semiconductor clean
rooms, prisons, warehouses, cold storage rooms, harsh and
hazardous areas, trains, historic buildings, museums and even
in residences.

The range of air-sampling detectors has been developed
along a family concept. Understand one and understand all.

Readily available diagnostic information and communication
are vital in today's demanding world. Monitoring, programming,
graphics and control of all functions is fully accessible
anywhere across the globe.

Approved worldwide and manufactured according the strictest
ISO 9000 quality control procedures, the range covers both
air-sampling point detectors and very high sensitivity air-
sampling smoke and gas detection systems.

How do the world's finest air-sampling systems work?

Optional gas detector

Photo receiver

Laser beam

Sampled air inlet from network of pipes

Detection chamber/filter cartridge:
• 360° light guide collector
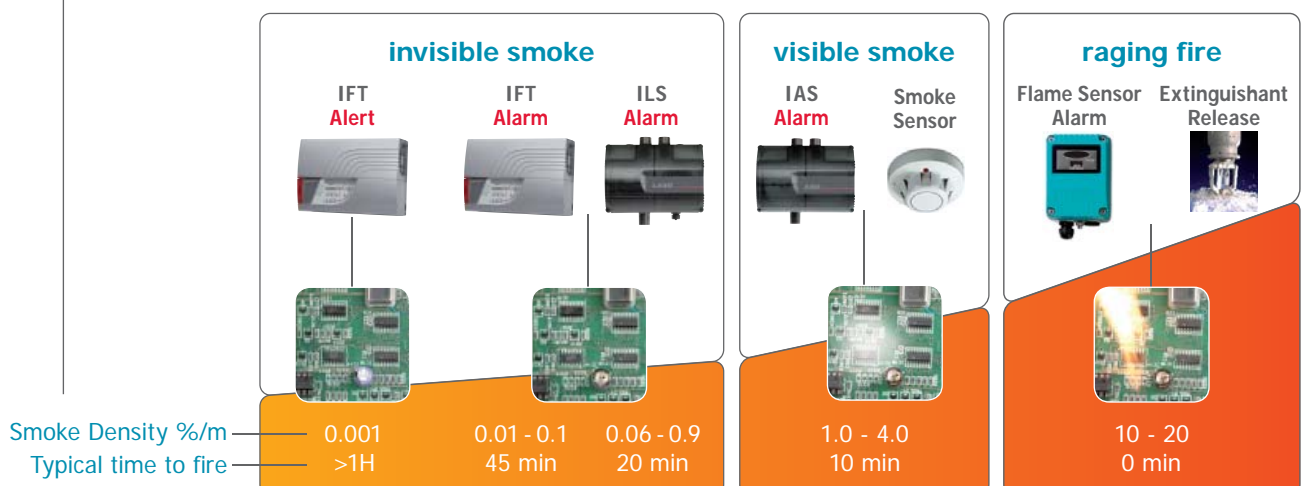• 2000 times the sensitivity of conventional smoke detectors

The Xtralis ICAM IFT high-sensitivity smoke detector is an instrument quality nephelometer collecting scattered laser light from smoke particles over a full 360 degree sweep. The resultant sensitivity is an astonishing 0.001% obscuration/m some 2000 times more sensitive than conventional smoke detectors. It is this sensitivity coupled with advanced processing and filtration that enable IFT systems to be employed in the world's most demanding smoke detection applications.

The instrument quality optics are protected from the sampled atmosphere by a rugged industrial removable optical chamber and filter cartridge allowing field serviceability in the dirtiest of environments.

Understanding TIME

The image below shows the evolution of a fire on an overheating printed circuit board. The event progresses from releasing small invisible particles into a raging fire over a substantial period of time. The more time you have to react to an event decreases the likelihood of loss and ensures the maintenance of your business. The extra response time provided by early detection allows investigation of minor events with minimal business disruption before fire causes catastrophic loss.

	invisible smoke			visible smoke		raging fire	
	IFT **Alert**	IFT **Alarm**	ILS **Alarm**	IAS **Alarm**	Smoke Sensor	Flame Sensor Alarm	Extinguishant Release
Smoke Density %/m	0.001	0.01 - 0.1	0.06 - 0.9	1.0 - 4.0		10 - 20	
Typical time to fire	>1H	45 min	20 min	10 min		0 min	

When every second counts

When fire & catastrophe strike, when the existence of a business and lives are at stake, when time is of the essence, then High Sensitivity Air-sampling Smoke Detection is the ONLY solution!

The Xtralis ICAM IFT air-sampling system actively draws air from the protected area through a network of 25 mm rigid sampling pipes perforated with sampling holes along their length.

This pneumatic system is powered by a 2000 Pa aspirator fan which functions in very high airflow open areas, air-conditioned environments and clean-rooms. Other air-sampling systems typically operate on a tenth of the IFT suction - more challenging and difficult applications can only be solved using IFT detector technology.

Common Features

- 4 Alarms - Alert, Action, Fire 1, Fire 2
- Up to 100 m sampling pipe per channel
- TCP/IP Ethernet interface
- Remote monitoring support
- Powerful 2000 Pa fan
- RS232 and RS485 Modbus
- Logs up to 20000 events
- Optional I/O modules
- Optional CO or H_2 gas detection
- Unique field removable and serviceable optical chamber
- Optics separated from sampled air
- Serviceable and re-useable two stage particle filter
- External in line air filters for harsh environment
- Closed loop sampling for hazardous environments
- Absolute calibration of the detection chamber
- Approvals: UL, VdS, LPCB, DBI, CFE, HKFSD, KOFIC

IFT-1, IFT-4 and IFT-6

- Single, four and six areas
- High sensitivity laser detection
- 0.001% to 20% obscuration/m
- Modular optional relay output units
- Optional I/O 4-20 mA units
- 24 VDC operation (standard)
- Integrated 110/240 VAC power supply and battery charger (optional)
- Integrated battery holder
- With or without display

IFT-P

- Small compact footprint
- Up to 2000 sqm of protection
- 0.001% to 20% obscuration/m
- IP65
- 24 VDC operation
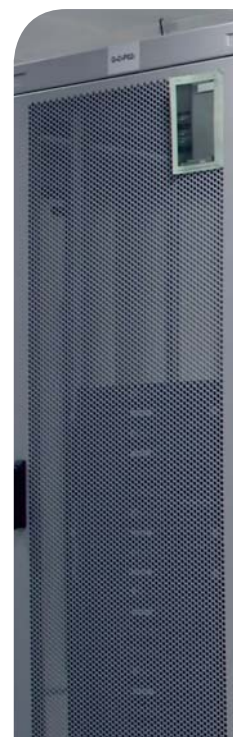
And when the exact location is crucial

Standard air-sampling systems are well known for their early warning capabilities but in certain applications you also need to precisely locate the source of the incident. Where the location is critical and a visual search is impossible to perform quickly, Xtralis ICAM's unique addressable air-sampling technology will provide the only solution.

The Xtralis ICAM IFT-15 detector uses unique microbore technology that can monitor up to 15 individual addressable sampling points. Microbore continuous flexible sampling tubes are simple and unobtrusive to install affording the most cost effective solution to air sampling in this industry with the integrity of a continuous uncut run of sampling tube.

IFT-8 and IFT-15

- 6 mm flexible air sampling pipe
- Rapid scan of inlets with rotary selector valve
- High sensitivity laser detection
- 0.001% to 20% obscuration/m
- 8/15 pipe, 8/15 area
- 4 Alarms - Alert, Action, Fire 1, Fire 2 per pipe
- Powerful suction rotary vane vacuum pump
- Large, clear display panel and optional RDUs
- TCP/IP Ethernet interface
- Remote monitoring support
- RS232 and RS485 Modbus
- Optional I/O and relay modules
- 24 VDC operation (standard)
- Integrated 110/240 VAC power supply and battery charger (optional)
- Integrated battery holder
- Optional environmental module

Extending the capability of traditional smoke sensors

Air-sampling point detectors offer options where traditional smoke detection is deficient. These systems are ideal for applications in harsh, dusty and inaccessible spaces, as well as those critical environments that do not warrant the expense of a larger air-sampling system. They have also been applied as a unique solution in intrinsically safe environments.

Common Features

- Single and dual channel in one enclosure
- Up to 2 x 100 m pipes
- IP65 enclosure
- Internal serviceable cartridge air filter
- Adjustable airflow
- Sensitive airflow monitoring
- Powerful suction 2000 Pa fan
- 24 VDC operation
- VdS approved
- Double knock suppression control

IAS-1 and IAS-2 Aspirated Smoke detector

The air is sampled from the protected area through one or two inlet pipes and then is passed through an internal cartridge air filter to a single or dual channel controller. The sensors placed inside can be conventional or analog smoke detectors, yours or ours. Exclusive home owners highly value them for their discrete aesthetics and versatility.
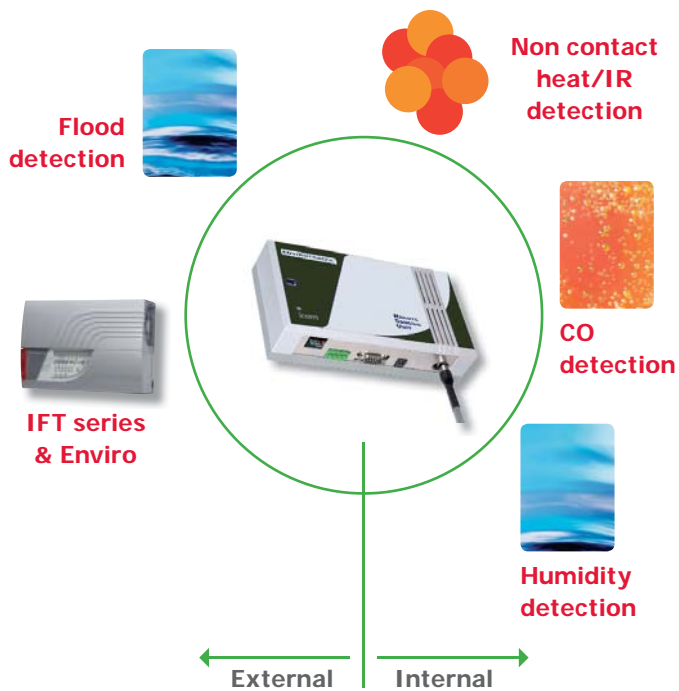
When the going gets tough

When increased sensitivity is added to the equation, the controller can be equipped with one or two laser detectors. Compared to standard smoke sensitivity of the traditional smoke sensor, 3-6% obscuration/m, the laser point detectors have an increased sensitivity of up to 0.06% obscuration/m.

**ILS-1 and ILS-2 Laser Aspirated Smoke Detector**

Getting more out of your investment

Flood detection

Non contact heat/IR detection

CO detection

Humidity detection

IFT series & Enviro

External   Internal

A true early warning protection system should be capable of monitoring all risks that present a threat. Sometimes at an even earlier stage than early warning smoke detection it is possible to flag environmental risks that if left to develop, could threaten equipment operation or the safety of valuable assets. IFT detectors are designed to allow a number of additional sensors and data inputs for the monitoring of environmental threats such as air conditioning failure, dampness and water ingress. Controls within the IFT detectors set acceptable limits for the monitored environment and alarm accordingly when these are exceeded.

Remote Access and Networking

HUB   **HUB**

ETHERNET   **ETHERNET**

Local and Remote Monitoring PC

E-mail and SMS messaging

internet
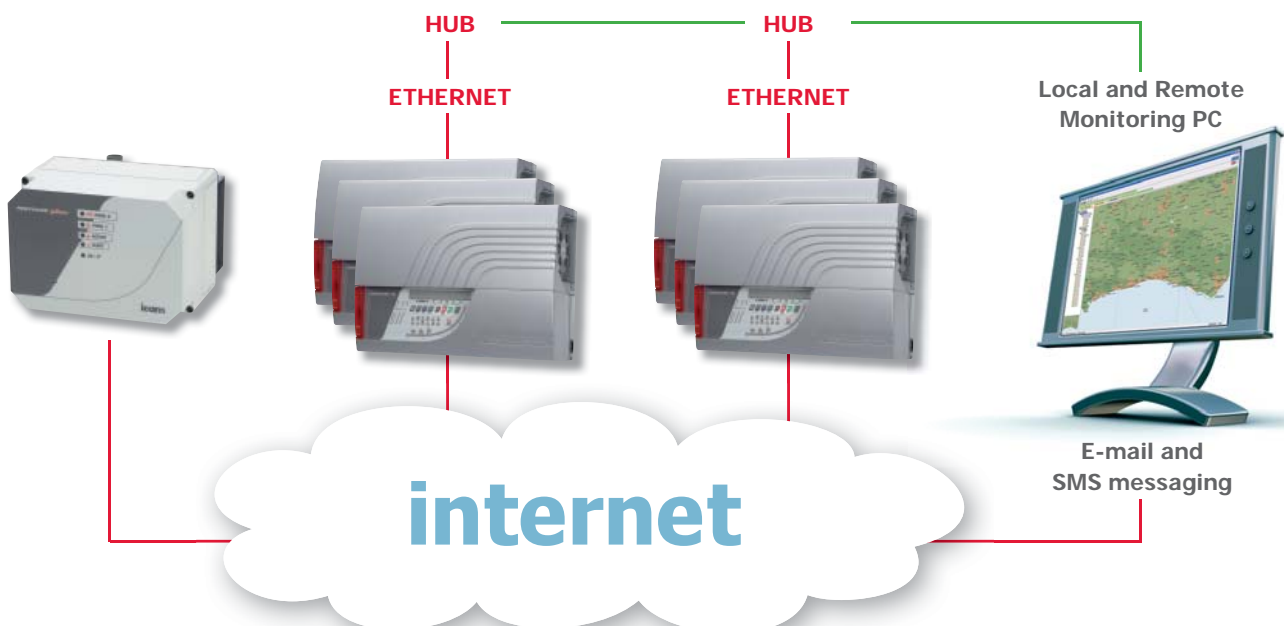
Xtralis ICAM NetTracer
have the system at your fingertips

NetTracer is a powerful and user-friendly TCP/IP remote monitoring package

Features
- Multi-level site and floor-plans
- Manage alarms
- Accept/reset/isolate
- Password protected remote programmability
- Based on IBM MQ publisher/subscriber
- Voice annunciation
- Unlimited event logging and storage
- Unlimited monitoring stations
- Unlimited devices via IBM MQ broker Architecture
- E-mail alert

Xtralis ICAM ASPIRE2
plan your application

Response times and sensitivities for individual sampling points can be accurately modelled with the ASPIRE2 simulation tool at the project planning stage.

Features
- Building plan image insertion as bitmap or jpeg
- Graphical image of pipes with sample area coverage
- Simple wizard for user inputs
- Modelling for capillaries, drop pipes and 'T's
- Effective smoke sensitivities for all alarm thresholds for each sampling point
- Response times for each sampling point

Xtralis ICAM ConfigTracer
experience full diagnostics

ConfigTracer is a comprehensive on-site diagnostic tool for accessing all the internal settings and logged data within the IAS, ILS and IFT ranges.

Features
- Monitor all functions and outputs of each detector
- Password protected access to all Engineering Level settings
- Comprehensive event logging smoke level changes, programming changes and all alarm and fault events
- Up to 20,000 events can be extracted from each connected unit
- Comprehensive and unlimited event logger
- Programmable data filter for all types of events
- Settings for TCP/IP and device & sector names
- Virtual front panel for monitoring detectors and devices

Finishing the Project

To conclude every job in a professional way, Xtralis ICAM provides a comprehensive range of accessories and add-ons, ranging from filters to repeaters and power supplies.

Remote display conversion kit

Remote Display Unit

PSU & Battery Charger 230 VAC

4 channel relay module

Remote display & keypad

Netbridge RS485 MODBUS to TCP/IP bridge

8 channel 4-20 mA output module

12 channel 4-20 mA input module

Extinguishing Module

sampling points

25 mm pipe/fittings

filters/filter elements

6 mm pipe/fittings

Securing the toughest jobs around

Unmanned sites
- Fully self-contained
- Additional environmental parameters monitored
- Web access

Warehouses
- Pipes can be placed within the racking
- Minimize maintenance costs
- Access difficult to reach areas which cannot be monitored by normal detection

Correctional Facilities & Detention Centers
- Tamper proof air sampling
- Central Maintenance facilities

Cold stores
- No heated detector bases
- Very Early Warning
- Unaffected by high airflows
- Simple installation

Hazardous areas
- Intrinsically safe solutions
- No zener barriers required
- No electronics in the hazardous area
- No wires in the hazardous area

Mines
- Individual protection of high-voltage switchgear cabinets
- HV cabinets are bolted and cannot be opened easily
- PLC and control rooms
- Electrical substations

Historic buildings/ Museums
- Discrete monitoring
- Rapid response
- Monitoring valuable assets

IT rooms
- Extremely high sensitivity
- Individual cabinet identification
- Unaffected by high air speeds
- Optional integral hydrogen monitoring of UPS rooms

Exclusive Residences, Apartments, Hotels, Shops & Offices
- Aesthetic, invisible
- Multiple sensing smoke, CO, natural gas
- Remote web monitoring

Utility providers
- Large area coverage 2000 sq. m
- Multiple sensing smoke, CO, natural gas

Transport
- Ideally suited to long compartments
- Concealed detection
- Automatic air pollution compensation
- Multiple sectors for carriage sets with integral cabs

Significant religious buildings
- Unobtrusive detection
- Earliest detection

Windmills
- Smoke detection control during braking both Emergency and Operational
- Unaffected by arcing, lightning and static electricity
- Unaffected by air speeds within the generator
- Insensitive to environmental conditions
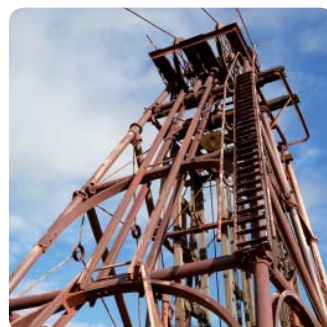
Xtralis ICAM
in action

- UK manufacturing
- Independant manufacturer
- Automated calibration, test & burn-in
- In-house training
- Hot line
- On site tests
- Skype enabled audio-video
- Webex conferencing
- ISO 9001-2000 by LPCB
- Factory audited by UL and VdS
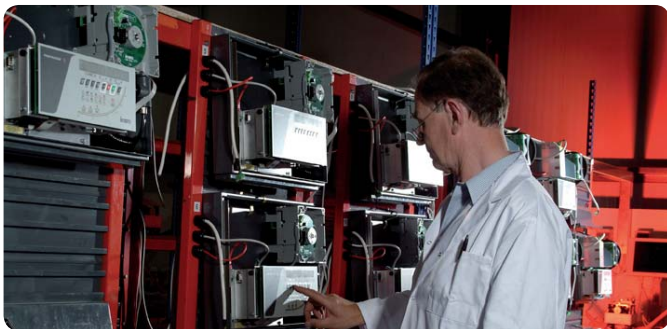
Superior protection through advance knowledge

Authorized dealer Stamp

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